

CONTRIBUTORS

Adair County Hazard Mitigation Planning Committee

Jurisdictional Representatives

Name		Title	Department	Jurisdiction
Mark	Shahan	Presiding Commissioner	Administration	Adair County
Bill	King	Associate Commissioner	Administration	Adair County
Gayla	McHenry	Associate Commissioner	Administration	Adair County
Mari	Macomber	City Manger	Administration	City of Kirksville
Rodney	Sadler	Deputy City Manger	Administration	City of Kirksville
Sara	Knipe	City Planner	Administration	City of Kirksville
Rhonda	Branson	Mayor	Administration	City of Brashear
Margaret	Farrell	City Clerk	Administration	Village of Millard
Lisa	Rhoads	City Clerk	Administration	City of Novinger
Jamie	Keller	City Clerk	Administration	Village of Gibbs
Andy	Heimer	Mayor	Administration	Village of Gibbs
Robin	Daniels	Superintendent	Administration	Adair County R-I School
Cody	Moore	Superintendent	Administration	Adair County R-II School
Robert	Webb	Superintendent	Administration	Kirksville R-III School
Shawn	Corbett	Safety Coordinator	Administration	Kirksville R-III School

Stakeholder Representatives

Name		Title	Department	Agency/Organization
Justin	Jones	Deputy Chief	Emergency Response	City of Kirksville
Jon	Cook	Chief	Emergency Response	Kirksville Fire
Rich	Morrow	Deputy Public Works Director	Administration	Kirksville Public Works
Lucas	Smith	911 Director	Emergency Response	City of Kirksville
Jeffery	LaFountain	Airport Director	Administration	City of Kirksville
Ashley	Young	CED Director	Administration	City of Kirksville
Reid	Yardley	Code Enforcement Director/Flood Plain Mgr	Code Enforcement	City of Kirksville
Adam	Dorrell	Public Works Director	Administration	City of Kirksville
Anastasia	Tiedemann	Director	Administration	KREDI

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EXECUTIVE SUMMARY

The purpose of hazard mitigation is to reduce or eliminate long-term risk to people and property from hazards. Adair County and participating jurisdictions and school/special districts developed this multi-jurisdictional local hazard mitigation plan update to reduce future losses from hazard events to the County and its communities and school/special districts. This plan is an update of the previous plan that was approved by FEMA on November 27, 2020. The plan and the update were prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 to result in eligibility for the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance Grant Programs.

The County Multi-Hazard Mitigation Plan is a multi-jurisdictional plan that covers the following jurisdictions that participated in the planning process:

- Unincorporated Adair County
- City of Kirksville
- City of Novinger
- City Brashear
- Village of Millard
- Village of Gibbs
- Adair County R-I School District
- Adair County R-II School District
- Adair County R-III School District

Adair County and the entities listed above followed a plan update process using a methodology in accordance with FEMA guidance, which began with the formation of a Mitigation Planning Committee (MPC) comprised of representatives from Adair County and participating jurisdictions. The MPC updated the risk assessment that identified and profiled hazards that pose a risk to Adair County and analyzed jurisdictional vulnerability to these hazards. The MPC also examined the capabilities in place to mitigate the hazard damages, with emphasis on changes that have occurred since the previously approved plan was adopted. The MPC determined that the planning area is vulnerable to several hazards that are identified, profiled, and analyzed in this plan. Riverine and flash flooding, winter storms, severe thunderstorms (hail, lightning, high winds), and tornados are among the hazards that historically have had a significant impact.

Based upon the risk assessment, the MPC updated goals for reducing risk from hazards. The goals are listed below:

1. Public Awareness- Using a variety of communication avenues to increase the citizens awareness of and to promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.
2. Strengthen communication and coordination between local governments, emergency personnel, public agencies, and citizens to mitigate the effects of future natural hazards.
3. Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties; on natural resources; on infrastructure; and on the local economy.

To advance the identified goals, the MPC developed recommended mitigation actions, as summarized in the table on the following pages. The MPC developed an implementation plan for each action, which identifies priority level, background information, ideas for implementation, responsible agency, timeline, cost estimate, potential funding sources, and more. These additional details are provided in Chapter 4.

Table I. Mitigation Action Matrix

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Structure and Infrastructure Projects								
Adair County 2025.1	Continue Adair County's participation and good standing in the National Flood Insurance Program.	Adair County	High	3	Flooding	✓	✓	✓
Adair County 2025.2	Installation/Upgrade Sirens	Adair County	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.3	Improve Transportation Infrastructure	Adair County	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Adair County 2025.4	Safe Room and Storm Shelters	Adair County	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.5	Generator for Shelter(s)	Adair County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Adair County 2025.6	Seismic Vulnerability Assessment	Adair County	Low	3	Earthquakes	✓	✓	
Adair County 2025.7	Subsidence Vulnerability Assessment	Adair County	Low	3	Sinkholes	✓	✓	
City of Kirksville 2025.1	NFIP Participation	City of Kirksville	High	3	Flooding	✓	✓	✓
City of Kirksville 2025.2	Installation/Upgrade Sirens	City of Kirksville	Medium	3	Tornado, Severe Thunderstorms	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Kirksville 2025.3	Extreme Temperature Shelters	City of Kirksville	High	3	Extreme Temperatures, Severe Winter Weather	✓	✓	
City of Kirksville 2025.4	Safe Rooms and Storm Shelters	City of Kirksville	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.5	Dam Protection	City of Kirksville	High	3	Dam Failure, Flash Flooding, Riverine Flooding	✓	✓	
City of Kirksville 2025.6	Flood Mitigation	City of Kirksville	High	3	Flooding	✓	✓	
City of Kirksville 2025.7	Fire Mitigation	City of Kirksville	High	3	Wildfire	✓	✓	
City of Kirksville 2025.8	Water Source Protection	City of Kirksville	Low	3	Drought	✓	✓	
City of Kirksville 2025.9	Improved Communications and Coordination	City of Kirksville	High	3	Riverine Flooding, Flash Flooding, Severe Thunderstorm, Tornado	✓	✓	
City of Kirksville 2025.11	Seismic Vulnerability Assessment	City of Kirksville	Low	3	Earthquakes	✓	✓	
City of Novinger 2025.1	Continue City of Novinger's participation and good standing in the National Flood Insurance Program	City of Novinger	High	3	Flooding	✓	✓	✓
City of Novinger 2025.2	Installation/Upgrade Sirens	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025.3	Improve Transportation Infrastructure	City of Novinger	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Novinger 2025.4	Safe Rooms and Shelters	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025-6	Seismic Vulnerability Assessment	City of Novinger	Low	3	Earthquakes	✓	✓	
City of Brashear 2025.1	Establish City of Brashear's participation in the National Flood Insurance Program	City of Brashear	High	3	Flooding	✓	✓	✓
City of Brashear 2025.2	Installation/Upgrade Sirens	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.3	Improve Transportation Infrastructure	City of Brashear	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Brashear 2025.4	Safe Rooms and Storm Shelters	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.6	Seismic Vulnerability Assessment	City of Brashear	Low	3	Earthquakes	✓	✓	
Village of Millard 2025.1	Establish Village of Millard's participation in the National Flood Insurance Program	Village of Millard	High	3	Flooding	✓	✓	✓
Village of Millard 2025.2	Installation/Upgrade Sirens	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.3	Improve Transportation Infrastructure	Village of Millard	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Millard 2025.4	Safe Rooms and Storm Shelters	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.6	Seismic Vulnerability Assessment	Village of Millard	Low	3	Earthquakes	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Gibbs 2025.1	Establish Village of Gibbs's participation in the National Flood Insurance Program	Village of Gibbs	High	3	Flooding	✓	✓	✓
Village of Gibbs 2025.2	Installation/Upgrade Sirens	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.3	Improve Transportation Infrastructure	Village of Gibbs	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Gibbs 2025.4	Safe Rooms and Storm Shelters	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.6	Seismic Vulnerability Assessment	Village of Gibbs	Low	3	Earthquakes	✓	✓	
Adair County R-I 2025.1	Safe Rooms	Adair County R-I	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County R-II 2025.1	Safe Rooms	Adair County R-II	High	3	Tornado, Severe Thunderstorms	✓	✓	
Kirksville R-III 2025.1	Safe Rooms	Kirksville R-III	High	3	Tornado, Severe Thunderstorms	✓	✓	
Natural Systems Protection								
Adair County 2025.1	Continue Adair County's participation and good standing in the National Flood Insurance Program.	Adair County	High	3	Flooding	✓	✓	✓
City of Kirksville 2025.1	NFIP Participation	City of Kirksville	High	3	Flooding	✓	✓	✓
City of Novinger 2025.1	Continue City of Novinger's participation and good standing in the National Flood Insurance Program	City of Novinger	High	3	Flooding	✓	✓	✓
City of Brashear 2025.1	Establish City of Brashear's participation in the National Flood Insurance Program	City of Brashear	High	3	Flooding	✓	✓	✓

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Millard 2025.1	Establish Village of Millard's participation in the National Flood Insurance Program	Village of Millard	High	3	Flooding	✓	✓	✓
Village of Gibbs 2025.1	Establish Village of Gibbs's participation in the National Flood Insurance Program	Village of Gibbs	High	3	Flooding	✓	✓	✓
Education and Outreach								
Adair County 2025.1	Continue Adair County's participation and good standing in the National Flood Insurance Program.	Adair County	High	3	Flooding	✓	✓	✓
Adair County 2025.8	Vulnerable Citizen Awareness	Adair County	Low	1	Tornado, Severe Thunderstorms	✓		
City of Kirksville 2025.1	NFIP Participation	City of Kirksville	High	3	Flooding	✓	✓	✓
City of Kirksville 2025.10	Vulnerable Citizen Awareness	City of Kirksville	Low	1	Tornado, Severe Thunderstorms	✓		
City of Novinger 2025.1	Continue City of Novinger's participation and good standing in the National Flood Insurance Program	City of Novinger	High	3	Flooding	✓	✓	✓
City of Novinger 2025.5	Vulnerable Citizen Awareness	City of Novinger	Low	1	Tornado, Severe Thunderstorms	✓		
City of Brashear 2025.1	Establish City of Brashear's participation in the National Flood Insurance Program	City of Brashear	High	3	Flooding	✓	✓	✓
City of Brashear 2025.5	Vulnerable Citizen Awareness	City of Brashear	Low	1	Tornado, Severe Thunderstorms	✓		
Village of Millard 2025.1	Establish Village of Millard's participation in the National Flood Insurance Program	Village of Millard	High	3	Flooding	✓	✓	✓
Village of Millard 2025.5	Vulnerable Citizen Awareness	Village of Millard	Low	1	Tornado, Severe Thunderstorms	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Gibbs 2025.1	Establish Village of Gibbs's participation in the National Flood Insurance Program	Village of Gibbs	High	3	Flooding	✓	✓	✓
Village of Gibbs 2025.5	Vulnerable Citizen Awareness	Village of Gibbs	Low	1	Tornado, Severe Thunderstorms	✓		
Adair County R-I 2025.2	Natural Hazard Education	Adair County R-I	Medium	1	Tornado, Severe Thunderstorms	✓		
Adair County R-II 2025.2	Natural Hazard Education	Adair County R-II	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
Kirksville R-III 2025.2	Natural Hazard Education	Kirksville R-III	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
	Emergency Services							
Adair County 2025.1	Continue Adair County's participation and good standing in the National Flood Insurance Program.	Adair County	High	3	Flooding	✓	✓	✓
Adair County 2025.2	Installation/Upgrade Sirens	Adair County	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.3	Improve Transportation Infrastructure	Adair County	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Adair County 2025.4	Safe Room and Storm Shelters	Adair County	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.5	Generator for Shelter(s)	Adair County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Adair County 2025.6	Seismic Vulnerability Assessment	Adair County	Low	3	Earthquakes	✓	✓	
Adair County 2025.7	Subsidence Vulnerability Assessment	Adair County	Low	3	Sinkholes	✓	✓	
City of Kirksville 2025.1	NFIP Participation	City of Kirksville	High	3	Flooding	✓	✓	✓
City of Kirksville 2025.2	Installation/Upgrade Sirens	City of Kirksville	Medium	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.3	Extreme Temperature Shelters	City of Kirksville	High	3	Extreme Temperatures, Severe Winter Weather	✓	✓	
City of Kirksville 2025.4	Safe Rooms and Storm Shelters	City of Kirksville	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.5	Dam Protection	City of Kirksville	High	3	Dam Failure, Flash Flooding, Riverine Flooding	✓	✓	
City of Kirksville 2025.6	Flood Mitigation	City of Kirksville	High	3	Flooding	✓	✓	
City of Kirksville 2025.7	Fire Mitigation	City of Kirksville	High	3	Wildfire	✓	✓	
City of Kirksville 2025.8	Water Source Protection	City of Kirksville	Low	3	Drought	✓	✓	
City of Kirksville 2025.9	Improved Communications and Coordination	City of Kirksville	High	3	Riverine Flooding, Flash Flooding, Severe Thunderstorm, Tornado	✓	✓	
City of Kirksville 2025.11	Seismic Vulnerability Assessment	City of Kirksville	Low	3	Earthquakes	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Novinger 2025.1	Continue City of Novinger's participation and good standing in the National Flood Insurance Program	City of Novinger	High	3	Flooding	✓	✓	✓
City of Novinger 2025.2	Installation/Upgrade Sirens	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025.3	Improve Transportation Infrastructure	City of Novinger	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Novinger 2025.4	Safe Rooms and Shelters	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025.6	Seismic Vulnerability Assessment	City of Novinger	Low	3	Earthquakes	✓	✓	
City of Brashear 2025.1	Establish City of Brashear's participation in the National Flood Insurance Program	City of Brashear	High	3	Flooding	✓	✓	✓
City of Brashear 2025.2	Installation/Upgrade Sirens	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.3	Improve Transportation Infrastructure	City of Brashear	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Brashear 2025.4	Safe Rooms and Storm Shelters	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.6	Seismic Vulnerability Assessment	City of Brashear	Low	3	Earthquakes	✓	✓	
Village of Millard 2025.1	Establish Village of Millard's participation in the National Flood Insurance Program	Village of Millard	High	3	Flooding	✓	✓	✓
Village of Millard 2025.2	Installation/Upgrade Sirens	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Millard 2025.3	Improve Transportation Infrastructure	Village of Millard	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Millard 2025.4	Safe Rooms and Storm Shelters	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.6	Seismic Vulnerability Assessment	Village of Millard	Low	3	Earthquakes	✓	✓	
Village of Gibbs 2025.1	Establish Village of Gibbs's participation in the National Flood Insurance Program	Village of Gibbs	High	3	Flooding	✓	✓	✓
Village of Gibbs 2025.2	Installation/Upgrade Sirens	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.3	Improve Transportation Infrastructure	Village of Gibbs	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Gibbs 2025.4	Safe Rooms and Storm Shelters	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.6	Seismic Vulnerability Assessment	Village of Gibbs	Low	3	Earthquakes	✓	✓	
Adair County R-I 2025.1	Safe Rooms	Adair County R-I	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County R-II 2025.1	Safe Rooms	Adair County R-II	High	3	Tornado, Severe Thunderstorms	✓	✓	
Kirksville R-III 2025.1	Safe Rooms	Kirksville R-III	High	3	Tornado, Severe Thunderstorms	✓	✓	
	Prevention							

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Adair County 2025.2	Installation/Upgrade Sirens	Adair County	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.3	Improve Transportation Infrastructure	Adair County	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Adair County 2025.4	Safe Room and Storm Shelters	Adair County	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.5	Generator for Shelter(s)	Adair County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Adair County 2025.6	Seismic Vulnerability Assessment	Adair County	Low	3	Earthquakes	✓	✓	
Adair County 2025.7	Subsidence Vulnerability Assessment	Adair County	Low	3	Sinkholes	✓	✓	
City of Kirksville 2025.2	Installation/Upgrade Sirens	City of Kirksville	Medium	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.3	Extreme Temperature Shelters	City of Kirksville	High	3	Extreme Temperatures, Severe Winter Weather	✓	✓	
City of Kirksville 2025.4	Safe Rooms and Storm Shelters	City of Kirksville	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.5	Dam Protection	City of Kirksville	High	3	Dam Failure, Flash Flooding, Riverine Flooding	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Kirksville 2025.6	Flood Mitigation	City of Kirksville	High	3	Flooding	✓	✓	
City of Kirksville 2025.7	Fire Mitigation	City of Kirksville	High	3	Wildfire	✓	✓	
City of Kirksville 2025.8	Water Source Protection	City of Kirksville	Low	3	Drought	✓	✓	
City of Kirksville 2025.11	Seismic Vulnerability Assessment	City of Kirksville	Low	3	Earthquakes	✓	✓	
City of Novinger 2025.2	Installation/Upgrade Sirens	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025.3	Improve Transportation Infrastructure	City of Novinger	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Novinger 2025.4	Safe Rooms and Shelters	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025-6	Seismic Vulnerability Assessment	City of Novinger	Low	3	Earthquakes	✓	✓	
City of Brashear 2025.2	Installation/Upgrade Sirens	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.3	Improve Transportation Infrastructure	City of Brashear	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Brashear 2025.4	Safe Rooms and Storm Shelters	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.6	Seismic Vulnerability Assessment	City of Brashear	Low	3	Earthquakes	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Millard 2025.2	Installation/Upgrade Sirens	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.3	Improve Transportation Infrastructure	Village of Millard	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Millard 2025.4	Safe Rooms and Storm Shelters	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.6	Seismic Vulnerability Assessment	Village of Millard	Low	3	Earthquakes	✓	✓	
Village of Gibbs 2025.2	Installation/Upgrade Sirens	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.3	Improve Transportation Infrastructure	Village of Gibbs	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Gibbs 2025.4	Safe Rooms and Storm Shelters	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.6	Seismic Vulnerability Assessment	Village of Gibbs	Low	3	Earthquakes	✓	✓	
Adair County R-I 2025.1	Safe Rooms	Adair County R-I	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County R-II 2025.1	Safe Rooms	Adair County R-II	High	3	Tornado, Severe Thunderstorms	✓	✓	
Kirksville R-III 2025.1	Safe Rooms	Kirksville R-III	High	3	Tornado, Severe Thunderstorms	✓	✓	

PREREQUISITES

44 CFR requirement 201.6(c)(5): The local hazard mitigation plan shall include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan. For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

This plan has been reviewed by and adopted with resolutions or other documentation of adoption by all participating jurisdictions and schools/special districts. The documentation of each adoption is included in Appendix A, and a model resolution is included on the following page.

The jurisdictions listed in the Executive Summary participated in the development of this plan and have adopted the multi-jurisdictional plan.

Model Resolution

(LOCAL GOVERNING BODY/SCHOOL DISTRICT), Missouri RESOLUTION NO. _____

A RESOLUTION OF THE (LOCAL GOVERNING BODY /SCHOOL DISTRICT) ADOPTING THE (PLAN NAME)

WHEREAS the (local governing body/school district) recognizes the threat that natural hazards pose to people and property within (local government); and

WHEREAS the (local government/school district) has prepared a multi-hazard mitigation plan, hereby known as (title and date of mitigation plan) in accordance with federal laws, including the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended; the National Flood Insurance Act of 1968, as amended; and the National Dam Safety Program Act, as amended; and

WHEREAS (title and date of mitigation plan) identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in (local government/school district) from the impacts of future hazards and disasters; and

WHEREAS adoption by the (local governing body/school district) demonstrates its commitment to hazard mitigation and achieving the goals outlined in the Plan.

NOW THEREFORE, BE IT RESOLVED BY THE (LOCAL GOVERNMENT/SCHOOL DISTRICT), in the State of Missouri, THAT:

Section 1. In accordance with (local rule for adopting resolutions), the (local governing body/school district) adopts the (title and date of mitigation plan). While content related to (local government/school district) may require revisions to meet the plan approval requirements, changes occurring after adoption will not require (local government/school district) to re-adopt any further iterations of the plan. Subsequent plan updates following the approval period for this plan will require separate adoption resolutions.

ADOPTED by a vote of _____ in favor and __ against, and __ abstaining, this _____ day of _____, _____.

By (Sig): _____
Print name: _____

ATTEST:
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By (Sig.): _____
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1 INTRODUCTION AND PLANNING PROCESS

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1.1 PURPOSE

Hazard mitigation is “any actions taken to reduce or eliminate the long-term risk to human life and property from natural hazards”. We understand that hazard events will continue to occur, and at their worst can result in death and destruction of property and infrastructure. The work done to minimize the impact of hazard events to life and property is called hazard mitigation. Adair County and the participating jurisdictions and school districts developed this multijurisdictional local hazard mitigation plan update to reduce future losses from hazards.

The County of Adair, City of Kirksville, City of Novinger, City of Brashear, Village of Millard, Village of Millard, Adair County R-II School District, Kirksville R-III School District, and Adair County R-I School District adopted the Plan as a prerequisite for mitigation grant eligibility pursuant to the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288) as amended by the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations set forth by the Interim Final Rule published in the *Federal Register* on February 26, 2002, (44 CFR §201.6) and finalized on October 31, 2007, and FEMA’s Local Mitigation Planning Handbook, May 2023, FEMA’s Local Mitigation Plan Review Guide, October 1, 2011 and the Local Mitigation Planning Policy Guide April 19, 2023.

1.2 BACKGROUND AND SCOPE

This plan is a 5-year update of the plan that was approved in May 2020. The plan and update were prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 to result in the eligibility for the Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance Grant Programs.

Following is a list of participants in both the previous plan as well as the current update: County of Adair, City of Kirksville, City of Novinger, City of Brashear, Village of Millard, Village of Millard, Adair County R-II School District, Kirksville R-III School District, and Adair County R-I School District.

In addition to securing grant funding eligibility, the plan is useful for incorporating hazard mitigation planning and principals into other documents, such as zoning regulations and land use plans.

1.3 PLAN ORGANIZATION

Set forth the outline of the plan. If there are changes in the format from the previously approved plan, explain what they are and why the changes were made. If no changes were made from the previous plan, explain why.

- Chapter 1: Introduction and Planning Process
- Chapter 2: Planning Area Profile and Capabilities
- Chapter 3: Risk Assessment
- Chapter 4: Mitigation Strategy
- Chapter 5: Plan Implementation and Maintenance
- Appendices

(Table 1.1) shows each chapter and summarizes the changes made in the update.

Table 1.1. Changes Made in Plan Update

Plan Section	Summary of Updates
Chapter 1 - Introduction and Planning Process	Updated members of the Mitigation Planning Committee (MPC) and participating jurisdictions formally adopted the MPC.
Chapter 2 - Planning Area Profile and Capabilities	Planning Area Profile and Capabilities – All Census and economic demographic data updated.
Chapter 3 - Risk Assessment	Combined extreme heat and extreme cold into one hazard: extreme temperatures.
Chapter 4 - Mitigation Strategy	The mitigation category of each action was added to the action worksheets.
Chapter 5 - Plan Implementation and Maintenance	Updated MPC meetings for evaluating and updating the plan to quarterly.

1.4 PLANNING PROCESS

44 CFR Requirement 201.6(c)(1): [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

Adair County, Missouri contracted with the Northeast Missouri Regional Planning Commission to facilitate the update of the multi-jurisdictional, local hazard mitigation plan. In fulfillment of this role, the RPC:

- Assist in establishing a Mitigation Planning Committee (MPC) as defined by the Disaster Mitigation Act (DMA),
- Find out if the MPC established for the previously approved plan was a standing committee that met in the interim, and set forth any changes in the MPC membership and procedures since adoption of the previous plan,
- Assess whether there was adherence to the process set forth in the previously approved plan for maintenance (example, did the MPC meet regularly as specified in the previously approved plan), and explain how adherence occurred, and/or why it did not occur,
- Ensure the updated plan meets the DMA requirements as established by federal regulations and follows the most current planning guidance of the Federal Emergency Management Agency (FEMA),
- Facilitate the entire plan development process,
- Identify the data that MPC participants could provide and conduct the research and documentation necessary to augment that data,
- Assist in soliciting public input,
- Produce the draft and final plan update in a FEMA-approvable document and coordinate the Missouri State Emergency Management Agency (SEMA) and (FEMA) plan reviews.

(Table 1.2) shows the MPC members and the entities they represent, along with their titles.

Table 1.2. Jurisdictional Representatives of Adair County Mitigation Planning Committee

Name	Title	Department	Jurisdiction
Mark Shahan	Presiding Commissioner	Administration	Adair County
Bill King	Associate Commissioner	Administration	Adair County
Gayla McHenry	Associate Commissioner	Administration	Adair County
Mari Macomber	City Manger	Administration	City of Kirksville
Rodney Sadler	Deputy City Manger	Administration	City of Kirksville
Sara Knipe	City Planner	Administration	City of Kirksville
Rhonda Branson	Mayor	Administration	City of Brashear
Margaret Farrell	City Clerk	Administration	Village of Millard
Lisa Rhoads	City Clerk	Administration	City of Novinger
Jamie Keller	City Clerk	Administration	Village of Gibbs
Andy Heimer	Mayor	Administration	Village of Gibbs
Robin Daniels	Superintendent	Administration	Kirksville R-I School
Cody Moore	Superintendent	Administration	Kirksville R-II School
Robert Webb	Superintendent	Administration	Kirksville R-III School
Shawn Corbett	Safety Coordinator	Administration	Kirksville R-III School

(Table 1.3) to demonstrate each member’s expertise in the six mitigation categories (Preventive Measures, Property Protection, Natural Resource Protection, Emergency Services, Structural Flood Control Projects and Public Information).

Table 1.3. MPC Capability with Six Mitigation Categories

Community Department/Office	Preventive Measures	Structure and Infrastructure Projects		Natural Resource Protection	Public Information	Emergency Services
		Property Protection	Structural Flood Control Projects			
County Commission	✓	✓	✓	✓	✓	✓
City Manager/ Deputy	✓	✓	✓	✓	✓	✓
City Planner	✓	✓	✓	✓	✓	✓
Mayor	✓	✓	✓	✓	✓	✓
City Clerk	✓	✓	✓	✓	✓	✓
School Administration	✓	✓		✓	✓	✓

1.4.1 Multi-Jurisdictional Participation

44 CFR Requirement §201.6(a)(3): Multi-jurisdictional plans may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan.

Hazard mitigation is defined as “sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards” and its purpose is to lessen the negative impact of a disaster on community’s economic, social and environmental well-being.

Outreach programs that increase the public’ awareness of hazard risks, projects to protect critical facilities and the removal of structures from flood hazard areas are all examples of mitigation actions. Local mitigation actions and concepts can also be incorporated into land use plans and building codes.

Local governments have the responsibility to protect the health, safety and welfare of their citizens. Proactive mitigation policies and actions help reduce risk and create safer, more disaster-resilient communities. Mitigation is an investment in a community’s future safety and sustainability by facilitating:

- The protection of public safety and prevention of loss of life and injury
- The reduction of harm to existing and future development
- The prevention of damage to a community’s unique assets

The importance of active public participation in such an endeavor is obvious but can be difficult to obtain in reality. Nowhere is difficulty more apparent than in small rural communities like those in Northeast Missouri. The County of Adair participated in all elements of the planning process.

Local government jurisdictions and the school district were invited to participate in the planning process via email and in many cases follow up phone calls and personal visits. (Appendix B-public

documentation). Committee members were placed on a contact list featuring email and contact information. They were also directed to the Regional Planning Commissions webpage.

Jurisdictions that were presented with a multi-jurisdictional plan are required to participate in the planning process and formally adopt the plan. The County of Adair, City of Kirksville, City of Novinger, City of Brashear, Village of Millard, Village of Gibbs, Adair County R-I School District, Adair County R-II School District, and Kirksville R-III School District participated in the plan update by meeting minimal requirements as described in the next paragraph. Each participating jurisdiction has formally adopted the mitigation plan.

Minimum participation requirements included:

- Designation of a representative to serve on the MPC;
- Provision of sufficient information to support plan development by completion and return of Data Collection Questionnaires and validating/correcting critical facility inventories;
- When applicable provide progress reports on mitigation actions from the previously approved plan and identify additional mitigation actions for the plan;
- Eliminate from further consideration those actions from the previously approved plan that were not implemented because they were impractical, inappropriate, not cost effective, or were otherwise not feasible;
- Review and comment on plan drafts;
- Provide documentation to show time donated to the planning effort; and
- Formally adopt the mitigation plan prior to submittal to SEMA and FEMA for final approval.

The County of Adair, City of Kirksville, City of Novinger, City of Brashear, Village of Millard, Village of Gibbs, Adair County R-I School District, Adair County R-II School District, and Kirksville R-III School District met the participation requirements.

Table 1.4 shows the representation of each participating jurisdiction at the planning meetings, the provision of responses to the Data Collection Questionnaire, the active critical facility validation, the update/development of mitigation actions, and the documentation of donated time, as applicable.

Table 1.4. Jurisdictional Participation in Planning Process

Jurisdiction	Planning Meeting #1	Informal Meetings	Data Collection Questionnaire Response	Update/Develop Mitigation Actions
Adair County	Yes	Yes	Yes	Yes
City of Kirksville	Yes	Yes	Yes	Yes
City of Novinger	No	Yes	Yes	Yes
City of Brashear	No	Yes	Yes	Yes
Village of Millard	No	Yes	Yes	Yes
Village of Gibbs	No	Yes	Yes	Yes
Adair County R-I	No	Yes	Yes	Yes
Adair County R-II	No	Yes	Yes	Yes
Kirksville R-III	No	Yes	Yes	Yes

1.4.2 The Planning Steps

- The plan was developed using information from FEMA's *Local Mitigation Planning*

Handbook (May 2023), Local Mitigation Planning Policy Guide (April 19, 2023), and Integrating Hazard Mitigation Into Local Planning: Case Studies and Tools for Community Officials (March 1, 2013).

- The development of the plan followed the 10-step planning process adapted from FEMA’s Community Rating System (CRS) and Flood Mitigation Assistance programs. The 10-step process allows the plan to meet funding eligibility requirements of the Hazard Mitigation Grant Program, Building Resilient Infrastructure and Communities, and Flood Mitigation Assistance Program as well as qualify for points under Activity 510 for Mitigation Plans, under the Community Rating System. The following table shows how the CRS process aligns with the Nine Task Process outlined in the 2023 *Local Mitigation Planning Handbook*.

Table 1.5. County Mitigation Plan Update Process

Community Rating System (CRS) Planning Steps (Activity 510)	Local Mitigation Planning Handbook (2023) Tasks (44 CFR Part 201)
Step 1. Organize	Task 1: Determine the Planning Area and Resources
	Task 2: Build the Planning Team 44 CFR 201.6(c)(1)
Step 2. Involve the public	Task 3: Create an Outreach Strategy 44 CFR 201.6(b)(1)
Step 3. Coordinate	Task 5: Review Community Capabilities 44 CFR 201.6(b)(2) & (3)
Step 4. Assess the hazard	Task 4: Conduct a Risk Assessment 44 CFR 201.6(c)(2)(i) 44 CFR 201.6(c)(2)(ii) & (iii)
Step 5. Assess the problem	
Step 6. Set goals	Task 6: Develop a Mitigation Strategy 44 CFR 201.6(c)(3)(i); 44 CFR 201.6(c)(3)(ii); and 44 CFR 201.6(c)(3)(iii)
Step 7. Review possible activities	
Step 8. Draft an action plan	
Step 9. Adopt the plan	Task 8: Review and Adopt the Plan
Step 10. Implement, evaluate, revise	Task 7: Keep the Plan Current
	Task 9: Create a Safe and Resilient Community 44 CFR 201.6(c)(4)

**Step 1: Organize the Planning Team
(Handbook Tasks 1, 2, and 5)**

In September 2024 RPC staff met with the Adair County Commissioners to begin the planning process. On March 18, 2025 a Planning Meeting was held for the Adair County Plan Update. Local jurisdictions and stakeholders were notified by email and letter of the Planning Meeting and personal phone calls were made to promote attendance at the Planning Meeting. The Agenda for the Planning Meeting is included in Appendix B as well as the minutes for the Planning Meeting. After the Kickoff meeting jurisdictions unable to attend the meeting were contacted and asked to attend the next meeting. Finally, the decision was made to move

forward interacting with the jurisdiction individually due to the inability to get the entire MPC to meet as a group.

Table 1.6. Schedule of MPC Meetings

Meeting	Topic	Date
Informational Meeting	Met directly with local jurisdictions and follow up phone calls to discuss the planning process and the importance of participation.	9/10/24-3/2/25
Planning Meeting #1	Purpose, process, planning area, building the team, participation, requirements, public outreach, data collection questionnaires, discussion of hazards, risk.	3/18/25
Informal Meetings	Purpose, discussion of hazards, risk assessment, determine/update, Review of the draft plan, discussion of plan update process, plan maintenance, discussion of adoption resolutions, submission to	4/13/25-7/18/25

***Step 2: Plan for Public Involvement
(Handbook Task 3)***

44 CFR Requirement 201.6(b): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval.

The Kickoff Meeting’s agenda is included in Appendix B which includes discussion, minutes, signature sheet, and copies of the handouts. A survey was created in SurveyMonkey to solicit public input, and local government representatives also chose to solicit public involvement at the local level as they would be the key contacts for obtaining public comment. Public notice was posted on the NEMO RPC website, and a notice was posted in all of the City Hall’s in the participating jurisdictions.

No public comments were received which is characteristic for the area. The public in Adair County typically does not become active in planning activities such as plan development or updates.

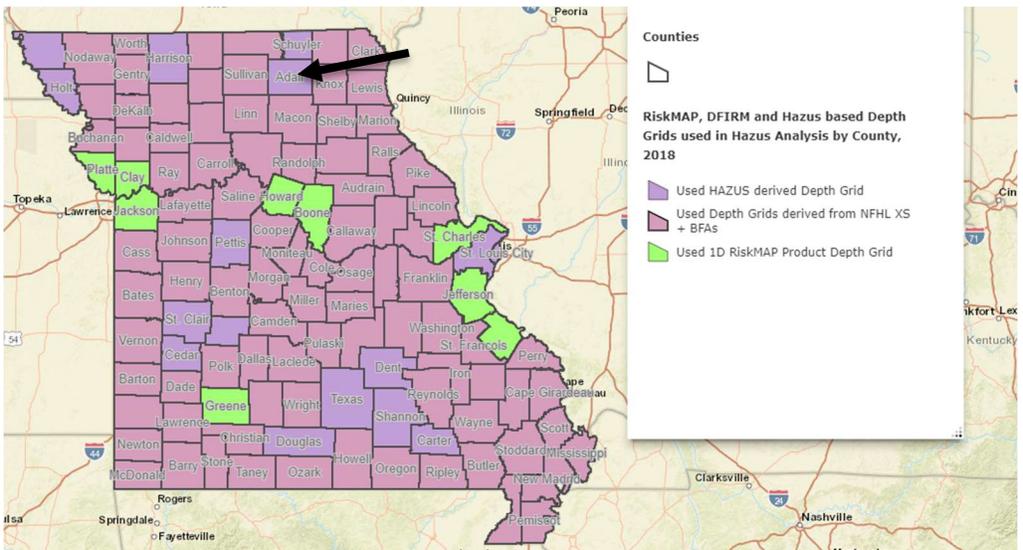
***Step 3: Coordinate with Other Departments and Agencies and Incorporate Existing Information
(Handbook Task 2)***

44 CFR Requirement 201.6(b): An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include: (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process. (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

The Adair County stakeholders and representatives of major employers were engaged through communication with jurisdictional representatives, who were asked to share an invitation to attend the Planning Meeting and SurveyMonkey links and QR codes to seek their input. Stakeholders invited to participate include, police departments, fire departments, nursing homes, academic institutions, economic developers, Missouri Department of Natural Resources, Missouri Department of Transportation, water districts, and ambulance districts. Neighboring communities, non-profit organizations, and academic institutions were informed of the Adair County plan update via NEMO RPC's website, SurveyMonkey QR codes, and jurisdictional representatives and were invited to attend or offer input to the plan as they saw fit. No comments were received directly from the stakeholders, representatives of major employers, or neighboring communities during the planning process.

Coordination with FEMA Risk MAP Project

Figure 1.1. RiskMAP Study Status Map



Integration of Other Data, Reports, Studies, and Plans

Other documents critical to the formation to the plan included the Flood Insurance Studies (FIS), Flood Insurance Rate Maps (FIRMs), State Department of Natural Resources (DNR) dam information, the National Inventory of Dams (NID), dam inspection reports, state fire reports, Wildland/Urban Interface and Intermix areas from the SILVIS Lab - Department of Forest Ecology and Management - University of Wisconsin, local comprehensive plans, economic development plans, US Department of Agriculture's (USDA) Risk Management Agency Crop Insurance Statistics, and local budgets.

Examples of information that was incorporated into the plan include:

- FEMA FIRM maps
- DNR dam inspection reports
- SEMA's ArcGIS helped with mapping for hazards
- 2023 State Hazard Mitigation Plan-building counts and content exposure
- American Factfinder and U.S. Census Bureau, demography.

Step 4: Assess the Hazard: Identify and Profile Hazards
(Handbook Task 4)

At the March 18, 2025 meeting MPC profiled their hazards which was accomplished by reviewing:

- previous disaster declarations in the county
- hazards in the most recent State Hazard Mitigation Plan
- hazards identified in the previously approved hazard mitigation plan.

The results of this process can be reviewed in Section 3 of this document. Data Collection Questionnaires from the previous plan update were disseminated to jurisdictions in attendance. Participants were requested to review and update the Questionnaires and submit to the RPC no later than April 8, 2025. An email and face to face meetings with those not in attendance but considered potential planning team members were sent requesting completion of the Data Collection Questionnaire. Data Collection Questionnaires can be found in Appendix B.

Step 5: Assess the Problem: Identify Assets and Estimate Losses
(Handbook Task 4)

Assets were identified with demographic data from the US Census, Census of Agriculture, GIS Structure data, Data Collection Questionnaires and information from the RPC. The vulnerability and loss estimates were either taken from the 2023 Missouri State Hazard Mitigation Plan or other best available data, as appropriate. The values of buildings in the community were obtained and are provided in the plan.

Step 6: Set Goals
(Handbook Task 6)

The MPC reviewed the goals from the previously approved plan at the March 18, 2025 meeting and amended and consolidated the previous goals.

1. Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.
2. Strengthen communication and coordination between local governments, emergency personnel, public agencies, and citizens to mitigate the effect of future natural hazards.
3. Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties; on natural resources; on infrastructure; and on the local economy.

Step 7: Review Possible Mitigation Actions and Activities
(Handbook Task 6)

As part of the in-person and phone meetings, members were asked to review the mitigation strategy from the previously approved plan and note changes and update as it pertains to their individual jurisdictions. Committee members were requested to address progress (or lack thereof) on previously identified actions in the previously approved plan. MPC members were encouraged to continue forward only those actions that substantively address long-term mitigation solutions to the risks identified in the risk assessment.

There were virtually no changes to any of the risk assessment in the plan. The MPC used the STAPLEE method to analyze and prioritize proposed actions.

Step 8: Draft an Action Plan
(Handbook Task 6)

Proposed actions were provided by MPC members and rated using the STAPLEE methodology. These actions were reviewed for concurrence by the MPC during the final review of the draft plan and the updated Mitigation Strategy is included in Chapter 4. Draft copies were available to the public for review at participating jurisdictions. The STAPLEE worksheets can be found in Appendix B.

Step 9: Adopt the Plan
(Handbook Task 8)

After the majority of the draft plan was composed, adoption resolution examples were given to the jurisdictional representatives and requested for adoption by whatever means their jurisdictions utilize for such activities. Adoption resolutions can be found in Appendix A.

Step 10: Implement, Evaluate, and Revise the Plan
(Handbook Tasks 7 & 9)

Part of the plan draft development included an outline of plan maintenance (Chapter 5) and was discussed and accepted by the MPC members in face to face and phone meetings. This process includes reviews annually and in the wake of any significant hazard event, as well as provisions for the five-year update process.

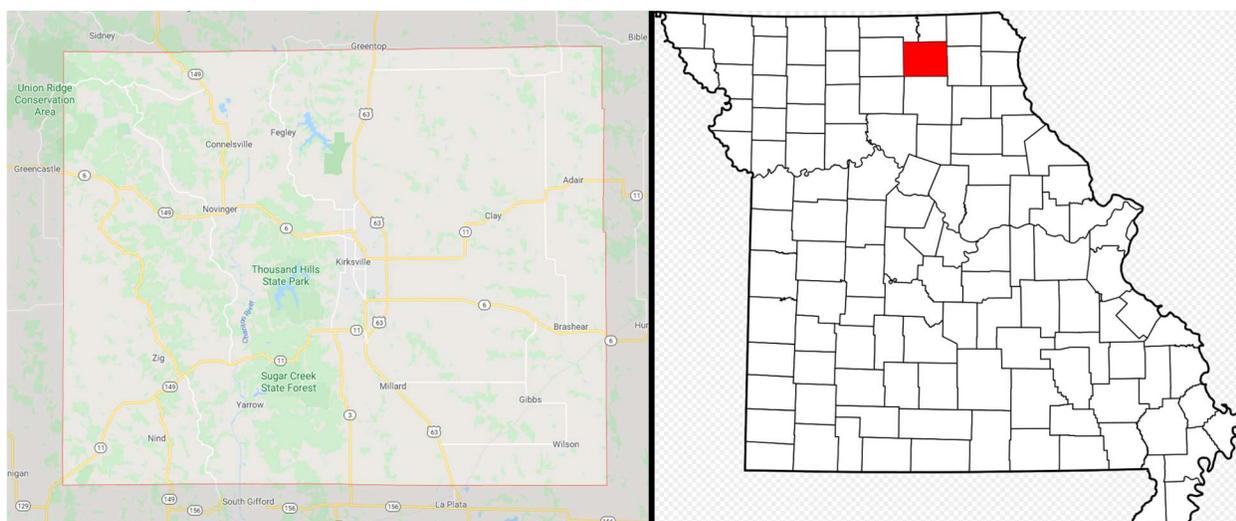
2 PLANNING AREA PROFILE AND CAPABILITIES

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2.1 ADAIR COUNTY PLANNING AREA PROFILE

The intent of this section is to provide an overview profile of the entire planning area for the multi-jurisdictional plan. **(Figure 2.1)** provides a map of the County planning area that includes the cities and a map showing where the county is located in the State.

Figure 2.1. Maps of Adair County



According to the 2020 US Census, the population estimate for Adair County was 25,314 persons compared to the 2010 Census population of 25,607; a decrease of 1.14% in the ten-year period. This decrease in population falls far behind the growth estimate for the State of Missouri for the same time period (2.8%) and of the Nation at 7.4%. According to the 2023 American Community Survey Estimates, Adair County has experienced a 1.61% decrease in population since the 2000 Census.

The Adair County median household income from the 2020 US Census is \$49,175. As of the 2023 American Community Survey, the median household income is \$56,583. This is an approximate 15.04% increase. This percent of growth falls below the growth estimate for the Nation for the same time period (19.58%) and the State of Missouri at 19.64%.

2.1.1 Geography, Geology and Topography

Adair County, Missouri, is located in the northeastern region of the state and encompasses approximately 567 square miles, of which 2 square miles are water. The county's topography consists primarily of gently rolling hills and broad upland plains, characteristic of the Dissected Till Plains physiographic region. The area's underlying geology includes loess, glacial till, and sedimentary rock formations such as limestone, shale, and sandstone. The soils are largely silty loam, moderately well-drained, and support both agriculture and hardwood forest. Numerous streams and creeks meander through the landscape, with major waterways including the Chariton River and Spring Creek.

Adair County is a predominantly rural county with agriculture as the primary land use, including row cropping and livestock production. The county seat and largest urban center is the City of Kirksville, which serves as a regional hub for education, healthcare, and commerce. Kirksville is home to Truman State University and A.T. Still University, and while the city has experienced modest growth, the surrounding rural areas have seen gradual population decline over recent decades.

2.1.2 Climate

Adair County, Missouri experiences a humid continental climate, characterized by hot summers, cold winters, and moderate precipitation throughout the year. According to data from the Midwestern Regional Climate Center and the Missouri Historical Agricultural Weather Database, the county's average annual temperature is approximately 52.5°F. The average high temperature in July, typically the warmest month, is around 86°F, while the average low in January, the coldest month, is about 17°F. These seasonal extremes reflect the county's inland location and lack of moderating influences from large bodies of water.

Annual precipitation in Adair County averages approximately 39 inches, with rainfall fairly evenly distributed across the seasons, although spring and early summer tend to be the wettest periods. The area also experiences an average of 19 inches of snowfall per year, primarily between December and February. Snowfall amounts can vary considerably from year to year due to regional storm patterns. The county's climate is well-suited for agriculture but can be vulnerable to severe weather, including thunderstorms, tornadoes, and ice storms, particularly during transitional seasons.

2.1.3 Population/Demographics

(Table 2.1) provides the populations for each city, village, and the unincorporated county for 2010, 2020, and latest population estimates or American Community Survey with the number and percentage change.

Table 2.1. Adair County Population 2010-2020 by Jurisdiction

Jurisdiction	2010 Population	2020 Population	2023 Annual Population Estimate or ACS Population	# Change (2010-2020)	% Change (2010-2020)
Adair County	25,607	25,314	25,224	-293	-1.14%
Kirksville	17,505	17,530	17,493	+25	+0.14%
Brashear	273	235	172	-38	-13.92%
Novinger	456	383	454	-73	-16.01%
Gibbs	107	70	71	-37	-34.58%
Millard	89	79	75	-10	-11.24%

Source: U.S. Bureau of the Census, Decennial Census, annual population estimates/ 5-Year American Community Survey 2023; *population includes the portions of these cities in adjacent counties

According to the American Community Survey estimates for 2023, 4.98% of the County’s population was under the age of 5 (1,234). This percentage aligns closely with the nation at 5.47% and the State at 5.62%. Adair County has a population of 4,484 (17.78%) residents who are over the age of 65. At the National level 17.71% of residents are 65 and over; while 18.37% of Missourians are over the age of 65. The median age of residents in the County is 29.5 with the highest percentage of residents falling between the ages of 20-24, largely due to the presence of higher education institutions. The median age of residents of the US is 39.2 with 39.3 being the median age of residents of Missouri.

There are 9,845 total occupied households in the County. The average household size is 2.28 compared to that of the Nation at 2.49 and the State at 2.36. Of the County’s occupied households, 2,070 had children under the age of 18 (21.03%) and 32.28% occupied with individuals 65 and over. Racial makeup of the County is predominately white (90.3%) with (3.6%) being of Hispanic descent.

The University of South Carolina developed an index to evaluate and rank the ability to respond to, cope with, recover from, and adapt to disasters. The index synthesizes 29 socioeconomic variables which research literature suggests contribute to reduction in a community’s ability to prepare for, respond to, and recover from hazards. SoVI ® data sources include primarily those from the United States Census Bureau.

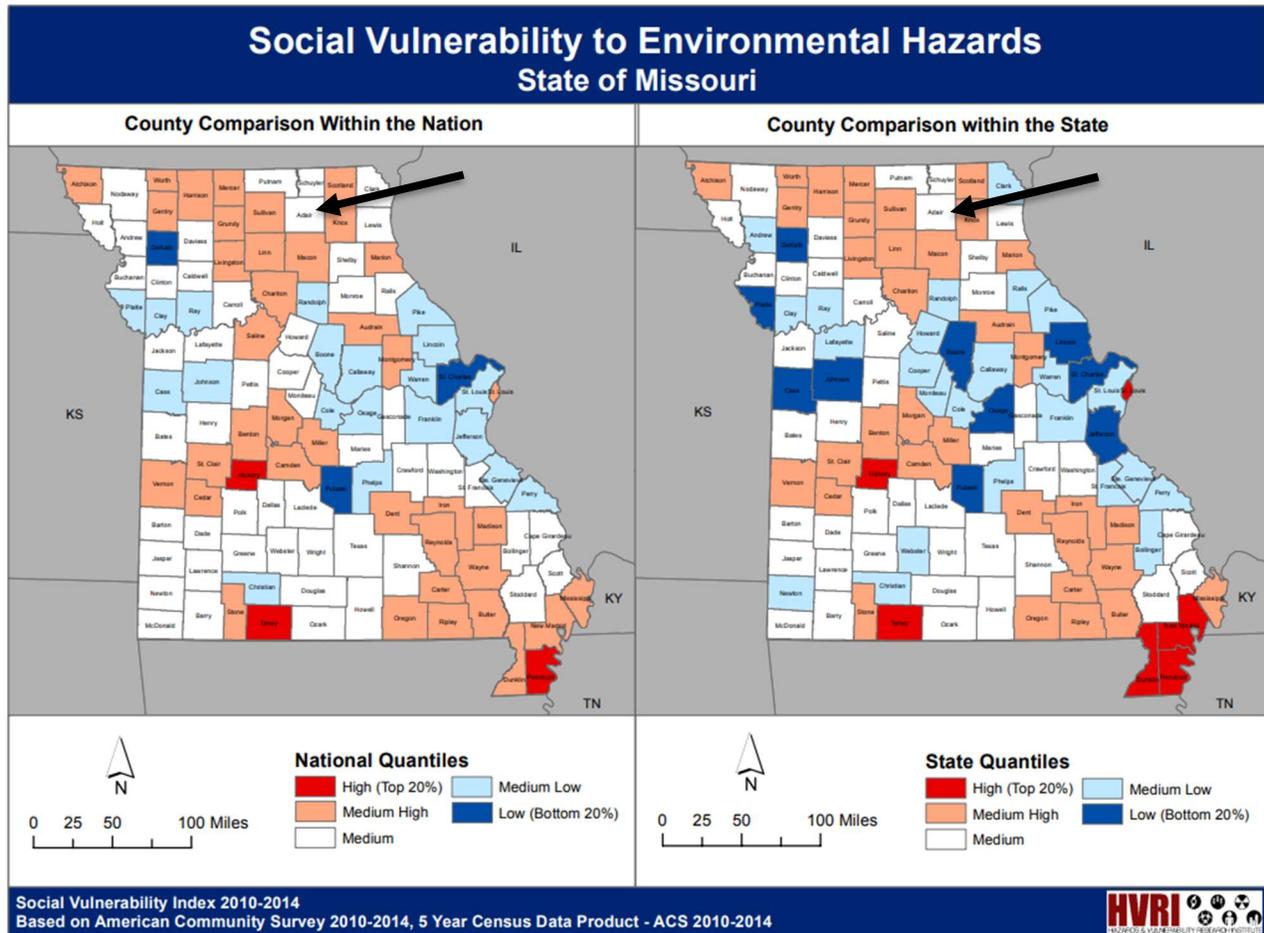
According to the SoVI Score for Adair County, they have a medium-low social vulnerability to environmental hazards compared to the nation, and a low social vulnerability when compared to the state of Missouri. A low number means the county is more resilient to hazard events, and a high number means the county is less resilient.

Medium-low social vulnerability means that Adair County has a slightly lower level of risk and challenges in coping with environmental hazards compared to the national average. This suggests that the community has some underlying strengths, such as stable income levels or access to resources, or population demographics, that help reduce susceptibility to disaster impacts.

Low social vulnerability indicates that, when compared to the state of Missouri, Adair County has a relatively strong ability to withstand and recover from environmental hazards. This suggests that vulnerabilities in Adair County are less pronounced relative to most other counties in Missouri,

reflecting higher resilience and fewer social or economic barriers to disaster recovery.

Figure 2.2. SoVI for Adair County



Source: [SoVI@ - College of Arts and Sciences | University of South Carolina](http://SoVI@-CollegeofArtsandSciencesUniversityofSouthCarolina)

(Table 2.2) provides additional demographic and economic indicators for the County from the latest American Community Survey 5-year estimates.

Table 2.2. Unemployment, Poverty, Education, and Language Percentage Demographics, Adair County, Missouri

Jurisdiction	Total in Labor Force	Percent of Population Unemployed	Percent of Families Below the Poverty Level	Percentage of Population (High School graduate)	Percentage of Population (Bachelor's degree or higher)	Percentage of population with spoken language other than English
Adair County	11,319	2.6	21.2	50.1	46.5	6
Kirksville	7,443	2.6	27.2	43.4	49	6.9
Novinger	173	2.1	26.3	81	6.8	0.8
Brashear	76	0.7	21.5	100	7	0
Gibbs	18	0.0	25.4	0	0	0
Millard	46	0.0	10.7	39.6	1.9	0
Missouri	4,997,010	3.4	48.1	65.2	44.1	7
United States	271,122,729	4.3	47.8	60.8	47.9	22.5

Source: U.S. Census, 2023 American Community Survey, 5-year Estimates.

2.1.4 History

Adair County is a county located in the northeastern part of the state of Missouri. As of the 2020 Census, the population was 25,224. Its county seat is Kirksville. The county was first settled by immigrants from Kentucky and organized on January 29, 1841. The first permanent settlement in Adair County began in 1828. Many of the first settlers were from Adair County in Kentucky, for which the Missouri county was named. The county in Kentucky was named for John Adair, a respected Governor of Kentucky. This was 25 years after the Louisiana Purchase, seven years after Missouri was granted statehood, and four years after the Sac and Fox Native American tribes surrendered their claims to the land. The original settlement was called “Cabins of White Folks” or simple, “The Cabins,” and was located six miles (9.7 km) west of present-day Kirksville along the Chariton River.

2.1.5 Occupations

(Table 2.3) lists occupation statistics for the incorporated cities and the county, as a whole.

Table 2.3. Occupation Statistics, Adair County, Missouri

Place	Management, Business, Science, and Arts Occupations		Service Occupations		Sales and Office Occupations		Natural Resources, Construction, and Maintenance Occupations		Production, Transportation, and Material Moving Occupations	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Adair County	4,188	16.60%	1,593	6.32%	2,446	9.70%	969	3.84%	1,570	6.22%
Kirksville	2,745	15.69%	1,062	6.07%	1,738	9.94%	433	2.48%	1,087	6.21%
Novinger	41	9.03%	37	8.15%	21	4.63%	32	7.05%	36	7.93%
Brashear	21	12.20%	18	10.47%	20	11.63%	5	2.90%	11	6.40%
Millard	4	5.33%	5	6.66%	22	29.33%	2	2.66%	13	17.33%
Gibbs	2	2.82%	5	7.04%	7	9.86%	1	1.39%	3	4.17%

Source: U.S. Census, 2023 American Community Survey, 5-year Estimates.

2.1.6 Agriculture

Adair County has a total of 804 farms with the total acreage of 249,382. The average farm size is 310 acres which is higher than the state average of 308 acres. The top crop for Adair County is Corn for grain. The average value of product sold per farm was \$43,539.

2.1.7 FEMA Hazard Mitigation Assistance (HMA) Grants in Planning Area

Adair County has yet to receive a FEMA Hazard Mitigation Assistance Grant in the planning area.

2.1.8 FEMA Public Assistance (PA) Grants in Planning Area

Table 2.4. FEMA PA Grants in Adair County from 1993-2024

Disaster Number	Declaration Date	Incident Type	Applicant Name	Federal Obligation
4238	8/7/2015	Severe Storm	ADAIR (COUNTY)	\$904,860.20
4238	8/7/2015	Severe Storm	ADAIR COUNTY PUBLIC WORKS SD #1	\$78,778.52
4238	8/7/2015	Severe Storm	KIRKSVILLE	\$24,869.77
4238	8/7/2015	Severe Storm	NOVINGER	\$90,709.28
4741	9/21/2023	Storm(s) Severe	Brashear, City of	\$37,349.60
4741	9/21/2023	Storm(s) Severe	Kirksville, City of	\$112,921.33
4741	9/21/2023	Storm(s) Severe	Novinger, City of	\$239,170.39
4741	9/21/2023	Storm(s) Severe	A. T. Still University of Health Sciences	\$489,407.96
4741	9/21/2023	Storm(s) Severe	Adair, County of	\$708,410.14
4451	7/9/2019	Storm(s) Severe	Novinger, City of	\$72,070.94
1773	6/25/2008	Storm(s) Severe	Novinger, City of	\$6,692.08
1961	3/23/2011	Storm(s) Severe Ice	Kirksville, City of	\$30,822.44
1736	12/27/2007	Storm Severe	Kirksville, City of	\$48,357.38
1934	8/17/2010	Storm(s) Severe	Adair County Extension Center	\$43,799.23
1809	11/13/2008	Storm(s) Severe	Adair, County of	\$59,348.70
1934	8/17/2010	Storm(s) Severe	Adair, County of	\$532,749.12
1847	6/19/2009	Storm(s)	Novinger Community Volunteer Fire Association, Inc.	\$5,734.50

1847	6/19/2009	Severe Storm(s)	Adair, County of	\$186,299.44
1934	8/17/2010	Severe Storm(s)	Adair County PWSD # 1	\$35,258.25
1773	6/25/2008	Severe Storm(s)	Kirksville, City of	\$24,068.13
1847	6/19/2009	Severe Storm(s)	Kirksville, City of	\$87,073.32
1847	6/19/2009	Severe Storm(s)	Novinger, City of	\$37,803.07
4451	7/9/2019	Severe Storm(s)	Kirksville, City of	\$14,120.86
1412	5/6/2002	Severe Storm(s)	Brashear, City of	\$4,561.79
1412	5/6/2002	Severe Storm(s)	Adair County PWSD # 1	\$63,142.85
1773	6/25/2008	Severe Storm(s)	Truman State University	\$67,231.27
4200	10/31/2014	Severe Storm(s)	Adair, County of	\$110,450.81
4200	10/31/2014	Severe Storm(s)	Adair County PWSD # 1	\$19,322.27
1412	5/6/2002	Severe Storm(s)	Kirksville, City of	\$11,698.63
1412	5/6/2002	Severe Storm(s)	Adair, County of	\$254,995.50
1773	6/25/2008	Severe Storm(s)	Adair County Health Department	\$13,550.31
1773	6/25/2008	Severe Storm(s)	Adair County PWSD # 1	\$37,969.80
1934	8/17/2010	Severe Storm(s)	Novinger, City of	\$94,786.42
4200	10/31/2014	Severe Storm(s)	Brashear, City of	\$3,874.73
1961	3/23/2011	Severe Storm(s)	Truman State University	\$7,024.83
1773	6/25/2008	Severe Storm(s)	Adair, County of	\$475,820.62
1809	11/13/2008	Severe Storm(s)	Kirksville, City of	\$11,344.20
4451	7/9/2019	Severe Storm(s)	Adair, County of	\$622,020.76
1773	6/25/2008	Severe Storm(s)	Brashear, City of	\$31,725.51
1934	8/17/2010	Severe Storm(s)	Kirksville, City of	\$74,762.22
4200	10/31/2014	Severe Storm(s)	Kirksville, City of	\$148,679.85
4451	7/9/2019	Severe Storm(s)	Adair County PWSD # 1	\$67,059.92

1961	3/23/2011	Severe Storm(s)	Adair, County of	\$17,623.75
				\$6,008,320.69

Source: Federal Emergency Management Agency, 2025

2.2 JURISDICTIONAL PROFILES AND MITIGATION CAPABILITIES

This section will include individual profiles for each participating jurisdiction. It will also include a discussion of previous mitigation initiatives and ongoing mitigation capabilities in the planning area. There will be a summary table indicating specific capabilities of each jurisdiction that relate to their ability to implement mitigation opportunities. The unincorporated county is profiled first, followed by the incorporated communities, special districts, and school districts.

2.2.1 Unincorporated Adair County

By Missouri State Statute (Section 48.020.1) Adair County is defined as a 3rd Class County, meaning it's assessed valuation is less than six hundred million dollars. The County seat is location in Kirksville.

Adair County has five cities and villages (City of Kirksville, City of Novinger, City of Brashear, Village of Millard, and the Village of Gibbs). The county government provides services such as law enforcement, judicial services, land records, tax collection, property assessment, administration of elections, construction and maintenance of roads and bridges.

The County is governed by an elected board of Commissioners composed of a Presiding Commissioner, 1st District Commissioner, and 2nd District Commissioner. Other positions within Adair County include:

- County Assessor
- Circuit Court Clerk
- County Collector
- County Clerk
- County Coroner
- Prosecuting Attorney
- Public Administrator
- County Recorder
- County Road and Bridge Supervisor
- County Sheriff
- County Treasurer

Mitigation Initiatives/Capabilities

The County of Adair has an Emergency Management Director (EMD) who plans and directs disaster responses or crisis management activities, provides disaster preparedness training and prepares emergency plans and procedures for natural disasters.

The County of Adair has the ability to expand upon and enhance the capabilities described in this plan. Through ongoing investment in resources, strategic partnerships, staff development, and the adoption of new technologies or best practices, the county is committed to strengthening their mitigation efforts over time. As needs evolve and new opportunities arise, the county will continue to assess and improve its

capacity to effectively reduce risk and enhance resilience in the community.

Table 2.5 displays information for the unincorporated county based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. Adair County does have the authority to expand on current capabilities.

Table 2.5. Unincorporated Adair County Mitigation Capabilities

Capabilities	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
City Emergency Operations Plan	NA
County Emergency Operations Plan	Yes
Local Recovery Plan	No
County Recovery Plan	Yes
City Mitigation Plan	NA
County Mitigation Plan	Yes
Debris Management Plan	No
Economic Development Plan	Yes
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	No
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Stormwater Ordinance	No
Drainage Ordinance	No
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Seismic Construction Ordinance	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
Hazard Awareness Program	No
National Flood Insurance Program (NFIP)	No
NFIP Community Rating System (CRS) program	No

Capabilities	Status, Including Date of Document or Policy
National Weather Service (NWS) Storm Ready	No
Firewise Community Certification	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	No
Economic Development Program	Yes
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	No
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	NA
Hazard Analysis/Risk Assessment (County)	Yes
Flood Insurance Maps	No
FEMA Flood Insurance Study (Detailed)	Yes
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	No
Building Inspector	No
Mapping Specialist (GIS)	Yes
Engineer	No
Development Planner	No
Public Works Official	Yes
Emergency Management Director	Yes
NFIP Floodplain Administrator	No
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No
Sanitation Department	No
Transportation Department	No
Economic Development Department	Yes
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	Yes
Salvation Army	Yes
Veterans Groups	Yes
Local Environmental Organization	Yes
Homeowner Associations	No
Neighborhood Associations	Yes
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	Yes

Capabilities	Status, Including Date of Document or Policy
Local Funding Availability	
Apply for Community Development Block	Yes
Fund projects through Capital	No
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	No
Impact fees for new development	No
Ability to incur debt through general obligation bonds	No
Ability to incur debt through special tax bonds	No
Ability to incur debt through private activities	No
Withhold spending in hazard prone areas	No

Source: Data Collection Questionnaire, 4/8/25

2.2.2 City of Kirksville

Kirksville is the county seat of Adair County. Located in Benton Township, its population was 17,493 at the 2020 Census. Kirksville is home to two colleges: Truman State University and A.T. Still University. Kirksville was laid out in 1841 on a 40-acre (0.06 square mile; 16.19 ha) site. It was first incorporated in 1857.

According to tradition, Jesse Kirk, Kirksville's first postmaster, shared a dinner of turkey and whiskey with surveyors working in the area on the condition that they would name the town after him. Not only the first postmaster, Kirk was also the first to own a hotel and a tavern in Kirksville.

Contrary to popular belief, the name of the city has no connection to John Kirk, one-time president of Truman State University from 1899 to 1925. However, the grandson of Jesse Kirk reported that the town was named for Kirk's son, John, a figure of local legend credited with killing two deer with a single bullet. "Hopkinsville" was explained as a joking reference to the peculiar gait of John Kirk's lame father-in-law, David Sloan; the jocular name was discarded when the village was selected for the seat of justice in Adair County.

The Battle of Kirksville was fought August 6-9, 1862, during the American Civil War. Union troops led by John McNeil forced Confederate volunteer under Joseph Porter to vacate the city. Casualty estimates (almost entirely Confederate) range from 150-200 dead and up to 400 wounded. According to the August 12, 1862, *Quincy Herald* there were 8 Federal dead and 25 wounded. The victorious Union commander, Colonel McNeil, gained brief national attention for his post-battle execution of a small number of Confederate prisoners. These prisoners had been previously captured in battle and then paroled with the understanding they would no longer take up arms against the Union, upon penalty of death if recaptured. Nonetheless, Confederate government officials were outraged, and it is said that Confederate president Jefferson Davis even called for the execution of Colonel (later Brigadier General) McNeil if he were to be captured.

The City of Kirksville has established building codes to guide development. The city adheres to state building codes, has adopted the 2021 ICC Building Codes, and has additional regulations for floodplain management. These measures contribute to minimizing risks associated with natural disasters. The City of Kirksville has the ability to expand and improve its mitigation capabilities by leveraging local resources, regional partnerships, and seeking support from the county and other external agencies. They are committed to enhancing their mitigation efforts through strategic community planning, collaboration, and access to countywide initiatives. As opportunities arise, the city will assess local resources and capacity and partner with the county and neighboring

communities, if necessary, to strengthen their resilience and improve their ability to address hazards effectively.

Table 2.6 displays information for the City of Kirksville based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The City of Kirksville does have the authority to expand on current capabilities.

Table 2.6. City of Kirksville Mitigation Capabilities

Capability	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	Yes 03/16/2020
Builder's Plan	NA
Capital Improvement Plan	Yes 12/16/2024
Local Emergency Plan	Yes 03/2025
County Emergency Plan	Yes 03/2025
Local Recovery Plan	YES 03/2025
County Recovery Plan	YES 03/2025
Local Mitigation Plan	Yes 10/15/2014
County Mitigation Plan	Yes
Economic Development Plan	NA
Transportation Plan	NA
Land-use Plan	Yes 03/16/2020
Flood Mitigation Assistance (FMA) Plan	NA
Watershed Plan	YES 12/02/2015
Firewise or other fire mitigation plan	NA
School Mitigation Plan	NA
Critical Facilities Plan (Mitigation/Response/Recovery)	NA
Policies/Ordinance	
Zoning Ordinance	Yes
Building Code	Yes
Floodplain Ordinance	YES
Subdivision Ordinance	YES
Tree Trimming Ordinance	YES
Nuisance Ordinance	YES
Storm Water Ordinance	YES
Drainage Ordinance	YES
Seismic Construction Ordinance	
Capability	
Site Plan Review Requirements	YES
Historic Preservation Ordinance	YES
Landscape Ordinance	YES
Wetlands and Riparian Areas Conservation Plan	
Debris Management Plan	
Program	
Zoning/Land Use Restrictions	Comprehensive Plan, Subdivision Code, and Zoning Code
Codes Building Site/Design	Comprehensive Plan, Subdivision Code, Zoning Code
National Flood Insurance Program (NFIP) Participant	YES 02/03/2025 Kirksville Flood Plain Ordinance
NFIP Community Rating System (CRS) Participating Community	NA
Hazard Awareness Program	YES 03/2025
National Weather Service (NWS) Storm Ready	YES
Building Code Effectiveness Grading (BCEGs)	YES
ISO Fire Rating	Rating: 3 05/01/2024
Economic Development Program	YES
Land Use Program	Comprehensive Plan, Subdivision Code, and Zoning Code

Capability	Status, Including Date of Document or Policy
Public Education/Awareness	YES
Property Acquisition	
Planning/Zoning Boards	YES
Stream Maintenance Program	Yes
Tree Trimming Program	Yes
Engineering Studies for Streams (Local/County/Regional)	YES
Mutual Aid Agreements	YES
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	YES
Hazard Analysis/Risk Assessment (County)	YES
Flood Insurance Maps	
FEMA Flood Insurance Study (Detailed)	
Evacuation Route Map	YES
Critical Facilities Inventory	YES
Vulnerable Population Inventory	YES
Land Use Map	YES
Staff/Department	
Building Code Official	YES
Building Inspector	YES
Mapping Specialist (GIS)	YES
Engineer	YES
Development Planner	YES
Public Works Official	YES
Emergency Management Coordinator	YES
NFIP Floodplain Administrator	YES
Emergency Response Team	YES
Hazardous Materials Expert	YES
Local Emergency Planning Committee	YES
County Emergency Management Commission	YES
Sanitation Department	NA
Transportation Department	YES
Economic Development Department	YES
Housing Department	YES
Historic Preservation	YES
Non-Governmental Organizations (NGOs)	
American Red Cross	YES
Salvation Army	YES
Veterans Groups	YES
Environmental Organization	YES
Homeowner Associations	YES
Neighborhood Associations	YES
Chamber of Commerce	YES
Community Organizations (Lions, Kiwanis, etc.)	YES
Local Funding Availability	
Ability to apply for Community Development Block Grants	YES
Ability to fund projects through Capital Improvements funding	YES
Authority to levy taxes for a specific purpose	YES
Fees for water, sewer, gas, or electric services	YES
Impact fees for new development	YES
Ability to incur debt through general obligation bonds	YES
Ability to incur debt through special tax bonds	YES
Ability to incur debt through private activities	NO
Ability to withhold spending in hazard prone areas	YES

Source: Data Collection Questionnaire, 04/22/2025

2.2.3 City of Novinger

Novinger is a town located in Nineveh Township, Adair County, Missouri. As of the 2020 Census, the population was 454. The town's history is marked by several key developments, beginning with the arrival of the Quincy, Missouri & Pacific Railroad and the filing of the town plat by founder John C. Novinger in 1878. A U.S. Post Office was established the following year, and the area's first shaft coal mine opened in 1883.

The turn of the 20th century brought a coal mining boom that attracted immigrants from around the world, including Welsh, German, Scots-Irish, Italian, and Balkan families. This population surge led to Novinger's incorporation as a city in 1901, with its population swelling into the thousands. However, economic shifts—including the Great Depression, the widespread adoption of natural gas and electric heating in American homes, and a decline in coal use by heavy industry—brought the coal era to a close. By 1950, the railroads had withdrawn from the area, and in January 1966, the Billy Creek Coal Mine southwest of Novinger—Missouri's last operating deep shaft mine—closed permanently. According to the United States Census Bureau, Novinger has a total area of 0.80 square miles (2.07 km²), of which 0.79 square miles (2.05 km²) is land and 0.01 square miles (0.03 km²) is water. The town lies on the north side of Missouri Highway 6, approximately seven miles west of Kirksville. Missouri Highway 149 bisects the community on a north–south axis, while Adair County Route “O” passes through the historic downtown business district.

The City of Novinger is capable of expanding its mitigation capabilities by tapping into local resources, forging regional partnerships, and obtaining assistance from the county and other outside agencies. By focusing on proactive community planning, strengthening collaborative efforts, and engaging in countywide initiatives, the city remains dedicated to improving its mitigation strategies. When opportunities arise, the city will assess its current resources and, if necessary, partner with the county and neighboring jurisdictions to enhance resilience and effectively manage potential hazards.

Table 2.7 displays information for the City of Novinger based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The City of Novinger does have the authority to expand on current capabilities.

Table 2.7. City of Novinger Mitigation Capabilities

Capability	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
Local Emergency Plan	No
County Emergency Plan	Yes
Local Recovery Plan	No
County Recovery Plan	Yes
Local Mitigation Plan	No
County Mitigation Plan	Yes
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No

Capability	Status, Including Date of Document or Policy
Critical Facilities Plan (Mitigation/Response/Recovery)	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	No
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Storm Water Ordinance	No
Drainage Ordinance	No
Seismic Construction Ordinance	No
Capability	
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Wetlands and Riparian Areas Conservation Plan	No
Debris Management Plan	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
National Flood Insurance Program (NFIP) Participant	Yes
NFIP Community Rating System (CRS) Participating Community	No
Hazard Awareness Program	No
National Weather Service (NWS) Storm Ready	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	No
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	No
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	No
Hazard Analysis/Risk Assessment (County)	No
Flood Insurance Maps	No
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	No
Building Inspector	No
Mapping Specialist (GIS)	No
Engineer	No
Development Planner	No
Public Works Official	No
Emergency Management Coordinator	No
NFIP Floodplain Administrator	No
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No

Capability	Status, Including Date of Document or Policy
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	Yes
Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	Yes
Local Funding Availability	
Ability to apply for Community Development Block Grants	Yes
Ability to fund projects through Capital Improvements funding	No
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	No
Ability to incur debt through general obligation bonds	No
Ability to incur debt through special tax bonds	No
Ability to incur debt through private activities	No
Ability to withhold spending in hazard prone areas	No

Source: Data Collection Questionnaire, 4/30/25

2.2.4 City of Brashear

Brashear is a city located in Salt River Township, Adair County, Missouri. According to the 2020 U.S. Census, the population was 172. The town was officially laid out in 1872 and named after Richard Matson Brashear (1846–1933), a prominent local farmer and businessman. He was the son of William Gowan Brashear (1807–1862), who is believed to have been one of the area’s first white settlers, arriving in 1842. Despite the town’s formal founding in 1872, the Brashear community traces its roots back several years earlier.

Approximately one mile north of present-day Brashear was a small, prosperous settlement called Paulville (also known as Paultown), established around 1855 by Walker Paul (1816–1888). Paulville served as a trading center for farms in eastern Adair County and featured several businesses, including a grist mill. During the Civil War, the mill was deliberately burned to prevent its use by Confederate recruits. In 1872, with the arrival of the Quincy, Missouri & Pacific Railroad and the construction of a rail depot in the newly platted town of Brashear, much of Paulville’s population and commercial activity shifted southward to the new town site.

Brashear’s business district experienced periods of growth and decline throughout the late 19th and early 20th centuries, mirroring the trends of many small farm communities. Like much of rural America, Brashear was impacted by the Great Depression and the increased mobility of the post–World War II era. In 1950, the population had declined to just 152 residents, though modest growth has occurred since. Today, a few businesses remain in town, but most residents travel west to Kirksville or east to Edina for employment and retail needs.

The City of Brashear is capable of expanding its mitigation capabilities by tapping into local resources, forging regional partnerships, and obtaining assistance from the county and other outside

agencies. By focusing on proactive community planning, strengthening collaborative efforts, and engaging in countywide initiatives, the city remains dedicated to improving its mitigation strategies. When opportunities arise, the city will assess its current resources and, if necessary, partner with the county and neighboring jurisdictions to enhance resilience and effectively manage potential hazards.

Table 2.8 displays information for the City of Brashear based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The City of Brashear does have the authority to expand on current capabilities.

Table 2.8. City of Brashear Mitigation Capabilities

Capability	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
Local Emergency Plan	No
County Emergency Plan	Yes
Local Recovery Plan	No
County Recovery Plan	Yes
Local Mitigation Plan	No
County Mitigation Plan	Yes
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan (Mitigation/Response/Recovery)	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	No
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Storm Water Ordinance	No
Drainage Ordinance	No
Seismic Construction Ordinance	No
Capability	
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Wetlands and Riparian Areas Conservation Plan	No
Debris Management Plan	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
National Flood Insurance Program (NFIP) Participant	No
NFIP Community Rating System (CRS) Participating Community	No
Hazard Awareness Program	No
National Weather Service (NWS) Storm Ready	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	No
Economic Development Program	No
Land Use Program	No

Capability	Status, Including Date of Document or Policy
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	No
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	No
Hazard Analysis/Risk Assessment (County)	No
Flood Insurance Maps	No
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	No
Building Inspector	No
Mapping Specialist (GIS)	No
Engineer	No
Development Planner	No
Public Works Official	No
Emergency Management Coordinator	No
NFIP Floodplain Administrator	No
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	No
County Emergency Management Commission	No
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	No
Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	Yes
Community Organizations (Lions, Kiwanis, etc.)	No
Local Funding Availability	
Ability to apply for Community Development Block Grants	Yes
Ability to fund projects through Capital Improvements funding	No
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	No
Ability to incur debt through general obligation bonds	No
Ability to incur debt through special tax bonds	No
Ability to incur debt through private activities	No
Ability to withhold spending in hazard prone areas	No

Source: Data Collection Questionnaire, 04/30/2025

2.2.5 Village of Millard

Millard is a village in Pettis Township, Adair County, Missouri. According to the 2020 U.S. Census, the population was 75, down from 89 in 2010. The village spans a total area of 0.12 square miles (0.31 km²)—all land—per U.S. Census Bureau records.

Millard was laid out in 1872, likely named for Maggie A. Miller, one of its founders. A post office was established in 1870 and remained in operation until 1942. As of the 2020 Census, 40 households were recorded. Of these, 22.5% included children under 18, 57.5% were married couples living together, 7.5% had a female householder with no husband present, 2.5% had a male householder with no wife present, and 32.5% were non-family households. Among all households, 30.0% were individuals, and 12.5% had someone living alone aged 65 or older. The average household size was **2.23**, and the average family size was 2.70

While local resources are limited, the Village of Millard has the ability to expand and improve its mitigation capabilities by leveraging regional partnerships and seeking support from the county and other external agencies. The Village of Millard is committed to enhancing their mitigation efforts through collaboration, shared services, and access to countywide initiatives. As opportunities arise, the city will assess local capacities and work with the county and neighboring communities, if necessary, to strengthen their resilience and improve their ability to address hazards effectively.

Table 2.9 displays information for the Village of Millard based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The Village of Millard does have the authority to expand on current capabilities.

Table 2.9. Village of Millard Mitigation Capabilities

Capability	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
Local Emergency Plan	No
County Emergency Plan	Yes
Local Recovery Plan	No
County Recovery Plan	Yes
Local Mitigation Plan	No
County Mitigation Plan	Yes
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan (Mitigation/Response/Recovery)	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	No
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Storm Water Ordinance	No
Drainage Ordinance	No
Seismic Construction Ordinance	No

Capability	Status, Including Date of Document or Policy
Capability	
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Wetlands and Riparian Areas Conservation Plan	No
Debris Management Plan	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
National Flood Insurance Program (NFIP) Participant	No
NFIP Community Rating System (CRS) Participating Community	No
Hazard Awareness Program	No
National Weather Service (NWS) Storm Ready	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	No
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	No
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	No
Hazard Analysis/Risk Assessment (County)	No
Flood Insurance Maps	No
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	No
Building Inspector	No
Mapping Specialist (GIS)	No
Engineer	No
Development Planner	No
Public Works Official	No
Emergency Management Coordinator	No
NFIP Floodplain Administrator	No
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No
Sanitation Department	Yes
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	No
Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No

Capability	Status, Including Date of Document or Policy
Chamber of Commerce	No
Community Organizations (Lions, Kiwanis, etc.)	No
Local Funding Availability	
Ability to apply for Community Development Block Grants	YES
Ability to fund projects through Capital Improvements funding	No
Authority to levy taxes for a specific purpose	YES
Fees for water, sewer, gas, or electric services	YES
Impact fees for new development	No
Ability to incur debt through general obligation bonds	No
Ability to incur debt through special tax bonds	No
Ability to incur debt through private activities	No
Ability to withhold spending in hazard prone areas	No

Source: Data Collection Questionnaire, 04/08/2025

2.2.6 Village of Gibbs

Gibbs is a village in Pettis Township, Adair County, Missouri, originally established in 1887 alongside the Santa Fe Railroad. The village was named in honor of Frank W. Gibbs, who donated land for the railroad depot and stockyard. At the time of its incorporation in 1894, Gibbs was poised to become a major shipping hub for the region, buoyed by the construction of an all-weather road that served its transportation needs. In the late 1800s, Gibbs thrived on shipping cattle, hogs, apples, strawberries, and eggs via rail, supported by a grain elevator built by Perrin & Company. A second track added in 1908 further boosted optimism for the village's growth.

Despite early promise, nearby Kirksville's merchants favored La Plata for shipping, leading to a gradual economic shift. Gibbs once supported a barber shop, general stores, blacksmiths, hotels, an opera house, a bank (founded in 1898), a lumberyard, an undertaker's service, a cement factory, and a local newspaper. However, through the 20th century, the village lost its businesses: the Bank of Gibbs closed in 1933; the grocery store closed by 1970, coinciding with the closure of a rural health clinic; churches consolidated into the 1980s; the railroad depot shut in the 1960s; and the two-room school consolidated into the Brashear school district in 1966. Today, Gibbs primarily serves as a bedroom community, with residents commuting to Kirksville or Macon for work. A postal dispute in 2007 temporarily closed the local post office.

According to the 2020 U.S. Census, Gibbs had a population of 70, down from 107 in 2010. The village covers approximately 0.25 square miles (0.65 km²) of land.

While local resources are limited, the Village of Gibbs has the ability to expand and improve its mitigation capabilities by leveraging regional partnerships and seeking support from the county and other external agencies. The Village of Gibbs is committed to enhancing their mitigation efforts through collaboration, shared services, and access to countywide initiatives. As opportunities arise, the city will assess local capacities and work with the county and neighboring communities, if necessary, to strengthen their resilience and improve their ability to address hazards effectively.

Table 2.10 displays information for the Village of Gibbs based on data that has been collected by distribution of the Data Collection Questionnaire to each of the participating communities. The Village of Gibbs does have the authority to expand on current capabilities.

Table 2.10. Village of Gibbs Mitigation Capabilities

Capability	Status, Including Date of Document or Policy
Planning Capabilities	
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
Local Emergency Plan	No
County Emergency Plan	Yes
Local Recovery Plan	No
County Recovery Plan	Yes
Local Mitigation Plan	No
County Mitigation Plan	Yes
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Flood Mitigation Assistance (FMA) Plan	No
Watershed Plan	No
Firewise or other fire mitigation plan	No
School Mitigation Plan	No
Critical Facilities Plan (Mitigation/Response/Recovery)	No
Policies/Ordinance	
Zoning Ordinance	No
Building Code	No
Floodplain Ordinance	No
Subdivision Ordinance	No
Tree Trimming Ordinance	No
Nuisance Ordinance	No
Storm Water Ordinance	No
Drainage Ordinance	No
Seismic Construction Ordinance	No
Capability	
Site Plan Review Requirements	No
Historic Preservation Ordinance	No
Landscape Ordinance	No
Wetlands and Riparian Areas Conservation Plan	No
Debris Management Plan	No
Program	
Zoning/Land Use Restrictions	No
Codes Building Site/Design	No
National Flood Insurance Program (NFIP) Participant	No
NFIP Community Rating System (CRS) Participating Community	No
Hazard Awareness Program	No
National Weather Service (NWS) Storm Ready	No
Building Code Effectiveness Grading (BCEGs)	No
ISO Fire Rating	No
Economic Development Program	No
Land Use Program	No
Public Education/Awareness	No
Property Acquisition	No
Planning/Zoning Boards	No
Stream Maintenance Program	No
Tree Trimming Program	No
Engineering Studies for Streams (Local/County/Regional)	No
Mutual Aid Agreements	Yes
Studies/Reports/Maps	
Hazard Analysis/Risk Assessment (Local)	No

Capability	Status, Including Date of Document or Policy
Hazard Analysis/Risk Assessment (County)	No
Flood Insurance Maps	No
FEMA Flood Insurance Study (Detailed)	No
Evacuation Route Map	No
Critical Facilities Inventory	No
Vulnerable Population Inventory	No
Land Use Map	No
Staff/Department	
Building Code Official	No
Building Inspector	No
Mapping Specialist (GIS)	No
Engineer	No
Development Planner	No
Public Works Official	No
Emergency Management Coordinator	No
NFIP Floodplain Administrator	No
Emergency Response Team	No
Hazardous Materials Expert	No
Local Emergency Planning Committee	Yes
County Emergency Management Commission	No
Sanitation Department	No
Transportation Department	No
Economic Development Department	No
Housing Department	No
Historic Preservation	No
Non-Governmental Organizations (NGOs)	
American Red Cross	No
Salvation Army	No
Veterans Groups	No
Environmental Organization	No
Homeowner Associations	No
Neighborhood Associations	No
Chamber of Commerce	No
Community Organizations (Lions, Kiwanis, etc.)	No
Local Funding Availability	
Ability to apply for Community Development Block Grants	Yes
Ability to fund projects through Capital Improvements funding	No
Authority to levy taxes for a specific purpose	Yes
Fees for water, sewer, gas, or electric services	Yes
Impact fees for new development	No
Ability to incur debt through general obligation bonds	No
Ability to incur debt through special tax bonds	No
Ability to incur debt through private activities	No
Ability to withhold spending in hazard prone areas	No

Source: Data Collection Questionnaire, 04/30/2025

2.2.7 Summary of Jurisdictional Capabilities

Table 2.11. Mitigation Capabilities Summary Table

CAPABILITIES	Uninc. Adair County	City of Kirksville	City of Novinger	City of Brashear	Village of Millard	Village of Gibbs
Planning Capabilities						
Comprehensive Plan	No	Yes	No	No	No	No
Builder's Plan	No	NA	No	No	No	No
Capital Improvement Plan	No	Yes	No	No	No	No
Local Emergency Plan	NA	Yes	No	No	No	No
County Emergency Plan	Yes	Yes	Yes	Yes	Yes	Yes
Local Recovery Plan	No	Yes	No	No	No	No
County Recovery Plan	Yes	Yes	Yes	Yes	Yes	Yes
Local Mitigation Plan	No	Yes	No	No	No	No
County Mitigation Plan	Yes	Yes	Yes	Yes	Yes	Yes
Debris Management Plan	No	NA	No	No	No	No
Economic Development Plan	Yes	NA	No	No	No	No
Transportation Plan	No	NA	No	No	No	No
Land-use Plan	No	Yes	No	No	No	No
Flood Mitigation Assistance (FMA) Plan	No	NA	No	No	No	No
Watershed Plan	No	Yes	No	No	No	No
Firewise or other fire mitigation plan	No	NA	No	No	No	No
School Mitigation Plan	No	NA	No	No	No	No
Critical Facilities Plan (Mitigation/Response/Recovery)	No	NA	No	No	No	No
Policies/Ordinance						
Zoning Ordinance	No	Yes	No	No	No	No
Building Code	No	Yes	No	No	No	No
Floodplain Ordinance	No	Yes	No	No	No	No
Subdivision Ordinance	No	Yes	No	No	No	No
Tree Trimming Ordinance	No	Yes	No	No	No	No
Nuisance Ordinance	No	Yes	No	No	No	No
Storm Water Ordinance	No	Yes	No	No	No	No
Drainage Ordinance	No	Yes	No	No	No	No
Site Plan Review Requirements	No	Yes	No	No	No	No
Historic Preservation Ordinance	No	Yes	No	No	No	No

CAPABILITIES	Uninc. Adair County	City of Kirksville	City of Novinger	City of Brashear	Village of Millard	Village of Gibbs
Landscape Ordinance	No	Yes	No	No	No	No
Seismic Construction Ordinance	No	No	No	No	No	No
Program						
Zoning/Land Use Restrictions	No	Yes	No	No	No	No
Codes Building Site/Design	No	Yes	No	No	No	No
National Flood Insurance Program (NFIP) Participant	No	Yes	Yes	No	No	No
NFIP Community Rating System (CRS) Participating Community	No	NA	No	No	No	No
Hazard Awareness Program	No	Yes	No	No	No	No
National Weather Service (NWS) Storm Ready	No	Yes	No	No	No	No
Building Code Effectiveness Grading (BCEGs)	No	Yes	No	No	No	No
ISO Fire Rating	No	3	3	3	3	3
Economic Development Program	Yes	Yes	No	No	No	No
Land Use Program	No	Yes	No	No	No	No
Public Education/Awareness	No	Yes	No	No	No	No
Property Acquisition	No		No	No	No	No
Planning/Zoning Boards	No	Yes	No	No	No	No
Stream Maintenance Program	No	Yes	No	No	No	No
Tree Trimming Program	No	Yes	No	No	No	No
Engineering Studies for Streams (Local/County/Regional)	No	Yes	No	No	No	No
Mutual Aid Agreements	Yes	Yes	Yes	Yes	Yes	Yes
Studies/Reports/Maps						
Hazard Analysis/Risk Assessment (Local)	NA	Yes	No	No	No	No
Hazard Analysis/Risk Assessment (County)	No	Yes	No	No	No	No
Flood Insurance Maps	No		No	No	No	No
FEMA Flood Insurance Study (Detailed)	No		No	No	No	No
Evacuation Route Map	No	Yes	No	No	No	No
Critical Facilities Inventory	No	Yes	No	No	No	No
Vulnerable Population Inventory	No	Yes	No	No	No	No
Land Use Map	No	Yes	No	No	No	No
Staff/Department						
Building Code Official	No	Yes	No	No	No	No

CAPABILITIES	Uninc. Adair County	City of Kirksville	City of Novinger	City of Brashear	Village of Millard	Village of Gibbs
Building Inspector	No	Yes	No	No	No	No
Mapping Specialist (GIS)	Yes	Yes	No	No	No	No
Engineer	No	Yes	No	No	No	No
Development Planner	No	Yes	No	No	No	No
Public Works Official	Yes	Yes	No	No	No	No
Emergency Management Coordinator	Yes	Yes	No	No	No	No
NFIP Floodplain Administrator	No	Yes	No	No	No	No
Emergency Response Team	No	Yes	No	No	No	No
Hazardous Materials Expert	No	Yes	No	No	No	No
Local Emergency Planning Committee	Yes	Yes	Yes	No	Yes	Yes
County Emergency Management Commission	No	Yes	No	No	No	No
Sanitation Department	No	NA	No	No	Yes	No
Transportation Department	No	Yes	No	No	No	No
Economic Development Department	Yes	Yes	No	No	No	No
Housing Department	No	Yes	No	No	No	No
Historic Preservation	No	Yes	No	No	No	No
Non-Governmental Organizations (NGOs)						
American Red Cross	Yes	Yes	No	No	No	No
Salvation Army	Yes	Yes	No	No	No	No
Veterans Groups	Yes	Yes	Yes	No	No	No
Environmental Organization	Yes	Yes	No	No	No	No
Homeowner Associations	No	Yes	No	No	No	No
Neighborhood Associations	Yes	Yes	No	No	No	No
Chamber of Commerce	Yes	Yes	Yes	Yes	No	No
Community Organizations (Lions, Kiwanis, etc.)	Yes	Yes	Yes	No	No	No
Financial Resources						
Apply for Community Development Block Grants	Yes	Yes	Yes	Yes	Yes	Yes
Fund projects through Capital Improvements funding	No	Yes	No	No	No	No
Authority to levy taxes for specific purposes	Yes	Yes	Yes	Yes	Yes	Yes
Fees for water, sewer, gas, or electric services	No	Yes	Yes	Yes	Yes	Yes
Impact fees for new development	No	Yes	No	No	No	No

CAPABILITIES	Uninc. Adair County	City of Kirksville	City of Novinger	City of Brashear	Village of Millard	Village of Gibbs
Incur debt through general obligation bonds	No	Yes	No	No	No	No
Incur debt through special tax bonds	No	Yes	No	No	No	No
Incur debt through private activities	No	No	No	No	No	No
Withhold spending in hazard prone areas	No	Yes	No	No	No	No

Source: Data Collection Questionnaire, 2025

2.2.8 Special District

No Special Districts participated in the plan update.

2.2.9 School District Profiles and Mitigation Capabilities

Adair County R-I, Adair County R-II, and Kirksville R-III School Districts are the only school districts in the planning area. All three districts have the ability to expand and improve mitigation capabilities by utilizing available local resources, forming partnerships with regional entities, and seeking support from the county and other external agencies. Through strategic planning, collaboration with local community organizations, and participation in countywide initiatives, the district is committed to enhancing its ability to mitigate hazards and protect students, staff, and facilities. As opportunities arise, the district will assess its resources and capacity and, when needed, work with the county and neighboring communities to strengthen its resilience and ensure a safe environment for education.

Missouri Department of Elementary and Secondary Education information for each of the School Districts is listed below in **Figure 2.3**.

Figure 2.3. Adair County School Districts DESE Information



Missouri School Directory

[Missouri School Directory \(map\)](#) (Maps are provided purely for reference, please contact county authorities to obtain official school district boundary information.)

Adair Co. R-I (001-090)

Phone: 660-234-9193	600 Rombauer Avenue
Fax: 660-234-9194	600 Robmbauer
E-mail: rdaniels@novinger.k12.mo.us	Novinger, MO 63559-2477
County-District Code: 001-090	Supervisory Area: I
County: Adair	MSIP: Accredited
Congressional District: 6	Assessed Valuation: \$0
House District: 3	Tax Levy: \$0.0000
Senate District: 18	

	Schools	Cert. Staff	Enrollment (Prior Year)		Total
			Residents	Non-Res.	
Elementary Schools	1	18	124	0	124
Middle Schools	0	0	0	0	0
Jr. High Schools	0	0	0	0	0
High Schools	1	17	102	0	102
Total	2	35	226	0	226

Name	Title	Yrs in District
Mr. Troy Smith	Pres. of Bd.	
Mrs. Melissa Rodman	Secy. of Bd.	
Mrs. Robin M Daniels	Supt.	13
Mrs. Melissa D Rodman	Secy. To Supt.	6
Mr. Allen McDannald	Prin.	18
Mrs. Kandice Robinson	Counselor	18
Mrs. Emmelyne Mcdannald	Special Education Director	19
Mr. Jason Daniels	Athletic Director	13
Mr. Allen Mcdannald	Prof. Dev. Chairperson	

Adair Co. High (1050)

600 Rombauer Avenue Novinger, MO 63559-2477 **Grade Span:** 07-12
 Phone: 660-234-9193 Fax:660-234-9194
Principal: Ms. Robin Daniels (13 years in district)
E-mail: rDANIELS@novinger.k12.mo.us

Adair Co. Elem. (4020)

600 Rombauer Avenue Novinger, MO 63559-2477 **Grade Span:** PK-06
 Phone: 660-234-9193 Fax:660-234-9194
Principal: Ms. Robin Daniels (13 years in district)
E-mail: rdaniels@novinger.k12.mo.us



Missouri School Directory

[Missouri School Directory \(map\)](#) (Maps are provided purely for reference, please contact county authorities to obtain official school district boundary information.)

Kirksville R-III (001-091)

Phone: 660-665-7774
Fax: 660-626-1448
E-mail: kpanos@kirksville.k12.mo.us

1901 E Hamilton St.
 Kirksville, MO 63501-3904

County-District Code: 001-091
County: Adair

Supervisory Area: I
MSIP: Accredited

Congressional District: 6
House District: 3
Senate District: 18

Assessed Valuation: \$0
Tax Levy: \$0.0000

	Schools	Cert. Staff	Enrollment (Prior Year)		Total
			Residents	Non-Res.	
Elementary Schools	2	125	1,249	8	1,257
Middle Schools	1	53	516	0	516
Jr. High Schools	0	0	0	0	0
High Schools	1	74	793	0	793
Total	4	252	2,558	8	2,566

Name	Title	Yrs in District
Dr. Jeremy Houser	Pres. of Bd.	
Mrs. Angela Caraway	Secy. of Bd.	
Mrs. Tricia Reger	Supt.	26
Mr. Christopher Best	Asst. Supt. Business Affairs	24
Mrs. Tricia Reger	Dir. Elem. Educ.	26
Mrs. Sara Williams	Dir. Activities	18
Mr. Benjamin Taylor	Dir. Curriculum	2
Mrs. Tricia Reger	Dir. Transportation	26
Mrs. Jennifer Meyer	Dir. Special Services	24
Mrs. Kristy Panos	Secy. To Supt.	5
Mrs. Janelle Stephens	Prof. Dev. Chairperson	

Kirksville Sr. High (1050)

1300 S Cottage Grove Kirksville, MO 63501-3910
 Phone: 660-665-4631 Fax: 660-626-1439

Grade Span: 09-12

Principal: Mr. Christopher Best (21 years in district)
E-mail: CBEST@kirksville.k12.mo.us

Kirksville Area Tech. Center (1100)

1103 S Cottage Grove Kirksville, MO 63501-3977
Phone: 660-665-2865 Fax:660-626-1477

Grade Span: 09-12

Principal: Mr. Jesse Wolf (11 years in district)
E-mail: JWOLF@KIRKSVILLE.K12.MO.US

William Matthew Middle School (3000)

1515 S Cottage Grove Kirksville, MO 63501-3979
Phone: 660-665-3793 Fax:660-626-1418

Grade Span: 06-08

Principal: Mrs. Julie Esquivel (20 years in district)
E-mail: JESQUIVEL@KIRKSVILLE.K12.MO.US

Kirksville Primary (4030)

1815 E Hamilton Kirksville, MO 63501-3903
Phone: 660-665-5691 Fax:660-626-1421

Grade Span: PK-02

Principal: Mrs. Johnson Diana (20 years in district)
E-mail: DJOHNSON@kirksville.k12.mo.us

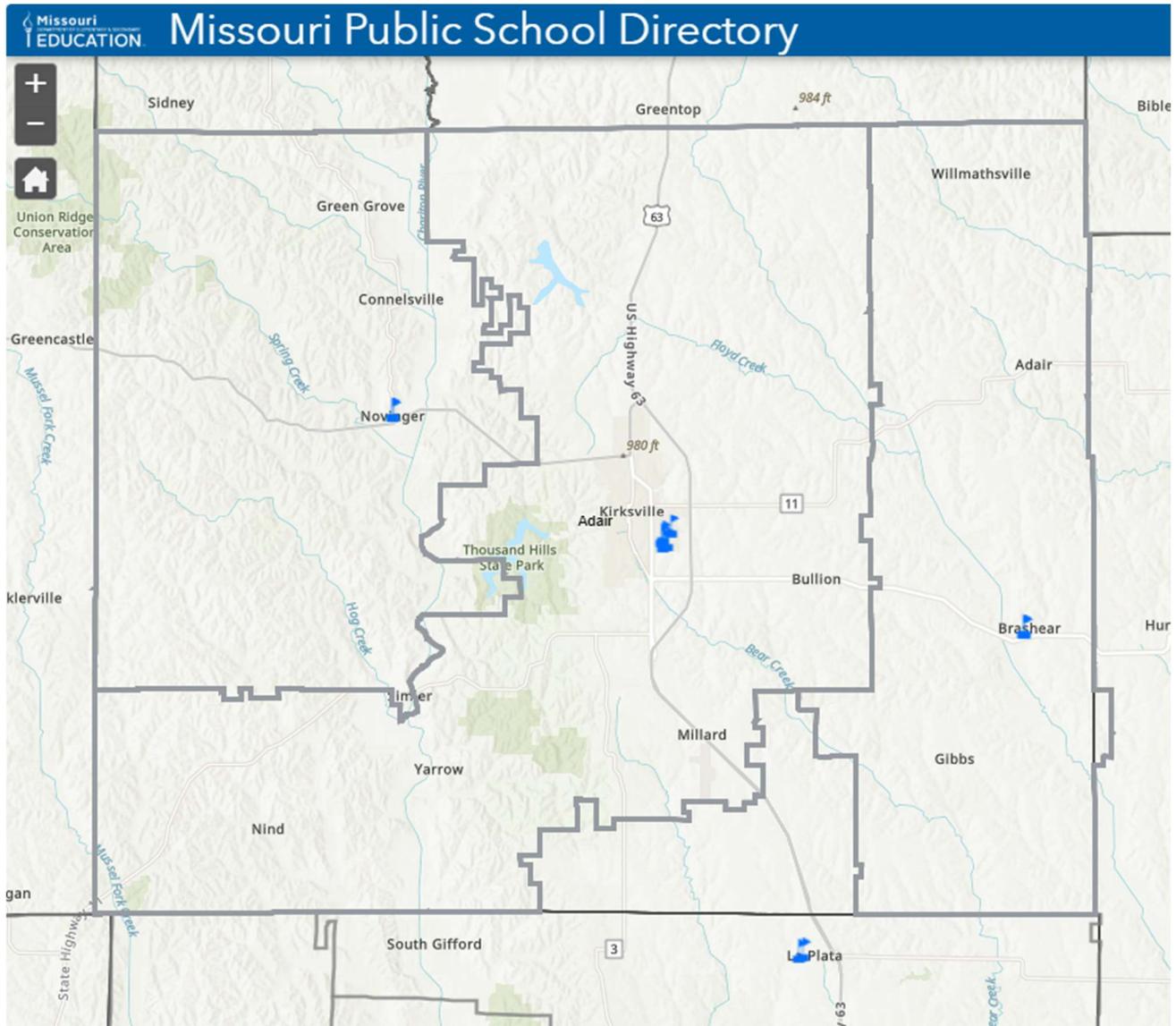
Ray Miller Elem. (4050)

2010 E Normal Kirksville, MO 63501-3321
Phone: 660-665-2834 Fax:660-626-1464

Grade Span: 03-05

Principal: Mrs. Kristin VanRie (18 years in district)
E-mail: kVanRie@kirksville.k12.mo.us

Figure 2.4. Adair County School District Maps



Source: [Missouri Public School Directory](#)

Table 2.12. Adair County R-I Buildings and Enrollment Data, 2025

District Name	Building Name	Building Enrolment
Adair County R-I	Adair Co. Elementary	124
Adair County R-I	Adair Co. High School	102

Source: <https://dese.mo.gov/school-data>, 2025**Table 2.13. Adair County R-II Buildings and Enrollment Data, 2025**

District Name	Building Name	Building Enrolment
Adair County R-II	Adair Co. Elementary	73
Adair County R-II	Adair Co. High School	71

Source: <https://dese.mo.gov/school-data>, 2025**Table 2.14. Kirksville R-III Buildings and Enrollment Data, 2025**

District Name	Building Name	Building Enrolment
Kirksville R-III	Kirksville Area Technical Center	0
Kirksville R-III	Kirksville Primary	687
Kirksville R-III	Kirksville Sr. High	793
Kirksville R-III	Ray Miller Elementary	570
Kirksville R-III	William Matthew Middle School	516

Source: <https://dese.mo.gov/school-data>, 2025

Table 2.15 provides a summary of mitigation capabilities for each school district adapted from data collection questionnaires.

Table 2.15. Adair County R-I School District

	Status, Including Date of Document or Policy
Planning Elements	
Master Plan/Date	No
Capital Improvement Plan/Date	No
School Emergency Plan/Date	Yes
Weapons Policy/Date	Yes
Personnel Resources	
Full-Time Building Official (Principal)	Yes
Emergency Manager	Yes
Grant Writer	Yes
Public Information Officer	Yes
Financial Resources	
Capital Improvements Project	Yes
Local Funds	Yes
General Obligation Bonds	Yes
Special Tax Bonds	Yes
Private Activities/Donation	Yes
State and Federal Funds/Grants	Yes
Other	

	Status, Including Date of Document or Policy
Public Education Programs	No
Privately or Self-Insured	-
Fire Evacuation Training	Yes
Tornado Sheltering Exercises	Yes
Public Address/Emergency Alert System	Yes
NOAA Weather Radios	No
Lock-Down Security Training	Yes
Mitigation Programs	No
Tornado Shelter/Saferoom	No
Campus Police	No

Source: Data Collection Questionnaire, 2025

Table 2.16. Adair County R-II School District

	Status, Including Date of Document or Policy
Planning Elements	
Master Plan/Date	Yes
Capital Improvement Plan/Date	No
School Emergency Plan/Date	Yes
Weapons Policy/Date	Yes
Personnel Resources	
Full-Time Building Official (Principal)	Yes
Emergency Manager	No
Grant Writer	No
Public Information Officer	No
Financial Resources	
Capital Improvements Project	Yes
Local Funds	Yes
General Obligation Bonds	Yes
Special Tax Bonds	Yes
Private Activities/Donation	Yes
State and Federal Funds/Grants	Yes
Other	
Public Education Programs	No
Privately or Self-Insured	-
Fire Evacuation Training	Yes
Tornado Sheltering Exercises	Yes
Public Address/Emergency Alert System	Yes
NOAA Weather Radios	Yes
Lock-Down Security Training	Yes
Mitigation Programs	No
Tornado Shelter/Saferoom	No
Campus Police	No

Source: Data Collection Questionnaire, 2025

Table 2.17. Kirksville R-III School District

	Status, Including Date of Document or Policy
Planning Elements	
Master Plan/Date	Yes
Capital Improvement Plan/Date	Yes
School Emergency Plan/Date	Yes
Weapons Policy/Date	Yes
Personnel Resources	
Full-Time Building Official (Principal)	Yes
Emergency Manager	Yes
Grant Writer	Yes
Public Information Officer	Yes
Financial Resources	
Capital Improvements Project	Yes
Local Funds	Yes
General Obligation Bonds	Yes
Special Tax Bonds	Yes
Private Activities/Donation	Yes
State and Federal Funds/Grants	Yes
Other	
Public Education Programs	No
Privately or Self-Insured	-
Fire Evacuation Training	Yes
Tornado Sheltering Exercises	Yes
Public Address/Emergency Alert System	Yes
NOAA Weather Radios	No
Lock-Down Security Training	Yes
Mitigation Programs	No
Tornado Shelter/Saferoom	No
Campus Police	Yes

Source: Data Collection Questionnaire, 2025

Table 2.18. Summary of Mitigation Capabilities-Adair County R-I, Adair County R-II, Kirksville R-III

Capability	Adair County R-I	Adair County R-II	Kirksville R-III
Planning Elements			
Master Plan/ Date	No	Yes	Yes
Capital Improvement Plan/Date	No	No	Yes
School Emergency Plan / Date	Yes	Yes	Yes
Weapons Policy/Date	Yes	Yes	Yes
Personnel Resources			
Full-Time Building Official (Principal)	Yes	Yes	Yes
Emergency Manager	Yes	No	Yes
Grant Writer	Yes	No	Yes
Public Information Officer	Yes	No	Yes
Financial Resources			
Capital Improvements Project Funding	Yes	Yes	Yes
Local Funds	Yes	Yes	Yes
General Obligation Bonds	Yes	Yes	No
Special Tax Bonds	Yes	Yes	No
Private Activities/Donations	Yes	Yes	Yes
State and Federal Funds/Grants	Yes	Yes	Yes
Other			
Public Education Programs	No	No	No
Privately or Self- Insured?	-	-	-
Fire Evacuation Training	Yes	Yes	Yes
Tornado Sheltering Exercises	Yes	Yes	Yes
Public Address/Emergency Alert System	Yes	Yes	Yes
NOAA Weather Radios	No	Yes	No
Lock-Down Security Training	Yes	Yes	Yes
Mitigation Programs	No	No	No
Tornado Shelter/Saferoom	No	No	No
Campus Police	No	No	Yes

Source: Data Collection Questionnaire, 2025

3 RISK ASSESSMENT

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44 CFR Requirement §201.6(c)(2): [The plan shall include] A risk assessment that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards.

The goal of the risk assessment is to estimate the potential loss in the planning area, including loss of life, personal injury, property damage, and economic loss, from a hazard event. The risk assessment process allows communities and school/special districts in the planning area to better understand their potential risk to the identified hazards. It will provide a framework for developing and prioritizing mitigation actions to reduce risk from future hazard events.

This chapter is divided into four main parts:

- **Section 3.1 Hazard Identification** identifies the hazards that threaten the planning area and provides a factual basis for elimination of hazards from further consideration;
- **Section 3.2 Assets at Risk** provides the planning area's total exposure to natural hazards, considering critical facilities and other community assets at risk;
- **Section 3.3 Land Use and Development** discusses development that has occurred since the last plan update and any increased or decreased risk that resulted. This section also discusses areas of planned future development and any implications on risk/vulnerability;
- **Section 3.4 Hazard Profiles and Vulnerability Analysis** provides more detailed information about the hazards impacting the planning area. For each hazard, there are three sections: 1) Hazard Profile provides a general description and discusses the threat to the planning area, the geographic location at risk, potential Strength/Magnitude/Extent, previous occurrences of hazard events, probability of future occurrence, risk summary by jurisdiction, impact of future development on the risk; 2) Vulnerability Assessment further defines and quantifies populations, buildings, critical facilities, and other community/school or special district assets at risk to natural hazards; and 3) Problem Statement briefly summarizes the problem and develops possible solutions.

3.1 HAZARD IDENTIFICATION

Requirement §201.6(c)(2)(i): [The risk assessment shall include a] description of the type...of all natural hazards that can affect the jurisdiction.

Natural hazards can be complex, occurring with a wide range of intensities. Some events are instantaneous and offer no window of warning, such as earthquakes. Some offer a short warning in which to alert the public to take actions, such as tornadoes or severe thunderstorms. Others occur less frequently and are typically more expensive, with some warning time to allow the public time to prepare, such as flooding.

Each year there are increases in human-caused incidents, which can be just as devastating as natural disasters. For the purpose of this plan “human-caused hazards” are technological hazards and terrorism. These are distinct from natural hazards primarily in that they originate from human activity. In contrast, while the risks presented by natural hazards may be increased or decreased as a result of human activity, they are not inherently human-induced. The term “technological hazards” refers to the origins of incidents that can arise from human activities such as the manufacture, transportation, storage, and use of hazardous materials. For the sake of simplicity, this guide assumes that technological emergencies are accidental and that their consequences are unintended.

3.1.1 Review of Existing Mitigation Plans

The MPC previously developed a multi-jurisdictional Hazard Mitigation Plan dated November 2020 and Adair County, City of Kirksville, City of Brashear, Village of Gibbs, Village of Millard, and the City of Novinger participated in the multi-jurisdictional county-wide plan. The 2020 Hazard Mitigation Plan was consulted in the development of the risk assessment and information included and updated where appropriate.

The MPC elected to include only natural hazards in the plan, as these are the only hazards required under federal regulations. Human-caused and technological hazards were excluded from further analysis, as they are not necessary to meet the requirements of the Disaster Mitigation Act of 2000.

Levee failure was excluded from the mitigation planning process as there are no mapped levees nor associated levee protected areas within or immediately upstream of Adair County.

3.1.2 Review Disaster Declaration History

Declarations may be granted when the severity and magnitude of an event surpasses the ability of the local government to respond and recover. Disaster assistance is supplemental and sequential. When the local government’s capacity has been surpassed, a state disaster declaration may be issued, allowing for the provision of state assistance. If the disaster is so severe that both the local and state governments’ capacities are exceeded, a federal emergency or disaster declaration may be issued allowing for the provision of federal assistance.

FEMA also issues emergency declarations, which are more limited in scope and do not include the long-term federal recovery programs of major disaster declarations. Determinations for declaration type are based on scale and type of damages and institutions or industrial sectors affected.

Missouri State of Emergencies are Executive Orders (E.O.) signed by the Governor. For disasters, a State of Emergency could lead to a Federal Disaster Declaration. Since the last

plan update, the following Executive Orders have been published:

EO 21-04 (February 21, 2021): Measures for winter heating-fuel transport

EO 21-07 (March 26, 2021): COVID-19 state of emergency

EO 22-04 (July 21, 2022): Drought alert

EO 22-05 (July 26, 2022): State of Emergency due to severe storms

EO 24-03 (April 26, 2024): Extends drought-response order

EO 24-06 (May 2, 2024): State of Emergency due to severe storms

EO 24-07 (May 30, 2024): Extends severe-weather State of Emergency

EO 24-08 (June 26, 2024): State of Emergency due to severe storms

EO 24-13 (October 29, 2024): Statewide Drought Alert

EO 24-14 (November 5, 2024): State of Emergency due to severe storms

EO 25-19 (March 14, 2025): State of Emergency due to severe storms

EO 25-22 (April 14, 2025): Extends March 14 Severe-Weather Emergency

EO 25-23 (May 14, 2025): Extends March 14 Severe-Weather Emergency

EO 25-24 (May 20, 2025): Further statewide emergency ties to March 14 storms

EO 25-27 (June 30, 2025): Extends certain emergency provisions to August 31, 2025

EO 25-28 (August 29, 2020): Extends portions of prior storm-related emergency orders to October 31, 2025.

Table 3.1 lists the federal FEMA disaster declarations that included the planning area from 1965 to present.

Table 3.1. FEMA Disaster Declarations that included Adair County, Missouri, 1965-Present

Disaster Number	Description	Declaration Date Incident Period	Individual Assistance (IA) Public Assistance (PA)
DR-372	Heavy Rains, Tornadoes, Flooding	4/19/1973	IA/PA
DR-407	Severe Storms, Flooding	11/01/1973	IA/PA
DR-439	Severe Storms, Flooding	6/10/1974	IA/PA
EM-3017	Drought	9/24/1976	PA
DR-995	Flooding, Severe Storms	6/10/1993-10/25/1993	IA/PA
DR-1054	Severe Storms, Tornadoes, Hail, Flooding	5/13/1995-6/23/1995 6/02/1995	IA/PA
DR-1412	Severe Storms, Tornadoes	4/24/2002-6/10/2002 5/06/2002	PA
DR-1403	Ice Storm	1/29/2002-2/13/2002 2/6/2002	PA
DR-1524	Severe Storms, Tornadoes, Flooding	5/18/2004-5/31/2004 6/11/2004	IA
EM-3232	Hurricane Katrina Evacuation	8/29/2005-10/01/2005 9/10/2005	PA
DR-1736	Severe Winter Storms	12/6/2007-12/15/2007 12/27/2007	PA

EM-3281	Severe Winter Storms	12/08/2007-12/15/2007 12/12/2007	PA
DR-1773	Severe Storms, Flooding	6/1/2008-8/13/2008 6/25/2008	IA/PA
DR-1809	Severe Storms, Flooding, Tornado	9/11/2008-9/24/2008 11/13/2008	IA/PA
EM-3303	Severe Winter Storm	1/26/2009-1/28/2009 1/30/2009	PA
DR-1847	Severe Storms, Tornadoes, Flooding	5/8/2009-5/16/2009 6/19/2009	IA/PA
DR-1934	Severe Storms, Flooding, Tornadoes	6/12/2010-7/31/2010 8/17/2010	PA
EM-3317	Severe Winter Storm	1/31/2011-2/5/2011 2/3/2011	PA
DR-1961	Severe Winter Storm and Snowstorm	1/31/2011-2/5/2011 3/23/2011	PA
DR-4200	Severe Storms, Tornadoes, Straight-line Winds, Flooding	9/9/2014-9/10/2014 10/31/2014	PA
DR-4238	Severe Storms, Tornadoes, Straight-line Winds, Flooding	5/15/2015-7/27/2015 8/7/2015	PA
DR-4451	Severe Storms, Tornadoes, Flooding	4/29/2019-7/6/2019 7/9/2019	IA, PA
EM-3482	Covid-19	1/20/2020-5/11/2023 3/13/2020	PA
DR-4490	Covid-19 Pandemic	1/20/2020-5/11/2023 3/26/2020	IA, PA
DR-4741	Severe Storms, Straight-line Winds, Tornadoes, Flooding	7/29/2023-8/14/2023 9/21/2023	PA

Source: Federal Emergency Management Agency,
<https://www.fema.gov/data-visualization-summary-disaster-declarations-and-grants>

3.1.3 Research Additional Sources

The additional sources of data on locations and past impacts of hazards in the planning area:

- Missouri Hazard Mitigation Plans (2010, 2013, 2018, and 2023)
- Previously approved Adair County Hazard Mitigation Plan (2020)
- Federal Emergency Management Agency (FEMA)
- Missouri Department of Natural Resources
- National Drought Mitigation Center Drought Reporter
- US Department of Agriculture's (USDA) Risk Management Agency Crop Insurance Statistics
- National Agricultural Statistics Service (Agriculture production/losses)
- Data Collection Questionnaires completed by each jurisdiction
- State of Missouri GIS data
- Environmental Protection Agency
- Flood Insurance Administration
- Hazards US (Hazus)
- Missouri Department of Transportation
- Missouri Division of Fire Marshal Safety
- Missouri Public Service Commission
- National Fire Incident Reporting System (NFIRS)
- National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information (NCEI);

- County and local Comprehensive Plans to the extent available
- County Emergency Management
- County Flood Insurance Rate Map, FEMA
- Flood Insurance Study, FEMA
- SILVIS Lab, Department of Forest Ecology and Management, University of Wisconsin
- U.S. Army Corps of Engineers
- U.S. Department of Transportation
- United States Geological Survey (USGS)
- Various articles and publications available on the internet (you should state that you will give citations to the sources in the body of the plan)

Note that the only centralized source of data for many of the weather-related hazards is the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information (NCEI). Although it is usually the best and most current source, there are limitations to the data which should be noted. The NCEI documents the occurrence of storms and other significant weather phenomena having sufficient intensity to cause loss of life, injuries, significant property damage, and/or disruption to commerce. In addition, it is a partial record of other significant meteorological events, such as record maximum or minimum temperatures or precipitation that occurs in connection with another event. Some information appearing in the NCEI may be provided by or gathered from sources outside the National Weather Service (NWS), such as the media, law enforcement and/or other government agencies, private companies, individuals, etc. An effort is made to use the best available information but because of time and resource constraints, information from these sources may be unverified by the NWS. Those using information from NCEI should be cautious as the NWS does not guarantee the accuracy or validity of the information.

The NCEI damage amounts are estimates received from a variety of sources, including those listed above in the Data Sources section. For damage amounts, the NWS makes a best guess using all available data at the time of the publication. Property and crop damage figures should be considered as a broad estimate. Damages reported are in dollar values as they existed at the time of the storm event. They do not represent current dollar values.

The database currently contains data from January 1950 to March 2014, as entered by the NWS. Due to changes in the data collection and processing procedures over time, there are unique periods of record available depending on the event type. The following timelines show the different time spans for each period of unique data collection and processing procedures.

1. Tornado: From 1950 through 1954, only tornado events were recorded.
2. Tornado, Thunderstorm Wind and Hail: From 1955 through 1992, only tornado, thunderstorm wind and hail events were keyed from the paper publications into digital data. From 1993 to 1995, only tornado, thunderstorm wind and hail events have been extracted from the Unformatted Text Files.
3. All Event Types (48 from Directive 10-1605): From 1996 to present, 48 event types are recorded as defined in NWS Directive 10-1605.

Note that injuries and deaths caused by a storm event are reported on an area-wide basis. When reviewing a table resulting from an NCEI search by county, the death or injury listed in connection with that county search did not necessarily occur in that county.

3.1.4 Hazards Identified

The jurisdictions in Adair County differ in their susceptibility to certain hazards. The hazards identified were based on the input from the planning team members, available historical data and the hazard modeling results described with the hazard mitigation plans. The jurisdictions and hazards chosen that significantly impact Adair County are listed in Table 3.2. The chart includes an “x” to indicate the jurisdiction is impacted by the hazard and a “-” indicates the hazard is not applicable to that jurisdiction.

Table 3.2. Hazards Identified for Each Jurisdiction

Jurisdiction	Dam Failure	Drought	Earthquake	Extreme Temperatures	Flooding (River and Flash)	Land Subsidence/ Sinkholes	Levee Failure	Severe Winter Weather	Thunderstorm/Lightning/ Hail/High Wind	Tornado	Wildfire	
Adair County	X	X	X	X	X	X	-	X	X	X	X	
City of Kirksville	X	X	X	X	X	X	-	X	X	X	X	
City of Novinger	-	X	X	X	X	X	-	X	X	X	X	
City Brashear	-	X	X	X	X	X	-	X	X	X	X	
Village of Millard	-	X	X	X	X	X	-	X	X	X	X	
Village of Gibbs	-	X	X	X	X	X	-	X	X	X	X	
Schools and Special Districts												
Adair County R-I	-	X	X	X	X	-	-	X	X	X	X	
Adair County R-II	-	X	X	X	X	-	-	X	X	X	X	
Kirksville R-III	-	X	X	X	X	-	-	X	X	X	X	

3.1.5 Multi-Jurisdictional Risk Assessment

For this multi-jurisdictional plan, the risks are assessed for each jurisdiction where they deviate from the risks facing the entire planning area. The planning area is fairly uniform in terms of climate and topography as well as building construction characteristics. Accordingly, the geographic areas of occurrence for weather-related hazards do not vary greatly across the planning area for most hazards. The City of Kirksville is more urbanized within the planning area and has more assets that are vulnerable to the weather-related hazards and varied development trends impact the future vulnerability. Similarly, more rural areas have more assets (crops/livestock) that are vulnerable to animal/plant/crop disease. These differences are discussed in greater detail in the vulnerability section of each hazard.

The hazards that vary across the planning area in terms of risk include dam failure, flash flood, grass or wildland fire, levee failure, river flood, flash flood, and sinkholes/land subsidence. These differences are detailed in each hazard profile under a separate heading.

3.2 ASSETS AT RISK

This section assesses the population, structures, critical facilities and infrastructure, and other important assets in the planning area that may be at risk of natural hazards. Table 3.3 shows the total population, building count, estimated value of buildings, estimated value of contents and estimated total exposure to parcels by jurisdiction.

3.2.1 Total Exposure of Population and Structures

Unincorporated County and Incorporated Cities

In the following three tables, population data is based on 2020 Census Bureau data. Building counts and building exposure values are based on parcel data developed by the State of Missouri Geographic Information Systems (GIS) database. This data, organized by County, is available on Google Drive through the link provided on the previous page. Contents exposure values were calculated by factoring a multiplier to the building exposure values based on usage type. The multipliers were derived from the Hazus and are defined below in **Table 3.3**. Land values have been purposely excluded from consideration because land remains following disasters, and subsequent market devaluations are frequently short term and difficult to quantify. Another reason for excluding land values is that state and federal disaster assistance programs generally do not address loss of land (other than crop insurance). It should be noted that the total valuation of buildings is based on county assessors' data which may not be current. In addition, government-owned properties are usually taxed differently or not at all, and so may not be an accurate representation of true value. Note that public school district assets and special districts assets are included in the total exposure tables assets by community and county.

Table 3.3 shows the total population, building count, estimated value of buildings, estimated value of contents and estimated total exposure to parcels for the unincorporated county and each incorporated city. For multi-county communities, the population and building data may include data on assets located outside the planning area. **Table 3.4** that follows provides the building value exposures for the county and each city in the planning area broken down by usage type. Finally, **Table 3.5** provides the building count total for the county and each city in the planning area broken out by building usage types (residential, commercial, industrial, and agricultural).

Table 3.3. Maximum Population and Building Exposure by Jurisdiction

Jurisdiction	2023 Annual Population Estimate	Building Count	Building Exposure (\$)	Contents Exposure (\$)	Total Exposure (\$)
City of Kirksville	17,493	6,256	1,033,291	565,446	1,598,736
City Novinger	454	298	54,093	22,779	76,872
City Brashear	172	213	28,006	12,607	40,613
Village of Millard	75	0	0	0	0
Village of Gibbs	71	0	0	0	0
Adair County	25,224	10,534	596,633	312,022	908,655
Totals		17,301	1,712,023	912,854	2,624,876

Source: U.S. Bureau of the Census, Annual population estimates/ 5-Year American Community Survey 2023; Building Count and Building Exposure, Missouri GIS Database from SEMA Mitigation Management; Contents Exposure derived by applying multiplier to Building Exposure based on Hazus 6.0 standard contents multipliers per usage type as follows: Residential (50%), Commercial (100%), Industrial (150%), Agricultural (100%). For purposes of these calculations, government, school, and utility were calculated at the commercial contents rate.

Table 3.4. Building Values/Exposure by Usage Type

Jurisdiction	Residential	Commercial	Industrial	Agricultural	Total
City of Kirksville	1,146,513	296,645	50,896	437	1,598,736
City Novinger	54,761	8,069	0	49	76,872
City Brashear	32,813	2,848	0	124	40,613
Village of Millard	0	0	0	0	0
Village of Gibbs	0	0	0	0	0
Adair County	818,379	50,311	18,551	15,528	908,655
Totals	2,052,466	357,873	69,447	16,138	2,624,876

Source: Missouri GIS Database, SEMA Mitigation Management Section

Table 3.5. Building Counts by Usage Type

Jurisdiction	Residential Counts	Commercial Counts	Industrial Counts	Agricultural Counts	Total
City of Kirksville	5276	625	107	186	6256
City Novinger	252	17	0	21	298
City Brashear	151	6	0	53	213
Village of Millard	0	0	0	0	0
Village of Gibbs	0	0	0	0	0
Adair County	3766	106	39	6611	10,534
Totals	9445	754	146	6871	17,301

Source: Missouri GIS Database, SEMA Mitigation Management Section; Public School Districts and Special Districts

Even though schools and special districts' total assets are included in the tables above, additional discussion is needed, based on the data that is available from the districts' completion of the Data Collection Questionnaire and district-maintained websites. The number of enrolled students at the participating public-school districts is provided in **Table 3.6** below. Additional information includes the number of buildings, building values (building exposure) and contents value (contents exposure). These numbers will represent the total enrollment and building count for the public school districts regardless of the county in which they are located.

Table 3.6. Population and Building Exposure by Jurisdiction-Public School Districts

Public School District	Enrollment	Building Count	Building Exposure (\$)	Contents Exposure (\$)	Total Exposure (\$)
Adair County R-I School Dist.	228	2	\$14M	\$1.7M	\$15.7M
Adair County R-II School Dist.	152	2	\$1.8M	\$250,000	\$2,050,000
Kirksville R-III School Dist.	2535	5	\$160M	\$2.8M	\$162.8M
Totals	2915	9	\$175.8M	\$4.75M	\$180.55M

Source: [MCDS Portal | Missouri Department of Elementary and Secondary Education - MCDS \(mo.gov\)](#), select the file for the most recent year called "20xx Building Enrollment PK-12", filter the spreadsheet by selecting only the public school districts in the planning area. The Building Exposure, Contents Exposure, and Total Exposure amounts come from the completed Data Collection Questionnaires from Public School Districts. In general, the school districts obtain this information from their insurance coverage amounts.

3.2.2 Critical and Essential Facilities and Infrastructure

This section will include information from the Data Collection Questionnaire and other sources concerning the vulnerability of participating jurisdictions' critical, essential, high potential loss, and transportation/lifeline facilities to identified hazards. Definitions of each of these types of facilities are provided below.

- Critical Facility: Those facilities essential in providing utility or direction either during the response to an emergency or during the recovery operation.
- Essential Facility: Those facilities that if damaged, would have devastating impacts on disaster response and/or recovery.
- High Potential Loss Facilities: Those facilities that would have a high loss or impact on the community.
- Transportation and lifeline facilities: Those facilities and infrastructure critical to transportation, communications, and necessary utilities.

Table 3.7 includes a summary of the inventory of critical and essential facilities and infrastructure in the planning area. The list was compiled from the Data Collection Questionnaire as well as the following sources:

- 2023 Missouri State Hazard Mitigation Plan and Hazard Mitigation Viewer <http://bit.ly/MoHazardMitigationPlanViewer2023>
- Northeast Missouri Regional Planning Commission list of critical facility inventory.
- Hazus contains an inventory of critical facilities that can be exported for each jurisdiction.

Table 3.7. Inventory of Critical/Essential Facilities and Infrastructure by Jurisdiction

Jurisdiction	Airport Facility	Bus Facility	Childcare Facility	Communications Tower	Electric Power Facility	Emergency Operations	Fire Service	Government	Housing	Shelters	Highway Bridge	Hospital/Health Care	Military	Natural Gas Facility	Nursing Homes	Police Station	Potable Water Facility	Rail	Sanitary Pump Stations	School Facilities	Stormwater Pump Stations	Tier II Chemical Facility	Wastewater Facility	TOTAL	
City of Kirksville	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
City of Brashear			X				X	X	X		X									X					
City of Novinger			X				X	X	X		X									X					
Village of Gibbs																									
Village of Millard																						X			
County of Adair	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Totals																									

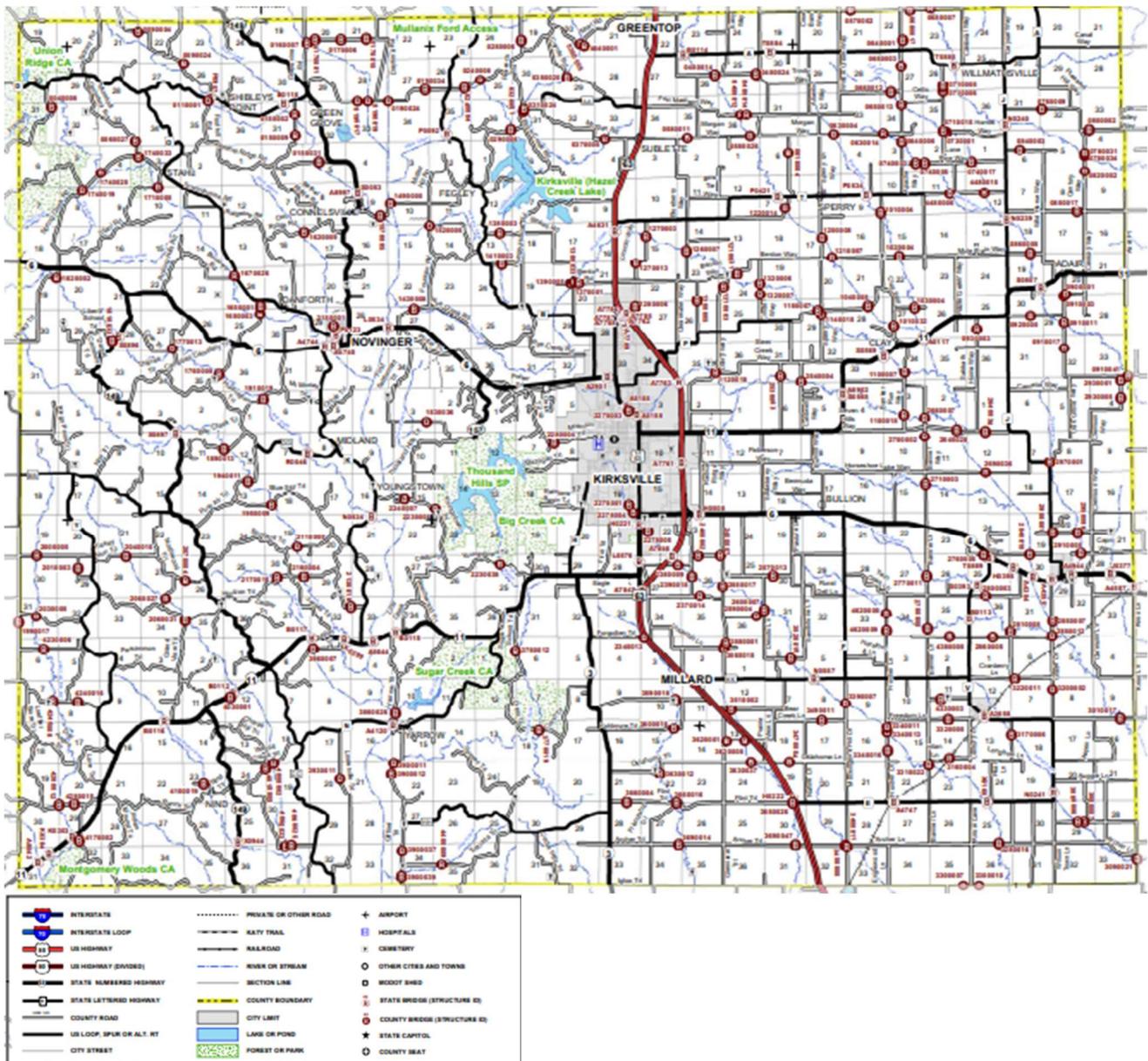
Source: Missouri 2023 State Hazard Mitigation Plan and Hazard Mitigation Viewer; Data Collection Questionnaires; Hazus, etc.

Bridges: The term “scour critical” refers to one of the database elements in the National Bridge Inventory. This element is quantified using a “scour index”, which is a number indicating the vulnerability of a bridge to scour during a flood. Bridges with a scour index between 1 and 3 are considered “scour critical”, or a bridge with a foundation determined to be unstable for the observed or evaluated scour condition.

Figure 3.1. Adair County Bridges

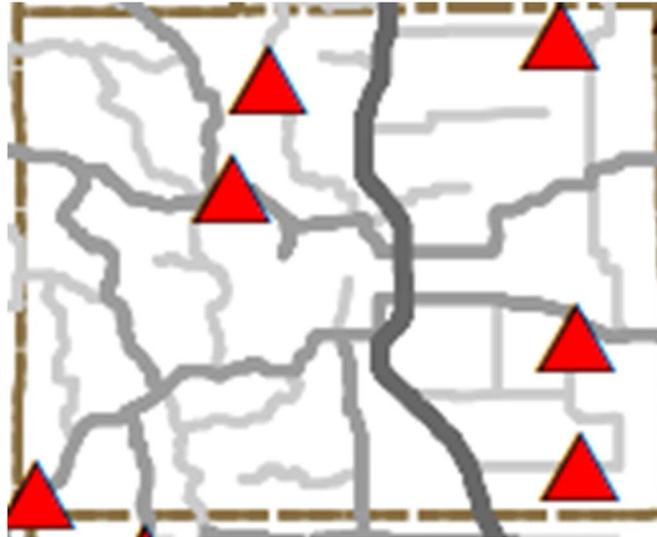
County	Bridge Counts				Bridge Area (Square Miles)			
	All	Good	Fair	Poor	All	Good	Fair	Poor
Adair County (001)	301	183	98	20	48,633	29,963	16,101	2,569

Source: 2024 - Bridge Condition by County - National Bridge Inventory - Bridge Inspection - Safety Inspection - Bridges & Structures - Federal Highway Administration



Source: https://www.modot.org/sites/default/files/documents/AdairCo2021_1.pdf

Figure 3.2. Adair County Structurally Deficient Bridges



Source: [Statewide Poor Bridges with insets 2023opt 0.pdf](#)

3.2.3 Other Assets

Assessing the vulnerability of the planning area to disaster also requires data on the natural, historic, cultural, and economic assets of the area. This information is important for many reasons.

- These types of resources warrant a greater degree of protection due to their unique and irreplaceable nature and contribution to the overall economy.
- Knowing about these resources in advance allows for consideration immediately following a hazard event, which is when the potential for damages is higher.
- The rules for reconstruction, restoration, rehabilitation, and/or replacement are often different for these types of designated resources.
- The presence of natural resources can reduce the impacts of future natural hazards, such as wetlands and riparian habitats which help absorb floodwaters.
- Losses to economic assets like these (e.g., major employers or primary economic sectors) could have severe impacts on a community and its ability to recover from disaster.

Threatened and Endangered Species: Table (Table 3.8) showing Federally Threatened, Endangered, Proposed and Candidate Species in the county.

Table 3.8. Threatened and Endangered Species in Adair County

Common Name	Scientific Name	Status
Gray Bat	<i>Myotis grisescens</i>	Endangered
Indiana Bat	<i>Myotis sodalist</i>	Endangered
Northern Long-eared Bat	<i>Myotis septentrionalis</i>	Endangered
Tricolored Bat	<i>Perimyotis subflavus</i>	Proposed Endangered
Monarch Butterfly	<i>Danaus Plexippus</i>	Proposed Threatened
Western Regal Fritillary	<i>Argynnis idalia occidentalis</i>	Proposed Threatened
Mead's Milkweed	<i>Asclepias meadii</i>	Threatened

Source: U.S. Fish and Wildlife Service, [Listed Species \(fws.gov\)](#); see also <https://ecos.fws.gov/ipac/>

Natural Resources: Adair County has ten conservation and recreation areas. The Missouri Department of Conservation (MDC) provides a database of lands the MDC owns, leases, or manages for public use. **Table 3.9** provides the names and locations of parks and conservation areas in the planning area.

Table 3.9. Parks in Adair County

Park / Conservation Area	Address	City
Big Creek CA	From Kirksville, take Business Highway 63 south 0.50 mile, then take Highway 11 west 1.70 miles, then take Route H north 1.70 miles, and take Rainbow Basin Trail west 1 mile.	Adair County
Cook (Elmer A) Mem. Access	From Kirksville, take Highway 11 west 7 miles to the Chariton River bridge.	Adair County
Hazel Creek Lake	From Kirksville, take Highway 63 north 3.20 miles, then Hungry Hollow Road west 1.50 miles to the lake.	Kirksville
Spur Pond	In Kirksville from the intersection of Potter and Osteopathy Streets, take Osteopathy Street south 0.80 mile to the southeast corner of Patryla Park, or from Northeast Regional Medical Center north 0.40 mile.	Kirksville
Montgomery Woods CA	From Kirksville, take Highway 11 west 18 miles, then take Montgomery Woods Trail south 0.75 mile to the area.	Adair County
Mullanix Ford Access	From Greentop, take Route K west 6 miles to the Chariton River bridge.	Adair County
Northeast Regional Office	Located on the south edge of Kirksville on Highway 63 south, across from the Days Inn Motel.	Kirksville
Shoemaker CA	From Novinger, take Route O north 7 miles, then Spring Creek Road west, then Stahl Road south.	Adair County
Sugar Creek CA	From Kirksville, take Highway 11 west 4 miles, then Route N south 0.25 mile to the area.	Adair County
Truitt (Henry) Access	From Novinger, take Highway 6 east 1 mile to the Chariton River bridge.	Novinger
Union Ridge CA	From Green Castle, take Route D north 2.50 miles.	Adair County

Source: [Conservation Areas Search | Missouri Department of Conservation](#)

Historic Resources: The National Register of Historic Places is the official list of registered cultural resources worthy of preservation. It was authorized under the National Historic Preservation Act of 1966 as part of a national program. The purpose of the program is to coordinate and support public and private efforts to identify, evaluate, and protect our historic and archeological resources. The National Register is administered by the National Park Service under the Secretary of the Interior. Properties listed in the National Register include districts, sites, buildings, structures and objects that are significant in American history, architecture, archeology, engineering, and culture.

Table 3.10 lists the properties in Adair County that are on the National Register of Historic Places.

Table 3.10. Adair County Properties on the National Register of Historic Places

Property	Address	City	Date Listed
Adair County Courthouse	Washington St.	Kirksville	8/11/78
Bear Creek Baptist Church	Kirksville Vicinity	Kirksville	3/29/84
Cabins Historic District	Novinger Vicinity	Novinger	7/17/79
First Presbyterian Church	201 S. High St	Kirksville	7/10/17
Grim Building	113-115 E Washington St.	Kirksville	6/27/79
Harris, Capt. Thomas C., House	1308 N. Franklin St	Kirksville	10/15/73
Journal Printing Co. Building	119 S. Elson St.	Kirksville	7/14/11
Kirksville Courthouse Square Historic District	200 Block N. Franklin St, 100 Block E. Harrison St, 100 Block W. Harrison	Kirksville	5/21/09

Laughlin, Drs. George and Blanche, House	706 S. Haliburton St.	Kirksville	3/11/14
Lincoln School	907 S. Wabash St	Kirksville	1/31/17
Masonic Temple	217 E. Harrison St.	Kirksville	1/7/10
St. Mary's Church	MO 11	Adair County	12/16/74
Salisbury School	MO K	Kirksville	10/23/17
Smith, Dr. E. Sanborn, House	111 E. Patterson St.	Kirksville	1/30/09
Smith, Orié, Black and White Stock Farm Historic District	½ mile SE of junction of MO Highway P and County Road 129B	Kirksville	1/16/01
Sojourners Club	211 S. Elson St.	Kirksville	3/11/14
Thousand Hills State Park Petroglyphs Archaeological Site	Address Restricted		1/23/70
Travelers Hotel	301 W. Washington St.	Kirksville	9/16/09
Trinity Episcopal Church	124 N. Mulanix St.	Kirksville	1/2/08

Source: National Register of Historic Places – [Adair County National Register Listings](#) | [Missouri State Parks](#)

Economic Resources: **Table 3.11** shows major non-government employers in the planning area.

Table 3.11. Major Non-Government Employers in Adair County

Employer Name	Main Locations	Product or Service	Employees
Kraft Heinz	2504 Industrial Rd. Kirksville, MO 63501	Manufacturing	956
Truman State University	100 E. Normal Ave Kirksville, MO 63501	Education	666
AT Still University	800 W. Jefferson St. Kirksville, MO 63501	Education	456
Northeast Missouri Regional Medical Center	315 S. Osteopathy Ave. Kirksville, MO 63501	Healthcare	328
Preferred Family Healthcare	900 E. LaHarpe St. Kirksville, MO 63501	Healthcare	303
Hy-Vee	500 N. Baltimore St. Kirksville, MO 63501	Retail	280
Wal-Mart	2206 N. Baltimore St. Kirksville, MO 63501	Retail	260
Northeast Missouri Health Council	1506 Crown Drive Kirksville, MO 63501	Healthcare	133
The Home Depot	3015 N. Baltimore St. Kirksville, MO 63501	Retail	120
Sodexo	901 S. Franklin St. Kirksville, MO 63501	Food Service	107

Source: Data Collection Questionnaires; KREDI Employment Report

Agriculture If agriculture plays an important role in the County A economy, explain. **Table 3.12** provides a summary of the agriculture-related jobs in Adair County.

Table 3.12. Agriculture-Related Jobs in Adair County

Item	Adair
Hired farm labor	
farms	138
workers	273
\$1,000 payroll	1,654
Farms with-	
1 to 4 workers (see text)	
farms	133
workers	240
5 to 9 workers	
farms	4
workers	(D)
10 workers or more	
farms	1
workers	(D)
Workers by days worked:	
150 days or more	
farms	68
workers	79
Farms with-	
1 to 4 workers (see text)	
farms	68
workers	79
5 to 9 workers	
farms	-
workers	-
10 workers or more	
farms	-
workers	-
Less than 150 days	
farms	106
workers	194
Farms with-	
1 to 4 workers (see text)	
farms	103
workers	172
5 to 9 workers	
farms	2
workers	(D)
10 workers or more	
farms	1
workers	(D)
Reported only workers working	
150 days or more	
farms	32
workers	36
\$1,000 payroll	552
Reported only workers working	
less than 150 days	
farms	70
workers	137
\$1,000 payroll	572
Reported both - workers working	
150 days or more and workers	
working less than 150 days	
farms	36
150 days or more, workers	43
less than 150 days, workers	57
\$1,000 payroll	530
Total migrant workers	
farms	2
workers	(D)
Migrant farm labor on farms with hired labor	
farms	2
workers	(D)
Migrant farm labor on farms reporting only	
contract labor	
farms	-
workers	-
Unpaid workers	
farms	243
workers	545

SOURCE: US DEPARTMENT OF AGRICULTURE, CENSUS OF AGRICULTURE, 2022 CENSUS, VOLUME 1, CHAPTER 2: COUNTY-LEVEL DATA
[ST29_2_007_007.PDF](#)

3.3 LAND USE AND DEVELOPMENT

3.3.1 Development Since Previous Plan Update

Population data can sometimes be used to determine the potential for future development. An increase in population will spur a need for additional housing and attract commercial development. Adair County has experienced a decrease in population as indicated by the information in **Table 3.13**. However, no development changes have affected the overall vulnerability of any of the jurisdiction listed below since the previous plan update.

Table 3.13. County Population Growth, 2010-2023

Jurisdiction	Total Population 2010	Total Population 2023	2010-2023 # Change	2000-2023 % Change
Adair County	25,607	25,224	-383	-1.49%
Kirksville	17,505	17,493	-12	-0.07%
Brashear	273	172	-101	-37.00%
Novinger	456	454	-2	-0.43%
Gibbs	107	71	-36	-33.64%
Millard	89	75	-14	-15.73%

Source: U.S. Bureau of the Census, Decennial Census, Annual Population Estimates, American Community Survey 5-year Estimates; Population Statistics are for entire incorporated areas as reported by the Census bureau

Population growth or decline is generally accompanied by increases or decreases in the number of housing units. **Table 3.14** provides the change in numbers of housing units in the planning area from 2010 to 2023.

Table 3.14. Change in Housing Units, 2010-2023

Jurisdiction	Housing Units 2010	Housing Units 2023	2010-2023 # Change	2000-2023 % Change
Adair County	11,263	11,380	+117	+1.04%
Kirksville	7,434	7,546	+112	+1.51%
Brashear	133	114	-19	-14.29%
Novinger	246	226	-20	-8.13%
Gibbs	42	71	+29	+69.05%
Millard	45	37	-8	-17.77%

Source: U.S. Bureau of the Census, Decennial Census, American Community Survey 5-year Estimates; Population Statistics are for entire incorporated areas as reported by the U.S. Census Bureau

Kirksville: Kirksville saw the most growth in the county. Increased residential development may have contributed to higher impervious surface areas, which could elevate flood risk due to increased runoff. However, most growth appears to have occurred in areas with access to modern drainage systems, limiting significant increases in vulnerability. Future development should continue integrating updated stormwater management strategies to mitigate localized flash flooding, especially near flood-prone zones.

Brashear: Brashear experienced a net loss in housing, suggesting either housing demolition, abandonment, or population decline. No significant new development occurred in hazard-prone areas. This decline likely reduced vulnerability overall, as fewer occupied structures remain exposed to flood hazards. However, reduced population may also challenge emergency response and maintenance of infrastructure, which can indirectly affect resilience.

Novinger: Like Brashear, Novinger has seen a decline in housing units, likely due to demolitions or abandonment. This may reduce the number of structures at risk. There were no indications of new

development in high-risk zones, so overall vulnerability has likely decreased slightly or remained unchanged.

Gibbs: Gibbs saw a significant percentage increase in housing units, though the total number remains small. If this development occurred near flood-prone or poorly drained areas, it could modestly increase vulnerability, especially due to limited infrastructure and emergency response capacity. It is unclear from available data whether development occurred in mapped flood zones, so vulnerability impacts remain uncertain but warrant monitoring.

Millard: Millard experienced a decrease in housing, which likely reduced vulnerability to hazards such as flash flooding, particularly given the village's low-lying terrain and limited drainage systems. No new development appears to have occurred in hazard-prone areas, so the community's vulnerability has likely decreased or stayed the same.

Unincorporated Adair County: Development in rural Adair County has been modest. New housing has primarily occurred outside major flood hazard areas, though scattered development near waterways and along rural roads may have slightly increased vulnerability to flash flooding or road access issues during flood events. Overall, the impact on vulnerability is minimal, but continued monitoring of development near creeks or poorly drained areas is recommended.

3.3.2 Future Land Use and Development

Kirksville: Kirksville serves as the economic and educational hub of Adair County. The city's "Think Kirksville 2040 Comprehensive Plan" outlines strategies for sustainable growth, focusing on mixed-use development, revitalization of existing neighborhoods, and expansion of commercial areas. The plan emphasizes the importance of infrastructure improvements and maintaining the city's character while accommodating growth.

Brashear: No plans for future development were indicated.

Novinger: No plans for future development were indicated.

Gibbs: No plans for future development were indicated.

Millard: No plans for future development were indicated.

Unincorporated Adair County: No plans for future development were indicated.

School District's Future Development

Adair County R-I

In April 2025, Adair County R-I School District successfully proposed a no-tax-rate-increase bond extension to fund essential renovations and upgrades. The bond aims to address several key areas, including repairs to the gym ceiling, installation of new stage curtains and a sound system, and updates to the elementary school bathrooms, which have only seen minor improvements since the school's construction. Additional projects include upgrades to HVAC controls, installation of a handicap lift, and renovations to the softball and baseball outfield lights and fencing.

The district's 2022–2027 CSIP emphasizes creating safe, clean, and healthy environments, fostering positive relationships among stakeholders, and preparing students for success with lifelong learning skills.

Adair County R-II

In June 2023, the Adair County R-II School District issued \$1.8 million in general obligation bonds to fund several projects, including the construction of a new bus barn, improvements to the sports complex, technology upgrades, and other repairs and improvements to existing facilities.

The district encourages and assists local elementary and secondary schools in developing and implementing comprehensive plans that focus on helping students meet challenging academic standards.

Kirksville R-III

In April 2024, voters approved a \$33 million bond issue to fund a series of projects aimed at enhancing safety, expanding learning spaces, and undertaking new construction projects. Key initiatives include:

- Construction of a new Education Center for the Performing Arts, featuring a 700+ seat auditorium and classrooms for band and choir programs.
- Installation of new secure entryways and safety improvements at the high school.
- Renovations and additions to the high school, including enclosing the courtyard and updating building features.
- Construction of a new connector from the technical center to the high school.

Construction is expected to begin with the parking lot west of William Matthew Middle School in preparation for the performing arts center. High school renovations are anticipated to start in the summer of 2025, with the addition of security vestibules planned for spring 2025.

3.4 HAZARD PROFILES, VULNERABILITY, AND PROBLEM STATEMENTS

Each hazard will be analyzed individually in a hazard profile. The profile will consist of a general hazard description, location, strength/magnitude/extent, previous events, future probability, a discussion of risk variations between jurisdictions, and how anticipated development could impact risk. At the end of each hazard profile will be a vulnerability assessment, followed by a summary problem statement.

Hazard Profiles

Requirement §201.6(c)(2)(i): [The risk assessment shall include a] description of the...location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

Each hazard identified in Section 3.1.4 will be profiled individually in this section. The level of information presented in the profiles will vary by hazard based on the information available. With each update of this plan, new information will be incorporated to provide better evaluation and prioritization of the hazards that affect the planning area. Detailed profiles for each of the identified hazards and the impact of Climate Change” to Changing Future Conditions Considerations in all of the hazard profiles. Include information categorized as follows:

- **Hazard Description:** This section consists of a general description of the hazard and the types of impacts it may have on a community or school/special district.
- **Geographic Location:** This section describes the geographic areas in the planning area that are affected by the hazard. Where available, use maps to indicate the specific locations of the planning area that are vulnerable to the subject hazard. For some hazards, the entire planning area is at risk.
- **Strength/Magnitude/Extent:** This includes information about the strength, magnitude, and extent of a hazard. For some hazards, this is accomplished with description of a value on an established scientific scale or measurement system, such as an EF2 tornado on the Enhanced Fujita Scale. This section should also include information on the typical or expected strength/magnitude/extent of the hazard in the planning area. Strength, magnitude, and extent can also include the speed of onset and the duration of hazard events. Describing the strength/magnitude/extent of a hazard is not the same as describing its potential impacts on a community. Strength/magnitude/extent defines the characteristics of the hazard regardless of the people and property it affects.
- **Previous Occurrences:** This section includes available information on historic incidents and their impacts. Historic event records form a solid basis for probability calculations.
- **Probability of Future Occurrence:** The frequency of recorded past events is used to estimate the likelihood of future occurrences. Probability can be determined by dividing the number of recorded events by the number of years of available data and multiplying by 100. This gives the percent chance of the event happening in any given year. For events occurring more than once annually, the probability should be reported as 100% in any given year, with a statement of the average number of events annually. For hazards such as drought that may have gradual onset and extended duration, probability can be based on the number of months in drought in a given time-period and expressed as the probability for any given month to be in drought.
- **Changing Future Conditions Considerations:**

In addition to the probability of future occurrence, changing future conditions should also be considered, including the effects of long-term changes in weather patterns and climate on the identified hazards.

Vulnerability Assessments

Requirement §201.6(c)(2)(ii) :[The risk assessment shall include a] description of the jurisdiction’s vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.

Requirement §201.6(c)(2)(ii)(A) :The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas.

Requirement §201.6(c)(2)(ii)(B) :[The plan should describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate.

Requirement §201.6(c)(2)(ii)(C): [The plan should describe vulnerability in terms of] providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

Requirement §201.6(c)(2)(ii): (As of October 1, 2008) [The risk assessment] must also address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged in floods.

Following the hazard profile for each hazard will be the vulnerability assessment. The vulnerability assessment further defines and quantifies populations, buildings, critical facilities, and other community assets at risk to damages from natural hazards. The vulnerability assessments should be based on the best available data. The vulnerability assessments can also be based on data that was collected for the 2023 State Hazard Mitigation Plan Update. With the 2023 Hazard Mitigation Plan Update, SEMA is pleased to provide online access to the risk assessment data and associated mapping for the 114 counties in the State, including the independent City of St. Louis. Through the web-based Missouri Hazard Mitigation Viewer, local planners or other interested parties can obtain all State Plan datasets. This effort removes from local mitigation planners a barrier to performing all the needed local risk assessments by providing the data developed during the 2023 State Plan Update.

The Missouri Hazard Mitigation Viewer includes a Map Viewer with a legend of clearly labeled features, a north arrow, a base map that is either aerial imagery or a street map, risk assessment data symbolized the same as in the 2023 State Plan for easy reference, search and query capabilities, ability to zoom to county level data and capability to download PDF format maps. The Missouri Hazard Mitigation Viewer can be found at this link: <http://bit.ly/MoHazardMitigationPlanViewer2023>.

The vulnerability assessments in the Adair County plan will also be based on:

- Written descriptions of assets and risks provided by participating jurisdictions;
- Existing plans and reports;
- Personal interviews with planning committee members and other stakeholders; and
- Other sources as cited.

The following subheadings will be addressed within the Vulnerability Assessment:

- **Vulnerability Overview:**
This section consists of a general overview narrative of the planning area's vulnerability to the hazard. Within this section, the magnitude/severity of the hazard is discussed. The magnitude of the impact of the hazard event (past and perceived) is related directly to the vulnerability of the people, property, and the environment it affects. This is a function of when the event occurs, the location affected by the resilience of the community, and the effectiveness of the emergency response and disaster recovery efforts.
- **Potential Losses to Existing Development:**
This section provides the potential losses existing to development.
- **Previous and Future Development:**
This section will include information on how changes in development have impacted the community's vulnerability to this hazard.
- **Hazard Summary by Jurisdiction:**
For hazard risks that vary by jurisdiction, this section will provide an overview of the variation and the factual basis for that variation.

Problem Statements

Each hazard analysis concludes with a brief summary of the problems created by the hazard in the planning area, and possible ways to resolve those problems. Jurisdiction-specific information in those cases where the risk varies across the planning area is included.

3.4.1 Flooding (Riverine and Flash)

Hazard Profile

Hazard Description

A flood is partial or complete inundation of normally dry land areas. Riverine flooding is defined as the overflow of rivers, streams, drains, and lakes due to excessive rainfall, rapid snowmelt, or ice. There are several types of riverine floods, including headwater, backwater, interior drainage, and flash flooding. Riverine flooding is defined as the overflow of rivers, streams, drains, and lakes due to excessive rainfall, rapid snowmelt or ice melt. The areas adjacent to rivers and stream banks that carry excess floodwater during rapid runoff are called floodplains. A floodplain is defined as the lowland and relatively flat area adjoining a river or stream. The terms “base flood” and “100- year flood” refer to the area in the floodplain that is subject to a one percent or greater chance of flooding in any given year. Floodplains are part of a larger entity called a basin, which is defined as all the land drained by a river and its branches.

Flooding caused by dam and levee failure is discussed in Section 3.4.3 and Section 3.4.2 respectively. It will not be addressed in this section.

A flash flood occurs when water levels rise at an extremely fast rate as a result of intense rainfall over a brief period, sometimes combined with rapid snowmelt, ice jam release, frozen ground, saturated soil, or impermeable surfaces. Flash flooding can happen in Special Flood Hazard Areas (SFHAs) as delineated by the National Flood Insurance Program (NFIP) and can also happen in areas not associated with floodplains.

Ice jam flooding is a form of flash flooding that occurs when ice breaks up in moving waterways, and then stacks on itself where channels narrow. This creates a natural dam, often causing flooding within minutes of the dam formation.

In some cases, flooding may not be directly attributable to a river, stream, or lake overflowing its banks. Rather, it may simply be the combination of excessive rainfall or snowmelt, saturated ground, and inadequate drainage. With no place to go, the water will find the lowest elevations – areas that are often not in a floodplain. This type of flooding, often referred to as sheet flooding, is becoming increasingly prevalent as development outstrips the ability of the drainage infrastructure to properly carry and disburse the water flow.

Most flash flooding is caused by slow-moving thunderstorms or thunderstorms repeatedly moving over the same area. Flash flooding is a dangerous form of flooding which can reach full peak in only a few minutes. Rapid onset allows little or no time for protective measures. Flash flood waters move at very fast speeds and can move boulders, tear out trees, scour channels, destroy buildings, and obliterate bridges. Flash flooding can result in higher loss of life, both human and animal, than slower developing river and stream flooding.

In certain areas, aging storm sewer systems are not designed to carry the capacity currently needed to handle the increased storm runoff. Typically, the result is water backing into basements, which damages mechanical systems and can create serious public health and safety concerns. This combined with rainfall trends and rainfall extremes all demonstrate the high probability, yet generally unpredictable nature of flash flooding in the planning area.

Although flash floods are somewhat unpredictable, there are factors that can point to the likelihood of flash floods occurring. Weather surveillance radar is being used to improve monitoring capabilities of intense rainfall. This, along with knowledge of the watershed characteristics, modeling techniques, monitoring, and advanced warning systems has increased the warning time for flash floods.

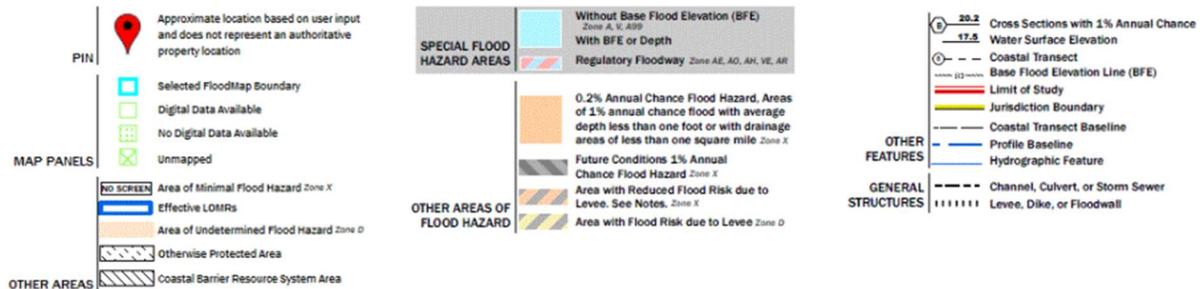
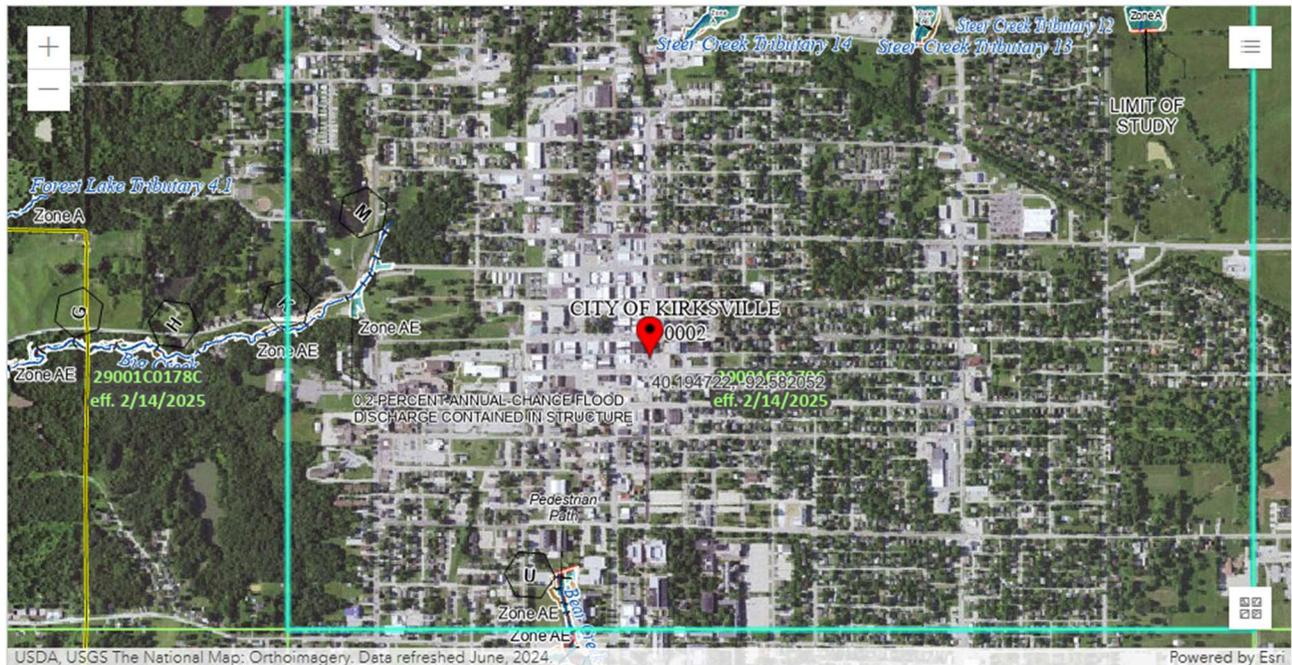
Geographic Location

Riverine flooding is most likely to occur in SFHAs. Riverine flooding can occur in any low-lying areas of Adair County which are adjacent to rivers and creeks during period of heavy rain when the ground is already saturated. Many rural roads within the county are dependent upon low water crossings, many of which are not navigable during periods of high water. During times of flooding, these low water crossings can present risk to life and property if an attempt is made to cross.

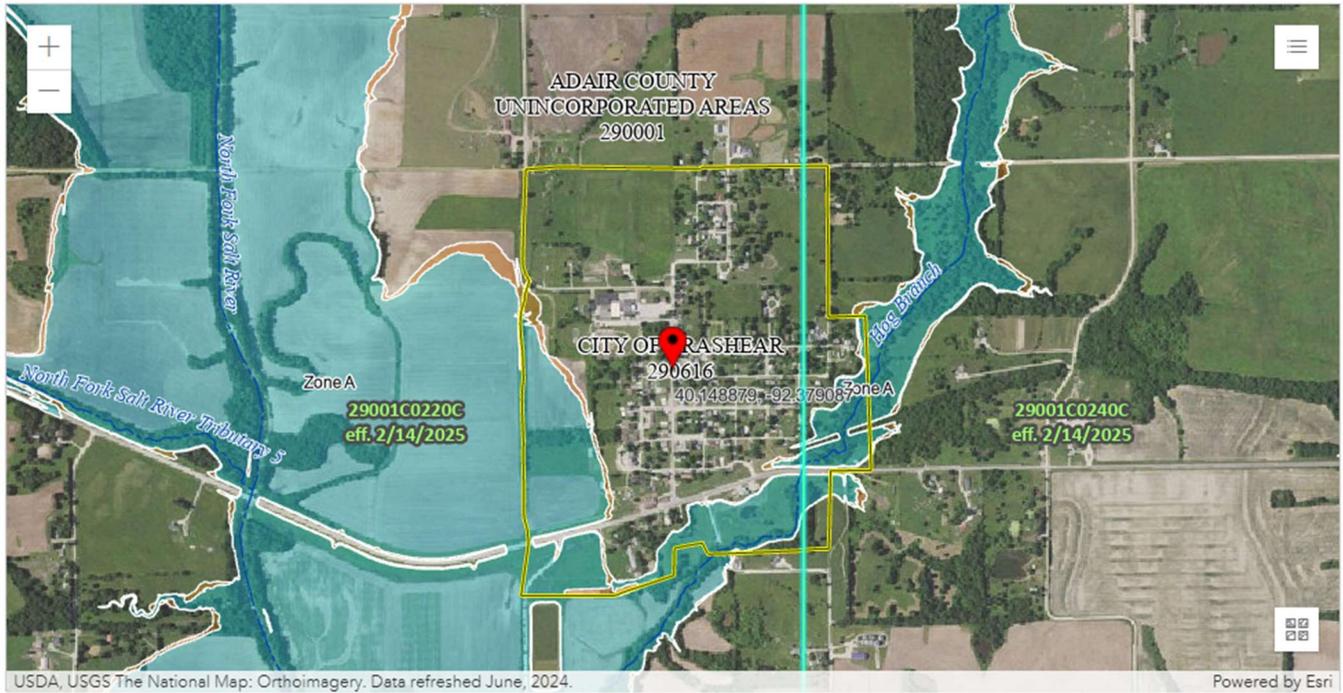
According to the National Mapping System, major rivers and creeks in Adair County include Chariton River, Hazel Creek, Little Hazel Creek, North Fort Salt River, Cottonwood Fork, Bridge Creek, Bee Branch, North Fork South Fabius, Buck Branch, Blackbird Creek, Shuteye Creek, Davis Branch, Spring Creek, Jobs Creek, Plum Branch, Billy Creek, Turkey Creek, Floyd Creek, Nick Branch, Steer Creek, Willis Branch, Dave Branch, Hog Creek, Little Mussel Creek, Walnut Creek, Goose Creek, Gill Branch, Bear Creek, Timber Branch, Big Deer Branch, Surratt Creek, Titus Creek, Long Branch, Richard Creek, Indian Creek, and Mussel Fork.

The following are flood hazard maps for all jurisdictions to fully reflect the flooding hazards throughout Adair County.

Kirksville



Brashear



USDA, USGS The National Map: Orthoimagery. Data refreshed June, 2024.

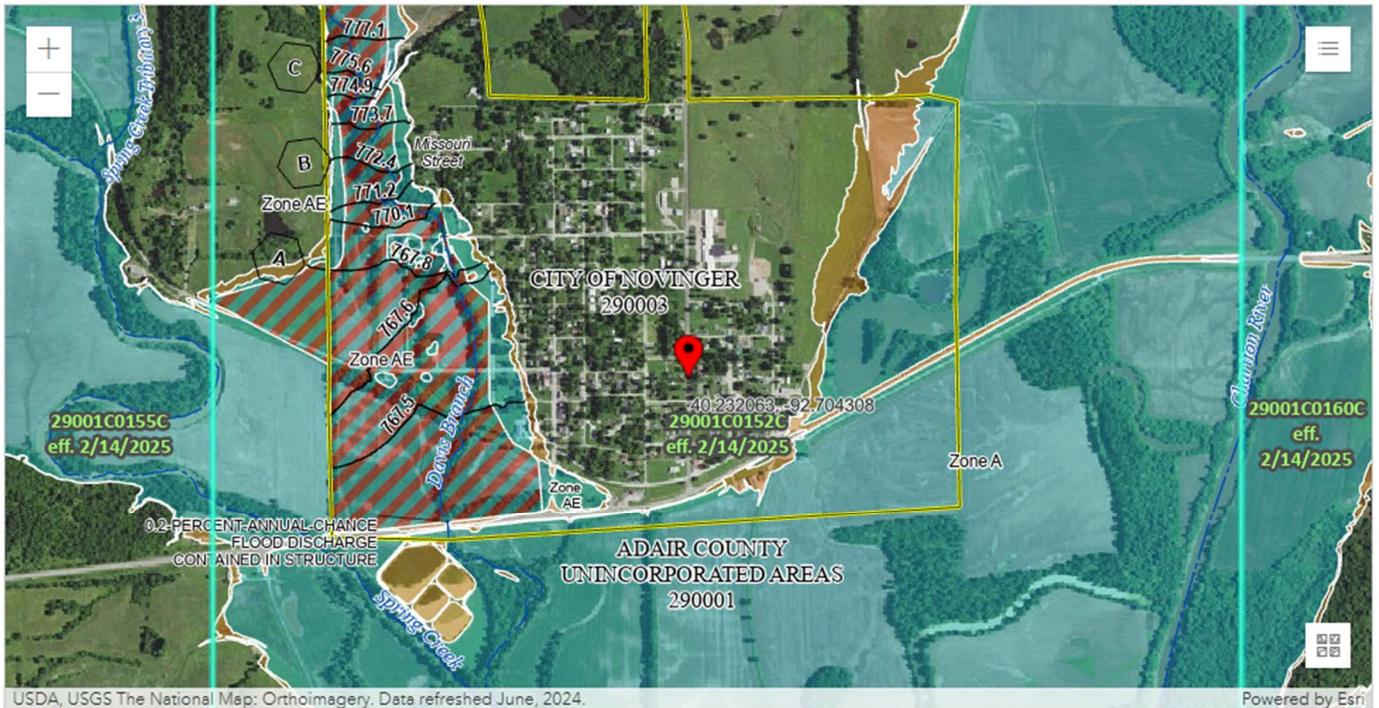
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- PIN**
 - Approximate location based on user input and does not represent an authoritative property location
- MAP PANELS**
 - Selected FloodMap Boundary
 - Digital Data Available
 - No Digital Data Available
 - Unmapped
- OTHER AREAS**
 - Area of Minimal Flood Hazard Zone X
 - Effective LOMRs
 - Area of Undetermined Flood Hazard Zone D
 - Otherwise Protected Area
 - Coastal Barrier Resource System Area

- SPECIAL FLOOD HAZARD AREAS**
 - Without Base Flood Elevation (BFE) Zone A, X, AR
 - With BFE or Depth Regulatory Floodway Zone AE, AO, AH, VE, AR
- OTHER AREAS OF FLOOD HAZARD**
 - 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
 - Future Conditions 1% Annual Chance Flood Hazard Zone X
 - Area with Reduced Flood Risk due to Levee. See Notes, Zone X
 - Area with Flood Risk due to Levee Zone D

- CROSS SECTIONS**
 - Cross Sections with 1% Annual Chance Water Surface Elevation
 - Coastal Transect Base Flood Elevation Line (BFE)
- OTHER FEATURES**
 - Limit of Study
 - Jurisdiction Boundary
 - Coastal Transect Baseline
 - Profile Baseline
 - Hydrographic Feature
- GENERAL STRUCTURES**
 - Channel, Culvert, or Storm Sewer
 - Levee, Dike, or Floodwall

Novinger



USDA, USGS The National Map: Orthoimagery. Data refreshed June, 2024.

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<p>PIN</p> <ul style="list-style-type: none"> Approximate location based on user input and does not represent an authoritative property location <p>MAP PANELS</p> <ul style="list-style-type: none"> Selected FloodMap Boundary Digital Data Available No Digital Data Available Unmapped <p>OTHER AREAS</p> <ul style="list-style-type: none"> NO SCREEN Area of Minimal Flood Hazard Zone X Effective LOMRS Area of undetermined Flood Hazard Zone D Otherwise Protected Area Coastal Barrier Resource System Area 	<p>SPECIAL FLOOD HAZARD AREAS</p> <ul style="list-style-type: none"> Without Base Flood Elevation (BFE) Zone A, V, AH With BFE or Depth Regulatory Floodway Zone AE, AO, AH, VE, AR <p>OTHER AREAS OF FLOOD HAZARD</p> <ul style="list-style-type: none"> 0.2% Annual Chance Flood Hazard. Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X Future Conditions 1% Annual Chance Flood Hazard Zone X Area with Reduced Flood Risk due to Levee. See Notes, Zone X Area with Flood Risk due to Levee Zone D 	<p>OTHER FEATURES</p> <ul style="list-style-type: none"> 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation 17.5 Coastal Transect Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary Coastal Transect Baseline Profile Baseline Hydrographic Feature <p>GENERAL STRUCTURES</p> <ul style="list-style-type: none"> Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall
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Gibbs

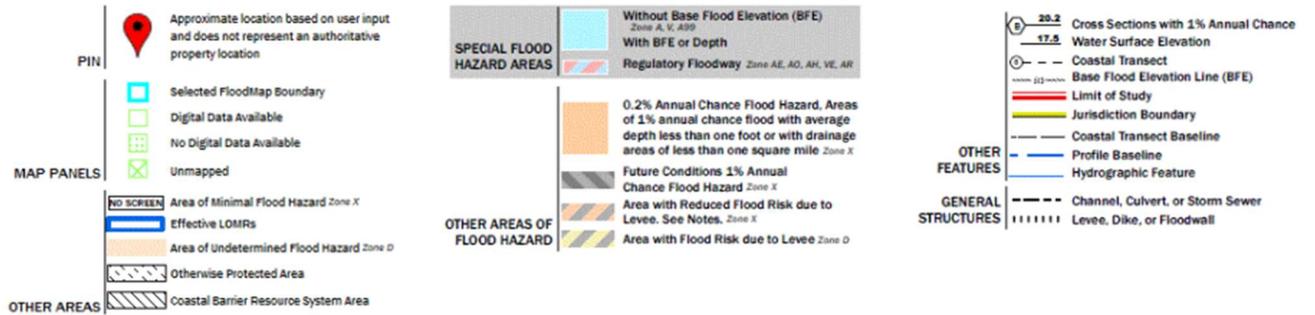


USDA, USGS The National Map: Orthoimagery. Data refreshed June, 2024.

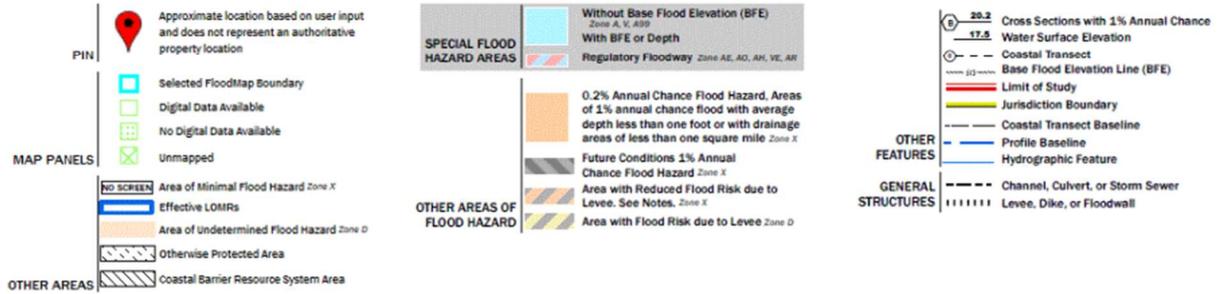
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<p>PIN</p> <ul style="list-style-type: none"> Approximate location based on user input and does not represent an authoritative property location <p>MAP PANELS</p> <ul style="list-style-type: none"> Selected FloodMap Boundary Digital Data Available No Digital Data Available Unmapped <p>OTHER AREAS</p> <ul style="list-style-type: none"> Area of Minimal Flood Hazard Zone X Effective LOMRs Area of undetermined Flood Hazard Zone D Otherwise Protected Area Coastal Barrier Resource System Area 	<p>SPECIAL FLOOD HAZARD AREAS</p> <ul style="list-style-type: none"> Without Base Flood Elevation (BFE) Zone A, V, AH, AR With BFE or Depth Regulatory Floodway Zone AE, AO, AH, VE, AR <p>OTHER AREAS OF FLOOD HAZARD</p> <ul style="list-style-type: none"> 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X Future Conditions 1% Annual Chance Flood Hazard Zone X Area with Reduced Flood Risk due to Levee. See Notes. Zone X Area with Flood Risk due to Levee Zone D 	<p>OTHER FEATURES</p> <ul style="list-style-type: none"> Cross Sections with 1% Annual Chance Water Surface Elevation Water Surface Elevation Coastal Transect Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary Coastal Transect Baseline Profile Baseline Hydrographic Feature <p>GENERAL STRUCTURES</p> <ul style="list-style-type: none"> Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall
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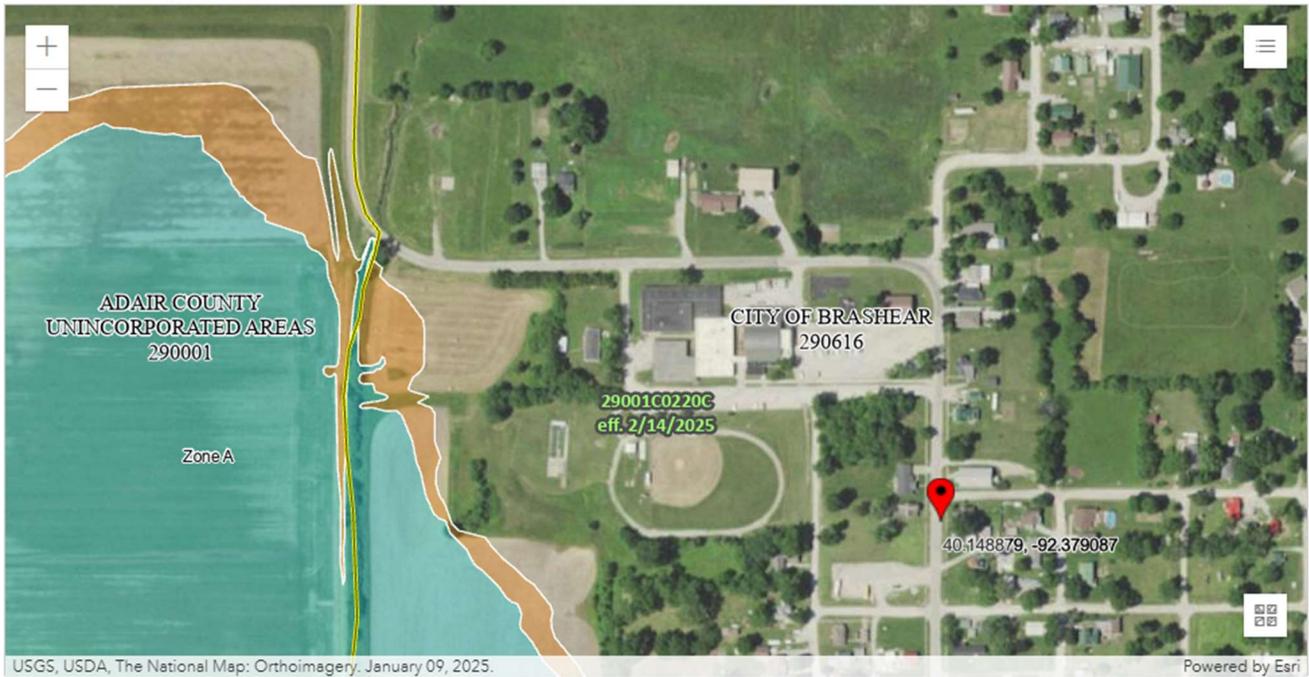
Millard



Adair County R-I School District

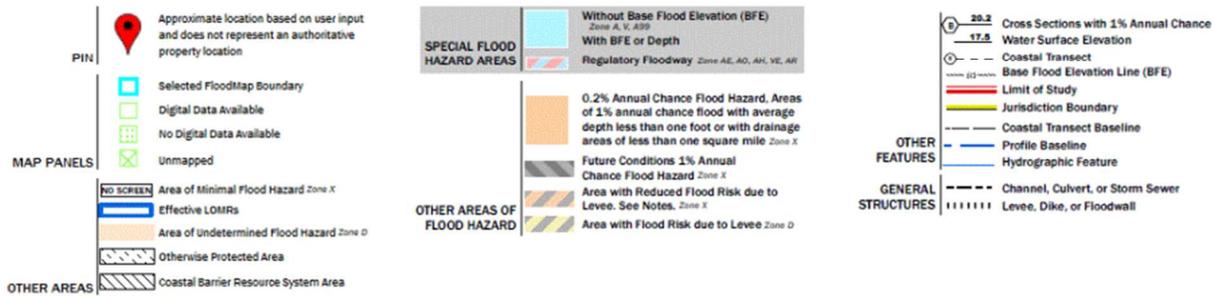
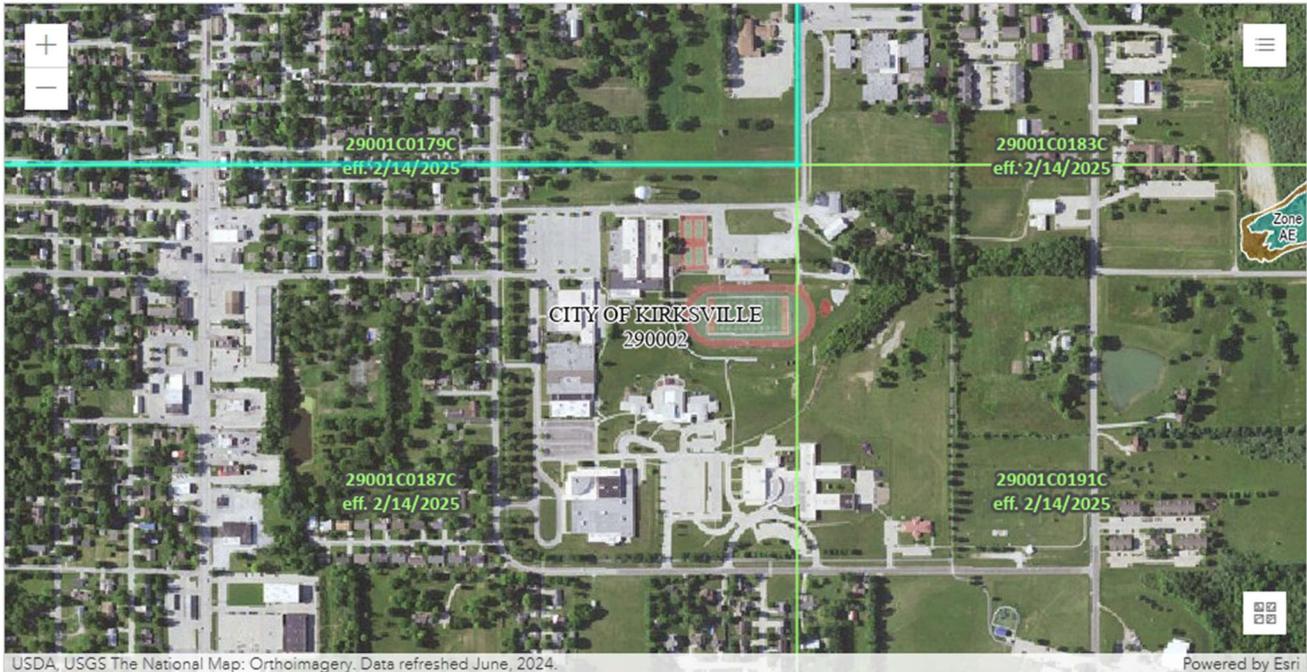


Adair County R-II School District



<p>PIN</p> <ul style="list-style-type: none"> Approximate location based on user input and does not represent an authoritative property location <p>MAP PANELS</p> <ul style="list-style-type: none"> Selected FloodMap Boundary Digital Data Available No Digital Data Available Unmapped <p>OTHER AREAS</p> <ul style="list-style-type: none"> Area of Minimal Flood Hazard Zone X Effective LOMRs Area of Undetermined Flood Hazard Zone D Otherwise Protected Area Coastal Barrier Resource System Area 	<p>SPECIAL FLOOD HAZARD AREAS</p> <ul style="list-style-type: none"> Without Base Flood Elevation (BFE) <i>Zone A, V, APF</i> With BFE or Depth Regulatory Floodway <i>Zone AE, AO, AH, VE, AR</i> <p>OTHER AREAS OF FLOOD HAZARD</p> <ul style="list-style-type: none"> 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> Area with Flood Risk due to Levee <i>Zone D</i> 	<p>OTHER FEATURES</p> <ul style="list-style-type: none"> 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation 17.5 Coastal Transect Base Flood Elevation Line (BFE) Limit of Study Jurisdiction Boundary Coastal Transect Baseline Profile Baseline Hydrographic Feature <p>GENERAL STRUCTURES</p> <ul style="list-style-type: none"> Channel, Culvert, or Storm Sewer Levee, Dike, or Floodwall
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Kirksville R-III School District



Source: <https://msc.fema.gov/portal/home>

Table 3.15 shows flood event history in Adair County from 2004-2024.

Table 3.15. Adair County NCEI Flood Events by Location, 2004-2024

Location	# of Events
Unincorporated Adair County	4
City of Kirksville	1
City of Novinger	1

Source: National Centers for Environmental Information, May 2, 2025

Flash flooding occurs in SFHAs and those locations in the planning area that are low-lying. They also occur in areas without adequate drainage to carry away the amount of water that falls during intense rainfall events. NCEI database was used to determine which jurisdictions are most prone to flash flooding during a 20-year time period. (Table 3.16) shows the number of flash flood events by location recorded in NCEI for the 20-year period.

Table 3.16. Adair County NCEI Flash Flood Events by Location, 2004-2024

Location	# of Events
Unincorporated County	13
-Unincorporated Adair County (Connelsville)- 5 flood events	
-Unincorporated Adair County (IRK Cannon Mem Arpt)- 1 flood event	
-Unincorporated Adair County (Bullion)- 1 flood event	
-Unincorporated Adair County (Fegley)- 2 flood events	
-Unincorporated Adair County (Loeffler)- 1 flood event	
-Unincorporated Adair County (Shibleys PT)- 1 flood event	
-Unincorporated Adair County (Danforth)- 2 flood events	
City of Kirksville	
City of Brashear	1
Village of Millard	1
Village of Gibbs	2

Source: National Centers for Environmental Information, May 2, 2025

Strength/Magnitude/Extent

Missouri has a long and active history of flooding over the past century, according to the 2023 State Hazard Mitigation Plan. Flooding along Missouri’s major rivers generally results in slow-moving disasters. River crest levels are forecast several days in advance, allowing communities downstream sufficient time to take protective measures, such as sandbagging and evacuations. Nevertheless, floods exact a heavy toll in terms of human suffering and losses to public and private property. By contrast, flash flood events in recent years have caused a higher number of deaths and major property damage in many areas of Missouri.

According to the U.S. Geological Survey, two critical factors affect flooding due to rainfall: rainfall duration and rainfall intensity – the rate at which it rains. These factors contribute to a flood’s height, water velocity and other properties that reveal its magnitude.

National Flood Insurance Program (NFIP) Participation

(Table 3.17) provides details on NFIP participation for communities in the planning area.

(Table 3.18) provides the number of policies in force, amount of insurance in force, number of closed losses, and total payments for each jurisdiction, where applicable.

Table 3.17. NFIP Participation in Adair County

Community ID #	Community Name	NFIP Participant (Y/N/Sanctioned)	Current Effective Map Date	Regular-Emergency Program Entry Date
290002A	City of Kirksville	Y	02/14/2025	02/04/1981
	City of Brashear	N	-	-
290003A	City of Novinger	Y	02/14/2025	06/15/1981
	Village of Millard	N	-	-
	Village of Gibbs	N	-	-
	Adair County	N	-	-

Source: NFIP Community Status Book, May 2, 2025; PIVOT (information from STATE) [Community Status Book | FEMA.gov](#); M= No elevation determined – all Zone A, C, and X; NSFHA = No Special Flood Hazard Area; E=Emergency Program

City of Kirksville:

- Adoption of Minimum Floodplain Regulation * by local regulation – February 4, 1981.
- Adoption of Latest Effective FIRM: February 14, 2025
- Implementation and Enforcement: Reid Yardley
- NFIP Coordinator: Reid Yardley
 - Agency: City of Kirksville
 - Title: Floodplain Administrator
 - Phone Number: (660) 627-1225

Substantial Improvement/Substantial Damage Provisions: The City of Kirksville has adopted and enforces SI/SD provisions consistent with FEMA P-758, *Substantial Improvement/Substantial Damage Desk Reference*. Following a flood or disaster event, the City's Floodplain Administrator (Reid Yardley) is responsible for conducting SI/SD determinations. The city uses FEMA's Substantial Damage Estimator (SDE) Tool as a standardized method for calculating damage percentages, supported by on-site inspections and permit records. Trigger conditions requiring SI/SD review include when a structure located within the Special Flood Hazard Area is proposed for renovation, repair, or reconstruction following damage. Implementation includes documenting inspection results, notifying property owners of determinations, and ensuring compliance with elevation or floodproofing requirements prior to issuing repair or building permits.

City of Novinger:

- Adoption of Minimum Floodplain Regulation * by local regulation – June 15, 1981.
- Adoption of Latest Effective FIRM: February 14, 2025
- Implementation and Enforcement: City Clerk
- NFIP Coordinator: Lisa Rhoads, City Clerk
 - Agency: City of Novinger
 - Title: Floodplain Administrator
 - Phone Number: (660) 488-5383

Substantial Improvement/Substantial Damage Provisions: The City of Novinger has adopted and enforces SI/SD provisions consistent with FEMA P-758. The City Clerk, serving as Floodplain Administrator, is responsible for evaluating SI/SD determinations. The city employs FEMA's Substantial Damage Estimator (SDE) Tool to assess whether damage or proposed improvements meet the 50 percent threshold. Following a flood or disaster event, inspections are carried out in coordination with permit applications. Trigger conditions include applications for substantial repairs or improvements to structures within the Special Flood Hazard Area. Implementation procedures include documenting all determinations, notifying property owners, and requiring compliance with elevation or floodproofing standards as a condition of permitting.

City of Brashear – Reports they do not participate in the NFIP due to not enough flood activity in the planning area to warrant the expense of NFIP participation.

Village of Millard – Reports they do not participate in the NFIP due to not enough flood activity in the planning area to warrant the expense of NFIP participation.

Village of Gibbs – Reports they do not participate in the NFIP due to not enough flood activity in the planning area to warrant the expense of NFIP participation.

Adair County – Reports they do not participate in the NFIP due to not enough flood activity in the planning area to warrant the expense of NFIP participation.

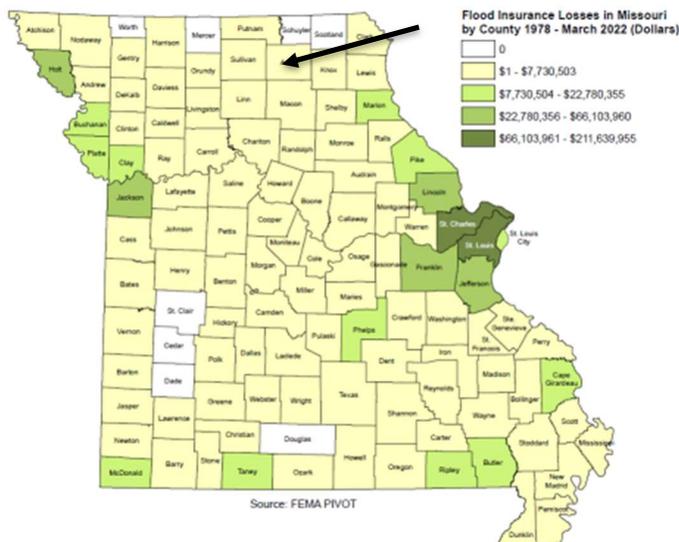
Table 3.18. NFIP Policy and Claim Statistics as of May 2, 2025

Community Name	Policies in Force	Insurance in Force	Closed Losses	Total Payments
Adair County	5	\$1,250,000	1	\$12,500
Kirksville	25	\$6,250,000	3	\$37,500
Novinger	2	\$500,000	0	\$0
Brashear	1	\$250,000	0	\$0

Source: NFIP Community Status Book, [insert date]; PIVOT (information from STATE), [Community Status Book | FEMA.gov](#)
 *Closed Losses are those flood insurance claims that resulted in payment. Loss statistics are for current as of (May 2, 2025).

Figure 3.3 shows that during the period of 1978-March 2022, Adair County received between \$1 and \$7,730,503 in Flood Insurance.

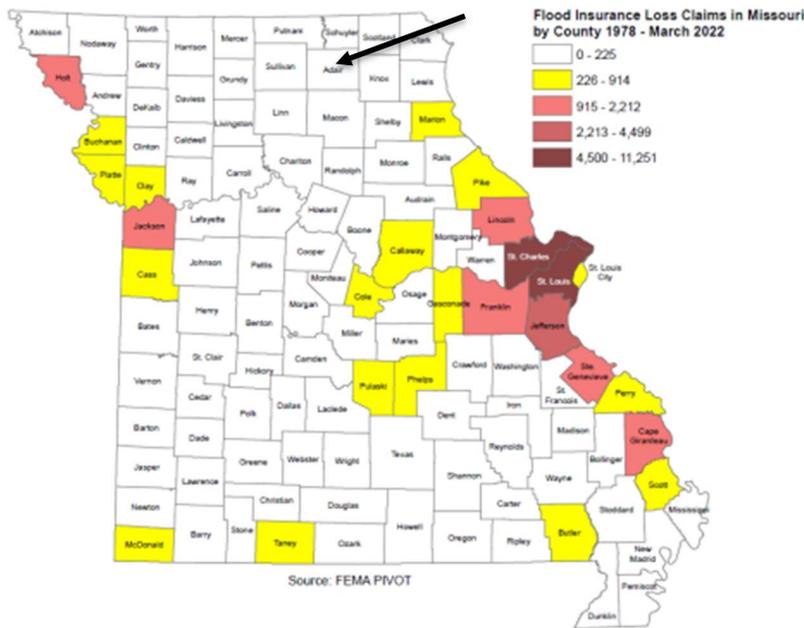
Figure 3.3. Map of Dollars Paid Historically for Flood Insurance Losses in Missouri by County, 1978-March 2022



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.4 demonstrates that between the period of 1978 through March 2022, Adair County had between 0-225 Flood Loss Claims.

Figure 3.4. Flood Loss Claims in Missouri by County, 1978-March 2022



Source: 2023 Missouri State Hazard Mitigation Plan

Repetitive Loss/Severe Repetitive Loss Properties

Repetitive Loss Properties are those properties with at least two flood insurance payments of \$1,000 or more in a 10-year period. According to the Flood Insurance Administration, jurisdictions included in the planning area have a combined total of one repetitive loss properties.

(Table 3.19) provides a summary of the repetitive loss properties in the planning area. RL/SRL data is obtained by contacting SEMA.

Table 3.19. Adair County Repetitive Loss Properties

Jurisdiction	# of Properties	Type of Property	# Mitigated	Building Payments	Content Payments	Total Payments	Average Payment	# of Losses
City of Kirksville	1	Residential Condo Assoc	0	\$5,229.44	\$24,800.00	\$30,029.44	\$15,014.7	2

Source: Flood Insurance Administration as of May 2, 2025

Severe Repetitive Loss (SRL): A SRL property is defined it as a single family property (consisting of one-to-four residences) that is covered under flood insurance by the NFIP; and has (1) incurred flood-related damage for which four or more separate claims payments have been paid under flood insurance coverage with the amount of each claim payment exceeding \$5,000 and with cumulative amounts of such claims payments exceeding \$20,000; or (2) for which at least two separate claims payments have been made with the cumulative amount of such claims exceeding the reported value of the property.

There are two validated Severe Repetitive Loss properties in the City of Kirksville with total losses paid of \$286,725 and two validated Severe Repetitive Loss properties in the City of Novinger with total losses paid of \$94,366.

Previous Occurrences

DR-995: Flooding and severe storms. Declaration date July 9, 1993. Incident period June 10, 1993 to October 25, 1993. Adair County was significantly affected during the Great Flood of 1993, one of the most devastating natural disasters in U.S. history. The county experienced prolonged periods of heavy rainfall leading to widespread flooding that damaged infrastructure, homes, and agricultural lands. The flooding disrupted transportation networks, overwhelmed local drainage systems, and led to substantial economic losses in the region.

DR-439: Flooding and severe storms. Declaration date June 10, 1974. Incident period June 10, 1974. On June 10, 1974, Adair County experienced severe storms that resulted in flash flooding across various parts of the county. The sudden onset of heavy rains led to rapid water accumulation, causing damage to roads, bridges, and private properties.

DR-407: Flooding and severe storms. Declaration date November 1, 1973. Incident period November 1, 1973. The severe storms on November 1, 1973, brought intense rainfall to Adair County, leading to significant flooding in low-lying areas. The floodwaters caused damage to agricultural lands, disrupted local transportation, and affected numerous homes and businesses.

NCEI information for the last 20 years for both flash and river flooding are illustrated in (Table 3.20 and Table 3.21).

Table 3.20. NCEI Adair County Flash Flood Events Summary, 2004 to 2024

Year	# of Events	# of Deaths	# of Injuries	Property Damages	Crop Damages
2008	7	0	0	0	0
2009	4	0	0	0	0
2010	7	0	0	10.00K	0
2011	1	0	0	0	0
2014	2	0	0	0	0
2015	3	0	0	0	0
2019	1	0	0	0	0
2021	1	0	0	0	0
2023	1	0	0	0	0

Source: NCEI, data accessed [May 2, 2025]

7/20/2010: Thunderstorms erupted the evening of July 19th, along a stationary front that was draped across southern Iowa. The storms quickly moved south into north central Missouri. The storms took on a supercell character, due to strong directional and speed shear, coupled with unstable atmospheric conditions. An initial report of a funnel cloud was received just before 9 pm north of Mercer, Missouri, with numerous reports of funnel clouds, tornadoes, and wind damage in the photographs. Emergency management officials scoured the areas across which these supercell thunderstorms tracked, but found little damage. Though eight separate reports of tornadoes were received, tornado damage of EF0 only could be confirmed approximately 5 miles east of Princeton, where a shed was destroyed, 3 miles southwest of Milan, where the roof was torn from a garage, and in the town of Harris, where a

roof was blown off. Aside from these tornadoes, straight line winds destroyed two camper trailers, and blew in a garage door, 10 miles northeast of Atlanta. In Atlanta, quarter sized hail was reported twice during the night. The severe weather threat ended, only to be replaced by flash flooding, as thunderstorms continued to track across the same areas of northeast Missouri, during the overnight hours. Hardest hit was the Kirksville area, where radar estimated rainfall of 8 to 10 inches. A survey of both automated and manually read rain gages, measured anywhere from 3 to 6 inches across portions of Putnam, Sullivan, Adair, and Macon Counties, with at least one measurement of 9.13 inches being reported 1 mile south of Kirksville. Other reports include: 3.39 inches 2 miles north of Moberly, 3.46 inches in Atlanta, 3.70 inches 5 miles northeast of Mercer, 4.33 inches near Lancaster, 4.53 inches at the official NWS observing site in Kirksville, 4.65 inches in Milan, 4.80 inches in Green City, 5.10 inches near Unionville, 6.19 inches in Novinger and 6.01 inches in Livonia. The heavy rains caused numerous creeks and streams to exceed flood stage across the area. Numerous roads were reported impassable in Kirksville, due to flooding. One car was reported submerged.

Table 3.21. NCEI Adair County Riverine Flood Events Summary, 2004 to 2024

Year	# of Events	# of Deaths	# of Injuries	Property Damages	Crop Damages
2007	1	0	0	0	0
2008	3	0	0	300.00K	260.00K
2015	1	0	0	0	0
2019	1	0	0	0	0

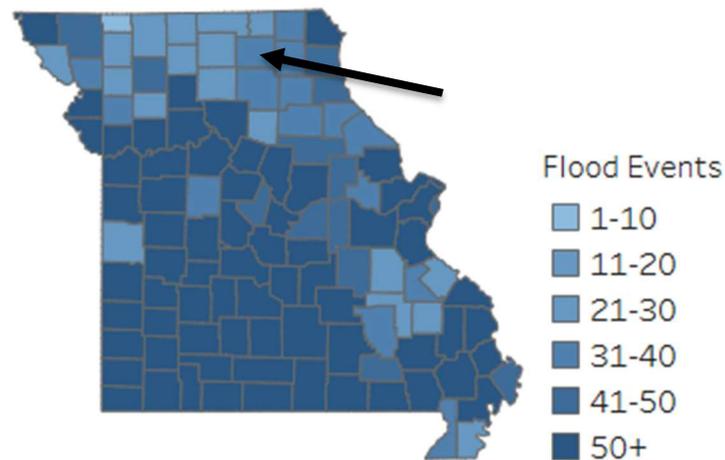
Source: NCEI, May 2, 2025

7/25/2008: An unusual late July weather pattern, set the stage for extreme rainfall amounts and major flooding across north central and northeast Missouri, on July 24th and 25th. Hot and humid air, continued to feed north across the eastern Plains into western Missouri. Meanwhile, a series of upper air disturbances had brought rainfall to the Mississippi Valley region and northeast Missouri, keeping temperatures much cooler. This reinforced a strong stationary front, that was draped from northeast into central Missouri on the 24th. During the overnight hours, a stream of strong winds developed several thousand feet above the ground, known as a nocturnal low-level jet. Typically these rivers of fast moving air, lead to nighttime thunderstorm complexes in May and June, but diminish as we head into the summer months. However, the weather pattern resembled one more typical of late Spring. These winds transported very warm and moist air into the stationary front, leading to explosive thunderstorm development along the Iowa border. Thunderstorms then tracked southeast along the front, while continuing to regenerate further northwest. The result was extreme rainfall amounts, widespread flash flooding, and record river flooding. Rainfall amounts of 6 to locally more than 12 inches fell, with Unionville to Kirksville the hardest hit. Extreme rainfall amounts continued along the Highway 63 corridor, as far south as Moberly. The Chariton River near Novinger crested at 28.44 feet, or its third highest crest ever. The Chariton River near Prairie Hill, crested at its highest level ever, at 23.27 feet. The Chariton River near Novinger, had its third highest crest on record, 28.44 feet. Several hundred acres of low lying farm land was inundated. Five homes in Novinger suffered total loss.

6/25/2008: Severe thunderstorms with very heavy rains and hail, pummeled portions of north central and central Missouri, late in the evening of June 24, 2008, into the morning hours of June 25, 2008. Torrential rains reached around 9 inches in and around Linneus. The heavy rains aggravated the ongoing flooding of area creeks and rivers. Eight to ten inches of water was reported over Highway 149 near Connelville, due to the heavy rains. Major flooding was observed on the Chariton River.

Figure 3.5 below shows the FEMA Data Visualization Tool which indicates that there have been between 31 and 40 flood events in Adair County.

Figure 3.5. Historical Flood Impact



Source: [Historical Flood Risk and Costs | FEMA.gov](https://www.fema.gov/historical-flood-risk-and-costs)

Probability of Future Occurrence

Flash Flooding has occurred 27 times in the planning area over the past 20 years, resulting in an average of approximately 1.35 events per year. This consistent pattern indicates a 100% historical occurrence rate, underscoring a high probability of future flash flood events.

Riverine Flooding has occurred 6 times in the planning area over the past 20 years, resulting in a 30% historical occurrence rate, underscoring a medium-low probability of future riverine flood events.

As used in this chapter, probabilities will be defined as low 0-20%, medium-low 21-40%, medium 41-60%, medium-high 61-80%, and high 81-100%, except where otherwise specifically defined.

Changing Future Conditions Considerations

According to the National Climate Assessment, extreme rainfall events and flooding have increased over the last century, and these trends are expected to persist. In Adair County, Missouri, this has resulted in recurring flood events affecting both urban and rural communities. Areas near the Chariton River and its tributaries have experienced road closures and damage to culverts and bridges. The increase in intense rainfall has also led to flash flooding, causing erosion of gravel roads, overwhelming local drainage infrastructure, and disrupting agricultural operations—one of the county’s primary economic drivers. These challenges place additional strain on emergency management and road maintenance resources.

Figure 3.6 illustrates the Annual Total Precipitation for Adair County compared to average.

Figure 3.6. U.S. Climate Resilience Toolkit- Annual Total Precipitation for Adair County



Source: <https://toolkit.climate.gov/tools/climate-explorer> Getting a feel for your future climate

Vulnerability

Vulnerability Overview

Flooding presents a danger to life and property, often resulting in injuries, and in some cases, fatalities. Floodwaters themselves can interact with hazardous materials. Hazardous materials stored in large containers could break loose or puncture as a result of flood activity. Examples are bulk propane tanks. When this happens, evacuation of citizens is necessary.

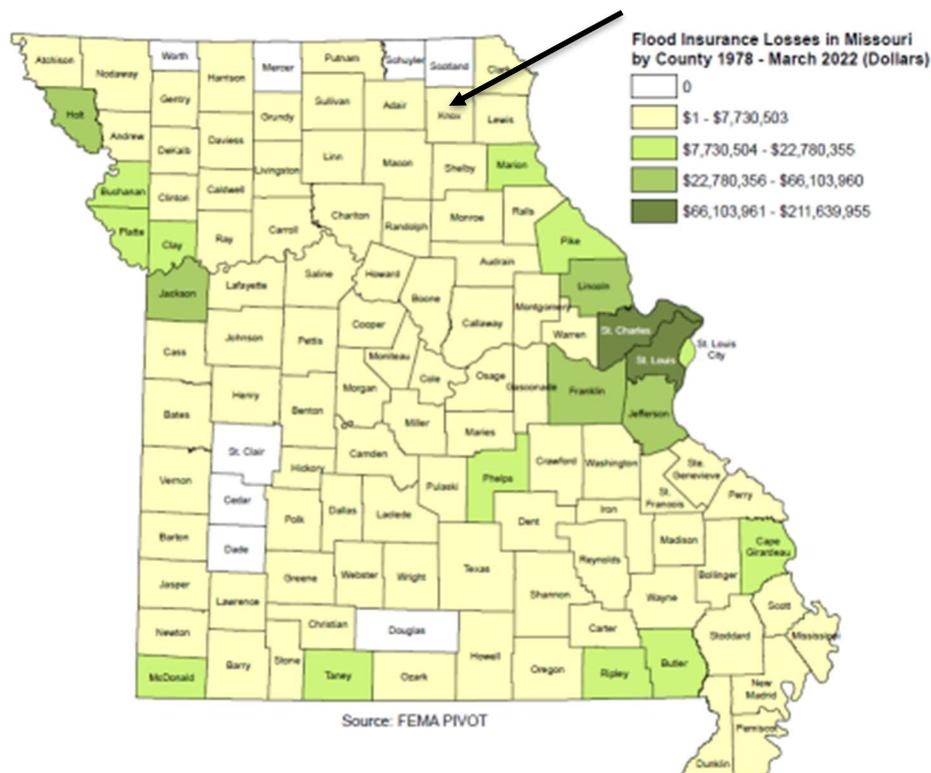
Public health concerns may result from flooding, requiring disease and injury surveillance. Community sanitation to evaluate flood-affected food supplies may also be necessary. Private water and sewage sanitation could be impacted, and vector control (for mosquitoes and other entomology concerns) may be necessary.

When roads and bridges are inundated by water, damage can occur as the water scours materials around bridge abutments and gravel roads. Floodwaters can also cause erosion undermining road beds. In some instances, steep slopes that are saturated with water may cause mud or rock slides onto roadways. These damages can cause costly repairs for state, county, and city road and bridge maintenance departments. When sewer back-up occurs, this can result in costly clean-up for home and business owners as well as present a health hazard.

According to the 2023 Missouri State Hazard Mitigation Plan, Adair County falls at the lower end of Flood Insurance Losses between \$ 1 - \$5,810,343 shown below in **Figure 3.7** below.

Figure 3.7.

Map of Dollars Paid Historically of Flood Insurance Losses in Missouri by County, 1978-March 2022



Source: 2023 Missouri State Hazard Mitigation Plan

Potential Losses to Existing Development

City of Kirksville

Kirksville faces moderate flood risk due to stormwater drainage issues and flash flooding. Damage in past events includes flooded basements, street closures, and infrastructure strain, particularly near Bear Creek and smaller tributaries. Flooding could disrupt government and medical functions and delay emergency response.

City of Novinger

Located near Spring Creek, Novinger has a history of flooding. Previous events have led to residential damage, washed-out roads, and erosion affecting critical access routes. The Adair County R-1 School, local fire station, and community buildings are all potentially vulnerable during severe rainfall events.

City of Brashear

Flooding threatens local homes and agricultural areas. Infrastructure losses could include damaged culverts, roads, and utility lines. Brashear School and municipal offices are susceptible to accessibility issues due to flooding.

Village of Millard

Situated in a low-lying area near tributaries of Bear Creek, Millard faces periodic flash flooding. Losses could include residential property damage and loss of access along Route V. Emergency

access routes are at risk.

Village of Gibbs

Gibbs is located near minor waterways and rural lowlands. Flash flooding could affect agricultural fields and transportation networks. Local roads and any community buildings, including rural fire department access, could be compromised by rising water or culvert failures.

Rural Unincorporated Areas

Rural parts of Adair County, especially along the Chariton River and small creeks, are vulnerable to overland flooding, damaging farmland, roads, and bridges. Bridge closures, rural fire stations, and agricultural operations are especially vulnerable, affecting both safety and economic activity.

School Districts

Kirksville R-III School District covers the city and surrounding areas. Vulnerable to localized flooding, which can disrupt bus routes, school access, and stormwater systems around school campuses.

Adair County R-1 School District (Novinger) is located near flood-prone creeks, which could impede transportation and limit school operations during major weather events.

Adair County R-II School District (Brashear) is located in a rural setting near the Salt River. Risks include stormwater runoff and road closures, potentially isolating the campus or delaying emergency services.

Impact of Previous and Future Development

Adair County's mix of urban, rural, and agricultural land has created varied flood risks. Historic land-use practices, including deforestation, drainage tiling, and field leveling, have altered natural hydrology and increased runoff into streams and low-lying areas. Many rural roads and older drainage structures were not designed for today's intense rainfall events and are vulnerable to overtopping or washout. Future development, particularly near the Chariton River and its tributaries, could exacerbate flash and riverine flooding if not carefully managed. Expansion in unincorporated areas should include stormwater design requirements to maintain natural drainage functions and avoid increasing runoff.

City of Kirksville

Urban growth and commercial development have increased impervious surfaces throughout Kirksville, leading to greater volumes of stormwater runoff. Localized flash flooding already affects some neighborhoods due to limited storm sewer capacity and aging drainage systems. Future development, especially in low-lying areas, could heighten flood risks if stormwater infrastructure is not expanded accordingly. Continued enforcement of floodplain regulations under the National Flood Insurance Program (NFIP) will help reduce exposure.

City of Novinger

Situated along Spring Creek, Novinger is prone to flooding, particularly during periods of prolonged rainfall. Previous development near the creek has placed homes and infrastructure in flood-susceptible areas. Future construction in or near the floodplain could increase the need for emergency response and infrastructure repairs. Without modern stormwater systems, additional development could worsen downstream flooding. Incorporating low-impact development practices and maintaining natural floodways will be important for resilience.

City of Brashear

Brashear is located in a rural setting near the Salt River, where both flash flooding and riverine flooding are possible. Past development has been limited, but increased building in low-lying areas or near drainage paths could lead to runoff-related issues. Flood mitigation strategies, such as improved culverts and surface water management, should be integrated into any expansion plans to avoid elevating flood risks.

Village of Millard

Millard lies in a low-lying area where stormwater has limited outlets, making it susceptible to ponding and flash flooding during heavy rainfall. As the community grows, new impervious surfaces from homes, driveways, and buildings could increase runoff. Since Millard lacks a robust drainage infrastructure, future development must include water management plans that prevent overload of natural drainageways or ditch systems.

Village of Gibbs

Gibbs is surrounded by agricultural land and minor creeks that can quickly flood during storms. Any additional development could impact drainage patterns, particularly if it reduces natural soil absorption. Flood risks could worsen if culverts and roadside ditches are not upgraded alongside new construction. Infrastructure planning should account for heavier rainfall events and potential runoff from nearby fields.

Rural Unincorporated Areas

Future development in rural Adair County may occur near rivers, creeks, or flood-prone roadways. Increased construction of homes, outbuildings, or small businesses—especially near unchanneled drainage areas—may intensify surface runoff. It is critical that development in these areas be guided by updated floodplain mapping, culvert sizing standards, and conservation-based site planning to avoid increasing flood hazards downstream.

Kirksville R-III School District

As the district grows, future facilities or expansions should include comprehensive stormwater management. Additional impervious surfaces could contribute to localized flooding around school buildings or on access roads, affecting transportation and student safety. Emergency planning should integrate flood scenarios to ensure continuity of operations.

Adair County R-1 School District (Novinger)

The district is located near creeks that may flood during extreme weather. Any future development of school buildings, athletic facilities, or parking lots could increase runoff and should be paired with adequate stormwater detention. Access roads, especially those in rural or flood-prone areas, may need upgrades to maintain safe student transportation during storms.

Adair County R-II School District (Brashear)

Given its rural location, any future development could impact water flow across open land. The addition of impervious surfaces must be counterbalanced with proper ditching, grading, and culvert improvements. Flood risks to the school could be worsened without strategic planning for stormwater control.

Hazard Summary by Jurisdiction

Vulnerability to flooding varies significantly by jurisdiction across Adair County due to differences in topography, development patterns, and proximity to waterways. Communities located near the Chariton River and other tributaries experience a higher flood risk. Based on floodplain mapping referenced in the “Geographic Location” section and events summarized in **Table 3.15**, jurisdictions such as Novinger, Kirksville, and portions of rural Adair County face higher potential for flood-related damage.

Populations and assets at risk include residential structures in low-lying areas, critical infrastructure (e.g., roads, utilities), emergency services, and school facilities. Flash flooding from intense rainfall and insufficient drainage is a recurring hazard for all areas, particularly where infrastructure is outdated or natural drainage paths have been altered.

City of Kirksville

Kirksville, the largest city in Adair County, contains dense residential, commercial, and institutional development, making it vulnerable to localized flash flooding. The floodplain maps show moderate risk along Bear Creek and Steer Creek, which runs through the southern part of the city.

Assets at Risk:

- Residential neighborhoods near Bear Creek, Steer Creek, and tributaries
- Downtown and municipal infrastructure
- Health facilities and emergency response centers

Kirksville’s vulnerability is elevated by aging stormwater infrastructure and increasing impervious surface area due to development.

City of Novinger

Novinger is located in a flood-prone area along Spring Creek, which has overtopped in past flood events. The community has limited infrastructure, and several homes are situated within or adjacent to the mapped floodplain.

Assets at Risk:

- Residential homes in the floodplain
- Roads providing access to emergency services

Novinger is one of the most vulnerable communities in the county due to its location, infrastructure limitations, and past history of flooding.

City of Brashear

Brashear lies near the Salt River, and while it is smaller and less developed, it is still susceptible to riverine flooding.

Assets at Risk:

- Homes and roads along low-lying areas
- Limited emergency access and response capacity

Flooding in Brashear can cut off access to main roads, affecting emergency response and school operations.

Village of Millard

Millard is a small village located south of Kirksville in a low-lying area with limited drainage infrastructure.

Assets at Risk:

- Residential homes and rural roads
- Culverts and ditches that are undersized for high-volume events

Due to its location and topography, Millard is at risk of flash flooding during heavy rainfall events.

Village of Gibbs

Gibbs is located near smaller tributaries and rural lands prone to flash flooding.

Assets at Risk:

- Farmsteads and residential structures
- Rural roads that may be inaccessible during flood events
- Local emergency services with limited access routes

While the floodplain area is less extensive, poor drainage infrastructure elevates the community's vulnerability.

Unincorporated Adair County

Large portions of unincorporated Adair County lie within the Chariton River floodplain or in low-lying agricultural areas. Flash flooding is also common due to altered drainage from farmland and tiling systems.

Assets at Risk:

- Rural homes, barns, and silos
- Roads and bridges, particularly low-water crossings
- Agricultural infrastructure
- Small rural fire departments and access roads

The rural nature of the area increases response times and recovery challenges after flood events.

Kirksville R-III School District

Covers much of the city and nearby areas. While not located entirely in mapped floodplains, stormwater drainage issues pose risks to student transportation and facility access.

Assets at Risk:

- Main campuses in or near flood-prone zones
- Bus routes through low-lying rural roads

The district should address runoff and flooding in school planning and emergency protocols.

Adair County R-1 School District (Novinger)

Located in a community with documented flood risk, the district is susceptible to flooding from nearby creeks.

Assets at Risk:

- The school campus and athletic facilities
- Emergency access routes and road closures during events

Mitigation measures may be necessary for continued operation and student safety.

Adair County R-II School District (Brashear)

Serving rural eastern Adair County, the school may face access issues during flood events due to proximity to waterways and limited road infrastructure.

Assets at Risk:

- School access roads subject to water accumulation
- On-site facilities with limited flood defenses

Problem Statement

Local governments should make a strong effort to improve emergency warning systems to ensure future deaths and injuries do not occur. Local governments should consider making improvements to roads and low water crossings that consistently flood by placing them on a hazard mitigation projects list and actively seek funding to successfully complete the projects.

3.4.2 Dam Failure

Hazard Profile

Hazard Description

A dam is defined as a barrier constructed across a watercourse for the purpose of storage, control, or diversion of water. Dams are typically constructed of earth, rock, concrete, or mine tailings. Dam failure is the uncontrolled release of impounded water resulting in downstream flooding, affecting both life and property. Dam failure can be caused by any of the following:

1. Overtopping: Inadequate spillway design, debris blockage of spillways or settlement of the dam crest.
2. Piping: Internal erosion caused by embankment leakage, foundation leakage and deterioration of pertinent structures appended to the dam.
3. Erosion: Inadequate spillway capacity causing overtopping of the dam, flow erosion, and inadequate slope protection.
4. Structural Failure: Caused by an earthquake, slope instability or faulty construction.

The following tables include information about the dam classification systems under both the Missouri Department of Natural Resources (MoDNR) and the National Inventory of Dams (NID), which differ.

Table 3.22. MoDNR Dam Hazard Classification Definitions

Hazard Class	Definition
Class I	Contains 10 or more permanent dwellings or any public building.
Class II	Contains 1 to 9 permanent dwellings or 1 or more campgrounds with permanent water, sewer, and electrical services or 1 or more industrial buildings.
Class III	Everything else.

Source: Missouri Department of Natural Resources, <https://dnr.mo.gov/document-search/frequently-asked-dam-reservoir-questions-pub1351/pub1351>

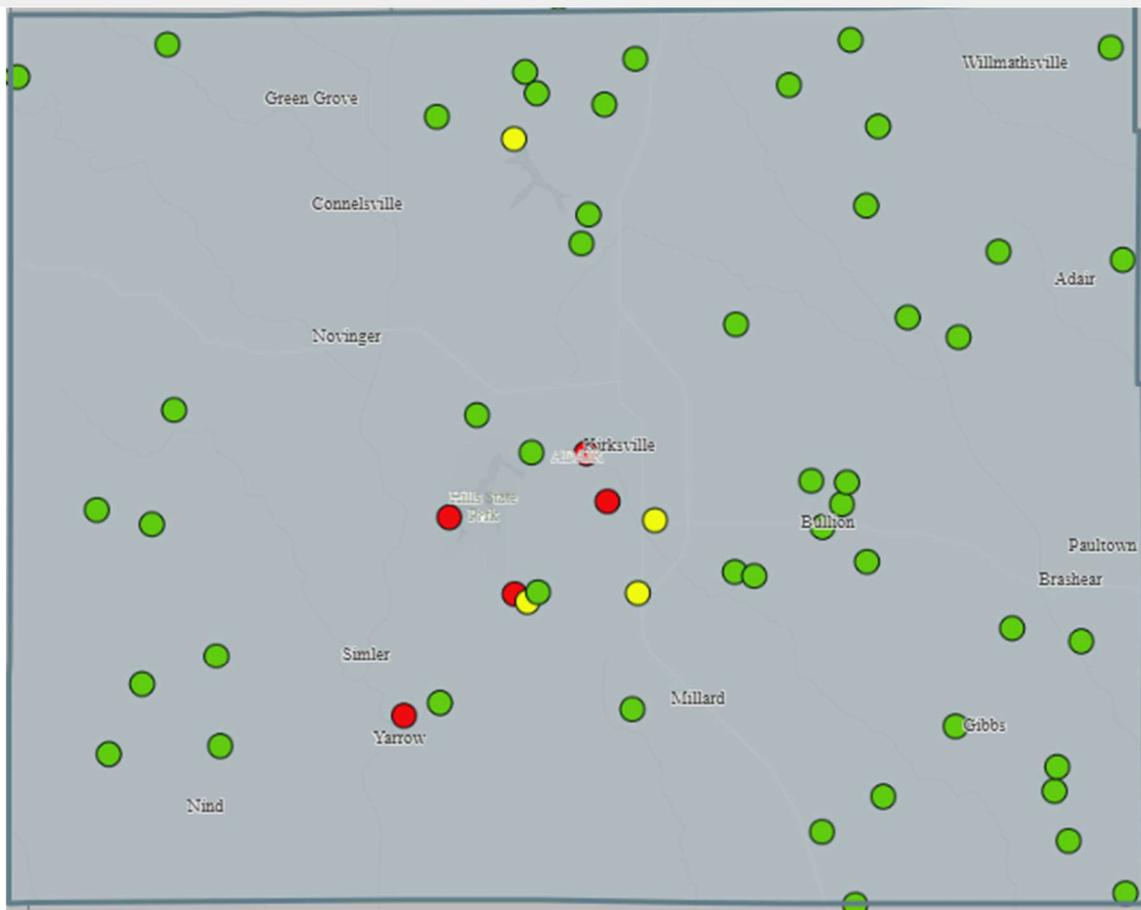
Table 3.23. NID Dam Hazard Classification Definitions

Hazard Class	Definition
Low Hazard	A dam located in an area where failure could damage only farm or other uninhabited buildings, agricultural or undeveloped land including hiking trails or traffic on low volume roads that meet the requirements for low hazard dams.
Significant Hazard	A dam located in an area where failure could endanger a few lives, damage an isolated home, damage traffic on moderate volume roads that meet certain requirements, damage low-volume railroad tracks, interrupt the use or service of a utility serving a small number of customers, or inundate recreation facilities, including campground areas, intermittently used for sleeping and serving a relatively small number of persons.
High Hazard	A dam located in an area where failure could result in any of the following: extensive loss of life damage to more than one home, damage to industrial or commercial facilities, interruption of a public utility serving a large number of customers, damage to traffic on high-volume roads that meet the requirements for hazard class C dams or a high-volume railroad line, inundation of a frequently used recreation facility serving a relatively large number of persons, or two or more individual hazards described for significant hazard dams.

Source: National Inventory of Dams

Figure 3.8. Dams by Classification in Adair County

56 Total Dams **38 years** Average Dam Age **20%** High Hazard Potential Dams with an EAP **0%** Federally Regulated Dams
0% Dams with Hydropower **7%** State-Regulated Dams



Source: [National Inventory of Dams](#)

Geographic Location

Dams Located Within the Planning Area

There are 56 dams are located inside the county boundaries, with 5 dams designated as high hazard dams according to both the NID and the MoDNR data. There are 4 significant hazard dams, and 47 low hazard dams. There are no dams owned and operated by the United States Army Corps of Engineers (USACE).

(Table 3.24) provides the names, locations, and other pertinent information for all high hazard dams in the planning area. Cite sources and define terms in the table such as “acre-feet.”

Table 3.24. High Hazard Dams in the Adair County Planning Area

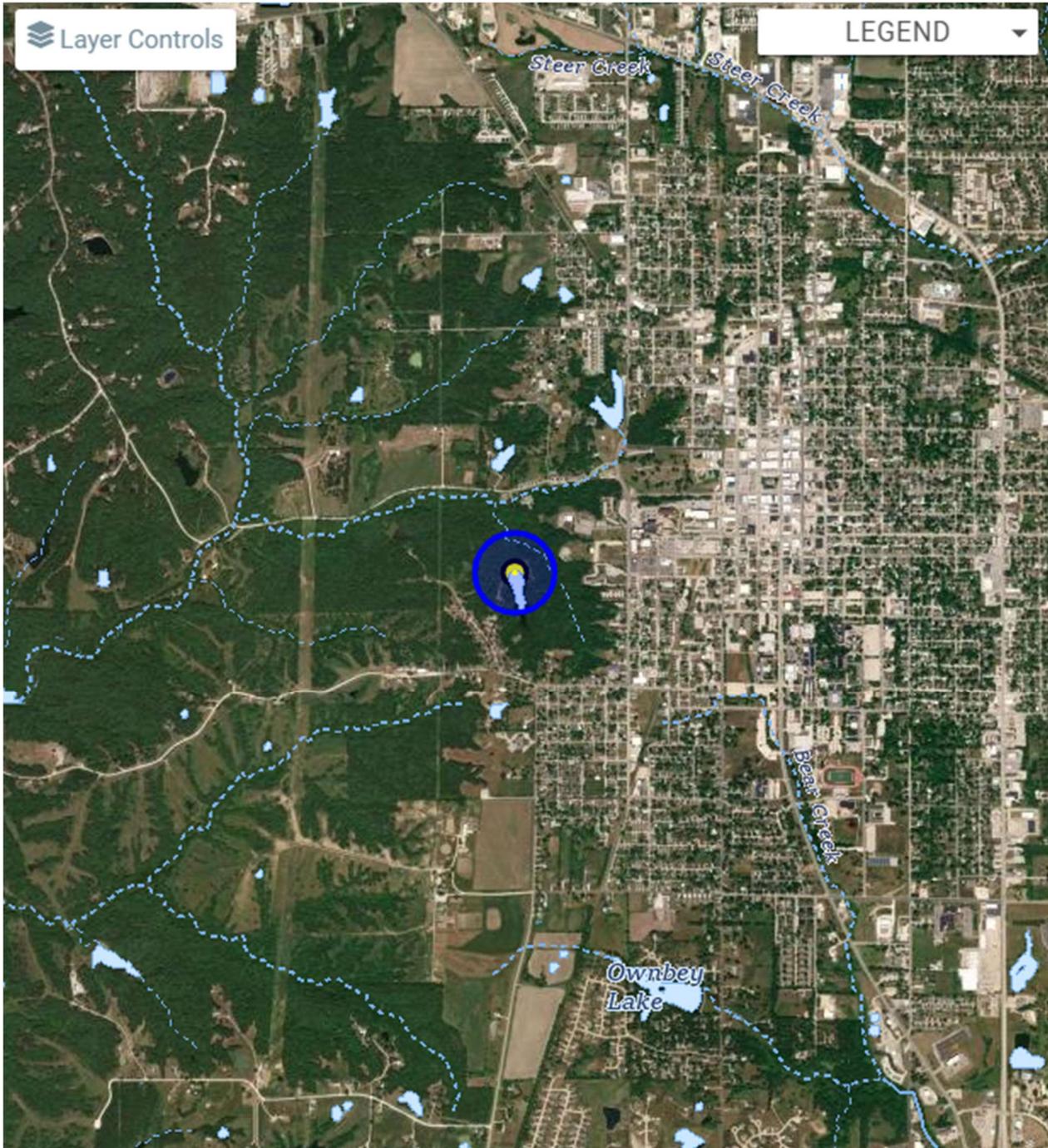
Dam Name	Emergency Action Plan (EAP/AP)	Dam Height (Ft)	Normal Storage (Acre-Ft)	Last Inspection Date	River	Nearest Downstream City	Distance To Nearest City (Miles)	Dam Owner
Denslow Lake Dam	NR	25	40	-	TR-Chariton	Kirksville	1	J S Denslow
Garret Lake Dam	NR	25	107	-	TR Bear Creek	Kirksville	1	Garret Lake Home Owners
Jayne Lake Dam	NR	30	126	-	TR-Gill Branch-Big Creek	Yarrow	10	Edward R Jayne
Spring Lake Dam	NR	25	936	8/22/1979	Elm Creek	Yarrow	1	Spring Lake Inc.
Forest Lake Dam	NR	66	15,961	3/9/2022	Chariton River	Kirksville	1	City of Kirksville

Sources: Missouri Department of Natural Resources GIS, <https://gis-modnr.opendata.arcgis.com/pages/dnr-missouri-geological-survey> and National Inventory of Dams, <https://nid.sec.usace.army.mil/#/>.

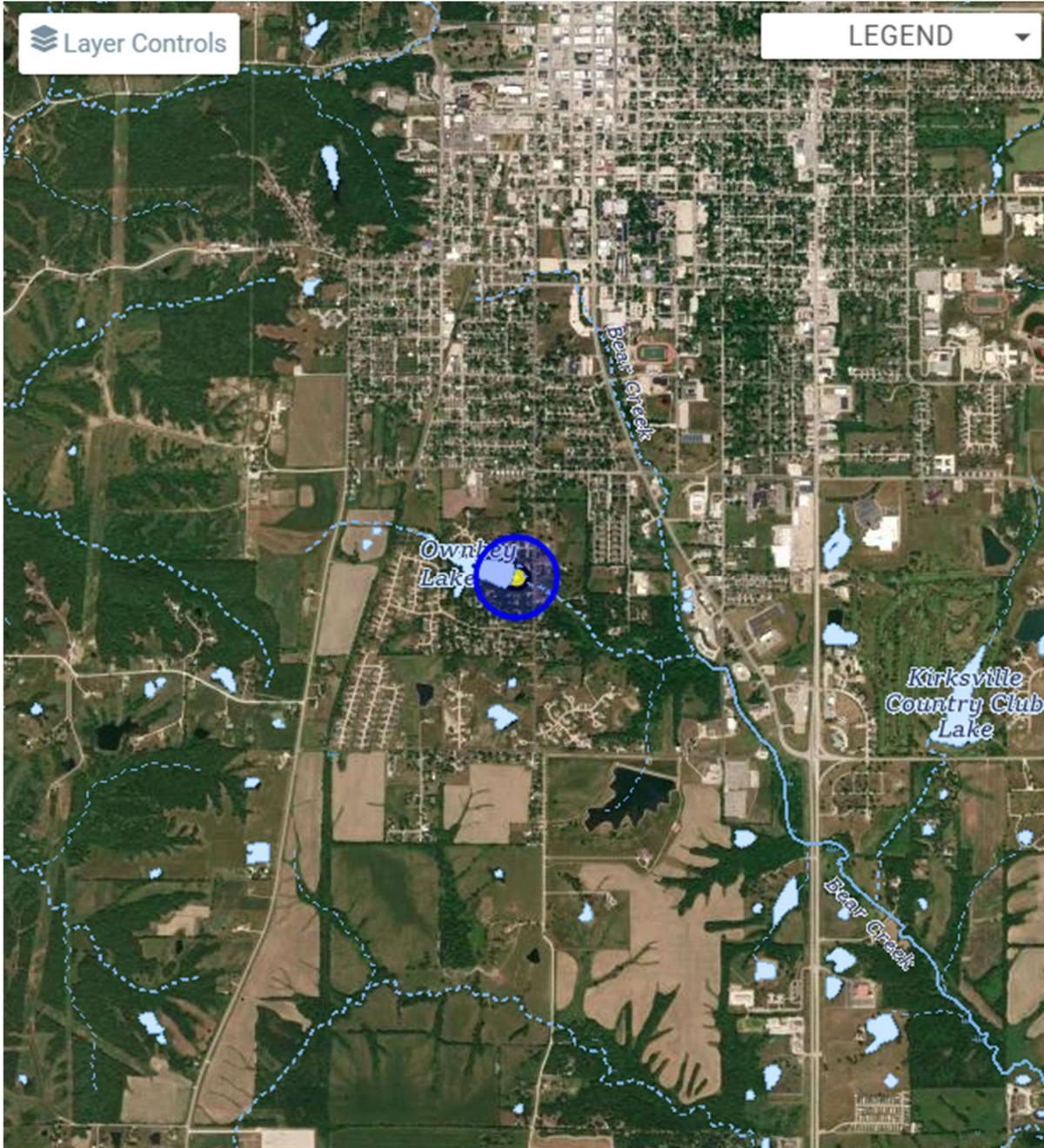
(Error! Reference source not found.9) provides the locations of NID high hazard dams located in the planning area.

Figure 3.9. High Hazard Dam Locations in Adair County and Areas Impacted in the Event of Breach.

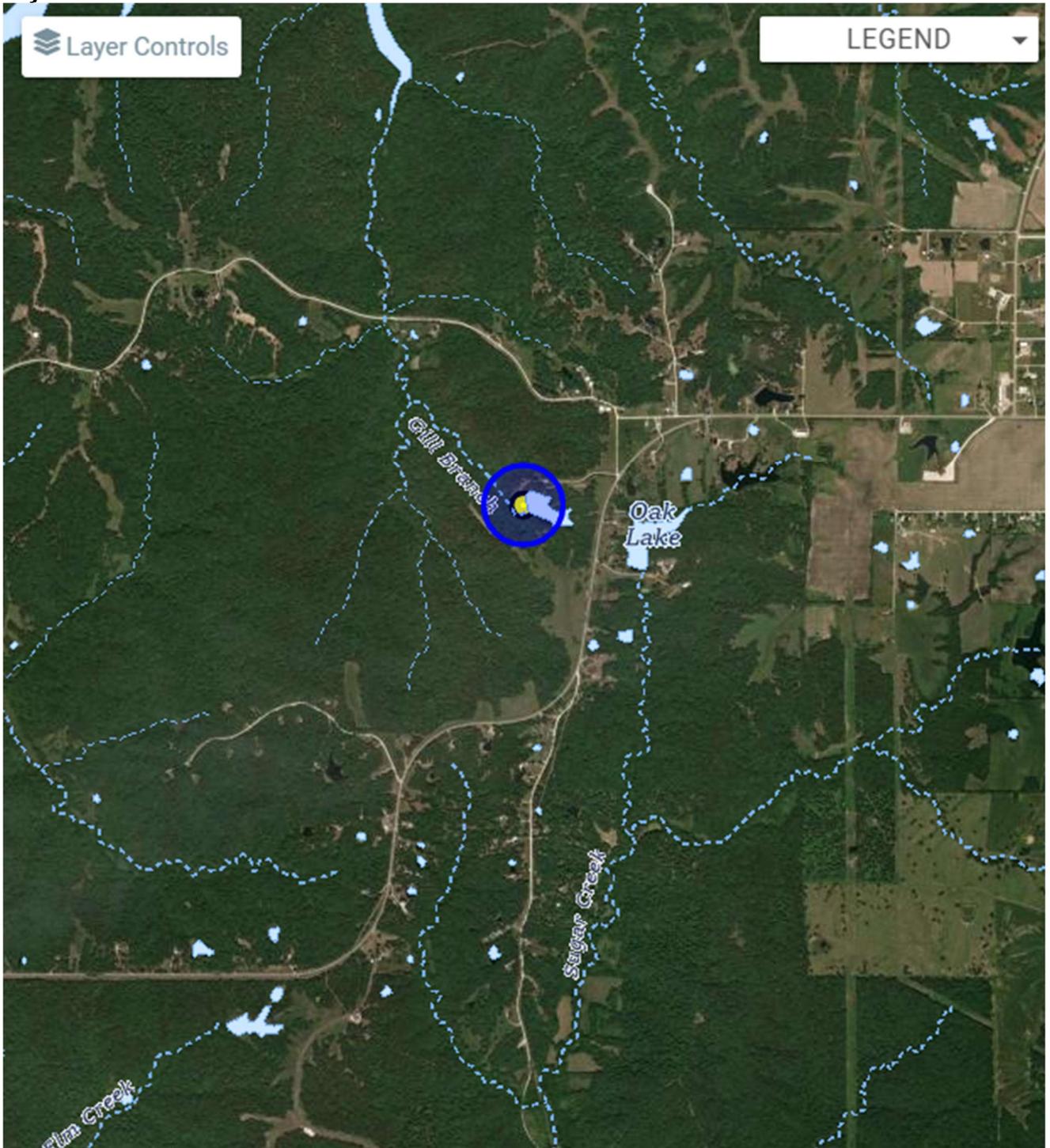
Denslow Lake Dam



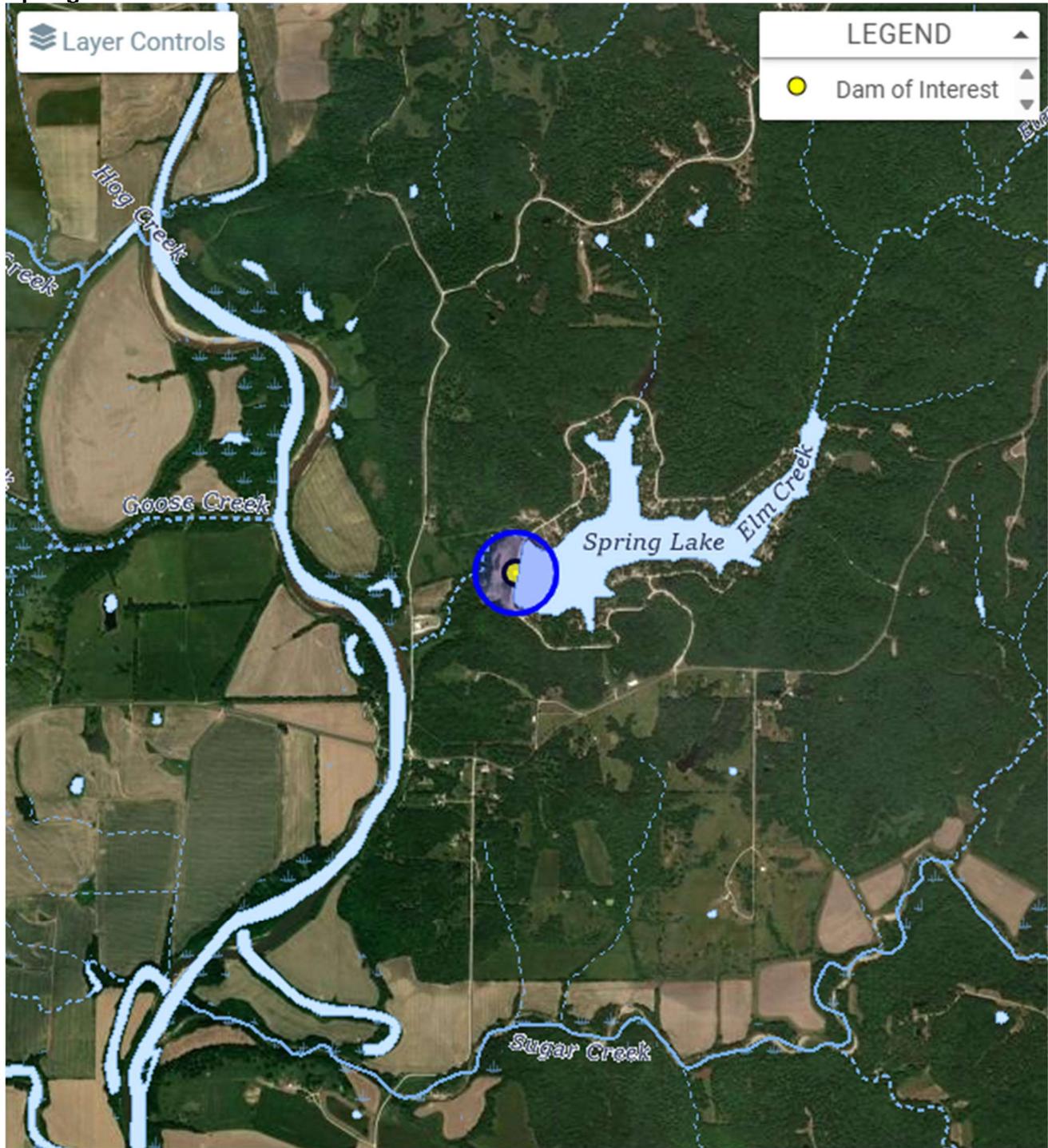
Garrett Lake Dam



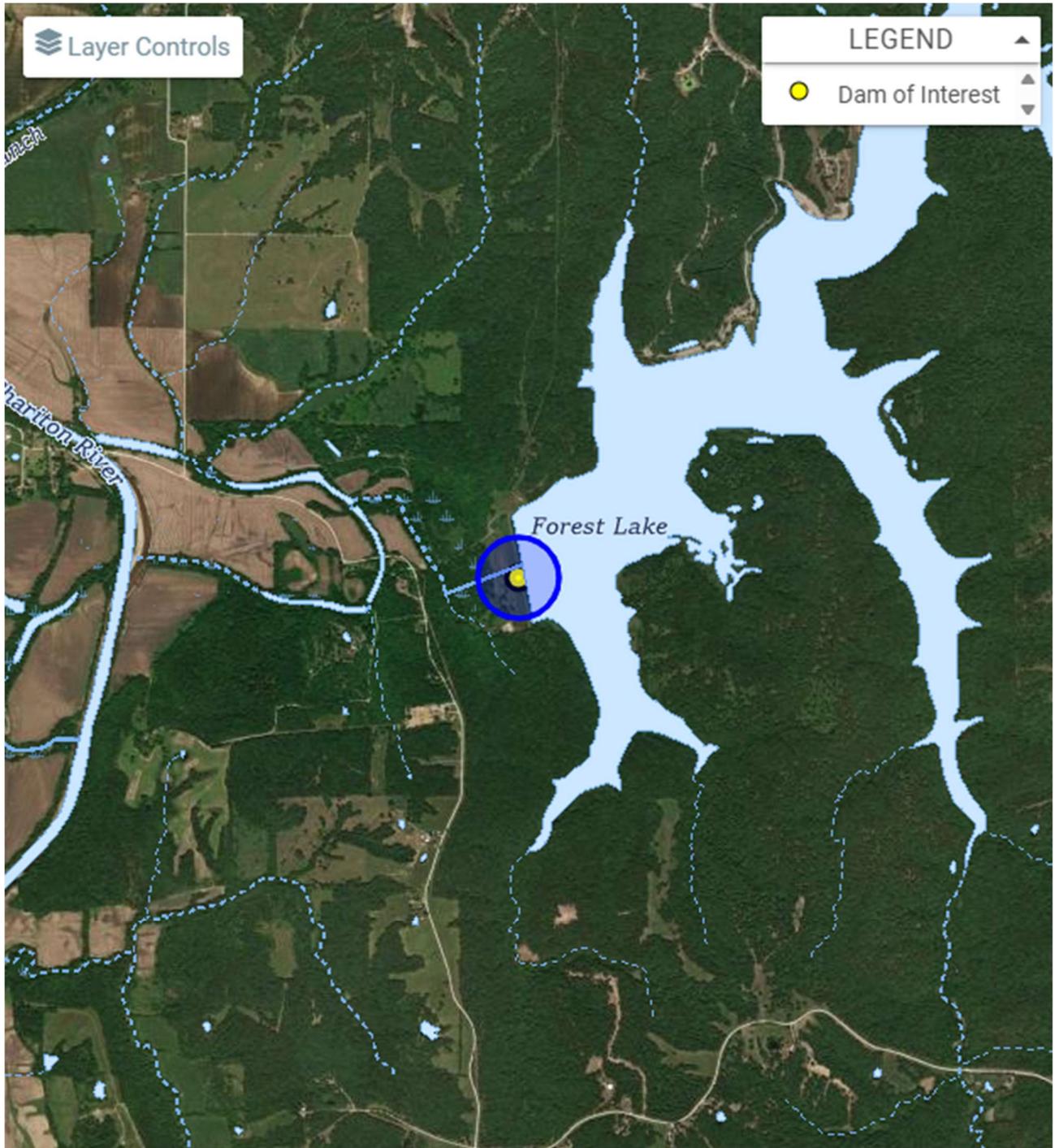
Jayne Lake Dam



Spring Lake Dam

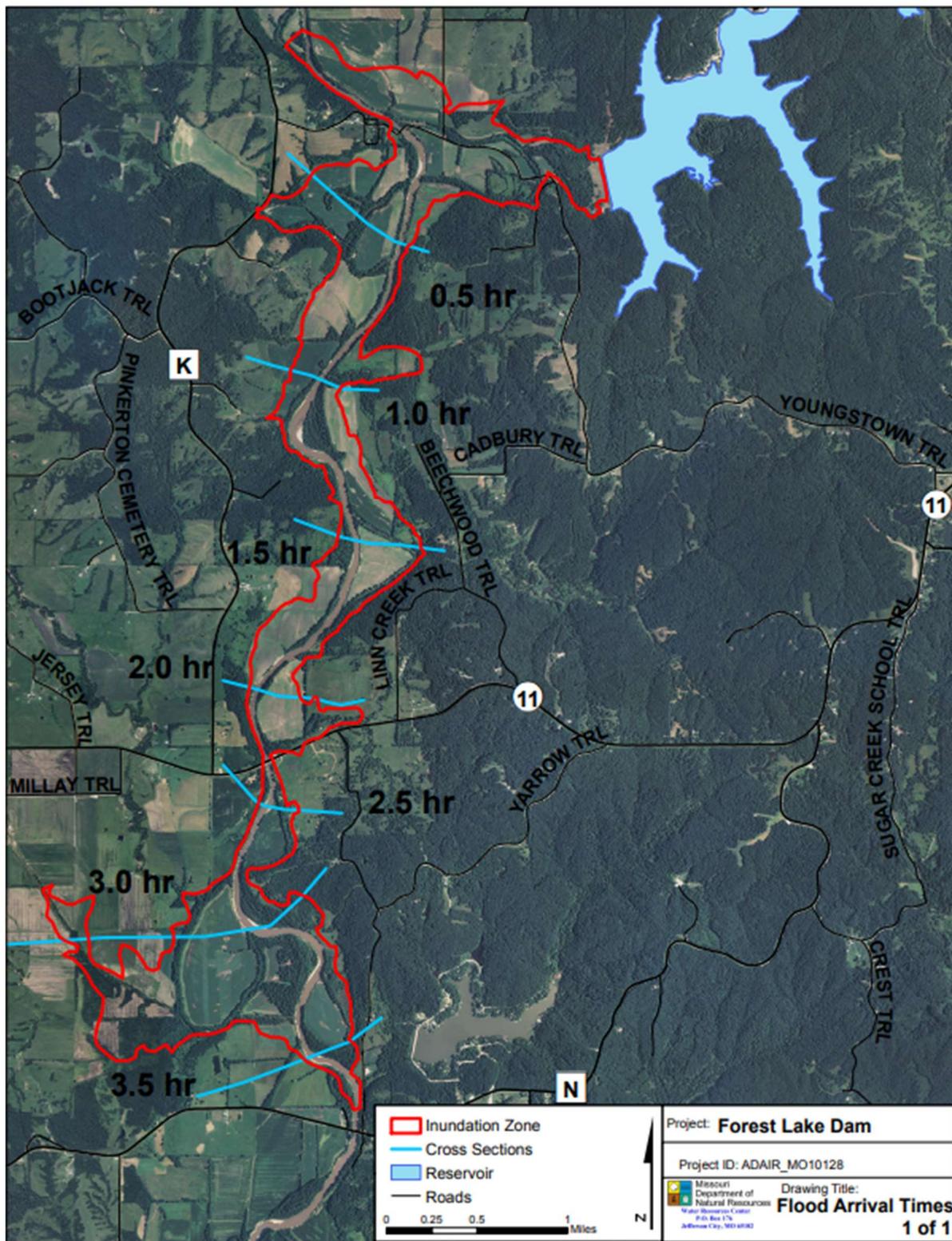


Forest Lake Dam



Source: [National Inventory of Dams](#)

Figure 3.10. Inundation Map for Forest Lake Dam



Source: MO DNR

Upstream Dams Outside the Planning Area

The Missouri Department of Natural Resources was consulted to see if dams located outside of the county would impact Adair County in the event of a failure. It was determined that there are no upstream dams that would place Adair County in danger.

Strength/Magnitude/Extent

The strength/magnitude of dam failure would be similar in some cases to the impacts associated with flood events (see the flood hazard vulnerability analysis and discussion). Based on the hazard class definitions, failure of any of the High Hazard/Class I dams could result in a serious threat of loss of human life, serious damage to residential, industrial or commercial areas, public utilities, public buildings, or major transportation facilities. Catastrophic failure of any high hazard dams has the potential to result in greater destruction due to the potential speed of onset and greater depth, extent and velocity of flooding. Note that for this reason, dam failures could flood areas outside of mapped flood hazards. Dam classifications are based on the downstream impacts, not the condition of the dam.

Previous Occurrences

To determine previous occurrences of dam failure within the planning area, the Adair County Missouri Natural Hazard Mitigation Plan was consulted, as well as the 2023 Missouri State Hazard Mitigation Plan, and the Stanford University's National Performance of Dams Program (<http://npdp.stanford.edu>). No record of dam failure within Adair County boundaries was found.

Probability of Future Occurrence

There are two factors that can impact dam failure; regulation and inspection. Regulation requires regular inspections which can determine issues that contribute to failure. Of the 5 High Hazard dams in the county, only one receives regular inspections and has an Emergency Action Plan. The impact of regular inspection and maintenance significantly reduces the probability of dam failure. Based on the number of high hazard dams in the planning area and no record of previous occurrences, the probability of future occurrences is 0% or low. Without any occurrence of dam failure, this cannot be accurately quantitatively defined.

Changing Future Conditions Considerations

According to the 2023 Missouri State Hazard Mitigation Plan, studies have been conducted to investigate the impact of climate change scenarios on dam safety. Dam failure is already tied to flooding and the increased pressure flooding places on dams. The impacts of changing future conditions on dam failure will most likely be those related to changes in precipitation and flood likelihood. Changing future conditions projections suggest that precipitation may increase and occur in more extreme events, which may increase risk of flooding, putting stress on dams and increasing likelihood of dam failure.

The safety of dams for the future climate can be based on an evaluation of changes in design floods and the freeboard available to accommodate an increase in flood levels. The results from the studies indicate that the design floods with the corresponding outflow floods and flood water levels will increase in the future, and this increase will affect the safety of the dams in the future. Studies concluded that the total hydrological failure probability of a dam will increase in the future climate and that the extent and depth of flood waters will increase by the future dam break scenario.

Figure 3.11 below shows an increasing trend in precipitation totals for Adair County.

Figure 3.11. Adair County Precipitation Totals



Source: <https://toolkit.climate.gov/tools/climate-explorer>

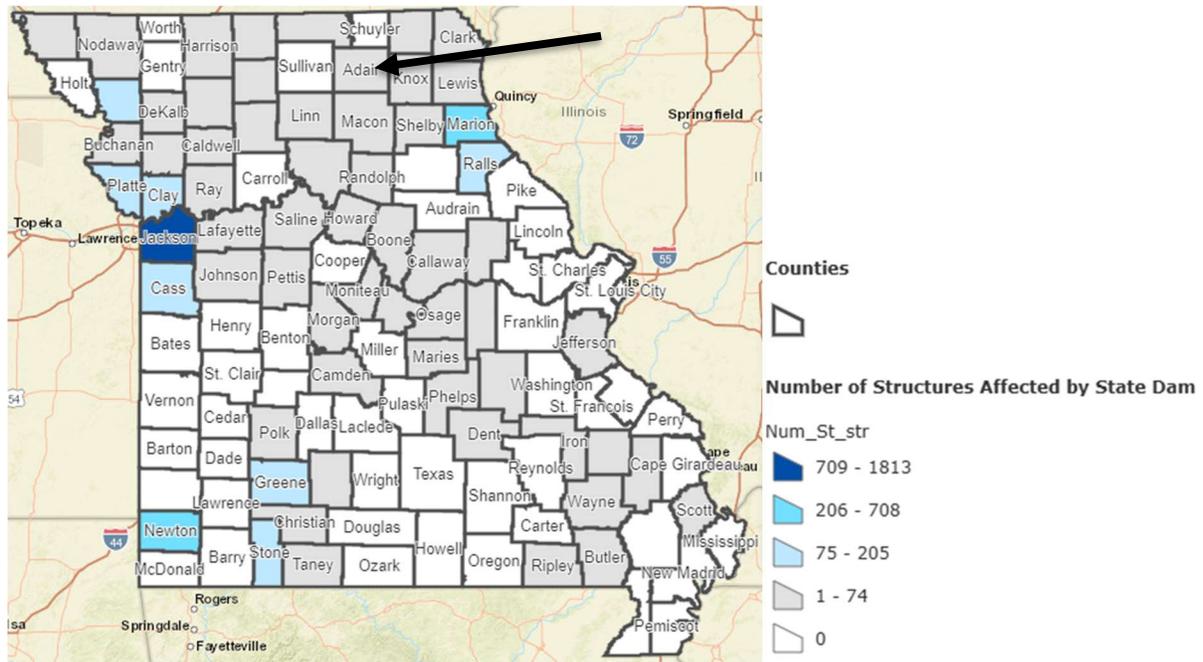
Vulnerability

Vulnerability Overview

Vulnerability to dam failure is a factor due to the multiple dams in the planning area, including 5 High Hazard Dams, indicating the loss of life is possible in the event of a failure. Neighboring communities are also at risk if they are downstream from a dam. Forest Lake Dam is located 1 mile from Kirksville and, if compromised, would affect a portion of the community. The planning committee chose only to address the high hazard dams within the planning area due to the pre-determined risk associated with these dams.

Figure 3.12 below shows that Adair County has between 1 and 74 structures affected by a state dam.

Figure 3.12. Number of Structures Affected by State Dam in Adair County



Source: 2023 Missouri State Hazard Mitigation Plan

**Potential Losses to Existing Development:
(including types and numbers, of buildings, critical facilities, etc.)**

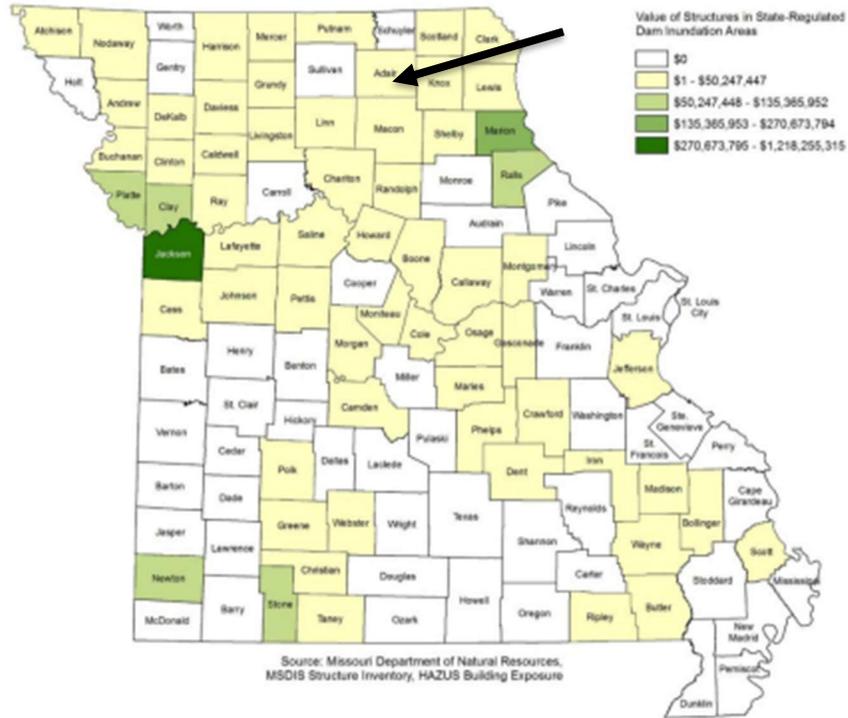
According to the 2023 Missouri State Hazard Mitigation Plan, if state-regulated dams were breached in Adair County it could result in two facilities with damage with as estimated value of \$36,278 as shown in **Figure 3.13** below. **Figure 3.14** shows the value of structures in state-regulated dam inundation areas placing Adair County in the \$1-\$50,247,447 range. **Figure 3.15** illustrates the population affected by dams in the planning area with Adair County in the 0-23 range.

Figure 3.13. Number and Value of Structures in State-Regulated Dam Inundation Areas in Adair County

County	# of State-Owned Facilities	# of Critical State-Owned Facilities	Value of Structures
Adair	2	0	\$36,278

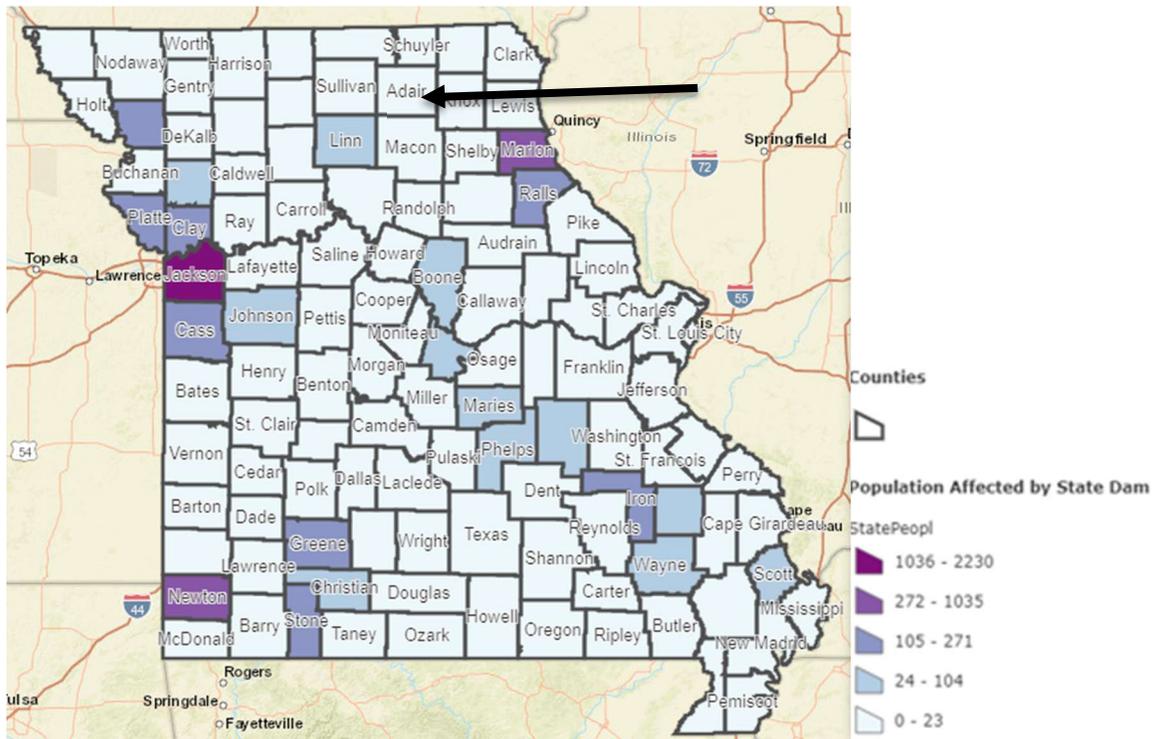
Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.14. Value of Structures in State-Regulated Dam Inundation Areas for Adair County



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.15. Population Affected by Dams in Adair County



Source: 2023 Missouri State Hazard Mitigation Plan

Impact of Previous and Future Development

There is no evidence of development within the inundation areas of a dam within the Adair County planning area.

Hazard Summary by Jurisdiction

The vast majority of Adair County is not in danger of being inundated due to a breach in a dam. No further analysis of dam failure will be conducted for this plan update. Less than 10 properties will be impacted in the unincorporated areas if a dam breach occurs. It will be helpful for residents near the high hazard dams to be familiar with the dam's Emergency Action Plan (EAP), if one exists, and work closely with County EMD.

Problem Statement

Some entities in Adair County that own and control dams do not properly inspect and maintain them to ensure safety of people and property that lie within the inundation area of a dam breach. Possible solutions include the development of a regular maintenance schedule, identification of qualified staff or consultants to assist with inspection and identification of potential problems, and education of residents on existing Emergency Action Plans.

3.4.3 Earthquakes

Hazard Profile

Hazard Description

An earthquake is a sudden motion or trembling that is caused by a release of energy accumulated within or along the edge of the earth's tectonic plates. Earthquakes occur primarily along fault zones and tears in the earth's crust. Along these faults and tears in the crust, stresses can build until one side of the fault slips, generating compressive and shear energy that produces the shaking and damage to the built environment. Heaviest damage generally occurs nearest the earthquake epicenter, which is that point on the earth's surface directly above the point of fault movement. The composition of geologic materials between these points is a major factor in transmitting the energy to buildings and other structures on the earth's surface.

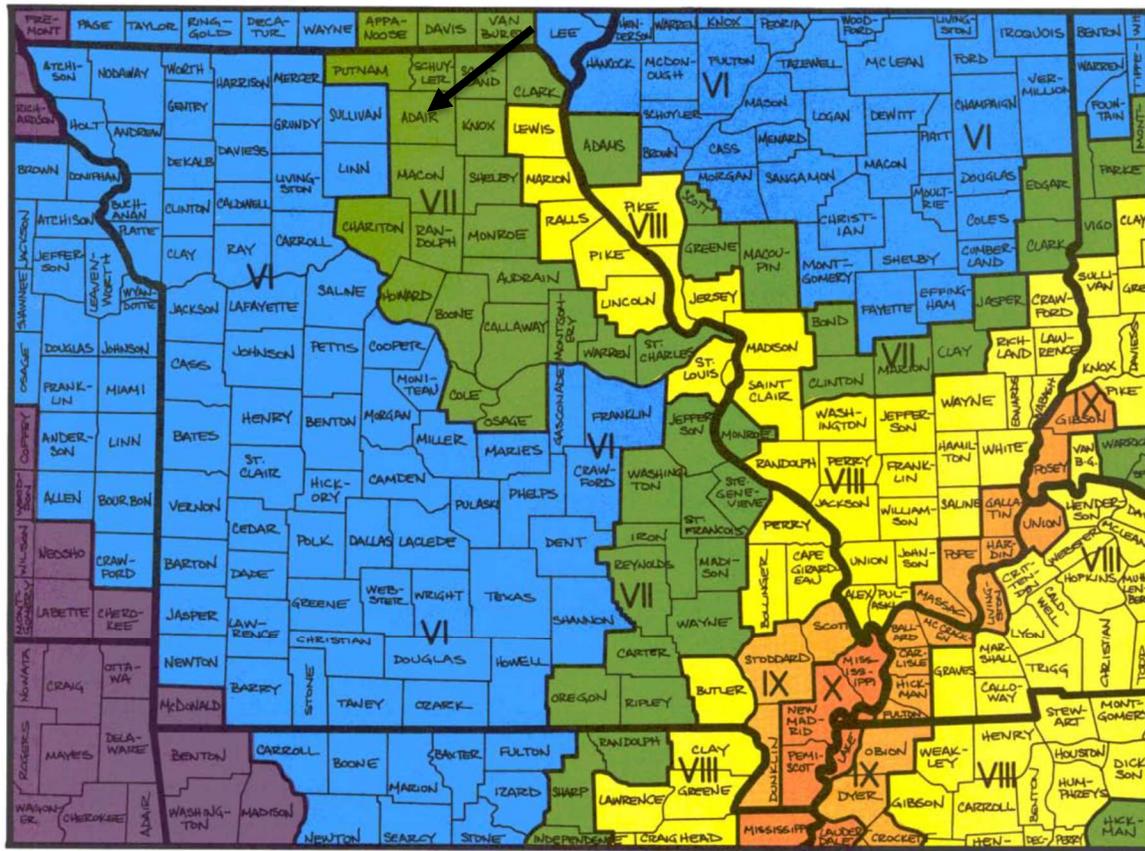
Some earthquakes occur in the middle of plates, as is the case for seismic zones in the Midwestern United States. The most seismically active area in the Midwest is the New Madrid Seismic Zone. The possibility of the occurrence of a catastrophic earthquake in the central and Eastern United States is real as evidenced by history. The impacts of significant earthquakes affect large areas, terminating public services and systems needed to aid the suffering and displaced. As with hurricanes, mass relocation may be necessary, but the residents who are suffering from the earthquake can neither leave the heavily impacted areas nor receive aid or even communication in the aftermath of a significant event.

Geographic Location

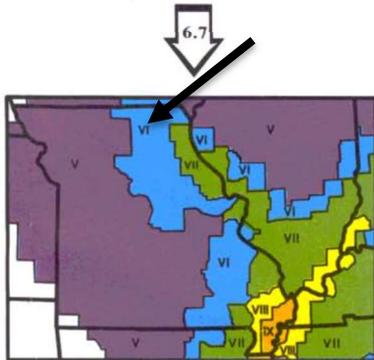
Seismic activity on the New Madrid Seismic Zone of Southeastern Missouri is very significant both historically and at present. On December 16, 1811 and January 23 and February 7 of 1812, three earthquakes struck the central United States with magnitudes estimated to be 7.5-8.0. These earthquakes caused violent ground cracking and volcano-like eruptions of sediment (sand blows) over an area of >10,500 km² and uplift of a 50 km by 23 km some (the Lake County uplift). The shaking was felt over a total area of over 10 million km² (the largest felt area of any historical earthquake). Of all the historical earthquakes that have occurred in the United States, an 1811-style event would do the most damage if it reoccurred today. If an 1811 earthquake occurred in Adair County the earthquake intensity would not vary within the county. Damage would be to buildings of good design and construction, slight to moderate in well-built ordinary structures; considerable damage in poorly built or badly designed structures and some chimneys broken.

The following SEMA map (**Figure 3.1616**) shows the highest projected Modified Mercalli intensities by county from a potential magnitude 7.6 earthquake whose epicenter could be anywhere along the length of the New Madrid Seismic Zone. Adair County is shown in the green area, which is defined in **Figure 3.17**. The secondary maps in **Figure 3.1616** show the same regional intensities for 6.7 and 8.6 earthquake, respectively.

Figure 3.16. Impact Zones for Earthquake Along the New Madrid Fault

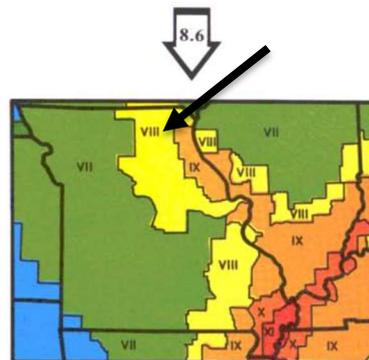


This map shows the highest projected Modified Mercalli intensities by county from a potential magnitude - 7.6 earthquake whose epicenter could be anywhere along the length of the New Madrid seismic zone.



This map shows the highest projected Modified Mercalli intensities by county from a potential magnitude - 6.7 earthquake whose epicenter could be anywhere along the length of the New Madrid seismic zone.

This map shows the highest projected Modified Mercalli intensities by county from a potential magnitude - 8.6 earthquake whose epicenter could be anywhere along the length of the New Madrid seismic zone.



Source: https://sema.dps.mo.gov/docs/EQ_Map.pdf

Figure 3.17. Projected Earthquake Intensities

MODIFIED MERCALLI INTENSITY SCALE

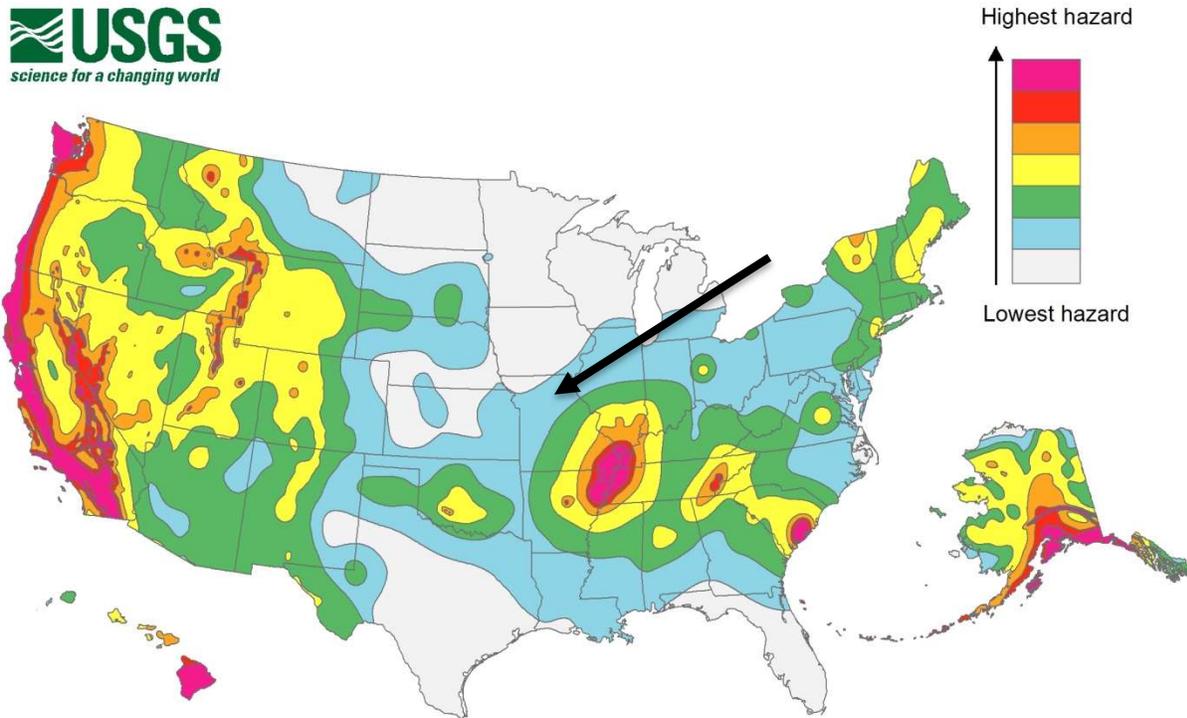
I	People do not feel any Earth movement.	IX	Most buildings suffer damage. Houses that are not bolted down move off their foundations. Some underground pipes are broken. The ground cracks conspicuously. Reservoirs suffer severe damage.
II	A few people might notice movement.	X	Well-built wooden structures are severely damaged and some destroyed. Most masonry and frame structures are destroyed, including their foundations. Some bridges are destroyed. Dams are seriously damaged. Large landslides occur. Water is thrown on the banks of canals, rivers, and lakes. Railroad tracks are bent slightly. Cracks are opened in cement pavements and asphalt road surfaces.
III	Many people indoors feel movement. Hanging objects swing.	XI	Few if any masonry structures remain standing. Large, well-built bridges are destroyed. Wood frame structures are severely damaged, especially near epicenters. Buried pipelines are rendered completely useless. Railroad tracks are badly bent. Water mixed with sand, and mud is ejected in large amounts.
IV	Most people indoors feel movement. Dishes, windows, and doors rattle. Walls and frames of structures creak. Liquids in open vessels are slightly disturbed. Parked cars rock.	XII	Damage is total, and nearly all works of construction are damaged greatly or destroyed. Objects are thrown into the air. The ground moves in waves or ripples. Large amounts of rock may move. Lakes are dammed, waterfalls formed and rivers are deflected.
V	Almost everyone feels movement. Most people are awakened. Doors swing open or closed. Dishes are broken. Pictures on the wall move. Windows crack in some cases. Small objects move or are turned over. Liquids might spill out of open containers.		
VI	Everyone feels movement. Poorly built buildings are damaged slightly. Considerable quantities of dishes and glassware, and some windows are broken. People have trouble walking. Pictures fall off walls. Objects fall from shelves. Plaster in walls might crack. Some furniture is overturned. Small bells in churches, chapels and schools ring.		
VII	People have difficulty standing. Considerable damage in poorly built or badly designed buildings, adobe houses, old walls, spires and others. Damage is slight to moderate in well-built buildings. Numerous windows are broken. Weak chimneys break at roof lines. Cornices from towers and high buildings fall. Loose bricks fall from buildings. Heavy furniture is overturned and damaged. Some sand and gravel stream banks cave in.		
VIII	Drivers have trouble steering. Poorly built structures suffer severe damage. Ordinary substantial buildings partially collapse. Damage slight in structures especially built to withstand earthquakes. Tree branches break. Houses not bolted down might shift on their foundations. Tall structures such as towers and chimneys might twist and fall. Temporary or permanent changes in springs and wells. Sand and mud is ejected in small amounts.		

Intensity is a numerical index describing the effects of an earthquake on the surface of the Earth, on man, and on structures built by man. The intensities shown in these maps are the highest likely under the most adverse geologic conditions. There will actually be a range in intensities within any small area such as a town or county, with the highest intensity generally occurring at only a few sites. Earthquakes of all three magnitudes represented in these maps occurred during the 1811 - 1812 "New Madrid earthquakes." The isoseismal patterns shown here, however, were simulated based on actual patterns of somewhat smaller but damaging earthquakes that occurred in the New Madrid seismic zone in 1843 and 1895.

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JEFFERSON CITY, MO 65102
Telephone: 573-526-9100

(Figure 3.1818) illustrates seismicity in the United States with the location of the planning area indicated by the arrow.

Figure 3.18. United States Seismic Hazard Map



Source: United States Geological Survey at <https://www.usgs.gov/programs/earthquake-hazards/hazards>

Strength/Magnitude/Extent

The extent or severity of earthquakes is generally measured in two ways: 1) the Richter Magnitude Scale is a measure of earthquake magnitude; and 2) the Modified Mercalli Intensity Scale is a measure of earthquake severity. The two scales are defined as follows.

Richter Magnitude Scale

The Richter Magnitude Scale was developed in 1935 as a device to compare the size of earthquakes. The magnitude of an earthquake is measured using a logarithm of the maximum extent of waves recorded by seismographs. Adjustments are made to reflect the variation in the distance between the various seismographs and the epicenter of the earthquakes. On the Richter Scale, magnitude is expressed in whole numbers and decimal fractions. For example, comparing a 5.3 and a 6.3 earthquake shows that the 6.3 quake is ten times bigger in magnitude. Each whole number increase in magnitude represents a tenfold increase in measured amplitude because of the logarithm. Each whole number step in the magnitude scale represents a release of approximately 31 times more energy.

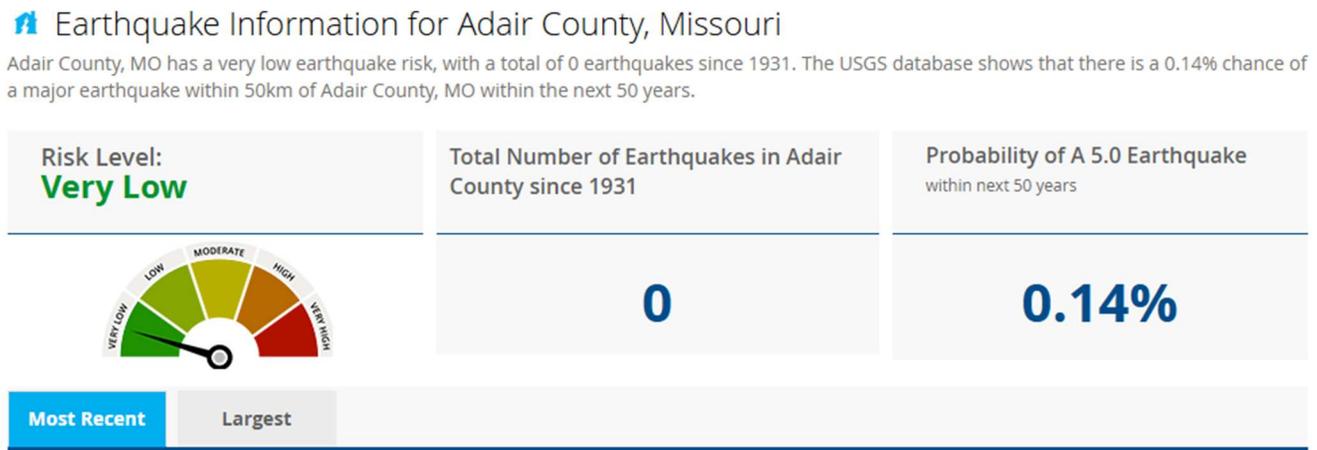
Modified Mercalli Intensity Scale

The intensity of an earthquake is measured by the effect of the earthquake on the earth's surface. The intensity scale is based on the responses to the quake, such as people awakening, movement of furniture, damage to chimneys, etc. The intensity scale currently used in the United States is the Modified Mercalli (MM) Intensity Scale. It was developed in 1931 and is composed of 12 increasing levels of intensity. They range from imperceptible shaking to catastrophic destruction, and each of the twelve levels is denoted by a Roman numeral. The scale does not have a mathematical basis, but is based on observed effects. Its use gives the laymen a more meaningful idea of the severity.

Previous Occurrences

There have been no recorded earthquakes in Adair County since 1931 according to the information obtained from homefacts.com as shown in **Figure 3.19** below.

Figure 3.19. Earthquake Information for Adair County



Source: www.homefacts.com

Probability of Future Occurrence

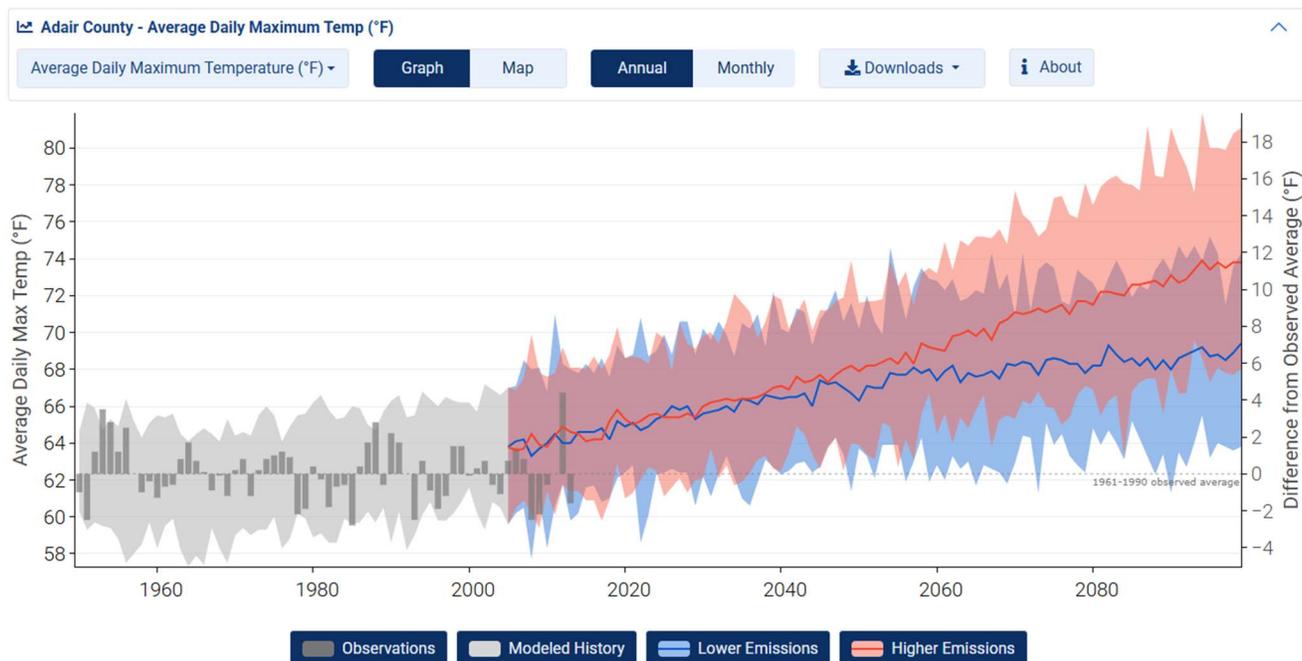
The established calculation formula for probability of an earthquake in Adair County would yield a zero probability. Homefact.com calculates that there is a 14% chance of an earthquake occurring in Adair County in any given year.

Changing Future Conditions Considerations

Scientists are beginning to believe there may be a connection between changing climate conditions and earthquakes. Changin ice caps and sea-level redistribute weight over fault lines, which could potentially have an influence on earthquake occurrences. However, currently no studies quantify the relationship to have a high level of detail, so recent earthquakes should not be linked with climate change. While not conclusive, early research suggests that more intense earthquakes and tsunamis may eventually be added to the adverse consequences that are caused by changing future conditions.

According to the National Climate Assessment, earthquakes have increased during the last century as corelated to increasing temperatures, and these trends are expected to continue. **Figure 3.20** below illustrates how average daily temperatures have increased and are expected to increase over time.

Figure 3.20. Average Daily Max Temperature for Adair County



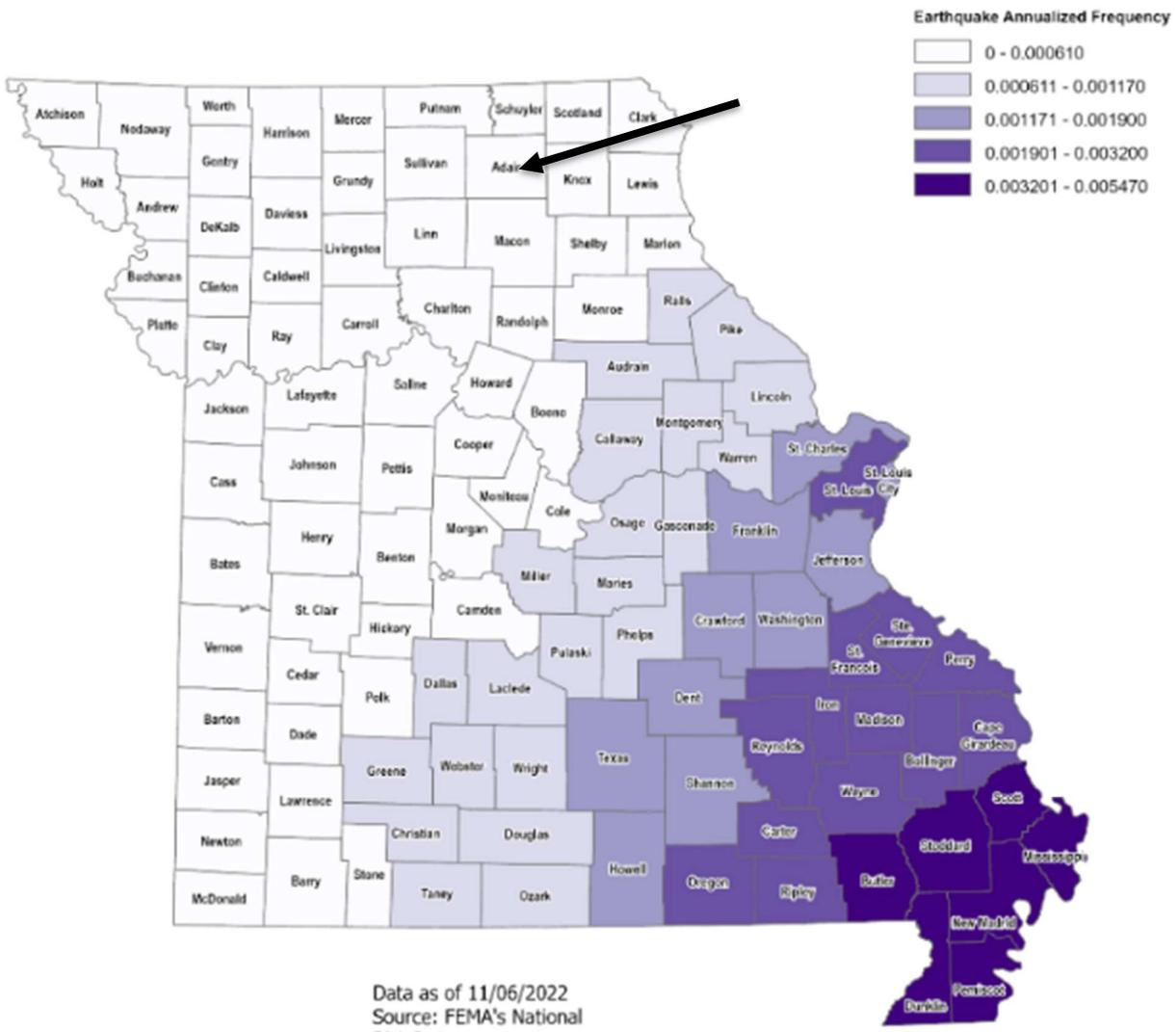
<https://toolkit.climate.gov/tools/climate-explorer>

Vulnerability

Vulnerability Overview

The 2023 Missouri State Hazard Mitigation Plan, Chapter 3, Section 3.3.4, State Vulnerability Overview, annualized loss for Adair County is low in the 0-0.000610 range as shown in **Figure 3.21** below.

Figure 3.21. Earthquake Annualized Frequency for Adair County



Source: 2023 Missouri State Hazard Mitigation Plan

Missouri is the third largest market for earthquake insurance among the states, exceeded only by California and Washington. A study by the U.S. Geological Survey estimates the probability of a magnitude 7.5 or greater earthquake in the New Madrid zone over the next 50 years is 7-10 percent. The probability of an earthquake exceeding magnitude 6 over the same period is 25-40 percent. A joint assessment by the Mid-America Earthquake Center of the University of Illinois and the Federal Emergency Management Agency predicts the New Madrid event could constitute the highest total economic loss of any natural disaster in U.S history. Earthquake coverage is not included on most homeowner's insurance policies. It must be purchased as separate coverage, call an "endorsement." This type of insurance requires that the earthquake is the direct cause of damage to the property. Natural disasters can, in many instances, trigger other events that may also damage property. One example is earthquakes causing bodies of water to produce waves, resulting in flooding.

Earthquake insurance usually features two high deductibles: Rather than a dollar amount, it's a percentage of the cost of rebuilding the home and a separate deductible for the home's contents. Deductibles of 10-15 percent are common. For example, with a 15 percent deductible, the owner of

a \$200,000 home could expect to pay up to \$30,000 in deductibles for damage to the dwelling before receiving any benefit from their earthquake insurance policy.

The material used to build the home can also determine premiums or whether your home is even insurable. For instance, rates may be cheaper for wood-frame homes, which withstand tremors better than homes made of masonry such as brick and stone. Single-story homes may also receive better rates as they tend to sustain less damage from an earthquake. Age of the home can also affect premiums. Some insurers will not offer earthquake insurance for masonry homes.

Earthquake insurance coverage rates in the planning area in were \$97 according to the 2023 Residential Earthquake Coverage in Missouri report found here: [Residential Earthquake Coverage In Missouri](#).

Potential Losses to Existing Development

The Hazus building inventory counts are based on the 2010 census data adjusted to 2014 numbers using the Duns & Bradstreet Business Population Report. Inventory values reflect 2014 valuations, based on RSMeans (a supplier of construction cost information) replacement costs. Population counts are 2010 estimates from the U.S. Census Bureau. Data included below for the planning area from State Plan Table A.10.

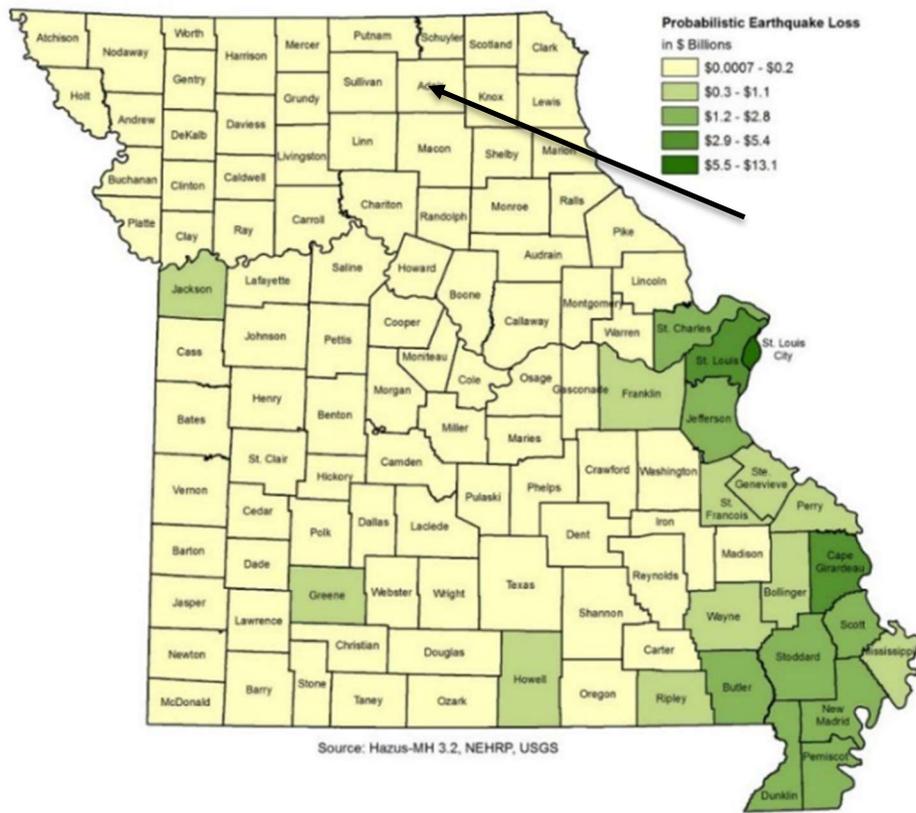
Figure 3.22. HAZUS Earthquake Loss Estimation: Annualized Loss Scenario

County	Total Losses (in \$ Thousands)	Loss Per Capita (in \$ Thousands)	Annualized Loss Ratio (in \$ per Million)
Adair	\$19	\$0.0008	\$7

Source: 2023 Missouri State Hazard Mitigation Plan

Figure 2.23 below illustrates the Hazus Earthquake loss estimation with a 2% probability of exceedance in 50 years scenario for total building loss. The planning area is in the \$0.00007-\$0.0 Billion range.

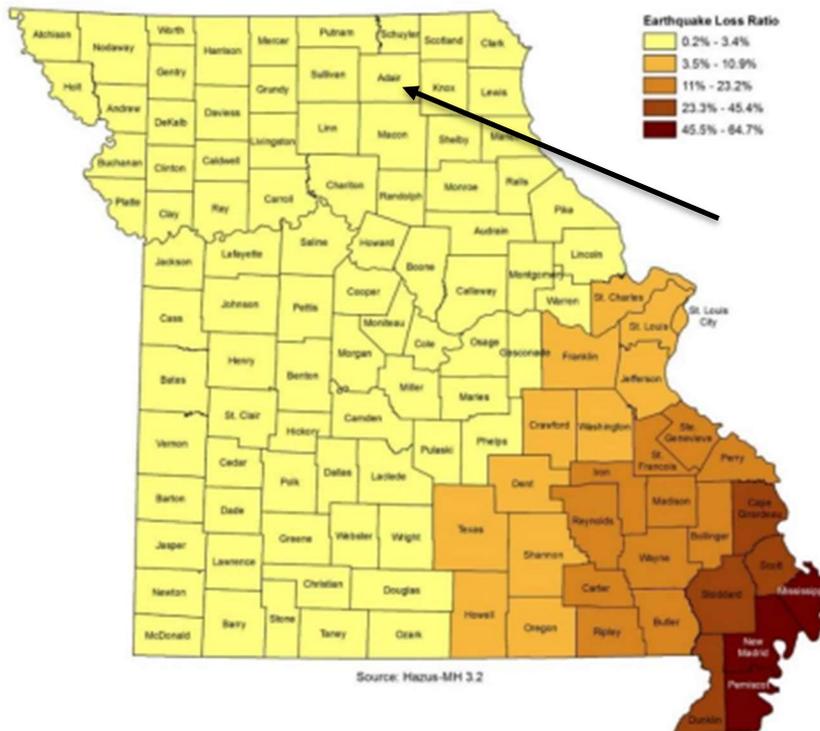
Figure 3.23. Hazus Earthquake Loss Estimation with a 2% Probability of Exceedance in 50 Years Scenario – Total Building Loss



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.24 identifies total property loss ratio in the 0.2%-3.4% range.

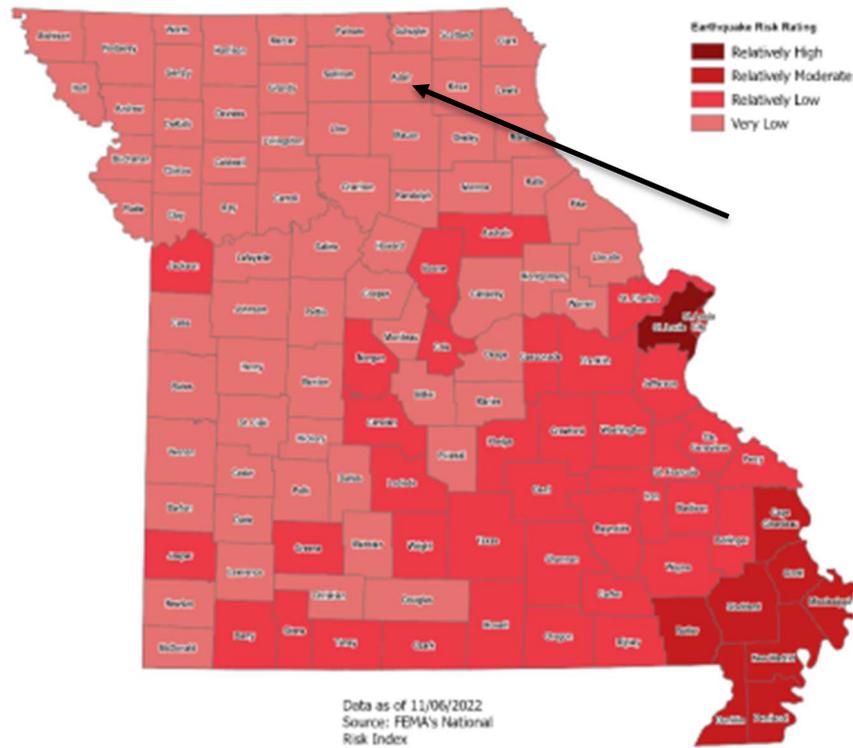
Figure 3.24. Hazus Earthquake Loss Estimation with a 2% Probability of Exceedance in 50 Years Scenario – Loss Ratio



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.25 identifies that Adair County has a very low earthquake risk rating according to FEMA's National Risk Index.

Figure 3.25. FEMA's National Risk Index – Earthquake Risk Rating



Source: 2023 Missouri State Hazard Mitigation Plan

Impact of Previous and Future Development

Future development is not expected to increase the risk other than contributing to the overall exposure of what could become damaged as a result of an event.

Hazard Summary by Jurisdiction

Since the earthquake intensity is not likely to vary greatly throughout the planning area, the risk will be the same throughout. However, damages could differ if there are structural variations in the planning area built-environment. For example, if one community has a higher percentage of residences built prior to 1939 than the other participants, that community is likely to experience higher damages.

Problem Statement

Although Adair County is not located in an area that will likely see catastrophic damage from an earthquake, the County will be impacted by the loss of communications, transportation, the disruption of roads, rail and pipelines, water transportation, and the area will see a significant amount of refugees fleeing from Southern Missouri if an earthquake hits that area. Education is minimal for earthquakes due to the low likelihood of impact. An emergency plan for earthquakes needs to be made available to all residents and stated what would happen in the event of an earthquake with details for communications and transportation. Downtown building owners would benefit from planning in case their buildings are damaged. Residents need to be made aware of where generators and emergency buildings are located. Utilization of social medial and texting needs to be encouraged.

3.4.4 Land Subsidence/Sinkholes

Hazard Profile

Hazard Description

Sinkholes are common where the rock below the land surface is limestone, carbonate rock, salt beds, or rocks that naturally can be dissolved by ground water circulating through them. As the rock dissolves, spaces and caverns develop underground. The sudden collapse of the land surface above them can be dramatic and range in size from broad, regional lowering of the land surface to localized collapse. However, the primary causes of most subsidence are human activities: underground mining of coal, groundwater or petroleum withdrawal, and drainage of organic soils. In addition, sinkholes can develop as a result of subsurface void spaces created over time due to the erosion of subsurface limestone (karst).

Land subsidence occurs slowly and continuously over time, as a general rule. On occasion, it can occur abruptly, as in the sudden formation of sinkholes. Sinkhole formation can be aggravated by flooding.

In the case of sinkholes, the rock below the surface is rock that has been dissolving by circulating groundwater. As the rock dissolves, spaces and caverns form, and ultimately the land above the spaces collapse. In Missouri, sinkhole problems are usually a result of surface materials above openings into bedrock caves eroding and collapsing into the cave opening. These collapses are called “cover collapses” and geologic information can be applied to predict the general regions where collapse will occur. Sinkholes range in size from several square yards to hundreds of acres and may be quite shallow or hundreds of feet deep.

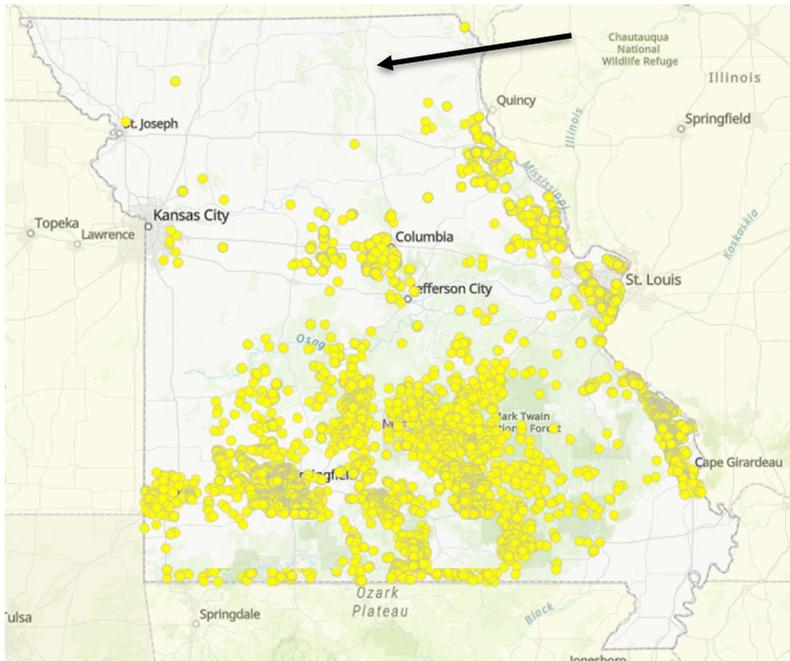
According to the U.S. Geological Survey (USGS), the most damage from sinkholes tends to occur in Florida, Texas, Alabama, Missouri, Kentucky, Tennessee, and Pennsylvania. Fifty-nine percent of Missouri is underlain by thick, carbonate rock that makes Missouri vulnerable to sinkholes. Sinkholes occur in Missouri on a fairly frequent basis. Most of Missouri’s sinkholes occur naturally in the State’s karst regions (areas with soluble bedrock). They are a common geologic hazard in southern Missouri, but also occur in the central and northeastern parts of the State. Missouri sinkholes have varied from a few feet to hundreds of acres and from less than one to more than 100 feet deep. The largest known sinkhole in Missouri encompasses about 700 acres in western Boone County southeast of where Interstate 70 crosses the Missouri River. Sinkholes can also vary in shape like shallow bowls or saucers whereas other have vertical walls. Some hold water and form natural ponds.

According to the 2023 Missouri State Hazard Mitigation Plan, there are no sinkholes, 124 mines, and no caves in the planning area.

Geographic Location

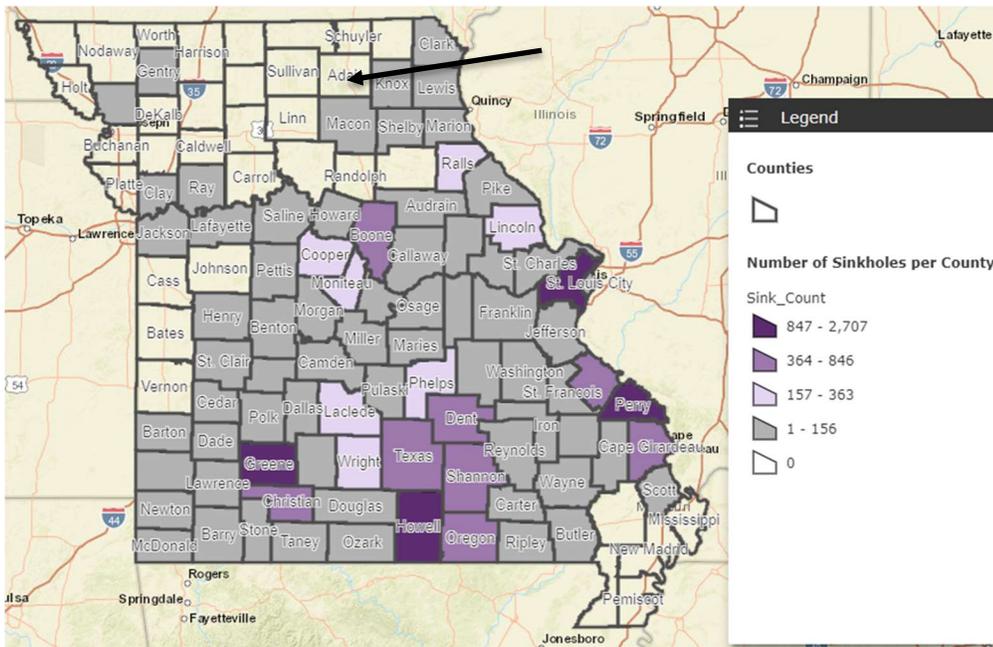
The geographic location of Sinkholes and Mines in the planning area are illustrated in **Figures 3.26 through 3.28**.

Figure 3.26. Sinkholes in Missouri



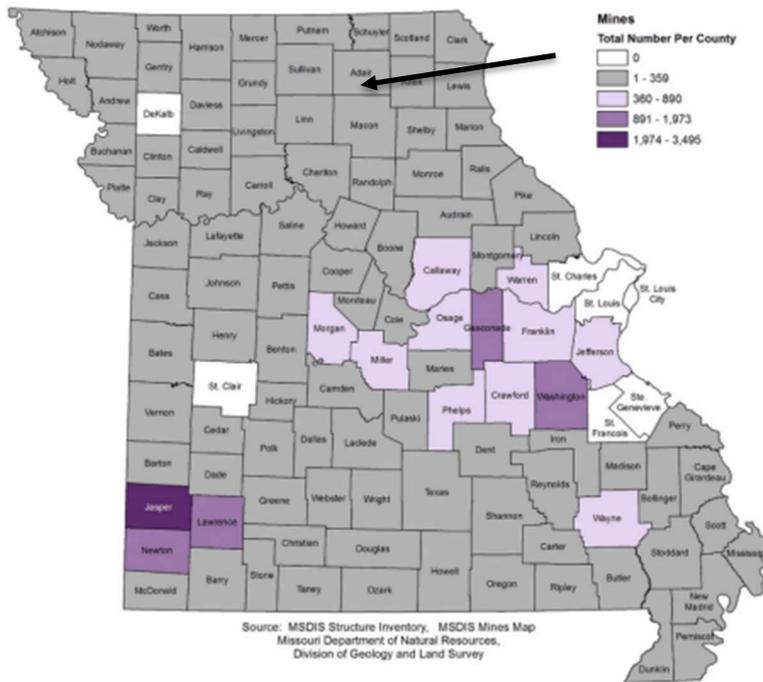
Source: <https://modnr.arcgis.com>

Figure 3.27. Sinkholes Counts per County



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.28. Mine Counts per County



Source: 2023 Missouri State Hazard Mitigation Plan

Strength/Magnitude/Extent

Sinkholes vary in size and location, and these variances will determine the impact of the hazard. A sinkhole could result in the loss of a personal vehicle, a building collapse, or damage to infrastructure such as roads, water, or sewer lines. Groundwater contamination is also possible from a sinkhole. Because of the relationship of sinkholes to groundwater, pollutants captured or dumped in sinkholes could affect a community's groundwater system. Sinkhole collapse could be triggered by large earthquakes. Sinkholes located in floodplains can absorb floodwaters but make detailed flood hazard studies difficult to model.

Previous Occurrences

As noted in the 2023 State Plan, sinkholes are a regular occurrence in Missouri, but rarely are the events of any significance. There has been no occurrence of sink hole induced damage in Adair County.

Probability of Future Occurrence

The likelihood of a sinkhole of any significance occurring in the planning area is low, as defined in this chapter, based on the past history of the sinkholes recorded. Due to data limitations precluding probability calculation, such as the lack of a centralized database for sinkhole occurrences in the state, this cannot be quantitatively defined, therefore it has been deemed low. According to most research, the change of a catastrophic sinkhole occurring at any given time is around a "one in one hundred" chance per year, meaning the percentage is roughly 1%.

Figure 3.29 demonstrates sinkhole rating values according to the 2023 Missouri State Hazard Mitigation Plan.

conditions such as an increase in droughts could contribute to an increase in sinkholes. These changes raise the likelihood of extreme weather, meaning the torrential rain and flooding conditions which often lead to the exposure of sinkholes are likely to become increasingly common. Certain events such as a heavy precipitation following a period of drought can trigger a sinkhole due to low levels of groundwater combined with a heavy influx of rain.

Vulnerability

Vulnerability Overview

Sinkholes in the planning area are not a common occurrence due to the composition of the land. While some sinkholes may be considered a slow changing nuisance, other more sudden, catastrophic collapses can destroy property, delay construction projects, and contaminate groundwater resources.

As stated in the 2023 Missouri State Hazard Mitigation Plan, there is no scale for measuring or determining the severity of sinkholes. However, geological and mining parameters can affect the magnitude and extent of sinkhole subsidence. Natural sinkholes develop in areas where the rock below the surface is limestone, carbonate rock, salt beds or any type of rock that can naturally be dissolved by groundwater circulating through it. Artificial sinkholes develop due to groundwater pumping, water main and sewer collapses, and mine collapses. Even so, Adair County falls into the Low risk for sinkholes in the planning area.

Potential Losses to Existing Development

The potential impact of sinkholes on existing structures is difficult to determine due to the lack of data on historic damages caused by sinkholes and the mapping of potential sinkholes is difficult if not impossible to predict where a sinkhole will collapse and how significant the collapse will be. Because sinkhole collapse is not predictable and previous events have occurred in the rural area there is not significant data to estimate the future losses due to a sinkhole.

Impact of Previous and Future Development

As more development occurs on unmapped rural areas, the vulnerability to the hazard will increase; however, sinkholes are unpredictable and the development in rural areas is difficult to limit due to the lack of occurrence.

There are currently no sinkholes identified in the planning area. Adair County participating jurisdictions have no plans to limit construction due to sinkholes.

Hazard Summary by Jurisdiction

The risk for development is uniform throughout the planning area, as the presence of karst geology and the potential for sinkhole formation exist across all jurisdictions in Adair County, Missouri. However, the level of impact may vary based on land use, infrastructure, and development density within each jurisdiction:

Adair County Unincorporated Areas: Agricultural lands and rural properties may experience sinkhole formation due to natural erosion and drainage modifications, especially in areas with subsurface limestone layers. Property owners may be less aware of geological risks due to lack of mapped data in remote areas.

Kirksville: As the most developed area in Adair County, Kirksville has a greater concentration of

buildings, roads, and underground utilities, increasing the potential impact of sinkholes. Paved surfaces and stormwater drainage systems could alter groundwater flow, which may contribute to ground instability over time.

Brashear and Novinger: With moderate development, the cities' risk primarily stems from expanding infrastructure and agricultural activities that could alter subsurface conditions.

Gibbs and Millard: These smaller rural communities have limited urban development, reducing direct risk to infrastructure. However, farming practices, irrigation, and natural water drainage changes could still contribute to sinkhole formation over time.

School Districts: While no current sinkhole risks have been identified within school district properties, future construction or expansions should consider geological assessments to prevent potential ground instability.

Problem Statement

Sinkholes can occur at any time and without warning and vary by size. There can be a disruption of transportation services and residents in the dangerous areas are not educated on what to do if a sinkhole occurs. Education needs to occur on the danger areas of a sinkhole occurring and what to do if a sinkhole does occur.

3.4.5 Drought

Hazard Profile

Hazard Description

Drought is generally defined as a condition of moisture levels significantly below normal for an extended period of time over a large area that adversely affects plants, animal life, and humans. A drought period can last for months, years, or even decades. There are four types of drought conditions relevant to Missouri, according to the State Plan, which are as follows.

- Meteorological drought is defined in terms of the basis of the degree of dryness (in comparison to some “normal” or average amount) and the duration of the dry period. A meteorological drought must be considered as region-specific since the atmospheric conditions that result in deficiencies of precipitation are highly variable from region to region.
- Hydrological drought is associated with the effects of periods of precipitation (including snowfall) shortfalls on surface or subsurface water supply (e.g., streamflow, reservoir and lake levels, ground water). The frequency and severity of hydrological drought is often defined on a watershed or river basin scale. Although all droughts originate with a deficiency of precipitation, hydrologists are more concerned with how this deficiency plays out through the hydrologic system. Hydrological droughts are usually out of phase with or lag the occurrence of meteorological and agricultural droughts. It takes longer for precipitation deficiencies to show up in components of the hydrological system such as soil moisture, streamflow, and ground water and reservoir levels. As a result, these impacts also are out of phase with impacts in other economic sectors.
- Agricultural drought focus is on soil moisture deficiencies, differences between actual and potential evaporation, reduced ground water or reservoir levels, etc. Plant demand for water depends on prevailing weather conditions, biological characteristics of the specific plant, its stage of growth, and the physical and biological properties of the soil.
- Socioeconomic drought refers to when physical water shortage begins to affect people.

Geographic Location

Droughts are regional in nature. All areas of the United States are vulnerable to the risk of drought and extreme heat. Droughts can be widespread or localized events. The extent of the droughts varies both in terms of the extent of the heat and range of precipitation. The severity of a drought depends on locations, duration, and geographical extent. Additionally, drought severity depends on the water supply, usage demands made by human activities, vegetation, and agricultural operations. Drought brings several different problems that must be addressed. The quality and quantity of crops, livestock and other agricultural assets will be affected during a drought. Drought can adversely impact forested areas leading to an increased potential for extremely destructive forest and woodland fires that could threaten residential, commercial, and recreational structures.

According to the 2022 Census of Agriculture shown in **Figure 3.31** below, Adair County consists of 249,382 acres of farmland. Crop and livestock sales in Adair County generate 66% and 34%, respectively, of state agriculture sales. A drought would directly impact crop and livestock production, and the agriculture economy in Adair County and the state.

Figure 3.31. Census of Agriculture, Adair County



Adair County Missouri

Total and Per Farm Overview, 2022 and change since 2017

	2022	% change since 2017
Number of farms	804	-1
Land in farms (acres)	249,382	-7
Average size of farm (acres)	310	-6
Total (\$)		
Market value of products sold	63,050,000	+19
Government payments	1,862,000	-15
Farm-related income	3,263,000	0
Total farm production expenses	59,786,000	+32
Net cash farm income	8,390,000	-35
Per farm average (\$)		
Market value of products sold	78,421	+21
Government payments ^a	9,452	+30
Farm-related income ^a	9,798	+8
Total farm production expenses	74,360	+34
Net cash farm income	10,435	-34

(Z) Percent of state agriculture sales

Share of Sales by Type (%)

Crops	66
Livestock, poultry, and products	34

Land in Farms by Use (acres)

Cropland	123,485
Pastureland	71,578
Woodland	38,544
Other	15,775

Acres irrigated: 914

(Z)% of land in farms

Land Use Practices (% of farms)

No till	21
Reduced till	9
Intensive till	11
Cover crop	7

Farms by Value of Sales

	Number	Percent of Total ^b
Less than \$2,500	277	34
\$2,500 to \$4,999	44	5
\$5,000 to \$9,999	72	9
\$10,000 to \$24,999	106	13
\$25,000 to \$49,999	112	14
\$50,000 to \$99,999	84	10
\$100,000 or more	109	14

Farms by Size

	Number	Percent of Total ^b
1 to 9 acres	32	4
10 to 49 acres	162	20
50 to 179 acres	277	34
180 to 499 acres	204	25
500 to 999 acres	74	9
1,000+ acres	55	7



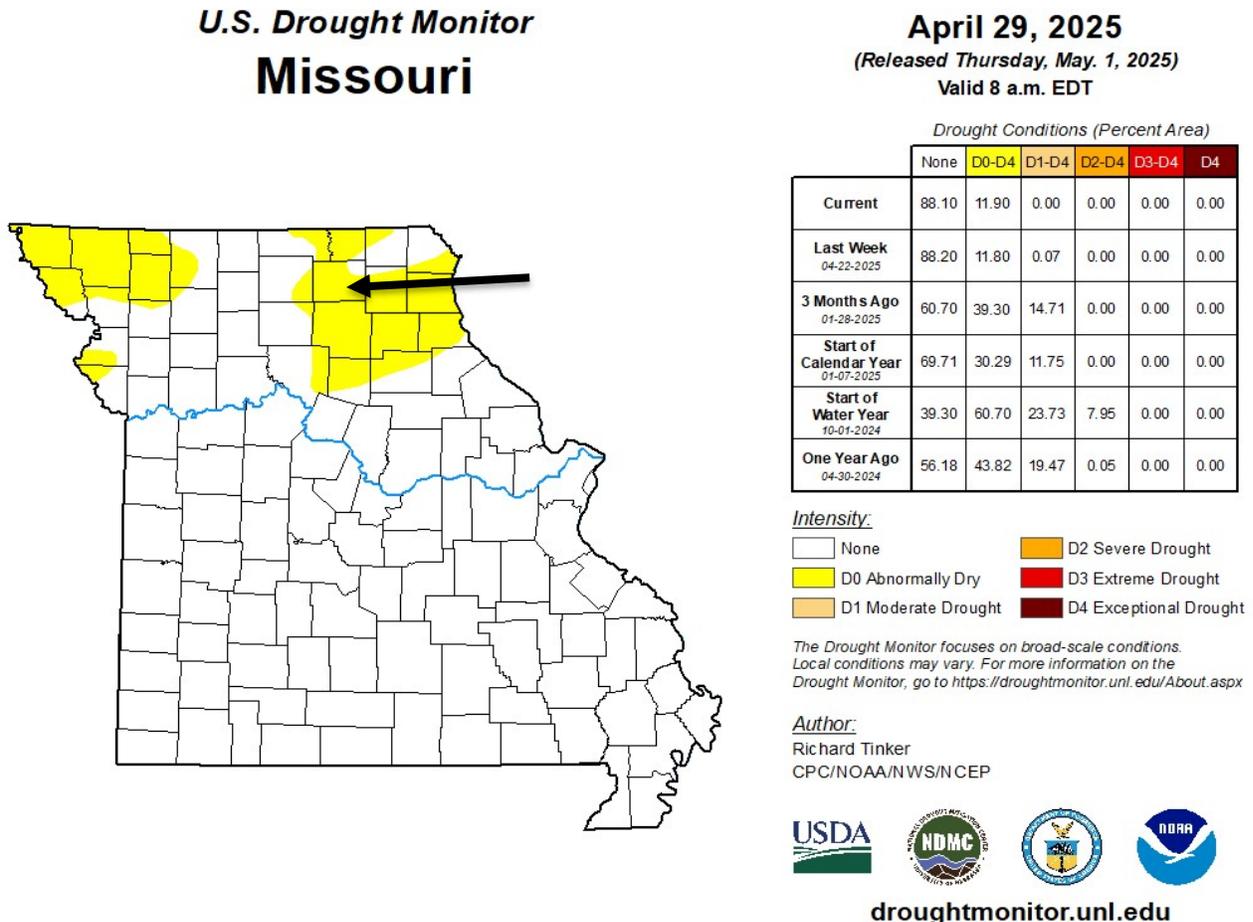
United States Department of Agriculture
National Agricultural Statistics Service

www.nass.usda.gov/AgCensus

Source: cp29001.pdf http://www.agcensus.usda.gov/Publications/2012/Full_Report/Volume_1,_Chapter_2_County_Level/Missouri/

A map from the U.S. Drought Monitor as of April 29, 2025 (**Figure 3.32**) shows most of Adair County is abnormally dry.

Figure 3.32. U.S. Drought Monitor Map of Missouri on Date



Source: U.S. Drought Monitor, <https://droughtmonitor.unl.edu/Maps/MapArchive.aspx>

Strength/Magnitude/Extent

The Palmer Drought Indices measure dryness based on recent precipitation and temperature. The indices are based on a “supply-and-demand model” of soil moisture. Calculation of supply is relatively straightforward, using temperature and the amount of moisture in the soil. However, demand is more complicated as it depends on a variety of factors, such as evapotranspiration and recharge rates. These rates are harder to calculate. Palmer tried to overcome these difficulties by developing an algorithm that approximated these rates and based the algorithm on the most readily available data — precipitation and temperature.

The Palmer Index has proven most effective in identifying long-term drought of more than several months. However, the Palmer Index has been less effective in determining conditions over a matter of weeks. It uses a “0” as normal, and drought is shown in terms of negative numbers; for example, negative 2 is moderate drought, negative 3 is severe drought, and negative 4 is extreme drought. Palmer’s algorithm also is used to describe wet spells, using corresponding positive numbers.

Palmer also developed a formula for standardizing drought calculations for each individual location based on the variability of precipitation and temperature at that location. The Palmer index can therefore be applied to any site for which sufficient precipitation and temperature data is available.

The full range of the Palmer Index applies to the planning area when a drought event occurs.

Previous Occurrences

Drought occurs periodically in Missouri with the most severe and costly in historical times occurring in 2013. Although droughts are not the spectacular weather events that floods, blizzards, or tornadoes can be, historically they produce more economic damage to the State than all other weather events combined.

Table 3.33, below, outlines insured crop loss payments in Adair County as a result of drought.

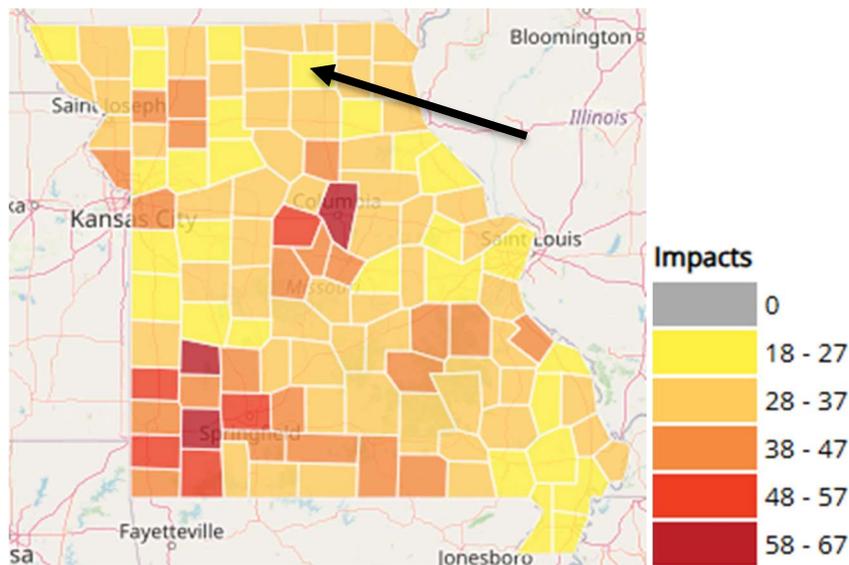
Figure 3.33. Drought Losses 2015-2025

Year	Total Payments
2025	\$7,730.00
2024	\$432,254.00
2023	\$772,686.50
2022	\$460,636.00
2021	\$404,947.00
2020	\$426,038.00
2019	\$1,155,537.34
2018	\$777,159.72
2017	\$140,870.00
2016	\$119,538.00
2015	\$1,046,240.14

Source: [Cause of Loss | Risk Management Agency](#)

According to the National Drought Mitigation Center’s Drought Impact Reporter, during the 20 year period from 2005 through 2025, Adair County had 2934 reports and 696 impacts as shown in **Figures 3.34 through 3.36** below.

Figure 3.34. Adair County Drought Impact (January 2005 – May 2025)



Source: [Map of Drought Impacts](#)

Figure 3.35. Drought Impact Counts on Adair County (January 2005 – May 2025)

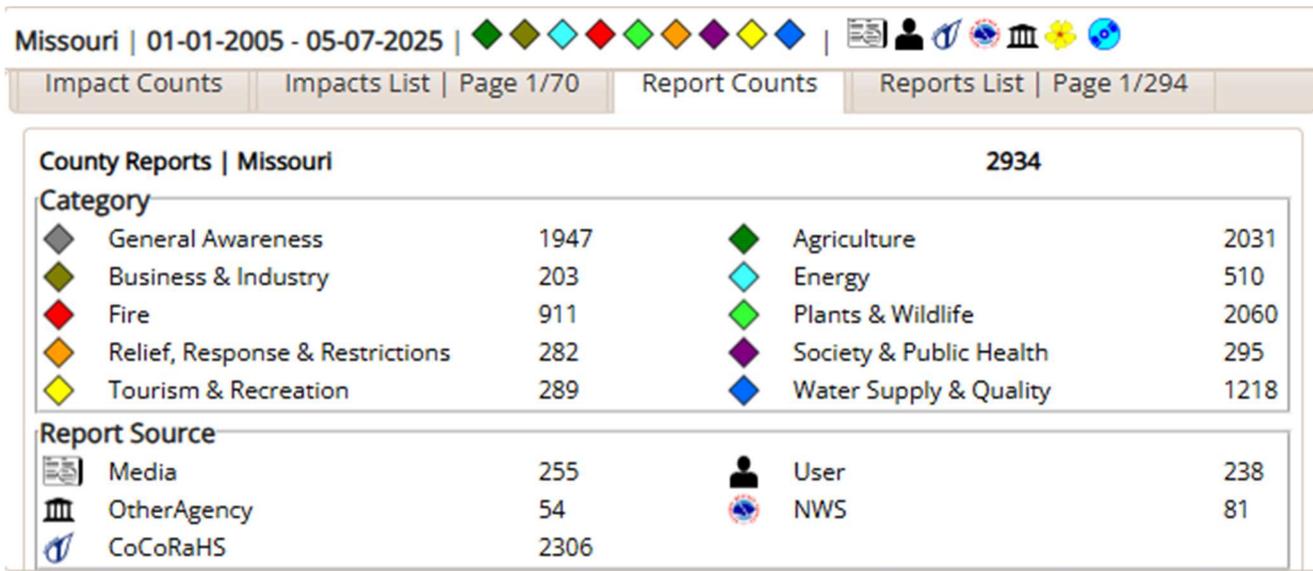
Missouri | 01-01-2005 - 05-07-2025 |

Impact Counts	Impacts List Page 1/70	Report Counts	Reports List Page 1/294
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County Impacts Missouri		696	
Category			
Agriculture	388	Business & Industry	30
Energy	4	Fire	94
Plants & Wildlife	193	Relief, Response & Restrictions	155
Society & Public Health	49	Tourism & Recreation	22
Water Supply & Quality	219		
Report Source			
Media	196	User	168
Other Agency	8	CoCoRaHS	129
Legacy	200		

Source: [Map of Drought Impacts](#)

Figure 3.36. Drought Report Counts for Adair County (January 2005 – May 2025)



Source: [Map of Drought Impacts](#)

Probability of Future Occurrence

According to the 2023 State Plan, Adair County has a Medium-Low total rating for drought. Medium-Low is defined in **Table 3.24** below. Adair County has a medium probability, as defined in this chapter, of experiencing droughts in the future with a 42% chance of a severe drought.

Table 3.24 Vulnerability of Clark County to Drought

County	SOVI Index Rating	USDA RMA Total Drought Crop Claims	Average Annualized Crop Claims	USDA Claims Rating	2017 Crop Exposure	Crop Exposure Rating	Likelihood of Severe Drought	Drought Occurrence Rating	Total Rating	Total Rating (Text) Drought
Adair	3	\$25,940,950	\$2,594,095	3	\$34,502,000	2	0.42	2	10	Medium Low

Factors Considered	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Social Vulnerability Index	1	2	3	4	5
Crop Exposure Ratio Rating	\$379,000-\$22,460,000	\$23,369,000-\$51,704,000	\$53,142,000-\$84,855,000	\$84,855,000-\$159,192,000	\$181,201,000-\$239,334,000
Annualized USDA Crop Claims Paid	\$0	\$1-\$2,170,363	\$2,170,364-\$3,625,266	\$3,625,267-\$6,096,160	\$6,096,161-\$11,136,989
Likelihood of Occurrence of severe or extreme drought	0.15-0.35	0.38-0.50	0.54-0.69	0.73-1.00	1.23-1.31
Total Drought Vulnerability Rating	4-7	8-10	11-13	14-16	17-20

Source: 2023 Missouri State Hazard Mitigation Plan

Changing Future Conditions Considerations

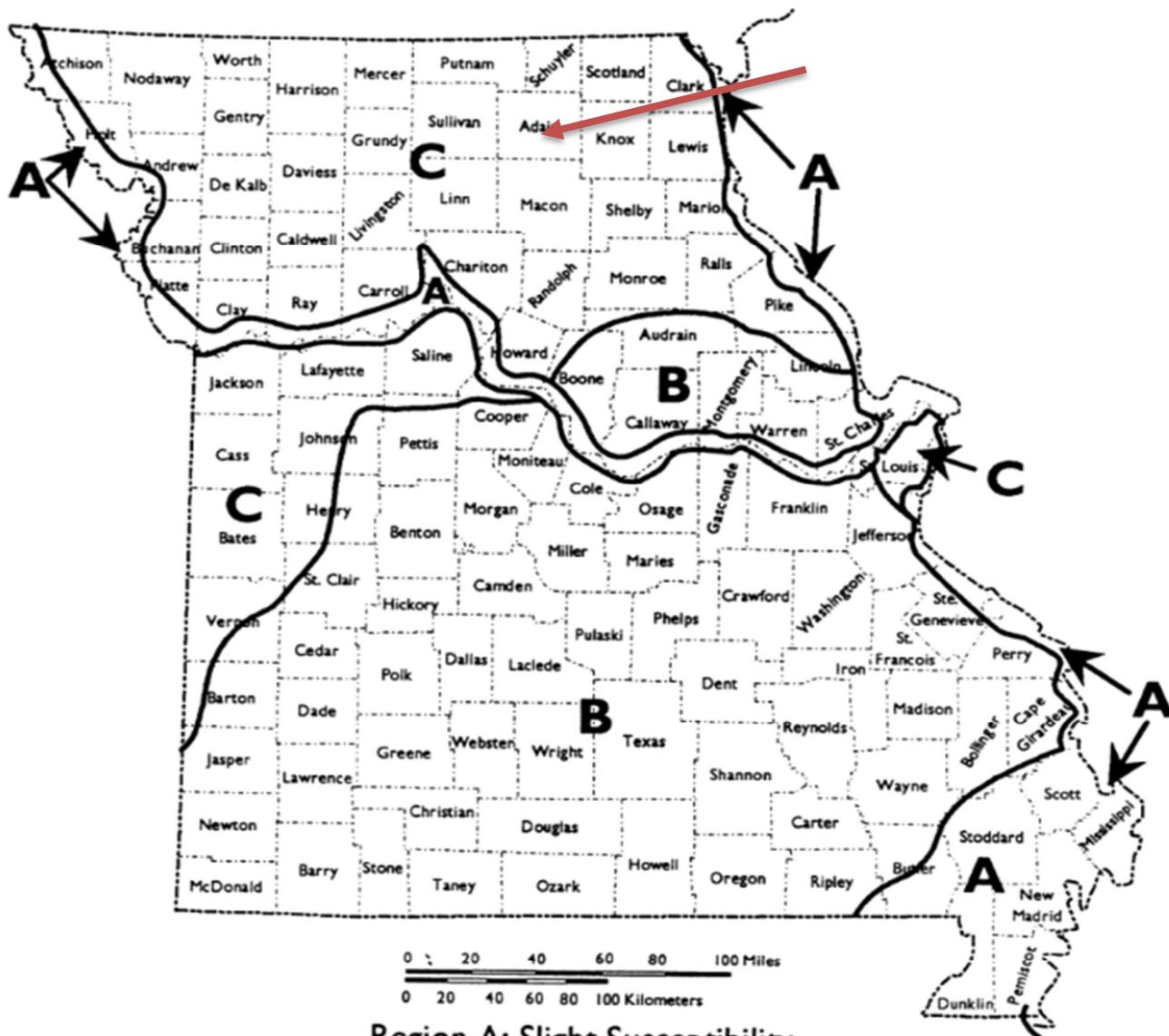
The 2023 Missouri State Hazard Mitigation Plan states that severe drought, a natural part of Missouri's climate, is a risk to this agriculture dependent state. Future increases in evaporation rates due to higher temperatures may increase the intensity of naturally occurring droughts. The number of heavy rainfall events is predicted to increase, yet researchers currently expect little change in total rainfall amounts, indicating the periods between heavy rainfalls will be marked by an increasing number of dry days. Higher temperatures and increased evapotranspiration increase the likelihood of a drought. This could lead to agricultural drought and suppressed crop yields.

Vulnerability

Vulnerability Overview

According to the analysis from the 2023 Missouri State Hazard Mitigation Plan, Adair County is located in Region C with a High Susceptibility for droughts (**Figure 3.37**), and a Medium-High Vulnerability for droughts (**Figure 3.28**).

Figure 3.37. Adair County Drought Susceptibility

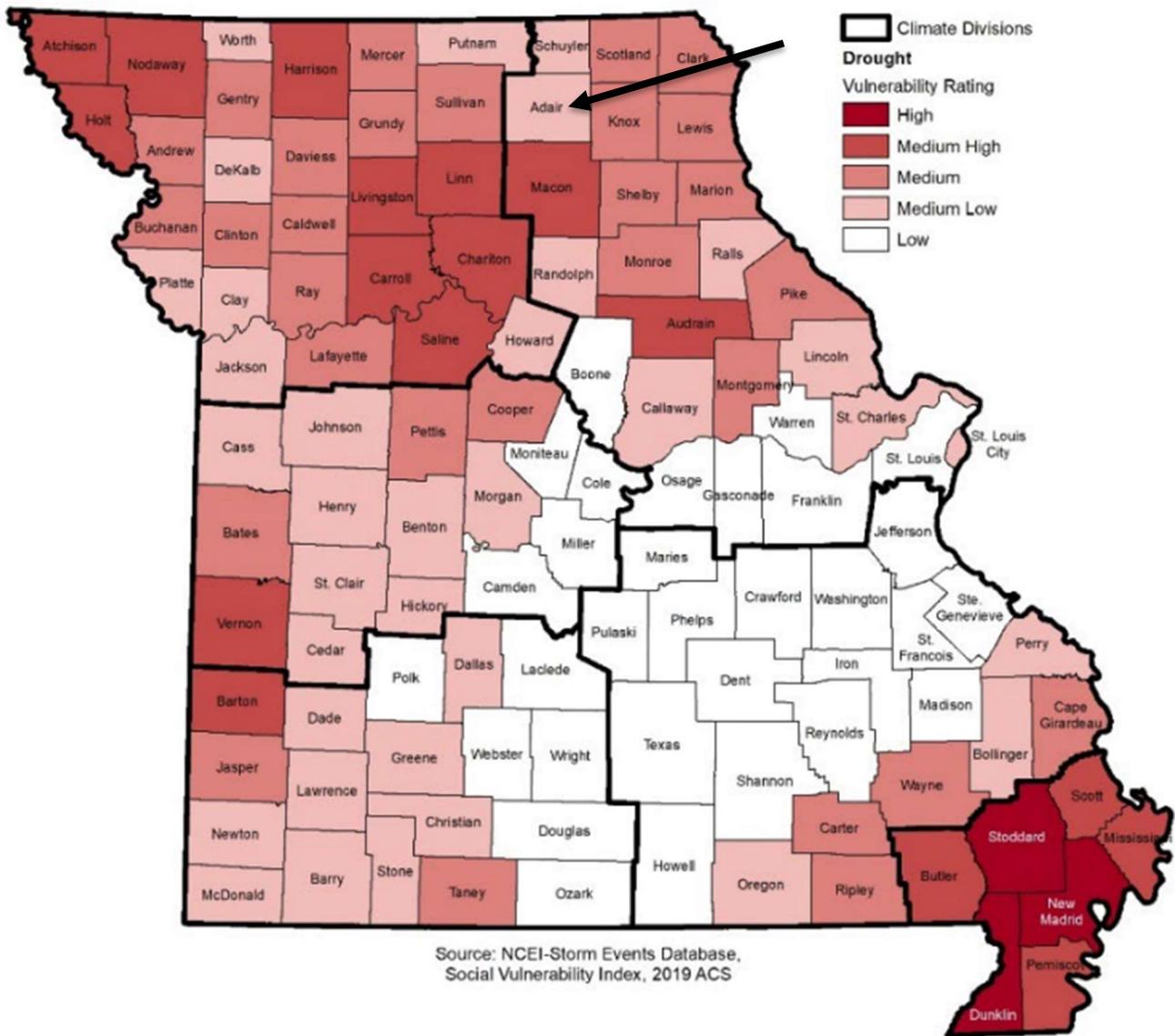


Region A: Slight Susceptibility
 Region B: Moderate Susceptibility
 Region C: High Susceptibility

Source: Missouri Drought Plan, 2002

Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.38. Adair County Drought Vulnerability



Source: 2023 Missouri State Hazard Mitigation Plan

Potential Losses to Existing Development

The National Drought Monitor Center at the University of Nebraska at Lincoln summarized the potential impacts of drought as follows: Drought can create economic impacts on agriculture and related sectors, including forestry and fisheries, because of the reliance of these sectors on surface and subsurface water supplies. In addition to losses in yields in crop and livestock production, drought is associated with increases in insect infestations, plant disease, and wind erosion. Droughts also bring increased problems with insects and disease to forests and reduce growth. The incidence of forest and range fires increases substantially during extended droughts, which in turn place both human and wildlife populations at higher levels of risk. Income loss is another indicator used in assessing the impacts of drought because so many sectors are affected. Finally, while drought is rarely a direct cause of death, the associated heat, dust and stress can all contribute to increased

mortality.

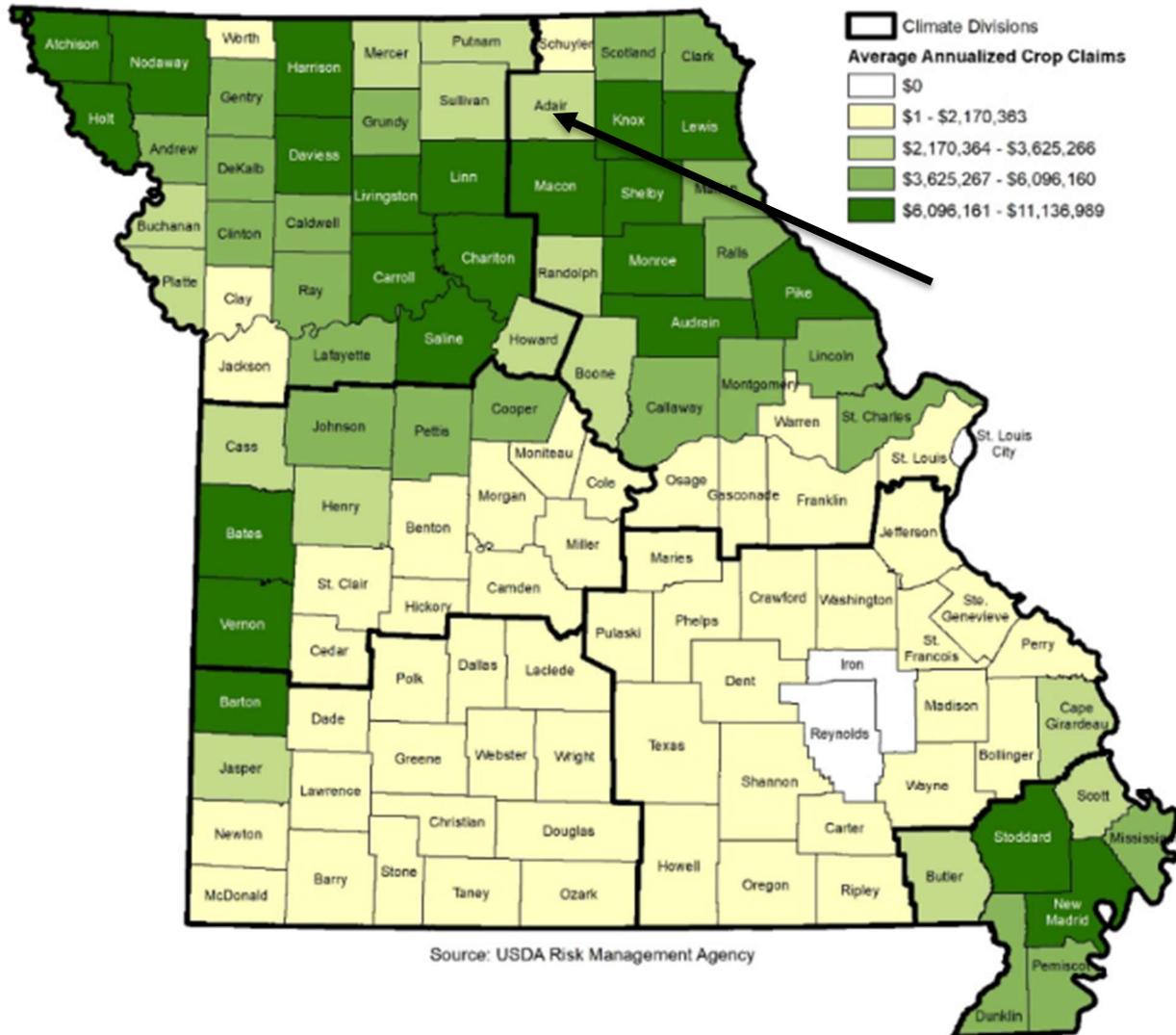
According to the 2023 Missouri State Hazard Mitigation Plan average annualized crop claims were determined to yield potential future losses for Adair County at \$2,594,095 in any given year.

Impact of Previous and Future Development

Future development will remain vulnerable to drought. Typically, some urban and rural areas are more susceptible than others. For example, urban areas are subject to water shortages during periods of drought. Excessive demands of the populated area place a limit on water resources. In rural areas, crops and livestock may suffer from extended periods of heat and drought. As the size of farms increases, more crops will be exposed to drought-related agricultural losses. Dry conditions can lead to the ignition of wildfires that could threaten residential, commercial, and recreational areas.

Figure 3.39 illustrates that Adair County falls within the \$2,170,364-\$3,625,266 range for average annualized crop insurance claims according to the Missouri State Hazard Mitigation Plan.

Figure 3.39. Annualized Drought Crop Insurance Claims Paid from 2012-2021

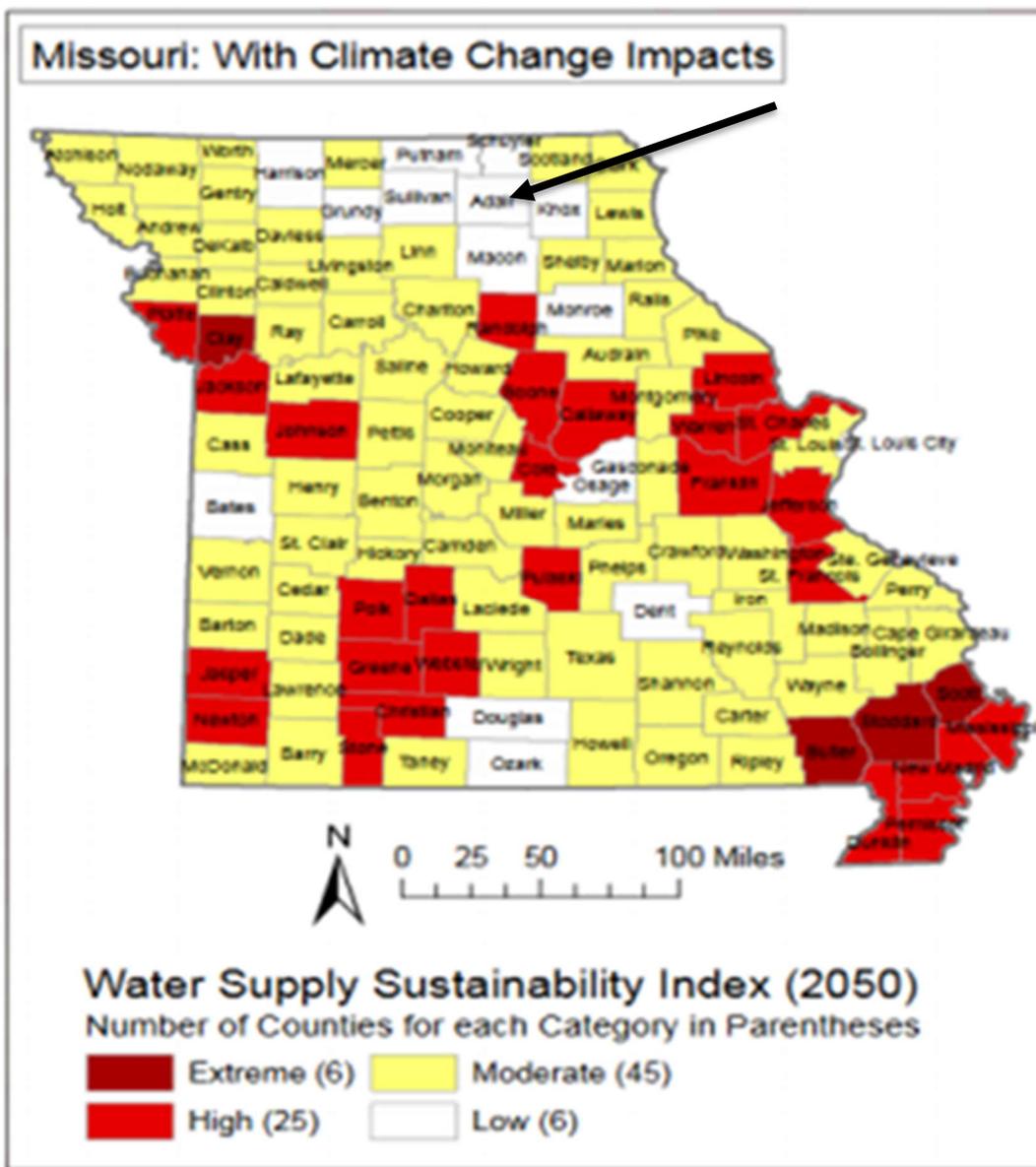


Changing Future Conditions Considerations

A new analysis, performed for the Natural Resources Defense Council, examined the effects of climate change on water supply and demand in the contiguous United States. The study found that more than 1,100 counties will face higher risks of water shortages by mid-century as a result of climate change. Two of the principal reasons for the projected water constraints are shifts in precipitation and potential evapotranspiration (PET). Climate models project decreases in precipitation in many regions of the U.S., including areas that may currently be described as experiencing water shortages of some degree.

Figure 3.40 shows Adair County ranked as Low on the Water Supply Sustainability Index.

Figure 3.40. Missouri Water Supply Sustainability Index (2050)



Source: <http://www.nrdc.org/globalWarming/watersustainability/>

Hazard Summary by Jurisdiction

The entire planning area will be affected by drought to some degree. The unincorporated agricultural areas of Adair County are the most vulnerable to drought while the drought conditions will also affect the cities except the magnitude would be less severe with only lawns and local gardens to be impacted. In addition, damage to crops, produce, livestock, soils and building foundations could be weakened due to the shrinking and expanding soil.

Problem Statement

Adair County is at a medium-low risk for a severe drought which is an extra strain placed on the water supply system. Possible solutions include the development of agreements with neighboring communities for a secondary water source and review of local ordinances/regulation for inclusion of water-use restrictions during periods of drought.

3.4.6 Extreme Temperatures

Hazard Profile

Hazard Description

Extreme temperature events, both hot and cold, can impact human health and mortality, natural ecosystems, agriculture and other economic sectors. According to information provided by FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Ambient air temperature is one component of heat conditions, with relative humidity being the other. The relationship of these factors creates what is known as the apparent temperature. The Heat Index chart shown in **Figure 3.41** uses both of these factors to produce a guide for the apparent temperature or relative intensity of heat conditions.

Extreme cold often accompanies severe winter storms and can lead to hypothermia and frostbite in people without adequate clothing protection. Cold can cause fuel to congeal in storage tanks and supply lines, stopping electric generators. Cold temperatures can also overpower a building's heating system and cause water and sewer pipes to freeze and rupture. Extreme cold also increases the likelihood for ice jams on flat rivers or streams. When combined with high winds from winter storms, extreme cold becomes extreme wind chill, which is hazardous to health and safety.

The National Institute on Aging estimates that more than 2.5 million Americans are elderly and especially vulnerable to hypothermia, with the isolated elders being most at risk. About 10 percent of people over the age of 65 have some kind of bodily temperature-regulating defect, and 3-4 percent of all hospital patients over 65 are hypothermic.

Also at risk, are those without shelter, those who are stranded, or who live in a home that is poorly insulated or without heat. Other impacts of extreme cold include asphyxiation (unconsciousness or death from a lack of oxygen) from toxic fumes from emergency heaters; household fires, which can be caused by fireplaces and emergency heaters; and frozen/burst pipes.

Geographic Location

The entire planning area is subject to extreme temperatures and all participating jurisdictions are affected.

Extreme heat presents a significant risk to public health and safety to the whole county. The National Weather Service (NWS) Heat Index Scale (**Figure 3.42**), which categorizes the intensity of heat based on temperature and humidity, will be referenced. The scale includes the following levels:

- Caution (80°F - 89°F): When the heat index is in this range, individuals are at increased risk of heat exhaustion and other heat-related illnesses.
- Extreme Caution (90°F - 104°F): Prolonged exposure to heat in this range may result in heat exhaustion, and individuals should take precautions to stay cool.
- Danger (105°F - 129°F): Heat-related illnesses such as heat stroke can occur, particularly for vulnerable populations. Outdoor activity should be minimized, and cooling measures should be implemented.
- Extreme Danger (130°F and above): This is a life-threatening situation. Heat stroke is imminent, and exposure to extreme heat should be avoided at all costs.

According to the National Centers for Environmental Information (NCEI), two significant heat-related incidents were recorded in the area. These events were characterized by heat indices reaching the Danger category, affecting both public health and agriculture for the planning area.

Extreme cold poses a serious threat to the health and safety of all residents throughout the county. The NWS Wind Chill Temperature (WCT) Index (**Figure 3.42**) provides a scientific model for understanding the risks of extreme cold in combination with wind. The WCT index is a useful tool that reflects the actual “feels-like” temperature, accounting for both air temperature and wind speed. As wind increases, the body loses heat more quickly, leading to faster reductions in skin and internal body temperature. The WCT index defines the following categories of cold risk:

- Caution (30°F to 39°F): Wind chill temperatures in this range pose a moderate risk to exposed skin. Hypothermia can develop with prolonged exposure.
- Extreme Caution (20°F to 29°F): Exposed skin may be at risk of frostbite in 30 minutes or less. Protective clothing and limiting exposure are necessary.
- Danger (10°F to 19°F): Frostbite can occur in as little as 15 minutes. Anyone outdoors should seek shelter, and outdoor activity should be minimized.
- Extreme Danger (Below 10°F): Exposed skin can freeze in less than 10 minutes. Prolonged outdoor exposure is life-threatening, and immediate protective measures must be taken.

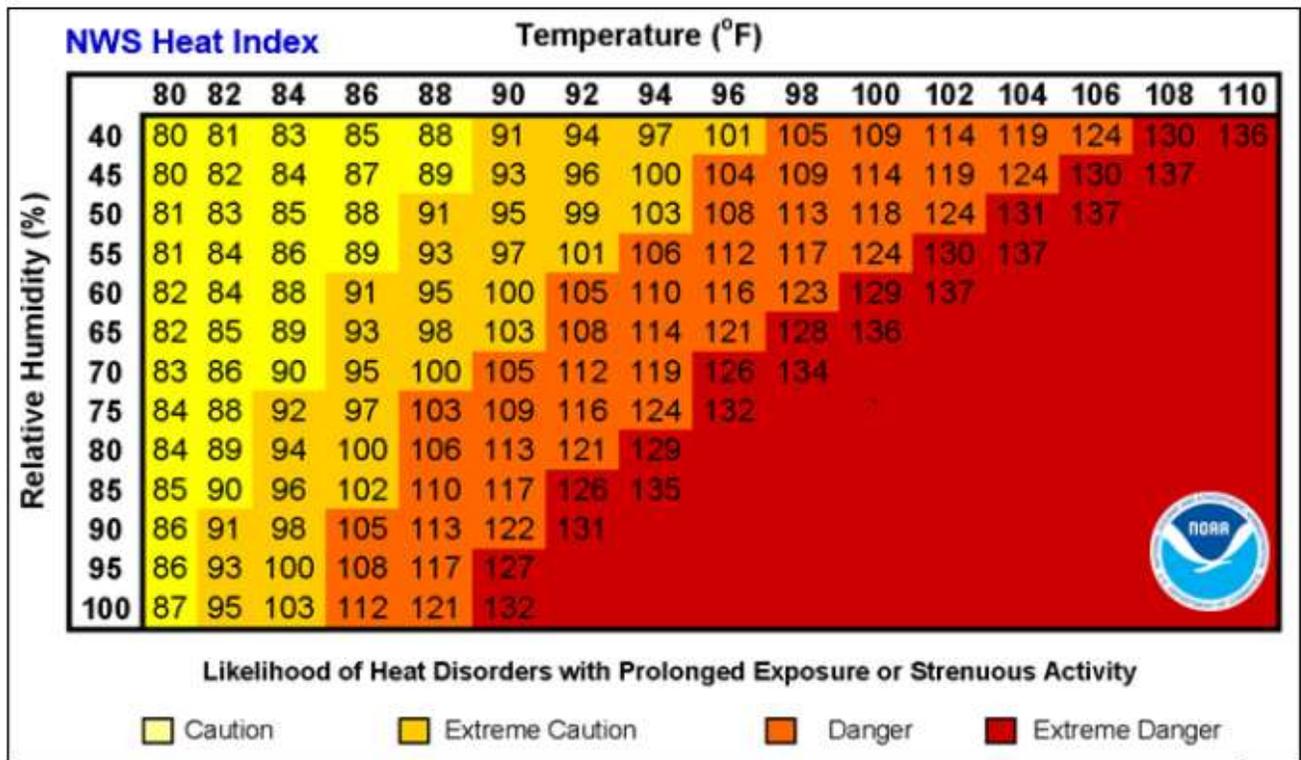
Adair County has experienced six extreme cold events during the past 20 years, with significant incidents recorded in the NCEI database. These cold waves have typically been associated with dangerous wind chill temperatures, particularly during winter months. Based on the available data, Adair County has witnessed extreme cold events with wind chill values reaching Danger and Extreme Danger categories, similar to broader regional trends in Northeast Missouri.

Strength/Magnitude/Extent

The National Weather Service (NWS) has an alert system in place (advisories or warnings) when the Heat Index is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. A common guideline for issuing excessive heat alerts is when for two or more consecutive days: (1) when the maximum daytime Heat Index is expected to equal or exceed 105 degrees Fahrenheit (°F); and the night time minimum Heat Index is 80°F or above. A heat advisory is issued when temperatures reach 105 degrees and a warning is issued at 115 degrees.

The NWS Heat Index Chart shown in **Figure 3.41** helps residents, emergency responders, and local officials in the planning area assess heat risk levels and take precautionary measures to prevent heat-related illnesses, especially during high temperatures.

Figure 3.41. Heat Index (HI) Chart



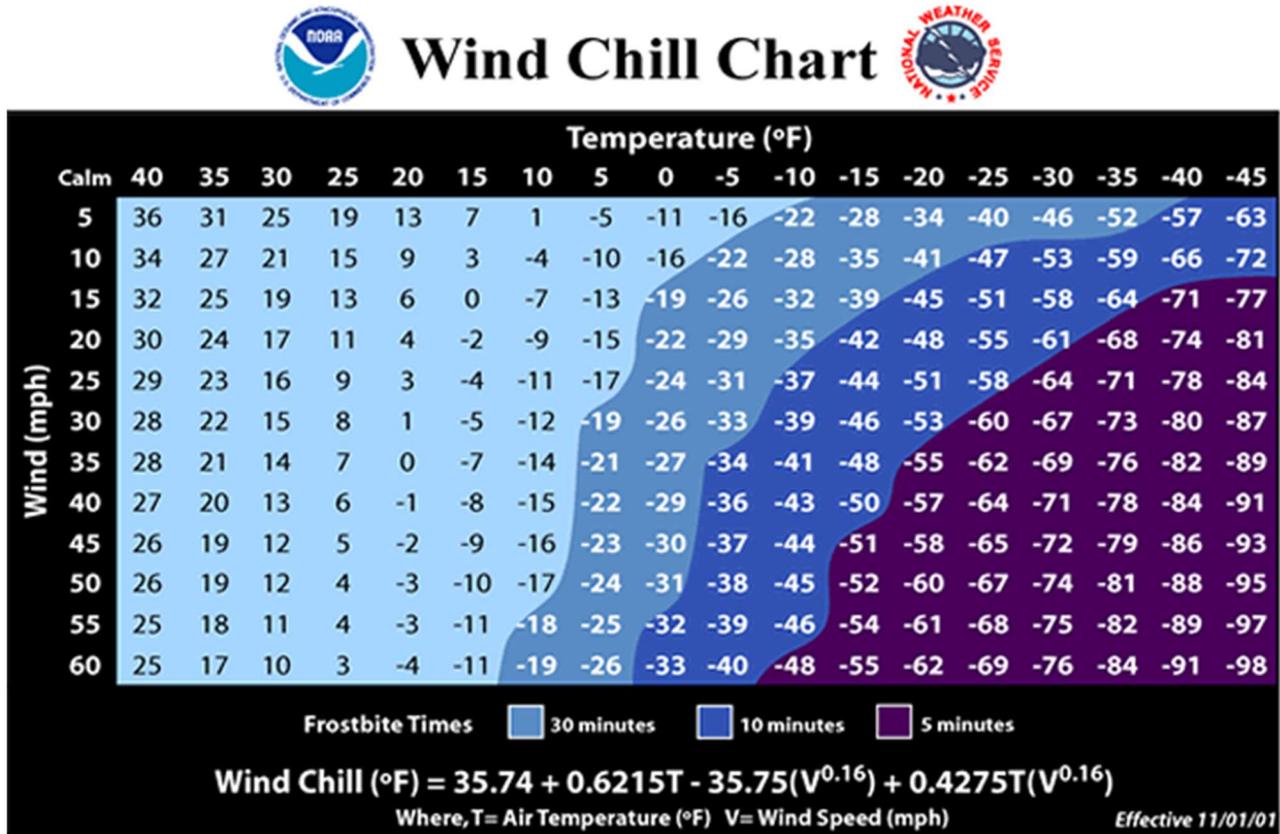
Source: National Weather Service (NWS); <https://www.weather.gov/safety/heat-index>

Note: Exposure to direct sun can increase Heat Index values by as much as 15°F. The shaded zone above 105°F corresponds to a HI that may cause increasingly severe heat disorders with continued exposure and/or physical activity.

The NWS Wind Chill Temperature (WCT) index uses advances in science, technology, and computer modeling to provide an accurate, understandable, and useful formula for calculating the dangers from winter winds and freezing temperatures. The figure below presents wind chill temperatures which are based on the rate of heat loss from exposed skin caused by wind and cold. As the wind increases, it draws heat from the body, driving down skin temperature and eventually the internal body temperature.

The NWS Wind Chill Temperature index show in **Figure 3.42** helps residents, schools, and emergency responders understand the combined effect of cold temperatures and wind speed, allowing them to take precautions against frostbite, hyperthermia, and other cold-related health risks during winter weather events.

Figure 3.42. Wind Chill Chart

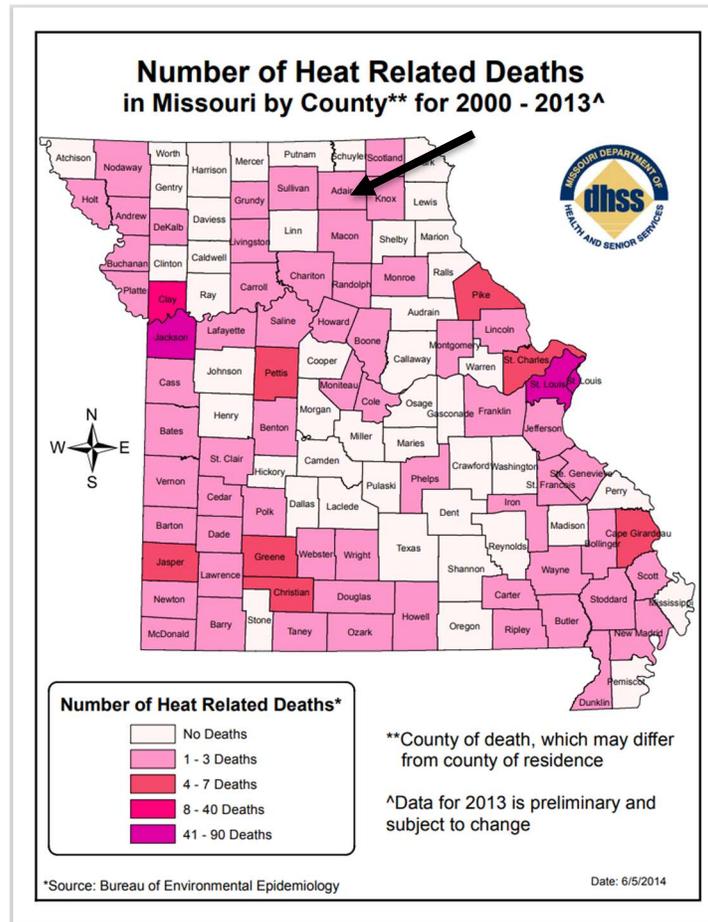


Source: <https://www.weather.gov/safety/cold-wind-chill-chart>

Previous Occurrences

The recorded events in the National Centers for Environmental Information (NCEI) shows there have been 2 recorded extreme heat events with no deaths from 2004-2024. Additional research was conducted through Google and Yahoo and no deaths were revealed. The NCEI database showed record of 6 events of extreme cold/wind chill from 2004-2024, with no deaths or injuries associated with these events. Below in **Figure 3.43** the Bureau of Environmental Epidemiology states that Adair County has had between 1-6 deaths from excessive heat between 1980 and 2016. Those numbers could not be corroborated with the NOAA database or further internet searches.

Figure 3.43. Heat Related Deaths in Missouri 2000-2013



Source: <https://health.mo.gov/living/healthcondiseases/hyperthermia/pdf/hyper2b.pdf>

Extreme temperatures can cause stress to crops and animals. According to USDA Risk Management Agency, losses to insurable crops during the 10-year time period from 2014 to 2024 were \$5.7 million. Extreme heat can also strain electricity delivery infrastructure overloaded during peak use of air conditioning during extreme heat events. Another type of infrastructure damage from extreme heat is road damage. When asphalt is exposed to prolonged extreme heat, it can cause buckling of asphalt-paved roads, driveways, and parking lots.

From 1988-2011, there were 3,496 fatalities in the U.S. attributed to summer heat. This translates to an annual national average of 146 deaths. During the same period, no deaths were recorded in the planning area, according to NCEI data. The National Weather Service stated that among natural hazards, no other natural disaster—not lightning, hurricanes, tornadoes, floods, or earthquakes—causes more deaths.

Probability of Future Occurrence

NCEI, dating back to 2004 indicated 2 events of extreme heat in the 20-year period. Based on the historical data there is a 10%, or low, chance extreme heat can occur any given year in the Adair County Planning area. The probability was determined by taking the number of years with an extreme

heat event (2) and divided by the number of years (20) data was obtained for. During the same 20-year period there were 6 events of extreme cold/wind chill. Based on the historical data there is a 30%, or medium-low, chance extreme cold/wind chill can occur in any given year. The probability was determined by taking the number of years with extreme cold/wind chill event (6) divided by the number of years (20) data was obtained.

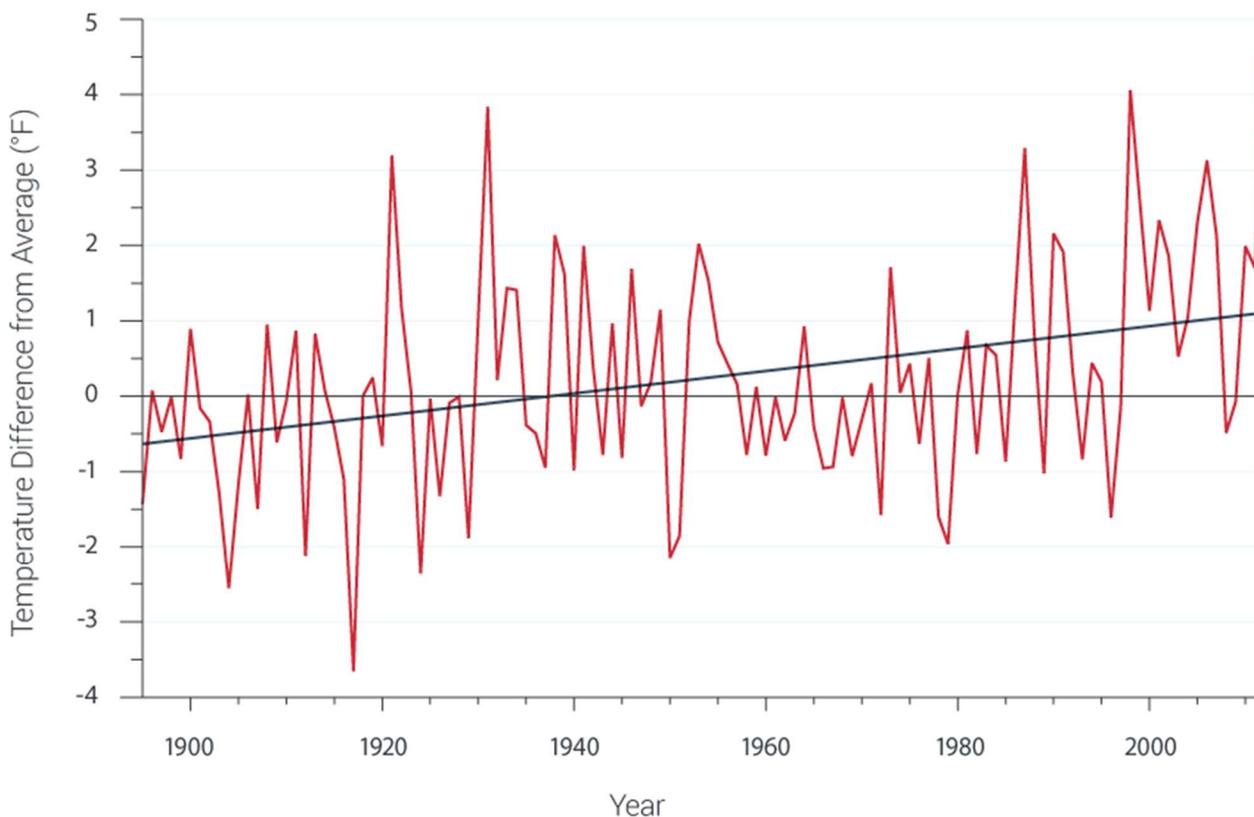
Changing Future Conditions Considerations

According to the 2023 Missouri State Hazard Mitigation Plan, average annual temperatures are projected to most likely exceed historical record levels by the middle of the 21st century. The impacts of extreme heat events are experienced most acutely by the elderly and other vulnerable populations. High temperatures are exacerbated in urban environments, a phenomenon known as the urban heat island effect, which in turn tend to have higher concentrations of vulnerable populations. Higher demand for electricity as people attempts to keep cool amplifies stress on power systems and may lead to an increase in the number of power outages. Atmospheric concentrations of ozone occur at higher air temperatures, resulting in poorer air quality, while harmful algal blooms flourish in warmer water temperatures, resulting in poorer water quality.

Extreme cold events are projected to continue posing risks to public health, infrastructure, and local economies. The elderly, low-income individuals, and those without adequate heating are particularly vulnerable to hypothermia and frostbite during prolonged cold spells. Cold temperatures can also weaken infrastructure, causing burst pipes, road damage, and increased maintenance costs. The energy demand for heating spikes, placing strain on power grids and increasing the risk of blackouts, especially during severe winter storms. Additionally, prolonged cold periods can disrupt agriculture, delaying planting seasons and harming overwintering crops, while icy conditions increase the likelihood of transportation accidents and supply chain disruptions.

According to the National Climate Assessment, extreme temperature events in the Midwest have increased during the last century, and these trends are expected to continue, as depicted below in **Figure 3.44**. Annual average temperatures (red line) across the Midwest show a trend towards increasing temperature. The trend (heavy black line) calculated over the period 1895-2012 is equal to an increase of 1.5°F.

Figure 3.44. Rising Temperatures in the Midwest



Source: [Midwest | National Climate Assessment](#)

Vulnerability

Vulnerability Overview

Those at greatest risk for heat-related illness include infants and children up to five years of age, people 65 years of age and older, people who are overweight, and people who are ill or on certain medications. However, even young and healthy individuals are susceptible if they participate in strenuous physical activities during hot weather. In agricultural areas, the exposure of farm workers, as well as livestock, to extreme temperatures is a major concern.

Table 3.2525 lists typical symptoms and health impacts due to exposure to extreme heat. Exposures to extreme cold can result in frostbite and hypothermia.

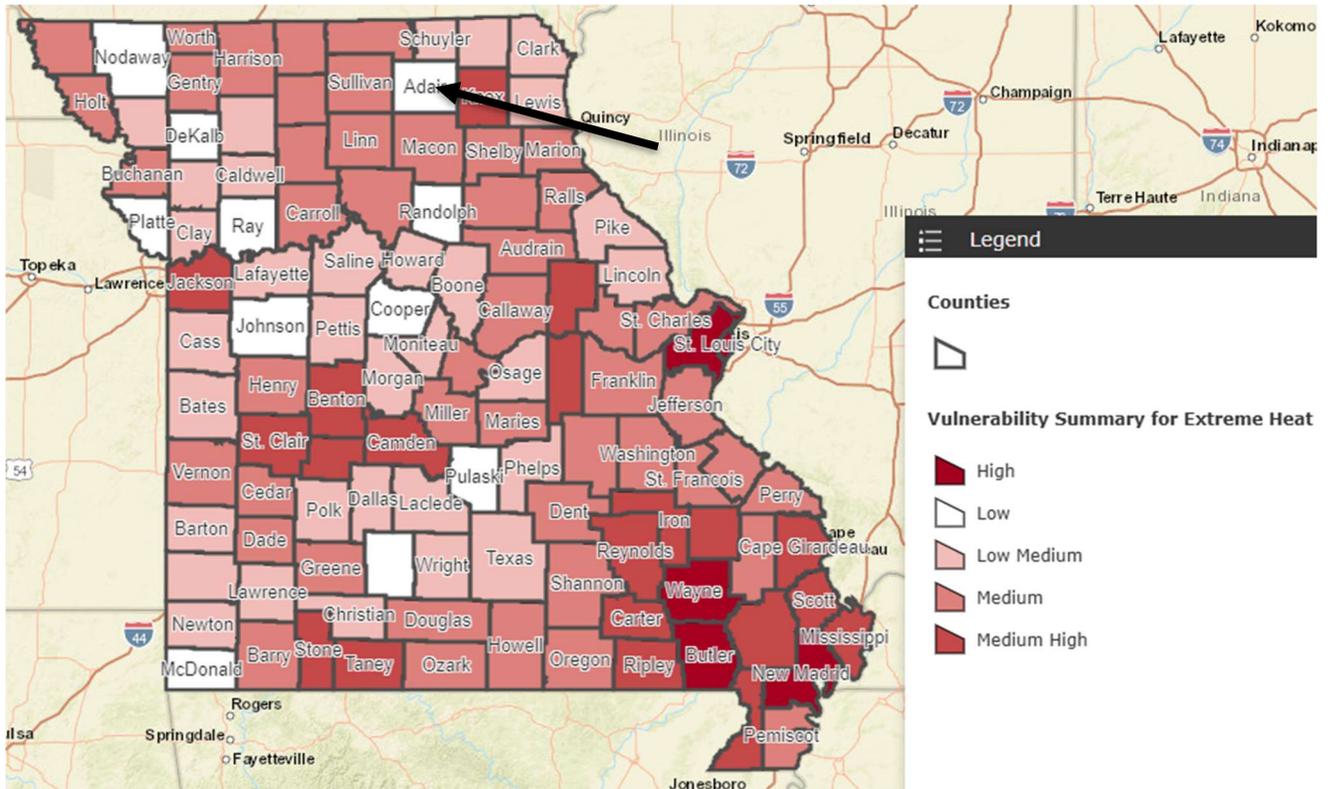
Table 3.25. Typical Health Impacts of Extreme Heat

Heat Index (HI)	Disorder
80-90° F (HI)	Fatigue possible with prolonged exposure and/or physical activity
90-105° F (HI)	Sunstroke, heat cramps, and heat exhaustion possible with prolonged exposure and/or physical activity
105-130° F (HI)	Heatstroke/sunstroke highly likely with continued exposure

Source: [National Weather Service Heat Index Program, www.weather.gov/os/heat/index.shtml](http://www.weather.gov/os/heat/index.shtml)

Figure 3.45 below shows Adair County's vulnerability rating for extreme heat as low.

Figure 3.45. Vulnerability Rating for Extreme Heat



Source: 2023 Missouri State Hazard Mitigation Plan

Figure 3.46 below shows Adair County's vulnerability rating for extreme cold as medium-low.

districts are not included in the table because students and those working for the special districts are not customarily in these age groups.

Table 3.26. Adair County Population Under Age 5 and Over Age 65, 2020 Census Data

Jurisdiction	Population Under 5 yrs	Population 65 yrs and over
Adair County*	1,386	3,992
City of Kirksville	925	2,382
City of Brashear	18	37
City of Novinger	33	70
Village of Millard	6	18
Village of Gibbs	3	11

Source: U.S. Census Bureau, (*) includes entire population of each city or county

All schools in Adair County have air conditioning which does not put school age children at risk during extreme temperatures. Accordingly, the schools do not have a policy in effect to close if there are extreme temperatures.

Problem Statement

Adair County has a growing population of residents of vulnerable populations including those under the age of 5 and those over 65, who are at a greater risk for extreme-temperature related illnesses, injuries, and death. Possible solutions include organizing outreach and education to the vulnerable populations, including establishing and promoting accessible heating or cooling centers in the community and creating a database in coordination with the Health Department to track those individuals at high risk.

3.4.7 Severe Thunderstorms Including High Winds, Hail, and Lightning

Hazard Profile

Hazard Description

Thunderstorms

A thunderstorm is defined as a storm that contains lightning and thunder which is caused by unstable atmospheric conditions. When cold upper air sinks and warm moist air rises, storm clouds or 'thunderheads' develop resulting in thunderstorms. This can occur singularly, as well as in clusters or lines. The National Weather Service defines a thunderstorm as "severe" if it includes hail that is one inch or more, or wind gusts that are at 58 miles per hour or higher. At any given moment across the world, there are about 1,800 thunderstorms occurring. Severe thunderstorms most often occur in Missouri in the spring and summer, during the afternoon and evenings, but can occur at any time. Other hazards associated with thunderstorms are heavy rains resulting in flooding (discussed separately in **Section 3.4.1**) and tornadoes (discussed separately in **Section 3.4.10**).

High Winds

A severe thunderstorm can produce winds causing as much damage as a weak tornado. The damaging winds of thunderstorms include downbursts, microbursts, and straight-line winds. Downbursts are localized currents of air blasting down from a thunderstorm, which induce an outward burst of damaging wind on or near the ground. Microbursts are minimized downbursts covering an area of less than 2.5 miles across. They include a strong wind shear (a rapid change in the direction of wind over a short distance) near the surface. Microbursts may or may not include precipitation and can produce winds at speeds of more than 150 miles per hour. Damaging straight-line winds are high winds across a wide area that can reach speeds of 140 miles per hour.

Lightning

All thunderstorms produce lightning which can strike outside of the area where it is raining and is has been known to fall more than 10 miles away from the rainfall area. Thunder is simply the sound that lightning makes. Lightning is a huge discharge of electricity that shoots through the air causing vibrations and creating the sound of thunder.

Hail

According to the National Oceanic and Atmospheric Administration (NOAA), hail is precipitation that is formed when thunderstorm updrafts carry raindrops upward into extremely cold atmosphere causing them to freeze. The raindrops form into small frozen droplets. They continue to grow as they come into contact with super-cooled water which will freeze on contact with the frozen rain droplet. This frozen droplet can continue to grow and form hail. As long as the updraft forces can support or suspend the weight of the hailstone, hail can continue to grow before it hits the earth.

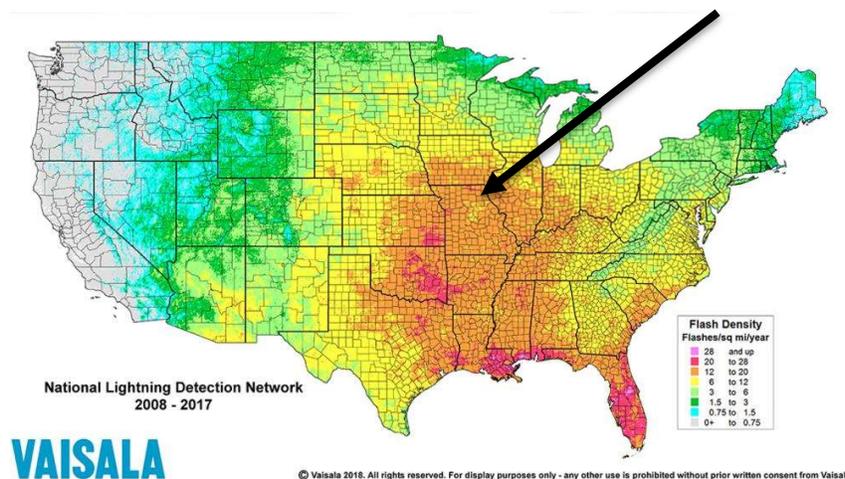
At the time when the updraft can no longer support the hailstone, it will fall down to the earth. For example, a 1/4" diameter or pea sized hail requires updrafts of 24 miles per hour, while a 2 3/4" diameter or baseball sized hail requires an updraft of 81 miles per hour. According to the NOAA, the largest hailstone in diameter recorded in the United States was found in Vivian, South Dakota on July 23, 2010. It was eight inches in diameter, almost the size of a soccer ball. Soccer-ball-sized hail is the exception, but even small pea-sized hail can do damage.

Geographic Location

Thunderstorms/high winds/hail/lightning events are an area-wide hazard that can happen anywhere in Adair County. Although these events occur similarly throughout the planning area, they are more frequently reported in more urbanized areas. In addition, damages are more likely to occur in more densely developed urban areas.

(Figure 3.4747) shows lightning frequency in the state. The planning area is indicated by an arrow.

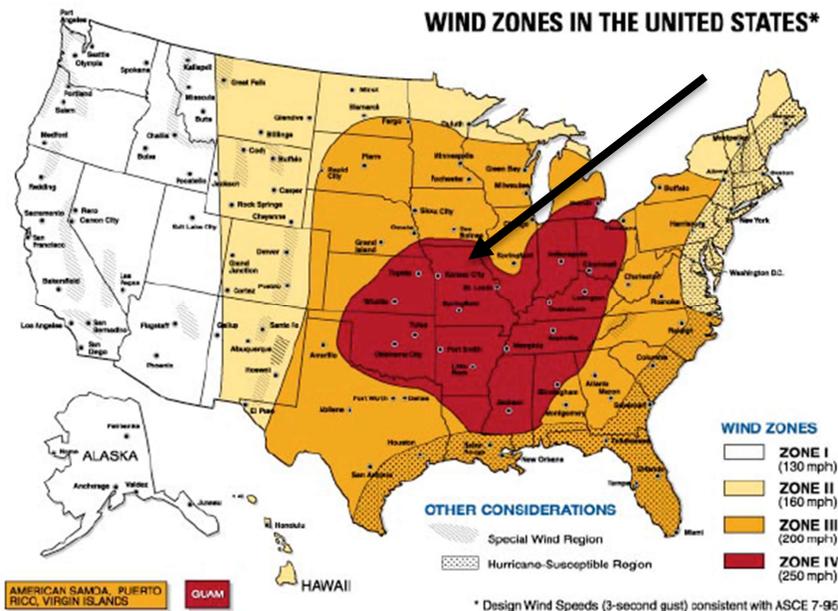
Figure 3.47. Location and Frequency of Lightning in Missouri



Source: National Weather Service,
<http://www.vaisala.com/en/products/thunderstormandlightningdetectionsystems/Pages/NLDN.aspx>. Note: indicate location of planning area with a colored square or arrow.

(Figure 3.4848) shows wind zones in the United States. The planning area is indicated by an arrow.

Figure 3.48. Wind Zones in the United States



Source: FEMA 320, Taking Shelter from the Storm, 3rd edition, https://www.fema.gov/pdf/library/ism2_s1.pdf

Strength/Magnitude/Extent

Based on information provided by the Tornado and Storm Research Organization (TORRO), **Table 3.2727** below describes typical damage impacts of the various sizes of hail.

Table 3.27. Tornado and Storm Research Organization Hailstorm Intensity Scale

Intensity Category	Diameter (mm)	Diameter (inches)	Size Description	Typical Damage Impacts
Hard Hail	5-9	0.2-0.4	Pea	No damage
Potentially Damaging	10-15	0.4-0.6	Mothball	Slight general damage to plants, crops
Significant	16-20	0.6-0.8	Marble, grape	Significant damage to fruit, crops, vegetation
Severe	21-30	0.8-1.2	Walnut	Severe damage to fruit and crops, damage to glass and plastic structures, paint and wood scored
Severe	31-40	1.2-1.6	Pigeon's egg > squash ball	Widespread glass damage, vehicle bodywork damage
Destructive	41-50	1.6-2.0	Golf ball > Pullet's egg	Wholesale destruction of glass, damage to tiled roofs, significant risk of injuries
Destructive	51-60	2.0-2.4	Hen's egg	Bodywork of grounded aircraft dented, brick walls pitted
Destructive	61-75	2.4-3.0	Tennis ball > cricket ball	Severe roof damage, risk of serious injuries
Destructive	76-90	3.0-3.5	Large orange > Soft ball	Severe damage to aircraft bodywork
Super Hailstorms	91-100	3.6-3.9	Grapefruit	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open
Super Hailstorms	>100	4.0+	Melon	Extensive structural damage. Risk of severe or even fatal injuries to persons caught in the open

Source: Tornado and Storm Research Organization (TORRO), Department of Geography, Oxford Brookes University
 Notes: In addition to hail diameter, factors including number and density of hailstones, hail fall speed and surface wind speeds affect severity. <http://www.torro.org.uk/site/hyscale.php>

Straight-line winds are defined as any thunderstorm wind that is not associated with rotation (i.e., is not a tornado). It is these winds, which can exceed 100 miles per hour, which represent the most common type of severe weather. They are responsible for most wind damage related to thunderstorms. Since thunderstorms do not have narrow tracks like tornadoes, the associated wind damage can be extensive and affect entire (and multiple) counties. Objects like trees, barns, outbuildings, high-profile vehicles, and power lines/poles can be toppled or destroyed, and roofs, windows, and homes can be damaged as wind speeds increase.

The onset of thunderstorms with lightning, high wind, and hail is generally rapid. Duration is less than six hours and warning time is generally six to twelve hours. Nationwide, lightning kills 75 to 100 people each year. Lightning strikes can also start structural and wildland fires, as well as damage electrical systems and equipment.

Previous Occurrences

Tables 3.28 through 3.31 below outline reported events and damages for the past 10 years for Thunderstorms, High Winds, Hail, and Lightening.

Source for Tables 3.28 through 3.31: <https://www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=29%2CMISSOURI>

Table 3.28 Reported Events/Damages in Adair County from Thunderstorms 2014-2024

Wind Magnitude	Number of Events	Property Damages	Crop Damages
52 kts	19	0	0
56 kts	6	0	0
58 kts	1	0	0
61 kts	6	1.00K	0
62 kts	1	0	0
69 kts	1	0	0

June 3, 2014 (69 kts): Several lines of storms erupted over northern Missouri into southeastern Nebraska and tracked southeast producing widespread severe weather in northern and northwestern Missouri and northeastern Kansas. The multiple rounds of storms also produced widespread rainfall of 2 to 4 inches, with some areas reporting as much as 5 inches of rain.

June 20, 2016 (61 kts): On the evening and night times hours of June 20, a line of severe thunderstorms formed in northern Missouri, bringing several instances of severe wind and hail. An 8-inch healthy tree was reported down near Kirksville, Missouri.

Table 3.29 **Reported Events/Damages in Adair County from High Winds 2014-2024**

Wind Magnitude	Number of Events	Property Damages	Crop Damages
52 kts	1	0	0

April 15, 2023 (52 kts): Synoptic wind gusts up to 60 mph were recorded at Kirksville Regional Airport during the late afternoon hours of April 15th. KIRK ASOS measured 3 instances of 52 knot wind gusts between 1625 LST and 1631 LST.

Table 3.30 **Reported Events/Damages in Adair County from Hail 2014-2024**

Hail Size (Inches)	Number of Events	Property Damages	Crop Damages
0.75	3	0	0
0.88	2	0	0
1	13	0	0
1.75	4	0	0

June 30, 2014 (1.75"): An extremely unstable environment was in place during this time period. On the evening of the 29th, several super cell thunderstorms producing tornadoes tracked across northwestern and northern Missouri producing multiple weak tornadoes. Storms erupted again the evening of the 30th and again produced several weak tornadoes across northern Missouri. The storms eventually evolved into a southward advancing line the evening of June 30th, producing another weak tornado in the Kansas City metropolitan area.

June 20, 2015 (1.75"): On the evening of June 20, an MCS was moving southwestward out of Iowa, into northeastern Missouri. Widespread thunderstorms formed on the southern flank of the original MCS causing widespread thunderstorm wind damage and some large hail up to the size of golf balls. As the boundary slid southward through the day on June 21 storms continues to form, bringing more wind damage and hail, this time up to baseball sized. These storms moved through the KC Metro area, which allowed for several reports of severe weather. On June 22, more storms formed across northern Missouri, bringing wind damage and flooding.

March 31, 2023 (1.75"): A highly-anticipated regional severe weather outbreak was forecast and occurred during the afternoon and evening of March 31st. Convective initiation initially occurred relatively early (7-9 am) in southeast Kansas and evolved into east central Kansas into west central Missouri. These storms were generally elevated, posing a hail threat while rapidly moving off to the northeast at 65 mph. A new line of scattered storms developed around midday and quickly matured into several long-lived supercells. Significant hail near 3.00" was reported near Fayette, MO. Towards the end of the severe weather, very deep missing occurred behind the dryline, leading to strong wind gusts at the surface. The gusts may have also been enhanced by virga/light showers, aiding downward momentum. Multiple non-thunderstorm wind gusts in excess of 58 mph, with multiple damage reports were received,

including the KC Metro area.

Table 3.31 Reported Events/Damages in Adair County from Lightning 2014-2024

No data available.

Limitations to the use of NCEI reported lightning events include the fact that only lightning events that result in fatality, injury and/or property and crop damage are in the NCEI.

The tables below (**Table 3.2829 through Table 3.312**) summarize past crop damages as indicated by crop insurance claims. The tables illustrate the magnitude of the impact on the planning area’s agricultural economy.

Table 3.28. Crop Insurance Claims Paid in Adair County from Thunderstorms, 2015-2025.

No data available

Table 3.29. Crop Insurance Claims Paid in Adair County from High Winds, 2015-2025

Crop Year	Crop Name	Cause of Loss Description	Insurance Paid
2017	Corn	Wind/Excess Wind	\$92
Total			\$92

Source: USDA Risk Management Agency, Insurance Claims, <https://www.rma.usda.gov/tools-reports/summary-business/cause-loss>

Table 3.30. Crop Insurance Claims Paid in Adair County from Lightning, 2015-2025.

No data available

Table 3.31. Crop Insurance Claims Paid in Adair County from Hail, 2015-2025.

Crop Year	Crop Name	Cause of Loss Description	Insurance Paid
2018	Corn	Hail	\$1,531
2018	Soybeans	Hail	\$35,780
2019	Corn	Hail	\$41,885
2021	Corn	Hail	\$10,573.50
Total			\$89,769.50

USDA Risk Management Agency, Insurance Claims, <https://www.rma.usda.gov/tools-reports/summary-business/cause-loss>

Probability of Future Occurrence

Thunderstorms: Based on National Centers for Environmental Information there have been 58 Thunderstorm Wind events in Adair County from 2004-2024. On average there are 2.9 Thunderstorm Wind events per year in the planning area giving it a high probability for Thunderstorm Wind in any

given year of 100%.

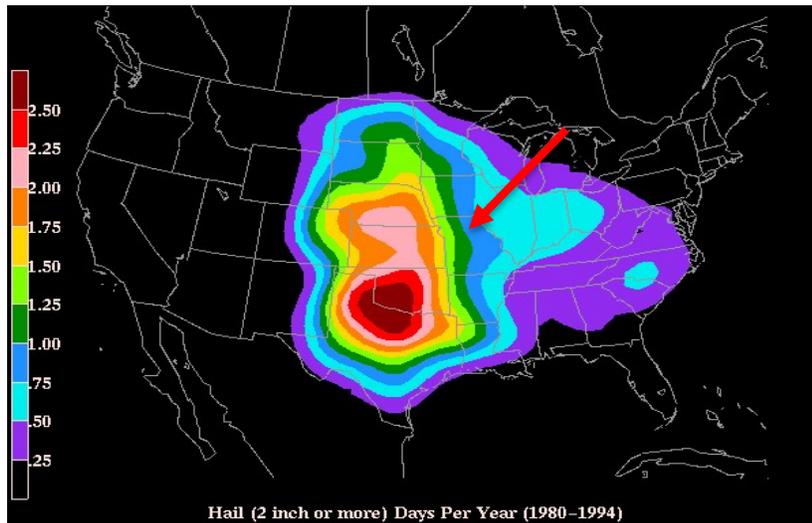
High Winds: Based on National Centers for Environmental Information there has been 1 High Wind event in Adair County from 2004-2024. Based on this data the probability that a High Wind event would happen in the planning area in any given year is 5%, or low.

Lightning: Based on National Centers for Environmental Information there has been 1 Lightning events in Adair County from 2004-2024. Based on this data the probability that a Lightning event would happen in the planning area in any given year is 5% or low.

Hail: Based on National Centers for Environmental Information there have been 56 Hail events in Adair County from 2004-2024. On average there are 2.8 Hail events per year in the planning area giving it a high probability for Hail in any given year of 100%.

(Figure 3.4949) is based on hailstorm data from 1980-1994. It shows the probability of hailstorm occurrence (2" diameter or larger) based on number of days per year. Describe the location of Adair County is located in the region to receive .50 to .75 hailstorm annually.

Figure 3.49. Annual Hailstorm Probability (2" diameter or larger), U 1980- 1994



Source: NSSL, http://www.nssl.noaa.gov/users/brooks/public_html/bighail.gif Note:

Changing Future Conditions Considerations

According to the 2023 Missouri State Plan, predicted increases in temperature could help create atmospheric conditions that are fertile breeding grounds for severe thunderstorms and tornadoes in Missouri. Possible impacts include an increased risk to life and property in both the public and private sectors. Public utilities and manufactured housing developments will be especially prone to damages. Jurisdictions already affected should be prepared for more of these events and should thus prioritize mitigation actions such as construction of safe rooms for vulnerable populations, retrofitting and/or hardening existing structures, improving warning systems and public education, and reinforcing utilities and additional critical infrastructure.

Vulnerability

Vulnerability Overview

Severe thunderstorm losses are usually attributed to the associated hazards of hail, downburst winds, lightning and heavy rains. Losses due to hail and high wind are typically insured losses that are localized and do not result in presidential disaster declarations. However, in some cases, impacts are severe and widespread and assistance outside state capabilities is necessary. Hail and wind also can have devastating impacts on crops. Severe thunderstorms/heavy rains that lead to flooding are discussed in the flooding hazard profile. Hailstorms cause damage to property, crops, and the environment, and can injure and even kill livestock. In the United States, hail causes more than \$1 billion in damage to property and crops each year. Even relatively small hail can shred plants to ribbons in a matter of minutes. Vehicles, roofs of buildings and homes, and landscaping are also commonly damaged by hail. Hail has been known to cause injury to humans, occasionally fatal injury.

In general, assets in the County vulnerable to thunderstorms with lightning, high winds, and hail include people, crops, vehicles, and built structures. Although this hazard results in high annual losses, private property insurance and crop insurance usually cover the majority of losses. Considering insurance coverage as a recovery capability, the overall impact on jurisdictions is reduced.

Most lightning damages occur to electronic equipment located inside buildings. But structural damage can also occur when a lightning strike causes a building fire. In addition, lightning strikes can cause damages to crops, if fields or forested lands are set on fire. Communications equipment and warning transmitters and receivers can also be knocked out by lightning strikes.

<http://www.vaisala.com/en/products/thunderstormandlightningdetectionsystems/Pages/NLDN.aspx> and <http://www.lightningsafety.noaa.gov/>

Potential Losses to Existing Development

Most damages occur to electronic equipment located inside buildings, but structural damage can also occur when a lightning strike causes a building fire. Communications equipment and warning transmitters and receivers can also be knocked out by lightning strikes. There has not been any fatalities or injuries due to lightning in Adair County during the 20-year period reviewed. There have been several insurance claims due to wind and hail due to loss of property.

Hail: There were 4 reported crop insurance claims for a 10-year period. The USDA RMA data does not depict 4 individual claims, but rather summarizes the total for each crop type/cause of loss. This amount does not take in account most buildings and structures that are privately insured thus insurance would help the building owner recover from hail damage.

High Winds: During the 10-year period reviewed there was 1 report of damage contributed to high winds. The USDA RMA data does not depict an individual claim, but rather summarizes the total for each crop type/cause of loss. This amount does not take in account most buildings and structures that are privately insured thus insurance would help the building owner recover from high wind damage.

Previous and Future Development

Adair County's trends in increased development will likely increase vulnerability to thunderstorms, high winds, hail, and lightning. With more development of housing, neighborhoods, and businesses, the increased population will be vulnerable to all these hazards.

Hazard Summary by Jurisdiction

Thunderstorms/high winds/ lightning/hail events are area-wide, NCEI data did not seem to indicate

that any particular community had higher losses as compared to another.

Problem Statement

Thunderstorms can damage power lines with the high winds or fallen debris such as tree limbs. Not everyone in the county utilizes social media, texting or have access to a weather radio, communities would benefit from updated sirens. Possible solutions include review of local ordinance and building codes to address high winds and/or construction techniques to include structural bracing, straps and clips, or anchor bolts.

3.4.8 Severe Winter Weather

Hazard Profile

Hazard Description

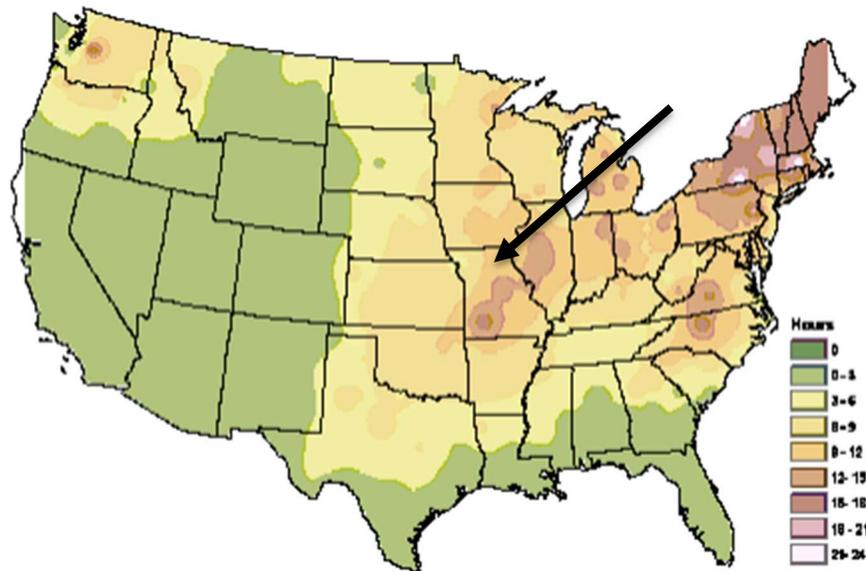
A major winter storm can last for several days and be accompanied by high winds, freezing rain or sleet, heavy snowfall, and cold temperatures. The National Weather Service describes different types of winter storm events as follows.

- **Blizzard**—Winds of 35 miles per hour or more with snow and blowing snow reducing visibility to less than $\frac{1}{4}$ mile for at least three hours.
- **Blowing Snow**—Wind-driven snow that reduces visibility. Blowing snow may be falling snow and/or snow on the ground picked up by the wind.
- **Snow Squalls**—Brief, intense snow showers accompanied by strong, gusty winds. Accumulation may be significant.
- **Snow Showers**—Snow falling at varying intensities for brief periods of time. Some accumulation is possible.
- **Freezing Rain**—Measurable rain that falls onto a surface with a temperature below freezing. This causes it to freeze to surfaces, such as trees, cars, and roads, forming a coating or glaze of ice. Most freezing-rain events are short lived and occur near sunrise between the months of December and March.
- **Sleet**—Rain drops that freeze into ice pellets before reaching the ground. Sleet usually bounces when hitting a surface and does not stick to objects.

Geographic Location

The entire planning area is vulnerable to heavy snow, ice, extreme cold temperatures and freezing rain. (Figure 3.5050) shows the county graphically (approximated by arrow) is in the orange-shaded area that receives 9-12 hours of freezing rain annually.

Figure 3.50. NWS Statewide Average Number of Hours per Year with Freezing Rain



Source: American Meteorological Society. "Freezing Rain Events in the United States." <http://ams.confex.com/ams/pdfpapers/71872.pdf>

Strength/Magnitude/Extent

Severe winter storms include heavy snowfall, ice, and strong winds which can push the wind chill well below zero degrees in the planning area.

For severe weather conditions, the National Weather Service issues some or all of the following products as conditions warrant across the State of Missouri. NWS local offices in Missouri may collaborate with local partners to determine when an alert should be issued for a local area.

- Winter Weather Advisory — Winter weather conditions are expected to cause significant inconveniences and may be hazardous. If caution is exercised, these situations should not become life threatening. Often the greatest hazard is to motorists.
- Winter Storm Watch — Severe winter conditions, such as heavy snow and/or ice are possible within the next day or two.
- Winter Storm Warning — Severe winter conditions have begun or are about to begin.
- Blizzard Warning — Snow and strong winds will combine to produce a blinding snow (near zero visibility), deep drifts, and life-threatening wind chill.
- Ice Storm Warning -- Dangerous accumulations of ice are expected with generally over one quarter inch of ice on exposed surfaces. Travel is impacted, and widespread downed trees

and power lines often result.

- Wind Chill Advisory -- Combination of low temperatures and strong winds will result in wind chill readings of -20 degrees F or lower.
- Wind Chill Warning -- Wind chill temperatures of -35 degrees F or lower are expected. This is a life-threatening situation.

Previous Occurrences

(Table 3.3232) includes NCEI reported events and damages for at least the past 10 years for blizzard, cold/wind chill, extreme cold/wind chill, heavy snow, ice storm, sleet, winter storm, and winter weather.

Table 3.32. NCEI Adair County Winter Weather Events Summary, 2014-2024

Type of Event	Inclusive Dates	Magnitude	# of Injuries	Property Damages	Crop Damages
Cold/Wind Chill	01/05/2014	-	0	0	0
Heavy Snow	02/04/2014	-	0	0	0
Extreme Cold/Wind Chill	02/06/2014	-	0	0	0
Heavy Snow	01/31/2015	-	0	0	0
Heavy Snow	02/01/2015	-	0	0	0
Winter Storm	12/27/2015	-	0	0	0
Ice Storm	01/15/2017	-	0	0	0
Winter Weather	11/12/2018	-	0	50.00K	0
Blizzard	11/25/2018	-	0	0	0
Winter Storm	01/11/2019	-	0	0	0
Ice Storm	02/07/2019	-	0	0	0
Winter Storm	01/10/2020	-	0	0	0
Winter Storm	04/16/2020	-	0	0	0
Winter Storm	01/01/2021	-	0	0	0
Winter Weather	01/25/2021	-	0	0	0
Extreme Cold/Wind Chill	02/14/2021	-	0	0	0
Extreme Cold/Wind Chill	02/15/2021	-	0	0	0
Extreme Cold/Wind Chill	02/16/2021	-	0	0	0
Winter Storm	01/01/2022	-	0	0	0
Winter Storm	01/14/2022	-	0	0	0
Extreme Cold/Wind Chill	12/22/2022	-	0	0	0
Extreme Cold/Wind Chill	01/12/2024	-	0	0	0

Source: NCEI, data accessed June 2, 2025

November 12, 2018 (Winter Weather): Light snow began falling early in the morning on November 12. While the snow was generally light – moderate at times – 1 to 3 inches of snow fell across the area which caused area roads to become icy, and numerous vehicle accidents ensued. Up to 10 injuries had been reported, and 2 fatalities occurred as a result of the icy roads. Light snow caused several vehicle accidents across the region as roads iced up. Along HWY 63 about 1-2 miles north of Kirksville as vehicle slid into the path of another vehicle, striking it head on. Four people were injured in the accident.

Table 3.33 shows Presidential Disaster Declarations for Winter Storms in Adair County.

Table 3.33 Presidential Disaster Declarations for Winter Storms in Adair County

Disaster Number	Description	Declaration Date Incident Period	Individual Assistance (IA) Public Assistance (PA)
1961	Severe Winter Storms	03/23/2011	PA
3317	Severe Winter Storms	02/03/2011	PA
3303	Severe Ice Storms	01/30/2009	PA
1736	Severe Ice Storms	12/27/2007	PA
3281	Severe Ice Storms	12/12/2007	PA
1403	Severe Ice Storms	02/06/2002	IA, PA

Source: (<https://www.fema.gov/data-visualization-summary-disaster-declarations-and-grants>)

Winter storms, cold, frost and freeze take a toll on crop production in the planning area. (Table 3.3334) showing the USDA’s Risk Management Agency payments for insured crop losses in the planning area as a result of cold conditions and snow for the past 10 years.

Table 3.33. Crop Insurance Claims Paid in Adair County as a Result of Cold Conditions and Snow 2014-2025

Crop Year	Crop Name	Cause of Loss Description	Insurance Paid (\$)
2014	Wheat	Freeze	\$12,332
2014	Wheat	Cold Winter	\$42,110
2014	Wheat	Cold Wet Weather	\$11,361
2014	Corn	Frost	\$370
2014	Corn	Cold Wet Weather	\$1,881
2014	Soybeans	Cold Wet Weather	\$2,147
2015	Wheat	Cold Winter	\$14,088
2015	Wheat	Cold Wet Weather	\$12,190.36
2015	Corn	Cold Wet Weather	\$48,677
2015	Soybeans	Cold Wet Weather	\$2,449
2016	Wheat	Cold Wet Weather	\$5,008
2016	Corn	Cold Wet Weather	\$1,247
2017	Corn	Cold Wet Weather	\$634
2019	Wheat	Cold Wet Weather	\$38,635
2019	Soybeans	Cold Wet Weather	\$7,834
2020	Wheat	Cold Wet Weather	\$2,713
2020	Corn	Cold Wet Weather	\$512
2020	Soybeans	Cold Wet Weather	\$4,879
2021	Soybeans	Cold Wet Weather	\$6,326
2024	Corn	Cold Wet Weather	\$4,175
2024	Soybeans	Cold Wet Weather	\$1,386
Total			\$220,954.36

Source: USDA Risk Management Agency, (<https://www.rma.usda.gov/tools-reports/summary-business/cause-loss>)

Probability of Future Occurrence

The entire planning area is vulnerable to the effects of winter storm/blizzard, ice storms, winter weather, cold/wind chill and heavy snow. All effects of winters tend to make driving more treacherous and can impact the response of emergency vehicles. The probability of utility and infrastructure failure increases during winter weather due to the freezing rain accumulation on utility poles and power lines. Elderly populations are considered particularly vulnerable to the impact of winter

weather.

According to NCEI data, during the period from 2014 to 2024, the planning area experienced the following:

Blizzard: There were 4 reported blizzard events in Adair County from the period of 2004-2024. The probability of a blizzard occurring in the planning area in any given year is 20% or low (4 events / 20 years).

Cold/Wind Chill: There was 1 reported Cold/Wind Chill event in Adair County from the period of 2004-2024. The probability of a Cold/Wind Chill event in the planning area in any given year is 5% or low (1 event / 20 years).

Ice Storm: There were 6 reported Ice Storm events in Adair County from the period of 2004-2024. The probability of an Ice Storm event in the planning area in any given year is 30% or medium-low (6 events / 20 years).

Winter Storm: There were 16 reported Winter Storm events in Adair County from the period of 2004-2024. The probability of a Winter Storm event in the planning area in any given year is 80% or medium-high (16 events / 20 years).

Winter Weather: There were 8 Winter Weather events in Adair County from the period of 2004-2024. The probability of a Winter Weather event in the planning area in any given year is 40% or medium-low (8 events / 20 years).

Changing Future Conditions Considerations

According to the 2023 Missouri State Plan, a shorter overall winter season and fewer days of extreme cold may have both positive and negative indirect impacts. Warmer winter temperatures may result in changing distributions of native plant and animal species and/or an increase in pests and non-native species. Warmer winter temperatures will result in a reduction of lake ice cover. Reduced lake ice cover impacts aquatic ecosystems by raising water temperatures. Water temperature is linked to dissolved oxygen levels and many other environmental parameters that affect fish, plant, and other animal populations. A lack of ice cover also leaves lakes exposed to wind and evaporation during a time of year when they are normally protected. As both temperature and precipitation increase during the winter months, freezing rain will be more likely. Additional wintertime precipitation in any form will contribute to saturation and increase the risk and/or severity of spring flooding. A greater proportion of wintertime precipitation may fall as rain rather than snow.

Vulnerability

Vulnerability Overview

Heavy snow can bring a community to a standstill by inhibiting transportation (in whiteout conditions), weighing down utility lines, and by causing structural collapse in buildings not designed to withstand the weight of the snow. Repair and snow removal costs can be significant. Ice buildup can collapse utility lines and communication towers, as well as make transportation difficult and hazardous. Ice can also become a problem on roadways if the air temperature is high enough that precipitation falls as freezing rain rather than snow.

Buildings with overhanging tree limbs are more vulnerable to damage during winter storms when limbs fall. Businesses experience loss of income as a result of closure during power outages. In general heavy winter storms increase wear and tear on roadways though the cost of such damages is difficult to determine. Businesses can experience loss of income as a result of closure during winter storms.

Overhead power lines and infrastructure are also vulnerable to damages from winter storms. In particular ice accumulation during winter storm events damage to power lines due to the ice weight on the lines and equipment. Damages also occur to lines and equipment from falling trees and tree limbs weighted down by ice. Potential losses could include cost of repair or replacement of damaged facilities, and lost economic opportunities for businesses.

Secondary effects from loss of power could include burst water pipes in homes without electricity during winter storms. Public safety hazards include risk of electrocution from downed power lines. Specific amounts of estimated losses are not available due to the complexity and multiple variables associated with this hazard. Standard values for loss of service for utilities reported in FEMA's BCA Toolkit 6.0 Release Notes, the economic impact as a result of loss of power is \$174 per person per day of lost service.

The method used to determine vulnerability to severe winter weather across Missouri was statistical analysis of data from several sources: National Centers for Environmental Information (NCEI) storm events data (1996 to December 31, 2021), HAZUS Building Exposure Value data, housing density data from the U.S. Census (2020), and the calculated Social Vulnerability Index for Missouri Counties from the Hazards and Vulnerability Research Institute in the Department of Geography at the University of South Carolina. From the statistical data collected, five factors were considered in determining overall vulnerability to severe winter weather as follows: housing density, building exposure, social vulnerability, likelihood of occurrence, and average annual property loss. Based on natural breaks in the statistical data, a rating value of 1 through 5 was assigned to each factor. Once the individual ratings were determined for the above factors, a combined vulnerability rating was computed for severe winter weather. These rating values correspond to the following descriptive terms: 1) Low 2) Medium-Low 3) Medium 4) Medium-High 5) High shown in **Table 3.34** below. **Table 3.35** shows ranges for severe winter weather combined vulnerability rating. **Table 3.36** lists housing density, building exposure, and SOVI. **Figure 3.51** illustrates severe winter weather vulnerability with the planning area indicated by an arrow.

Table 3.34 Ranges for Severe Winter Weather Vulnerability Factor Rating

Factors Considered	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Common Factors					
Housing Density (# per sq. mile)	4-46	47-140	141-283	284-871	872-2,865
Building Exposure (\$1,000)	\$286,351- \$3,053,773	\$3,381,480- \$9,044,465	\$11,043,270- \$24,814,360	\$30,225,497- \$50,440,776	\$96,532,305- \$153,542,314
Social Vulnerability	1	2	3	4	5
Likelihood of Occurrence (# of events/ yrs. of data)	1-1.5	1.6-1.8	1.9-2.2	2.3-2.7	2.8-4
Average Annual Property Loss (annual property loss/ yrs. of data)	0	\$1- \$329,423	\$329,424- \$961,962	\$961,963- \$2,572,692	\$2,572,693- \$4,738,269

Source: 2023 Missouri Hazard Mitigation Plan

Table 3.35 Ranges for Severe Winter Weather Combined Vulnerability Rating

	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Severe Winter Weather Combined Vulnerability	6-8	9-10	11-12	13-15	16-21

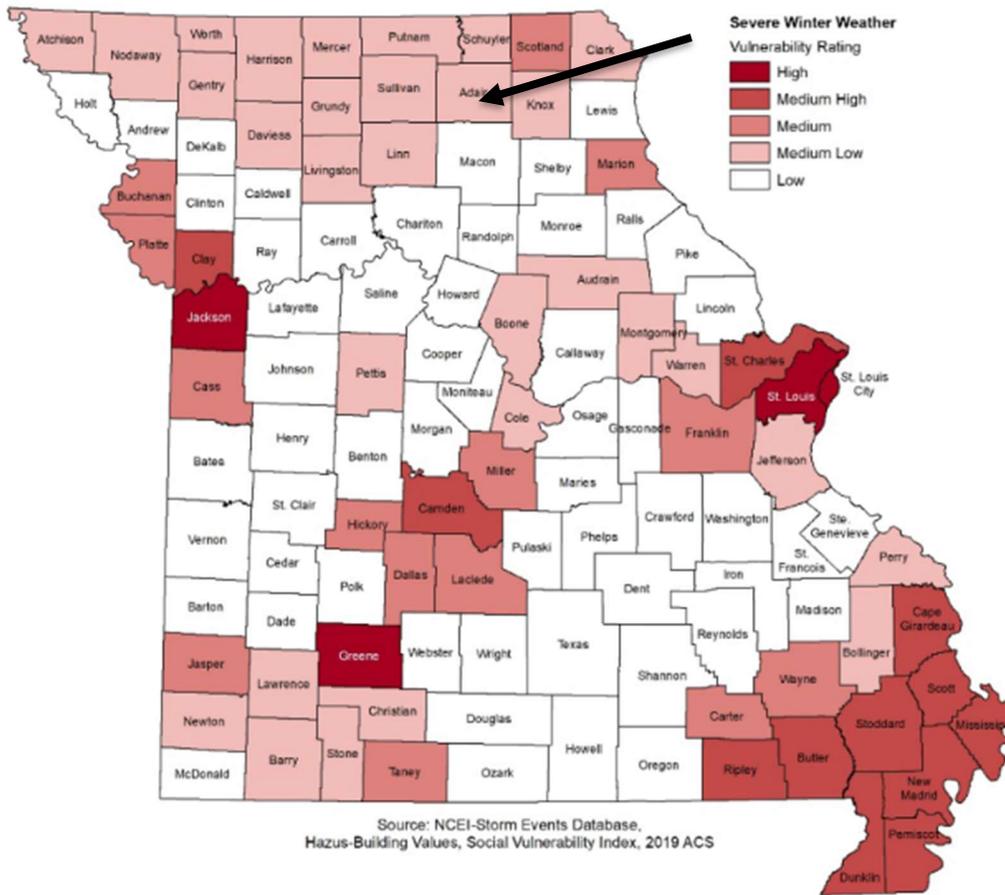
Source: 2023 Missouri Hazard Mitigation Plan

Table 3.36 Housing Density, Building Exposure, and SOVI

County	Total Building Exposure (Hazes)	Building Exposure Rating	Housing Density	Housing Density Rating	SOVI Ranking	SOVI Rating
Adair	\$2,684,103,000	1	20.53	1	Medium	3

Source: 2023 Missouri Hazard Mitigation Plan

Figure 3.51. Vulnerability Summary for Severe Winter Weather



Source: 2023 Missouri Hazard Mitigation Plan

Potential Losses to Existing Development

The next severe winter storm will most likely close schools and businesses for multiple days and make roadways hazardous for travel. Heavy ice accumulation may damage electrical infrastructures causing prolonged power outages for large portions of the region. In addition, freezing temperatures make water lines vulnerable to freeze/thaw. Fallen tree limbs also pose a threat to various structures/infrastructures across the county.

Previous and Future Development

Future development could potentially increase vulnerability to this hazard by increasing demand on the utilities and increasing the exposure of infrastructure networks.

Previous developments increase vulnerability due to older homes and buildings being constructed before modern energy standards resulting in poor insulation, outdated heating and cooling systems, and higher energy consumption.

Hazard Summary by Jurisdiction

Although crop loss as a result of severe winter storm occurs more in the unincorporated portions of the planning area, the density of vulnerable populations is higher in the urban areas of the planning areas. It is considered that the magnitude of this hazard is relatively equal. The factors of probability, warning time, and duration are also equal across the planning area. Therefore, the conclusion is the hazard does not substantially vary by jurisdiction.

Problem Statement

Adair County is expected to experience at least one severe winter weather events annually; the county has a low-medium vulnerability rating. Jurisdictions should enhance their weather monitoring to be better prepared for severe weather hazards. If jurisdictions monitor winter weather, they can dispatch road crews to prepare for the hazard. County and city crews can also trim trees along power lines to minimize the potential for outages due to snow and ice. Citizens should also be educated about the benefits of being proactive to alleviate property damage as well as preparing for power outages. Education needs to occur to ensure all residents are aware of the shelters in the County, residents are educated on emergency supplies to have and the utilization of social media and texting increases.

3.4.9 Tornado

Hazard Profile

Hazard Description

Essentially, tornadoes are a vortex storm with two components of winds. The first is the rotational winds that can measure up to 500 miles per hour, and the second is an uplifting current of great strength. The dynamic strength of both these currents can cause vacuums that can overpressure structures from the inside.

Although tornadoes have been documented in all 50 states, most of them occur in the central United States. The unique geography of the central United States allows for the development of thunderstorms that spawn tornadoes. The jet stream, which is a high-velocity stream of air, determines which area of the central United States will be prone to tornado development. The jet stream normally separates the cold air of the north from the warm air of the south. During the winter, the jet stream flows west to east from Texas to the Carolina coast. As the sun “moves” north, so does the jet stream, which at summer solstice flows from Canada across Lake Superior to Maine. During its move northward in the spring and its recession south during the fall, the jet stream crosses Missouri, causing the large thunderstorms that breed tornadoes.

Tornadoes spawn from the largest thunderstorms. The associated cumulonimbus clouds can reach heights of up to 55,000 feet above ground level and are commonly formed when Gulf air is warmed by solar heating. The moist, warm air is overridden by the dry cool air provided by the jet stream. This cold air presses down on the warm air, preventing it from rising, but only temporarily. Soon, the warm air forces its way through the cool air and the cool air moves downward past the rising warm air. This air movement, along with the deflection of the earth’s surface, can cause the air masses to start rotating. This rotational movement around the location of the breakthrough forms a vortex, or funnel. If the newly created funnel stays in the sky, it is referred to as a funnel cloud. However, if it touches the ground, the funnel officially becomes a tornado.

A typical tornado can be described as a funnel-shaped cloud that is “anchored” to a cloud, usually a cumulonimbus that is also in contact with the earth’s surface. This contact on average lasts 30 minutes and covers an average distance of 15 miles. The width of the tornado (and its path of destruction) is usually about 300 yards. However, tornadoes can stay on the ground for upward of 300 miles and can be up to a mile wide. The National Weather Service, in reviewing tornadoes occurring in Missouri between 1950 and 1996, calculated the mean path length at 2.27 miles and the mean path area at 0.14 square mile.

The average forward speed of a tornado is 30 miles per hour but may vary from nearly stationary to 70 miles per hour. The average tornado moves from southwest to northeast, but tornadoes have been known to move in any direction. Tornadoes are most likely to occur in the afternoon and evening, but have been known to occur at all hours of the day and night.

Geographic Location

Tornados can occur in the entire planning area and no area is immune from tornado suffering.

Strength/Magnitude/Extent

Tornadoes are the most violent of all atmospheric storms and are capable of tremendous destruction. Wind speeds can exceed 250 miles per hour and damage paths can be more than one mile wide and 50 miles long. Tornadoes have been known to lift and move objects weighing more than 300 tons a distance of 30 feet, toss homes more than 300 feet from their foundations, and siphon millions of tons of water from water bodies. Tornadoes also can generate a tremendous amount of flying debris or

“missiles,” which often become airborne shrapnel that causes additional damage. If wind speeds are high enough, missiles can be thrown at a building with enough force to penetrate windows, roofs, and walls. However, the less spectacular damage is much more common.

Tornado magnitude is classified according to the EF- Scale (or the Enhance Fujita Scale, based on the original Fujita Scale developed by Dr. Theodore Fujita, a renowned severe storm researcher). The EF-Scale (see **Table 3.3737**) attempts to rank tornadoes according to wind speed based on the damage caused. This update to the original F Scale was implemented in the U.S. on February 1, 2007.

Table 3.37. Enhanced F Scale for Tornado Damage

FUJITA SCALE			DERIVED EF SCALE		OPERATIONAL EF SCALE	
F Number	Fastest ¼-mile (mph)	3 Second Gust (mph)	EF Nu	3 Second Gust (mph)	EF Number	3 Second Gust (mph)
0	40-72	45-78	0	65-85	0	65-85
1	73-112	79-117	1	86-109	1	86-110
2	113-157	118-161	2	110-137	2	111-135
3	158-207	162-209	3	138-167	3	136-165
4	208-260	210-261	4	168-199	4	166-200
5	261-318	262-317	5	200-234	5	Over 200

Source: [The National Weather Service, www.spc.noaa.gov/faq/tornado/ef-scale.html](http://www.spc.noaa.gov/faq/tornado/ef-scale.html)

The wind speeds for the EF scale and damage descriptions are based on information on the NOAA Storm Prediction Center as listed in **Table 3.3838**. The damage descriptions are summaries. For the actual EF scale it is necessary to look up the damage indicator (type of structure damaged) and refer to the degrees of damage associated with that indicator. Information on the Enhanced Fujita Scale’s damage indicators and degrees or damage is located online at www.spc.noaa.gov/efscale/ef-scale.html.

Table 3.38. Enhanced Fujita Scale with Potential Damage

Enhanced Fujita Scale			
Scale	Wind Speed (mph)	Relative Frequency	Potential Damage
EF0	65-85	53.5%	Light. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over. Confirmed tornadoes with no reported damage (i.e. those that remain in open fields) are always rated EF0).
EF1	86-110	31.6%	Moderate. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111-135	10.7%	Considerable. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes complete destroyed; large trees snapped or uprooted; light object missiles generated; cars lifted off ground.
EF3	136-165	3.4%	Severe. Entire stores of well-constructed houses destroyed; severe damage to large buildings such as shopping malls; trains overturned; trees debarked; heavy cars lifted off the ground and thrown; structures with weak foundations blown away some
EF4	166-200	0.7%	Devastating. Well-constructed houses and whole frame houses completely levelled; cars thrown and small missiles generated.
EF5	>200	<0.1%	Explosive. Strong frame houses levelled off foundations and swept away; automobile-sized missiles fly through the air in excess of 300 ft.; steel reinforced concrete structure badly damaged; high rise buildings have significant structural deformation; incredible phenomena will occur.

Source: NOAA Storm Prediction Center, <http://www.spc.noaa.gov/efscale/ef-scale.html>

Enhanced weather forecasting has provided the ability to predict severe weather likely to produce

tornadoes days in advance. Tornado watches can be delivered to those in the path of these storms several hours in advance. Lead time for actual tornado warnings is about 30 minutes. Tornadoes have been known to change paths very rapidly, thus limiting the time in which to take shelter. Tornadoes may not be visible on the ground if they occur after sundown or due to blowing dust or driving rain and hail.

Previous Occurrences

(Table 3.3939) includes NCEI reported tornado events and damages since 1993 in the planning area. Prior to that date, only really destructive tornadoes were recorded.

There are limitations to the use of NCEI tornado data that must be noted. For example, one tornado may contain multiple segments as it moves geographically. A tornado that crosses a county line or state line is considered a separate segment for the purposes of reporting to the NCEI. Also, a tornado that lifts off the ground for less than 5 minutes or 2.5 miles is considered a separate segment. If the tornado lifts off the ground for greater than 5 minutes or 2.5 miles, it is considered a separate tornado. Tornadoes reported in Storm Data and the Storm Events Database are in segments.

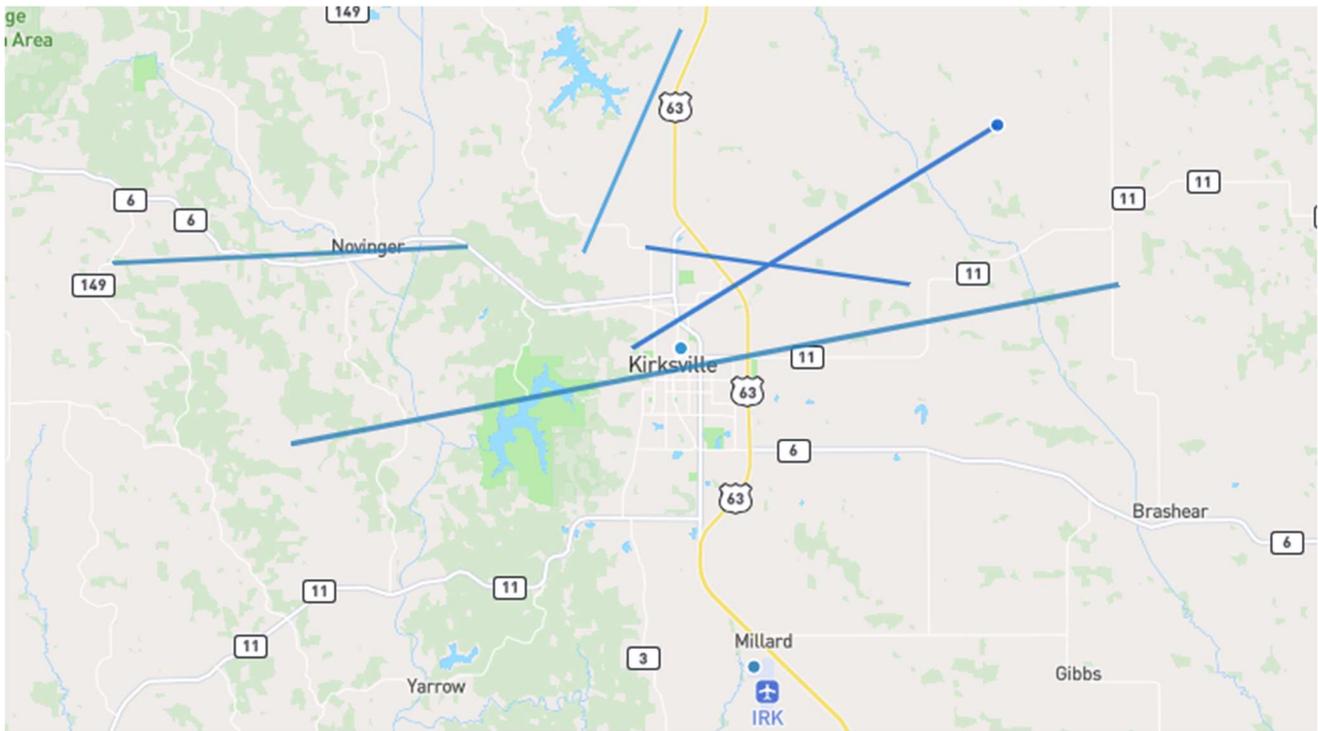
Table 3.39. Recorded Tornadoes in Adair County, 1993 – Present

Date	Beginning Location	Ending Location	Length (miles)	Width (yards)	F/EF Rating	Death	Injury	Property Damage	Crop Damages
6/14/1998	3NW Kirksville	7N Kirksville	5	25	F0	0	0	\$0	\$0
5/13/2009	4NNW Pure Air	2E Novinger	7.72	100	EF1	0	0	\$100,000	\$0
5/13/2009	2NNW Kirksville	2WSW Clay	5.8	150	EF2	2	6	\$5,000,000	\$0
5/4/2010	3SE Loeffler	3SE Loeffler	.1	20	EF0	0	0	\$0	\$0
9/10/2014	2E Pure Air	2SSW Adair	18.27	20	EF1	0	0	\$0	\$0
	Total					2	6	\$5,100,000	\$0

Source: National Centers for Environmental Information, <http://www.NCEI.noaa.gov/stormevents/>

(Figure 3.5252) shows historic tornado paths in the planning area.

Figure 3.52. Adair County Map of Historic Tornado Events



Source: <https://www.tornadopath.com/missouri/adair>

Data from the USDA Risk Management Agency showed no insurance payments in Adair County for crop damages as a result of tornadoes within the period of 2014-2024.

Probability of Future Occurrence

The National Centers for Environmental Information reported 4 tornadoes in Adair County in a 20-year time period, which calculates to a 20 percent chance of tornado in any given year. Therefore, it is a low probability that some portion of Adair County will experience tornado activity in any given year.

Changing Future Conditions Considerations

According to the 2023 Missouri State Hazard Mitigation Plan, scientists do not know how the frequency and severity of tornadoes will change. Research published in 2015 suggests that changes in heat and moisture content in the atmosphere, brought on by a warming world, could be playing a role in making tornado outbreaks more common and severe in the U.S. The research concluded that the number of days with large outbreaks have been increasing since the 1950s and that densely concentrated tornado outbreaks are on the rise. It is notable that the research shows that the area of tornado activity is not expanding, but rather the areas already subject to tornado activity are seeing the more densely packed tornadoes. Because Missouri experiences on average around 38.5 tornadoes a year, such research is closely followed by meteorologists in the state.

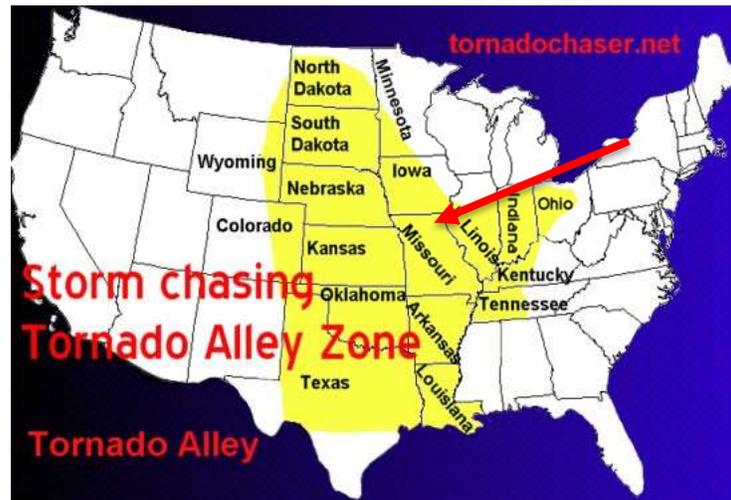
Adair County has experienced 5 recorded tornadoes since 1993 with the strongest being an EF2. While this is lower than tornado counts in other regions of the state, Adair County remains vulnerable to destructive wind events.

Vulnerability

Vulnerability Overview

Adair County is located in a region of the U.S. with high frequency of dangerous and destructive tornadoes referred to as “Tornado Alley”. (Figure 3.5353) illustrates areas where dangerous tornadoes historically have occurred with the planning area identified by an arrow.

Figure 3.53. Tornado Alley in the U.S.



Source: <http://www.tornadochaser.net/tornalley.html>

The method used to determine vulnerability to tornadoes across Missouri was statistical analysis of data from several sources: HAZUS building exposure value data, population density and mobile home data from the U.S. Census (2020), the calculated Social Vulnerability Index for Missouri Counties from the Hazards and Vulnerability Research Institute in the Department of Geography at the University of South Carolina, and storm events data (1950 to December 31, 2021) from the National Centers for Environmental Information (NCEI). It is important to realize that one limitation to the NCEI data is that many tornadoes that might have occurred in uninhabited areas, as well as some in inhabited areas, may not have been reported. The incompleteness of the data suggests that it is not appropriate for use in parametric modeling. In addition, NOAA data cannot show a realistic frequency distribution of different Fujita scale tornado events, except for recent years. Thus, a parametric model based on a combination of many physical aspects of the tornado to predict future expected losses was not used. The statistical model used for this analysis was probabilistic based purely on tornado frequency and historic losses. It is based on past experience and forecasts the expected results for the immediate or extended future.

From the statistical data collected, six factors were considered in determining overall vulnerability to tornadoes as follows: building exposure, population density, social vulnerability, percentage of mobile homes, likelihood of occurrence, and annual property loss. Based on natural breaks in the statistical data, a rating value of 1 through 5 was assigned to each factor. Once the ranges were determined and applied to all factors considered in the analysis, the ratings were combed to determine an overall vulnerability rating for tornadoes. These rating values correspond to the following descriptive terms: 1) Low 2) Medium-Low 3) Medium 4) Medium-High 5) High shown in **Table 3.40** below.

Table 3.41 shows ranges for tornado combined vulnerability rating. **Table 3.42** lists population density, building exposure, SOVI, and mobile home data for the planning area. **Figure 3.54** illustrates overall vulnerability for tornadoes with the planning area in the low range, and **Figure 3.55** illustrates annualized property loss with the planning area in the \$906-\$268,132 range.

Table 3.40 Ranges for Tornado Vulnerability Factor Ratings

Factors Considered	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Common Factors					
Building Exposure (\$1,000)	\$286,351-\$3,053,773	\$3,381,480-\$9,044,465	\$11,043,270-\$24,814,360	\$30,225,497-\$50,440,776	\$96,532,305-\$153,542,314
Population Density (#per sq. mile)	8-113	114-434	435-1,163	1,164-1,958	1,959-4,855
Social Vulnerability	1	2	3	4	5
Percent Mobile Homes	0.23-4.38	4.39-8.24	8.25-13	13.01-23.77	23.78-34.58
Likelihood of Occurrence (# of events/ yrs. of data)	0-19	20-29	30-40	41-53	54-74
Total Annualized Property Loss (\$ / yrs. of data)	\$906-\$268,132	\$268,133-\$1,010,663	\$1,010,664-\$2,400,000	\$2,400,001-\$4,499,038	\$4,499,039-\$39,592,934

Source: 2023 Missouri Hazard Mitigation Plan

Table 3.41 Ranges for Tornado Combined Vulnerability Rating

	Low (1)	Medium-Low (2)	Medium (3)	Medium-High (4)	High (5)
Tornado Combined Vulnerability	7-10	11-12	13-14	15-16	17-21

Source: 2023 Missouri Hazard Mitigation Plan

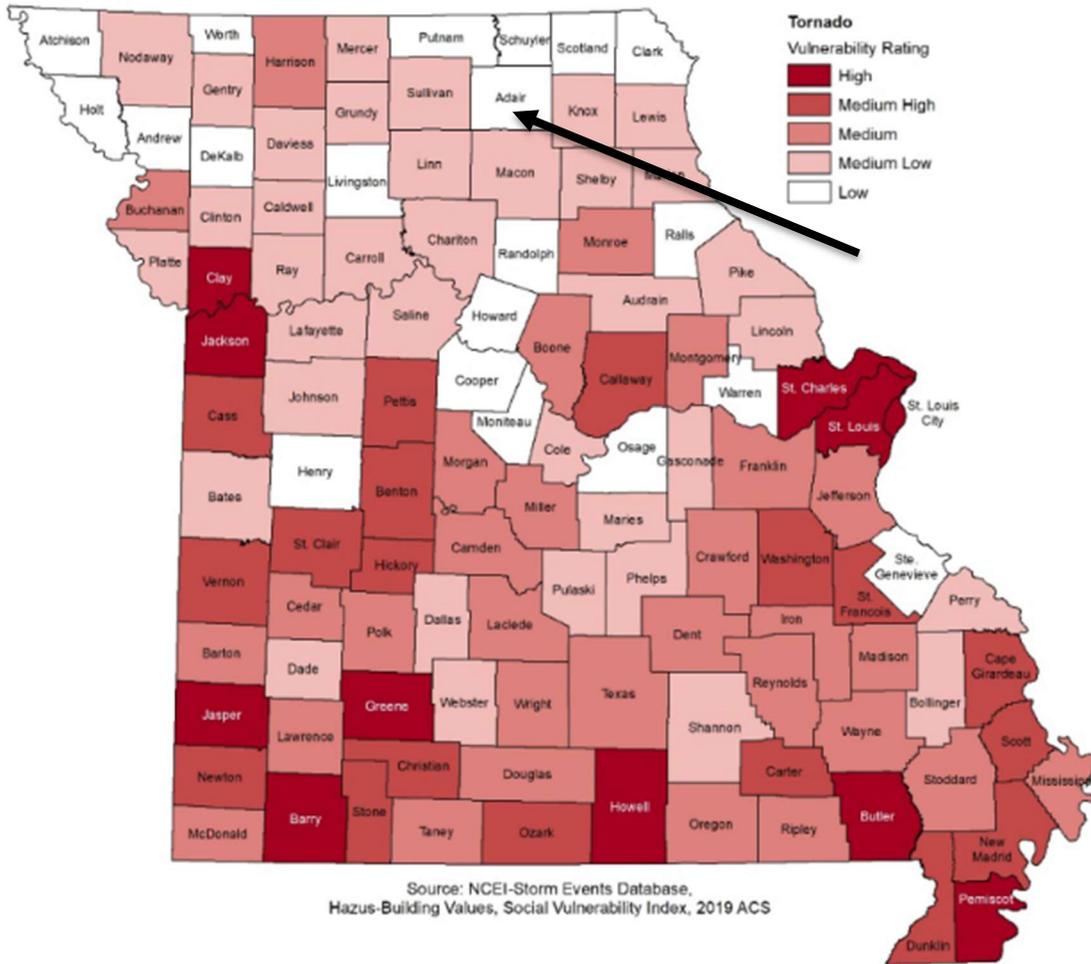
Table 3.42 Building Exposure, Population Density, SOVI, and Mobile Home Data for Adair County

County	Total Building Exposure (Hazus)	Exposure Rating	Population Density	Population Rating	SOVI Index Ranking	SOVI Rating	Percent Mobile Homes	Mobile Home Rating
Adair								

Adair	\$2,684,103,000	1	44.67	1	Medium	3	5.7	2
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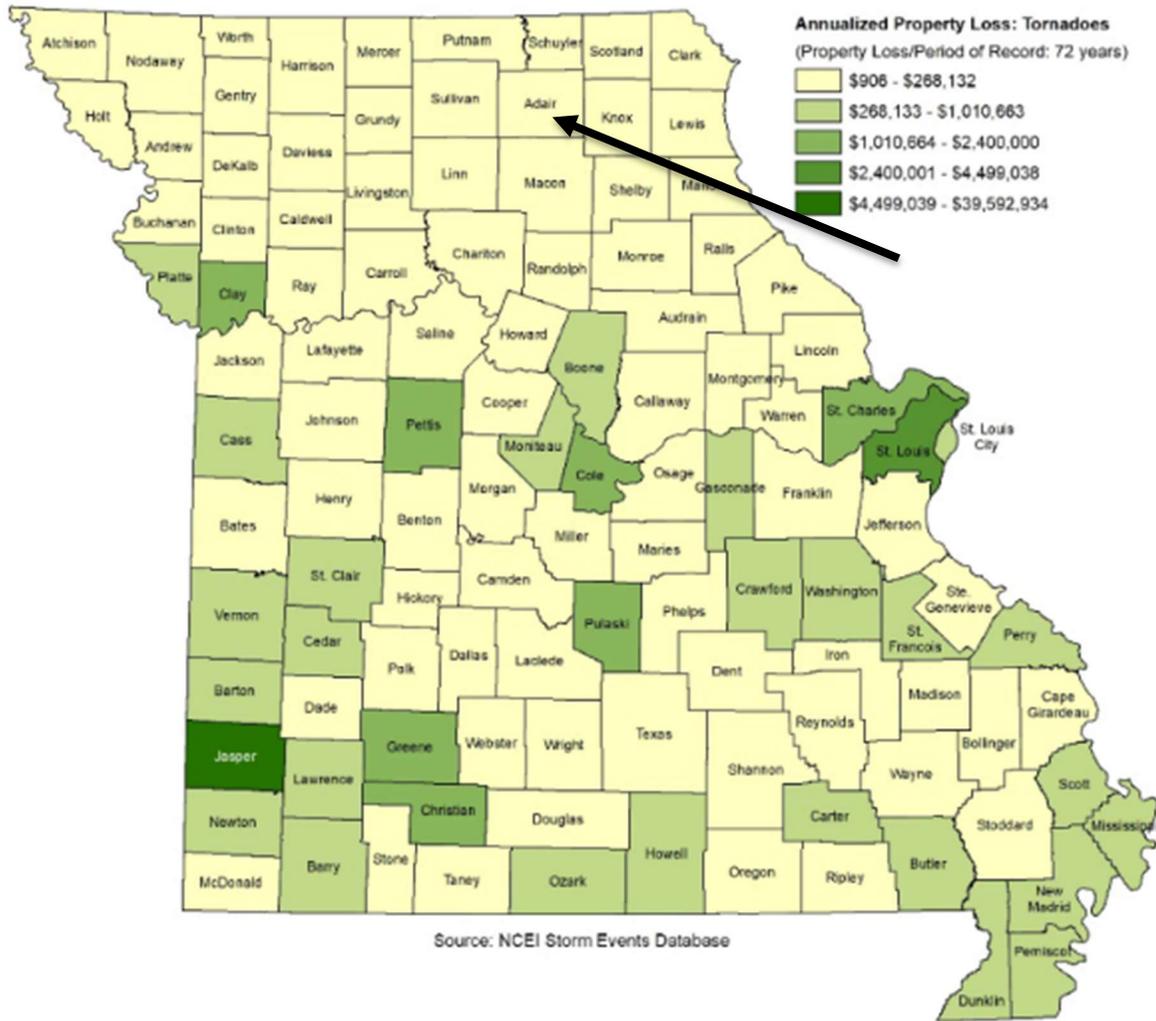
Source: 2023 Missouri Hazard Mitigation Plan

Figure 3.54. Overall Vulnerability to Tornadoes



Source: 2023 Missouri Hazard Mitigation Plan

Figure 3.55. Annualized Property Loss for Tornadoes



Source: 2023 Missouri Hazard Mitigation Plan

Potential Losses to Existing Development

Given that the annualized damage for Adair County due to tornadoes is \$5,200,000 over the past 64 years, it is estimated that existing development in the county faces an annual average loss of approximately \$81,250 due to tornado-related damages. While this amount may seem relatively low, it does not account for the potential for more severe or frequent tornadoes in the future as \$5,000,000 of the total property loss was attributable to one EF-2 tornado.

The largest recorded tornado in Adair County has been an EF-2, which is capable of causing considerable damage, including roof loss, mobile home destruction, and damage to trees and power lines. If a stronger tornado were to impact a more densely populated area, losses could far exceed the historical annualized estimate, particularly in commercial districts, residential neighborhoods, and

critical infrastructure sites.

Potential losses to existing development include structural damage of older buildings, mobile homes, and structures lacking modern wind-resistant construction; utility disruptions could occur due to down power lines; economic losses could occur due to business closures and damaged farm structures, equipment, and crops; public infrastructure could be damaged delaying emergency response.

Previous and Future Development

Vulnerability to tornadoes is anticipated to remain the same. Future development for public buildings such as schools, government offices, as well as buildings with high occupancy and campgrounds should consider including a tornado safe room to protect occupants in the event of a tornado.

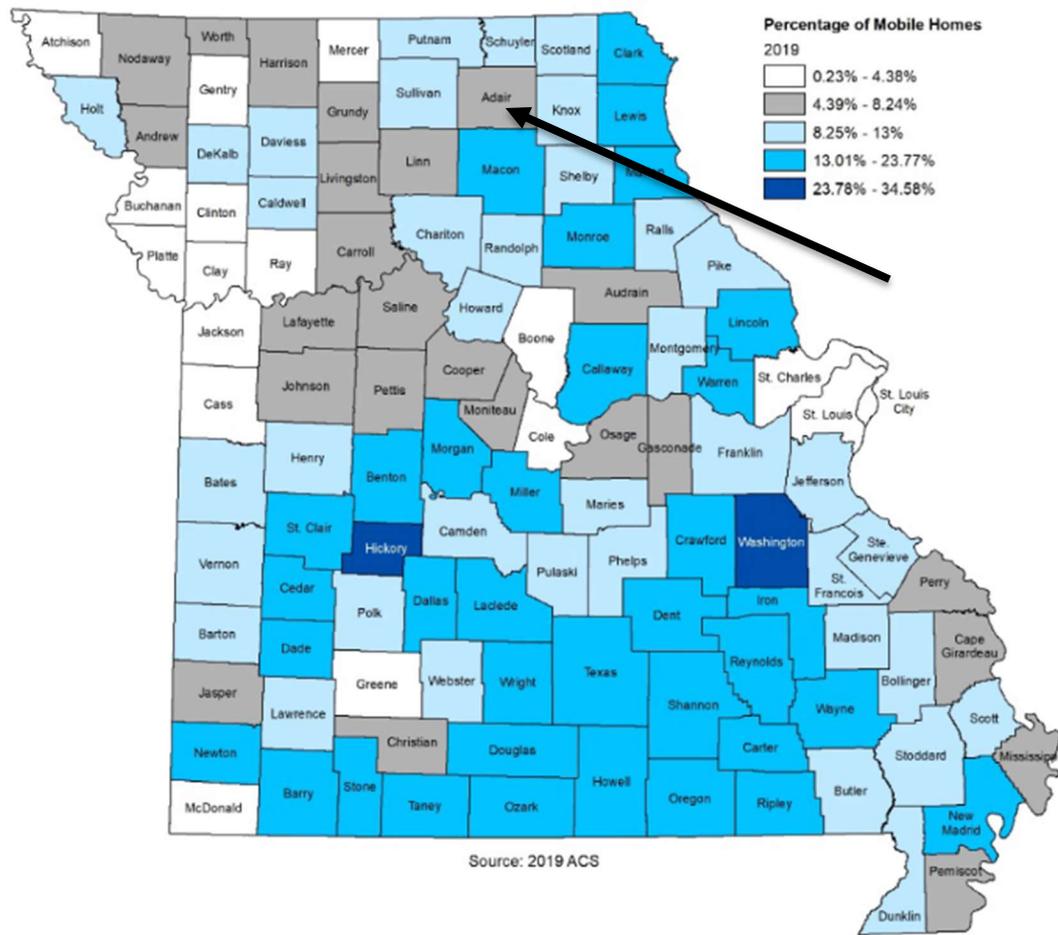
Previous development presents challenges to tornado preparedness as many existing structures were not built with modern wind-resistant standards or tornado-safe rooms. Older buildings may lack reinforced shelters, basements, or designated storm protection areas, increasing occupant vulnerability during severe weather.

Hazard Summary by Jurisdiction

As previously stated, a tornado event could occur anywhere in the planning area. However, some jurisdictions would suffer heavier damages because of the age of housing or high concentration of mobile homes. Furthermore, data was obtained from the U.S. Census Bureau for the number of mobile homes in Adair County. Adair County has a Mobile Home Rating of 2 (see **Table 3.42**) and 5.7% mobile homes according to the 2023 Missouri State Hazard Mitigation Plan as shown in **Table 3.42**.

Figure 3.56 illustrates the ranges of percentages of mobile homes per county in Missouri with the planning area in the 4.39%-8.24% range.

Figure 3.56. Percent of Mobile Homes per County



Source: 2023 Missouri Hazard Mitigation Plan

Problem Statement

Early warnings are possibly the best hope for residents when severe weather strikes. While more than two hours warning is not possible for tornados, citizens must immediately be aware when a city will be facing a severe weather incident. Jurisdictions that do not already possess warning systems should plan to purchase a system. Storm shelters are another important means of mitigating the effects of tornados. Additional public awareness also includes coverage by local media sources. A community-wide shelter program should be adopted for residents who may not have adequate shelter in their homes. Residents should also be encouraged to build their own storm shelters to prepare for emergencies. Local governments should encourage residents to purchase weather radios to ensure that everyone has sufficient access to information in times of severe weather.

3.4.10 Wildfire

Hazard Profile

Hazard Description

The fire incident types for wildfires include: 1) natural vegetation fire, 2) outside rubbish fire, 3) special outside fire, and 4) cultivated vegetation, crop fire.

The Forestry Division of the Missouri Department of Conservation (MDC) is responsible for protecting privately owned and state-owned forests and grasslands from wildfires. To accomplish this task, eight forestry regions have been established in Missouri for fire suppression. The Forestry Division works closely with volunteer fire departments and federal partners to assist with fire suppression activities. Currently, more than 900 rural fire departments in Missouri have mutual aid agreements with the Forestry Division to obtain assistance in wildfire protection if needed.

Most of Missouri fires occur during the spring season between February and May. The length and severity of wildland fires depend largely on weather conditions. Spring in Missouri is usually characterized by low humidity and high winds. These conditions result in higher fire danger. In addition, due to the recent lack of moisture throughout many areas of the state, conditions are likely to increase the risk of wildfires. Drought conditions can also hamper firefighting efforts, as decreasing water supplies may not prove adequate for firefighting. It is common for rural residents burn their garden spots, brush piles, and other areas in the spring. Some landowners also believe it is necessary to burn their forests in the spring to promote grass growth, kill ticks, and reduce brush. Therefore, spring months are the most dangerous for wildfires. The second most critical period of the year is fall. Depending on the weather conditions, a sizeable number of fires may occur between mid-October and late November.

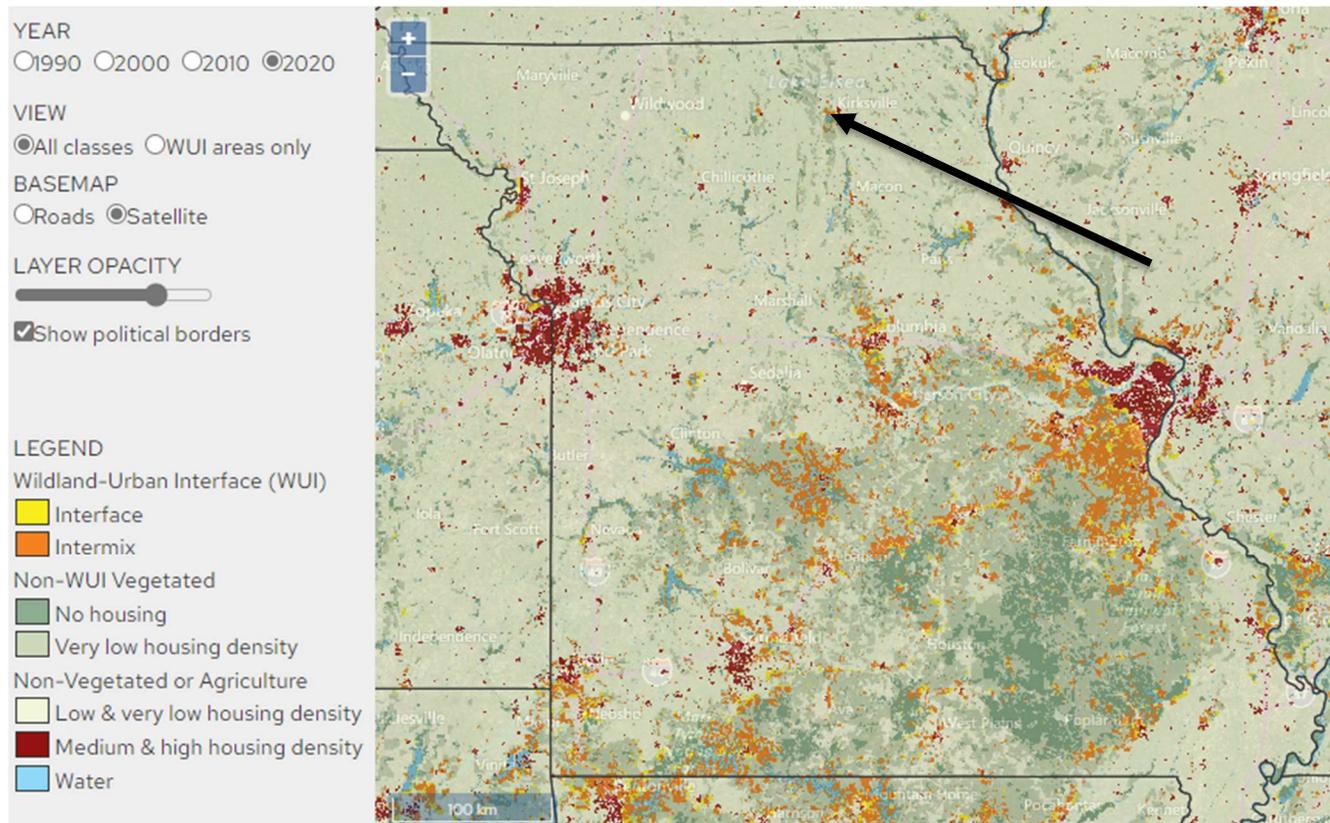
Geographic Location

Damages due to wildfires are higher in communities with more wildland–urban interface (WUI) areas.

The term refers to the zone of transition between unoccupied land and human development and needs to be defined in the plan. Within the WUI, there are two specific areas identified: 1) Interface and 2) Intermix. The interface areas are those areas that abut wildland vegetation and the Intermix areas are those areas that intermingle with wildland areas.

Figure 3.57 illustrates the Missouri Wildland Urban Interface with the planning area indicated with an arrow.

Figure 3.57. 2020 Missouri Wildland Urban Interface



Source: [The Global Wildland-Urban Interface \(WUI\) – 2020 – SILVIS LAB – UW-Madison](#)

Strength/Magnitude/Extent

Wildfires damage the environment, killing some plants and occasionally animals. Firefighters have been injured or killed, and structures can be damaged or destroyed. The loss of plants can heighten the risk of soil erosion and landslides. Although Missouri wildfires are not the size and intensity of those in the Western United States, they could impact recreation and tourism in and near the fires.

Wildland fires in Missouri have been mostly a result of human activity rather than lightning or some other natural event. Wildfires in Missouri are usually surface fires, burning the dead leaves on the ground or dried grasses. They do sometimes “torch” or “crown” out in certain dense evergreen stands like eastern red cedar and shortleaf pine. However, Missouri does not have the extensive stands of evergreens found in the western US that fuel the large fire storms seen on television news stories.

While very unusual, crown fires can and do occur in Missouri native hardwood forests during prolonged periods of drought combined with extreme heat, low relative humidity, and high wind. Tornadoes, high winds, wet snow and ice storms in recent years have placed a large amount of woody material on the forest floor that causes wildfires to burn hotter and longer. These conditions also make it more difficult for fire fighters suppress fires safely.

Often wildfires in Missouri go unnoticed by the general public because the sensational fire behavior that captures the attention of television viewers is rare in the state. Yet, from the standpoint of destroying homes and other property, Missouri wildfires can be quite destructive.

At this time, no information is available regarding the severity of damages from notable planning area

structural fires and wildland fires.

Previous Occurrences

According to the Missouri Division of Fire Safety (MDFS) Website as well as the Missouri Department of Conservation Wildfire Data Search there were 105 reported wildfires in Adair County from 2015-2025. In total, these fires burned 1,956 acres. During the ten-year reporting period the largest cause of fire was debris.

At this time no information is available from school districts about previous fire events and the damages resulting from them.

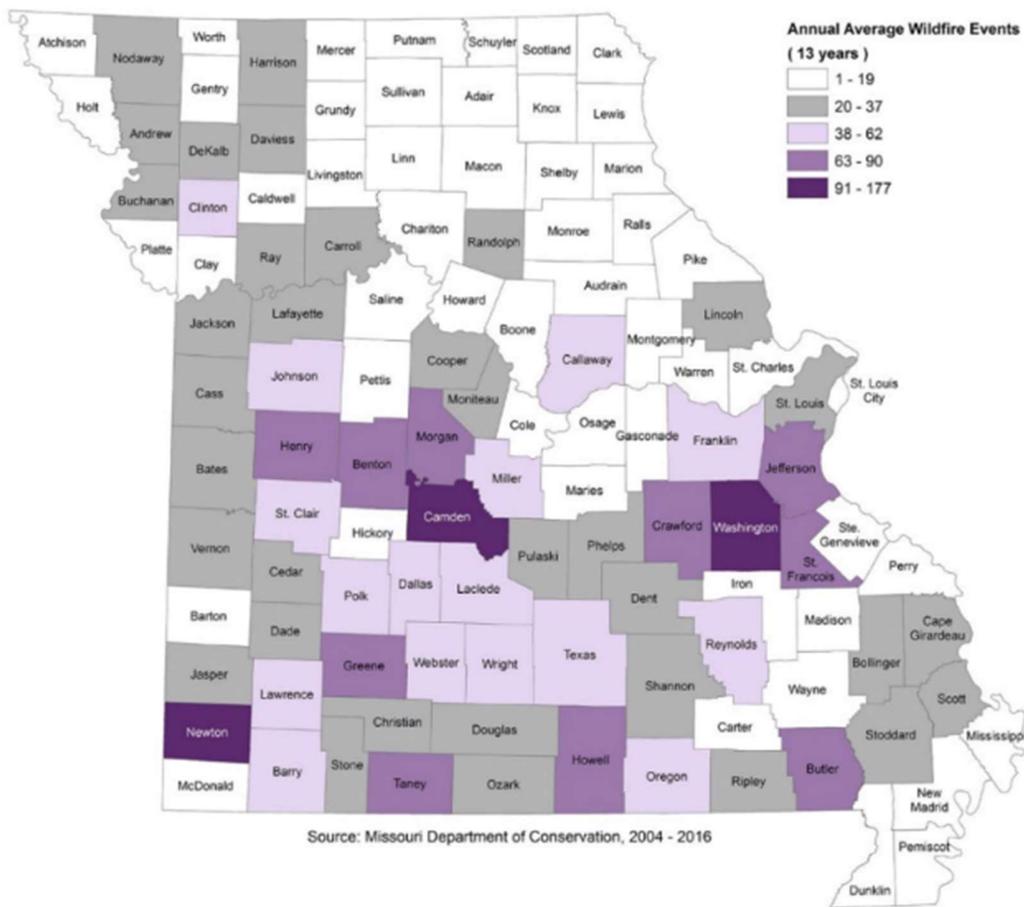
Probability of Future Occurrence

Wildfires in the planning area are most likely to occur every year with very little resulting damage. The wildfires occur in the unincorporated areas and are limited to undeveloped land posing risk to farms, livestock, equipment, and crops. The jurisdictions and school districts are largely surrounded by undeveloped land but have not been affected by wildfires. In years of significant drought or excessive heat the potential for a wildfire in planning area increases. More developed areas may be at low risk for direct wildfire damage, but their proximity could lead to smoke hazards, evacuations, temporary road closure, and limited emergency response. Bus routes for the school district could be impacted by road closures or poor visibility from smoke, and outdoor activities could be affected.

There were 105 Wildfires in Adair County from the period of 2015-2025. The probability of a Wildfire in the planning area is high at 100% with an average annual occurrence of 10.5 events.

Figure 3.58 illustrates the likelihood of wildfire events by county between 2004 and 2021 with the planning area in the 1-19 range.

Figure 3.58. Likelihood of Wildfire Events, 2004-2021



Source: 2023 Missouri Hazard Mitigation Plan

Changing Future Conditions Considerations

According to the 2023 Missouri State Hazard Mitigation Plan, higher temperatures and changes in rainfall are unlikely to substantially reduce forest cover in Missouri, although the composition of trees in the forests may change. More droughts would reduce forest productivity, and changing future conditions are also likely to increase the damage from insects and diseases. But longer growing seasons and increased carbon dioxide concentrations could more than offset the losses from those factors. Forests cover about one-third of the state, dominated by oak and hickory trees. As the climate changes, the abundance of pines in Missouri’s forests is likely to increase, while the population of hickory trees is likely to decrease.

Additionally, stated in the 2023 Missouri State hazard Mitigation Plan, higher temperatures will also reduce the number of days prescribed burning can be performed. Reduction of prescribed burning will allow for growth of understory vegetation – providing fuel for destructive wildfires. Drought is also anticipated to increase in frequency and intensity during summer months under projected future scenarios. Drought can lead to dead or dying vegetation and landscaping material close to structures which creates fodder for wildfires within both the urban and rural settings.

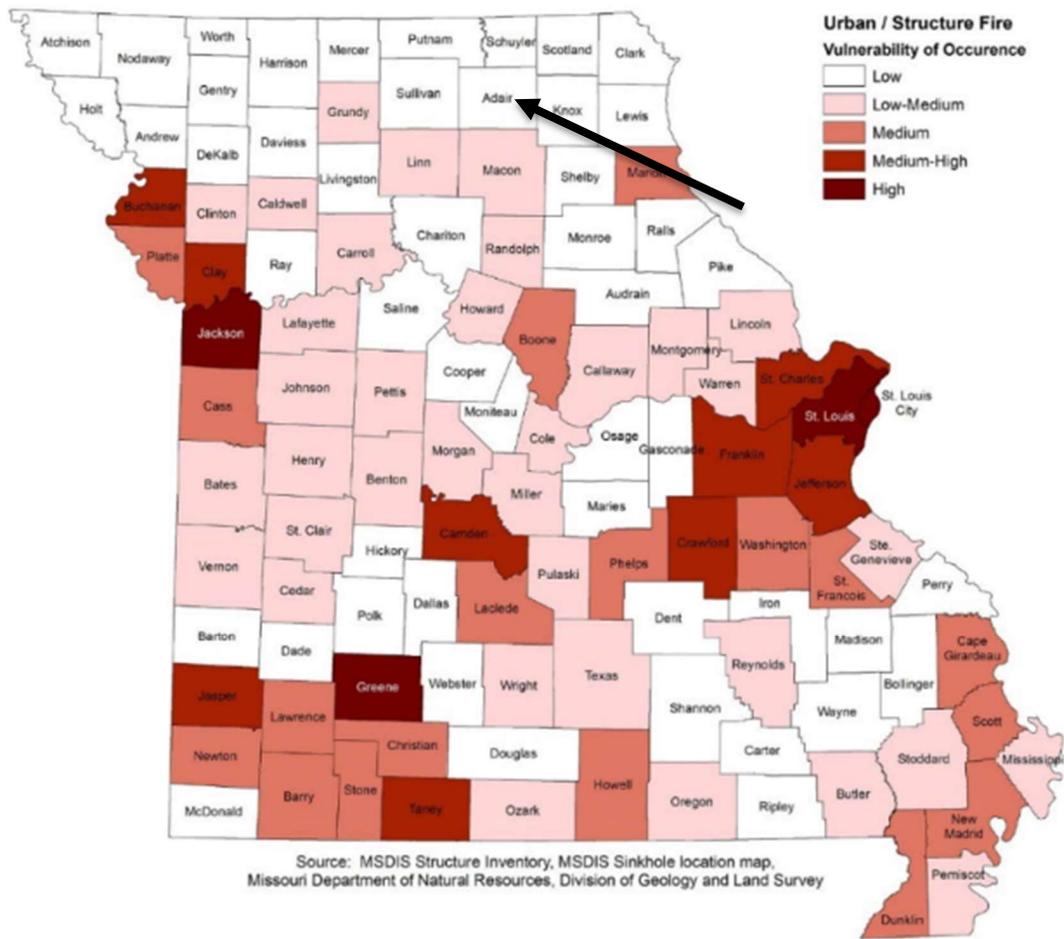
While Adair County has historically experienced low damage from wildfires, these climate-driven changes could increase the frequency, intensity, and potential damage of future fires.

Vulnerability

Vulnerability Overview

As outlined in the 2023 Missouri State Hazard Mitigation Plan, Adair County has a vulnerability rating of low (**see Figure 3.59**). This rating is based on housing density, building exposure, social vulnerability, likelihood of occurrence, annual property loss, and number of deaths/injuries shown in **Table 3.43 and Table 3.44**. The data for wildfires are insufficient due to only 60% of fire departments in Missouri reporting to the National Fire Incident Reporting System. The majority of the fire departments in the planning area are comprised of volunteers and are limited in the time spent to report information.

Figure 3.59. Vulnerability to Structural and Urban Fire



Source: 2023 Missouri Hazard Mitigation Plan

Table 3.43 Building Exposure, Housing Density, and SOVI Data for Clark County

County	Total Building Exposure (Hazus)	Exposure Rating	Housing Density	Housing Density Rating	SOVI Index Ranking	SOVI Rating
Adair	\$2,599,614,000	1	19.93	1	Medium	3

Source: 2023 Missouri Hazard Mitigation Plan

Table 3.44 Likelihood of Occurrence, Annual Property Loss, Death/Injury Rating, and Overall Vulnerability Rating for Structural and Urban Fires, 2002-2012.

County	Likelihood of Occurrence	Likelihood of Occurrence Rating	Total Annualized Property Loss	Total Annualized Property Loss Rating	# of Deaths/Injuries	# of Deaths/Injuries Rating	Overall Vulnerability Rating	Overall Vulnerability Rating Description
Adair	2	1	\$91,750	1	0	1	8	Low

Source: 2023 Missouri Hazard Mitigation Plan

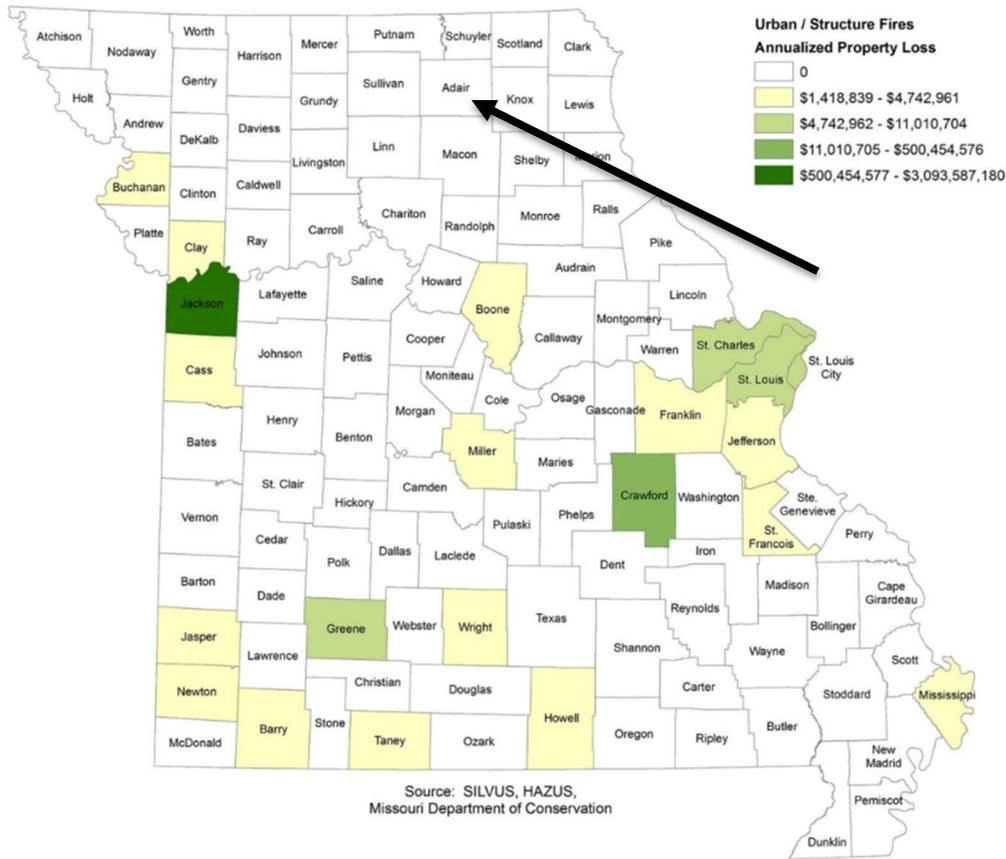
Potential Losses to Existing Development

The potential loss to existing development due to wildfire is difficult to determine due to lack of sufficient historical data. An average number of fires per year has been determined; however, there are no losses reported associated with the data. Information on historical losses was sought after through various sources including the Missouri Division of Fire Safety and The Missouri Department of Conservation but not obtained.

While direct losses to existing development from wildfire in Adair County have been minimal, the indirect economic, environmental, and health impacts should not be underestimated. As the frequency of wildfires increases due to climate change and drought conditions, the risk to property, infrastructure, and public health may rise.

Table 3.43 shows building exposure, housing density, and SOVI data for Clark County, and **Table 3.44** shows the likelihood of occurrence, annual property loss, death/injury rating, and overall vulnerability rating for structural and urban fires for Adair County. **Figure 3.60** illustrates the annualized property loss due to structural and urban fire with Adair County at \$0.

Figure 3.60. Annualized Property Loss due to Structural and Urban Fire



Source: 2023 Missouri Hazard Mitigation Plan

Impact of Previous and Future Development

Future and previous development in the wildland-urban interface would increase vulnerability to wildfires because it places structures, people, and infrastructure in closer proximity to fire-prone landscapes, making them more susceptible to damage. Both previous and future development in these areas contribute to wildfire risks.

Hazard Summary by Jurisdiction

The rural jurisdictions in the planning area are surrounded by undeveloped agricultural land and remain susceptible to wildfires. Under normal conditions, wildfires in Adair County are expected to have minimal adverse impacts on the community, as they would affect only a small percentage of the population in rural areas. However, drought conditions can significantly increase wildfire risk, particularly for homes and businesses in unincorporated areas, which are more vulnerable due to their proximity to combustible vegetation and limited access to fire services. Due to a lack of data, variations in wildfire occurrence—whether structural, urban, or wildland—cannot be precisely determined. However, both structural and wildland fires are anticipated to occur annually across the county.

Problem Statement

Residents do not comply with burn bans, education is not available for the levels of burn bans, many residents lack education in fire safety and not all residents utilize social media and texting. Education needs to occur on the dangers associated with not complying with the burn bans, more education for fire safety and encourage utilization of social media and texting. Due to Adair County's med-low drought rating, they may be more susceptible to fires.

4 MITIGATION STRATEGY

4 MITIGATION STRATEGY 4.1

4.1 Goals..... 4.1

4.2 Identification and Analysis of Mitigation Actions..... 4.2

4.3 Implementation of Mitigation Actions 4.4

44 CFR Requirement §201.6(c)(3): The plan shall include a mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.

This section presents the mitigation strategy updated by the Mitigation Planning Committee (MPC) based on the [updated] risk assessment. The mitigation strategy was developed through a collaborative group process. The process included review of [updated] general goal statements to guide the jurisdictions in lessening disaster impacts as well as specific mitigation actions to directly reduce vulnerability to hazards and losses. The following definitions are taken from FEMA’s *Local Mitigation Planning Policy Guide (2023)*

- **Goals** are broad, long-term policy and vision statements that explain what is to be achieved by implementing the mitigation strategy.
- A **mitigation action** is a measure, project, plan or activity proposed to reduce current and future vulnerabilities described in the risk assessment.

4.1 Goals

44 CFR Requirement §201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

This planning effort is an update to Adair County’s existing hazard mitigation plan approved by FEMA on November 27, 2020. Therefore, the goals from the 2020 Adair County Hazard Mitigation Plan were reviewed to see if they were still valid, feasible, practical, and applicable to the defined hazard impacts. The MPC conducted a discussion session during their second meeting to review and update the plan goals. To ensure that the goals developed for this update were comprehensive and supported State goals, the 2023 State Hazard Mitigation Plan goals were reviewed. The MPC also reviewed the goals from current surrounding county plans.

Goal 1: Public Awareness - Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.

Goal 2: Strengthen communication and coordination between local governments, emergency personnel, public agencies, and citizens to mitigate the effect of future natural hazards.

Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties; on natural

resources; on infrastructure; and on the local economy.

4.2 Identification and Analysis of Mitigation Actions

44 CFR Requirement §201.6(c)(3)(ii): The mitigation strategy shall include a section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Some specific sources for mitigation action ideas include the following:

- FEMA’s Mitigation Ideas Publication, https://www.fema.gov/sites/default/files/2020-06/fema-mitigation-ideas_02-13-2013.pdf
- FEMA’s Climate Resilient Activities for Hazard Mitigation Assistance, <https://www.fema.gov/emergency-managers/risk-management/climate-resilience>
- FEMA Resources for Climate Resilience, https://www.fema.gov/sites/default/files/documents/fema_resources-climate-resilience.pdf
- EPA’s Hazard Mitigation for Natural Disasters Publication, <https://www.epa.gov/waterutilityresponse/hazard-mitigation-natural-disasters>
- EPA’s Planning for an Emergency Drinking Water Supply Publication, <https://www.epa.gov/waterutilityresponse/water-utility-planning-emergency-drinking-water-supply>

During the MPC planning meeting, the results of the risk assessment update were provided to the MPC members for review and the key issues were identified for specific hazards. Changes in risk since adoption of the previously approved plan were discussed. Actions from the previous plan included completed actions, on-going actions, and actions upon which progress had not been made. The MPC discussed SEMA’s identified funding priorities and the types of mitigation actions generally recognized by FEMA.

The MPC included problem statements in the plan update at the end of each hazard profile. The problem statements summarize the risk to the planning area presented by each hazard and include possible methods to reduce that risk. Use of the problem statements allowed the MPC to recognize new and innovative strategies for mitigating risks in the planning area.

During the planning meeting the mitigation strategy was reviewed. For a comprehensive range of mitigation actions to consider, the MPC reviewed the following information during the planning meeting:

- A list of actions proposed in the previous mitigation plan, the current 2023 State Plan, and approved plans in surrounding counties,
- Key issues from the risk assessments, including the problem statements concluding each hazard profile and vulnerability analysis,
- State priorities established for HMA grants, and
- Public input during meetings, responses to data collection questionnaires, and other efforts to involve the public in the plan development process.

For the planning meeting, individual jurisdictions, including school and special districts, developed final mitigation strategy for submission to the MPC. They were encouraged to review the

details of the risk assessment vulnerability analysis specific to their jurisdiction. They were also provided a link to the FEMA’s publication, *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*. This document was developed by FEMA as a resource for identification of a range of potential mitigation actions for reducing risk to natural hazards and disasters.

The MPC reviewed the actions from the previously approved plan for progress made since the plan had been adopted, using worksheets included in Appendix B of this plan. During the Planning Meeting, the list of actions for each jurisdiction was emailed to that jurisdiction’s MPC representative along with the worksheets. Each jurisdiction was instructed to provide information regarding the “Action Status” with one of the following status choices:

- Completed, with a description of the progress;
- Ongoing, with a description of the progress made to date; or
- Not Yet Started, with a discussion of the reasons for lack of progress.

Additionally, the future inclusion of each mitigation action in the plan update was identified as either keep, delete, or modify. Based on the status updates, there were 3 actions completed, 50 continuing actions (either ongoing or modified), and 1 deleted action.

Table 4.1 provides a summary of the action statuses for each jurisdiction:

Table 4.1. Action Status Summary

Jurisdiction	Completed Actions	Continuing Actions (ongoing or modify)	Deleted Actions
Unincorporated Adair County	0	8	2
City of Kirksville	0	11	0
City of Novinger	0	6	0
City of Brashear	0	6	0
Village of Millard	0	6	0
Village of Gibbs	0	6	0
Adair County R-I	1	2	0
Adair County R-II	1	2	0
Kirksville R-III	1	2	0

Table 4.2 provides a summary of the completed and deleted actions from the previous plan.

Table 4.2. Summary of Completed and Deleted Actions from the Previous Plan

Completed Actions	Completion Details (date, amount, funding source)
Adair County R-I 2020.2 Intercom System	Action completed with local funds
Adair County R-II 2020.2 Intercom System	Action completed with local funds
Kirksville R-III 2020.2 Intercom System	Action completed with local funds
Deleted Actions	Reason for Deletion
Adair County 2020.4 Response to Pandemic	This activity was determined to be an everyday/ongoing activity.
Adair County 2020.7 Emergency Operation Center	This activity was determined to be response rather than mitigation.

Source: Previously approved County Hazard Mitigation Plan; Data Collection Questionnaires.

4.3 Implementation of Mitigation Actions

44 CFR Requirement §201.6(c)(3)(ii): The mitigation strategy shall include an action strategy describing how the actions identified in paragraph (c)(2)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefits review of the proposed projects and their associated costs.

Jurisdictional MPC members were encouraged to meet with others in their community to finalize the actions to be submitted for the updated mitigation strategy. Throughout the MPC consideration and discussion, emphasis was placed on the importance of a benefit-cost analysis in determining project priority. The Disaster Mitigation Act requires benefit-cost review as the primary method by which mitigation projects should be prioritized. The MPC decided to pursue implementation according to when and where damage occurs, available funding, political will, jurisdictional priority, and priorities identified in the 2023 Missouri State Hazard Mitigation Plan. The benefit/cost review at the planning stage primarily consisted of a qualitative analysis and was not the detailed process required grant funding application. For each action, the plan sets forth a narrative describing the types of benefits that could be realized from action implementation. The cost was estimated as closely as possible, with further refinement to be supplied as project development occurs.

FEMA’s STAPLEE methodology was used to assess the costs and benefits, overall feasibility of mitigation actions, and other issues impacting project. During the prioritization process, the jurisdictions used worksheets to assign scores. The worksheets posed questions based on the STAPLEE elements as well as the potential mitigation effectiveness of each action. Scores were based on the responses to the questions as follows:

- Definitely YES = 3 points
- Maybe YES = 2 points
- Probably NO = 1 points
- Definitely NO = 0 points

The following questions were asked for each proposed action.

- S: Is the action socially acceptable?
- T: Is the action technically feasible and potentially successful?
- A: Does the jurisdiction have the administrative capability to successfully implement this action?
- P: Is the action politically acceptable?

L: Does the jurisdiction have the legal authority to implement the action?

E: Is the action economically beneficial?

E: Will the project have an environmental impact that is either beneficial or neutral? (score "3" if positive and "2" if neutral)

Will the implemented action result in lives saved?

Will the implanted action result in a reduction of disaster damage?

The final scores are listed below in the analysis of each action. The worksheets are attached to this plan as Appendix B. The STAPLEE final score for each action, absent other considerations, such as a localized need for a project, determined the priority. Low priority action items were those that had a total score of between 0 and 24. Moderate priority actions were those scoring between 25 and 29. High priority actions scored 30 or above. A blank STAPLEE worksheet is shown in **Figure 4.1**.

Figure 4.1. Blank STAPLEE Worksheet

STAPLEE Worksheet		
Name of Jurisdiction:		
Action or Project		
Action/Project Number:	Insert a unique action number for this action for future tracking purposes. This can be a combination of the jurisdiction name, followed by the goal number and action number (i.e. Joplin1.1)	
Name of Action or Project:		
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		
T: Is it Technically feasible and potentially successful?		
A: Does the jurisdiction have the Administrative capacity to execute this action?		
P: Is it Politically acceptable?		
L: Is there Legal authority to implement?		
E: Is it Economically beneficial?		
E: Will the project have either a neutral or positive impact on the natural Environment ?		
Will historic structures be saved or protected?		
Could it be implemented quickly?		
STAPLEE SCORE		
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	
MITIGATION EFFECTIVENESS SCORE		
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		
<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)

Completed by
(Name, Title, Phone Number) _____

ACTION WORKSHEET: Example

Action Worksheet	
Name of Jurisdiction:	
Risk / Vulnerability	
Hazard(s) Addressed:	List the hazard or hazards that will be addressed by this action
Problem being Mitigated:	Provide a brief description of the problem that the action will address. Utilize the problem statement developed in the risk assessment.
Action or Project	
Applicable Goal Statement:	Choose the goal statement that applies to this action
Action/Project Number:	Insert a unique action number for this action for future tracking purposes. This can be a combination of the jurisdiction name, followed by the goal number and action number (i.e. Joplin1.1)
Name of Action or Project:	
Mitigation Category:	Prevention; Structure and Infrastructure Projects; Natural Systems Protection; Education and Outreach; Emergency Services
Action or Project Description:	Describe the action or project.
Estimated Cost:	Provide an estimate of the cost to implement this action. This can be accomplished with a range of estimated costs.
Benefits:	Provide a narrative describing the losses that will be avoided by implementing this action. If dollar amounts of avoided losses are known, include them as well.
Plan for Implementation	
Responsible Organization/Department:	Which organization will be responsible for tracking this action? Be specific to include the specific department or position within a department.
Supporting Organization/Department:	Which organization/department will assist in implementation of this action?
Action/Project Priority:	Include the STAPLEE score and Priority (H, M, L)
Timeline for Completion:	How many months/years to complete.
Potential Fund Sources:	List specific funding sources that may be used to pay for the implementation of the action.
Local Planning Mechanisms to be Used in Implementation, if any:	
Progress Report	
Action Status:	Indicate status as New, Continuing Not Started, or Continuing in Progress)
Report of Progress:	For Continuing actions only, indicate the report on progress. If the action is not started, indicate any barriers encountered to initiate the action. If the action is in progress, indicate the activity that has occurred to date.

Action Worksheet	
Name of Jurisdiction:	Adair County
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Adair County 2025.1
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Become a fully certified participant in the National Flood Insurance Program. Current Floodplain Administrator will pursue Certified Floodplain Manager (CFM) certification.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	County Commission / EMD
Supporting Organization/Department:	County Commission/EMD
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	Adair County
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Early Warning Sirens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.
Action/Project Number:	Adair County 2025.2
Name of Action or Project:	Install/Upgrade Warning Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or upgrade of warning sirens in areas of the County needing a siren or one upgraded.
Estimated Cost:	\$75,000
Benefits:	Mitigation actions will limit the future harm to structures and lives in the County.
Plan for Implementation	
Responsible Organization/Department:	County Commission
Supporting Organization/Department:	County EMD
Action/Project Priority:	Medium Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to upgrade warning systems throughout the county.

Action Worksheet	
Name of Jurisdiction:	Adair County
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Severe Winter Weather, Dam Failure
Problem being Mitigated:	Outdated or of poor condition transportation infrastructure.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Adair County 2025.3
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Road and Bridge will make necessary improvements to roads, culverts, low water crossings, road elevations, bank stabilizations, bridges and the general transportation infrastructure throughout the county. Road and Bridge will be responsible for prepping infrastructure to mitigate damages from natural hazard events such as winter weather.
Estimated Cost:	\$1,000,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructure.
Plan for Implementation	
Responsible Organization/Department:	County Road and Bridge Department
Supporting Organization/Department:	County Commission
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, Community Development Block Grant, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, Road and Bridge Department Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund flood mitigations activities throughout the county.

Action Worksheet	
Name of Jurisdiction:	Adair County
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for residents.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Adair County 2025.4
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Build safe rooms and establish local ordinances requiring community storm shelters within sizable mobile home parks and subdivisions.
Estimated Cost:	\$3,000,000
Benefits:	The project protects citizens from harm due to tornados or severe thunderstorms.
Plan for Implementation	
Responsible Organization/Department:	County EMD
Supporting Organization/Department:	County Commission
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant, CDBG
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to research funding opportunities

Action Worksheet	
Name of Jurisdiction:	Adair County
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperature, Severe Thunderstorm, Severe Winter Weather, Tornado
Problem being Mitigated:	Generator for Shelter(s) and emergency services
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Adair County 2025.5
Name of Action or Project:	Generator for Shelter(s) and emergency services
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Obtain a generator for shelters as funds become available.
Estimated Cost:	\$65,000
Benefits:	Generator will allow for continued use of shelters for service to citizens in the event of an outage, this would be beneficial during any hazard.
Plan for Implementation	
Responsible Organization/Department:	County EMD
Supporting Organization/Department:	County Commission
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to purchase and install generators

Action Worksheet	
Name of Jurisdiction:	Adair County
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weakness and prioritize retrofitting projects.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy
Action/Project Number:	Adair County 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	EMD will conduct a comprehensive seismic vulnerability assessment of critical infrastructure, including schools, hospitals, and government buildings, to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	County EMD
Supporting Organization/Department:	County Commission
Action/Project Priority:	Low
Timeline for Completion:	1 year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Adair County
Risk / Vulnerability	
Hazard(s) Addressed:	Sinkholes
Problem being Mitigated:	Areas with subsidence risk may not be fully identified in the planning area.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy
Action/Project Number:	Adair County 2025.7
Name of Action or Project:	Subsidence Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Using GIS, EMD or firm contracted will map areas that are susceptible to subsidence. Identify and map old mining areas or geologically unstable terrain so that development can be prevented or eliminated. Support mapping efforts to identify areas of existing permafrost. Improve accuracy of hazard area maps to educate residents about unanticipated risks
Estimated Cost:	\$10,000
Benefits:	Upgrading maps will provide a truer measure of risk to a planning area.
Plan for Implementation	
Responsible Organization/Department:	County EMD
Supporting Organization/Department:	County Commission
Action/Project Priority:	Low
Timeline for Completion:	1 year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Adair County
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.
Action/Project Number:	Adair County 2025.8
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	EMD will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards and mitigation measures for hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	County EMD
Supporting Organization/Department:	County Commission, County Health Department
Action/Project Priority:	Low
Timeline for Completion:	1 year
Potential Fund Sources:	County Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Continue to participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville 2025.1
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Continue City of Kirksville's participation and good standing in the National Flood Insurance Program. Current Floodplain Administrator will pursue Certified Floodplain Manager (CFM) certification.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Manager / EMD
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville 2025.2
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Increase number of outdoor warning speakers/sirens. Expand the utilization of existing Mass Notification System/IPAWS to additional local agencies. Increase E911 capabilities to accommodate "Next-Generation" 911/text to 911.
Estimated Cost:	\$1,000,000
Benefits:	Improved communications in emergencies. Reduce loss of life and property by improving emergency reporting and communication to the public.
Plan for Implementation	
Responsible Organization/Department:	EMD/911 Coordinator
Supporting Organization/Department:	City Council
Action/Project Priority:	Medium Priority
Timeline for Completion:	2-5 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	LEOP
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Extreme Temperatures, Severe Winter Weather
Problem being Mitigated:	Lack of shelter for elderly and at-risk population from extreme temperatures.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville 2025.3
Name of Action or Project:	Extreme Temperature Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Increase access to cooling/warming centers by partnering with community organizations and/or increase utility support programs.
Estimated Cost:	\$50,000
Benefits:	Reduce injury to at risk populations.
Plan for Implementation	
Responsible Organization/Department:	EMD
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	2-3 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds / Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	LEOP
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for residents from natural hazards.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville 2025.4
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Build safe rooms and establish local ordinances requiring community storm shelters within sizable mobile home parks and subdivisions.
Estimated Cost:	\$1,000,000
Benefits:	The project protects citizens from harm due to tornados or severe thunderstorms.
Plan for Implementation	
Responsible Organization/Department:	EMD
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	2-3 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds / Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	LEOP
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Riverine Flooding, Flash Flooding, Dam Failure
Problem being Mitigated:	Unregulated at-risk dams.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville 2025.5
Name of Action or Project:	Dam Protection
Mitigation Category:	Prevention
Action or Project Description:	Mandate professional dam inspections for all at-risk dams in the City. Identify downstream at-risk structures and regulate construction in at-risk flood plains.
Estimated Cost:	\$100,000
Benefits:	Reduce the loss to property and economic losses from dam failure.
Plan for Implementation	
Responsible Organization/Department:	Codes/Planning
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	10 years
Potential Fund Sources:	Hazard Mitigation Grant Funds / Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	LEOP
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to build consensus for the project

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Flooding Throughout the City Roadways / Storm Drains
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville 2025.6
Name of Action or Project:	Flood Mitigation
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Reduce risks to life and property by identifying at-risk roadways, bridges, crossings, and storm drainage, and planning projects to mitigate the hazard.
Estimated Cost:	\$1,000,000
Benefits:	Mitigation actions will limit the future harm to structures and lives in the County.
Plan for Implementation	
Responsible Organization/Department:	Codes/Planning
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing: Bradford storm drainage project & Illinois street bioswale completed and future projects identified noting Steer Creek mitigation is necessary

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Wildfire
Problem being Mitigated:	Reduce rise of wildfire through education, enforcement, and communication.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville 2025.7
Name of Action or Project:	Fire Mitigation
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Reduce the potential impact of wildfire by identifying high risk interface areas, conducting fuels mitigation, and increasing wildland firefighting training and equipment.
Estimated Cost:	\$20,000
Benefits:	Mitigation actions will limit the future harm to structures, property and lives in the County.
Plan for Implementation	
Responsible Organization/Department:	Fire Dept.
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	2-3 years
Potential Fund Sources:	Hazard Mitigation Grant Funds / Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	LEOP
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Drought
Problem being Mitigated:	Water shortage from severe drought
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville 2025.8
Name of Action or Project:	Water Source Protection
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Maintain the capacity and quality of local water supplies through watershed and reservoir maintenance.
Estimated Cost:	\$500,000
Benefits:	Maintains the quality and capacity of available reservoirs to provide adequate water during extended drought.
Plan for Implementation	
Responsible Organization/Department:	Public Works
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	5-10 Years
Potential Fund Sources:	Hazard Mitigation Grant Funds / Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Riverine Flooding, Flash Flooding, Severe Thunderstorm, Tornado
Problem being Mitigated:	Reduce the impacts of severe weather
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville 2025.9
Name of Action or Project:	Improved Communication and Coordination
Mitigation Category:	Emergency Services
Action or Project Description:	Mitigate vulnerability to communication failures during disasters by constructing a hazard-resistant Emergency Operations Center (EOC) with integrated technology for communication, notification, and situational awareness, supported by redundant and resilient connectivity systems.
Estimated Cost:	\$100,000
Benefits:	Improve notification and response to severe weather, reducing the impact on the community.
Plan for Implementation	
Responsible Organization/Department:	Emergency Management
Supporting Organization/Department:	City Council
Action/Project Priority:	High
Timeline for Completion:	2-3 Years
Potential Fund Sources:	Hazard Mitigation Grant Funds / Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	LEOP
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	City of Kirksville 2025.10
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Manager will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards and mitigation measures for hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, guidance outlining warning indicators, monitoring best practices, and response actions for sinkholes, etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Manager
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Kirksville
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	City of Kirksville 2025.11
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The Responsible Department will have a comprehensive seismic vulnerability assessment conducted of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	Codes/Planning
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Novinger
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Continue to participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Novinger 2025.1
Name of Action or Project:	NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Continue City of Novinger's participation and good standing in the National Flood Insurance Program. Current Floodplain Administrator will pursue Certified Floodplain Manager (CFM) certification.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Novinger
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Novinger 2025.2
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the City needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Novinger
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Winter Storms
Problem being Mitigated:	Protecting lives from natural hazards
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Novinger 2025.3
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs.
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Street Department
Supporting Organization/Department:	City Clerk
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Novinger
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for residents.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Novinger 2025.4
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Responsible Department will build safe rooms and establish local ordinances requiring community storm shelters within sizable mobile home parks and subdivisions.
Estimated Cost:	\$3,000,000
Benefits:	The project protects citizens from harm due to tornados or severe thunderstorms.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	City of Novinger
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire, Levee Failure
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	City of Novinger 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards and mitigation measures for hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, guidance outlining warning indicators, monitoring best practices, and response actions for sinkholes etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Novinger
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	City of Novinger 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Brashear
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Brashear 2025.1
Name of Action or Project:	Establish NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Establish participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Brashear
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Brashear 2025.2
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the City needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	City of Brashear
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Winter Storms
Problem being Mitigated:	Protecting lives from natural hazards
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Brashear 2025.3
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs.
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Street Department
Supporting Organization/Department:	City Clerk
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing process to identify projects and funding.

Action Worksheet	
Name of Jurisdiction:	City of Brashear
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for residents.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Brashear 2025.4
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Responsible Department will build safe rooms and establish local ordinances requiring community storm shelters within sizable mobile home parks and subdivisions.
Estimated Cost:	\$3,000,000
Benefits:	The project protects citizens from harm due to tornados or severe thunderstorms.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	City of Brashear
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire, Levee Failure
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	City of Brashear 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards and mitigation measures for hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, guidance outlining warning indicators, monitoring best practices, and response actions for sinkholes etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	City of Brashear
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	City of Brashear 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will explore funding opportunities to conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Village of Millard
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Millard 2025.1
Name of Action or Project:	Establish NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Establish participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	City Funds
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	Village of Millard
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Millard 2025.2
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the Village needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to upgrade warning systems throughout the village.

Action Worksheet	
Name of Jurisdiction:	Village of Millard
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Winter Storms
Problem being Mitigated:	Protecting lives from natural hazards
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Millard 2025.3
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs.
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Street Department
Supporting Organization/Department:	City Clerk
Action/Project Priority:	Medium Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing process to identify projects and funding.

Action Worksheet	
Name of Jurisdiction:	Village of Millard
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for residents.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Millard 2025.4
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Responsible Department will build safe rooms and establish local ordinances requiring community storm shelters within the village.
Estimated Cost:	\$3,000,000
Benefits:	Residents will have adequate protection from natural hazard events
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	Village of Millard
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire, Levee Failure
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	Village of Millard 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards and mitigation measures for hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, guidance outlining warning indicators, monitoring best practices, and response actions for sinkholes etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Village of Millard
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	Village of Millard 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Village of Gibbs
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding
Problem being Mitigated:	Participate in the NFIP
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Gibbs 2025.1
Name of Action or Project:	Establish NFIP Participation
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach
Action or Project Description:	Establish participation and good standing in the National Flood Insurance Program.
Estimated Cost:	\$20,000
Benefits:	Protection of life and reduction of damages due to accessibility to citizens in times of need.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1 Year
Potential Fund Sources:	FEMA Flood Assistance/Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Floodplain Ordinance
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing

Action Worksheet	
Name of Jurisdiction:	Village of Gibbs
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Early Warning Siren
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Gibbs 2025.2
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Installation or the upgrade of warning sirens in areas of the Village needing a siren or the siren upgraded.
Estimated Cost:	\$25,000
Benefits:	With adequate time for warning of storms, residents are able to seek cover to help minimize the loss of life.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to upgrade warning systems throughout the village.

Action Worksheet	
Name of Jurisdiction:	Village of Gibbs
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Severe Thunderstorms, Winter Storms
Problem being Mitigated:	Protecting lives from natural hazards
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Gibbs 2025.3
Name of Action or Project:	Improve Transportation Infrastructure
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response
Action or Project Description:	The Street Department will repair and upgrade roads, replace or reinforce culverts, improve low-water crossings, elevate flood-prone road sections, stabilize eroding banks, and maintain or replace aging bridges. Additionally, the department will proactively strengthen transportation infrastructure to withstand natural hazards by enhancing drainage systems, reinforcing embankments, and implementing flood-resistant road designs.
Estimated Cost:	\$500,000
Benefits:	The project protects citizens from harm due to damaged transportation infrastructures.
Plan for Implementation	
Responsible Organization/Department:	City Street Department
Supporting Organization/Department:	City Clerk
Action/Project Priority:	Medium Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, MoDOT, CDBG, Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan, City Streets Project List
Progress Report	
Action Status:	Continuing
Report of Progress:	Ongoing process to identify projects and funding.

Action Worksheet	
Name of Jurisdiction:	Village of Gibbs
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for residents.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Gibbs 2025.4
Name of Action or Project:	Safe Rooms and Storm Shelters
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Responsible Department will build safe rooms and establish local ordinances requiring community storm shelters within the village.
Estimated Cost:	\$3,000,000
Benefits:	The project protects citizens from harm due to tornados or severe thunderstorms.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	FEMA HMA, Emergency Preparedness Grant
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	Continuing
Report of Progress:	Continuing to support and research ways to fund projects.

Action Worksheet	
Name of Jurisdiction:	Village of Gibbs
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Dam Failure, Earthquakes, Sinkholes, Drought, Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado, Wildfire, Levee Failure
Problem being Mitigated:	Vulnerable Citizens
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	Village of Gibbs 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach
Action or Project Description:	City Clerk will partner with organizations/agencies to develop a campaign for citizens that will assist elderly, disabled, children, and other underserved or socially vulnerable populations before, during, and after a natural hazard. Information will be provided (by social media, website, brochures, flyers, public notice) on all types of hazards and mitigation measures for hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, mailings to residents in hazard prone areas, guidance outlining warning indicators, monitoring best practices, and response actions for sinkholes etc.
Estimated Cost:	\$0-\$500
Benefits:	Most vulnerable populations will be identified and assisted
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	City Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Village of Gibbs
Risk / Vulnerability	
Hazard(s) Addressed:	Earthquakes
Problem being Mitigated:	Identify potential structural weaknesses and prioritize retrofitting projects
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on loss of life; on new and existing properties; on natural resources; on infrastructure; on the local economy.
Action/Project Number:	Village of Gibbs 2025.6
Name of Action or Project:	Seismic Vulnerability Assessment
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	The City Clerk will conduct a comprehensive seismic vulnerability assessment of critical infrastructure (public, commercial, and residential), including schools, government buildings, and pre-1940s homes/homes with cripple wall foundations to identify potential structural weaknesses and prioritize retrofitting projects to enhance earthquake resilience.
Estimated Cost:	\$10,000
Benefits:	A proactive approach that could save lives, protect property, and maintain essential services in the aftermath of an earthquake.
Plan for Implementation	
Responsible Organization/Department:	City Clerk
Supporting Organization/Department:	City Council
Action/Project Priority:	Low
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget, FEMA NEHRP, EPA DWSRF
Local Planning Mechanisms to be Used in Implementation, if any:	Hazard Mitigation Plan
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Adair County R-1
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for students and employees of the district.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Adair County R-1 2025.1
Name of Action or Project:	Safe Rooms
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Build safe rooms
Estimated Cost:	\$1,000,000
Benefits:	Protect human lives.
Plan for Implementation	
Responsible Organization/Department:	Adair County R-1 Superintendent
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	NEW
Report of Progress:	NEW Project

Action Worksheet	
Name of Jurisdiction:	Adair County R-I
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Earthquakes, Drought, Extreme Temperatures, Severe Thunderstorms, Tornado, Wildfire, Severe Winter Weather
Problem being Mitigated:	Lack of Education
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	Adair County R-I 2025.2
Name of Action or Project:	Natural Hazard Education
Mitigation Category:	Education and Outreach
Action or Project Description:	Superintendent will obtain and host programs to educate our patrons concerning natural hazard events, focusing on both preparedness and risk reduction. Information will be provided (by social media, websites, brochures, flyers, public notice, sent home with students and faculty) on all types of hazards and mitigation measures for hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, newsletters to patrons in hazard prone areas (including floodplain maps and flood hazard areas), preparing emergency supply kits, securing nonstructural elements to prevent property damage, earthquake drills, etc.
Estimated Cost:	\$0-\$500
Benefits:	Education allows for better preparedness for an emergency event
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	Medium
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Adair County R-II
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for students and employees of the district.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Adair County R-II 2020.1
Name of Action or Project:	Safe Rooms
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Build safe rooms
Estimated Cost:	\$1,000,000
Benefits:	Protect human lives.
Plan for Implementation	
Responsible Organization/Department:	Adair County R-II Superintendent
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	NEW
Report of Progress:	NEW Project

Action Worksheet	
Name of Jurisdiction:	Adair County R-II
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Earthquakes, Drought, Extreme Temperatures, Severe Thunderstorms, Tornado, Wildfire, Severe Winter Weather
Problem being Mitigated:	Lack of Education
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	Adair County R-II 2025.2
Name of Action or Project:	Natural Hazard Education
Mitigation Category:	Education and Outreach
Action or Project Description:	Superintendent will obtain and host programs to educate our patrons concerning natural hazard events. Information will be provided (by social media, websites, brochures, flyers, public notice, sent home with students and faculty) on all types of hazards and mitigation measures for hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, newsletters to patrons in hazard prone areas (including floodplain maps and flood hazard areas), preparing emergency supply kits, securing nonstructural elements to prevent property damage earthquake drills. etc.
Estimated Cost:	\$0-\$500
Benefits:	Education allows for better preparedness for an emergency event
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	Medium
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Action Worksheet	
Name of Jurisdiction:	Kirksville R-III
Risk / Vulnerability	
Hazard(s) Addressed:	Tornado, Severe Thunderstorms
Problem being Mitigated:	Lack of shelter for students and employees of the district.
Action or Project	
Applicable Goal Statement:	Goal 3: Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties.
Action/Project Number:	Kirksville R-III 2025.1
Name of Action or Project:	Safe Rooms
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services
Action or Project Description:	Build safe rooms
Estimated Cost:	\$1,000,000
Benefits:	Protect human lives.
Plan for Implementation	
Responsible Organization/Department:	Kirksville R-III Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	High Priority
Timeline for Completion:	1-5 Year
Potential Fund Sources:	Hazard Mitigation Grant Funds
Local Planning Mechanisms to be Used in Implementation, if any:	NA
Progress Report	
Action Status:	Continuing
Report of Progress:	NEW Project

Action Worksheet	
Name of Jurisdiction:	Kirksville R-III
Risk / Vulnerability	
Hazard(s) Addressed:	Flooding, Earthquakes, Drought, Extreme Temperatures, Severe Thunderstorms, Tornado, Wildfire, Severe Winter Weather
Problem being Mitigated:	Lack of Education
Action or Project	
Applicable Goal Statement:	Goal 1: Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards
Action/Project Number:	Kirksville R-III 2025.2
Name of Action or Project:	Natural Hazard Education
Mitigation Category:	Education and Outreach
Action or Project Description:	Superintendent will obtain and host programs to educate our patrons concerning natural hazard events. Information will be provided (by social media, websites, brochures, flyers, public notice, sent home with students and faculty) on all types of hazards and mitigation measures for hazard events. Examples of education and outreach activities include drought water conservation tips, safe room/community shelter, heating and cooling locations, social distancing tips and telehealth options, safe burning practices, preparations for winter weather, newsletters to patrons in hazard prone areas (including floodplain maps and flood hazard areas), preparing emergency supply kits, securing nonstructural elements to prevent property damage earthquake drills, etc.
Estimated Cost:	\$0-\$500
Benefits:	Education allows for better preparedness for an emergency event
Plan for Implementation	
Responsible Organization/Department:	Superintendent
Supporting Organization/Department:	School Board
Action/Project Priority:	Medium
Timeline for Completion:	1 Year
Potential Fund Sources:	Annual Budget
Local Planning Mechanisms to be Used in Implementation, if any:	None
Progress Report	
Action Status:	New
Report of Progress:	Not Started

Table 4.3. Mitigation Action Matrix

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Structure and Infrastructure Projects								
Adair County 2025.1	Continue Adair County's participation and good standing in the National Flood Insurance Program.	Adair County	High	3	Flooding	✓	✓	✓
Adair County 2025.2	Installation/Upgrade Sirens	Adair County	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.3	Improve Transportation Infrastructure	Adair County	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Adair County 2025.4	Safe Room and Storm Shelters	Adair County	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.5	Generator for Shelter(s)	Adair County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Adair County 2025.6	Seismic Vulnerability Assessment	Adair County	Low	3	Earthquakes	✓	✓	
Adair County 2025.7	Subsidence Vulnerability Assessment	Adair County	Low	3	Sinkholes	✓	✓	
City of Kirksville 2025.1	NFIP Participation	City of Kirksville	High	3	Flooding	✓	✓	✓
City of Kirksville 2025.2	Installation/Upgrade Sirens	City of Kirksville	Medium	3	Tornado, Severe Thunderstorms	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Kirksville 2025.3	Extreme Temperature Shelters	City of Kirksville	High	3	Extreme Temperatures, Severe Winter Weather	✓	✓	
City of Kirksville 2025.4	Safe Rooms and Storm Shelters	City of Kirksville	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.5	Dam Protection	City of Kirksville	High	3	Dam Failure, Flash Flooding, Riverine Flooding	✓	✓	
City of Kirksville 2025.6	Flood Mitigation	City of Kirksville	High	3	Flooding	✓	✓	
City of Kirksville 2025.7	Fire Mitigation	City of Kirksville	High	3	Wildfire	✓	✓	
City of Kirksville 2025.8	Water Source Protection	City of Kirksville	Low	3	Drought	✓	✓	
City of Kirksville 2025.9	Improved Communications and Coordination	City of Kirksville	High	3	Riverine Flooding, Flash Flooding, Severe Thunderstorm, Tornado	✓	✓	
City of Kirksville 2025.11	Seismic Vulnerability Assessment	City of Kirksville	Low	3	Earthquakes	✓	✓	
City of Novinger 2025.1	Continue City of Novinger's participation and good standing in the National Flood Insurance Program	City of Novinger	High	3	Flooding	✓	✓	✓
City of Novinger 2025.2	Installation/Upgrade Sirens	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025.3	Improve Transportation Infrastructure	City of Novinger	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Novinger 2025.4	Safe Rooms and Shelters	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025-6	Seismic Vulnerability Assessment	City of Novinger	Low	3	Earthquakes	✓	✓	
City of Brashear 2025.1	Establish City of Brashear's participation in the National Flood Insurance Program	City of Brashear	High	3	Flooding	✓	✓	✓
City of Brashear 2025.2	Installation/Upgrade Sirens	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.3	Improve Transportation Infrastructure	City of Brashear	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Brashear 2025.4	Safe Rooms and Storm Shelters	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.6	Seismic Vulnerability Assessment	City of Brashear	Low	3	Earthquakes	✓	✓	
Village of Millard 2025.1	Establish Village of Millard's participation in the National Flood Insurance Program	Village of Millard	High	3	Flooding	✓	✓	✓
Village of Millard 2025.2	Installation/Upgrade Sirens	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.3	Improve Transportation Infrastructure	Village of Millard	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Millard 2025.4	Safe Rooms and Storm Shelters	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.6	Seismic Vulnerability Assessment	Village of Millard	Low	3	Earthquakes	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Gibbs 2025.1	Establish Village of Gibbs's participation in the National Flood Insurance Program	Village of Gibbs	High	3	Flooding	✓	✓	✓
Village of Gibbs 2025.2	Installation/Upgrade Sirens	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.3	Improve Transportation Infrastructure	Village of Gibbs	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Gibbs 2025.4	Safe Rooms and Storm Shelters	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.6	Seismic Vulnerability Assessment	Village of Gibbs	Low	3	Earthquakes	✓	✓	
Adair County R-I 2025.1	Safe Rooms	Adair County R-I	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County R-II 2025.1	Safe Rooms	Adair County R-II	High	3	Tornado, Severe Thunderstorms	✓	✓	
Kirksville R-III 2025.1	Safe Rooms	Kirksville R-III	High	3	Tornado, Severe Thunderstorms	✓	✓	
Natural Systems Protection								
Adair County 2025.1	Continue Adair County's participation and good standing in the National Flood Insurance Program.	Adair County	High	3	Flooding	✓	✓	✓
City of Kirksville 2025.1	NFIP Participation	City of Kirksville	High	3	Flooding	✓	✓	✓
City of Novinger 2025.1	Continue City of Novinger's participation and good standing in the National Flood Insurance Program	City of Novinger	High	3	Flooding	✓	✓	✓
City of Brashear 2025.1	Establish City of Brashear's participation in the National Flood Insurance Program	City of Brashear	High	3	Flooding	✓	✓	✓

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Millard 2025.1	Establish Village of Millard's participation in the National Flood Insurance Program	Village of Millard	High	3	Flooding	✓	✓	✓
Village of Gibbs 2025.1	Establish Village of Gibbs's participation in the National Flood Insurance Program	Village of Gibbs	High	3	Flooding	✓	✓	✓
Education and Outreach								
Adair County 2025.1	Continue Adair County's participation and good standing in the National Flood Insurance Program.	Adair County	High	3	Flooding	✓	✓	✓
Adair County 2025.8	Vulnerable Citizen Awareness	Adair County	Low	1	Tornado, Severe Thunderstorms	✓		
City of Kirksville 2025.1	NFIP Participation	City of Kirksville	High	3	Flooding	✓	✓	✓
City of Kirksville 2025.10	Vulnerable Citizen Awareness	City of Kirksville	Low	1	Tornado, Severe Thunderstorms	✓		
City of Novinger 2025.1	Continue City of Novinger's participation and good standing in the National Flood Insurance Program	City of Novinger	High	3	Flooding	✓	✓	✓
City of Novinger 2025.5	Vulnerable Citizen Awareness	City of Novinger	Low	1	Tornado, Severe Thunderstorms	✓		
City of Brashear 2025.1	Establish City of Brashear's participation in the National Flood Insurance Program	City of Brashear	High	3	Flooding	✓	✓	✓
City of Brashear 2025.5	Vulnerable Citizen Awareness	City of Brashear	Low	1	Tornado, Severe Thunderstorms	✓		
Village of Millard 2025.1	Establish Village of Millard's participation in the National Flood Insurance Program	Village of Millard	High	3	Flooding	✓	✓	✓
Village of Millard 2025.5	Vulnerable Citizen Awareness	Village of Millard	Low	1	Tornado, Severe Thunderstorms	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Gibbs 2025.1	Establish Village of Gibbs's participation in the National Flood Insurance Program	Village of Gibbs	High	3	Flooding	✓	✓	✓
Village of Gibbs 2025.5	Vulnerable Citizen Awareness	Village of Gibbs	Low	1	Tornado, Severe Thunderstorms	✓		
Adair County R-I 2025.2	Natural Hazard Education	Adair County R-I	Medium	1	Tornado, Severe Thunderstorms	✓		
Adair County R-II 2025.2	Natural Hazard Education	Adair County R-II	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
Kirksville R-III 2025.2	Natural Hazard Education	Kirksville R-III	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
	Emergency Services							
Adair County 2025.1	Continue Adair County's participation and good standing in the National Flood Insurance Program.	Adair County	High	3	Flooding	✓	✓	✓
Adair County 2025.2	Installation/Upgrade Sirens	Adair County	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.3	Improve Transportation Infrastructure	Adair County	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Adair County 2025.4	Safe Room and Storm Shelters	Adair County	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.5	Generator for Shelter(s)	Adair County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Adair County 2025.6	Seismic Vulnerability Assessment	Adair County	Low	3	Earthquakes	✓	✓	
Adair County 2025.7	Subsidence Vulnerability Assessment	Adair County	Low	3	Sinkholes	✓	✓	
City of Kirksville 2025.1	NFIP Participation	City of Kirksville	High	3	Flooding	✓	✓	✓
City of Kirksville 2025.2	Installation/Upgrade Sirens	City of Kirksville	Medium	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.3	Extreme Temperature Shelters	City of Kirksville	High	3	Extreme Temperatures, Severe Winter Weather	✓	✓	
City of Kirksville 2025.4	Safe Rooms and Storm Shelters	City of Kirksville	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.5	Dam Protection	City of Kirksville	High	3	Dam Failure, Flash Flooding, Riverine Flooding	✓	✓	
City of Kirksville 2025.6	Flood Mitigation	City of Kirksville	High	3	Flooding	✓	✓	
City of Kirksville 2025.7	Fire Mitigation	City of Kirksville	High	3	Wildfire	✓	✓	
City of Kirksville 2025.8	Water Source Protection	City of Kirksville	Low	3	Drought	✓	✓	
City of Kirksville 2025.9	Improved Communications and Coordination	City of Kirksville	High	3	Riverine Flooding, Flash Flooding, Severe Thunderstorm, Tornado	✓	✓	
City of Kirksville 2025.11	Seismic Vulnerability Assessment	City of Kirksville	Low	3	Earthquakes	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Novinger 2025.1	Continue City of Novinger's participation and good standing in the National Flood Insurance Program	City of Novinger	High	3	Flooding	✓	✓	✓
City of Novinger 2025.2	Installation/Upgrade Sirens	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025.3	Improve Transportation Infrastructure	City of Novinger	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Novinger 2025.4	Safe Rooms and Shelters	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025.6	Seismic Vulnerability Assessment	City of Novinger	Low	3	Earthquakes	✓	✓	
City of Brashear 2025.1	Establish City of Brashear's participation in the National Flood Insurance Program	City of Brashear	High	3	Flooding	✓	✓	✓
City of Brashear 2025.2	Installation/Upgrade Sirens	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.3	Improve Transportation Infrastructure	City of Brashear	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Brashear 2025.4	Safe Rooms and Storm Shelters	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.6	Seismic Vulnerability Assessment	City of Brashear	Low	3	Earthquakes	✓	✓	
Village of Millard 2025.1	Establish Village of Millard's participation in the National Flood Insurance Program	Village of Millard	High	3	Flooding	✓	✓	✓
Village of Millard 2025.2	Installation/Upgrade Sirens	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Millard 2025.3	Improve Transportation Infrastructure	Village of Millard	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Millard 2025.4	Safe Rooms and Storm Shelters	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.6	Seismic Vulnerability Assessment	Village of Millard	Low	3	Earthquakes	✓	✓	
Village of Gibbs 2025.1	Establish Village of Gibbs's participation in the National Flood Insurance Program	Village of Gibbs	High	3	Flooding	✓	✓	✓
Village of Gibbs 2025.2	Installation/Upgrade Sirens	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.3	Improve Transportation Infrastructure	Village of Gibbs	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Gibbs 2025.4	Safe Rooms and Storm Shelters	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.6	Seismic Vulnerability Assessment	Village of Gibbs	Low	3	Earthquakes	✓	✓	
Adair County R-I 2025.1	Safe Rooms	Adair County R-I	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County R-II 2025.1	Safe Rooms	Adair County R-II	High	3	Tornado, Severe Thunderstorms	✓	✓	
Kirksville R-III 2025.1	Safe Rooms	Kirksville R-III	High	3	Tornado, Severe Thunderstorms	✓	✓	
	Prevention							

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Adair County 2025.2	Installation/Upgrade Sirens	Adair County	Medium	1	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.3	Improve Transportation Infrastructure	Adair County	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Adair County 2025.4	Safe Room and Storm Shelters	Adair County	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County 2025.5	Generator for Shelter(s)	Adair County	High	3	Extreme Temperatures, Severe Thunderstorms, Severe Winter Weather, Tornado	✓		
Adair County 2025.6	Seismic Vulnerability Assessment	Adair County	Low	3	Earthquakes	✓	✓	
Adair County 2025.7	Subsidence Vulnerability Assessment	Adair County	Low	3	Sinkholes	✓	✓	
City of Kirksville 2025.2	Installation/Upgrade Sirens	City of Kirksville	Medium	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.3	Extreme Temperature Shelters	City of Kirksville	High	3	Extreme Temperatures, Severe Winter Weather	✓	✓	
City of Kirksville 2025.4	Safe Rooms and Storm Shelters	City of Kirksville	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Kirksville 2025.5	Dam Protection	City of Kirksville	High	3	Dam Failure, Flash Flooding, Riverine Flooding	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
City of Kirksville 2025.6	Flood Mitigation	City of Kirksville	High	3	Flooding	✓	✓	
City of Kirksville 2025.7	Fire Mitigation	City of Kirksville	High	3	Wildfire	✓	✓	
City of Kirksville 2025.8	Water Source Protection	City of Kirksville	Low	3	Drought	✓	✓	
City of Kirksville 2025.11	Seismic Vulnerability Assessment	City of Kirksville	Low	3	Earthquakes	✓	✓	
City of Novinger 2025.2	Installation/Upgrade Sirens	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025.3	Improve Transportation Infrastructure	City of Novinger	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Novinger 2025.4	Safe Rooms and Shelters	City of Novinger	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Novinger 2025.6	Seismic Vulnerability Assessment	City of Novinger	Low	3	Earthquakes	✓	✓	
City of Brashear 2025.2	Installation/Upgrade Sirens	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.3	Improve Transportation Infrastructure	City of Brashear	High	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
City of Brashear 2025.4	Safe Rooms and Storm Shelters	City of Brashear	High	3	Tornado, Severe Thunderstorms	✓	✓	
City of Brashear 2025.6	Seismic Vulnerability Assessment	City of Brashear	Low	3	Earthquakes	✓	✓	

#	Action	Jurisdiction	Priority	Goals Addressed	Hazards Addressed	Address Current Development	Address Future Development	Continued Compliance with NFIP
Village of Millard 2025.2	Installation/Upgrade Sirens	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.3	Improve Transportation Infrastructure	Village of Millard	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Millard 2025.4	Safe Rooms and Storm Shelters	Village of Millard	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Millard 2025.6	Seismic Vulnerability Assessment	Village of Millard	Low	3	Earthquakes	✓	✓	
Village of Gibbs 2025.2	Installation/Upgrade Sirens	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.3	Improve Transportation Infrastructure	Village of Gibbs	Medium	3	Flooding, Severe Thunderstorms, Winter Weather	✓	✓	
Village of Gibbs 2025.4	Safe Rooms and Storm Shelters	Village of Gibbs	High	3	Tornado, Severe Thunderstorms	✓	✓	
Village of Gibbs 2025.6	Seismic Vulnerability Assessment	Village of Gibbs	Low	3	Earthquakes	✓	✓	
Adair County R-I 2025.1	Safe Rooms	Adair County R-I	High	3	Tornado, Severe Thunderstorms	✓	✓	
Adair County R-II 2025.1	Safe Rooms	Adair County R-II	High	3	Tornado, Severe Thunderstorms	✓	✓	
Kirksville R-III 2025.1	Safe Rooms	Kirksville R-III	High	3	Tornado, Severe Thunderstorms	✓	✓	

5 PLAN MAINTENANCE PROCESS

5 PLAN MAINTENANCE PROCESS	5.1
<i>5.1 Monitoring, Evaluating, and Updating the Plan.....</i>	<i>5.1</i>
5.1.1 Responsibility for Plan Maintenance	5.1
5.1.2 Plan Maintenance Schedule	5.1
5.1.3 Plan Maintenance Process.....	5.1
5.2 Incorporation into Existing Planning Mechanisms	5.2
5.3 Continued Public Involvement	5.5

This chapter provides an overview of the overall strategy for plan maintenance and outlines the method and schedule for monitoring, updating and evaluating the plan. The chapter also discusses incorporating the plan into existing planning mechanisms and how to address continued public involvement.

5.1 Monitoring, Evaluating, and Updating the Plan

44 CFR Requirement 201.6(c)(4): The plan maintenance process shall include a section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

5.1.1 Responsibility for Plan Maintenance

The is an advisory body and can only make recommendations to county, city, town, or district elected officials. Its primary duty is to see the plan successfully carried out and to report to the community governing boards and the public on the status of plan implementation and mitigation opportunities. Other duties include reviewing and promoting mitigation proposals, hearing stakeholder concerns about hazard mitigation, passing concerns on to appropriate entities, and posting relevant information in areas accessible to the public.

5.1.2 Plan Maintenance Schedule

The MPC agrees to meet annually and after a state or federally declared hazard event as appropriate to monitor progress and update the mitigation strategy. The Adair County Emergency Management Director will be responsible for initiating the plan reviews and will invite members of the MPC to the meeting.

In coordination with all participating jurisdictions, the Emergency Management Director will be responsible for initiating a five-year written update of the plan to be submitted to the Missouri State Emergency Management Agency (SEMA) and FEMA Region VII per Requirement §201.6(c)(4)(i) of the Disaster Mitigation Act of 2000, unless disaster or other circumstances (e.g., changing regulations) require a change to this schedule.

5.1.3 Plan Maintenance Process

The plan must identify how, when and by whom the plan will be assessed for effectiveness at

achieving its stated purpose and goals (evaluating). Progress on the proposed actions can be monitored by evaluating changes in vulnerabilities identified in the plan. The MPC (or other designated responsible entity) during the annual meeting should review changes in vulnerability identified as follows:

- Decreased vulnerability as a result of implementing recommended actions,
- Increased vulnerability as a result of failed or ineffective mitigation actions,
- Increased vulnerability due to hazard events, and/or
- Increased vulnerability as a result of new development (and/or annexation).

Future 5-year updates to this plan will include the following activities:

- Consideration of changes in vulnerability due to action implementation,
- Documentation of success stories where mitigation efforts have proven effective,
- Documentation of unsuccessful mitigation actions and why the actions were not effective,
- Documentation of previously overlooked hazard events that may have occurred since the previous plan approval,
- Incorporation of new data or studies with information on hazard risks,
- Incorporation of new capabilities or changes in capabilities,
- Incorporation of growth data and changes to inventories, and
- Incorporation of ideas for new actions and changes in action prioritization.

In order to best evaluate any changes in vulnerability as a result of plan implementation, the participating jurisdictions will adopt the following process:

- Each proposed action in the plan identified an individual, office, or agency responsible for action implementation. This entity will track and report on an annual basis to the jurisdictional MPC member on action status. The entity will provide input on whether the action as implemented meets the defined objectives and is likely to be successful in reducing risk.
- If the action does not meet identified objectives, the jurisdictional MPC member will determine necessary remedial action, making any required modifications to the plan.

Changes will be made to the plan to remedy actions that have failed or are not considered feasible. Feasibility will be determined after a review of action consistency with established criteria, time frame, community priorities, and/or funding resources. Actions that were not ranked high but were identified as potential mitigation activities will be reviewed as well during the monitoring of this plan. Updating of the plan will be accomplished by written changes and submissions, as the MPC deems appropriate and necessary. Changes will be approved by the Adair County Commission and the governing boards of the other participating jurisdictions.

5.2 Incorporation into Existing Planning Mechanisms

44 CFR Requirement §201.6(c)(4)(ii): [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

Where possible, plan participants, including school and special districts, will use existing plans and/or programs to implement hazard mitigation actions. Based on the capability assessments of the participating jurisdictions, communities in Adair County will continue to plan and

implement programs to reduce losses to life and property from hazards. This plan builds upon the momentum developed through previous and related planning efforts and mitigation programs and recommends implementing actions, where possible, through the following plans:

- General or master plans of participating jurisdictions;
- Ordinances of participating jurisdictions;
- Adair County Emergency Operations Plan;
- Capital improvement plans and budgets;
- Other community plans within the County, such as water conservation plans, storm water management plans, and parks and recreation plans;
- School and Special District Plans and budgets; and
- Other plans and policies outlined in the capability assessment sections for each jurisdiction in Chapter 2 of this plan.

The MPC members involved in updating these existing planning mechanisms will be responsible for integrating the findings and actions of the mitigation plan, as appropriate. The MPC is also responsible for monitoring this integration and incorporation of the appropriate information into the five-year update of the multi-jurisdictional hazard mitigation plan.

Additionally, after the annual review of the Hazard Mitigation Plan, the Adair County Emergency Management Director will provide the updated Mitigation Strategy with current status of each mitigation action to the County Commission as well as all Mayors, City Clerks, and School District Superintendents. The Emergency Management Director will request that the mitigation strategy be incorporated, where appropriate, in other planning mechanisms.

Table 5.1 below lists the planning mechanisms by jurisdiction into which the Hazard Mitigation Plan will be integrated.

Table 5.1. Planning Mechanisms Identified for Integration of Hazard Mitigation Plan

Jurisdiction	Planning Mechanisms	Integration Process for Previous Plan	Integration Process for Current Plan
Unincorporated Adair County	County Road and Bridge Plan	Road and Bridge Department attended planning meetings and identified actions relating to transportation infrastructure; included in annual update to CIP List	Road and Bridge Department attended planning meetings. Identified new or ongoing actions will be included in annual update to CIP List.
City of Kirksville	Comprehensive Plan Land Use Plan	Emergency Management staff reviewed mitigation plan recommendations and incorporated relevant infrastructure needs into the City's plans	Kirksville Emergency Management and Planning Department will integrate action items and vulnerabilities into updates of Comprehensive Plan and Land Use Plan.
City of Novinger	Local Budget	Previous plan actions	The city will formally

		were referenced informally during budget planning but not formally adopted into any plan.	integrate relevant mitigation strategies into annual project reviews and seek support through infrastructure grant planning.
City of Brashear	Local Budget	Previous plan actions were referenced informally during budget planning but not formally adopted into any plan.	The city will formally integrate relevant mitigation strategies into annual project reviews and seek support through infrastructure grant planning.
Village of Millard	Local Budget	Previous plan actions were referenced informally during budget planning but not formally adopted into any plan.	The village will formally integrate relevant mitigation strategies into annual project reviews and seek support through infrastructure grant planning.
Village of Gibbs	Local Budget	Previous plan actions were referenced informally during budget planning but not formally adopted into any plan.	The village will formally integrate relevant mitigation strategies into annual project reviews and seek support through infrastructure grant planning.
Adair County R-I	Building Plan	Prior plan helped raise awareness among safety staff, but no specific mitigation items were budgeted.	The district will formally integrate relevant mitigation strategies into annual project reviews and seek support through infrastructure grant planning.
Adair County R-II	Building Plan	Prior plan helped raise awareness among safety staff, but no specific mitigation items were budgeted.	The district will formally integrate relevant mitigation strategies into annual project reviews and seek support through infrastructure grant planning.
Kirksville R-III	Building Plan	Prior plan helped raise awareness among safety staff, but no	The district will formally integrate relevant mitigation strategies

		specific mitigation items were budgeted.	into annual project reviews and seek support through infrastructure grant planning.
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5.3 Continued Public Involvement

44 CFR Requirement §201.6(c)(4)(iii): [The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.

The hazard mitigation plan update process provides an opportunity to publicize success stories resulting from the plan’s implementation and seek additional public comment. Information about the annual reviews will be posted in the local newspaper, as well as, on the Adair County website following each annual review of the mitigation plan and will solicit comments from the public based on the annual review. When the MPC reconvenes for the five-year update, it will coordinate with all stakeholders participating in the planning process. Included in this group will be those who joined the MPC after the initial effort, to update and revise the plan. Public notice will be posted, and public participation will be actively solicited, at a minimum, through available website postings and press releases to local media outlets, primarily newspapers.

COUNTY OF ADAIR, Missouri RESOLUTION NO. 2025-1

A RESOLUTION OF THE COUNTY OF ADAIR, MISSOURI ADOPTING THE ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the COUNTY OF ADAIR recognizes the threat that natural hazards pose to people and property within the COUNTY OF ADAIR; and

WHEREAS the COUNTY OF ADAIR has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the COUNTY OF ADAIR from the impacts of future hazards and disasters; and

WHEREAS the COUNTY OF ADAIR recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the COUNTY OF ADAIR will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the COUNTY OF ADAIR demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE COUNTY OF ADAIR, in the State of Missouri, THAT:

THE COUNTY OF ADAIR HEREBY adopts the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

BE IT FURTHER RESOLVED, the COUNTY OF ADAIR will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: 7-23-2025

Certifying Official:

Meredith Stalder
Presiding Commissioner

RESOLUTION NO. R2025-08-43

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF KIRKSVILLE, MISSOURI, ADOPTING THE ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND PARTICIPATING IN THE HAZARD MITIGATION EFFORTS.

WHEREAS, the City of Kirksville recognizes that no community is immune from natural hazards whether it be tornado/severe thunderstorm, flood, severe winter weather, drought, heat wave, earthquake, dam failure, or wildfire and recognizes the importance of enhancing its ability to withstand natural hazards as well as the importance of reducing the human suffering, property damage, interruption of public services and economic losses caused by those hazards; and

WHEREAS, the City of Kirksville may have previously pursued measures such as building codes, fire codes, floodplain management regulations, zoning ordinances, and storm water management regulations to minimize the impact of natural hazards; and

WHEREAS, the Federal Emergency Management Agency and the State Emergency Management Agency have developed a natural hazard mitigation program that assists communities in their efforts to become Disaster-resistant Communities which are sustainable communities after a natural disaster that focus, not just on disaster relief, but also on recovery and reconstruction that brings the community to at least pre-disaster conditions in an accelerated, orderly and preplanned manner; and

WHEREAS, by participating in the Natural Hazards Mitigation Program, the City of Kirksville will be eligible to apply for post-disaster mitigation funds; and

WHEREAS, the City of Kirksville desires to commit to working with government partners to implement the Natural Hazards Mitigation Plan; and

WHEREAS, the City of Kirksville will implement pertinent precepts of the mitigation plan by incorporation into other community plans and mechanisms where appropriate; and

WHEREAS, all aspects pertaining to the City of Kirksville, in the Adair County Multi-Jurisdictional Hazard Mitigation Plan attached hereto and incorporated by reference herein are approved; and

WHEREAS, the City of Kirksville will participate in the evaluation and review of the Plan after a disaster, as well as complete a mandated five-year update submitted to the State Emergency Management Agency and the Federal Emergency Management Agency for review and approval; and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF KIRKSVILLE AS FOLLOWS: The City of Kirksville hereby approves the Adair County Multi-Jurisdictional Natural Hazard Mitigation Plan attached hereto to build a safer community by reducing natural hazard vulnerability.

PASSED BY THE CITY COUNCIL AND SIGNED BY THE MAYOR ON THIS 4th DAY OF AUGUST, 2025.

Zac Burden

Zac Burden, Mayor

ATTEST:

Diane Albrecht

Diane Albrecht, City Clerk



VILLAGE OF MILLARD, Missouri RESOLUTION NO. _____

A RESOLUTION OF THE VILLAGE OF MILLARD, MISSOURI ADOPTING THE ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the VILLAGE OF MILLARD recognizes the threat that natural hazards pose to people and property within the VILLAGE OF MILLARD; and

WHEREAS the VILLAGE OF MILLARD has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the VILLAGE OF MILLARD from the impacts of future hazards and disasters; and

WHEREAS the VILLAGE OF MILLARD recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the VILLAGE OF MILLARD will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the VILLAGE OF MILLARD demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE VILLAGE OF MILLARD, in the State of Missouri, THAT:

THE VILLAGE OF MILLARD HEREBY adopts the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

BE IT FURTHER RESOLVED, the VILLAGE OF MILLARD will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: July 18, 2025

Certifying Official: Margaret Farrell

CITY OF BRASHEAR, Missouri RESOLUTION NO. 25-0819

A RESOLUTION OF THE CITY OF BRASHEAR, MISSOURI ADOPTING THE ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the CITY OF BRASHEAR recognizes the threat that natural hazards pose to people and property within the CITY OF BRASHEAR; and

WHEREAS the CITY OF BRASHEAR has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the CITY OF BRASHEAR from the impacts of future hazards and disasters; and

WHEREAS the CITY OF BRASHEAR recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the CITY OF BRASHEAR will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the CITY OF BRASHEAR demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE CITY OF BRASHEAR, in the State of Missouri, THAT:

THE CITY OF BRASHEAR HEREBY adopts the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

BE IT FURTHER RESOLVED, the CITY OF BRASHEAR will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: 8-19-2025

Certifying Official: Rhonda Blanton
Rhonda Blanton, Mayor

Witnessed By: Angie Muxim, City Clerk
Angie Muxim, City Clerk

VILLAGE OF MILLARD, Missouri RESOLUTION NO. _____

A RESOLUTION OF THE VILLAGE OF MILLARD, MISSOURI ADOPTING THE ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the VILLAGE OF MILLARD recognizes the threat that natural hazards pose to people and property within the VILLAGE OF MILLARD; and

WHEREAS the VILLAGE OF MILLARD has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the VILLAGE OF MILLARD from the impacts of future hazards and disasters; and

WHEREAS the VILLAGE OF MILLARD recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the VILLAGE OF MILLARD will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the VILLAGE OF MILLARD demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE VILLAGE OF MILLARD, in the State of Missouri, THAT:

THE VILLAGE OF MILLARD HEREBY adopts the ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN.

BE IT FURTHER RESOLVED, the VILLAGE OF MILLARD will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: July 18, 2025

Certifying Official: Margaret Farrell

VILLAGE OF GIBBS, Missouri RESOLUTION NO. _____

A RESOLUTION OF THE **VILLAGE OF GIBBS**, MISSOURI ADOPTING THE **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the **VILLAGE OF GIBBS** recognizes the threat that natural hazards pose to people and property within the **VILLAGE OF GIBBS**; and

WHEREAS the **VILLAGE OF GIBBS** has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **VILLAGE OF GIBBS** from the impacts of future hazards and disasters; and

WHEREAS the **VILLAGE OF GIBBS** recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the **VILLAGE OF GIBBS** will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the **VILLAGE OF GIBBS** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE **VILLAGE OF GIBBS**, in the State of Missouri, THAT:

THE **VILLAGE OF GIBBS** HEREBY adopts the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**.

BE IT FURTHER RESOLVED, the **VILLAGE OF GIBBS** will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: 7-21-25

Certifying Official: Jamie Keller, Clerk

ADAIR COUNTY R-1 SCHOOL DISTRICT, Missouri RESOLUTION NO. _

A RESOLUTION OF THE **ADAIR COUNTY R-1 SCHOOL DISTRICT**, MISSOURI ADOPTING THE **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the **ADAIR COUNTY R-1 SCHOOL DISTRICT** recognizes the threat that natural hazards pose to people and property within the **ADAIR COUNTY R-1 SCHOOL DISTRICT**; and

WHEREAS the **ADAIR COUNTY R-1 SCHOOL DISTRICT** has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

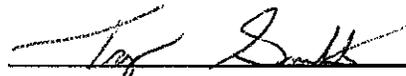
WHEREAS the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **ADAIR COUNTY R-1 SCHOOL DISTRICT** from the impacts of future hazards and disasters; and

WHEREAS **ADAIR COUNTY R-1 SCHOOL DISTRICT** recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the **ADAIR COUNTY R-1 SCHOOL DISTRICT** will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by **ADAIR COUNTY R-1 SCHOOL DISTRICT** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

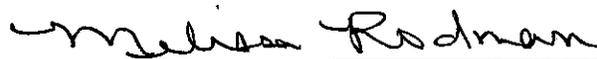
NOW THEREFORE, BE IT RESOLVED BY THE SCHOOL BOARD OF ADAIR COUNTY R-1 SCHOOL DISTRICT, in the State of Missouri, THAT: in accordance with ADAIR COUNTY R-1 SCHOOL DISTRICT School Board Policy, HEREBY adopts the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**.

ADOPTED by a vote of 5 in favor and 0 against and 0 abstaining, this 23rd day of July, 2025.



, Board President

ATTEST:



, Board Secretary

ADAIR COUNTY R-2 SCHOOL DISTRICT, Missouri RESOLUTION NO. _

A RESOLUTION OF THE **ADAIR COUNTY R-2 SCHOOL DISTRICT**, MISSOURI ADOPTING THE **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the **ADAIR COUNTY R-2 SCHOOL DISTRICT** recognizes the threat that natural hazards pose to people and property within the **ADAIR COUNTY R-2 SCHOOL DISTRICT**; and

WHEREAS the **ADAIR COUNTY R-2 SCHOOL DISTRICT** has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

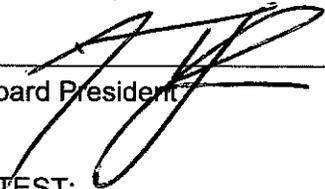
WHEREAS the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **ADAIR COUNTY R-2 SCHOOL DISTRICT** from the impacts of future hazards and disasters; and

WHEREAS **ADAIR COUNTY R-2 SCHOOL DISTRICT** recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the **ADAIR COUNTY R-2 SCHOOL DISTRICT** will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by **ADIAR COUNTY R-2 SCHOOL DISTRICT** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE SCHOOL BOARD OF ADAIR COUNTY R-2 SCHOOL DISTRICT, in the State of Missouri, THAT: In accordance with ADAIR COUNTY R-2 SCHOOL DISTRICT School Board Policy, HEREBY adopts the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**.

ADOPTED by a vote of 7 in favor and 0 against and 0 abstaining, this 16 day of July, 2025.



, Board President

ATTEST:



, Board Secretary

KIRKSVILLE R-III SCHOOL DISTRICT, Missouri RESOLUTION NO. ____

A RESOLUTION OF THE **KIRKSVILLE R-III SCHOOL DISTRICT**, MISSOURI ADOPTING THE **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** AND THE EFFORT TO BECOME A DISASTER RESISTANCE COMMUNITY.

WHEREAS the **KIRKSVILLE R-III SCHOOL DISTRICT** recognizes the threat that natural hazards pose to people and property within the **KIRKSVILLE R-III SCHOOL DISTRICT**; and

WHEREAS the **KIRKSVILLE R-III SCHOOL DISTRICT** has participated in the preparation of a multi-jurisdictional local hazard mitigation plan, hereby known as the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**, hereafter referred to as the *Plan*, in accordance with the Disaster Mitigation Act of 2000; and

WHEREAS the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN** identifies mitigation goals and actions to reduce or eliminate long-term risk to people and property in the **KIRKSVILLE R-III SCHOOL DISTRICT** from the impacts of future hazards and disasters; and

WHEREAS the **KIRKSVILLE R-III SCHOOL DISTRICT** recognizes that land use policies have a major impact on whether people and property are exposed to natural hazards, the **KIRKSVILLE R-III SCHOOL DISTRICT** will endeavor to integrate the *Plan* into the comprehensive planning process; and

WHEREAS adoption by the **KIRKSVILLE R-III SCHOOL DISTRICT** demonstrates their commitment to hazard mitigation and achieving the goals outlined in the *Plan*.

NOW THEREFORE, BE IT RESOLVED BY THE **KIRKSVILLE R-III SCHOOL DISTRICT**, in the State of Missouri, THAT:

THE **KIRKSVILLE R-III SCHOOL DISTRICT** HEREBY adopts the **ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN**.

BE IT FURTHER RESOLVED, the **KIRKSVILLE R-III SCHOOL DISTRICT** will submit the updated plan along with this Adoption Resolution to the Missouri Emergency Management Agency and Federal Emergency Management Agency Region VII officials to enable the plan's final approval.

Date: 8-1-25

Certifying Official: Tricia Reyer
KV R-III



SEMA Mitigation Management **LOCAL MITIGATION PLAN FORMAT GUIDANCE KICKOFF MEETING INVITATION FOR JURISDICTIONS**

Subject: Adair County Multi-Jurisdictional Hazard Mitigation Plan Update

On behalf of Adair County, you are invited to the first of three planning meetings to update the Adair County Multi-Jurisdictional Hazard Mitigation Plan.

Adair County Multi-Jurisdictional Hazard Mitigation Plan Update

Kickoff Meeting

March 18, 2025

Meeting Time: 10:00 AM

Place: Kirksville Economic Development Building

Address: 315 S Franklin Street, Kirksville, MO 63501

Adair County is beginning the process to update the Adair County Multi-Jurisdictional Hazard Mitigation Plan to better protect the people and property of Adair County from the effects of natural hazard events. The existing plan was approved by FEMA in November 2020. The plan update will be prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations. These regulations establish the requirements that hazard mitigation plans must meet in order for Adair County and the participating jurisdictions, to be eligible for certain federal disaster assistance and hazard mitigation funding under the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288). Because Adair County is subject to many kinds of hazards, access to these federal programs is vital.

What is a Hazard Mitigation Plan?

A hazard mitigation plan is the result of a planning process which identifies policies and actions that can be implemented over the long term to reduce the risk and future losses resulting from hazard events. The Adair County Multi-Jurisdictional Hazard Mitigation Plan Update will address a comprehensive list of natural hazards likely to impact the County. The identified mitigation policies and actions will be based on an assessment of hazards, vulnerabilities, and risks.

The hazard mitigation planning process is also heavily dependent on the participation of representatives from local government agencies and departments, the public, and other stakeholder groups. A Hazard Mitigation Planning Committee will be formed to support this project and will include representatives from the County, cities, school districts, private-non-profit entities, business partners, academic institutions, and other local, state, and federal agencies acting in or serving Adair County.

What is My Role in the Planning Process?

The Northeast Missouri Regional Planning Commission has taken the lead in updating this plan. The point of contact is Derek Weber, Executive Director. To successfully complete this project and ensure your organization is eligible for FEMA hazard mitigation assistance funding, we need your participation and input. Jurisdictions (including county and city governments and public-school districts) that do not participate in an approved Hazard Mitigation Plan are **NOT eligible** to apply for FEMA's Hazard Mitigation Assistance grants. Participation in the planning process will include:

- Attending and contributing in the planning committee meetings;
- Providing requested data (as available);
- Reviewing and providing comments on plan drafts;
- Advertising, coordinating, and participating in the public input process; and
- Coordinating the formal adoption of the plan.



SEMA Mitigation Management LOCAL MITIGATION PLAN FORMAT GUIDANCE KICKOFF MEETING INVITATION FOR JURISDICTIONS

What can I expect for the planning committee meetings?

In the coming months, the Northeast Missouri Regional Planning Commission will facilitate three planning meetings, as briefly described below. Detailed agendas and information on the context of each meeting or activities performed within each meeting will be provided during the planning process.

- **Project Kick-off Meeting.** This meeting will initialize work with the planning committee including presentation of the federal planning requirements, participation requirements of planning committee members, and the proposed project work plan and schedule. A plan for public involvement and coordination with other agencies and departments will also be discussed at this initial meeting, especially regarding external agencies, such as state and federal agencies that may have significant interests (property, critical assets and infrastructure) in the County or that have information to help support the planning process.
- **Risk Assessment Meeting.** This meeting will include presentation of the risk assessment results and review/development of mitigation goals.
- **Mitigation Strategy Meeting.** This meeting will include updating of existing mitigation actions and identification and development of new mitigation strategies based upon the risk assessment.

Additional Resources

The following links provide additional information on hazard mitigation and the planning process.

- **Adair County Multi-Jurisdictional Hazard Mitigation Plan, November 2020**
<https://www.nemorpc.org/wp-content/uploads/2023/01/Adair-County-HMP-2019.pdf>
- **The requirements and procedures for state, tribal and local mitigation plans as presented in the Code of Federal Regulations (CFR) at Title 44, Chapter 1, Part 201**
<https://www.fema.gov/hazard-mitigation-planning-laws-regulations-policies>
- **Frequently Asked Questions regarding hazard mitigation planning**
<https://www.fema.gov/hazard-mitigation-planning-frequently-asked-questions>

Adair County requests your assistance in forwarding this invitation to others in your jurisdiction. Appropriate participants in the planning committee include, but are not limited to: emergency responders, county clerks, city clerks, elected officials, public works directors, floodplain managers, stormwater managers, county and city planners, economic development directors, GIS staff, business partners, private-non-profit representatives, school principals, school facilities directors, and school superintendents.

Please confirm your attendance or provide contact information for your designated alternate by responding to Derek Weber at (660) 465-7281 Ext. 1 or derekweber@nemorpc.org.

Thank you,

Derek Weber
Executive Director
Northeast Missouri Regional Planning Commission

Adair County
Multi-Jurisdictional Hazard Mitigation Plan Update
Kick-off Planning Meeting
March 18, 2025
10:00 A.M.

Agenda

Welcome/Introductions Derek Weber, Executive Director
Northeast Missouri Regional Planning Commission

Hazard Mitigation Planning Purpose

Grant Programs Linked to Approved Plan

Planning Tasks / Multi-jurisdictional Approach

Participation Requirements

Public Involvement

Data Collection Questionnaires

Discussion of Hazards

Critical Facilities

Next Steps in the Planning Process

SAVE THE DATE:

Meeting #2—April 8, 2025—10:00 A.M.

Kirksville Economic Development Building

Meeting #3—April 29, 2025—10:00 A.M.

Kirksville Economic Development Building

To **Adair County Hazard Mitigation Planning Committee**
 From **Derek Weber, Executive Director**
NEMO Regional Planning Commission
 Tel / E-mail **(660) 465-7281 Ext 1 / derekweber@nemorpc.org**
 Date **March 18, 2025**
 Subject **Minutes from Adair County Hazard Mitigation Planning Kickoff Meeting held on March 18, 2025**

This document is a record of attendance and a summary of the issues discussed during the above meeting. The presentation began with an introduction on the purpose of hazard mitigation planning, grant programs linked to an approved plan, and the benefits of a multi-jurisdictional approach. The hazard mitigation planning process was reviewed to include requirements for participation and public involvement and the use of data collection questionnaires. The planning committee participated in a discussion of the hazards that have the potential to impact Adair County, including preliminary research on each hazard. The sources for compiling a GIS layer of critical facilities were also discussed and additional sources identified by planning committee members were noted. The meeting concluded with a discussion of the next steps in the planning process. The meeting was held at the Kirksville Economic Development Building at 315 S Frankin St, Kirksville, MO 63531 from 10:00 AM to 11:15.

Attendees

Name	Title	Department	Jurisdiction
Justin Jones	Deputy Chief	Kirksville Police	City of Kirksville
Jon Cook	Chief	Kirksville Fire	City of Kirksville
Rich Morrow	Deputy Director	Public Works	City of Kirksville
Mari Macomber	City Manager	City of Kirksville	City of Kirksville
Rodney Sadler	Deputy City Manager	City of Kirksville	City of Kirksville
Lucas Smith	911 Director	Emergency Communications	City of Kirksville
Gayla McHenry	Associate Commissioner	County Commission	Adair County
Bill King	Associate Commissioner	County Commission	Adair County
Jeffery LaFountain	Airport Director	City of Kirksville	City of Kirksville
Mark Shahan	Presiding Commissioner	County Commission	Adair County
Sara Knipe	City Planner	Planning	City of Kirksville
Batina Dodge	Economic Development Planner		NEMO RPC
Derek Weber	Executive Director		NEMO RPC

Introductions

Derek Weber, Executive Director, with NEMO Regional Planning Commission, began the meeting by welcoming and thanking the attendees for coming and having all attendees introduce themselves and the jurisdiction or entity they were representing.

Hazard Mitigation Planning Purpose

Derek Weber, Executive Director, with NEMO Regional Planning Commission, presented information on the purpose of Hazard Mitigation Planning and the Disaster Mitigation Act of 2000. The attendees were reminded this is an update of the Adair County Hazard Mitigation Plan, previously approved in

November 2020. The current plan expires in November 2025. The current plan is available for reference on the NEMO RPC website.

Grant Programs Linked to Approved Plan

Derek Weber briefly discussed the FEMA Hazard Mitigation Assistance grants that require participation in an approved Hazard Mitigation Plan for jurisdictions to be eligible to apply. These include: Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, and Flood Mitigation Assistance Program

Planning Tasks / Multi-Jurisdictional Approach

Derek Weber discussed the 9 Planning Steps for effective Hazard Mitigation Planning identified in FEMA’s March 2013 *Handbook for Local Hazard Mitigation Planning* and addressed the benefits for jurisdictions participating in this mitigation plan update including improved coordination and communication among local jurisdictions. Impacts of hazards do not stop at jurisdictional boundaries. This multi-jurisdictional approach allows for a more comprehensive risk assessment and resulting mitigation strategy for the entire planning area. The following jurisdictions have been invited to participate as “official participants” in the Adair County Multi-jurisdictional Hazard Mitigation Plan Update:

- County of Adair
- City of Kirksville
- City of Novinger
- City of Brashear
- Village of Millard
- Village of Gibbs
- Adair County R-I School District
- Adair County R-II School District
- Kirksville R-III School District

Participation Requirements

Derek Weber also described the role of the HMPC. Each jurisdiction participating in development of the plan must meet the following minimum requirements:

1. Designate a representative to serve on the Adair County HMPC, which will meet **three** times during the planning process,
2. Provide data for and assist in the development of the updated risk assessment that describes how various hazards impact your jurisdiction,
3. Provide data to describe current capabilities,
4. Develop/update mitigation actions (at least one) specific to your jurisdiction,
5. Provide comments on plan drafts as requested,
6. Inform the public, local officials, and other interested parties about the planning process and provide opportunities for them to comment on the plan, and
7. Formally adopt the mitigation plan.

Jurisdictions that choose not to participate in development of a FEMA-approved mitigation plan **will not** be eligible applicants for FEMA Hazard Mitigation Assistance Grants.

Planning for Public Involvement

The local hazard mitigation plan requirements state that the public needs to have the opportunity to comment on the plan. The public will be given two opportunities to comment on the plan, once during the drafting stage and another when the plan is complete in the final draft stage.

The meeting attendees discussed methods for notifying the public in the plan.

Hard copies of the draft plan will be available at public facilities such as the county commission office, city hall, library, and post office. A link to the draft plan will also be available on NEMO RPC's website.

Data Collection Questionnaires

Representatives from local governments and school districts were provided with hard copies of Data Collection Questionnaires. The Data Collection Questionnaire is designed to collect information on existing capabilities within each jurisdiction to implement mitigation initiatives as well as collect information on previous hazard events. The questionnaires are different for local units of government and schools. The Data Collection Questionnaires were reviewed as a group and then meeting participants were given time to review the forms individually and note any questions about the forms.

After a short break, a question/answer session took place to facilitate completion of the forms.

The deadline for submittal of the Data Collection Guides is April 8, 2025.

Discussion/Prioritization of Hazards

Initial research information was presented on the hazards being considered for inclusion in the hazard mitigation plan.

Derek Weber facilitated a discussion of the mitigation goals. Common categories of mitigation goals were presented along with past plan goals.

The previous goals were reviewed and they were updated to the following:

1. Public Awareness- Using a variety of communications avenues to increase the citizens awareness of and promote education about the natural hazards that they may face, their vulnerability to these hazards, and how to lessen the effect of future natural hazards.
2. Strengthen communication and coordination between local governments, emergency personnel, public agencies, and citizens to mitigate the effect of future natural hazards.
3. Investigate, implement, maintain, and enforce mitigation policies and programs that limit the impact of natural hazards: on the loss of life; on new and existing properties; on natural resources; on infrastructure; and on the local economy.

The planning committee members were informed they would be contacted to review previous mitigation actions and how they wanted to proceed with the mitigation actions. Each jurisdiction is required to have at least one mitigation action item.

Critical Facilities

The Risk Assessment will include information on critical facilities for each jurisdiction. A GIS-based inventory of the critical facilities will be developed, and meeting participants were asked to identify additional sources of GIS data for the critical facility inventory.

Next Steps

Attendees were asked to complete their jurisdiction's Data Collection Questionnaire by April 8, 2025. **The 2nd meeting of the Hazard Mitigation Planning Committee for this plan update will be April 8, 2025 from 10:00AM.** A draft of the risk assessment update will be provided to the committee for review prior to Meeting #2. The meeting will involve a review of the risk assessment results and update of the plan's goals. **The 3rd and final planning meeting is scheduled for April 29, 2025.** Additional details on this meeting will be provided at a later date.

**Multi-Jurisdictional
Hazard Mitigation Plan**

**Data Collection Questionnaire
For Local Governments**

County: Adair

Jurisdiction: County of Adair

Return by: April 8, 2025

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: Adair County Commission
Phone: (660) 665-2283
Email: _____
Date: 4/8/25

Please return questionnaires by mail or email to:
Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update.

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments
Planning Capabilities		
<u>Comprehensive Plan</u>	Date:	
Builder's Plan	Date: No	
Capital Improvement Plan	Date: No	
City Emergency Operations Plan	Date: N/A	
County Emergency Operations Plan	Date: 4/17/2019	
Local Recovery Plan	Date: No	
County Recovery Plan	Date: Yes	
City Mitigation Plan	Date: N/A	
County Mitigation Plan	Date:	
Debris Management Plan	Date:	
<u>Economic Development Plan</u>	Date: Yes	
Transportation Plan	Date: No	
Land-use Plan	Date: No	
Flood Mitigation Assistance (FMA) Plan	Date:	
<u>Watershed Plan</u>	Date: No	
Firewise or other fire mitigation plan	Date: No	
Critical Facilities Plan (Mitigation/Response/Recovery)	Date: No	

Element	Yes, No, N/A	Comments
Policies/Ordinance		
Zoning Ordinance	No	
Building Code	Version: No	
Floodplain Ordinance	Date: No	
Subdivision Ordinance	No	
Tree Trimming Ordinance	No	
Nuisance Ordinance	No	
Storm Water Ordinance	No	
Drainage Ordinance	No	
Site Plan Review Requirements	No	
Historic Preservation Ordinance	No	
Landscape Ordinance	No	
Program		
Zoning/Land Use Restrictions	No	
Codes Building Site/Design	No	
Hazard Awareness Program	No	
National Flood Insurance Program	No	
Community Rating System (CRS) program under the National Flood Insurance Program (NFIP)?	If so, what is your current level rating? No	
National Weather Service (NWS) Storm Ready Certification	No	
Firewise Community Certification	No	
Building Code Effectiveness Grading (BCEGs)	No	
ISO Fire Rating	Rating:	
Economic Development Program	Yes	
Land Use Program	No	
Public Education/Awareness	No	
Property Acquisition	No	
Planning/Zoning Boards	No	
Stream Maintenance Program	No	
Tree Trimming Program	No	
<u>Engineering Studies for Streams (Local/County/Regional)</u>		
Mutual Aid Agreements	Yes	
Studies/Reports/Maps		
<u>Hazard Analysis/Risk Assessment (City)</u>	N/A	
<u>Hazard Analysis/Risk Assessment (County)</u>	Yes	
Evacuation Route Map	No	
<u>Critical Facilities Inventory</u>	No	
<u>Vulnerable Population Inventory</u>	No	
<u>Land Use Map</u>	No	

Staff/Department	Full Time or Part Time?
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Element	Yes, No, N/A	Comments
Building Code Official	No	
Building Inspector	No	
Mapping Specialist (GIS)	Yes	
Engineer	No	
Development Planner	No	
Public Works Official	Yes	
Emergency Management Coordinator	Yes	
NFIP Floodplain Administrator	No	
Bomb and/or Arson Squad	No	
Emergency Response Team	No	
Hazardous Materials Expert	No	
Local Emergency Planning Committee	Yes	
County Emergency Management Commission	No	
Sanitation Department	No	
Transportation Department		
Economic Development Department	Yes	
Housing Department	No	
Historic Preservation	No	
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	Yes	
Salvation Army	Yes	
Veterans Groups	Yes	
Local Environmental Organization	Yes	
Homeowner Associations	No	
Neighborhood Associations	Yes	
Chamber of Commerce	Yes	
Community Organizations (Lions, Kiwanis, etc.)	Yes	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	No	
Impact fees for new development	No	
Incur debt through general obligation bonds	No	
Incur debt through special tax bonds	No	
Incur debt through private activities	No	
Withhold spending in hazard prone areas	No	

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive Plan	No change
Builder's Plan	N/A
Capital Improvement Plan	N/A
Local Recovery Plan	N/A
County Recovery Plan	N/A
Debris Management Plan	N/A
Economic Development Plan	N/A
Transportation Plan	N/A
Land-use Plan	N/A
Watershed Plan	N/A
Firewise or other Fire Mitigation Plan such as Community Wildfire Protection Plan	N/A

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)
3 Commissioners
2. List any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, or environmental education.
None
3. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.
None
4. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.
None
5. How many outdoor warning sirens are in your community?
Kirksville-6, Truman-2, Novinger-1

How are they activated (indicate responsible department/personnel)? Central Dispatch

6. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe them. Radio, TV
7. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards? No

Please provide address locations:

8. List residential, commercial and industrial development in your jurisdiction since last plan update.
9. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

N/A
10. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.
11. Please list major employers in your jurisdiction with an estimated number of employees.

12. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

13. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally. N/A

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Riverine Flooding (Major & Flash)- RF	Severe Winter Weather (incl. snow, ice, severe cold)- SWW	Hazardous Materials Release (fixed facility, accidents)- HM
Dam Failure- DF	Droughts- D	Mass Transportation Accident- MTA
Levee Failure- LF	Extreme Temperatures- ET	Nuclear Power Plants (emergencies & accidents)- NPP
Earthquake- EQ	Fires (structural, urban, and wild)- F	Public Health Emergencies/Environmental Issues- PH
Land Subsidence / Sinkholes- LSS	Attack (nuclear, conventional, chemical, and biological)- A	Special Events- SE
Severe Thunderstorm (incl. winds, hail, lightning)- ST	Civil Disorder- CD	Terrorism- TX
Tornadoes- T	Cyber Disruption- CyD	Utilities (interruptions & system failures)- U

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
<u>High Potential Loss Facilities</u> such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
<u>Transportation and Lifelines</u> such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						

*If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	County of Adair
Type of event	Severe Storms, Straight-Line Winds, Tornadoes, & Flooding
Nature and magnitude of event	
Location	Unincorporated Adair County
Date of event	July 29, 2023 – August 14, 2023
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: County of Adair

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost. The worksheet should include information on progress made in the implementation of the action, if any. Some of the actions might have been ongoing in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.

If no progress has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

Action # from previously approved plan	2020.1
Description of action	NFIP Participation
Person or agency responsible for implementation	County Commission / EMD
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Jurisdiction: County of Adair

Action # from previously approved plan	2020.2
Description of action	Install/Upgrade Warning Sirens
Person or agency responsible for implementation	County EMD
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.3
Description of action	Maintain Transportation Infrastructure
Person or agency responsible for implementation	County Commission / EMD
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Jurisdiction: County of Adair

Action # from previously approved plan	2020.4
Description of action	Response to Pandemic
Person or agency responsible for implementation	County Commissioner / EMD
Progress made on implementation since previous plan adoption	
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Delete

Action # from previously approved plan	2020.5
Description of action	Safe Rooms and Storm Shelters
Person or agency responsible for implementation	County Commission / EMD
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.6
Description of action	Generator for Shelter(s)
Person or agency responsible for implementation	County Commission / EMD
Progress made on implementation since previous plan adoption	Ongoing

If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.7
Description of action	Emergency Operations Center
Person or agency responsible for implementation	County Commissioner / EMD
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
Designate into which of the following four categories the previously proposed action should be placed, including discussion of that designation.	
Completed since previous plan adoption, and description of progress	
Not Started/Continue in Plan Update, and discussion of reasons for lack of implementation	
In Progress/Continue in Plan Update, with a description of the progress made to date	
Deleted from the update, with a discussion of the reasons for deletion	

Multi-Jurisdictional Hazard Mitigation Plan

Data Collection Questionnaire For Local Governments

County: Adair

Jurisdiction: City of Kirksville

Return by: April 8, 2025

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: Jon Cook
Phone: 6606653734
Email: jcook@kirksville.gov
Date: 4/22/2025

Please return questionnaires by mail or email to:

Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

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Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments
Planning Capabilities		
<u>Comprehensive Plan</u>	Yes 03/16/2020	THINK 2040 Plan with updates annually weblink
Builder's Plan	NA	
Capital Improvement Plan	Yes 12/16/2024	Included in Budget and updated annually weblink (see pages 88-106 & 302-308)
City Emergency Operations Plan	Yes 03/2025	Combined with County
County Emergency Operations Plan	Yes 03/2025	
Local Recovery Plan	YES 03/2025	The purpose of EOP is to recover. Measures in place throughout the EOP and, more specifically, as an Emergency Support Function #14 in Annex D of the EOP
County Recovery Plan	YES 03/2025	Annex D of the EOP
City Mitigation Plan	Yes 10/15/2014	Combined with County weblink
County Mitigation Plan	Yes	
Debris Management Plan	NA	Components are contained in the EOP. It designates Public Works as responsible, but is not a complete Debris Management Plan
<u>Economic Development Plan</u>	NA	
Transportation Plan	NA	
Land-use Plan	Yes 03/16/2020	Weblink pages 79-96

Element	Yes, No, N/A	Comments
Flood Mitigation Assistance (FMA) Plan	NA	
Watershed Plan	YES 12/02/2015	In the process of updating
Firewise or other fire mitigation plan	NA	
Critical Facilities Plan (Mitigation/Response/Recovery)	NA	
Policies/Ordinance		
Zoning Ordinance	Yes	
Building Code	Yes	2021 International Building Code
Floodplain Ordinance	YES	
Subdivision Ordinance	YES	
Tree Trimming Ordinance	YES	
Nuisance Ordinance	YES	
Stormwater Ordinance	YES	
Drainage Ordinance	YES	
Site Plan Review Requirements	YES	
Historic Preservation Ordinance	YES	
Landscape Ordinance	YES	
Program		
Zoning/Land Use Restrictions	Comprehensive Plan, Subdivision Code, and Zoning Code	Administered by Community & Economic Development Department, Planning & Zoning Commission, and City Council through zoning applications and subdivision plats. Board of Adjustment is in place for disputes.
Codes Building Site/Design	Comprehensive Plan, Subdivision Code, Zoning Code	Administered by Community & Economic Development Department, Planning & Zoning Commission, and City Council through zoning applications and subdivision plats.
Hazard Awareness Program	YES 03/2025	Annex H of County/City EOP
National Flood Insurance Program	YES 02/03/2025 Kirksville Flood Plain Ordinance	Administered by Community & Economic Development Department
Community Rating System (CRS) program under the National Flood Insurance Program (NFIP)?	If so, what is your current level rating? NA	NA
National Weather Service (NWS) Storm Ready Certification	YES	Recertified Renewal in 2026
Firewise Community Certification	NA	NA
Building Code Effectiveness Grading (BCEGs)	YES	99 Residential, 4 Commercial
ISO Fire Rating	Rating: 3 05/01/2024	
Economic Development Program	YES	City of Kirksville (Economic Development & Tourism), Kirksville Regional Economic Development, Inc., Missouri Rural Enterprise and Innovation Center, Chamber of Commerce, Main Street Kirksville
Land Use Program	Comprehensive Plan, Subdivision Code, and Zoning Code	Administered by Community & Economic Development Department, Planning & Zoning Commission, and

Element	Yes, No, N/A	Comments
		City Council through zoning applications and subdivision plats.
Public Education/Awareness	YES	The City has its website at Kirksville.gov . There are the City's social media channels and alerts system. Those alerts go to registered residents and local media.
Property Acquisition		
Planning/Zoning Boards	YES	Planning & Zoning Commission – 9-member board
Stream Maintenance Program	Yes	
Tree Trimming Program	Yes	Lakes, Parks and Recreation Commission serves as Tree Board. Various sections of City Code address tree maintenance both City and private property
<u>Engineering Studies for Streams (Local/County/Regional)</u>	YES	
Mutual Aid Agreements	YES	City Code 16-5 allows for mutual aid agreements/arrangements; mutual aid agreements updated with Sheriff 12/2020, city of LaPlata 12/2024, City Council Fire/Rescue Mutual Aid updated 02/05/2018
Studies/Reports/Maps		
<u>Hazard Analysis/Risk Assessment (City)</u>	YES	Annex H of County/City EOP
<u>Hazard Analysis/Risk Assessment (County)</u>	YES	Annex H of County/City EOP
Evacuation Route Map	YES	Attachment C of Appendix 5 of County/City EOP
<u>Critical Facilities Inventory</u>	YES	Annex H of County/City EOP
<u>Vulnerable Population Inventory</u>	YES	Annex J of County/City EOP
<u>Land Use Map</u>	YES	Weblink pages 79-96

Staff/Department		Full Time or Part Time?
Building Code Official	YES	Full Time
Building Inspector	YES	Full Time (3)
Mapping Specialist (GIS)	YES	Full Time
Engineer	YES	Full Time
Development Planner	YES	Full Time
Public Works Official	YES	Full Time
Emergency Management Coordinator	YES	Full Time
NFIP Floodplain Administrator	YES	Full Time
Bomb and/or Arson Squad	YES	Full Time
Emergency Response Team	YES	Full Time
Hazardous Materials Expert	YES	Full Time
Local Emergency Planning Committee	YES	Full Time
County Emergency Management Commission	YES	Full Time
Sanitation Department	NA	Private Contract with City
Transportation Department	YES	Full Time

Element	Yes, No, N/A	Comments
Economic Development Department	YES	Full Time
Housing Department	YES	Full Time
Historic Preservation	YES	Full Time
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	YES	
Salvation Army	YES	
Veterans Groups	YES	
Local Environmental Organization	YES	
Homeowner Associations	YES	
Neighborhood Associations	YES	Includes Neighborhood Watch
Chamber of Commerce	YES	
Community Organizations (Lions, Kiwanis, etc.)	YES	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	YES	Currently have one for storm drainage improvements
Fund projects thru Capital Improvements funding	YES	¼ cent Capital Improvements Sales Tax, ½ cent Transportation Sales Tax, ½ cent Parks Sales Tax, and ½ cent Economic Development Sales Tax
Authority to levy taxes for specific purposes	YES	
Fees for water, sewer, gas, or electric services	YES	City provides water, sewer, and stormwater services
Impact fees for new development	YES	Stormwater development charge based on building, hard surface development (sidewalks and parking lots)
Incur debt through general obligation bonds	YES	
Incur debt through special tax bonds	YES	
Incur debt through private activities	NO	
Withhold spending in hazard prone areas	YES	Flood zones

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive Plan	The THINK Kirksville 2040 Comprehensive Plan has not been updated since the last Hazard Mitigation Plan.
Builder's Plan	
Capital Improvement Plan	
Local Recovery Plan	
County Recovery Plan	
Debris Management Plan	
Economic Development Plan	N/A
Transportation Plan	
Land-use Plan	
Watershed Plan	
Firewise or other Fire Mitigation Plan such as Community Wildfire Protection Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members) Council/Manager form of government. Five-member City Council elected at large, who in turn, hire a City Manager.
2. List any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, or environmental education.

National Fire Safety Week; Severe Weather Preparedness Week; Watersheds map; Water table diagram; Drinking Water Week; How Water Treatment and Wastewater Treatment Plants Work; Not sticking fats, oil and grease down drains; Not putting grass/brush in the street so it doesn't wind up in stormwater system; Stream clean-ups; Downtown trash pick-up;

3. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.

Factory Addition Stormwater improvement project
ARPA Raingarden – water detention project near fire station on Illinois
911 Communications Upgrades

4. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.

No Public storm shelters and only one location for warming/cooling centers. The city is currently proposing a sales tax that would establish all three as an expansion of City Hall.

5. How many outdoor warning sirens are in your community?

Six sirens owned by the City, two at Truman State University, and one in Novinger, Mo

How are they activated (indicate responsible department/personnel)?

All sirens are activated upon authorization of the EMDs (City/County), Police Chief or Supervisor, Fire Chief or supervisor, or City Manager. Activated and deactivated by the Adair County Emergency Communications Center. The Truman State Siren and Novinger would be activated by the same individuals along with the University President, the Director of the Department of Public Safety, or the Novinger Mayor.

6. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe them.

We have cable override and regroup (IPAWS) and Wireless emergency alerts.

7. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards?

No

Please provide address locations:

8. List residential, commercial and industrial development in your jurisdiction since last plan update.

New residential subdivisions include the Autumn Ridge and Dogwood subdivisions, in the northeast and west central areas of the City, respectively. Commercial development has continued at the Kirksville Commons development, located at the northwest corner of the intersection of Missouri Highway 6 and Business U.S. Highway 63.

9. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

Slow but steady development continues in existing residential subdivisions approved during the past twenty-five years, none of which are in the floodplain.

10. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide the facility name and purpose along with proposed locations, if known.

The City is working on plans to construct several new municipal facilities to include: a renovation to the existing City Hall and expansion to the south; a new police station; new fire stations; a training site; and community center.

11. Please list major employers in your jurisdiction with an estimated number of employees.

PRINCIPAL EMPLOYERS:	<u>Qty</u>	<u>%</u>
Kraft Heinz Foods Company	813	7.9
Truman State University	663	6.4
A.T. Still University	477	4.6
Kirksville R-III School District	425	4.1
Northeast Regional Medical Center	362	3.5
Preferred Family Healthcare	319	3.1
Wal-Mart Inc.	284	2.8
Hy-Vee Food Stores, Inc.	270	2.6
City of Kirksville	255	2.5
Northeast Missouri Health Council	<u>206</u>	<u>2.0</u>
	<u>4,074</u>	<u>39.5%</u>

12. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

- Mari Macomber
- Ashley Young
- Chayton True
- Reid Yardley
- Jon Cook
- Jim Hughes
- Steve Farnsworth
- Glenn Balliew

Several members of the team are part of the Local Emergency Management group and meet on a regular basis. The City specifically has met to discuss safety measures, review budget capital plans, and determine if goals are being met. There has been turnover within the group with three individuals retiring, one taking a position elsewhere, and one death leaving four of the original members of the group.

13. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally.

The City has been working through the process with FEMA/SEMA since around 2018 with final flood plain maps presented and approved in early 2025.

Through this process, the City also updated its existing code to ensure conformity and compliance. Prior to these changes, the City has adhered to the standards and requirements outlined in our Municipal Code of Ordinances requiring compliance with developers/buildings/residents.

Since the adoption of this last plan, one particular incident that occurred with a property owner clearing considerable trees and brush depositing them into the stream. Through the City's Code Enforcement Process and in coordination with the Army Corp of Engineers, the Missouri Department of Natural Resources the matter was resolved to the benefit of the stream.

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Riverine Flooding (Major & Flash)- RF	Severe Winter Weather (incl. snow, ice, severe cold)- SWW	Hazardous Materials Release (fixed facility, accidents)- HM
Dam Failure- DF	Droughts- D	Mass Transportation Accident- MTA
Levee Failure- LF	Extreme Temperatures- ET	Nuclear Power Plants (emergencies & accidents)- NPP
Earthquake- EQ	Fires (structural, urban, and wild)- F	Public Health Emergencies/Environmental Issues- PH
Land Subsidence / Sinkholes- LSS	Attack (nuclear, conventional, chemical, and biological)- A	Special Events- SE
Severe Thunderstorm (incl. winds, hail, lightning)- ST	Civil Disorder- CD	Terrorism- TX
Tornadoes- T	Cyber Disruption- CyD	Utilities (interruptions & system failures)- U

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Asset Inventory

Please list critical facilities and other community assets, the square feet, values, and occupancy/capacity. If not applicable, enter "N/A"). In the last column, use the codes from the previous page to indicate hazards to which the asset is vulnerable. Add as many rows as needed. If this information is available in GIS format, please provide.

Critical Facilities

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
<u>Essential Facilities</u> such as hospitals and other medical facilities, police and fire stations, Emergency Operations Centers						
NRMC	315 S. Osteopathy	2,500,000				ST,T,SWW,F,A,CD,CyD HM,PH
Kirksville Fire Station	401 N. Franklin	15,000	5,000,000			ST,T,SWW,F,A,CD,CyD HM,PH,RF
Police Station	119 E. McPherson	7,000	9,000,000			ST,T,SWW,F,A,CD,CyD HM,PH
EDA/EOC	315 S. Franklin	8,000	5,000,000			ST,T,SWW,F,A,CD,CyD HM,PH
Adair County Ambulance Base	606 W. Potter	13,000	5,000,000			ST,T,SWW,F,A,CD,CyD HM,PH
Adair County Detention Center	215 N. Franklin	17,000				ST,T,SWW,F,A,CD,CyD HM,PH
Complete Family Medicine (Urgent Care)	1611 S. Baltimore	16,000				ST,T,SWW,F,A,CD,CyD HM,PH
Adair County Emergency Communications Center	201 S. Franklin	2500	3,000,000			ST,T,SWW,F,A,CD,CyD HM,PH

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
High Potential Loss Facilities such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
City Hall	201 S. Franklin	18,000	20,000,000			ST,T,SWW,F,A,CD,CyD HM,PH
The Pines Adult Care Center	1900 S. Jamison	50,000				ST,T,SWW,F,A,CD,CyD HM,PH
Kirksville Manor Care Center	1705 E. LaHarpe	50,000				ST,T,SWW,F,A,CD,CyD HM,PH
US Army Reserve Center	3105 N. Industrial Road	20,000				ST,T,SWW,F,A,CD,CyD HM,PH
Forest Lake Dam	NA					DF,ST,TX
Hazel Creek Lake Dam	NA					DF,ST,TX
Adair County Courthouse		24,000				ST,T,SWW,F,A,CD,CyD HM,PH
Transportation and Lifelines such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						
US Highway 63						MTA
US Highway 6						MTA
US Highway 11						MTA

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
Kirksville Regional Airport	267161 David Hall Trail	5,500	50,000,000			ST,T,SWW,F,A,CD,CyD HM,PH,MTA
Kirksville Water Treatment Plant	1900 W. Potter	5,500	50,000,000			ST,T,SWW,F,A,CD,CyD HM,PH
Kirksville Wastewater Treatment Plant	23002 Atlas Lane	20,000	50,000,000			ST,T,SWW,F,A,CD,CyD HM,PH

***If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.**

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards
Kraft Heinz Foods Company	2504 Industrial Rd.	Meat Products		813	ST, T, A, CD, CyD, PH
Truman State University	100 E. Normal Ave.	Higher Edu.		663	ST, T, A, CD, CyD, PH
A.T. Still University	800 W. Jefferson St.	Higher Edu.		477	ST, T, A, CD, CyD, PH
Kirksville R-III School District	1901 E. Hamilton St.	Prim. & Sec. Ed.		425	ST, T, A, CD, CyD, PH
Northeast Regional Medical Center	315 S. Osteopathy	Healthcare		362	ST, T, A, CD, CyD, PH
Preferred Family Healthcare	900 E. LaHarpe St.	Healthcare		319	ST, T, A, CD, CyD, PH
Wal-Mart Inc.	2206 N. Baltimore St.	Retail		284	ST, T, A, CD, CyD, PH
Hy-Vee Food Stores, Inc.	500 N. Baltimore St.	Grocery		270	ST, T, A, CD, CyD, PH
Northeast Missouri Health Council	402 W. Jefferson St.	Healthcare		206	ST, T, A, CD, CyD, PH

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	City of Kirksville
Type of event	Flash Flooding
Nature and magnitude of event	
Location	City-Wide
Date of event	August 4, 2023
Injuries	2
Deaths	0
Property damage	Yes
Infrastructure damage	Yes
Crop damage	No
Business/economic impacts	Limited
Road/school/other closures	Yes
Other damage	
Insured losses	
Federal/state disaster relief funding	Yes
Opinion on likelihood of occurring again	High
Source of information	
Comments	

Jurisdiction	City of Kirksville
Type of event	Pandemic
Nature and magnitude of event	
Location	City wide
Date of event	March 2020
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	Multiple/extended
Other damage	
Insured losses	
Federal/state disaster relief funding	Yes
Opinion on likelihood of occurring again	likely
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: _____ City of Kirksville _____

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost. The worksheet should include information on progress made in the implementation of the action, if any. Some of the actions might have been ongoing in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.

If no progress has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

Action # from previously approved plan	2020.1
Description of action	NFIP Participation
Person or agency responsible for implementation	Codes Dept.
Progress made on implementation since previous plan adoption	NFIP participation continued
If action is ongoing in nature, describe activities accomplished since previous plan adoption	ongoing
Reasons for progress or lack of progress	Continued collaboration with SEMA to move updated Floodplain Maps, and an authorizing ordinance, forward.
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Jurisdiction: _____

Action # from previously approved plan	2020.2
Description of action	Upgrade outdoor warning sirens
Person or agency responsible for implementation	Emergency Management
Progress made on implementation since previous plan adoption	none
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	Lack of funding
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.3
Description of action	Extreme Temperature Shelters
Person or agency responsible for implementation	Emergency Management
Progress made on implementation since previous plan adoption	Planning only
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	Lack of funding; tax proposal failed
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.4
Description of action	Safe Rooms and Storm Shelters
Person or agency responsible for implementation	Emergency Management
Progress made on implementation since previous plan adoption	planning

If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	Lack of funding
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.5
Description of action	Dam Protection
Person or agency responsible for implementation	Engineering??
Progress made on implementation since previous plan adoption	none
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.6
Description of action	Flood Mitigation
Person or agency responsible for implementation	Public Works
Progress made on implementation since previous plan adoption	Bradford storm drainage project; Illinois street bioswale
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Ongoing. Steer Creek mitigation necessary
Reasons for progress or lack of progress	Lack of funding
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.7
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Description of action	Fire Mitigation
Person or agency responsible for implementation	Fire Dept
Progress made on implementation since previous plan adoption	None
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry Forward

Action # from previously approved plan	2020.8
Description of action	Water Source Protection (from drought)
Person or agency responsible for implementation	Public Works
Progress made on implementation since previous plan adoption	
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry Forward

Action # from previously approved plan	2020.9
Description of action	Improved Communication and Coordination (EOC and Communications upgrades)
Person or agency responsible for implementation	Emergency Management
Progress made on implementation since previous plan adoption	Planning
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	Lack of funding

Delete, modify, or carry the proposed action forward unchanged	Carry forward
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Multi-Jurisdictional Hazard Mitigation Plan

Data Collection Questionnaire For Local Governments

County: Adair

Jurisdiction: City of Novinger

Return by: April 8, 2025

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: Lisa Rhoads
Phone: (660) 488-5383
Email: cityofnovinger@gmail.com
Date: 4/30/25

Please return questionnaires by mail or email to:

Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update.

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments
Planning Capabilities		
<u>Comprehensive Plan</u>	Date: No	
Builder's Plan	Date: No	
Capital Improvement Plan	Date: No	
City Emergency Operations Plan	Date: No	
County Emergency Operations Plan	Date: Yes	
Local Recovery Plan	Date: No	
County Recovery Plan	Date: Yes	
City Mitigation Plan	Date: No	
County Mitigation Plan	Date: Yes	
Debris Management Plan	Date: No	
<u>Economic Development Plan</u>	Date: No	
Transportation Plan	Date: No	
Land-use Plan	Date: No	
Flood Mitigation Assistance (FMA) Plan	Date: No	
<u>Watershed Plan</u>	Date: No	
Firewise or other fire mitigation plan	Date: No	
Critical Facilities Plan (Mitigation/Response/Recovery)	Date: No	

Element	Yes, No, N/A	Comments
Policies/Ordinance		
Zoning Ordinance	No	
Building Code	No	
Floodplain Ordinance	No	
Subdivision Ordinance	No	
Tree Trimming Ordinance	No	
Nuisance Ordinance	No	
Storm Water Ordinance	No	
Drainage Ordinance	No	
Site Plan Review Requirements	No	
Historic Preservation Ordinance	No	
Landscape Ordinance	No	
Program		
Zoning/Land Use Restrictions	No	
Codes Building Site/Design	No	
Hazard Awareness Program	No	
National Flood Insurance Program	Yes	
Community Rating System (CRS) program under the National Flood Insurance Program (NFIP)?	If so, what is your current level rating?	
National Weather Service (NWS) Storm Ready Certification	No	
Firewise Community Certification	No	
Building Code Effectiveness Grading (BCEGs)	No	
ISO Fire Rating	Rating: 3	
Economic Development Program	No	
Land Use Program	No	
Public Education/Awareness	No	
Property Acquisition	No	
Planning/Zoning Boards	No	
Stream Maintenance Program	No	
Tree Trimming Program	No	
<u>Engineering Studies for Streams (Local/County/Regional)</u>	No	
Mutual Aid Agreements	Yes	
Studies/Reports/Maps		
<u>Hazard Analysis/Risk Assessment (City)</u>	No	
<u>Hazard Analysis/Risk Assessment (County)</u>	No	
Evacuation Route Map	No	
<u>Critical Facilities Inventory</u>	No	
<u>Vulnerable Population Inventory</u>	No	
<u>Land Use Map</u>	No	
	No	
Staff/Department		Full Time or Part Time?

Element	Yes, No, N/A	Comments
Building Code Official	No	
Building Inspector	No	
Mapping Specialist (GIS)	No	
Engineer	No	
Development Planner	No	
Public Works Official	No	
Emergency Management Coordinator	No	
NFIP Floodplain Administrator	No	
Bomb and/or Arson Squad	No	
Emergency Response Team	No	
Hazardous Materials Expert	No	
Local Emergency Planning Committee	Yes	
County Emergency Management Commission	No	
Sanitation Department	No	
Transportation Department	No	
Economic Development Department	No	
Housing Department	No	
Historic Preservation	No	
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	No	
Salvation Army	No	
Veterans Groups	No	
Local Environmental Organization	No	
Homeowner Associations	No	
Neighborhood Associations	No	
Chamber of Commerce	Yes	
Community Organizations (Lions, Kiwanis, etc.)	No	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Incur debt through general obligation bonds	No	
Incur debt through special tax bonds	No	
Incur debt through private activities	No	
Withhold spending in hazard prone areas	No	

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive Plan	
Builder's Plan	
Capital Improvement Plan	
Local Recovery Plan	
County Recovery Plan	
Debris Management Plan	
Economic Development Plan	
Transportation Plan	
Land-use Plan	
Watershed Plan	
Firewise or other Fire Mitigation Plan such as Community Wildfire Protection Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)
Mayor, City Council, City Clerk
2. List any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, or environmental education.
None
3. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.
None
4. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.
Shelters/generators
5. How many outdoor warning sirens are in your community? 1

How are they activated (indicate responsible department/personnel)? Fire Department
6. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe them. No
7. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards? No

Please provide address locations:
8. List residential, commercial and industrial development in your jurisdiction since last plan update.

None
9. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

None
10. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.
None
11. Please list major employers in your jurisdiction with an estimated number of employees. None

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Riverine Flooding (Major & Flash)- RF	Severe Winter Weather (incl. snow, ice, severe cold)- SWW	Hazardous Materials Release (fixed facility, accidents)- HM
Dam Failure- DF	Droughts- D	Mass Transportation Accident- MTA
Levee Failure- LF	Extreme Temperatures- ET	Nuclear Power Plants (emergencies & accidents)- NPP
Earthquake- EQ	Fires (structural, urban, and wild)- F	Public Health Emergencies/Environmental Issues- PH
Land Subsidence / Sinkholes- LSS	Attack (nuclear, conventional, chemical, and biological)- A	Special Events- SE
Severe Thunderstorm (incl. winds, hail, lightning)- ST	Civil Disorder- CD	Terrorism- TX
Tornadoes- T	Cyber Disruption- CyD	Utilities (interruptions & system failures)- U

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Asset Inventory

Please list critical facilities and other community assets, the square feet, values, and occupancy/capacity. If not applicable, enter "N/A"). In the last column, use the codes from the previous page to indicate hazards to which the asset is vulnerable. Add as many rows as needed. If this information is available in GIS format, please provide.

Critical Facilities

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
<u>Essential Facilities</u> such as hospitals and other medical facilities, police and fire stations, Emergency Operations Centers						
Fire Station	100 Front St., Novinger, MO 63559					

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
High Potential Loss Facilities such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
Adair County R-I School	600 Rombauer Ave, Novinger, MO 63559					
Transportation and Lifelines such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						
None						

***If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.**

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards
None					

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: City of Novinger

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost. The worksheet should include information on progress made in the implementation of the action, if any. Some of the actions might have been ongoing in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.

If no progress has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

Action # from previously approved plan	2020.1
Description of action	NFIP Participation
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Jurisdiction: City of Novinger

Action # from previously approved plan	2020.2
Description of action	Installation / Upgrade Sirens
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.3
Description of action	Maintain Transportation Infrastructure
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Jurisdiction: City of Novinger

Action # from previously approved plan	2020.4
Description of action	Safe Rooms and Storm Shelters
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
<i>Designate into which of the following four categories the previously proposed action should be placed, including discussion of that designation.</i>	
Completed since previous plan adoption, and description of progress	
Not Started/Continue in Plan Update, and discussion of reasons for lack of implementation	
In Progress/Continue in Plan Update, with a description of the progress made to date	
Deleted from the update, with a discussion of the reasons for deletion	

**Multi-Jurisdictional
Hazard Mitigation Plan**

**Data Collection Questionnaire
For Local Governments**

County: Adair

Jurisdiction: City of Brashear

Return by: April 8, 2025

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: Rhonda Branson
Phone: (660) 342-7752
Email: rhondabranson24@hotmail.com
Date: 4/30/25

Please return questionnaires by mail or email to:
Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update.

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments
Planning Capabilities		
<u>Comprehensive Plan</u>	Date: No	
Builder's Plan	Date: No	
Capital Improvement Plan	Date: No	
City Emergency Operations Plan	Date: No	
County Emergency Operations Plan	Date: Yes	
Local Recovery Plan	Date: No	
County Recovery Plan	Date: Yes	
City Mitigation Plan	Date: No	
County Mitigation Plan	Date: Yes	
Debris Management Plan	Date: No	
<u>Economic Development Plan</u>	Date: No	
Transportation Plan	Date: No	
Land-use Plan	Date: No	
Flood Mitigation Assistance (FMA) Plan	Date: No	
<u>Watershed Plan</u>	Date: No	
Firewise or other fire mitigation plan	Date: No	
Critical Facilities Plan (Mitigation/Response/Recovery)	Date: No	

Element	Yes, No, N/A	Comments
Policies/Ordinance		
Zoning Ordinance	No	
Building Code	Version: No	
Floodplain Ordinance	Date: No	
Subdivision Ordinance	No	
Tree Trimming Ordinance	No	
Nuisance Ordinance	No	
Storm Water Ordinance	No	
Drainage Ordinance	No	
Site Plan Review Requirements	No	
Historic Preservation Ordinance	No	
Landscape Ordinance	No	
Program		
Zoning/Land Use Restrictions	No	
Codes Building Site/Design	No	
Hazard Awareness Program	No	
National Flood Insurance Program	No	
Community Rating System (CRS) program under the National Flood Insurance Program (NFIP)?	If so, what is your current level rating? No	
National Weather Service (NWS) Storm Ready Certification	No	
Firewise Community Certification	No	
Building Code Effectiveness Grading (BCEGs)	No	
ISO Fire Rating	Rating: 3	
Economic Development Program	No	
Land Use Program	No	
Public Education/Awareness	No	
Property Acquisition	No	
Planning/Zoning Boards	No	
Stream Maintenance Program	No	
Tree Trimming Program	No	
<u>Engineering Studies for Streams (Local/County/Regional)</u>	No	
Mutual Aid Agreements	Yes	
Studies/Reports/Maps		
<u>Hazard Analysis/Risk Assessment (City)</u>	No	
<u>Hazard Analysis/Risk Assessment (County)</u>	No	
Evacuation Route Map	No	
<u>Critical Facilities Inventory</u>	No	
<u>Vulnerable Population Inventory</u>	No	
<u>Land Use Map</u>	No	
	No	
Staff/Department		Full Time or Part Time?

Element	Yes, No, N/A	Comments
Building Code Official	No	
Building Inspector	No	
Mapping Specialist (GIS)	No	
Engineer	No	
Development Planner	No	
Public Works Official	No	
Emergency Management Coordinator	No	
NFIP Floodplain Administrator	No	
Bomb and/or Arson Squad	No	
Emergency Response Team	No	
Hazardous Materials Expert	No	
Local Emergency Planning Committee	Yes	
County Emergency Management Commission	No	
Sanitation Department	No	
Transportation Department	No	
Economic Development Department	No	
Housing Department	No	
Historic Preservation	No	
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	No	
Salvation Army	No	
Veterans Groups	No	
Local Environmental Organization	No	
Homeowner Associations	No	
Neighborhood Associations	No	
Chamber of Commerce	Yes	
Community Organizations (Lions, Kiwanis, etc.)	No	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Incur debt through general obligation bonds	No	
Incur debt through special tax bonds	No	
Incur debt through private activities	No	
Withhold spending in hazard prone areas	No	

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive Plan	
Builder's Plan	
Capital Improvement Plan	
Local Recovery Plan	
County Recovery Plan	
Debris Management Plan	
Economic Development Plan	
Transportation Plan	
Land-use Plan	
Watershed Plan	
Firewise or other Fire Mitigation Plan such as Community Wildfire Protection Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)
Mayor
City Council – 4 members
City Clerk
2. List any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, or environmental education.
3. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.
4. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.
Evacuation and sheltering concerns of a large low-income/elderly population
Mass notification of vulnerable populations
5. How many outdoor warning sirens are in your community? None

How are they activated (indicate responsible department/personnel)? NA
6. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe them. No
7. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards? No

Please provide address locations:
8. List residential, commercial and industrial development in your jurisdiction since last plan update.

None
9. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

None
10. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.
11. Please list major employers in your jurisdiction with an estimated number of employees.

12. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

13. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally. No active compliance measures

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Riverine Flooding (Major & Flash)- RF	Severe Winter Weather (incl. snow, ice, severe cold)- SWW	Hazardous Materials Release (fixed facility, accidents)- HM
Dam Failure- DF	Droughts- D	Mass Transportation Accident- MTA
Levee Failure- LF	Extreme Temperatures- ET	Nuclear Power Plants (emergencies & accidents)- NPP
Earthquake- EQ	Fires (structural, urban, and wild)- F	Public Health Emergencies/Environmental Issues- PH
Land Subsidence / Sinkholes- LSS	Attack (nuclear, conventional, chemical, and biological)- A	Special Events- SE
Severe Thunderstorm (incl. winds, hail, lightning)- ST	Civil Disorder- CD	Terrorism- TX
Tornadoes- T	Cyber Disruption- CyD	Utilities (interruptions & system failures)- U

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Asset Inventory

Please list critical facilities and other community assets, the square feet, values, and occupancy/capacity. If not applicable, enter "N/A"). In the last column, use the codes from the previous page to indicate hazards to which the asset is vulnerable. Add as many rows as needed. If this information is available in GIS format, please provide.

Critical Facilities

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
<u>Essential Facilities</u> such as hospitals and other medical facilities, police and fire stations, Emergency Operations Centers						
None						

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
<u>High Potential Loss Facilities</u> such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
City Hall	105 East Main St					RF, EQ, T, SWW, ST
<u>Transportation and Lifelines</u> such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						
Highway 6						RF, EQ, T

***If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.**

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: City of Brashear

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost. The worksheet should include information on progress made in the implementation of the action, if any. Some of the actions might have been ongoing in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.

If no progress has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

Action # from previously approved plan	2020.1
Description of action	Establish NFIP Participation
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Jurisdiction: City of Brashear

Action # from previously approved plan	2020.2
Description of action	Installation / Upgrade Sirens
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.3
Description of action	Maintain Transportation Infrastructure
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Jurisdiction: City of Brashear

Action # from previously approved plan	2020.4
Description of action	Safe Rooms and Storm Shelters
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
<i>Designate into which of the following four categories the previously proposed action should be placed, including discussion of that designation.</i>	
Completed since previous plan adoption, and description of progress	
Not Started/Continue in Plan Update, and discussion of reasons for lack of implementation	
In Progress/Continue in Plan Update, with a description of the progress made to date	
Deleted from the update, with a discussion of the reasons for deletion	

Multi-Jurisdictional Hazard Mitigation Plan

Data Collection Questionnaire For Local Governments

County: Adair

Jurisdiction: Village of Millard

Return by: April 8, 2025

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: Margaret Ferrell
Phone: (660) 665-2067
Email: mferrell1950@yahoo.com
Date: April 8, 2025

Please return questionnaires by mail or email to:

Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update.

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments
Planning Capabilities		
<u>Comprehensive Plan</u>	Date: No	
Builder's Plan	Date: No	
Capital Improvement Plan	Date: No	
City Emergency Operations Plan	Date: No	
County Emergency Operations Plan	Date: No	
Local Recovery Plan	Date: No	
County Recovery Plan	Date: No	
City Mitigation Plan	Date: Yes	Adair County Hazard Mitigation Plan
County Mitigation Plan	Date: NA	
Debris Management Plan	Date: No	
<u>Economic Development Plan</u>	Date: No	
Transportation Plan	Date: No	
Land-use Plan	Date: No	
Flood Mitigation Assistance (FMA) Plan	Date: No	
<u>Watershed Plan</u>	Date: No	
Firewise or other fire mitigation plan	Date: No	
Critical Facilities Plan (Mitigation/Response/Recovery)	Date: No	

Element	Yes, No, N/A	Comments
Policies/Ordinance		
Zoning Ordinance	No	
Building Code	Version: No	
Floodplain Ordinance	Date: No	
Subdivision Ordinance	No	
Tree Trimming Ordinance	No	
Nuisance Ordinance	Yes	Currently Being Updated
Storm Water Ordinance	No	
Drainage Ordinance	No	
Site Plan Review Requirements	No	
Historic Preservation Ordinance	No	
Landscape Ordinance	No	
Program		
Zoning/Land Use Restrictions	No	
Codes Building Site/Design	No	
Hazard Awareness Program	No	
National Flood Insurance Program	No	
Community Rating System (CRS) program under the National Flood Insurance Program (NFIP)?	If so, what is your current level rating? No	
National Weather Service (NWS) Storm Ready Certification	No	
Firewise Community Certification	No	
Building Code Effectiveness Grading (BCEGs)	No	
ISO Fire Rating	Rating: No	
Economic Development Program	No	
Land Use Program	No	
Public Education/Awareness	No	
Property Acquisition	No	
Planning/Zoning Boards	No	
Stream Maintenance Program	No	
Tree Trimming Program	No	
<u>Engineering Studies for Streams (Local/County/Regional)</u>	No	
Mutual Aid Agreements	No	
Studies/Reports/Maps		
<u>Hazard Analysis/Risk Assessment (City)</u>	No	
<u>Hazard Analysis/Risk Assessment (County)</u>	No	
Evacuation Route Map	No	
<u>Critical Facilities Inventory</u>	No	
<u>Vulnerable Population Inventory</u>	No	
<u>Land Use Map</u>	No	

Staff/Department		Full Time or Part Time?
------------------	--	-------------------------

Element	Yes, No, N/A	Comments
Building Code Official	No	
Building Inspector	No	
Mapping Specialist (GIS)	No	
Engineer	No	
Development Planner	No	
Public Works Official	No	
Emergency Management Coordinator	No	
NFIP Floodplain Administrator	No	
Bomb and/or Arson Squad	No	
Emergency Response Team	No	
Hazardous Materials Expert	No	
Local Emergency Planning Committee	No	
County Emergency Management Commission	No	
Sanitation Department	No	
Transportation Department	No	
Economic Development Department	No	
Housing Department	No	
Historic Preservation	No	
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	No	
Salvation Army	No	
Veterans Groups	No	
Local Environmental Organization	No	
Homeowner Associations	No	
Neighborhood Associations	No	
Chamber of Commerce	No	
Community Organizations (Lions, Kiwanis, etc.)	No	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Sewer	
Impact fees for new development	No	
Incur debt through general obligation bonds	No	
Incur debt through special tax bonds	No	
Incur debt through private activities	No	
Withhold spending in hazard prone areas	No	

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive Plan	No
Builder's Plan	No
Capital Improvement Plan	No
Local Recovery Plan	No
County Recovery Plan	No
Debris Management Plan	No
Economic Development Plan	No
Transportation Plan	No
Land-use Plan	No
Watershed Plan	No
Firewise or other Fire Mitigation Plan such as Community Wildfire Protection Plan	No

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)
Board of Trustees

2. List any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, or environmental education.

None

3. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.

None

4. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.

Nothing

5. How many outdoor warning sirens are in your community? None

How are they activated (indicate responsible department/personnel)? N/A

6. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe them.

Not at this time

7. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards? No

Please provide address locations:

8. List residential, commercial and industrial development in your jurisdiction since last plan update.

None

9. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.

No

10. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.

No

11. Please list major employers in your jurisdiction with an estimated number of employees.

12. Please list Mitigation Planning Committee members who served during the development of the previously approved plan. Was the process set forth for monitoring the implementation of the previously approved mitigation plan adhered to? Did the Committee meet as was specified in the previously approved plan? Why or why not?

13. Describe your jurisdiction's participation in the NFIP. Include information about how compliance with the NFIP is enforced locally.

N/A

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Riverine Flooding (Major & Flash)- RF	Severe Winter Weather (incl. snow, ice, severe cold)- SWW	Hazardous Materials Release (fixed facility, accidents)- HM
Dam Failure- DF	Droughts- D	Mass Transportation Accident- MTA
Levee Failure- LF	Extreme Temperatures- ET	Nuclear Power Plants (emergencies & accidents)- NPP
Earthquake- EQ	Fires (structural, urban, and wild)- F	Public Health Emergencies/Environmental Issues- PH
Land Subsidence / Sinkholes- LSS	Attack (nuclear, conventional, chemical, and biological)- A	Special Events- SE
Severe Thunderstorm (incl. winds, hail, lightning)- ST	Civil Disorder- CD	Terrorism- TX
Tornadoes- T	Cyber Disruption- CyD	Utilities (interruptions & system failures)- U

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Asset Inventory

Please list critical facilities and other community assets, the square feet, values, and occupancy/capacity. If not applicable, enter "N/A"). In the last column, use the codes from the previous page to indicate hazards to which the asset is vulnerable. Add as many rows as needed. If this information is available in GIS format, please provide.

Critical Facilities

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
<u>Essential Facilities</u> such as hospitals and other medical facilities, police and fire stations, Emergency Operations Centers						
Sewer Lift Station						

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	Village of Millard
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: Village of Millard

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost. The worksheet should include information on progress made in the implementation of the action, if any. Some of the actions might have been ongoing in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.

If no progress has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
Progress made on implementation since previous plan adoption	
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	

Jurisdiction: _____

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
Progress made on implementation since previous plan adoption	
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
Progress made on implementation since previous plan adoption	
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	

Jurisdiction: _____

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
<i>Designate into which of the following four categories the previously proposed action should be placed, including discussion of that designation.</i>	
Completed since previous plan adoption, and description of progress	
Not Started/Continue in Plan Update, and discussion of reasons for lack of implementation	
In Progress/Continue in Plan Update, with a description of the progress made to date	
Deleted from the update, with a discussion of the reasons for deletion	

Multi-Jurisdictional Hazard Mitigation Plan

Data Collection Questionnaire For Local Governments

County: Adair

Jurisdiction: Village of Gibbs

Return by: April 8, 2025

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs. Please note: School Districts and other Educational Institutions should complete the Data Collection Questionnaire indicated "For School Districts and Educational Institutions".

Prepared by: Jamie Keller
Phone: (660) 956-2491
Email: jamelyn929@hotmail.com
Date: 4/30/25

Please return questionnaires by mail or email to:
Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan. Although some of this information may have been captured in your previous mitigation plan, it is important to ensure this information is current in the plan update.

Please indicate which of the following your jurisdiction has in place. For elements that do not pertain to your type of public entity, please indicate with "N/A". If applicable, please provide a completion date for the element. If your jurisdiction does not have a particular element, and a higher level of government has the authority pertaining to your jurisdiction, please indicate this in the comments column. If your jurisdiction has any of the **underlined and bolded** elements, please provide a copy of the document to the contact listed on the front and indicate method in the comments column (i.e. available on the web, will email or mail).

Element	Yes, No, N/A	Comments
Planning Capabilities		
<u>Comprehensive Plan</u>	Date: No	
Builder's Plan	Date: No	
Capital Improvement Plan	Date: No	
City Emergency Operations Plan	Date: No	
County Emergency Operations Plan	Date: Yes	
Local Recovery Plan	Date: No	
County Recovery Plan	Date: Yes	
City Mitigation Plan	Date: No	
County Mitigation Plan	Date: Yes	
Debris Management Plan	Date: No	
<u>Economic Development Plan</u>	Date: No	
Transportation Plan	Date: No	
Land-use Plan	Date: No	
Flood Mitigation Assistance (FMA) Plan	Date: No	
<u>Watershed Plan</u>	Date: No	
Firewise or other fire mitigation plan	Date: No	
Critical Facilities Plan (Mitigation/Response/Recovery)	Date: No	

Element	Yes, No, N/A	Comments
Policies/Ordinance		
Zoning Ordinance	No	
Building Code	Version: No	
Floodplain Ordinance	Date: No	
Subdivision Ordinance	No	
Tree Trimming Ordinance	No	
Nuisance Ordinance	No	
Storm Water Ordinance	No	
Drainage Ordinance	No	
Site Plan Review Requirements	No	
Historic Preservation Ordinance	No	
Landscape Ordinance	No	
Program		
Zoning/Land Use Restrictions	No	
Codes Building Site/Design	No	
Hazard Awareness Program	No	
National Flood Insurance Program	No	
Community Rating System (CRS) program under the National Flood Insurance Program (NFIP)?	If so, what is your current level rating? No	
National Weather Service (NWS) Storm Ready Certification	No	
Firewise Community Certification	No	
Building Code Effectiveness Grading (BCEGs)	No	
ISO Fire Rating	Rating: 3	
Economic Development Program	No	
Land Use Program	No	
Public Education/Awareness	No	
Property Acquisition	No	
Planning/Zoning Boards	No	
Stream Maintenance Program	No	
Tree Trimming Program	No	
<u>Engineering Studies for Streams (Local/County/Regional)</u>	No	
Mutual Aid Agreements	Yes	
Studies/Reports/Maps		
<u>Hazard Analysis/Risk Assessment (City)</u>	No	
<u>Hazard Analysis/Risk Assessment (County)</u>	No	
Evacuation Route Map	No	
<u>Critical Facilities Inventory</u>	No	
<u>Vulnerable Population Inventory</u>	No	
<u>Land Use Map</u>	No	
	No	
Staff/Department		Full Time or Part Time?

Element	Yes, No, N/A	Comments
Building Code Official	No	
Building Inspector	No	
Mapping Specialist (GIS)	No	
Engineer	No	
Development Planner	No	
Public Works Official	No	
Emergency Management Coordinator	No	
NFIP Floodplain Administrator	No	
Bomb and/or Arson Squad	No	
Emergency Response Team	No	
Hazardous Materials Expert	No	
Local Emergency Planning Committee	No	
County Emergency Management Commission	No	
Sanitation Department	No	
Transportation Department	No	
Economic Development Department	No	
Housing Department	No	
Historic Preservation	No	
Non-Governmental Organizations (NGOs)	Is there a local chapter? Yes or No	
American Red Cross	No	
Salvation Army	No	
Veterans Groups	No	
Local Environmental Organization	No	
Homeowner Associations	No	
Neighborhood Associations	No	
Chamber of Commerce	Yes	
Community Organizations (Lions, Kiwanis, etc.)	No	
Financial Resources	Is your jurisdiction able to? Yes or No	
Apply for Community Development Block Grants	Yes	
Fund projects thru Capital Improvements funding	No	
Authority to levy taxes for specific purposes	Yes	
Fees for water, sewer, gas, or electric services	Yes	
Impact fees for new development	No	
Incur debt through general obligation bonds	No	
Incur debt through special tax bonds	No	
Incur debt through private activities	No	
Withhold spending in hazard prone areas	No	

For plan updates, the plan maintenance process outlined in your previous plan requires all participating jurisdictions to incorporate the requirements of the mitigation plan into other planning mechanisms, when appropriate. A key element of effective implementation of mitigation is for the mitigation plan to be incorporated in existing authorities, policies, programs, and resources. Next to each applicable planning mechanism, indicate how your jurisdiction incorporated the previous mitigation plan. If no incorporation has occurred, please explain, including background information detailing any challenges preventing incorporation.

Planning Capabilities	Method of Incorporation Since Previous Plan or Challenges Preventing Incorporation
Comprehensive Plan	
Builder's Plan	
Capital Improvement Plan	
Local Recovery Plan	
County Recovery Plan	
Debris Management Plan	
Economic Development Plan	
Transportation Plan	
Land-use Plan	
Watershed Plan	
Firewise or other Fire Mitigation Plan such as Community Wildfire Protection Plan	

Additional Questions

1. How is your government structure organized? (Commission, Mayor/City Council, how many members)
Mayor
City Council
City Clerk
2. List any past or ongoing public education or information programs, such as for responsible water use, fire safety, household preparedness, or environmental education.

None
3. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. Be sure to include pending or approved projects submitted for FEMA mitigation grants.

None
4. Describe any hazard-related concerns or issues regarding the vulnerability of special needs populations, such as the elderly, disabled, low-income, or migrant farm workers.
Shelters
5. How many outdoor warning sirens are in your community? None

How are they activated (indicate responsible department/personnel)? NA
6. Does your community utilize any other warning systems such as Cable Override, Reverse 911, etc? If so, please describe them. No
7. Does your community have designated public tornado shelters/saferooms? If so, are they constructed in accordance with FEMA standards? No

Please provide address locations:
8. List residential, commercial and industrial development in your jurisdiction since last plan update.

None
9. Describe development trends and expected growth areas. Is any new development expected to occur in the 100-year floodplain? Is any new development expected to occur in any other known hazard areas? If possible, please provide a map indicating potential/planned growth areas.
10. Are any new facilities or infrastructure planned for construction during the next five years? If so, please provide facility name and purpose along with proposed locations, if known.
None
11. Please list major employers in your jurisdiction with an estimated number of employees. None

VULNERABILITY ASSESSMENT

The purpose of this worksheet is to assess the vulnerable buildings, populations, critical facilities, infrastructure, and other important assets in your community by using the best available data to complete the table. Use the table on the next page to compile a detailed inventory of specific assets at risk including critical facilities and infrastructure; natural, cultural, and historical assets; and economic assets. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Riverine Flooding (Major & Flash)- RF	Severe Winter Weather (incl. snow, ice, severe cold)- SWW	Hazardous Materials Release (fixed facility, accidents)- HM
Dam Failure- DF	Droughts- D	Mass Transportation Accident- MTA
Levee Failure- LF	Extreme Temperatures- ET	Nuclear Power Plants (emergencies & accidents)- NPP
Earthquake- EQ	Fires (structural, urban, and wild)- F	Public Health Emergencies/Environmental Issues- PH
Land Subsidence / Sinkholes- LSS	Attack (nuclear, conventional, chemical, and biological)- A	Special Events- SE
Severe Thunderstorm (incl. winds, hail, lightning)- ST	Civil Disorder- CD	Terrorism- TX
Tornadoes- T	Cyber Disruption- CyD	Utilities (interruptions & system failures)- U

Critical Facilities and Infrastructure

A critical facility may be defined as one that is essential in providing utility or direction either during the response to an emergency or during the recovery operation. FEMA's HAZUS-MH loss estimation software uses the following three categories of critical assets. 'Essential facilities' are those that if damaged would have devastating impacts on disaster response and/or recovery. 'High potential loss facilities' are those that would have a high loss or impact on the community. Transportation and lifeline facilities are third category of critical assets; examples are provided below.

Essential Facilities

Hospitals and other medical facilities
Police stations
Fire station
Emergency Operations Centers

High Potential Loss Facilities

Power plants
Dams/levees
Military installations
Hazardous material sites
Schools
Shelters
Day care centers
Nursing homes
Main government buildings

Transportation and Lifeline

Highways, bridges, and tunnels
Railroads and facilities
Bus facilities
Airports
Water treatment facilities
Natural gas facilities and pipelines
Oil facilities and pipelines
Communications facilities

Economic Assets

Economic assets at risk may include major employers or primary economic sectors, such as agriculture, whose losses or inoperability would have severe impacts on the community and its ability to recover from disaster.

Asset Inventory

Please list critical facilities and other community assets, the square feet, values, and occupancy/capacity. If not applicable, enter "N/A"). In the last column, use the codes from the previous page to indicate hazards to which the asset is vulnerable. Add as many rows as needed. If this information is available in GIS format, please provide.

Critical Facilities

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
<u>Essential Facilities</u> such as hospitals and other medical facilities, police and fire stations, Emergency Operations Centers						
None						

Name of Asset	Address	Square Feet	*Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
<u>High Potential Loss Facilities</u> such as power plants, dams/levees, military installations, hazardous materials sites, shelters, day care centers, nursing homes, main government buildings (Do not include schools—they will be reported by the school districts)						
None						
<u>Transportation and Lifelines</u> such as highways, bridges, and tunnels; railroads and facilities, bus facilities, airports, water treatment facilities, natural gas facilities and pipelines, oil facilities, oil facilities and pipelines, communications facilities						
None						

***If replacement cost data is not available, use the best available data (assessed valuation or other method for estimating cost) and explain any data deficiencies.**

Economic Assets (Major Employers, etc)

Asset	Address	Product/ Service	Value (if known)	Number of Employees	Hazards

HISTORIC HAZARD EVENTS

Please fill out the sheet on the next page for each significant hazard event that affected **Your Jurisdiction**. **Make as many copies as necessary to record all events** and complete with as much detail as possible. This includes all events associated with the hazards listed below that have caused previous damage in your jurisdiction. It is especially important to capture events that either were not included in the previous Hazard Mitigation Plan or occurred since the plan was completed. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Jurisdiction	
Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

ASSESSMENT OF PREVIOUSLY PROPOSED ACTIONS

Jurisdiction: Village of Gibbs

The contractor/plan development facilitator has provided a list of actions proposed in the previously approved plan for each jurisdiction. Use the worksheet below to evaluate whether each action is still current, feasible, desirable, and/or creates benefit that outweighs the cost. The worksheet should include information on progress made in the implementation of the action, if any. Some of the actions might have been ongoing in nature, such public information and education programs. When this is the case, indicate what activity has occurred during the previous five years, and indicate if this program is still viable enough that it should be carried on into the future.

If no progress has been made in the implementation of a given action, discuss why. Note that implementation is not a requirement. However, if no progress has been made, perhaps this is an action that would be appropriate to delete in the updated plan.

During review of the previously approved actions, consider whether any new actions should be proposed. Perhaps damages from a recent hazard event have indicated the need for new approaches to protect property and life. Review the problem statements from the updated plan for ideas. Also review the FEMA publication *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards (January 2013)*.

Action # from previously approved plan	2020.1
Description of action	Establish NFIP Participation
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Jurisdiction: _____

Action # from previously approved plan	2020.2
Description of action	Installation / Upgrade Sirens
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	2020.3
Description of action	Maintain Transportation Infrastructure
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Jurisdiction: Village of Gibbs

Action # from previously approved plan	2020.4
Description of action	Safe Rooms and Storm Shelters
Person or agency responsible for implementation	City Clerk
Progress made on implementation since previous plan adoption	Ongoing
If action is ongoing in nature, describe activities accomplished since previous plan adoption	Researching funding opportunities
Reasons for progress or lack of progress	
Delete, modify, or carry the proposed action forward unchanged	Carry forward

Action # from previously approved plan	
Description of action	
Person or agency responsible for implementation	
<i>Designate into which of the following four categories the previously proposed action should be placed, including discussion of that designation.</i>	
Completed since previous plan adoption, and description of progress	
Not Started/Continue in Plan Update, and discussion of reasons for lack of implementation	
In Progress/Continue in Plan Update, with a description of the progress made to date	
Deleted from the update, with a discussion of the reasons for deletion	

Multi-Jurisdictional Hazard Mitigation Plan

Data Collection Questionnaire For School Districts and Educational Institutions

County: Adair

School District / Educational Institution Name: Adair County R-I

Return by: April 8, 2025

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs.

Prepared by: Robin Daniels
Phone: (660) 234-9193
Email: rdaniels@novinger.k12.mo.us
Date: 4/30/25

Please return questionnaires by mail or email to:

Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan.

Please indicate which of the following your school district / institution has in place. For elements that do not pertain to you, please indicate with "N/A". If applicable, please provide a completion date for the element. If your school district / institution has any of the **underlined and bolded** elements, please provide a copy of the document to the contact indicated on the front of this questionnaire and indicate method in the comments column (i.e. available on the web, will email or mail).

Planning Elements	Yes/No	Date of Latest Version	Comments
Master Plan	Yes		
Capital Improvement Plan	No		
<u>School Emergency Plan</u> Shelter in place protocols Evacuation protocols	Yes		
Weapons Policy	Yes		

Administrative/Technical

Identify the technical and personnel resources responsible for activities related to hazard mitigation/loss prevention within your school district / institution.

Personnel Resources	Yes/No	Department/Position	Comments
Full-time building official (i.e. Principal)	Yes	Superintendent/Principal	
Emergency Manager	No		
Grant Writer	No		
Public Information Officer	No		

Financial Resources

Identify whether your school district /institution has access to or is eligible to use the following financial resources for hazard mitigation.

Financial Resources	Accessible/Eligible to Use (Y/N)	Comments
Capital improvements project funding	Yes	District Bonds / Levies
Local funds	Yes	Budgeted through general fund
General obligation bonds	Yes	Voter-approved bond capacity
Special tax bonds	Yes	GO Bonds
Private activities/donations	Yes	Community fundraisers / PTO
State and federal funds	Yes	Title programs, DESE

Additional Capabilities Questions

1. Are your buildings equipped with a public address system or other emergency alert system? Please describe.
Intercoms
2. Do your school's buildings have NOAA Weather Radios? Yes
3. List any past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect facilities or provide education regarding potential hazards. NA
4. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities. NA
5. Do any of your buildings have designated tornado shelters or "saferooms"? If so, are they constructed in accordance with FEMA standards? No
6. Did your school district / institution make any additions to buildings or construct new buildings since the last plan update (2010)? Please list the buildings and the improvement. No
7. Does your school district / institution plan to remodel or construct any buildings in the next 5 years? If so, please list the building or proposed building and planned improvements. Are any planned construction activities in known hazard areas? No
8. What percentage is your projected enrollment expected to increase or decrease in the next five years?
0%
9. Do you have your own campus police? Please explain your police department or who you rely on for security needs. No, rely on Adair County Sheriff and Highway Patrol

VULNERABILITY ASSESSMENT

Asset Inventory

The purpose of this worksheet is to assist in the assessment of the vulnerable populations and facilities owned by your school district / institution. Use the table below to compile a detailed inventory of specific assets at risk. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

Riverine Flooding (Major & Flash)-**RF**

Dam Failure-**DF**

Levee Failure-**LF**

Earthquake-**EQ**

Land Subsidence / Sinkholes-**LSS**

Severe Thunderstorm (incl. winds, hail, lightning)-**ST**

Tornadoes-**T**

Severe Winter Weather (incl. snow, ice, severe cold)-

SWW

Droughts-**D**

Extreme Temperatures-**ET**

Fires (structural, urban, and wild)-**F**

Attack (nuclear, conventional, chemical, and biological)-**A**

Civil Disorder-**CD**

Cyber Disruption-**CyD**

Hazardous Materials Release (fixed facility, accidents)-

HM

Mass Transportation Accident-**MTA**

Nuclear Power Plants (emergencies & accidents)-**NPP**

Public Health Emergencies/Environmental Issues-**PH**

Special Events-**SE**

Terrorism-**TX**

Utilities (interruptions & system failures)-**U**

Please list buildings owned by your school district / institution including the square feet, values, and occupancy/capacity. If not applicable or not available, enter "N/A". Add as many rows as needed. **If you have this data in GIS formats, or other formats, please provide in lieu of this.**

Name of Asset	Address	Square Feet	Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards
School	600 Rombauer Ave, Novinger, MO					T, ST, SWW, ET, F, U
Bus Garage	Same					SWW, F, U

Name of Asset	Address	Square Feet	Replacement Value (Insured)	Contents Value	Occupancy/ Capacity #	Hazards

Multi-jurisdictional Mitigation Plan HISTORIC HAZARD EVENTS

Please fill out one sheet for each significant hazard event that affected **your school district / institution** with as much detail as possible. This includes all hazard events listed on the Vulnerability Assessment page that have caused previous damage. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Multi-jurisdictional Mitigation Plan HISTORIC HAZARD EVENTS

Please fill out one sheet for each significant hazard event that affected **your school district /institution** with as much detail as possible. This includes all hazard events listed on the Vulnerability Assessment page that have caused previous damage. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

Multi-Jurisdictional Hazard Mitigation Plan

Data Collection Questionnaire

For School Districts and Educational Institutions

County: Adair

School District / Educational Institution Name: Adair Co. R-2

Return by: April 8, 2025

Please complete this data collection questionnaire as accurately and completely as possible as this information will appear in the mitigation plan. A data collection questionnaire must be completed for each "jurisdiction" that wishes to be included in the plan. According to FEMA's definition a jurisdiction is any local government, including counties, municipalities, cities, towns, school districts, special districts, councils of government, and tribal organizations. Any of these entities as well as publicly funded colleges and universities that do not participate in the planning process **will not** be eligible applicants for FEMA mitigation funding programs.

Prepared by: Cody Moore
Phone: (660) 323-5272
Email: Cody-moore@adair2.brashear.k12.mo.us
Date: 7/1/25

Please return questionnaires by mail or email to:
Derek Weber, Executive Director
NEMO Regional Planning Commission
121 S Cecil St
Memphis, MO 63555
derekweber@nemorpc.org

CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS AND TECHNICAL INFORMATION

The purpose of this section is to collect information to document existing capabilities as well as determine existing plans, studies, reports, and technical information that may need to be incorporated in the mitigation plan.

Please indicate which of the following your school district / institution has in place. For elements that do not pertain to you, please indicate with "N/A". If applicable, please provide a completion date for the element. If your school district / institution has any of the **underlined and bolded** elements, please provide a copy of the document to the contact indicated on the front of this questionnaire and indicate method in the comments column (i.e. available on the web, will email or mail).

Planning Elements	Yes/No	Date of Latest Version	Comments
Master Plan	yes	June 2024	CIP-stake requirement
Capital Improvement Plan			
School Emergency Plan			
Shelter in place protocols	yes	June 2025	
Evacuation protocols			
Weapons Policy	yes	5/31/13	

Administrative/Technical

Identify the technical and personnel resources responsible for activities related to hazard mitigation/loss prevention within your school district / institution.

Personnel Resources	Yes/No	Department/Position	Comments
Full-time building official (i.e. Principal)	yes	PK-12 Principal & Supt.	
Emergency Manager	NO		
Grant Writer	NO		
Public Information Officer	NO		

Financial Resources

Identify whether your school district /institution has access to or is eligible to use the following financial resources for hazard mitigation.

Financial Resources	Accessible/Eligible to Use (Y/N)	Comments
Capital improvements project funding	yes	
Local funds	yes	
General obligation bonds	yes	
Special tax bonds	yes	
Private activities/donations	yes	
State and federal funds	yes	

Additional Capabilities Questions

1. Are your buildings equipped with a public address system or other emergency alert system? Please describe. *yes - PA system through buildings & outside through
Phone system and speakers.*
2. Do your school's buildings have NOAA Weather Radios?
yes - 1
3. List any past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect facilities or provide education regarding potential hazards.
N/A
4. List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities.
N/A
5. Do any of your buildings have designated tornado shelters or "saferooms"? If so, are they constructed in accordance with FEMA standards? *No*
N/A
6. Did your school district / institution make any additions to buildings or construct new buildings since the last plan update (2010)? Please list the buildings and the improvement.
yes - Bus barn & Athletic Storage shed
7. Does your school district / institution plan to remodel or construct any buildings in the next 5 years? If so, please list the building or proposed building and planned improvements. Are any planned construction activities in known hazard areas?
No
8. What percentage is your projected enrollment expected to increase or decrease in the next five years?
0%
9. Do you have your own campus police? Please explain your police department or who you rely on for security needs.
No
Adair Co. Sheriff's dept.
High Patrol

VULNERABILITY ASSESSMENT

Asset Inventory

The purpose of this worksheet is to assist in the assessment of the vulnerable populations and facilities owned by your school district / institution. Use the table below to compile a detailed inventory of specific assets at risk. In the hazard specific column of the asset inventory table, indicate (by assigned abbreviation) which of the following hazards the asset is vulnerable to:

- | | |
|---|---|
| Riverine Flooding (Major & Flash)-RF
Dam Failure-DF
Levee Failure-LF
Earthquake-EQ
Land Subsidence / Sinkholes-LSS
Severe Thunderstorm (incl. winds, hail, lightning)-ST
Tornadoes-T
Severe Winter Weather (incl. snow, ice, severe cold)-SWW
Droughts-D
Extreme Temperatures-ET
Fires (structural, urban, and wild)-F
Attack (nuclear, conventional, chemical, and biological)-A
Civil Disorder-CD
Cyber Disruption-CyD | Hazardous Materials Release (fixed facility, accidents)-HM
Mass Transportation Accident-MTA
Nuclear Power Plants (emergencies & accidents)-NPP
Public Health Emergencies/Environmental Issues-PH
Special Events-SE
Terrorism-TX
Utilities (interruptions & system failures)-U |
|---|---|

Please list buildings owned by your school district / institution including the square feet, values, and occupancy/capacity. If not applicable or not available, enter "N/A". Add as many rows as needed. **If you have this data in GIS formats, or other formats, please provide in lieu of this.**

Name of Asset	Address	Square Feet	Replacement Value (Insured)	Contents Value	Occupancy / Capacity	Hazards
High School	School Building/grounds	31,298	5.7 mill	800,000	Drinking School	RF, ST, T, PH
Elementary School	205 W. Dewey Street	16,500	3.2 mill	425,000	700	SWW, D, ET, PH
Eat Shack	Brushbar, mo 63533	368	31,253	9,000		F, A, CyD, PH, TX
Athletic Storage	205 W. Dewey	168	118,911	3,497		
Storage Building	305 N. King St.	2,400	135,690	65,692		

Multi-jurisdictional Mitigation Plan HISTORIC HAZARD EVENTS

Please fill out one sheet for each significant hazard event that affected **your school district / institution** with as much detail as possible. This includes all hazard events listed on the Vulnerability Assessment page that have caused previous damage. Attach supporting documentation, photocopies of newspaper articles, or other original sources.

Type of event	
Nature and magnitude of event	
Location	
Date of event	
Injuries	
Deaths	
Property damage	
Infrastructure damage	
Crop damage	
Business/economic impacts	
Road/school/other closures	
Other damage	
Insured losses	
Federal/state disaster relief funding	
Opinion on likelihood of occurring again	
Source of information	
Comments	

#1

COMPLETE

Collector: Web Link 1 (Web Link)
Started: Tuesday, April 08, 2025 9:10:24 AM
Last Modified: Tuesday, April 08, 2025 9:22:15 AM
Time Spent: 00:11:51
IP Address: 204.185.91.132

Page 1: Introduction

Q1

Preparer Name

Shawn Corbett

Q2

Preparer Phone Number

(660)665-7774

Q3

Preparer Email

scorbett@kirksville.k12.mo.us

Q4

Date / Time

04/08/2025

Date of Completion

Page 2: CAPABILITY ASSESSMENT & INCORPORATION OF EXISTING PLANS, STUDIES, REPORTS
AND TECHNICAL INFORMATION

Q5

Planning Elements

	Implemented	Date of Latest Version
Master Plan	YES	2024
Capital Improvement Plan	YES	2024
School Emergency Plan	YES	2024
Shelter in Place Protocols	YES	2024
Evacuation Protocols	YES	2024
Weapons Policy	YES	2024

Comments:

The dates above - 2024 is the date of revisions.

Q6

Administrative/Technical Identify the technical and personnel resources responsible for activities related to hazard mitigation/loss prevention within your school district / institution. Personnel Resources

	Yes/No	Department/Position
Full-time building official (i.e. Principal)	YES	Administration
Emergency Manager	YES	Administration
Grant Writer	YES	Other: Please explain in comments
Public Information Officer	YES	Other: Please explain in comments

Comments::

The superintendent is building\district official, emergency manager. Grant Writer and PR are part time positions.

Q7

Financial Resources Identify whether your school district /institution has access to or is eligible to use the following financial resources for hazard mitigation.

	Yes/No
Capital improvements project funding	YES
Local funds	YES
General obligation bonds	NO
Special tax bonds	NO
Private activities/donations	YES
State and federal funds	YES

Q8

Are your buildings equipped with a public address system or other emergency alert system? Please describe.

Yes. Intercoms, phones.

Q9

Do your school's buildings have NOAA Weather Radios?

No

Q10

List any past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect facilities or provide education regarding potential hazards.

Staff safety trainings.

Q11

List any other past or ongoing projects or programs designed to reduce disaster losses. These may include projects to protect critical facilities.

Bond money spent of safety improvements district wide - Vesibles and cameras.

Q12

Do any of your buildings have designated tornado shelters or “saferooms”? If so, are they constructed in accordance with FEMA standards?

No

Q13

Did your school district / institution make any additions to buildings or construct new buildings since the last plan update (2010)? Please list the buildings and the improvement.

ECLC, Middle School Science.

Q14

Does your school district / institution plan to remodel or construct any buildings in the next 5 years? If so, please list the building or proposed building and planned improvements. Are any planned construction activities in known hazard areas?

High School additions, Performing Arts building, Safety vesibile at Ray Miller.

Q15

What percentage is your projected enrollment expected to increase or decrease in the next five years?

NA

Q16

Do you have your own campus police? Please explain your police department or who you rely on for security needs.

Resource officer form KPD

Page 3: VULNERABILITY ASSESSMENT

Q17

Asset Inventory Please list buildings owned by your school district / institution including the square feet, values, and occupancy/capacity. If not applicable or not available, enter “N/A”. Add as many rows as needed. If you have this data in GIS formats, or other formats, please provide in lieu of this.

NA

Q18

Respondent skipped this question

#1 Name of Asset

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q19 Respondent skipped this question

#1 Address

Q20 Respondent skipped this question

#1 Square Feet

Q21 Respondent skipped this question

#1 Replacement Value (Insured)

Q22 Respondent skipped this question

#1 Contents Value

Q23 Respondent skipped this question

#1 Occupancy/Capacity #

Q24 Respondent skipped this question

#1 Hazards

Q25 Respondent skipped this question

#2 Name of Asset

Q26 Respondent skipped this question

#2 Address

Q27 Respondent skipped this question

#2 Square Feet

Q28 Respondent skipped this question

#2 Replacement Value (Insured)

Q29 Respondent skipped this question

#2 Contents Value

Q30 Respondent skipped this question

#2 Occupancy/Capacity #

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q31 Respondent skipped this question

#2 Hazards

Q32 Respondent skipped this question

#3 Name of Asset

Q33 Respondent skipped this question

#3 Address

Q34 Respondent skipped this question

#3 Square Feet

Q35 Respondent skipped this question

#3 Replacement Value (Insured)

Q36 Respondent skipped this question

#3 Contents Value

Q37 Respondent skipped this question

#3 Occupancy/Capacity #

Q38 Respondent skipped this question

#3 Hazards

Q39 Respondent skipped this question

#4 Name of Asset

Q40 Respondent skipped this question

#4 Address

Q41 Respondent skipped this question

#4 Square Feet

Q42 Respondent skipped this question

#4 Replacement Value (Insured)

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q43 Respondent skipped this question

#4 Contents Value

Q44 Respondent skipped this question

#4 Occupancy/Capacity #

Q45 Respondent skipped this question

#4 Hazards

Q46 Respondent skipped this question

#5 Name of Asset

Q47 Respondent skipped this question

#5 Address

Q48 Respondent skipped this question

#5 Square Feet

Q49 Respondent skipped this question

#5 Replacement Value (Insured)

Q50 Respondent skipped this question

#5 Contents Value

Q51 Respondent skipped this question

#5 Occupancy/Capacity #

Q52 Respondent skipped this question

#5 Hazards

Q53 Respondent skipped this question

#6 Name of Asset

Q54 Respondent skipped this question

#6 Address

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q55 Respondent skipped this question

#6 Square Feet

Q56 Respondent skipped this question

#6 Replacement Value (Insured)

Q57 Respondent skipped this question

#6 Contents Value

Q58 Respondent skipped this question

#6 Occupancy/Capacity #

Q59 Respondent skipped this question

#6 Hazards

Q60 Respondent skipped this question

#7 Name of Asset

Q61 Respondent skipped this question

#7 Address

Q62 Respondent skipped this question

#7 Square Feet

Q63 Respondent skipped this question

#7 Replacement Value (Insured)

Q64 Respondent skipped this question

#7 Contents Value

Q65 Respondent skipped this question

#7 Occupancy/Capacity #

Q66 Respondent skipped this question

#7 Hazards

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q67 Respondent skipped this question

#8 Name of Asset

Q68 Respondent skipped this question

#8 Address

Q69 Respondent skipped this question

#8 Square Feet

Q70 Respondent skipped this question

#8 Replacement Value (Insured)

Q71 Respondent skipped this question

#8 Contents Value

Q72 Respondent skipped this question

#8 Occupancy/Capacity #

Q73 Respondent skipped this question

#8 Hazards

Q74 Respondent skipped this question

#9 Name of Asset

Q75 Respondent skipped this question

#9 Address

Q76 Respondent skipped this question

#9 Square Feet

Q77 Respondent skipped this question

#9 Replacement Value (Insured)

Q78 Respondent skipped this question

#9 Contents Value

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q79 Respondent skipped this question

#9 Occupancy/Capacity #

Q80 Respondent skipped this question

#9 Hazards

Q81 Respondent skipped this question

#10 Name of Asset

Q82 Respondent skipped this question

#10 Address

Q83 Respondent skipped this question

#10 Square Feet

Q84 Respondent skipped this question

#10 Replacement Value (Insured)

Q85 Respondent skipped this question

#10 Contents Value

Q86 Respondent skipped this question

#10 Occupancy/Capacity #

Q87 Respondent skipped this question

#10 Hazards

Q88 Respondent skipped this question

#11 Name of Asset

Q89 Respondent skipped this question

#11 Address

Q90 Respondent skipped this question

#11 Square Feet

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q91 Respondent skipped this question

#11 Replacement Value (Insured)

Q92 Respondent skipped this question

#11 Contents Value

Q93 Respondent skipped this question

#11 Occupancy/Capacity #

Q94 Respondent skipped this question

#11 Hazards

Q95 Respondent skipped this question

#12 Name of Asset

Q96 Respondent skipped this question

#12 Address

Q97 Respondent skipped this question

#12 Square Feet

Q98 Respondent skipped this question

#12 Replacement Value (Insured)

Q99 Respondent skipped this question

#12 Contents Value

Q100 Respondent skipped this question

#12 Occupancy/Capacity #

Q101 Respondent skipped this question

#12 Hazards

Q102

Asset Inventory Please list buildings owned by your school district / institution including the square feet, values, and occupancy/capacity. If not applicable or not available, enter "N/A". Add as many rows as needed. If you have this data in GIS formats, or other formats, please provide in lieu of this.

NA

Q103

Respondent skipped this question

#13 Name of Asset

Q104

Respondent skipped this question

#13 Address

Q105

Respondent skipped this question

#13 Square Feet

Q106

Respondent skipped this question

#13 Replacement Value (Insured)

Q107

Respondent skipped this question

#13 Contents Value

Q108

Respondent skipped this question

#13 Occupancy/Capacity #

Q109

Respondent skipped this question

#13 Hazards

Q110

Respondent skipped this question

#14 Name of Asset

Q111

Respondent skipped this question

#14 Address

Q112

Respondent skipped this question

#14 Square Feet

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q113 Respondent skipped this question
#14 Replacement Value (Insured)

Q114 Respondent skipped this question
#14 Contents Value

Q115 Respondent skipped this question
#14 Occupancy/Capacity #

Q116 Respondent skipped this question
#14 Hazards

Q117 Respondent skipped this question
#15 Name of Asset

Q118 Respondent skipped this question
#15 Address

Q119 Respondent skipped this question
#15 Square Feet

Q120 Respondent skipped this question
#15 Replacement Value (Insured)

Q121 Respondent skipped this question
#15 Contents Value

Q122 Respondent skipped this question
#15 Occupancy/Capacity #

Q123 Respondent skipped this question
#15 Hazards

Q124 Respondent skipped this question
#16 Name of Asset

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q125

Respondent skipped this question

#16 Address

Q126

Respondent skipped this question

#16 Square Feet

Q127

Respondent skipped this question

#16 Replacement Value (Insured)

Q128

Respondent skipped this question

#16 Contents Value

Q129

Respondent skipped this question

#16 Occupancy/Capacity #

Q130

Respondent skipped this question

#16 Hazards

Q131

Respondent skipped this question

#17 Name of Asset

Q132

Respondent skipped this question

#17 Address

Q133

Respondent skipped this question

#17 Square Feet

Q134

Respondent skipped this question

#17 Replacement Value (Insured)

Q135

Respondent skipped this question

#17 Contents Value

Q136

Respondent skipped this question

#17 Occupancy/Capacity #

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q137 Respondent skipped this question

#17 Hazards

Q138 Respondent skipped this question

#18 Name of Asset

Q139 Respondent skipped this question

#18 Address

Q140 Respondent skipped this question

#18 Square Feet

Q141 Respondent skipped this question

#18 Replacement Value (Insured)

Q142 Respondent skipped this question

#18 Contents Value

Q143 Respondent skipped this question

#18 Occupancy/Capacity #

Q144 Respondent skipped this question

#18 Hazards

Q145 Respondent skipped this question

#19 Name of Asset

Q146 Respondent skipped this question

#19 Address

Q147 Respondent skipped this question

#19 Square Feet

Q148 Respondent skipped this question

#19 Replacement Value (Insured)

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q149 Respondent skipped this question
#19 Contents Value

Q150 Respondent skipped this question
#19 Occupancy/Capacity #

Q151 Respondent skipped this question
#19 Hazards

Q152 Respondent skipped this question
#20 Name of Asset

Q153 Respondent skipped this question
#20 Address

Q154 Respondent skipped this question
#20 Square Feet

Q155 Respondent skipped this question
#20 Replacement Value (Insured)

Q156 Respondent skipped this question
#20 Contents Value

Q157 Respondent skipped this question
#20 Occupancy/Capacity #

Q158 Respondent skipped this question
#20 Hazards

Q159 Respondent skipped this question
#21 Name of Asset

Q160 Respondent skipped this question
#21 Address

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q161 Respondent skipped this question

#21 Square Feet

Q162 Respondent skipped this question

#21 Replacement Value (Insured)

Q163 Respondent skipped this question

#21 Contents Value

Q164 Respondent skipped this question

#21 Occupancy/Capacity #

Q165 Respondent skipped this question

#21 Hazards

Q166 Respondent skipped this question

#22 Name of Asset

Q167 Respondent skipped this question

#22 Address

Q168 Respondent skipped this question

#22 Square Feet

Q169 Respondent skipped this question

#22 Replacement Value (Insured)

Q170 Respondent skipped this question

#22 Contents Value

Q171 Respondent skipped this question

#22 Occupancy/Capacity #

Q172 Respondent skipped this question

#22 Hazards

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q173 Respondent skipped this question

#23 Name of Asset

Q174 Respondent skipped this question

#23 Address

Q175 Respondent skipped this question

#23 Square Feet

Q176 Respondent skipped this question

#23 Replacement Value (Insured)

Q177 Respondent skipped this question

#23 Contents Value

Q178 Respondent skipped this question

#23 Occupancy/Capacity #

Q179 Respondent skipped this question

#23 Hazards

Q180 Respondent skipped this question

#24 Name of Asset

Q181 Respondent skipped this question

#24 Address

Q182 Respondent skipped this question

#24 Square Feet

Q183 Respondent skipped this question

#24 Replacement Value (Insured)

Q184 Respondent skipped this question

#24 Contents Value

Q185 Respondent skipped this question
#24 Occupancy/Capacity #

Q186 Respondent skipped this question
#24 Hazards

Page 5: HISTORIC HAZARD EVENTS

Q187 Respondent skipped this question
School District/Institution

Q188 Respondent skipped this question
Type of event

Q189 Respondent skipped this question
Nature and magnitude of event

Q190 Respondent skipped this question
Location

Q191 Respondent skipped this question
Date of event

Q192 Respondent skipped this question
Injuries

Q193 Respondent skipped this question
Deaths

Q194 Respondent skipped this question
Property Damage

Q195 Respondent skipped this question
Infrastructure Damage

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q196 Crop Damage	Respondent skipped this question
Q197 Business/Economic Impacts	Respondent skipped this question
Q198 Road/School/Other Closures	Respondent skipped this question
Q199 Other Damage	Respondent skipped this question
Q200 Insured Losses	Respondent skipped this question
Q201 Federal/State Disaster Relief Funding	Respondent skipped this question
Q202 Opinion On Likelihood Of Occurring Again	Respondent skipped this question
Q203 Source Of Information	Respondent skipped this question
Q204 Comments	Respondent skipped this question
Q205 Type of event	Respondent skipped this question
Q206 Nature and magnitude of event	Respondent skipped this question
Q207 Location	Respondent skipped this question

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q208 Date of event	Respondent skipped this question
Q209 Injuries	Respondent skipped this question
Q210 Deaths	Respondent skipped this question
Q211 Property Damage	Respondent skipped this question
Q212 Infrastructure Damage	Respondent skipped this question
Q213 Crop Damage	Respondent skipped this question
Q214 Business/Economic Impacts	Respondent skipped this question
Q215 Road/School/Other Closures	Respondent skipped this question
Q216 Other Damage	Respondent skipped this question
Q217 Insured Losses	Respondent skipped this question
Q218 Federal/State Disaster Relief Funding	Respondent skipped this question
Q219 Opinion On Likelihood Of Occurring Again	Respondent skipped this question

SCHOOL DISTRICTS AND EDUCATIONAL INSTITUTIONS DATA COLLECTION QUESTIONNAIRE Adair
County Multi-Jurisdictional Hazard Mitigation Plan

Q220 Source Of Information	Respondent skipped this question
Q221 Comments	Respondent skipped this question
Q222 Type of event	Respondent skipped this question
Q223 Nature and magnitude of event	Respondent skipped this question
Q224 Location	Respondent skipped this question
Q225 Date of event	Respondent skipped this question
Q226 Injuries	Respondent skipped this question
Q227 Deaths	Respondent skipped this question
Q228 Property Damage	Respondent skipped this question
Q229 Infrastructure Damage	Respondent skipped this question
Q230 Crop Damage	Respondent skipped this question
Q231 Business/Economic Impacts	Respondent skipped this question

Q232 Road/School/Other Closures	Respondent skipped this question
Q233 Other Damage	Respondent skipped this question
Q234 Insured Losses	Respondent skipped this question
Q235 Federal/State Disaster Relief Funding	Respondent skipped this question
Q236 Opinion On Likelihood Of Occurring Again	Respondent skipped this question
Q237 Source Of Information	Respondent skipped this question
Q238 Comments	Respondent skipped this question

STAPLEE Worksheet

Name of Jurisdiction: Adair County

Action or Project

Action/Project Number: Adair County 2025.1

Name of Action or Project: NFIP Participation

Mitigation Category: Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 3

T: Is it **Technically** feasible and potentially successful? 3

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 3

L: Is there **Legal** authority to implement? 3

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 3

Will historic structures be saved or protected? 2

Could it be implemented quickly? 0

STAPLEE SCORE 20

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 5

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 10

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 30

<input checked="" type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Adair County	
Action or Project		
Action/Project Number:	Adair County 2025.2	
Name of Action or Project:	Install/Upgrade Warning Sirens	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2		
Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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STAPLEE Worksheet		
Name of Jurisdiction:	Adair County	
Action or Project		
Action/Project Number:	Adair County 2025.3	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	9
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input checked="" type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet

Name of Jurisdiction: Adair County

Action or Project

Action/Project Number: Adair County 2025.4

Name of Action or Project: Safe Rooms and Storm Shelters

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 1

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input checked="" type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet		
Name of Jurisdiction:	Adair County	
Action or Project		
Action/Project Number:	Adair County 2025.5	
Name of Action or Project:	Generators for Shelter(s) and Emergency Services	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	15
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input checked="" type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
--	---	--

Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet		
Name of Jurisdiction:	Adair County	
Action or Project		
Action/Project Number:	Adair County 2025.6	
Name of Action or Project:	Emergency Operations Center	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	6
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		11
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		25

<input type="checkbox"/> High Priority (30+ points)	<input checked="" type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet

Name of Jurisdiction: Adair County

Action or Project

Action/Project Number: Adair County 2025.7

Name of Action or Project: Seismic Vulnerability Assessment

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria	Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 1

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 2

Could it be implemented quickly? 0

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? 5
 Assign from 5-10 points based on the likelihood that lives will be saved.

Will the implemented action result in a reduction of disaster damages? 5
 Assign from 5-10 points based on the relative reduction of disaster damages.

MITIGATION EFFECTIVENESS SCORE 10

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)
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STAPLEE Worksheet

Name of Jurisdiction: Adair County

Action or Project

Action/Project Number: Adair County 2025.8

Name of Action or Project: Subsidence Vulnerability Assessment

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
	Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by Batina Dodge, Economic Development Planner
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STAPLEE Worksheet

Name of Jurisdiction:	Adair County	
Action or Project		
Action/Project Number:	Adair County 2025.9	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria		
Evaluation Rating		Score
Definitely YES = 3 Maybe YES = 2		
Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input checked="" type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet		
Name of Jurisdiction:	City of Kirksville	
Action or Project		
Action/Project Number:	City of Kirksville 2025.1	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
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STAPLEE Worksheet

Name of Jurisdiction:	City of Kirksville
Action or Project	
Action/Project Number:	City of Kirksville 2025.2
Name of Action or Project:	Installation/Upgrade Sirens
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria	Score	
Evaluation Rating		
Definitely YES = 3 Probably NO = 1		
Maybe YES = 2 Definitely NO = 0		
S: Is it Socially Acceptable	2	
T: Is it Technically feasible and potentially successful?	2	
A: Does the jurisdiction have the Administrative capacity to execute this action?	2	
P: Is it Politically acceptable?	2	
L: Is there Legal authority to implement?	2	
E: Is it Economically beneficial?	2	
E: Will the project have either a neutral or positive impact on the natural Environment ?	2	
Will historic structures be saved or protected?	0	
Could it be implemented quickly?	2	
STAPLEE SCORE	16	
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		13
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		29

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

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Name of Jurisdiction:	City of Kirksville	
Action or Project		
Action/Project Number:	City of Kirksville 2025.3	
Name of Action or Project:	Extreme Temperature Shelters	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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Name of Jurisdiction:	City of Kirksville	
Action or Project		
Action/Project Number:	City of Kirksville 2025.4	
Name of Action or Project:	Safe Rooms and Storm Shelters	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

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Name of Jurisdiction:	City of Kirksville	
Action or Project		
Action/Project Number:	City of Kirksville 2025.5	
Name of Action or Project:	Dam Protection	
Mitigation Category:	Prevention	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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Name of Jurisdiction:	City of Kirksville	
Action or Project		
Action/Project Number:	City of Kirksville 2025.6	
Name of Action or Project:	Flood Mitigation	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

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Name of Jurisdiction:	City of Kirksville	
Action or Project		
Action/Project Number:	City of Kirksville 2025.7	
Name of Action or Project:	Fire Mitigation	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
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Name of Jurisdiction:	City of Kirksville	
Action or Project		
Action/Project Number:	City of Kirksville 2025.8	
Name of Action or Project:	Water Source Protection	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	4
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		9
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		23

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

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Name of Jurisdiction:	City of Kirksville	
Action or Project		
Action/Project Number:	City of Kirksville 2025.9	
Name of Action or Project:	Improved Communication and Coordination	
Mitigation Category:	Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	8
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	8
MITIGATION EFFECTIVENESS SCORE		16
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet

Name of Jurisdiction: City of Kirksville

Action or Project

Action/Project Number: City of Kirksville 2025.10

Name of Action or Project: Vulnerable Citizen Awareness

Mitigation Category: Education and Outreach

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 1

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 2

Could it be implemented quickly? 0

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? 5
Assign from 5-10 points based on the likelihood that lives will be saved.

Will the implemented action result in a reduction of disaster damages? 5
Assign from 5-10 points based on the relative reduction of disaster damages.

MITIGATION EFFECTIVENESS SCORE 10

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: City of Kirksville

Action or Project

Action/Project Number: City of Kirksville 2025.11

Name of Action or Project: Seismic Vulnerability Assessment

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria	Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 1

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 2

Could it be implemented quickly? 0

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? 5
 Assign from 5-10 points based on the likelihood that lives will be saved.

Will the implemented action result in a reduction of disaster damages? 5
 Assign from 5-10 points based on the relative reduction of disaster damages.

MITIGATION EFFECTIVENESS SCORE 10

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Novinger	
Action or Project		
Action/Project Number:	City of Novinger 2025.1	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Novinger	
Action or Project		
Action/Project Number:	City of Novinger 2025.2	
Name of Action or Project:	Installation/Upgrade Sirens	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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STAPLEE Worksheet		
Name of Jurisdiction:	City of Novinger	
Action or Project		
Action/Project Number:	City of Novinger 2025.3	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	7
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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STAPLEE Worksheet		
Name of Jurisdiction:	City of Novinger	
Action or Project		
Action/Project Number:	City of Novinger 2025.4	
Name of Action or Project:	Safe Rooms and Storm Shelters	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet

Name of Jurisdiction:	City of Novinger
Action or Project	
Action/Project Number:	City of Novinger 2025.5
Name of Action or Project:	Vulnerable Citizen Awareness
Mitigation Category:	Education and Outreach

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3		
Probably NO = 1		
Maybe YES = 2		
Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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STAPLEE Worksheet		
Name of Jurisdiction:	City of Novinger	
Action or Project		
Action/Project Number:	City of Novinger 2025.6	
Name of Action or Project:	Seismic Vulnerability Assessment	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2		
Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: City of Brashear

Action or Project

Action/Project Number: City of Brashear 2025.1

Name of Action or Project: NFIP Participation

Mitigation Category: Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach

STAPLEE Criteria	Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 3

E: Is it **Economically** beneficial? 1

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 2

Could it be implemented quickly? 0

STAPLEE SCORE 15

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 5

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 10

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: City of Brashear

Action or Project

Action/Project Number: City of Brashear 2025.2

Name of Action or Project: Installation/Upgrade Sirens

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 2

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 2

STAPLEE SCORE 16

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Brashear	
Action or Project		
Action/Project Number:	City of Brashear 2025.3	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	7
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	7
MITIGATION EFFECTIVENESS SCORE		14
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Brashear	
Action or Project		
Action/Project Number:	City of Brashear 2025.4	
Name of Action or Project:	Safe Rooms and Storm Shelters	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Brashear	
Action or Project		
Action/Project Number:	City of Brashear 2025.5	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2		
Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	City of Brashear	
Action or Project		
Action/Project Number:	City of Brashear 2025.6	
Name of Action or Project:	Seismic Vulnerability Assessment	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Millard	
Action or Project		
Action/Project Number:	Village of Millard 2025.1	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Millard	
Action or Project		
Action/Project Number:	Village of Millard 2025.2	
Name of Action or Project:	Installation/Upgrade Sirens	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3 Maybe YES = 2		
Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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STAPLEE Worksheet		
Name of Jurisdiction:	Village of Millard	
Action or Project		
Action/Project Number:	Village of Millard 2025.3	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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STAPLEE Worksheet		
Name of Jurisdiction:	Village of Millard	
Action or Project		
Action/Project Number:	Village of Millard 2025.4	
Name of Action or Project:	Safe Rooms and Storm Shelters	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
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Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Millard	
Action or Project		
Action/Project Number:	Village of Millard 2025.5	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Millard	
Action or Project		
Action/Project Number:	Village of Millard 2025.6	
Name of Action or Project:	Seismic Vulnerability Assessment	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Gibbs	
Action or Project		
Action/Project Number:	Village of Gibbs 2025.1	
Name of Action or Project:	NFIP Participation	
Mitigation Category:	Natural Systems Protection, Structure and Infrastructure Projects, Emergency Services, Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		3
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	10
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		30

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet		
Name of Jurisdiction:	Village of Gibbs	
Action or Project		
Action/Project Number:	Village of Gibbs 2025.2	
Name of Action or Project:	Installation/Upgrade Sirens	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		2
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet		
Name of Jurisdiction:	Village of Gibbs	
Action or Project		
Action/Project Number:	Village of Gibbs 2025.3	
Name of Action or Project:	Improve Transportation Infrastructure	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services, Response	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		2
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		16
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		26

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet

Name of Jurisdiction: Village of Gibbs

Action or Project

Action/Project Number: Village of Gibbs 2025.4

Name of Action or Project: Safe Rooms and Storm Shelters

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 1

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
--	--------------------------	--------------

Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Gibbs	
Action or Project		
Action/Project Number:	Village of Gibbs 2025.5	
Name of Action or Project:	Vulnerable Citizen Awareness	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
(660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Village of Gibbs	
Action or Project		
Action/Project Number:	Village of Gibbs 2025.6	
Name of Action or Project:	Seismic Vulnerability Assessment	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria		Score
Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		0
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		24

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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STAPLEE Worksheet

Name of Jurisdiction: Adair County R-I

Action or Project

Action/Project Number: Adair County R-I 2025.1

Name of Action or Project: Safe Rooms

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 1

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by Batina Dodge, Economic Development Planner
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STAPLEE Worksheet		
Name of Jurisdiction:	Adair County R-I	
Action or Project		
Action/Project Number:	Adair County R-I 2025.2	
Name of Action or Project:	Natural Hazard Education	
Mitigation Category:	Education and Outreach	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		1
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		2
Could it be implemented quickly?		1
STAPLEE SCORE		15
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	5
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		10
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		25

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

Batina Dodge, Economic Development Planner
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STAPLEE Worksheet

Name of Jurisdiction: Adair County R-II

Action or Project

Action/Project Number: Adair County R-II 2025.1

Name of Action or Project: Safe Rooms

Mitigation Category: Prevention, Structure and Infrastructure Projects, Emergency Services

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 2

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 0

Could it be implemented quickly? 1

STAPLEE SCORE 14

Mitigation Effectiveness Criteria	Evaluation Rating	Score
--	--------------------------	--------------

Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 10

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 15

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet

Name of Jurisdiction: Adair County R-II

Action or Project

Action/Project Number: Adair County R-II 2025.2

Name of Action or Project: Natural Hazard Education

Mitigation Category: Education and Outreach

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 1

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 2

Could it be implemented quickly? 1

STAPLEE SCORE 15

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 5

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 10

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 25

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

STAPLEE Worksheet		
Name of Jurisdiction:	Kirksville R-III	
Action or Project		
Action/Project Number:	Kirksville R-III 2025.1	
Name of Action or Project:	Safe Rooms	
Mitigation Category:	Prevention, Structure and Infrastructure Projects, Emergency Services	
STAPLEE Criteria Evaluation Rating Definitely YES = 3 Maybe YES = 2 Probably NO = 1 Definitely NO = 0		Score
S: Is it Socially Acceptable		2
T: Is it Technically feasible and potentially successful?		2
A: Does the jurisdiction have the Administrative capacity to execute this action?		1
P: Is it Politically acceptable?		2
L: Is there Legal authority to implement?		2
E: Is it Economically beneficial?		2
E: Will the project have either a neutral or positive impact on the natural Environment ?		2
Will historic structures be saved or protected?		0
Could it be implemented quickly?		1
STAPLEE SCORE		14
Mitigation Effectiveness Criteria	Evaluation Rating	Score
Will the implemented action result in lives saved?	Assign from 5-10 points based on the likelihood that lives will be saved.	10
Will the implemented action result in a reduction of disaster damages?	Assign from 5-10 points based on the relative reduction of disaster damages.	5
MITIGATION EFFECTIVENESS SCORE		15
TOTAL SCORE (STAPLEE + Mitigation Effectiveness)		31

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by
(Name, Title, Phone Number)

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STAPLEE Worksheet

Name of Jurisdiction: Kirksville R-III

Action or Project

Action/Project Number: Kirksville R-III 2025.2

Name of Action or Project: Natural Hazard Education

Mitigation Category: Education and Outreach

STAPLEE Criteria		Score
Evaluation Rating		
Definitely YES = 3	Maybe YES = 2	
Probably NO = 1	Definitely NO = 0	

S: Is it **Socially** Acceptable 2

T: Is it **Technically** feasible and potentially successful? 2

A: Does the jurisdiction have the **Administrative** capacity to execute this action? 1

P: Is it **Politically** acceptable? 2

L: Is there **Legal** authority to implement? 2

E: Is it **Economically** beneficial? 1

E: Will the project have either a neutral or positive impact on the natural **Environment**? 2

Will historic structures be saved or protected? 2

Could it be implemented quickly? 1

STAPLEE SCORE 15

Mitigation Effectiveness Criteria	Evaluation Rating	Score
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Will the implemented action result in lives saved? Assign from 5-10 points based on the likelihood that lives will be saved. 5

Will the implemented action result in a reduction of disaster damages? Assign from 5-10 points based on the relative reduction of disaster damages. 5

MITIGATION EFFECTIVENESS SCORE 10

TOTAL SCORE (STAPLEE + Mitigation Effectiveness) 25

<input type="checkbox"/> High Priority (30+ points)	<input type="checkbox"/> Medium Priority (25 - 29 points)	<input type="checkbox"/> Low Priority (<25 points)
---	---	--

Completed by Batina Dodge, Economic Development Planner
(Name, Title, Phone Number) (660) 465-7281 ext 7

Adair County Multi-Jurisdictional Hazard Mitigation Plan

Contact Information

Adair County Commission

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City of Brashear

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660-956-2491

Andy Heimer, Mayor
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315 Pine St
Gibbs, MO 63540
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Village of Millard

Margaret Farrell, Clerk
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660-216-8934

City of Novinger

cityofnovinger@gmail.com

660-216-9926

Adair County R-II School District (Brashear)

Cody Moore, Superintendent

205 West Dewey

Brashear, MO 63533

cody_moore@brashear.k12.mo.us

660-323-5272

Adair County R-III School District (Kirksville)

Dr. Robert Webb, Superintendent

1901 E Hamilton St

Kirksville, MO 63501

rwebb@kirksville.k12.mo.us

660-626-1444

Adair County R-I School District (Novinger)

Robin Daniels, Superintendent

600 Rombauer Ave

Novinger, MO 63559

rdaniels@novinger.k12.mo.us

660-234-9193

MoDOT

1711 Highway 61 S

Hannibal, MO 63401

(573) 248-2490

MO DNR

1709 Prospect Dr

Macon, MO 63552

(660) 385-8000

Adair County Ambulance District

606 W Potter Ave
Kirksville, MO 63501
(660) 665-0000

Adair County Water District

1712 Osteopathy
Kirksville, MO 63501
(660) 665-4280

Kirksville Manor Care Center

1705 Laharpe St
Kirksville, MO 63501
(660) 665-3774



PUBLIC SURVEY: Adair County Multi-Jurisdictional Hazard Mitigation Plan

Introduction

The federal government requires all states and local governments to have hazard mitigation plans approved by FEMA that are consistent with the Disaster Mitigation Act of 2000. Approved mitigation plans are required to maintain eligibility for certain types of federal Hazard Mitigation Assistance Grants.

A planning committee comprised of representatives from Clark County, the incorporated cities, and the public school districts is currently developing an update to the comprehensive Clark County Multi-jurisdictional Hazard Mitigation Plan with a strategy to reduce the vulnerability of people and property in the planning area to the impacts of hazards and to remain eligible for mitigation funding programs from FEMA.

One of the key components of a hazard mitigation plan is public input during the planning process. The planning committee will be evaluating information on the hazards that impact each jurisdiction within Clark County. The committee is seeking your input on the hazards that will be evaluated as well as your opinions on the types of activities that should be considered to reduce future impacts. Your comments will be considered by your community's representatives on the planning committee as the plan is developed. Please take a few moments to answer the following questions. Thank you for your participation.

For more information contact Derek Weber, Executive Director, NEMO Regional Planning Commission, at (660) 465-7281 Ext 1 or derekweber@nemorpc.org.

1. Please select your jurisdiction from the list. You may only select one jurisdiction for each survey completed. If you belong to more than one jurisdiction in this list, please complete multiple surveys.

2. The hazards addressed in the Multi-jurisdictional Hazard Mitigation Plan Update are listed below. Please indicate your opinion on the **likelihood** for each hazard to impact YOUR JURISDICTION (identified above). **Please rate EACH hazard 1 through 4 as follows:**

1=Unlikely, 2=Occasional, 3=Likely, 4=Highly Likely

	1	2	3	4
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earthquakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flooding (Flash and River)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Subsidence/Sinkholes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tornado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Winter Weather/Snow/Ice/Severe Cold	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Levee Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thunderstorm/High Winds/Lightning/Hail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. Please indicate your opinion on the **potential magnitude** of each hazard's impact on YOUR JURISDICTION (identified above). **Please rate EACH hazard 1 through 4 as follows:**

1=Negligible, 2=Limited, 3=Critical, 4=Catastrophic

	1	2	3	4
Dam Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Drought	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Earthquakes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Extreme Heat	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Fires	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Flooding (Flash and River)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Land Subsidence/Sinkholes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tornado	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Winter Weather/Snow/Ice/Severe Cold	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Levee Failure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Thunderstorm/High Winds/Lightning/Hail	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. FEMA Hazard Mitigation Assistance Grants are administered by the State Emergency Management Agency. Listed below are some types of projects considered.

Please check all those that could benefit your jurisdiction, in your opinion:

- Flood-prone Property Acquisition & Structure Demolition /Relocation
- Flood-Prone Structure Elevation
- Dry Floodproofing of Historical Residential Structures and/or Non-residential Structures
- Minor Localized Flood Reduction Projects (storm water management or localized flood control projects)
- Structural Retrofitting of Existing Buildings to Add a Tornado Safe Room
- Retrofitting of Existing Buildings, and Facilities from Wind Damage
- New Tornado Safe Room Construction
- Electrical Utilities Infrastructure Retrofit
- Soil Erosion Stabilization
- Wildfire Mitigation
- Other (please specify):

5. Please comment on any other issues that the Clark County Hazard Mitigation Planning Committee should consider in developing a strategy to reduce future losses caused by hazard events.



ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN PUBLIC COMMENT

NORTHEAST MISSOURI REGIONAL PLANNING COMMISSION IS SEEKING PUBLIC INPUT ON THE ADAIR COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN UPDATE THROUGH THE LINK BELOW. PUBLIC COMMENT WILL BE OPEN FROM 12:00 PM MAY 1ST TO 4:30 PM MAY 30TH, 2025. YOU CAN CLICK THE LINK BELOW TO FILL OUT THE SURVEY MONKEY FOR OR SUBMIT ADDITIONAL PUBLIC COMMENT THROUGH THE TEXT BOXES.

[CLICK HERE FOR LINK TO ADAIR COUNTY HMP UPDATE SURVEY MONKEY](#)

[CONTACT OUR TEAM](#)