2026

HAZARD MITIGATION PLAN

Hutchinson County, South Dakota

PREPARED BY:

Hutchinson County Hazard Mitigation Planning Team

TECHNICAL ASSISTANCE PROVIDED BY:

Planning & Development District III
PO Box 687 | Yankton, SD

TABLE OF CONTENTS

2026 Hutchinson County (SD)
Hazard Mitigation Plan

CHAPTER I

Planning Process

PLANNING & DEVELOPMENT DISTRICT III

CHAPTER I
PLANNING PROCESS

Background

This plan is an update of the Hutchinson County Hazard Mitigation Plan, which was approved by FEMA in October 2020. The purpose of the plan is to prevent or reduce losses to people and property that may result from future hazard events in Hutchinson County. The plan identifies and analyzes the hazards that the county is susceptible to and proposes a mitigation strategy to minimize future damage that may be caused by those hazards. The document will serve as a strategic planning tool for use by Hutchinson County in its efforts to mitigate future disaster events.

This is a multi-jurisdictional plan. All the municipalities located within Hutchinson County were invited to participate in the plan's development. Following is the list of jurisdictions that chose to participate by sending representatives to attend the planning meetings and by providing input into the plan [1]:

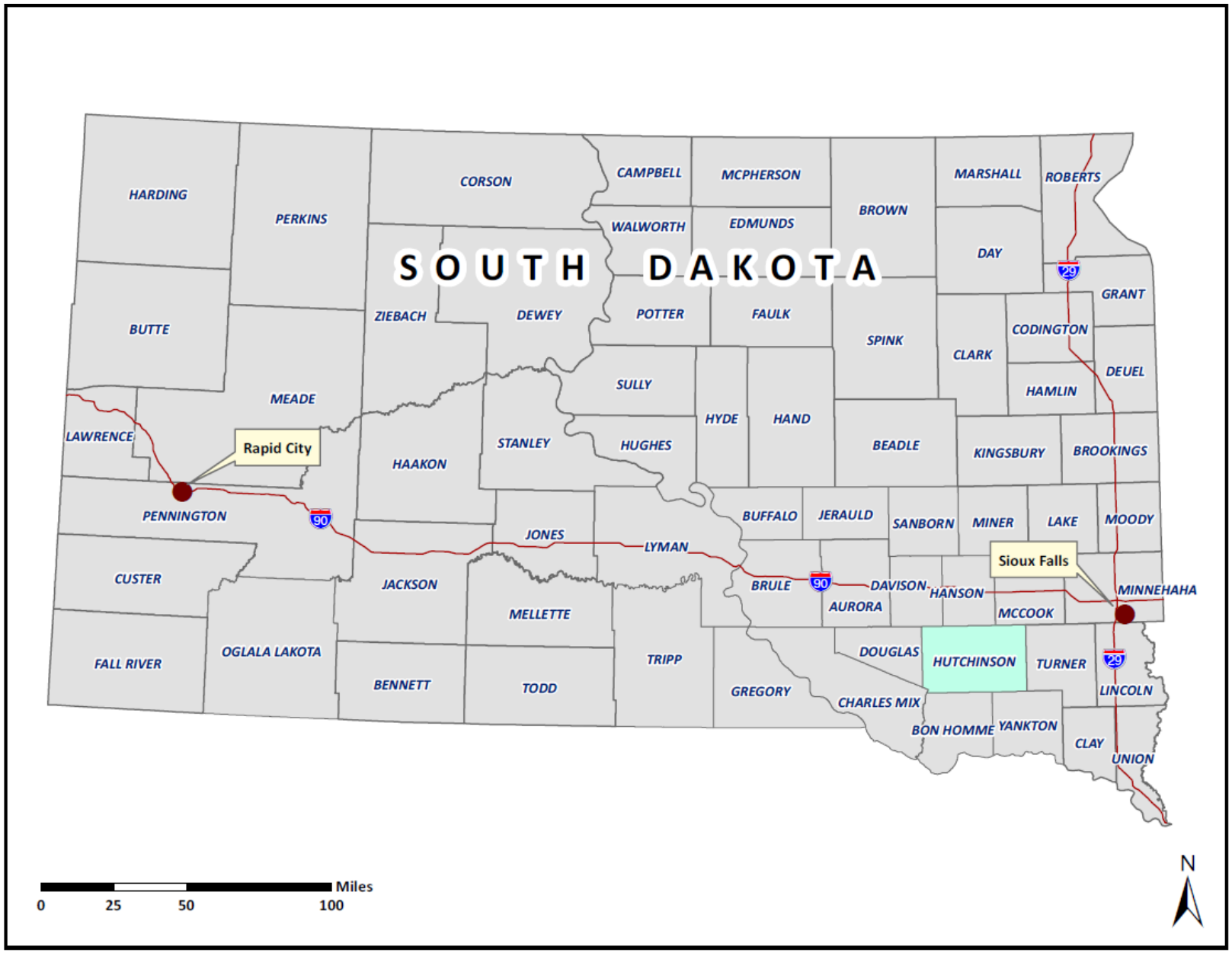
- Hutchinson County
- City of Freeman
- City of Menno
- City of Parkston
- City of Tripp

Production of the plan was the ultimate responsibility of the Hutchinson County Emergency Management Director, who served as the county's point of contact for all activities associated with this plan. Input was received from a hazard mitigation planning team whose members are listed in **Table 1.1**, as well as the public and other stakeholders.

The plan itself was written by an outside contractor, Planning & Development District III of Yankton, South Dakota, one of the state's six regional planning entities. The office has an extensive amount of experience in producing various kinds of planning documents, including municipal ordinances, land use plans, and zoning ordinances, and it is an acknowledged leader in geographic information systems (GIS) technology in South Dakota. Furthermore, its staff has written hazard mitigation plans for all 15 counties in the District's planning area, including Hutchinson County's current plan.

[1] The Towns of Dimock and Olivet did not to participate.

Figure 1.1 – County Location



The following staff members of Planning & Development District III were involved in producing the plan. John Clem, a Community Development Specialist, was the project manager and author of the plan. Shannon Viereck assisted in the public outreach and risk assessment efforts, provided additional research assistance, and edited the final copy of the plan. Harry Redman, a Geographic Information Systems Professional, produced maps for the plan, directed the floodplain risk analysis, and completed the county land cover analysis. Jen Moser assisted with the public outreach and survey effort.

Development of Planning Team

The initial planning stages for this plan update began in November 2025 when FEMA funds were awarded to the County. Following this, Mr. Clem and the Hutchinson County Emergency Management Director began to develop the methodology and strategy that was used to update the plan.

The first step was to organize the hazard mitigation planning team, the group of individuals representing the participating jurisdictions at the planning team meetings. People invited to participate from each jurisdiction included elected officials, finance personnel, public works staff, planning and zoning staff, code enforcement staff, floodplain management staff, and emergency response personnel. These individuals provided information that was used to develop the plan, reviewed drafts of the plan as it was being assembled, and approved the final version of the plan.

Other organizations were also contacted by email and/or telephone to participate in the plan's development and were provided with a copy of the current plan. These stakeholders included:

- Southeastern Electric Cooperative
- Bon Homme-Yankton Rural Water System
- Freeman Regional Hospital
- St Benedict Hospital, Parkston
- Menno School District
- Freeman School District
- Parkston School District
- Tripp-Delmont School District
- Freeman Courier
- Parkston Advance
- James River Water Development District
- Major employers, including Kaylor Agri Service
- Neighboring counties (Bon Homme, Charles Mix, Davison, Douglas, Hanson, McCook, Turner, Yankton)

Each individual invited to participate had knowledge in various subject areas pertinent to the plan's development. These subject areas included the following:

- Infrastructure within the county
- Economic development activities within the county
- Floodplain management
- Building codes and other development regulations
- Mapping and GIS
- Natural and cultural resources
- Social services

Table 1.1 lists the individuals who participated in the plan's development, including their contribution to the process. The columns on the right show their attendance at the planning meetings that were held. Additional meetings took place in the participating jurisdictions; those meetings are not reflected in the table, but documentation is provided in **Appendix B**.

Table 1.1 – Participation in Plan Development

Name	Representing	Position	Role	Mtg 1 3/10/26	Mtg 2 4/14/26	Mtg 3 --/--/--
John Clem	Planning District III	Planner	Plan author	X	X	
Shannon Viereck	Planning District III	Planner	Research, Support	X	X	
Brad Georgeson	Hutchinson County	County EM	Guidance	X	X	
Brad Henke	Hutchinson County	Commissioner	Input, Review	X	X	
Larry Hehlhaff	Hutchinson County	Commissioner	Input, Review	X	X	
Mike Wolf	Hutchinson County	Commissioner	Input, Review	X	X	
Steve Friesen	Hutchinson County	Commissioner	Input, Review	X	X	
Curt Ulmer	Hutchinson County	Commissioner	Input, Review	X	X	
Diane Hoffman	Hutchinson County	Auditor	Input, Review	X	X	
Tim Semmler	City of Parkston	Mayor	Input, Review	X	X	
Darrell Elcock	Town of Olivet	Town Board	Input, Review	X		
Darrell Mehlhaf	City of Menno	Mayor	Input, Review	X		
Jodi Fischer	City of Menno	Finance Officer	Input, Review	X	X	
Lisa Edelman	City of Freeman	Finance Officer	Input, Review	X	X	
Evan Waltner	Freeman Regional Health Services	Dir of Environmental Services	Input, Review	X	X	
Courtney Unruh	Freeman Regional Health Services	CEO / Administrator	Input, Review	X	X	
Lindsay Weber	Avera St. Benedict Health Center	President, CEO	Input, Review	X	X	
Erin Denning	Avera St. Benedict Health Center	Trauma Coordinator	Input, Review	X		
Kayla Wilson	City of Tripp	Finance Officer	Input, Review	X	X	
Dana Horn	City of Tripp	Street & Utility Superintendent	Input, Review	X	X	
Todd Gross	City of Tripp	City Maintenance	Input, Review	X	X	
Lance Thury	Kaylor Agri Service	CEO/General Manager	Input, Review		X	
Anthony York	Menno Public School	Head Custodian	Input, Review		X	
Brian Sander	Tripp	Resident, Incoming Mayor	Input, Review		X	

Public Outreach

Throughout the plan's development, efforts were made to obtain broader involvement in the plan beyond the core planning team and stakeholders. This outreach effort included press releases that were printed in the *Freeman Courier* and the *Parkston Advance,* information posted on community websites, and social media.

Surveys were also made available to provide another way for people to contribute their thoughts and opinions on hazard mitigation. Survey forms were distributed to all planning team members, to other city and county staff who did not participate in the planning meetings, and to other stakeholders. To generate broader public input, the surveys were made available on community websites, through social media posts, and a press release at the start of the planning process included a QR code so the public could participate in the survey. Respondents were able to provide their opinion of which hazards have the biggest impact on the county, how those hazards have personally impacted them, and what actions could be taken to mitigate the hazards. See **Appendix A** for documentation of the public outreach effort.

Incorporation of Other Plans

Information from various local plans, studies, and reports was incorporated into this plan. Each of the items listed in the table below was reviewed as this plan was developed, and a brief description is given of how relevant information was incorporated into this plan. In addition to these local resources, a considerable amount of information and data was incorporated into this plan from the South Dakota Hazard Mitigation Plan (both the 2019 version and the current enhanced version).

Table 1.2 – Plans, Studies, and Reports Incorporated Into Plan

Item	Notes
Planning & Development District III Comprehensive Economic Development Strategy (CEDS)	The CEDS analyzes development issues within the District III service area, which includes Hutchinson County. Economic resiliency, including the role that hazard mitigation can play in helping communities maintain economic strength, is discussed at some length. Regional development priorities and demographic data from the CEDS was incorporated into this plan.
Hutchinson County Comprehensive Plan	The environmental constraints section of the plan was used to identify areas suitable for development in the county.
Hutchinson County Highway Plan	The plan includes a list of county roads scheduled for improvements within the next five years, which was useful for development of the mitigation strategy.
Dimock Comprehensive Plan	The environmental constraints section of the plan was used to identify areas suitable for development within the town.
Freeman Comprehensive Plan	The environmental constraints section of the plan was used to identify areas suitable for development within the city.
Menno Comprehensive Plan	The environmental constraints section of the plan was used to identify areas suitable for development within the city.
Parkston Comprehensive Plan	The environmental constraints section of the plan was used to identify areas suitable for development within the city.

Tripp Comprehensive Plan	The environmental constraints section of the plan was used to identify areas suitable for development within the city.
Parkston Housing Study & Market Study Update	The study presents socio-economic and demographic data and outlines potential housing development strategies for the community.
Freeman Housing Study	The study presents socio-economic and demographic data and outlines potential housing development strategies for the community.
Tripp Housing Study	The study presents socio-economic and demographic data and outlines potential housing development strategies for the community.
Southeastern Electric Cooperative Construction Work Plan	The plan outlines the cooperative's anticipated projects over the next 10-15 years, including their locations.
Menno Dam Emergency Preparedness Plan	The plan from the SD Game, Fish & Parks is a predetermined action to protect public safety and property in the unlikely event of a breach of Menno Dam – including procedures for warning, evacuation, and care of people within the area.
Work Plan for Southeastern Electric	This plan indicates work that is planned to be completed over the next 5-10 years, including power line burial, pole replacement, and other projects.

Planning Meetings

Several meetings were held to develop the plan, all of which took place at the Hutchinson County courthouse as described below. The planning process associated with the plan's development was relaxed and informal, and free-flowing discussion was always encouraged. No subcommittees were formed, no votes were taken or motions made, and decisions were made by mutual consensus of the planning team members. Everyone's opinion was respected, and nobody was discouraged from voicing his/her opinion. Leadership and guidance at the meetings were provided by Planning & Development District III staff and the Hutchinson County Emergency Management Director.

Prior to the first planning team meeting, the stakeholders identified earlier in this chapter were contacted and invited to participate in the planning process. A survey instrument was also developed, which was distributed to the planning team members and stakeholders, and which was also made available to the public as described earlier in the Public Outreach section.

First Planning Team Meeting

The first planning team meeting began with a reintroduction to the concept of hazard mitigation for the team members, many of whom had participated in the development of the current plan. The county's current mitigation plan was then reviewed, focusing on the hazards identified in the plan and the progress being made to implement the mitigation actions listed in the plan. Discussion also occurred about other local plans and policies that could be incorporated into this plan.

The planning team also reviewed the initial results of the survey, which helped determine which hazards to address in the plan, and additional hard copies of the survey were distributed. The meeting ended with a discussion about the process by which the plan would be developed over the coming months.

Activity between meetings

After the meeting, the Planning & Development District III office did a considerable amount of work on the risk assessment using various methods as described in **Chapter III**. The results of this work were shared with the planning team, including a summary of the textual information presented in **Chapter III**, maps showing hazard-prone areas in relation to important assets in each jurisdiction, and information about the value of property at risk to the various hazards impacting the county. Since the next meeting would focus on development of the mitigation strategy, the District III office also distributed a list of potential mitigation actions to the team, which was based on FEMA's guidance document *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards*.

Second Planning Team Meeting

Development of the mitigation strategy was the focus of the second meeting. It began with identification of the mitigation goals and objectives to be achieved, followed by a discussion about local mitigation capabilities. Discussion about the specific mitigation actions to include in the plan followed, the participants being reminded that they should focus on hazard mitigation as opposed to preparedness. They were also encouraged to consider a comprehensive range of actions, regardless of whether they seemed likely to be achievable in the foreseeable future. A preliminary list of actions for each jurisdiction was developed, including details about the actions, such as estimated cost, timeframe for implementation, and the party responsible for implementation.

Activity between meetings

After the second meeting, each jurisdiction discussed the mitigation actions they wanted to include in the plan. This discussion took place at an official meeting of each jurisdiction's governing body, which ensured that the public could participate in the selection process, since hazard mitigation was an agenda item. The list of mitigation actions selected by the communities is presented in **Chapter IV** (see **Table 4.5**).

Final Planning Team Meeting

Following the jurisdictional meetings, the Planning & Development District III office completed the first draft of the plan. After this, the planning team was brought together again for a final meeting to review the draft and discuss how the plan will be maintained going forward [2]. The importance of integrating the plan into the existing planning mechanisms within the county was emphasized. Prior to the meeting, a press release was run in the local newspapers and posted online and on social media which gave the public another opportunity to provide input into the plan.

[2] The Town of _____ was not represented at the meeting, but they were later briefed on the meeting discussion.

Post-meeting activity

After the final planning team meeting, some additional information was added to the plan based on discussion, primarily clarifying details of the proposed mitigation actions. The plan was then submitted to the South Dakota Office of Emergency Management.

Acknowledgements

The Planning & Development District III office would like to thank the members of the Hutchinson County Hazard Mitigation Planning team for participating in the planning meetings that were held and for supplying information that was used to develop the plan. We would particularly like to thank Emergency Management Director Brad Georgeson for arranging the planning team meetings and for coordinating with the participating jurisdictions. Thanks also are extended to Jim Poppen, Kyle Kafka, Blaire Jonas, and Marc Macy at the South Dakota Office of Emergency Management for information and guidance that was helpful in developing the plan.

2026 Hutchinson County (SD)
Hazard Mitigation Plan

CHAPTER II

Community Profile

PLANNING & DEVELOPMENT DISTRICT III

CHAPTER II
COMMUNITY PROFILE

Background

This chapter serves as a basic introduction of Hutchinson County. Topics addressed in this chapter include a general description of the county, its physical characteristics, socio-economic characteristics, infrastructure and utilities, and services. Following chapters are devoted to assessing risks in the county, presenting the county's mitigation strategy, and discussing how the plan will be implemented.

General Description

Hutchinson County is located in southeast South Dakota (see **Figure 1.1**). The county covers approximately 815 square miles, and its Census 2020 population was 7,427. Its population density is about 9.1 people per square mile compared to 11.7 people per square mile in South Dakota and 93.8 people per square mile in the United States. Six incorporated municipalities are located within the county: Dimock (pop 137), Freeman (pop 1,329), Menno (pop 614), Olivet (pop 64), Parkston (pop 1,567), and Tripp (pop 575). The county seat is located in Olivet. Unincorporated communities within the county include Kaylor and Milltown. Other populated places in the county are the Maxwell, New Elm Springs, Tschetter, and Wolf Creek Hutterite Colonies, each of which has approximately 125 to 150 residents [3]. **Figure 2.1** shows the county's communities and highway network.

Physical Characteristics

Hutchinson County is lightly settled, with most of the land devoted to agricultural production, primarily row crops such as corn and soybeans. Several feeding and farrowing hog confinement barns are located in the county. The landscape is quite open, and the terrain is generally fairly level, except for undulating areas along the James River and some of the larger streams in the county, including Wolf Creek. Prominent bodies of water include the James River, Tripp Lake, Lake Menno, Lake Dimock, and Silver Lake. Silver Lake was naturally formed, while the other three were formed by earthen dams.

[3] Hutterite colonies are rural, agriculturally based communities occupied by descendants of German people who cling to many of their traditional ways. There are more than 400 Hutterite colonies located in the north-central United States and Canada.

Figure 2.1 – Hutchinson County

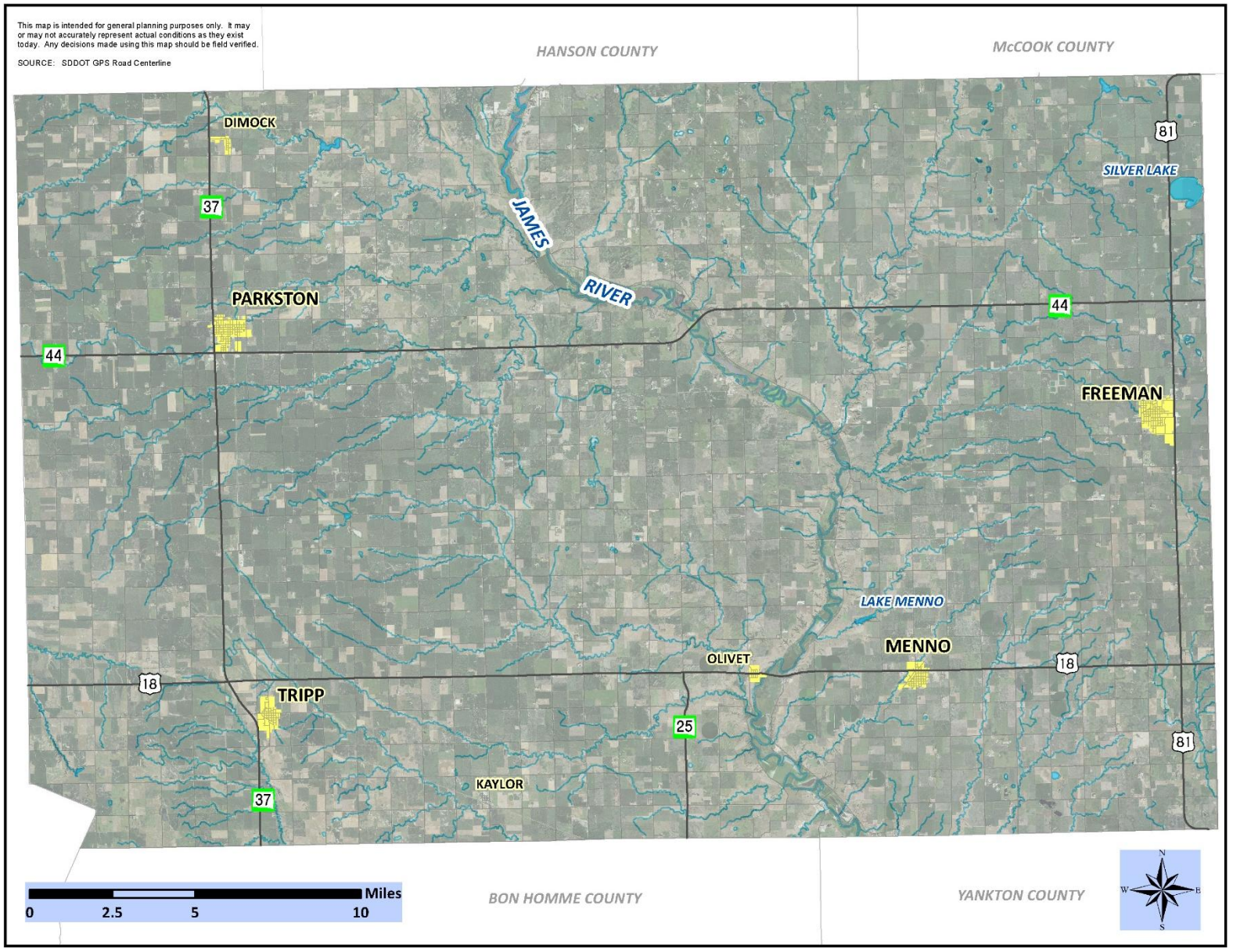


Table 2.1 provides a breakdown of the land cover in Hutchinson County, which is shown graphically in **Figure 2.2** on the following page. The table is based off satellite imagery from the United States Geological Service's National Land Cover Database. As the table shows, the predominant types of land cover in the county are cultivated crops and pastureland, which together comprise approximately 85 percent of the county's total land base. Developed land makes up only a very small fraction of the land area.

Table 2.1 - Vegetative Land Cover

Cover Type	Square Miles	Percent of Total Area
Cultivated crops	529.7	65.0
Pastureland	163.0	20.0
Grassland and Shrub/Scrub	55.4	6.8
Developed land (open space)	37.9	4.7
Wetlands	15.9	2.0
Open water	5.8	0.7
Developed land (low to high intensity)	4.4	0.5
Forested land	2.3	0.3
Barren land	0.3	0.0

Source: www.mrlc.gov/index.php

As in most of South Dakota, the climate of Hutchinson County is characterized as sub-humid and continental, which means that summers are often hot and winters can be very cold. There are no large bodies of water or mountain ranges to mitigate against these extremes. High temperatures in the summer can exceed 100 degrees Fahrenheit [4], while winter lows can drop below -20 degrees. Precipitation averages about 23 inches per year, much of which occurs during the spring and early summer. Following is climate data reported from the Menno weather station.

Table 2.2 - Monthly Climate Conditions in Hutchinson County (1896 - 2013)

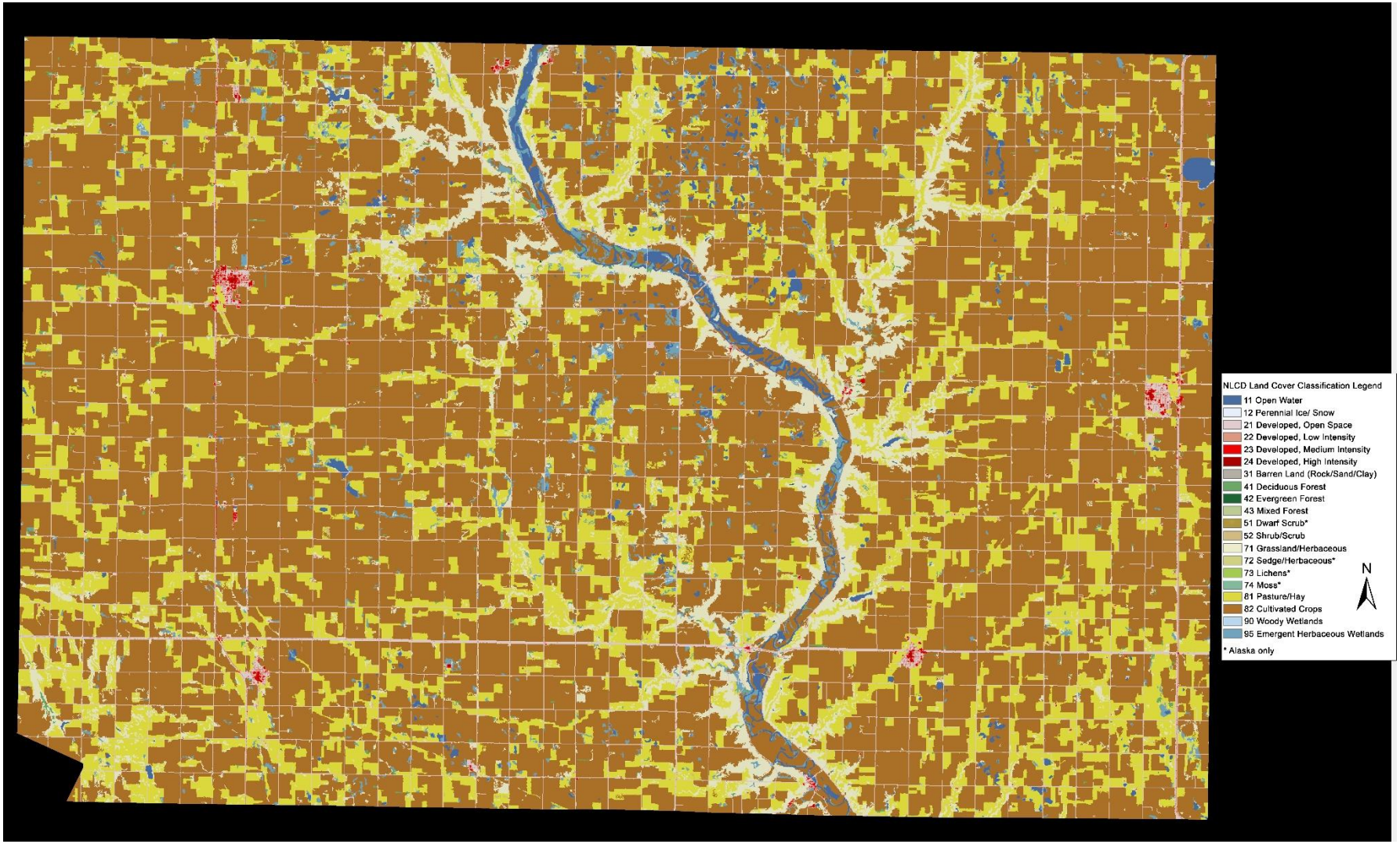
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ave High	28.9	34.1	46.1	62.1	73.7	83.5	88.6	86.1	78.1	65.2	46.6	32.9
Ave Low	7.2	12	23.6	35.9	47.5	57.8	62.5	60.1	50.7	38.2	24.0	12.7
Ave Precipitation	0.5	0.7	1.5	2.4	3.3	3.8	2.9	2.9	2.5	1.6	1.0	0.7

Source: www.weather.gov/wrh/climate

The average high and low are in degrees Fahrenheit; the precipitation figures are in inches.

[4] According to the National Weather Service, Sioux Falls, South Dakota has averaged about two days per year of 100-degree temperatures since records began to be kept in 1893.

Figure 2.2 - County Land Cover



The impact that climate change may have on the county is difficult to predict with any degree of certainty. The South Dakota Hazard Mitigation Plan discusses climate change in some depth, analyzing its possible impacts for each of the hazards affecting the state. According to the plan, mean temperatures have been increasing in the northern Great Plains region in which South Dakota is located, especially in the winter. The plan also notes a long-term trend of increasing annual precipitation across South Dakota, among the highest in the country, much of it occurring in the spring and fall seasons.

By 2050, according to research from Headwaters Economics, Hutchinson County is expected to experience 16 more days per year that reach above 95 degrees Fahrenheit (from 22 days to 38 days per year) and the average annual temperature is expected to increase from 50°F to 53°F. No significant change in average annual precipitation is expected.

There is no consensus yet on climate change science and it is difficult to make any definitive plans for climate change, but it appears likely that communities that are already vulnerable to weather and climate extremes will be stressed even further by more frequent extreme events occurring within an already highly variable climate system. Increased demand for water and energy may constrain development, stress natural resources, and increase competition for water, and new agricultural practices may be needed to cope with changing conditions.

Socioeconomic Description

Population Trends

Hutchinson County had been experiencing a steady population decline for the last several decades, but the 2020 Census did show a modest increase. The Census 2020 population of 7,427 is only about 65 percent of the population that was recorded in 1950. As the table below shows, the county's population is expected to decrease in the coming decades.

Table 2.3 - Hutchinson County Population

Pop 1950	Pop 1960	Pop 1970	Pop 1980	Pop 1990	Pop 2000	Pop 2010	Pop 2020	Pop 2030 Projected	Pop 2040 Projected	Pop 2050 Projected
11,423	11,085	10,379	9,350	8,262	8,075	7,343	7,427	7,088	6,900	6,738

Source: U.S. Census; Projections based on analysis of past population records and current age and sex cohorts

Race and Age

The following table shows that a very high percentage of Hutchinson County's population is composed of whites compared to South Dakota and the rest of the nation. The table also shows that the county's population is relatively old, which is an indication that many of the young people are leaving the county to look for opportunities elsewhere.

Table 2.4 - Racial and Age Characteristics

	White Pop	Black Pop	American Indian Pop	Asian Pop	Other Race	Two or More Races	Hispanic Pop	Pop Under 18	Pop 65 and Over	Median Age
Hutchinson Co.	95.2%	0.1%	1.2%	0.3%	1.1%	2.1%	2.1%	26.0%	21.9%	41.7
South Dakota	80.7%	2.0%	8.8%	1.5%	1.8%	5.3%	4.4%	24.1%	18.2%	38.5
United States	61.6%	12.4%	1.1%	6.0%	8.6%	10.2%	18.7%	21.7%	17.3%	39.0

Source: American Community Survey 2022 1-Year Estimates

Income and Education

Income levels in Hutchinson County are slightly below state and national figures. Educational attainment lags behind state and national averages.

Table 2.5 – Income and Education

	Median Household Income	Poverty Rate – All People	Poverty Rate – Under 18	Poverty Rate – Over 65	High School Grad or Higher	Bachelor's Degree or Higher	Graduate Degree
Hutchinson Co.	$69,139	9.9%	10.9%	12.2%	91.9%	25.8%	6.4%
South Dakota	$69,728	12.5%	15.2%	10.9%	93.1%	31.6%	9.9%
United States	$74,755	12.6%	16.3%	10.9%	89.6%	35.7%	14.0%

Source: American Community Survey 2022 1-Year Estimates

Employment

The primary economic base of Hutchinson County is agriculture. Much of the non-ag employment for people who work in the county is in education and health care. Manufacturing is also an important part of the local economy.

Table 2.6 – Employment Sectors

	Hutchinson County	South Dakota	United States
Agriculture, Forestry, Fishing, Mining	17.1%	6.4%	1.6%
Construction	5.3%	7.4%	6.9%
Manufacturing	9.6%	9.9%	9.9%
Wholesale Trade	3.9%	2.1%	2.2%
Retail Trade	10.6%	11.4%	11.1%
Transportation, Warehousing, Utilities	3.7%	4.4%	6.0%
Information	2.5%	1.5%	1.9%
Finance, Insurance, Real Estate	3.6%	6.0%	6.7%
Professional, Scientific, Management	4.7%	6.7%	12.6%
Education, Health Care, Social Assistance	25.6%	26.3%	23.1%
Arts, Entertainment, Recreation, Accommodation, Food Service	6.4%	8.8%	8.7%
Other Services	2.9%	4.3%	4.7%
Public Administration	4.1%	4.8%	4.6%

Source: American Community Survey 2022 1-Year Estimates

Vulnerable Populations

There are certain populations and social groups within Hutchinson County that may be particularly susceptible to the adverse impacts of hazards, suffering disproportionate rates of

death, injury, loss, or disruption of livelihood when hazard events occur. Various social, economic, demographic, and housing characteristics are considered here that may influence the community's ability to prepare for, respond to, cope with, recover from, and adapt to environmental hazards.

Available data indicates that Hutchinson County has a low proportion of vulnerable people. The Centers for Disease Control Social Vulnerability Index shows Hutchinson County with a rating of .1209 (0 being least vulnerable and 1 being most vulnerable), which indicates a low level of vulnerability. FEMA's Resilience and Planning Tool shows that the county's Income Inequality Index is .43, which is close to the state and national figures. The Community Resilience Challenges Index (CRCI) percentile is 5 on a scale of 1 (lowest vulnerability relative to the rest of the United States) to 100 (highest); the county's top three drivers of CCRI value are Low Access to Communication, Civic Organizations, and Age.

Infrastructure and Utilities

Transportation

Hutchinson County's main transportation routes are US Highway 81, US Highway 18, SD Highway 37, and SD Highway 44. A railroad line owned by the State of South Dakota and operated by the Burlington-Northern Railroad runs through the communities of Kaylor, Tripp, Parkston, and Dimock. The line is used mainly to move grain to regional markets, and activity increases during the fall harvest season. The only airport in the county is located just south of Parkston. The airport's single asphalt runway has been expanded to accommodate small jet aircraft.

Utilities

Water service throughout most of the county is provided by the Bon Homme-Yankton Rural Water System, which gets its water from the Missouri River. The system serves rural county residents individually and provides bulk water to each of the municipalities in the county except Tripp, which has its own well system. All the municipalities, except for Olivet, have wastewater collection and treatment systems. Rural households, and residents of Olivet, must rely on individual septic tanks and drainfields.

Most solid waste is taken to a regional landfill located in Davison County. Freeman, Menno, Parkston, and Tripp each have a designated rubble site.

Electric power is provided to rural county residents by the Southeastern Electric Cooperative, while NorthWestern Energy supplies power to each of the municipalities and Kaylor. Natural gas service is available in each of the municipalities within the county.

The Kaneb pipeline, which transports various fuels, crosses the eastern side of the county along Highway 81. The TransCanada Keystone pipeline also crosses through the eastern part of the county in a northwest-southeast direction.

Services

Medical Services

The primary medical facilities in the county are the Freeman Regional Hospital and Parkston's St. Benedict Hospital, both of which serve as critical access facilities. More basic medical service is available at medical clinics in Menno and Tripp. People needing serious medical attention can be transported to trauma-center hospitals in Sioux Falls or elsewhere.

Fire and Emergency Response

Fire departments are based in Freeman, Menno, Parkston, and Tripp, each in conjunction with an ambulance service. The New Elm Springs Hutterite Colony also operates a fire department. Each of the departments has basic firefighting and rescue equipment, and they all respond to structural fires, wildland fires, and to accident situations. Most of the departments also have some capabilities regarding hazardous material (hazmat) response, but a serious incident likely would require assistance from outside the county.

Education

High schools are located in Freeman, Menno, Parkston, and Tripp. Education up through the high school level is available for children living on each of the Hutterite Colonies. Post-secondary education is not available in Hutchinson County.

2026 Hutchinson County (SD)
Hazard Mitigation Plan

CHAPTER III

Risk Assessment

PLANNING & DEVELOPMENT DISTRICT III

CHAPTER III
RISK ASSESSMENT

Background

The risk assessment provides the foundation for the rest of the mitigation planning process. It sets the stage for identifying mitigation goals and actions to help Hutchinson County become disaster resilient and keep county residents safe, and it answers the following questions: What are the hazards that could affect Hutchinson County? What could happen as a result of those hazards? How likely are the possible outcomes? When the outcomes occur, what are the likely consequences and losses?

Risk assessment is the process of measuring the potential loss of life, personal injury, economic injury, and property damage resulting from hazards. FEMA defines risk assessment terminology as follows:

- **Natural Hazard**—A source of harm created by a meteorological, environmental, or geologic event.
- **Assets** – This includes people, structures (e.g. homes, critical facilities, and infrastructure), systems and networks, other resources important to the community, and activities important to the community.
- **Risk**—The potential for damage or loss created by the interaction of natural hazards with assets.

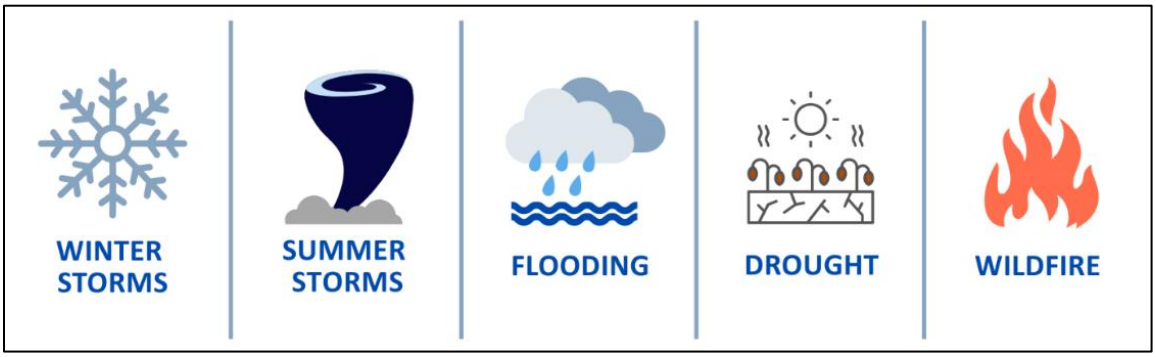
According to FEMA's mitigation planning guidance, the basic components of the risk assessment are: 1) identifying hazards that affect the community, 2) profiling the hazards, 3) conducting an inventory of community assets, and 4) analyzing impacts. This process measures the potential loss of life, personal injury, economic injury, and property damage resulting from natural hazards by assessing the vulnerability of people, buildings and other property, and infrastructure to natural hazards.

After reviewing the risk assessment section of the current plan, the planning team decided that no major changes were needed to the risk assessment. This determination was made because of the lack of population growth and development in the county and because no natural disasters have had a major impact on the county since the current plan was completed. However, many of the tables have been updated with more current information, including **Table C.2** in **Appendix C**, which lists significant hazard events that have occurred in the county through 2024.

Identifying Hazards

To determine which hazards to address in this plan, the planning team first reviewed the county's current mitigation plan. The team also considered the results of the survey that was

conducted at the start of the planning process, especially the question about the hazards that most impact the county. Following this, the planning participants reviewed historical records of hazard events that have occurred in the county, relying on the National Climatic Data Center's Storm Events Database (see **Table C.2** in **Appendix C**). At the end of this process, the planning team decided to focus on the following hazards:



The planning team acknowledges that additional hazards could have been addressed in this plan. High wind events, for instance, are not considered separate from winter storms and summer storms. Following is a list of other hazards the team considered but chose not to include in this plan, with a justification for their omission:

- Geologic Hazards – earthquakes and landslides are profiled in the South Dakota Hazard Mitigation Plan, but the overall significance of such hazards is rated as low. A map generated through the U.S. Geological Service Earthquake Hazards Program website indicates that there is only about a two percent chance that a quake of at least magnitude 5 will occur in Hutchinson County in any 100-year period, and virtually no chance of a magnitude 6 or greater earthquake [5]. Furthermore, no significant earthquake has ever been recorded in the county. Regarding landslides, a review of the United States Geological Survey's Landslide Incidence and Susceptibility Map shows virtually no chance of a significant landslide occurring in Hutchinson County.
- Agricultural pests and diseases - this hazard is profiled in the South Dakota Hazard Mitigation Plan. However, despite the obvious importance of agriculture to the local economy, the planning team considered the subject matter to be outside the intended focus of this plan.
- Technological and human-caused hazards – some of these hazards, including hazardous materials releases, are analyzed in the South Dakota Hazard Mitigation Plan. Again, the planning team considered the subject matter to be outside the scope of this plan.

[5] A magnitude 5 earthquake is considered moderate, potentially causing varying amounts of damage to poorly constructed buildings, but significant damage would be unlikely to occur. A magnitude 6 quake is strong, with the potential to cause damage to well-built structures.

Hazard Profiles

In this section, each of the hazards the planning team chose to focus on is described in terms of the hazard's ***location*** within Hutchinson County, its ***extent***, the ***history*** of the hazard's occurrence in the county, and the ***probability*** of future events occurring. In addition, a background description of each hazard is presented at the beginning of each hazard's profile.

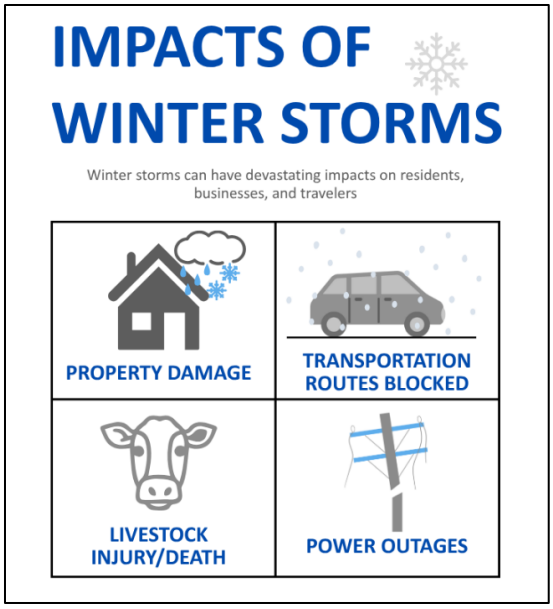
- ***Location*** is the geographic areas within the county that are affected by each of the hazards. Some of the hazards - winter storms, summer storms, and drought - do not have a geographic definition at this level of analysis, since they occur in all areas of the county with equal frequency. Flooding and wildfires, however, do pose a greater risk in specific areas of the county than in other locations.
- ***Extent*** is the strength or magnitude of the hazard, which is described in a variety of ways depending on the type of hazard. For example, tornado strength is measured on the Fujita Scale, high wind events are measured by speed, fire is measured in terms of acres affected, and winter storms can be measured by snowfall accumulation or the duration of the event.
- A brief section on the ***history*** of each hazard's occurrence in the county is presented, with a description of some of the most significant events. More information about the hazard events that have impacted the county is presented in **Appendix C**, which includes a table of the major disaster declarations in Hutchinson County, a table showing a comprehensive list of weather-related hazard events recorded in the county from the National Climatic Data Center's Storm Events Database, and tables showing crop loss to Hutchinson County farmers.
- ***Probability*** of occurrence of a hazard impacting an area is the likelihood that such an event will occur. In this plan, a hazard with a "high" probability is one that is expected to occur at least five times over a ten-year period, a "moderate" probability hazard is expected to occur from two to five times in any given ten-year period, and a "low" probability hazard would be expected to occur fewer than twice per ten years. Probability for some of the hazards was determined by reviewing the frequency of past hazard events in the Storm Events Database.

Winter Storm

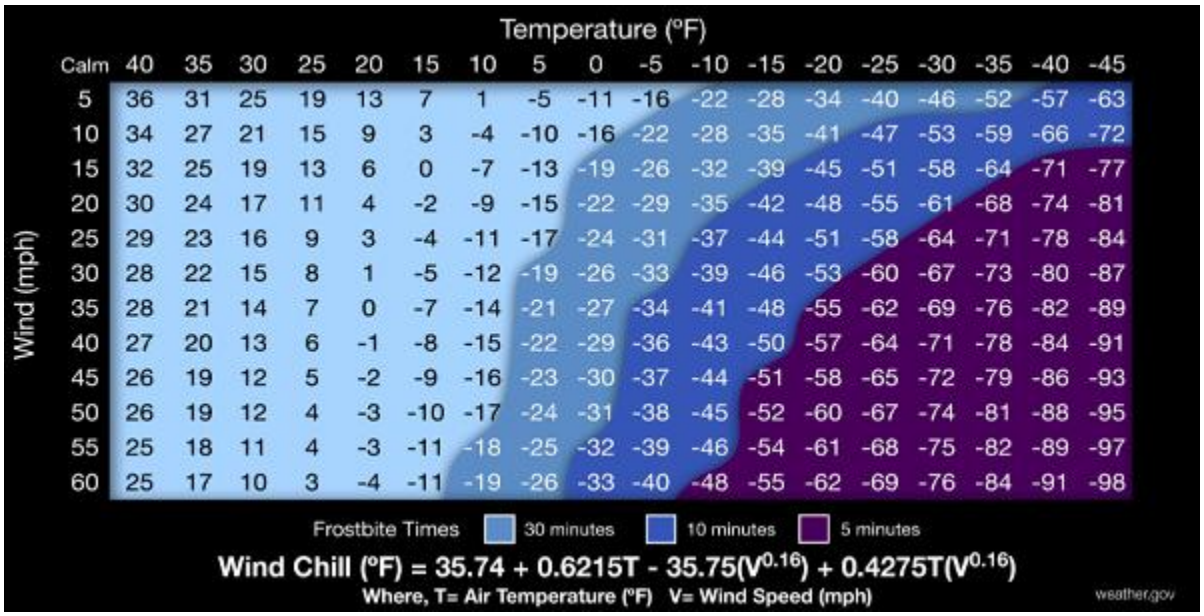
Description

Winter storms include snow events, freezing rain, and sleet, with some storms taking on the characteristics of these categories during distinct phases of the storm. They typically occur from late fall to the middle of spring, varying in intensity from mild to severe. A long warning time is associated with most winter storms, giving people time to prepare, but they still have a major impact in South Dakota. They can immobilize a region by blocking transportation routes, thus disrupting emergency and medical services, hampering the flow of supplies, and isolating homes and farms. Heavy snow can collapse roofs and knock down trees and power lines. Unprotected livestock may be lost. Economic impacts of winter storms include the cost of snow removal, damage repair, and business losses. According to the survey conducted for this plan, winter storms are the sixth most serious hazard facing the county.

The most dangerous of all winter storms are blizzards, which occur when snow is combined with winds of at least 35 mph, reducing visibility to less than ¼ mile for at least three hours. Severe blizzard conditions exist when heavy snow is accompanied by winds of at least 45 mph and temperatures of 10 degrees Fahrenheit or lower. Early blizzards in South Dakota were so devastating that the state once had the dubious distinction of being called the Blizzard State. Freezing rain is also dangerous because it coats objects with ice and can make travel especially hazardous. Sleet does not generally cling to objects like freezing rain, but it makes the ground slippery, increasing the number of traffic accidents and injuries due to falls.



Extreme cold often accompanies winter storms or is left in their wake. Prolonged exposure to the cold can cause frostbite or hypothermia and can become life-threatening. Infants and the elderly are most susceptible. Property damage is also possible when pipes freeze and burst in homes or buildings that are poorly insulated or without heat. The following chart shows how quickly frostbite can occur at a given combination of temperature and wind speed.



Winter storms can have a major impact on the power lines operated by rural electric providers, especially when they are accompanied by high winds or freezing rain. They can

knock down power lines, which tend to be the most vulnerable elements of the electrical grid, and they can even snap the poles.

Location

The topography of South Dakota is such that no part of the state is immune from the effects of winter storms. Farmland and pastureland, which cover Hutchinson County and most of the state, offer little resistance to high winds and drifting snow, and there are no large bodies of water or mountain ranges to mitigate against temperature extremes. All areas of the county are equally likely to be impacted.

Extent

The extent of winter storms in Hutchinson County can be quite substantial. In terms of snowfall, many winter storms in the county have dropped more than 10 inches of snow. In terms of duration, some winter storms in the county have resulted in power outages of over a week in some locations, although typical outages last for no more than a few hours. Regarding wind speed, blizzards and high wind events during the winter can be accompanied by winds over 50 knots (about 58 miles per hour).

History

Table C.2 in **Appendix C** lists many significant winter storms that have impacted the county. Following are details about the winter storms that resulted in a major disaster declaration (see also **Table C.1** in **Appendix C**).

Winter Storm

One of the most serious winter storms to occur in the state happened between October 22 and 24, 1995, resulting in FEMA Disaster Declaration 1075, which was declared in January 1996. As the storm moved eastward across South Dakota, ice and five to 15 inches of wet snow formed on electric lines, poles, and trees. Winds associated with the storm caused lines to slap together and poles to snap, producing widespread power outages to large portions of rural South Dakota, including Hutchinson County. The damage included broken poles, broken wires, and substation failures due to transmission line damage. The storm also forced major transportation delays because of snow accumulation on roadways and poor visibility. The combination of power outages and travel difficulty resulted in numerous cancellations and delays in school openings. Total statewide damage from the event was estimated at over $13 million, and approximately 30,290 households were affected by power outages. Crews from electric cooperatives in neighboring states assisted local cooperatives with line repairs.

A winter storm in 1997 resulted in FEMA Disaster Declaration 1156, which impacted every county in South Dakota. Statewide, the event caused over $19,000,000 in reported damage.

Another very serious winter storm to impact Hutchinson County occurred in late November 2005 when heavy freezing rain coated roads and power lines with ice up to three inches thick throughout much of southeast South Dakota. The storm resulted in FEMA Disaster Declaration 1620. In the affected area, a total of 9,400 power poles were damaged, leaving approximately 56,000 people without electricity for varying amounts of time. The Southeastern Electric Cooperative lost 1,100 poles in the county due to the storm; their total

damages were over $1.5 million. Many roads were shut down for extended periods, and most schools and businesses were forced to close. Some households were out of power for up to a week as power lines were being repaired.

A very damaging ice storm struck the area in January 2010, resulting in FEMA Disaster Declaration 1887.

A very unusual late-season winter storm struck much of eastern South Dakota in April 2013, resulting in FEMA Disaster Declaration 4115. The storm featured heavy, wet snow and icing that brought down power lines and trees in many areas. Several power outages were reported, and travel was impossible in many areas, resulting in schools and businesses being forced to close.

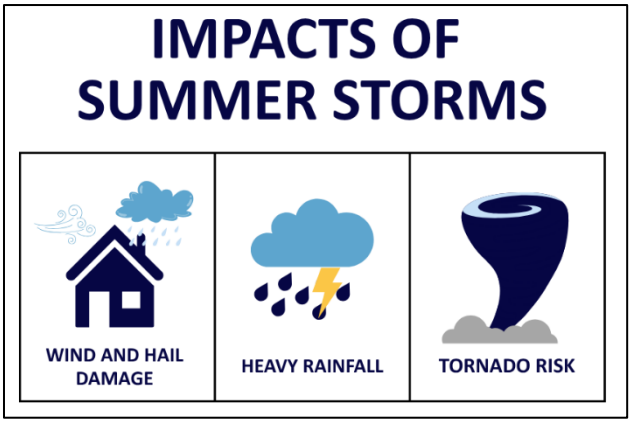
Probability

A total of 87 winter storm events, including blizzards, ice storms, heavy snow, and extreme cold events, have been recorded in Hutchinson County since the mid-1990s, an average of almost three per year (see **Table C.2 in Appendix C**). Therefore, based on the historic evidence, the probability of a significant winter storm affecting Hutchinson County in a given year is high. The probability of a winter storm causing substantial damage (e.g. power lines blown down) in any given year is at least moderate.

Summer storm

Description

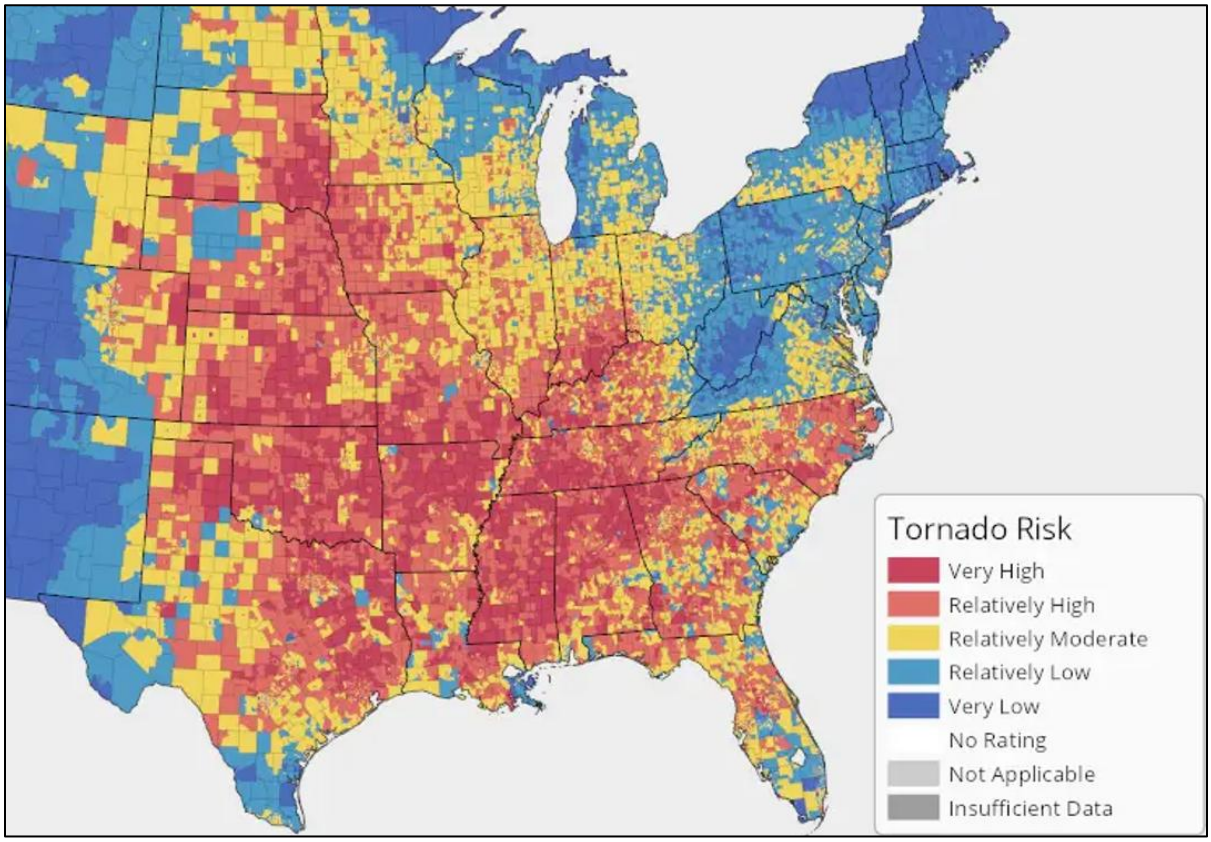
Summer storms can include heavy rainfall, hail, tornadoes, and thunderstorm activity. These events usually are associated with unstable weather conditions. In Hutchinson County, most damage from summer storms occurs because of high wind events and/or hail. Hail is always closely connected with thunderstorms. Hailstones can be pea-sized, up to the size of baseballs. Large hailstones are dangerous to people and animals, but most hail damage is typically suffered by crops or structures. Almost every year someone in Hutchinson County reports some kind of hail damage to crops or property. According to the survey conducted for this plan, hail is the fourth most serious hazard facing the county.



Tornadoes are the most dramatic type of summer storm experienced in Hutchinson County and are a special source of concern. They are one of nature's most violent storms, capable of tremendous destruction with wind speeds of 250 mph or more. Damage paths can be a mile wide and can extend for more than 50 miles. Tornadoes mostly occur in South Dakota during the months of May, June, and July. The greatest period of tornado activity is between 4 PM and 6 PM. Tornadoes present a difficult mitigation challenge, since few structures can

withstand the violent winds of a twister. According to the survey conducted for this plan, tornadoes are the fifth most serious hazard facing the county.

South Dakota is located near the northern edge of the core area of tornado activity in the United States, as shown in the image below (it is difficult to tell at this scale, but Hutchinson County is in the 'Very High' risk category). Often referred to as "tornado alley", this part of the country is susceptible to the conditions that favor the formation of tornadoes: warm air from the Gulf of Mexico coming in contact with cool Canadian air fronts and dry air systems from the Rocky Mountains. According to the National Oceanic and Atmospheric Administration's Storm Prediction Center, South Dakota ranked eighth in the nation in the frequency of tornadoes from 1950 to 1994, with a total of 1,139 tornadoes reported in the state (an average of 25.3 per year). During this period, there were 11 deaths in the state attributed to tornadoes, and 243 injuries. South Dakota ranked 27th in the nation in tornado damage, with average annual losses of $3.8 million.



Source: hazards.fema.gov/nri/tornado

Location

Summer storms are equally likely to occur in all parts of Hutchinson County.

Extent

The extent of summer storms can be measured in many ways. In terms of wind speed, **Table C.2** in **Appendix C** shows 28 thunderstorms that produced wind speeds of at least 60 knots, seven of which were over 70 knots. **Table C.2** also shows 55 events with hail at least one inch

in diameter, including 12 events with hail at least two inches in diameter, and four records of a tornado with a magnitude greater than F1. In terms of onset, summer storms typically develop with a long warning time, although certain hazards associated with such storms, such as hail or tornadoes, can develop more suddenly. The following tables show classifications of hail size, wind speeds, lightning activity, and tornado strength.

Table 3.1 - Hail Size Comparison

Size (Inches)	Object Comparison
0.5 "	Marble or moth ball
1.0"	Quarter
1.5"	Walnut or ping pong ball
2.0"	Hen's egg
2.5"	Tennis ball
3.0"	Tea cup
4.0"	Softball
4.5"	Grapefruit

Table 3.2 - Beaufort Wind Scale

Force	Wind (Knots)	WMO Classification	Appearance of Wind Effects On Land
0	Under 1	Calm	Calm, smoke rises vertically
1	1 to 3	Light Air	Smoke drift indicates wind direction, still wind vanes
2	4 to 6	Light Breeze	Wind felt on face, leaves rustle, vanes begin to move
3	7 to 10	Gentle Breeze	Leaves and small twigs constantly moving, light flags extended
4	11 to 16	Moderate Breeze	Dust, leaves, and loose paper lifted, small tree branches move
5	17 to 21	Fresh Breeze	Small trees in leaf begin to sway
6	22 to 27	Strong Breeze	Larger tree branches moving, whistling in wires
7	28 to 33	Near Gale	Whole trees moving, resistance felt walking against wind
8	34 to 40	Gale	Twigs breaking off trees, generally impedes progress
9	41 to 47	Strong Gale	Slight structural damage occurs, slate blows off roofs
10	48 to 55	Storm	Trees broken or uprooted, much structural damage (seldom experienced)
11	56 to 63	Violent Storm	
12	64 +	Hurricane	

Table 3.3 - Lightning Activity Levels

Level	Description
LAL 1	No thunderstorms.
LAL 2	Isolated thunderstorms. Light rain will occasionally reach the ground. Lightning is very infrequent, 1 to 5 cloud to ground strikes in a 5 minute period.
LAL 3	Widely scattered thunderstorms. Light to moderate rain will reach the ground. Lightning is infrequent, 6 to 10 cloud to ground strikes in a 5 minute period.
LAL 4	Scattered thunderstorms. Moderate rain is commonly produced. Lightning is frequent, 11 to 15 cloud to ground strinkes in a 5 minute period.
LAL 5	Numerous thunderstorms. Rainfall is moderate to heavy. Lightning is frequent and intense, greater than 15 cloud to ground strikes in a 5 minute period.
LAL 6	Dry lightning. This type of lightning has the potential for extreme fire activity and is normally highlighted in fire weather forecasts with Red Flag Warning.

Table 3.4 – Enhanced Fujita Scale

Scale	Wind Speed (MPH)	Potential Damage
EFO	65 to 85	Minor damage. Peels surface off some roofs; some damage to gutters or siding; branches broken off trees; shallow-rooted trees pushed over.
EF1	86 to 110	Moderate damage. Roofs severely stripped; mobile homes overturned or badly damaged; loss of exterior doors; windows and other glass broken.
EF2	111 to 135	Considerable damage. Roofs torn off well-constructed houses; foundations of frame homes shifted; mobile homes completely destroyed; large trees snapped or uprooted; light-object missiles generated; cars lifted off ground.
EF3	136 to 165	Severe damage. Entire stories of well-constructed houses destroyed; severe damage to large buildings; trains may be overturned; heavy cars lifted off ground and thrown; structures with weak foundations badly damaged.
EF4	166 to 200	Devasting damage. Frame homes are completely destroyed and some may be swept away; cars and other large objects are thrown in the air.
EF5	Over 200	Incredible damage. Nearly all buildings aside from heavily built structures are destroyed; frame houses and brick homes are swept away; cars are thrown hundreds of yards.

Source: en.wikipedia.org/wiki/Enhanced_Fujita_scale

History

As **Table C.1** in **Appendix C** shows, several major disaster declarations involving a summer storm have affected Hutchinson County. **Table C.2** in **Appendix C** lists many other significant summer storms that have impacted the county.

Severe storms in May 2000, August 2000, and June 2003 caused fairly significant damage to the Southeastern Electric Cooperative's utility infrastructure. In July 2009, hail caused substantial property and crop damage, leading the county commission to request federal disaster assistance.

In May 2022, a highly unstable environment generated scattered storms with extremely high winds resulting in FEMA Disaster Declaration 4656. With many fields unplanted, a huge amount of dirt was lofted into the leading edge of the storms, which reduced visibility to near zero. In Hutchinson County, a wind gust of 107 mph was measured two miles northwest of Tripp and a gust of 84 mph was measured five miles south of Freeman.

Probability

A total of 126 summer storm events, including hailstorms, thunderstorms, lightning, and tornadoes, have been recorded in Hutchinson County since 1960, an average of about 1.9 per year (see **Table C.2 in Appendix C**). Forty of these storms involved a tornado. From this information, the probability of a summer storm affecting Hutchinson County each year should be considered high, although the probability of a storm causing significant damage (e.g., damaging hail or a tornado) can be considered low to moderate.

Flooding

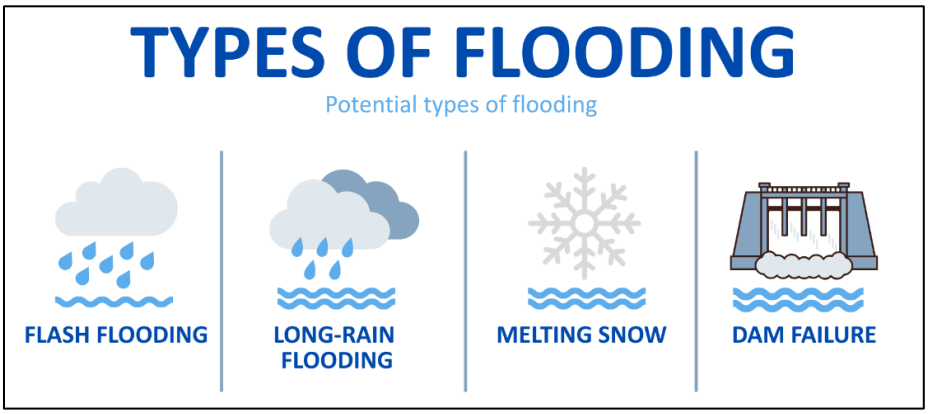
Description

Floods are among the most serious and costly disaster events. In South Dakota, there are two main climatologic causes of flooding: runoff from rainfall and runoff from melting snow. The water from rainfall or melting snow flows overland until it reaches a nearby river or lake. If the river or lake cannot hold all of the water that is entering it, some of the water will begin to overflow, causing flooding. The size of the flood is influenced by such factors as the intensity or length of the rainfall, melting rate of the snow, and the infiltration of the water into the ground. According to the survey conducted for this plan, flooding is the second most serious hazard facing the county.

Following is a description of the four types of flooding that have the potential of impacting South Dakota, based on information in the South Dakota Hazard Mitigation Plan:

- **Flash flooding**, which results from several inches or more of rain falling in a very short period. This high intensity rainfall is commonly caused by powerful thunderstorms that cover a small geographic area. The flood that occurs because of this runoff happens very rapidly, and is generally very destructive, although usually only a small area is affected.
- **Long-rain flooding**, which results after several days or even weeks of fairly low-intensity rainfall over a widespread area. This is the most common cause of major flooding. The ground becomes "waterlogged," and the water can no longer infiltrate into the ground. The flooding that results is often widespread, covering hundreds of square miles, and can last for several days or many weeks.
- Flooding resulting from **melting snow** in the spring. This type has characteristics of both flash floods and long-rain floods. The area covered is generally not as large as that covered by the long-rain flood but is typically larger than that covered by the flash flood. Generally, the flood lasts for several days, occurring when large amounts of snow melt rapidly due to warm temperatures. The flooding can be made worse if the ground remains frozen while the snow is melting, causing the melt water to run off to nearby rivers and lakes rather than infiltrating into the ground. Some of the largest floods in South Dakota have been the result of melting snow and ice.
- **Dam failure**, resulting from natural or man-made causes. Hutchinson County is vulnerable to this type of flood primarily because of the Menno Dam, which is classified as a high hazard dam [6].

[6] A high hazard dam is one whose loss would cause major economic loss, and in which there are anywhere from a few to hundreds of inhabited structures located in the predicted area of inundation.



Location

Any flood profile for Hutchinson County must start with the James River, which, according to the South Dakota Multi-Hazard Mitigation Plan, is one of the most flood prone rivers in South Dakota. Draining 12,609 square miles of land in South Dakota, representing 16.3 percent of the state's land area, the James flows through Hutchinson County in a generally southeasterly direction. The river lacks good drainage features (the slope of the river is only .28 feet per mile), and the river's valley varies in width from a few hundred feet to three miles. Consequently, the James overruns its banks frequently during the spring snow melt, much of the drainage remaining in small swales and basins.

In addition to land adjacent to the James River, other areas of the county are also vulnerable to flooding. Flood hazard zones are located along many of the James River's tributary streams and in Freeman, Menno, Olivet, and Parkston, and certain other low-lying areas of the county are also vulnerable to flooding, regardless of whether they are in a designated flood zone.

Extent

The extent of flooding in Hutchinson County is usually not significant. Minor, localized flooding typically occurs in the county after very heavy rain events, especially in the spring following snowy winters. Floodwater depth is usually not significant. In terms of duration, flooding can cause road closures lasting from less than a day to several weeks or longer.

However, major flooding can occur when the James River overflows its banks. Given the river's large drainage basin and the fact that it moves so slowly, excess water from snowmelt and spring rains simply has nowhere to go. During these major flood events, considerable damage occurs to farmland along the river, ruining crops that have already been planted or making planting impossible. James River flooding can also impact county roads, which often remain closed for long periods of time. During the worst years of flooding along the river, the river rises so high that some bridges over the river have to be closed. The following table shows a description of the various stages of flooding.

Table 3.5 – Flood Stages and Associated Impacts

Flood Stage	Impact
Minor Flood	Minimal or no property damage, but possibly some public threat (e.g. road inundation).
Moderate Flood	Some inundation of structures and roads near stream, evacuations of people and/or transfer of property to higher elevations.
Major Flood	Extensive inundation of structures and roads, significant evacuations of people and/or transfer of property to higher elevation.

The image on the following page shows the current river gauge chart for the James River near Scotland, which is located in Bon Homme County just south of the Hutchinson County line.

History

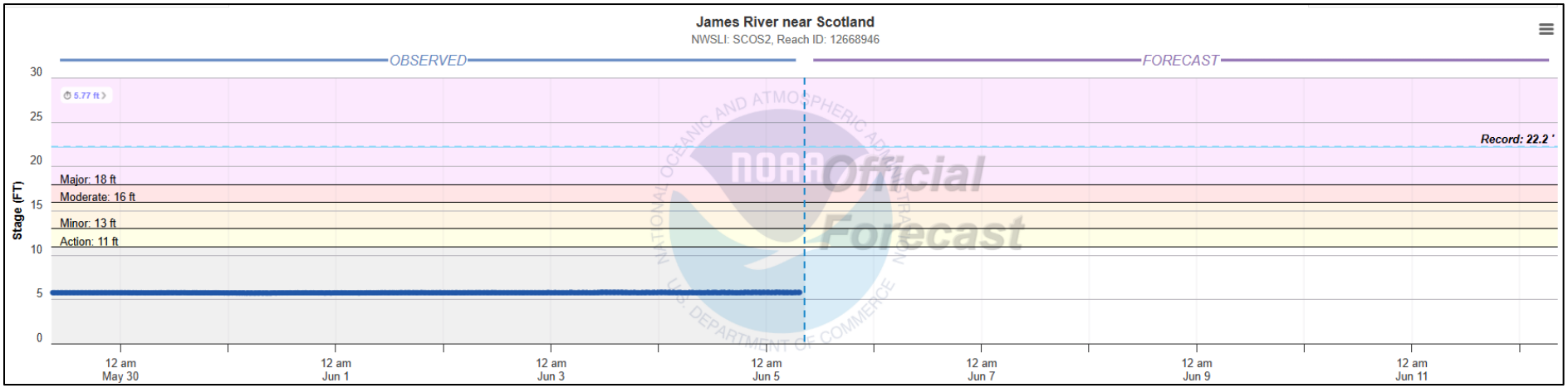
Table C.2 in **Appendix C** lists many significant flooding events that have impacted the county. Following are details about some of the most notable events that resulted in a major disaster declaration (see also **Table C.1** in **Appendix C**).

Serious flooding in 1984 resulted in FEMA Disaster Declaration 717, which caused almost $4.5 million of damage in the affected counties. The event caused both the Menno and Dimock dams to breach, which resulted in an award of about $700,000 to a property owner downstream of the Menno Dam.

Flooding in 1993 resulted in FEMA Disaster Declaration 999, which impacted 39 counties in South Dakota. The flood caused $53,427,320 in damage throughout the state, and $11,024,621 of damage to public infrastructure. At the time, the disaster was considered one of the top ten natural disasters ranked by FEMA relief costs. In Hutchinson County, the James River inundated thousands of acres of farmland.

Flooding in 1995 resulted in FEMA Disaster Declaration 1052. All of South Dakota had above normal precipitation from January through May, with many weather stations in the central and eastern portions of the state experiencing their all-time wettest Spring. Damage was caused by ground saturation and flooding due to very high residual groundwater tables from 1994, heavy winter snow and spring rain, and rapid snowmelt. Many roads were underwater due to high groundwater saturation, causing interruption of emergency services. Damage also included power transmission and distribution facilities owned by rural electric cooperatives. In the area impacted by the flood, surveys identified over 3,000 homes with some type of damage, the majority caused by groundwater seepage of one to three inches into basements. In many areas, the water table rose almost to the surface, saturating septic drain fields and preventing proper treatment of wastewater. The total damage estimate in the affected counties was over $35 million, which included $9.3 million in damage to public infrastructure.

River Gauge Chart – James River



Graphic from: water.noaa.gov/gauges/SCOS2

Flooding in 1997 resulted in FEMA Disaster Declaration 1173, which was declared for all counties in South Dakota. At the time, the event was considered one of the top ten natural disasters ranked by FEMA relief costs. From November 1996 through February 1997, the weather across the eastern part of the state was cold and very wet, with record-setting snowfall in many places. The persistent cold greatly limited snowmelt between storms, which caused snow to pile up from 10 to 24 inches deep. An early April blizzard added to the snow pack, and heavy rain later in the month combined to further saturate the ground. Prairie potholes turned into lakes, causing many people to be evacuated from their homes and farms, and preventing farmers from planting thousands of acres of land. The flood caused over $87 million in damage statewide and took the lives of two people. The James River Water Development District estimated that five years of flooding had destroyed or severely damaged approximately 75 percent of the forested areas in the James River valley

Flooding in the spring of 2007 resulted in FEMA Disaster Declaration 1702.

Flooding in 2008 resulted in FEMA Disaster Declaration 1774. The event caused approximately $125,000 of public assistance costs throughout the county, primarily due to flooding of county and township roads. Parkston was particularly affected by this flood, which temporarily shut down SD Highway 37 on the western edge of town. The photograph on the right, looking north along SD Hwy 37, shows the floodwater on the highway.

Flooding in 2010 in eastern South Dakota was the worst in a decade, resulting in FEMA Disaster Declaration 1915. The James River met or set records for the highest ever flood stage at several locations along the river. Farmland and low-lying areas along the river basin were inundated, and some of the bridges over the river had to be closed temporarily until floodwaters subsided. The SD Highway 44 bridge over the James River was closed for a couple of weeks, which was a major inconvenience for local travel.

Flooding in 2019 had a major impact throughout the year in Hutchinson County, starting in March when heavy rainfall fell on frozen ground, which led to considerable overland flooding of agricultural lands and inundation of numerous roads, including SD Hwy 44. This event resulted in FEMA Disaster Declaration 4440. The James River reached major flood stage, cresting 5.95 feet above flood stage on March 15. Flooding continued during the summer and became even more severe when 5 to 8 inches of rainfall in September caused the James

River to reach its fourth highest crest on record at 8.05 feet above flood stage on September 13. Numerous county and township roads were inundated, including SD Hwy 37, SD Hwy 44, and US Hwy 18. A significant amount of ag land remained flooded, several homes located in the James River valley reported flood damage, and the Hutterite colonies along the James River were impacted. The Wolf Creek Hutterite Colony was entirely underwater by September 13, forcing all colony residents to evacuate, while the Tschetter Colony lost six homes. This event resulted in FEMA Disaster Declaration 4469. This event resulted in FEMA Disaster Declaration 4469. The 2019 flooding resulted in over $1 million of public assistance costs in Hutchinson County.

In June 2024, heavy rainfall across Hutchinson County on top of an already wet spring caused overland flooding along Wolf Creek and the James River. Many residences in Freeman, Menno, Olivet, Parkston, and Tripp had water or sewer backup into their homes, and many roads had gravel washed away and culverts swept away.

Probability

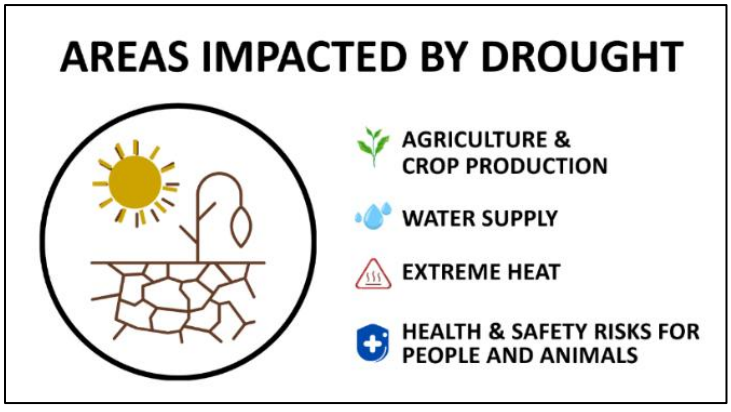
Table C.2 shows that 74 flooding events have been recorded in Hutchinson County since the mid-1990s. Excluding the events that were a recording of ongoing flood conditions, it appears there have been about 22 separate flood events in Hutchinson County since the mid-1990s, an average of almost one per year. Based on this analysis, the probability of flooding occurring somewhere in the county in a given year can be considered high. **Table C.1** shows that several floods were significant enough to result in a disaster declaration. Flooding will certainly continue to impact the area to some degree, no matter what mitigation actions are pursued.

Drought

Description

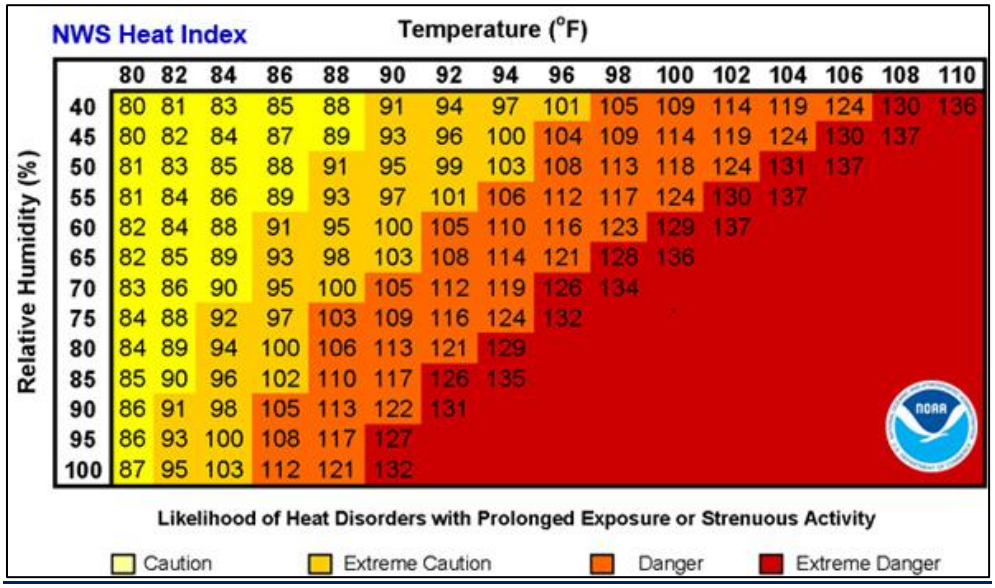
Drought is a deficiency in precipitation over an extended period, usually a season or more, resulting in a water shortage causing adverse impacts on vegetation, animals, and/or people. It is a normal, recurrent feature of climate that occurs in virtually all climate zones. Human factors, such as water demand and water management, can exacerbate drought. According to the survey conducted for this plan, drought is Hutchinson County's most serious hazard.

Droughts can occur at any time of the year, but the consequences are worse during the summer growing season, especially after dry winters. A small departure in normal precipitation during the months of June through August can have a significantly negative impact on crop production. The demand for water for multiple uses also impacts water



availability. Rural water systems that were originally designed to supply water for people are now also being used for cattle and to fight wildfires, taxing the limits of the systems.

Drought in South Dakota is often accompanied by periods of extreme heat, which is defined by FEMA as a condition in which the air temperature hovers at least 10° Fahrenheit above the average high temperature for the region and lasts for several weeks. Drought and extreme heat often exist together and compound negative effects. According to the National Weather Service, among natural hazards, only the cold of winter takes a greater toll on human life. Between 1936 and 1975, nearly 20,000 people were killed in the United States by the effects of heat and solar radiation. Elderly people, small children, people with certain medical conditions, and those on certain medications are particularly susceptible to heat stress. The following table shows the likelihood of heat disorder given the combination of air temperature and relative humidity.



Location

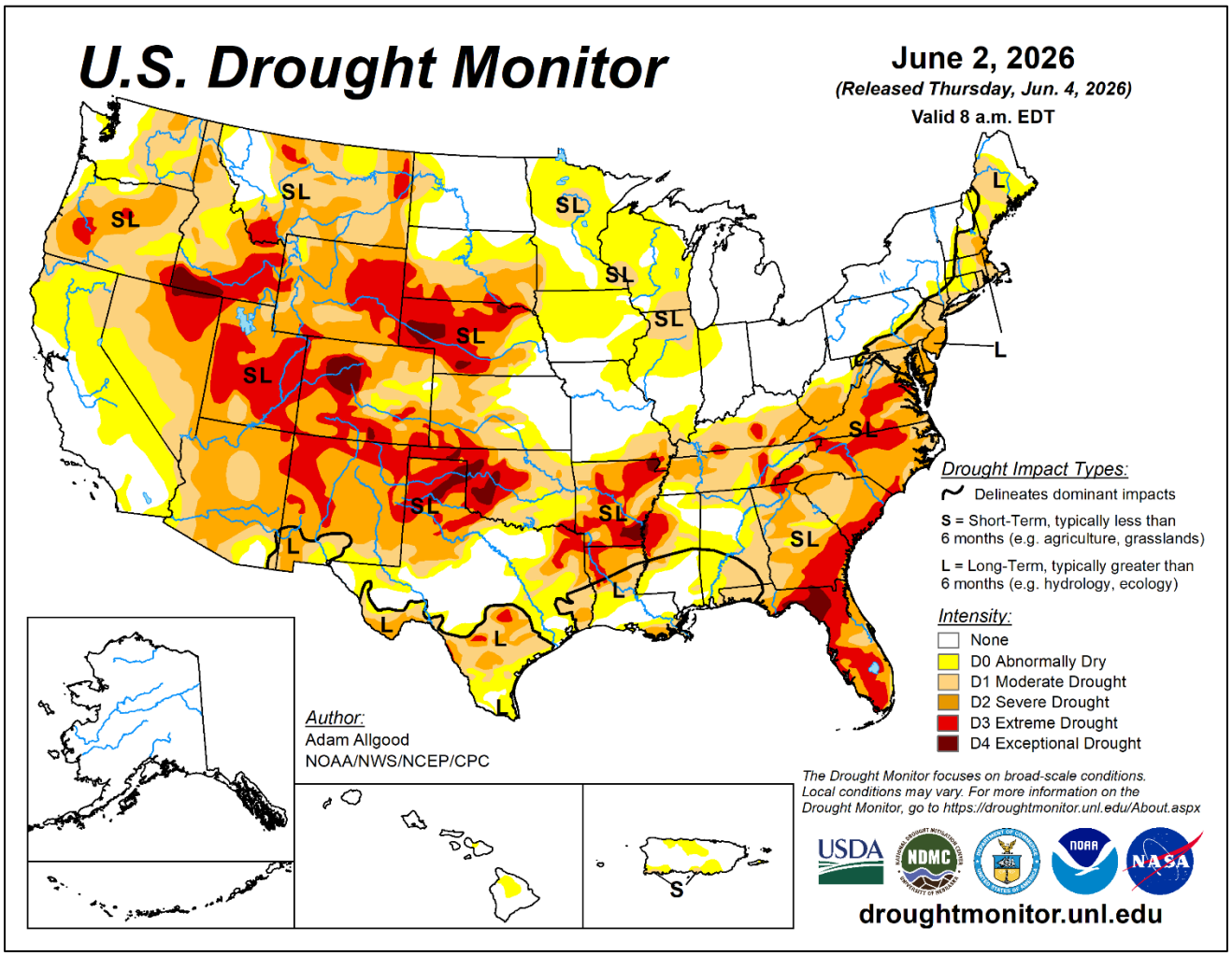
All areas of the county are equally likely to be impacted by drought.

Extent

Drought severity, the most commonly used term for measuring drought, is a combination of the magnitude and duration of the drought. In terms of magnitude, Hutchinson County has experienced many years of below average annual precipitation, including at least 10 years since 1930 in which precipitation was less than two-thirds of normal. In terms of duration, it is not unusual for Hutchinson County to experience periods of below normal precipitation that last for several months. During the 1930s, drought conditions persisted for multiple years. In an area that is so highly dependent on agriculture, the impact of a major drought can be significant. Although most agricultural producers now have crop insurance and agricultural practices today are more advanced, the impacts of drought can still be serious.

The U.S. Drought Monitor (USDM) has established the drought scale shown below, which is much like those that rate hurricanes and tornadoes. The "D-scale" speaks to the "unusualness" of a drought episode, with D1 conditions expected to occur about 10 to 20 percent of the time and D4 being much rarer, expected less than 2 percent of the time. Following the scale is the current drought severity index map of the United States.

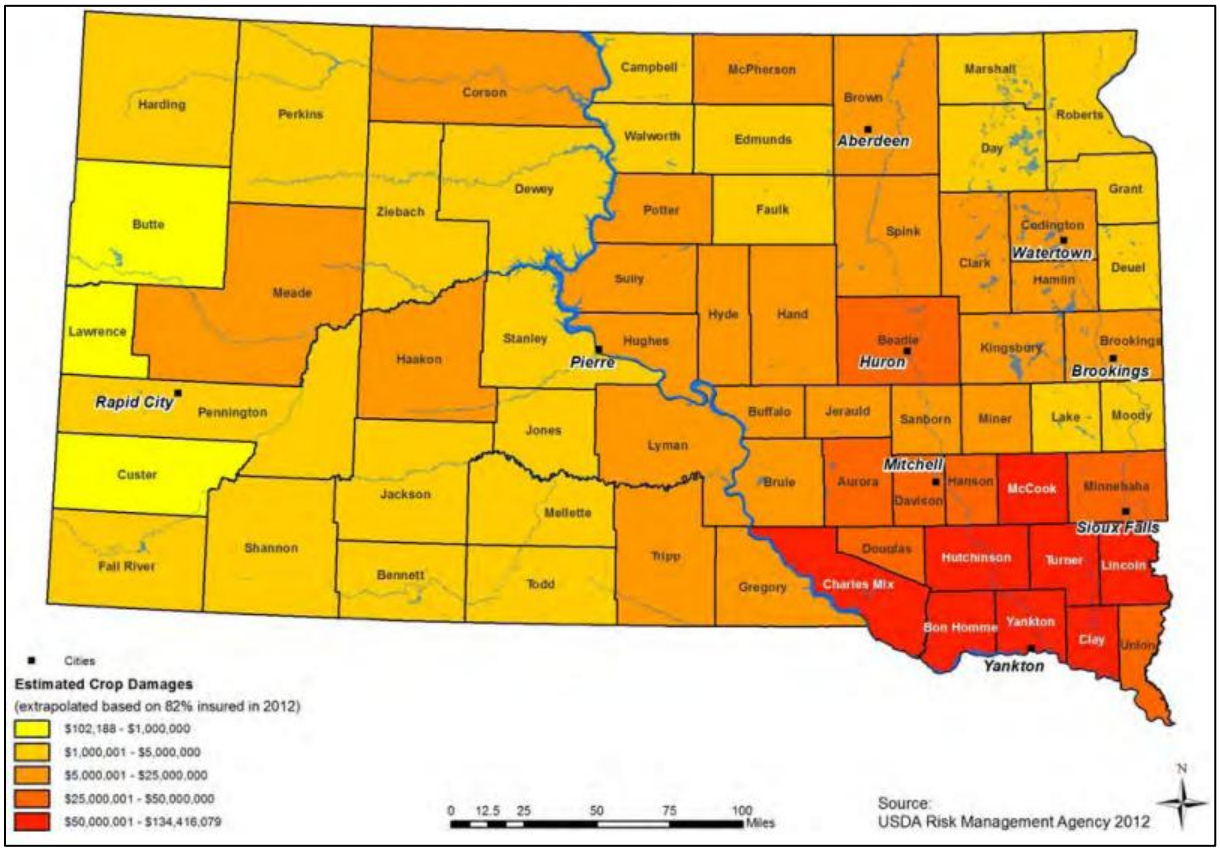
Intensity:
- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional



History

Hutchinson County has experienced many severe droughts, the most significant of which occurred in the 1930s, the so-called Dust Bowl years. Some parts of the Great Plains experienced drought conditions for as many as eight consecutive years. The soil, depleted of moisture, was lifted by the wind into great clouds of dust so thick they concealed the sun for several days at a time. The severity of the drought was compounded by years of land management practices that left topsoil susceptible to the forces of the wind.

The drought of 1976 was one of the most severe in recent years, resulting in South Dakota's only drought emergency declaration to date. Drought in 1980 and 1981 affected the entire state of South Dakota and was rated as a 10-to-25-year event. The Drought in 2012 was so devastating that the State of South Dakota activated a Drought Task Force. The statewide impact on agricultural producers was tremendous. The figure below, as reproduced from the South Dakota Drought Mitigation Plan, shows the 2012 drought's impact statewide.



Probability

Table C.2 in **Appendix C** shows at least one drought record in Hutchinson County in ten of the years since 1999. Based on this, the probability of a significant drought occurring in the county in any given year is moderate. The probability of a truly severe drought impacting the county, such as occurred in 2012, is low, expected to occur no more than twice per ten years.

At the statewide level, the developers of the South Dakota Hazard Mitigation Plan cite tree ring research spanning a period of about 400 years indicating that multi-year droughts as significant as the 1930s drought occur on average every 57 years in South Dakota. Based on historical records, notable droughts have occurred somewhere in the state on average about every 12 years.

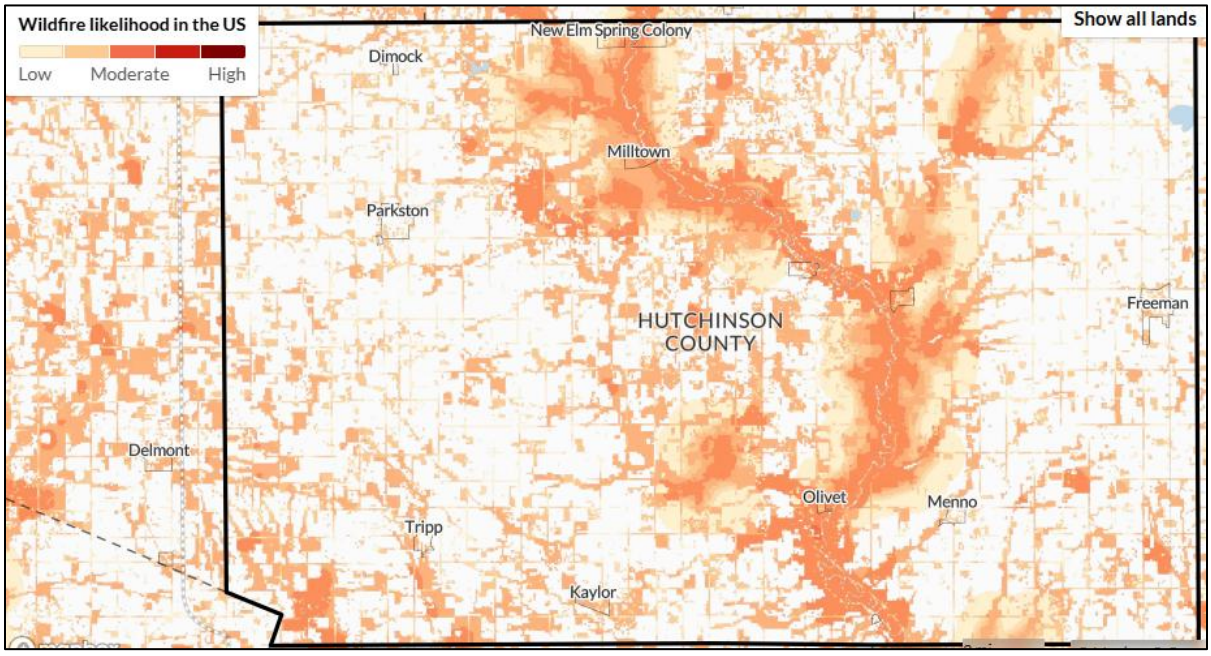
Wildfire

Description

Wildfires are uncontrolled conflagrations that spread freely through the environment. Such fires that occur near populated areas pose threats not only to natural resources, but also to human life and personal property. Wildfire is not as serious a concern in Hutchinson County as it is in other more forested parts of the country, but the opinion of the planning team is that the hazard does warrant some attention in this plan. According to the survey conducted for this plan, wildfire is the eighth most serious hazard facing the county.

Location

Wildfires in Hutchinson County are most likely to occur in large areas of extensive brush or unmanaged vegetation, including pastureland and grassland, which together make up approximately 27 percent of the county's land base. Other areas of concern are the hills and draws along the James River, which contain a significant amount of trees and thick brush, and controlled burns that get out of control, which can occur almost anywhere in the county. This map, from the U.S. Forest Service's Wildfire Risk to Communities website, shows where wildfires are most likely to occur in the county (it does not reflect the intensity of fire).



Extent

The following table shows the number of wildfires according to various size classes that have occurred in Hutchinson County from 2000 through 2024 as reported to the South Dakota Department of Public Safety [7]. It shows that most of the fires have been fairly small, most impacting fewer than ten acres.

[7] Since the data is reported by volunteer fire departments, and not all wildfire incidents are reported to the Department, the table may not reflect all wildfires that have occurred in the county.

Table 3.6 – Wildfires in Hutchinson County (2000 - 2024)

1 to 9 Acres	10 to 49 Acres	50 to 99 Acres	100 to 249 Acres	250 to 499 Acres	500 Acres or More	Average Annual Acres Burned
88	28	5	3	0	2	134.2

Source: South Dakota Department of Public Safety

History

Some notable wildfires have occurred in Hutchinson County, but nothing on a truly destructive scale. Since 2000, the largest fires were a 1,200-acre fire that occurred in 2011 southwest of Tripp, and a 640-acre fire in 2014 two miles west of Parkston

Probability

Wildfires affecting fewer than ten acres are likely to occur somewhere in Hutchinson County most years, but large-scale wildfires are much less common. **Table 3.6** shows only two wildfires at least 500 acres in size occurred between 2000 and 2024. Based on this period of analysis, the probability of a significant wildfire occurring each year within Hutchinson County can be considered low.

Community Assets

Hazards can affect all parts of the community, but their impact on certain community assets is particularly important to consider. In this section, the most important community assets and facilities in Hutchinson County are identified, including those that would play an important role in helping the communities prepare for and respond to a hazard event.

Government Offices

- Hutchinson County Courthouse, Olivet
- City offices in Dimock, Freeman, Menno, Olivet, Parkston, and Tripp

Emergency preparedness and response

- Hutchinson County Emergency Management Office, Olivet
- Hutchinson County Sheriff's Office, Olivet
- Police departments in Freeman, Menno, Parkston, and Tripp
- Fire departments in Freeman, Menno, Parkston, and Tripp
- Hutchinson County Highway Department, Olivet
- Disaster relief shelters in Freeman, Menno, Parkston, and Tripp (see p. 63)
- Emergency storm shelter in Olivet (see p. 63)

Community facilities

- Freeman Community Center
- Hutchinson County 4-H Center

Medical facilities

- Freeman Regional Hospital
- St Benedict Hospital, Parkston

Educational facilities

- Freeman School (K-12)
- Freeman Academy School (K-12)
- Menno High School (K-12)
- Parkston High School (K-12)
- Tripp High School (K-12)

Important businesses

- Dimock Dairy
- Amalgamated Milk Producers, Freeman
- Stern Oil Company, Freeman
- Vermeer Corporation, Freeman
- Mettler Fertilizer, Menno
- MDS Manufacturing, Parkston
- Mettler fertilizer, Tripp
- Dakota Plains grain elevator (between Parkston and Tripp)
- Kaylor Agri Service

Hazard Impact Analysis

This section assesses the vulnerability of Hutchinson County and the participating jurisdictions to each of the hazards that have been profiled. Vulnerability is defined as the extent to which people and property are exposed to harm or damage created by a hazard. The method of determining vulnerability varies by the type of hazard and the availability of data, but each methodology is based on either potential for loss or actual losses. Following is a description of each specific methodology used.

Potential Loss Methodologies

- FEMA's HAZUS loss estimation software was used to estimate potential losses from flooding in each community. HAZUS produces a flood polygon and flood-depth grid that represents the 100-year floodplain, with losses calculated using national baseline inventories (buildings and population) at the census block level. It is an especially helpful planning tool for communities that have not been

mapped by the National Flood Insurance Program [8].

- The value of buildings within the county was used to estimate potential losses due to winter storms and summer storms (building exposure).
- Population density within the county was used to estimate potential losses due to winter storms and summer storms.
- Data on the population living in wildfire risk zones was used to estimate potential wildfire losses.

Actual Loss Methodologies

- The National Climatic Data Center's Storm Events Database was consulted for historical information regarding weather-related events (see **Table C.2** in **Appendix C**).
- Records from FEMA were consulted for federal assistance provided to Hutchinson County following major disaster declarations through FEMA's Public Assistance program.
- Data from the U.S. Dept of Agriculture Risk Management Agency was used to assess crop loss from natural hazards (see **Tables C.3 through C.6** in **Appendix C**).
- Information from the National Drought Mitigation Center's Drought Impact Reporter was used to assess the local impact of droughts.

At the conclusion of the vulnerability assessment for each hazard, an attempt is made to determine how vulnerability might change in the future. Census data and population projections were used in this analysis, as well as data on the volume of building permits that have been issued in the county in recent years and discussion with local officials about general development trends within the county. Other factors, including the possible impact of climate change, were also considered.

At the end of the chapter, the county's vulnerability to each hazard is summarized. Vulnerability is characterized as either "Low", "Moderate", or "High", based on the results of the risk analysis.

Winter Storms

All areas of South Dakota are vulnerable to winter storms, and the consequences of such storms can be great. They can disrupt the power supply when electrical lines are brought down by high winds, trees falling, or extreme ice buildup. Everyday activities can be significantly disrupted when road conditions deteriorate because of snow cover or precipitation that freezes on road pavement. In extreme situations, roads can be closed because of accumulated snow for days or even weeks. Winter storms also can kill or injure livestock and can cause significant crop losses when they occur early in the growing season.

[8] A limitation of HAZUS is the inadequacies associated with its hydrologic and hydraulic modeling, especially in sparsely populated areas. Also, HAZUS uses default national databases that may not be applicable at the local level.

The rural areas of the county may be somewhat more vulnerable to winter storms than the towns. For example, transmission of electricity in rural areas is dependent on many miles of power lines located in open country that is highly susceptible to high wind events, especially when combined with freezing rain (high winds can snap power poles, and freezing rain and sleet forms ice on the lines, making them heavy and more susceptible to being blown down). Rural residents also are vulnerable if roads are blocked by snow for an extended period and they cannot travel into town for groceries, medical supplies, or other important items.

To assess the county's vulnerability to winter storms, the methodology that was used in the South Dakota Hazard Mitigation Plan was essentially followed for this plan. The following factors were considered:

- The number of prior winter storm events in the county
- Past damage amounts
- The county's building exposure
- Population density

Prior Events:

A total of 87 winter weather events, including blizzards, heavy snow, ice storms, and winter storms, are shown in the National Climatic Data Center's Storm Events Database for Hutchinson County (see **Table C.2 in Appendix C**). In comparison, the average for South Dakota counties is 104 winter weather events, indicating that Hutchinson County may be somewhat less prone to adverse winter weather than other counties in the state.

Past Damage Amounts:

It is not easy to determine how much damage winter storms have caused in the county. The National Climatic Data Center's Storm Events Database records winter storm damage by forecast zones, not by county, so the data does not lend itself to analysis at the county level. Nevertheless, **Table C.2** indicates that many winter storms have caused significant damage in Hutchinson County.

Winter storms can have a major impact on agricultural production. Farmers typically protect themselves from the impacts of adverse weather by insuring their crops against losses through multi-peril crop insurance, which is underwritten by the Risk Management Agency, a part of the U.S. Dept of Agriculture. **Table C.3** in **Appendix C** provides information on indemnity payouts for crop loss to Hutchinson County farmers due to various types of winter weather events between 2000 and 2023. During this period of analysis, winter weather-related payouts averaged approximately $195,390 per year in Hutchinson County compared to the state average of $322,350 per year.

Building Exposure:

The total value of buildings in Hutchinson County is approximately $922 million, according to the South Dakota Hazard Mitigation Plan, which ranks 20th among the state's 66 counties. The median figure for South Dakota counties is approximately $620 million. From this

information, the county's building exposure can be considered moderate relative to other South Dakota counties.

Population Density:

Hutchinson County is sparsely populated, with an average of just 9.1 people per square mile, less than the state figure of 11.7 people per square mile and far below the national figure of 93.8. Hutchinson County would have to be rated low in terms of population density.

Future Vulnerability

No development has occurred anywhere in Hutchinson County since the previous plan was approved to affect any of the jurisdictions' vulnerability to winter storms. Looking ahead, vulnerability to winter storms may actually decrease if the population continues to decline as expected.

One factor that could impact vulnerability is climate change. According to the South Dakota Hazard Mitigation Plan, the winter season is warming at a faster rate than any other season in South Dakota, but winter storms and blizzards will continue to be a severe weather hazard in the state. Warmer winter temperatures could mean more ice and freezing rain events, which would impact electrical utilities and communication systems, the transportation system, and livestock. An increase in the frequency of large snowfall events also is being experienced in the northern U.S. There remains some uncertainty in projections for the coming decades, but the rising trend of extreme precipitation events is something that needs to be considered.

Summer Storms

All areas of Hutchinson County are vulnerable to summer storms, especially those that are accompanied by tornadoes, lightning, or large hail. Typical damage from summer storms includes blown down power lines, crop damage from hail and high wind, property damage if a populated area is struck, and flooding as the result of heavy rain. Like the rest of the Great Plains, Hutchinson County is especially vulnerable to summer storms accompanied by high wind because the landscape is open and there is very little topographic relief to block the wind.

As with winter storms, the methodology that was used in the South Dakota Hazard Mitigation Plan to assess vulnerability to summer storms was followed for this plan. The following factors were considered:

- The number of prior summer storm events in the county
- Past damage amounts
- The county's building exposure
- Population density
- Housing stock characteristics in each community

Prior Events:

A total of 126 summer storm events (tornadoes, lightning, thunderstorms with wind gusts of at least 60 knots, and hail at least one inch in diameter) are shown in the National Climatic Data Center's Storm Events Database for Hutchinson County from 1960 through 2024 (see **Table C.2 in Appendix C**). In comparison, the average for South Dakota counties is 257 summer storm events, which indicates that Hutchinson County may be less prone to summer storms than other counties in the state.

Past Damage Amounts:

Many summer storm events have caused significant damage in Hutchinson County, as shown in **Table C.2**. According to the South Dakota Hazard Mitigation Plan, whose authors researched property damage from tornadoes in the state as reported in the National Climatic Data Center's Storm Events Database, the average annual loss from tornadoes in Hutchinson County between 1950 and 2016 was $30,752. The average annual loss during this period for South Dakota counties was approximately $163,730, indicating that Hutchinson County may be less vulnerable to suffering tornado damage than other counties in the state.

Hutchinson County farmers are quite vulnerable to the impact of summer storms. **Table C.4** in **Appendix C** provides information on indemnity payouts for crop loss in Hutchinson County due to severe summer weather between 2000 and 2023. During this period of analysis, summer storm-related payouts averaged approximately $630,665 per year in Hutchinson County compared to the state average of $461,120 per year.

Building Exposure:

The total value of buildings in Hutchinson County is approximately $922 million, according to the South Dakota Hazard Mitigation Plan, which ranks 20th among the state's 66 counties. The median figure for South Dakota counties is approximately $620 million. From this information, the county's building exposure can be considered moderate relative to other South Dakota counties.

Population Density:

Hutchinson County is sparsely populated, with an average of 9.1 people per square mile, less than the state figure of 11.7 people per square mile and far below the national figure of 93.8. Hutchinson County would have to be rated low in terms of population density.

Housing Stock Characteristics

Differences in the local housing stock were analyzed to help determine vulnerability at the local level. The table below shows that the housing stock in each of the communities is older than the typical house in South Dakota, and an assumption can be made that some of the older houses may not be as structurally sound as a newer home, putting the occupants at higher risk to a powerful summer storm, such as a tornado or other high wind event. The impact on human life might be especially bad in Olivet given its high percentage of mobile homes, which are vulnerable to being overturned by tornadoes and other high wind events if not anchored properly.

Table 3.7 – Housing Stock Characteristics

Community	Houses Built Before 1940	Houses Built Since 2000	Mobile Homes
Dimock	22.9%	5.7%	0.0%
Freeman	20.6%	9.3%	0.5%
Menno	30.7%	3.9%	6.9%
Olivet	18.2%	0.0%	24.2%
Parkston	28.3%	8.2%	0.0%
Tripp	40.7%	0.0%	0.0%
South Dakota	*14.6%*	*31.5%*	*6.4%*

Source: 2020 US Census (DP04 Selected Housing Characteristics)

Future Vulnerability

No development has occurred anywhere in Hutchinson County since the previous plan was approved to affect any of the jurisdictions' vulnerability to summer storms. Looking ahead, vulnerability to summer storms may in fact decrease if the population continues declining.

Regarding the impact of climate change, the South Dakota Hazard Mitigation Plan cites the Climate Science Special Report from 2017, which states that damage from convective weather hazards, such as severe thunderstorms and tornadoes, have undergone the greatest increase relative to other extreme weather since 1980. The plan states that the tornado season is getting longer, and that an increase in potential days for severe thunderstorms is projected for the mid to late 21st century. The expected increase in the number of days above 95 degrees by midcentury could create conditions favorable to the formation of severe thunderstorms. There is some uncertainty in these projections, but severe thunderstorms and tornadoes will remain a hazard in the state.

Flooding

Like all counties in South Dakota, Hutchinson County is vulnerable to flooding. Because of the specific nature of flooding, vulnerability will be analyzed first on a general county-level basis, and then specifically for each community. Given the degree to which flooding is geographically based, this approach made the most sense to the planning team.

General Flood Vulnerability

According to the HAZUS analysis that was run for the South Dakota Hazard Mitigation Plan, Hutchinson County's potential building damage loss ratio from flooding (the percent of the total building inventory value that could be damaged by flooding in any given year) of 1.2 percent is above the median statewide figure of 0.75 percent. Likewise, the potential displaced population in Hutchinson County of 957 people is well above the state median value of 255 people.

In addition to impacting buildings and other structures, a good deal of public infrastructure throughout the county is vulnerable to flooding. Flood damage frequently involves washed out or damaged roads and drainage culverts, often occurring in the spring, especially following winters with heavy snow.

Flooding also has a major impact on agriculture. Spring flooding can delay farmers getting into their fields to plant, and later in the growing season it can damage crops. **Table C.5** in **Appendix C** provides information on indemnity payouts for crop loss in Hutchinson County due to flooding and excess moisture between 2000 and 2023. During this period of analysis, flood-related payouts averaged approximately $5,028,525 per year in Hutchinson County compared to the state average of $2,204,140 per year.

Approximately 51% of the flood-related indemnity payouts to Hutchinson County farmers were due to the severe flooding that occurred in 2019, which may have been the worst year ever in terms of flooding's impact on South Dakota's agricultural producers. The state ranked first in the nation with almost 4 million acres of farmland prevented from being planted due to flooding, more than double the next nearest state. In Hutchinson County, approximately 221,700 acres of land were not planted, which was about 90% of land that would have otherwise been planted, ranking the county 1st in South Dakota.

Local Flood Vulnerability

At the community level, vulnerability was determined by using FEMA's HAZUS loss estimation software to estimate potential losses during a 100-year flood event. Vulnerability was also assessed by using GIS software to overlay areas of flood risk on parcel data to determine the assessed value of property at risk. The following table summarizes the results of the analysis (note that both analyses included land outside the municipal boundaries as shown in the maps at the end of this chapter).

Table 3.8 – Community Flood Loss Estimation

Community	Building Structural Damage	Debris Generated (Tons)	Displaced Households	People Needing Shelter	Assessed Value of Property at Risk
Dimock	$10,300	12	9	0	$0
Freeman	$70,600	82	49	25	$1,383,500
Menno	$87,800	80	38	13	$737,300
Olivet	$32,700	13	2	0	$64,500
Parkston	$9,924,900	3,665	812	619	$6,420,400
Tripp	*(HAZUS FAILED TO RUN)*				

Sources: FEMA HAZUS loss estimation software; Hutchinson County Director of Equalization

Flood risk was also analyzed using the RiskFactor website, which uses a probabilistic flood model that shows any location's risk of flooding from rain, rivers, tides, and storm surges. According to the RiskFactor analysis, there is moderate flood risk in Parkston and only minor risk in the other communities.

Future Vulnerability

No development has occurred in flood prone locations or anywhere else within Hutchinson County since the previous plan was approved to affect any of the jurisdictions' vulnerability

to flooding. Looking ahead, vulnerability to flooding may decrease if the population continues to decline as expected.

One factor that may increase vulnerability is the continuing conversion of wetlands and other marginal land to agricultural production. Farming these marginal lands can increase the probability and severity of flooding in certain areas as the land's natural capacity to absorb excess surface water is decreased. The primary impact is on rural roads and infrastructure. Precise statistics on the amount of road damage that flooding has caused over the years in Hutchinson County are not available, but future updates to this plan could explore this trend in more depth.

The nature and frequency of flooding also could be altered by climate change. The South Dakota Hazard Mitigation Plan notes a long-term trend of increasing annual precipitation across South Dakota, among the highest in the country, much of it occurring in the spring and fall seasons, and there is high confidence that precipitation extremes will increase in frequency and intensity that could exacerbate flooding.

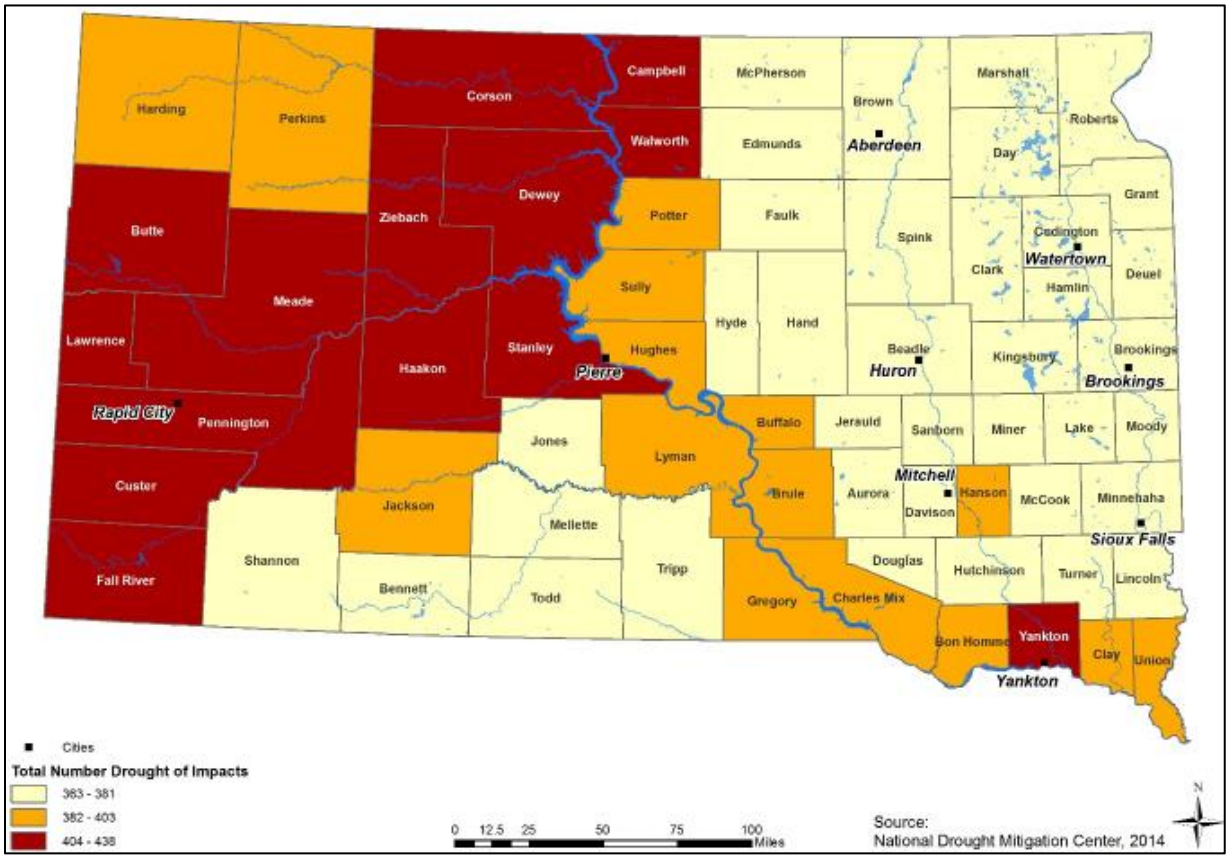
Drought

Without question, Hutchinson County is vulnerable to drought, with the biggest impact being in the agricultural sector. Non-irrigated cropland is most susceptible to drought, and yield reductions due to moisture shortages can be aggravated by wind-induced soil erosion. Fortunately, most farmers in Hutchinson County have crop insurance, which lessens the financial impact of droughts. Modern agricultural practices, such as no-till farming and the development of drought-tolerant crops, also help farmers withstand years of low rainfall. **Table C.6** in **Appendix C** provides information on indemnity payouts for crop loss in Hutchinson County due to drought and heat between 2000 and 2023. During this period of analysis, drought-related payouts averaged approximately $11,560,670 per year in Hutchinson County compared to the state average of $2,942,115 per year. Over 76% of the payouts were due to the 2012 and 2022 droughts.

To determine which areas of the state are most vulnerable to the agricultural impacts of drought, the authors of the South Dakota Drought Mitigation Plan conducted an analysis comparing crop losses in each county to the total value of the county's crops. Crop value was taken from the 2012 Census of Agriculture, while crop loss was based on the Risk Management Agency's crop indemnity data for the period 2000 to 2014. The resulting loss ratio is the average annual loss divided by total crop value; the higher the ratio the higher the vulnerability. Hutchinson County's loss ratio of 15.1% was well above the 3.1% average for South Dakota counties and in fact was the highest figure in the state. The authors of the South Dakota Drought Mitigation Plan assigned Hutchinson County a rating of "Very High" for this measure of drought vulnerability.

Vulnerability also was assessed by reviewing the South Dakota Drought Mitigation Plan's section on the National Drought Mitigation Center's Drought Impact Reporter. The Drought Impact Reporter analyzes drought impact information from a broad range of areas, including the social, economic, and environmental realms. As shown in the figure below from the South

Dakota Drought Mitigation Plan, Hutchinson County is in the lower range of counties in terms of the number of drought impacts.



Future Vulnerability

No development has occurred anywhere within Hutchinson County since the previous plan was approved to affect any of the jurisdictions' vulnerability to drought. Looking ahead, vulnerability to drought may increase if current land use trends continue and more marginal land in the county is brought into agricultural production. Climate change also may increase the frequency and severity of droughts. The expected increase in Hutchinson County's average annual temperature and the number of days over 95 degrees may lead to increased evaporation and drought frequency, which would compound water scarcity problems.

Wildfire

Wildfire risk in Hutchinson County was analyzed using two different sources. According to the U.S. Forest Service's Wildfire Risk to Communities website, Hutchinson County's overall risk is considered low, with homes in the county having a greater wildfire risk than 17% of South Dakota counties and 39% of counties nationwide. Information from the SILVIS Lab at the University of Wisconsin shows that only seven housing units in the county are located in the Wildland-Urban Interface, which are locations vulnerable to wildfire because of a combination of dense housing and vegetation. The housing units at risk represent less than 1% of the total housing stock in Hutchinson County, whereas the statewide figure is about 26%.

Future Vulnerability

No development has occurred in areas prone to wildfire or anywhere else within Hutchinson County since the previous plan was approved to affect any of the jurisdictions' vulnerability to wildfire. Looking ahead, vulnerability to wildfire may decrease if the population continues to decline as expected.

One factor that could increase wildfire vulnerability is the continued spread of cedar trees. These trees are spreading quickly in the county and efforts to control their spread have met with only limited success. The fuel load they represent could turn an otherwise routine brushfire into a very serious situation.

The possible impact of climate change also needs to be considered. The South Dakota Hazard Mitigation Plan cites a U.S. Forest Service study that indicates a likely increase in the annual window of high fire risk by 10 to 30%. The plan states that predictions past 2040 are largely speculative, but there will be an increase in the potential for drought and the number of days in any given year with flammable fuels, which may extend the fire season.

Risk Assessment Summary

In this section, the vulnerability of Hutchinson County and the participating jurisdictions to each of the hazards profiled is summarized. Maps are presented at the end of the section to augment the analysis, showing areas vulnerable to flooding; the graphic on page 38 shows areas where wildfire is most likely to occur. Vulnerability to winter storms, summer storms, and drought is not mapped, as those hazards are likely to impact all areas of the county equally.

- **Winter Storms**

Hutchinson County's vulnerability to winter storms can be considered high. The authors of the South Dakota Hazard Mitigation Plan assigned Hutchinson a rating of High when considering prior winter storm events in the county, building exposure, and population density. All areas of the county are vulnerable to winter storms. Major winter storms accompanied by heavy snow or freezing rain contribute to the vulnerability of county residents by making roads dangerous for travel. The isolation of residents living outside the county's major communities, some of whom are more than 10 miles from the nearest place with groceries, medical service and supplies, and other important items, puts them at increased risk. Winter storms accompanied by high winds have the potential to damage residential and commercial property in the county, as well as infrastructure. A major concern is the vulnerability of rural electric power infrastructure, especially when winter storms are accompanied by high winds and freezing precipitation that can cause ice to build up on powerlines, which can then cause the lines and poles to come down. Elderly residents who rely on home medical apparatus dependent on a constant supply of power are particularly vulnerable during these times and they are often less able to withstand extreme cold events.

- **Summer Storms**

Hutchinson County's vulnerability to summer storms can be considered moderate to high. The authors of the South Dakota Hazard Mitigation Plan assigned Hutchinson a rating of High when considering prior tornado events in the county, building exposure, and population density. All areas of the county are vulnerable to summer storms. Although the county's population density is low and infrastructure development is not extensive, a large amount of cropland in the county is vulnerable to the effects of hail and other violent summer weather. Vulnerability may be somewhat higher in Olivet, which has a relatively high percentage of mobile homes.

- **Flooding**

The overall vulnerability of Hutchinson County to flooding can be described as high. According to the vulnerability analysis conducted for the South Dakota Hazard Mitigation Plan, the county's estimated flood loss in terms of building damage and displaced people is above the state average. Much of the vulnerability is to cropland and to rural county roads, especially along the James River valley. The flooding that occurred in the county in 2019 was the worst in at least 30 years, with roads throughout the county being impacted. Following is a summary of vulnerability to flooding in each of the communities:

Dimock: There is some vulnerability here, as shown in **Table 3.8**.

Freeman: There is a fairly high degree of vulnerability here, as shown in **Table 3.8**. In particular, the southwestern area of the city has suffered from repeated flooding over the years as water flows into the city from the south. Several residential properties in that part of town suffered varying degrees of damage during the floods of March 2019 and June 2024. A FEMA hazard mitigation application to study the situation and propose a solution is pending approval at this time.

Menno: There is some vulnerability to flooding here, as shown in **Table 3.8**. The city swimming pool and the Menno High School football field are both partially located in flood prone areas; no other important or critical infrastructure is affected. Several residential properties in Menno suffered minor damage during the March 2019 flood.

Olivet: There is some degree of vulnerability to flooding here, as shown in **Table 3.8**. The city park often floods when the James River rises in the spring, and one residence on the eastern edge of Olivet comes close to flooding when the river is running especially high.

Parkston: Parkston is quite vulnerable to flooding, as shown in **Table 3.8**. Pony Creek, which runs through the community, has flooded many times in the past. Several residential properties in Parkston suffered damage during the March 2019 flood. In January 2026 the City was awarded FEMA Flood Mitigation Assistance funds to construct a diversion channel to reroute Pony Creek away from the community. It will be a multi-year project.

Tripp: There appears to be no significant degree of vulnerability to flooding here. The HAZUS software identified no areas prone to flooding in or near the community. A

few residential properties in Tripp suffered minor damage during the March 2019 flood.

- **Drought**

Hutchinson County's vulnerability to drought can be considered high and is certain to continue for the foreseeable future. The impact is primarily on the agricultural sector, where serious losses have occurred. The South Dakota Hazard Mitigation Plan assigned a vulnerability rating of Very High for Hutchinson County in terms of drought's impact to crops between 2000 and 2014, which was one of only four such ratings in the state. Residential and commercial impacts of drought are minor; even during the severe drought of 2012, there were no water use restrictions anywhere in the county.

- **Wildfire**

The overall vulnerability to wildfire in Hutchinson County can be considered low. No truly destructive wildfire has ever occurred in the county, and less than 1% of the county's population lives in a location considered to be vulnerable to wildfire, well below the statewide figure of 26%.

Figure 3.1 – Dimock

Figure 3.2 - Freeman

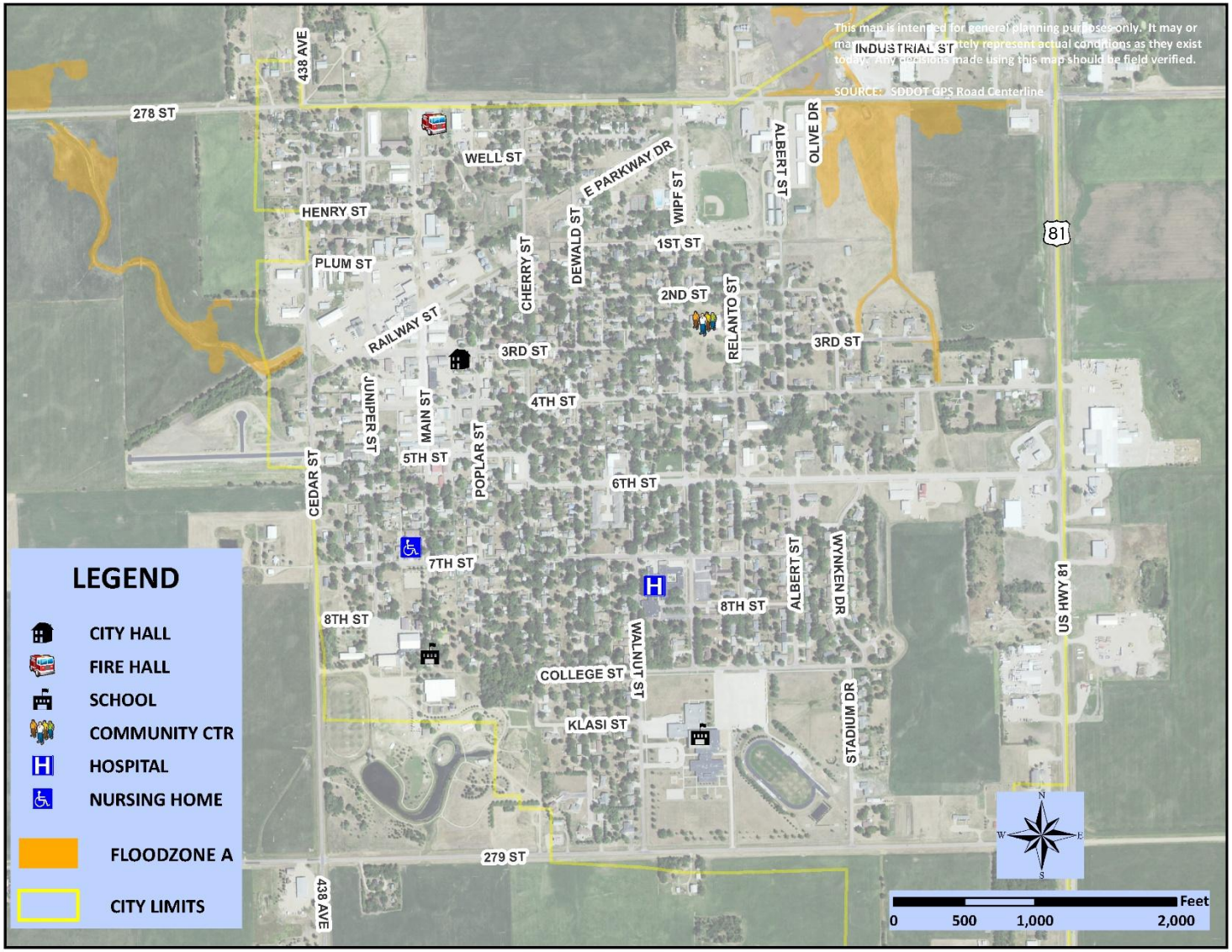


Figure 3.3 – Menno

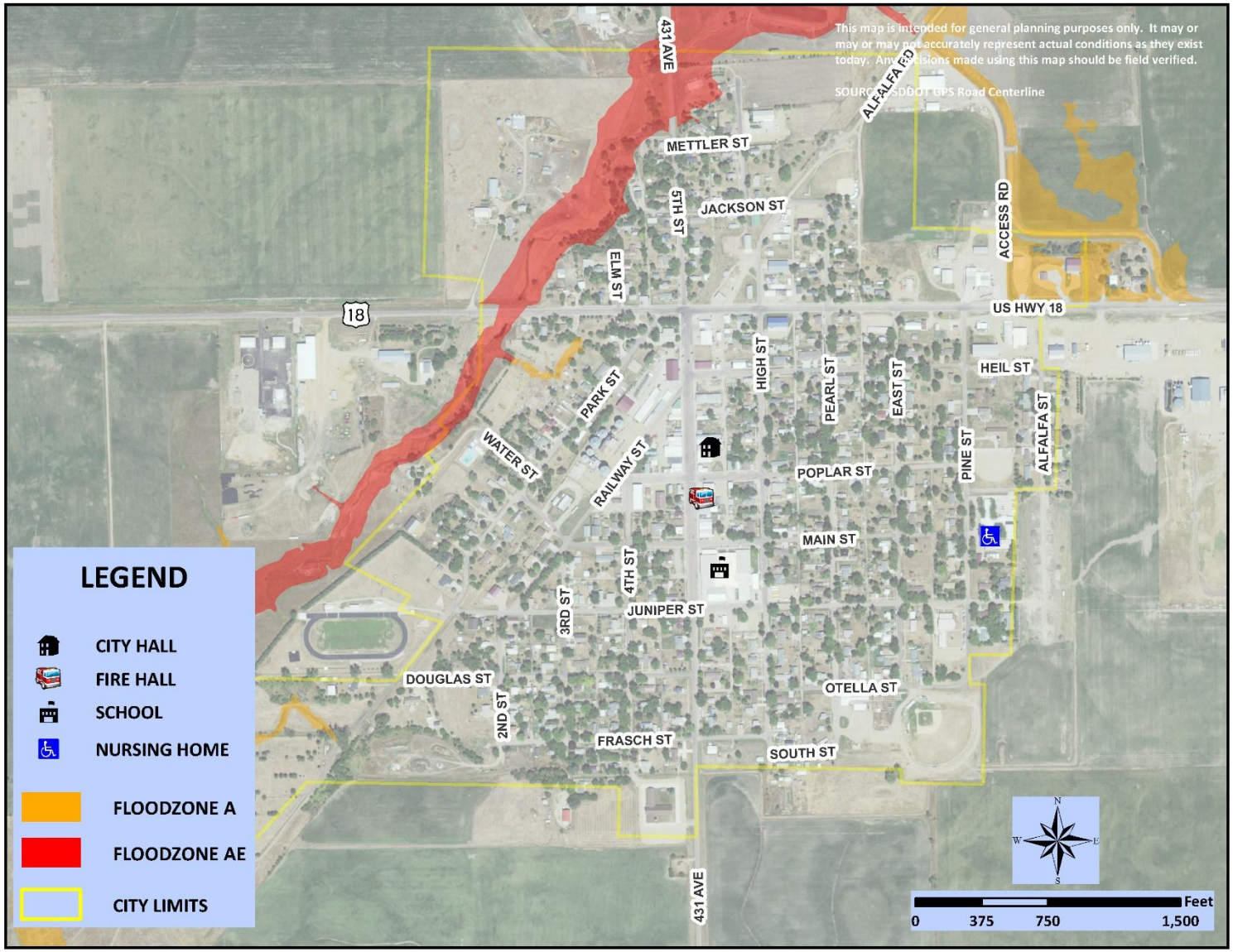


Figure 3.4 – Olivet

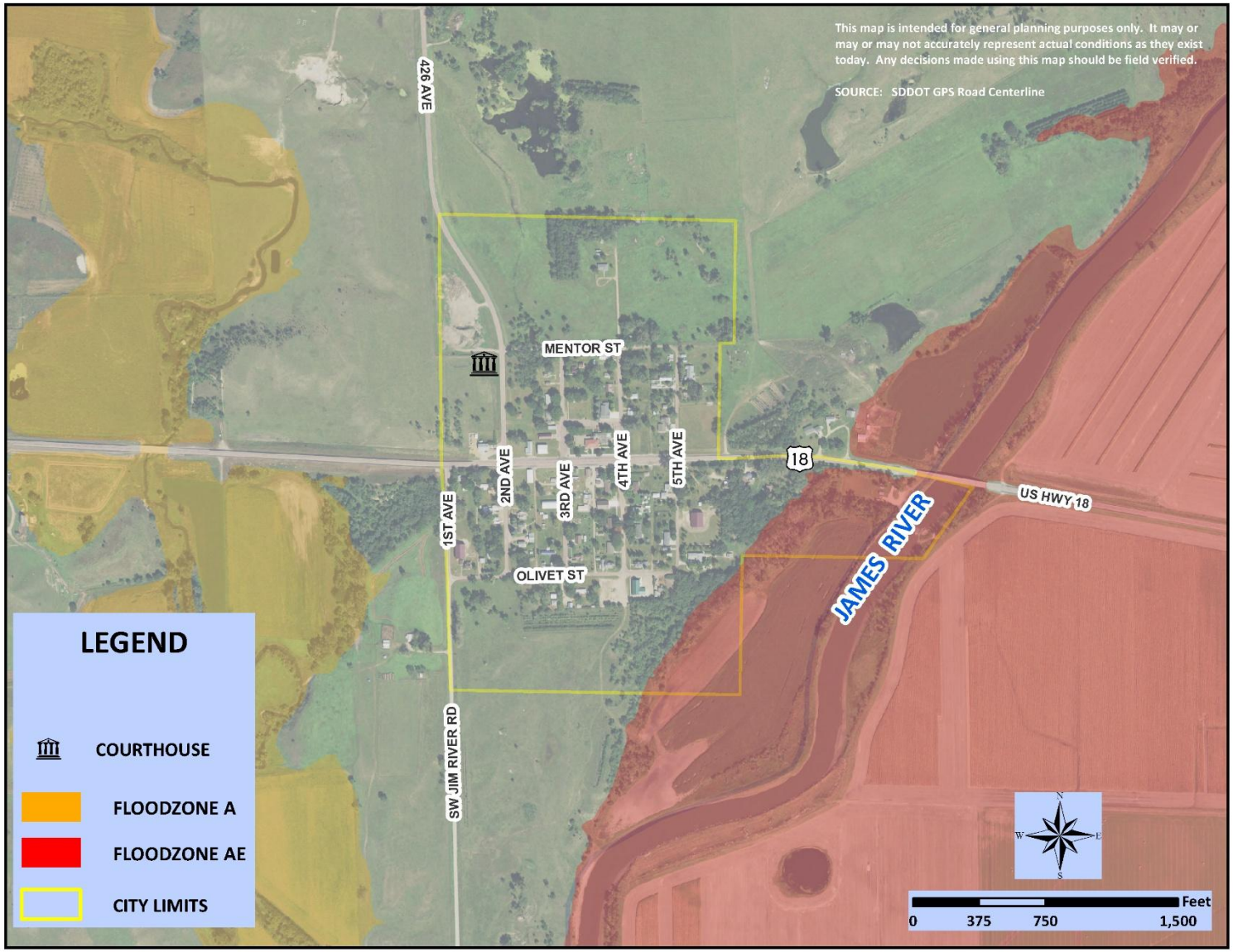


Figure 3.5 – Parkston

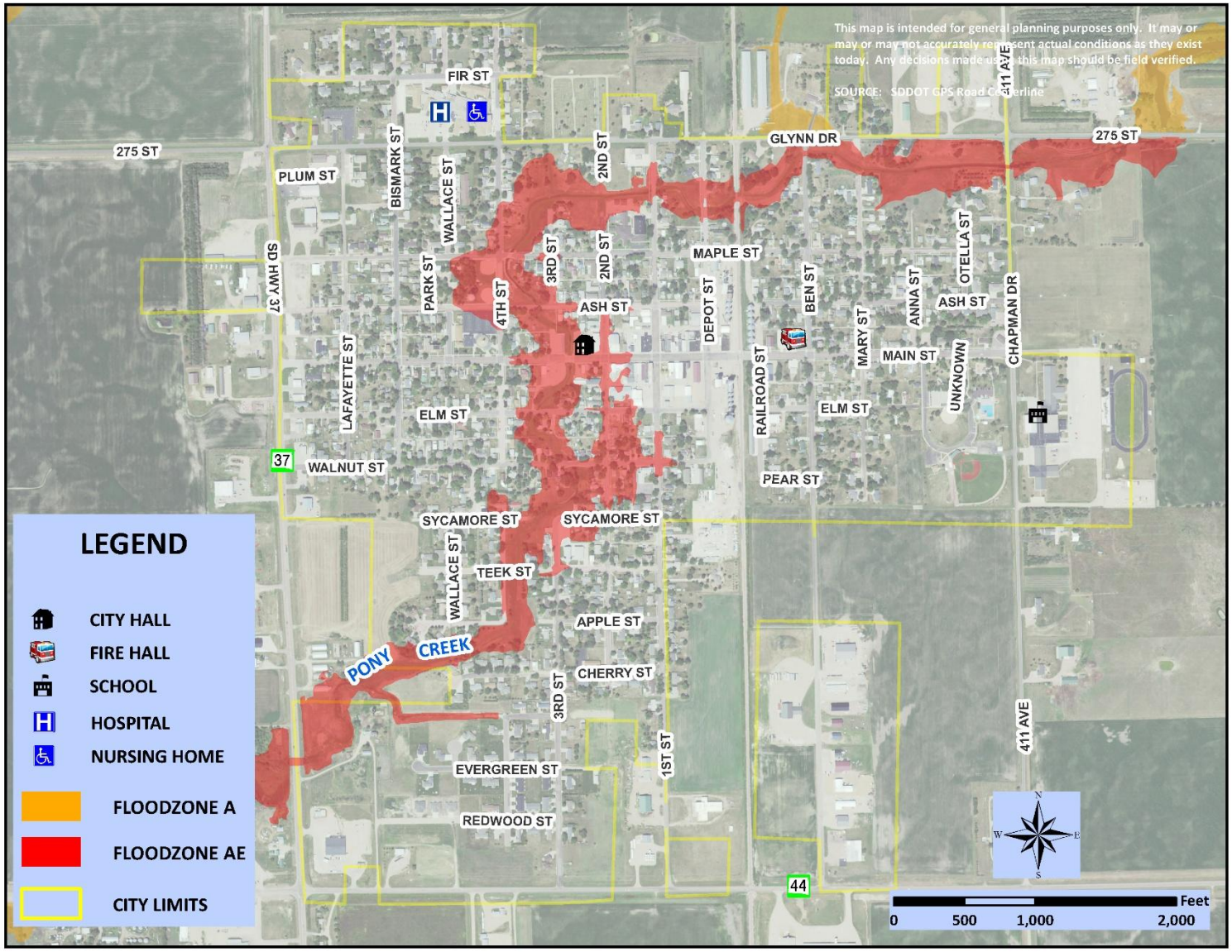
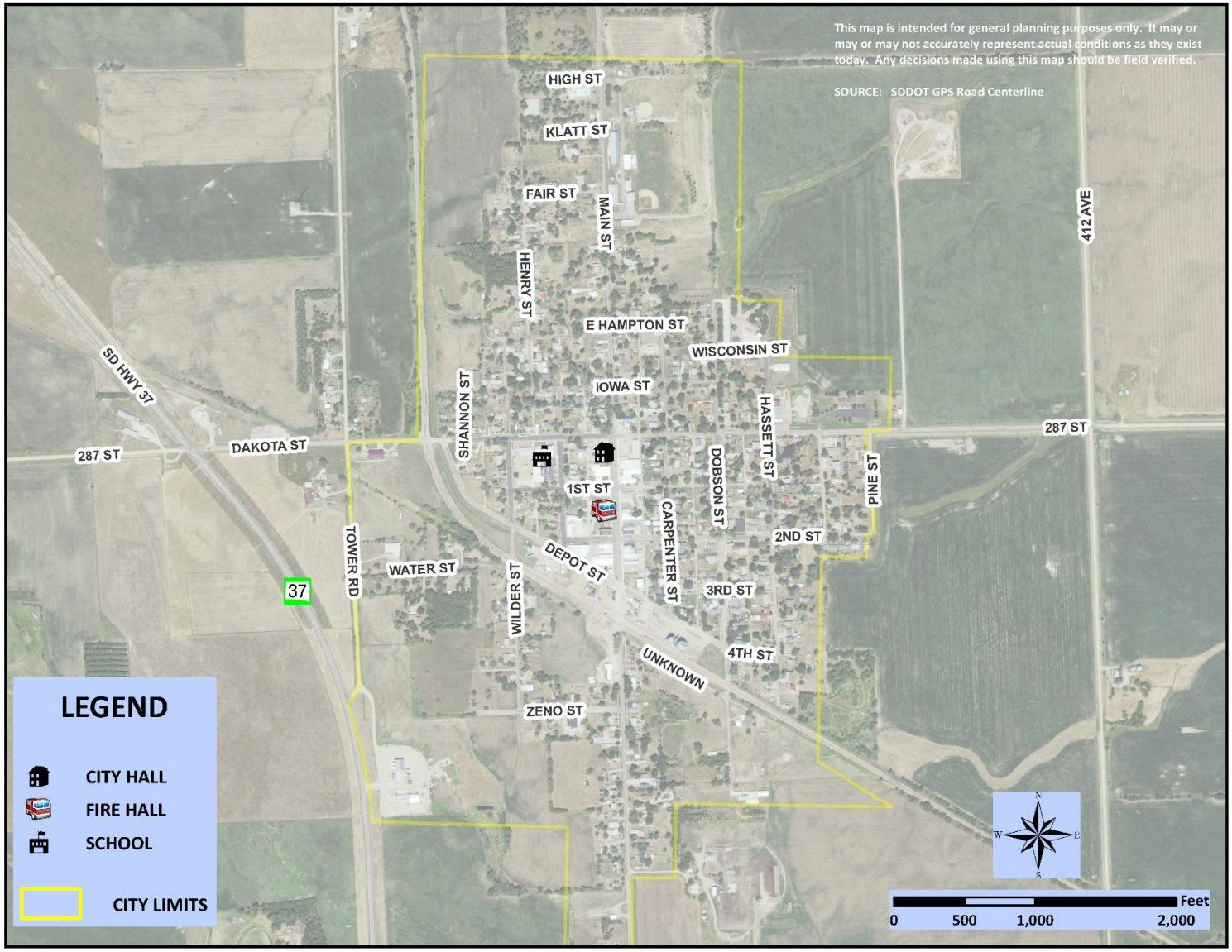


Figure 3.6 – Tripp



2026 Hutchinson County (SD)
Hazard Mitigation Plan

CHAPTER IV

Risk Mitigation Strategy

PLANNING & DEVELOPMENT DISTRICT III

CHAPTER IV
RISK MITIGATION STRATEGY

Background

The previous chapter described the types of hazards most likely to impact Hutchinson County and discussed the county's vulnerability to each of the hazards. This chapter describes the local resources and capabilities available to support hazard mitigation, identifies the hazard mitigation goals and objectives that the planning team decided upon, and then focuses on a presentation of the mitigation actions proposed to achieve the goals and objectives. **Table 4.5** at the end of the chapter provides information about each of the proposed actions.

Community Capabilities

Resources are available at the local level to support mitigation activities and efforts in Hutchinson County. For the purposes of this plan, these resources are divided into regulatory mechanisms and other capabilities.

Regulatory Mechanisms

Regulatory mechanisms and authorities to mitigate the various hazards that impact Hutchinson County are limited. For instance, none of the jurisdictions have adopted a building code ordinance. By South Dakota state law, any local unit of government that has not adopted building codes is expected/required to follow the 2024 edition of the International Building Code, but there is no local enforcement mechanism in any of the jurisdictions. The following table summarizes the formal regulatory policies within Hutchinson County that can support the local mitigation strategy.

Table 4.1 – Regulatory Mechanisms

Item	Notes
Hutchinson County Zoning Ordinance	The ordinance, which is based on the Hutchinson County Comprehensive Plan, controls where growth and development can occur within the county.
Hutchinson County Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**).
Hutchinson County Burn Ban Ordinance	This ordinance prohibits open burning during very dry periods. They are issued by the Hutchinson County Emergency Management Office acting under the authority of the county commission.
Freeman Zoning Ordinance	The ordinance, which is based on the City's comprehensive plan, controls where growth and development can occur in the community.

Freeman Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**).
Menno Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**). !
Parkston Zoning Ordinance	The ordinance, which is based on the City's comprehensive plan, controls where growth and development can occur in the community.
Parkston Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**).
Tripp Zoning Ordinance	The ordinance, which is based on the City's comprehensive plan, controls where growth and development can occur in the community.

Regulatory authority also exists within Hutchinson County to mitigate the impact of other hazards. For example, during times of severe drought, each community can enact regulations limiting residential and commercial water usage. To date, only Freeman and Parkston have had to enact any regulations, but sparingly.

As shown in the following table, most of the jurisdictions participate in the National Flood Insurance Program (NFIP) and many have been mapped. Dimock and Tripp do not have a Flood Insurance Rate Map and therefore do not promote and enforce NFIP requirements since there is nothing to enforce or regulate. Furthermore, since there are no Special Flood Hazard Areas for Dimock or Tripp, they have no areas to regulate for substantial damage and improvement provisions.

The City of Parkston has taken a particularly proactive approach to mitigating the threat of flooding. It is one of only eight communities in South Dakota that participates in the Community Rating System (CRS), a voluntary incentive program that recognizes and encourages community floodplain management practices that exceed the minimum requirements of the National Flood Insurance Program. The City joined the CRS program in 2014 and has a current CRS rating of 9.

For some of the jurisdictions in Hutchinson County, training and information on the NFIP program has not been passed down over the years as positions have turned over. This has resulted in a situation where current staff in some of the communities have little knowledge about the NFIP program. To address this issue, each jurisdiction has committed to improving its knowledge of and capacity to implement the NFIP program.

Table 4.2 – National Flood Insurance Program Participation

Jurisdiction	Current Effective Map Date	Reg-Emer Date	Appointed Designee	Floodplain Regulation Enforcement	Substantial Improvements Provisions
Hutchinson Co	5/8/2024	4/1/1987	County Land Use & Environmental Control	Requires floodplain development permit and floodproofing certificate.	Residential construction and substantial improvements must have the lowest floor elevated to 1 foot above base flood elevation
Dimock	*(Community does not participate in the NFIP program)*				
Freeman	5/8/2024	3/3/2020	Mayor	Requires floodplain development permit	Residential construction and substantial improvements must

				and floodproofing certificate.	have the lowest floor elevated to 1 foot above base flood elevation
Menno	5/8/2024	11/15/1985	City Finance Officer	Requires floodplain development permit and floodproofing certificate.	Residential construction and substantial improvements must have lowest floor elevated to or above base flood elevation
Olivet	*(Community does not participate in the NFIP program) –*				
Parkston	5/8/2024	11/15/1985	City Engineer	Requires floodplain development permit and floodproofing certificate.	Residential construction and substantial improvements must have the lowest floor elevated to 1 foot above base flood elevation
Tripp	*(Community does not participate in the NFIP program)*				

There are a total of 17 active National Flood Insurance Program policies in Hutchinson County:

- Hutchinson County: 3 policies providing a total of $702,000 of coverage
- Freeman: 1 policy providing $140,000 of coverage
- Menno: 1 policy providing $125,000 of coverage
- Parkston: 12 policies providing a total of $2,089,000 coverage

A total of 14 losses have been recorded with $308,702 in claims. No repetitive losses or severe repetitive losses have ever been recorded in the county.

Other Capabilities

Other resources and capabilities exist within Hutchinson County to support the mitigation strategy. This includes administrative and technical resources, financial resources, and education and outreach efforts, as well as physical assets, which are summarized in the following table and discussed in further detail below.

Table 4.3 – Other Local Capabilities to Support Hazard Mitigation

	Hutchinson Co.	Dimock	Freeman	Menno	Olivet	Parkston	Tripp
ADMINISTRATIVE & TECHNICAL							
Emergency management staff	X						
Planning and zoning staff/board	X		X	X		X	X
Public works staff	X		X	X		X	X
Floodplain management staff	X		X	X		X	
Code enforcement staff							
Electrical system staff							
FINANCIAL							
Budgeting process	X	X	X	X	X	X	X
Levy/Project surcharge for specific purposes			X	X		X	
EDUCATION AND OUTREACH							

Severe Weather Awareness Week	X						
Emergency alerts/notification to cellphones			X			X	
Social media	X	X	X	X		X	X
PHYSICAL ASSETS							
Relief shelter	X		X	X		X	X
Storm shelter	X				X		
Warning siren	X	X	X	X	X	X	X

Administrative and technical staff to support hazard mitigation in the county are limited. For instance, Hutchinson County has an emergency manager, but the position is currently shared with Turner County, which means that the position is less than full-time and there are no other support staff. Planning and engineering staff within the county are likewise limited.

The availability of financial resources is critical to the success of this plan. Since there are no specific local funding sources available to support hazard mitigation in Hutchinson County, the budgeting process is where the "rubber meets the road" if hazard mitigation is to be achieved. Therefore, the mitigation actions listed in **Table 4.5** should be considered when the jurisdictions begin developing their annual budgets. In this way, the plan will not become a mere wish list of ideas for which there is no practical funding mechanism. To help ensure this happens, the Emergency Management Director will continue reaching out to each community at least annually to discuss hazard mitigation, including the possibility of obtaining funds through FEMA or other sources for the projects they have identified.

Education and outreach to support hazard mitigation in Hutchinson County is limited, but efforts are being made. The Hutchinson County Emergency Management office participates in severe weather public awareness campaigns in conjunction with the State Office of Emergency Management and the National Weather Service and communicates regularly with local officials regarding severe weather awareness and training opportunities. The Hutchinson County Emergency Management office also works with local school districts to run severe weather drills, upon request. Hazard mitigation information is also available on the Hutchinson County, Dimock, Freeman, Menno, and Tripp Facebook pages.

There are many physical assets in Hutchinson County that can help protect people prior to, during, or after a disaster event or other emergency situation. Outdoor sirens to warn people of impending severe weather are located in each community. Public facilities that can serve as emergency shelter from a tornado or other severe weather include the following:

- Hutchinson County Courthouse basement, Olivet

Facilities that can provide short-term relief following a disaster include:

- Freeman fire hall
- Freeman Regional Hospital
- Menno fire hall
- Menno-Olivet Care Center
- Parkston city hall
- Parkston fire hall

- Parkston High School
- St. Benedict Hospital, Parkston
- Tripp fire hall
- Tripp High School

The ability of Hutchinson County and the other jurisdictions to enhance their mitigation capabilities is limited. For instance, none of the jurisdictions have the financial resources to hire specialized staff such as engineers to develop hydrology studies or do precise elevation measurements, professionals to enforce building codes, or grant writers to develop applications for hazard mitigation funds. However, through their membership in Planning & Development District III, each of these jurisdictions has become more familiar with hazard mitigation concepts, and their continued participation as this plan is updated in future years will allow them to further develop their knowledge and capabilities. District III staff, who have decades of experience working on various planning and community development activities within Hutchinson County, wrote the county's current hazard mitigation plan and helped develop applications to fund several hazard mitigation projects within the county.

Mitigation Goals and Objectives

For this plan update, there are no significant changes in Hutchinson County's hazard mitigation strategy. The community priorities have not changed, and the planning team decided to keep all the goals and objectives from the current mitigation plan. This decision was based in part on the results of the survey, but even more so on the fact that there has been no significant development anywhere in the county since the current plan was adopted and no changes in community vulnerability [9]. The following goals were identified:

- Minimize loss of life and injuries from hazards.
- Minimize damage to existing and future structures within hazard prone areas.
- Reduce losses to critical facilities, utilities, and infrastructure from hazards.
- Reduce impacts to the economy and the environment from hazards.

After the team had settled on the goals, they turned their focus to each of the hazards facing the County. Following are the specific mitigation objectives identified for each of the hazards:

Winter storm

- Reduce property and infrastructure losses due to winter storms.
- Ensure that people are adequately protected from the effects of winter storms.
- Minimize disruptions to the power distribution system.

Summer storm

- Reduce property and infrastructure losses due to summer storms.

[9] The lack of development is shown by the fact that a total of only 187 building permits were issued throughout Hutchinson County between 2010 and 2022, an average of about 14 per year.

- Ensure that people are adequately protected from the effects of summer storms.
- Ensure that people have adequate warning when violent weather threatens.

Flooding

- Reduce property and infrastructure losses due to flooding.
- Minimize development in areas that are prone to flooding.
- Maintain the natural and man-made systems that protect people and property from floods.

Drought

- Reduce economic and environmental impacts due to drought.

Wildfire

- Reduce property, crop, and infrastructure losses due to wildfires.

Mitigation Action Plan

With the mitigation capabilities, goals, and objectives identified, the planning team began the process of selecting mitigation actions to accomplish the mitigation strategy. This followed up and built upon the earlier review of the progress being made to implement the actions listed in the county's current hazard mitigation plan. A list of the actions and a summary of the implementation status of each action is shown in the following table.

Table 4.4 – Progress on Implementing Previously Proposed Actions

Mitigation Action	Hazard	Current Status
HUTCHINSON COUNTY		
Powerline burial.	Winter storm	Southeastern Electric has completed all planned line conversion projects (overhead to underground) over the past 5 years.
Road and bridge stabilization improvements (various locations).	Flooding	Over the past 5 years, the county has identified bridges and roads that need repair or replacement. A few bridges have been addressed, and others are still in engineering, and funding is being sought. The county continues to pave and patch roads as needed for stabilization.
Improve seven miles of 426th Ave north of U.S. Hwy 18 junction.	Flooding	Completed
Install culvert at junction of 1st Str and railroad track in Dimock.	Flooding	Completed
Improve countywide communications system.	(Various)	Issues with 911 communication modem were resolved.
Upgrade warning siren in Olivet.	Summer storm	Completed, with mitigation funding

Mitigation Action	Hazard	Current Status
CITY OF FREEMAN		
Stormwater drainage study of the city.	Flooding	In progress
Cedar Street Flood and Detention Pond	Flooding	This will be addressed in the drainage study, once complete.
Warning siren for northern part of city	Summer storm	Not completed due to lack of funds.
Drainage project for South Cherry Street	Flooding	This will be addressed in the drainage study, once complete.
Upgrade detention pond on North County Rd	Flooding	This will be addressed in the drainage study, once complete.
CITY OF MENNO		
Review floodplain regulations.	Flooding	Regulations were reviewed and updated.
Detention pond for Sunrise Acres area (southeast part of town).	Flooding	The drainage path was changed, so the detention pond is no longer needed.
Warning siren for north side of town.	Summer storm	Not complete, but still a priority.
Water tower replacement.	Drought	Insufficient funds. Instead of replacement, the City opted to rebuild the roof and keep maintaining the current tower at this time.
CITY OF PARKSTON		
Study Pony Creek floodplain, including area west of Hwy 37.	Flooding	A survey has started for this project – in process.
Pony Creek maintenance and flood reduction.	Flooding	Included in the floodplain survey, which will inform work for this.
West Ash Street bridge removal.	Flooding	Completed – funded and completed by SD DOT.
Storm sewer system improvements, incl. Lafayette Storm Sewer.	Flooding	Completed.
Install culverts at various locations.	Flooding	Completed.
CITY OF TRIPP		
Warning siren for city.	Summer storm	Not completed – still needs to be addressed.
Storm shelter in the city park.	Summer storm	Not completed – still a need.

The participants were encouraged to consider a broad range of mitigation actions, including measures designed to avoid, avert, or adapt to the hazards they face. To guide the jurisdictions in this process, a list of potential mitigation actions based on FEMA guidance was distributed to the team, and they were reminded that they should focus on hazard mitigation as opposed to preparedness. The actions discussed and considered can be grouped into the following general categories:

- Plans and regulations: Government authorities, policies, or codes that influence building and development. Examples include:
  - Adopting zoning regulations.

- Preserving open space.
- Reviewing and strengthening local flood ordinances.
- Adopting stormwater management regulations.
- Adopting National Building Code standards.
- Enacting measures to restrict non-essential water usage.

- Structure and Infrastructure Projects: Modifying existing infrastructure to remove it from a hazard area or construction of new structures to reduce impacts of hazards. Examples include:
  - Upgrading stormwater infrastructure, such as culverts and storm sewer piping.
  - Replacing overhead utility lines with underground lines.
  - Building tornado safe rooms.

- Natural Systems Protection: Actions that minimize damage and losses and also preserve or restore the functions of natural systems. Examples include:
  - Using low-lying areas as natural water retention ponds.
  - Restoring and preserving wetlands and stream corridors.
  - Forest and vegetation management.
  - Providing incentives for xeriscaping.

- Education and Awareness Programs: Programs to educate the public and decision makers about hazard risks and community mitigation programs. Examples include:
  - Developing a hazard mitigation public awareness program.
  - Participating in the StormReady program.
  - Participating in the Firewise Communities program.
  - Making presentations to school groups or neighborhood organizations.
  - Mailings to residents in hazard-prone areas.
  - Encouraging people to conserve water during droughts.

The final list of mitigation actions identified by the jurisdictions is shown in **Table 4.5**. The table contains the following information for each action:

- The local priority rating.
- The project lead primarily responsible for implementing the action.
- The estimated time frame needed to accomplish the action. Short term actions are those that can be completed within a few years, while Long term actions may take several years or more to accomplish due to cost or other factors.
- The estimated cost to implement the action.
- Resources that may be available to help fund the action.
- Notes and details about the proposed action.

Prioritizing the actions is important because not all of them can be pursued simultaneously, especially when costly projects are considered. Actions providing the most benefit in terms of cost are likely to be pursued first, while some lower priority actions may never be implemented. The prioritization process was informal and somewhat subjective, but a methodology based on the following criteria helped guide the process:

- Overall benefit - how many lives or how much property will be protected, and how much disruption will be prevented? Are there any critical facilities or important public infrastructure that will be protected?
- Financial feasibility - how expensive will the action be? Could the action qualify for grant or loan funding?
- Political feasibility – will the public support the action? Are there any groups or interests that may be opposed to the action and thus prevent it from being implemented?
- Technical feasibility – does the technology exist for the action to be implemented? Is the action likely to function as intended?
- Environmental feasibility - does the action have the potential to have an adverse impact on the environment?
- Legal feasibility – are there any legal issues that might prevent the action from being implemented?

Of these criteria, financial considerations are especially important, because neither Hutchinson County nor any of the other participating jurisdictions have much discretionary money available to fund mitigation activities. Given this reality, it is unlikely that any mitigation action requiring substantial financial resources could be implemented locally without grant assistance. Following are potential sources of outside funding to help the jurisdictions accomplish mitigation projects:

<u>FEMA grant programs</u>

- Hazard Mitigation Grant Program (HMGP)
- Flood Mitigation Assistance (FMA)
- Public Assistance Section 406 funds

<u>Other grant and loan programs/sources</u>

- US Economic Development Administration
- US Department of Agriculture Rural Development grant/loan program
- US Bureau of Reclamation WaterSMART program
- South Dakota Community Development Block Grant program
- South Dakota State Homeland Security Program
- South Dakota Dept. of Agriculture and Natural Resources
- South Dakota Dept. of Transportation
- Natural Resource Conservation Service

Table 4.5 - Proposed Mitigation Actions

HUTCHINSON COUNTY ACTIONS	HAZARD	PRIORITY	PROJECT LEAD	TIME	COST	FUNDING	NOTES
Update the county's comprehensive plan	All Hazards	High	Auditor	Mid	$6,000	General Fund	The County will reach out to District III and discuss the steps and actions needed to update the current comprehensive plan.
Update the Local Emergency Operations Plan (working with a shared EM with Turner County)	All Hazards	High	Emergency Mgmt Director	Ongoing	Minimal	Staff time	This is a new partnership, and the plan will be discussed as the partnership continues to develop.
Continue work on road and bridge stabilization improvements (various locations).	Flooding	High	Highway Dept	Ongoing	≈$1 mil	Highway Fund	The county continues to pave and patch roads as needed for stabilization.
Continue participation in the National Flood Insurance Program	Flooding	High	Emergency Mgmt Director	Ongoing	Minimal	Staff time	The EM will contact the South Dakota floodplain coordinator to learn more about the NFIP program and participate in future training sessions.
Southeastern Electric Coop will continue working on replacement projects that use stronger and larger poles and wires.	Winter Weather	High	Southeastern Electric Cooperative	Ongoing	≈$1 mil to $5 mil	HMGP; BRIC	This work will be conducted by the electrical cooperative, which may work with Hutchinson County to submit applications to FEMA as funds are available.
Conduct outreach to homeowners on winter-proofing home (protect pipes from freezing, etc.)	Winter Weather	Medium	Emergency Mgmt Director	Ongoing	Minimal	Staff time	Much of this would be conducted through sharing social media messages from NWS.
Conduct outreach to educate people about water conservation practices.	Drought	Medium	Emergency Mgmt Director	Short	Minimal	Staff time	The Hutchinson County emergency manager will work with the towns on public outreach, including school groups.
Educate farmers on soil and water conservation practices.	Drought	Medium	Emergency Mgmt Director	Short	Minimal	Staff time	The Hutchinson County emergency manager will work with county extension office staff on outreach to local farmers.
Work with the FSA and their CRP program concerning any prescribed burn plans	Wildfire	Medium	Emergency Mgmt Director	Short	Minimal	Staff time	The County may look into forming a prescribed burn association that would work with landowners to reduce the spread of cedar trees, which are spreading rapidly and increasing wildfire risk.
Participate in the Firewise Program	Wildfire	Medium	Emergency Mgmt Director	Short	Minimal	Staff time	The Emergency Management Director will look into the program and will work with the local communities to implement it.
Look into options for text alert systems	Summer Storm	Low	Emergency Mgmt Director	Short	Minimal	Staff time	Research options for text alerts, reaching out to communities within the county as well that already use a service.

FREEMAN ACTIONS	HAZARD	PRIORITY	PROJECT LEAD	TIME	COST	FUNDING	NOTES
Work to complete stormwater drainage study of the city	Flooding	High	City Council	Mid	$85,000	HMGP; BRIC	An application has been submitted to fund the study.
Implement work from drainage study for South Cherry Street, North County Rd, Cedar Street, and Detention Pond projects	Flooding	High	City Council	Mid	≈$2 mil	HMGP; BRIC; General Fund	The City will apply for funding to implement a project that will be developed from the stormwater drainage study.
Continue participation in the National Flood Insurance Program	Flooding	High	Finance Officer	Ongoing	Minimal	Staff time	The finance officer will contact the South Dakota floodplain coordinator to learn more about the NFIP program and participate in future training sessions.
Update Comprehensive Plan	All Hazards	Medium	Finance Officer	Mid	$3,500	General Fund	The City will reach out to District III and discuss the steps and actions needed to update the current comprehensive plan.
Generator for Freeman Community Center	Winter Weather	Medium	City Council	Mid	$100,000	BRIC; General Fund	Generator will also allow CC to be a relief shelter
Conduct outreach to homeowners on winter-proofing home (protect pipes from freezing, etc.)	Winter Weather	Medium	City Council	Ongoing	Minimal	Staff time	Sharing posts from the County EM on social media.
Warning siren for northern part of city	Summer Storm	Medium	City Council	Mid	$35,000	General Fund	The City is considering installing a siren to provide better coverage for the north side of the community.
Continue to look into opportunities to buyout or relocate structures in flood hazard zones	Flooding	Medium	City Council	Ongoing	≈$250,000	HMGP; BRIC; General Fund	The city council will review and consider opportunities when presented.
Conduct outreach to educate people about water conservation practices.	Drought	Medium	City Council	Short	Minimal	Staff time	The City will work with the Hutchinson County emergency manager on outreach to the public, including school groups.
Participate in the Firewise Program	Wildfire	Medium	Fire Chief	Short	Minimal	Staff time	The City will work with the Hutchinson County emergency manager to implement this program.
Promote text alert system to get more residents to opt-in to the program	Summer Storm	Low	City Council	Short	Minimal	Staff time	The city will look for ways to get more citizens to opt-in to the existing text alert system.
MENNO ACTIONS	**HAZARD**	**PRIORITY**	**PROJECT LEAD**	**TIME**	**COST**	**FUNDING**	**NOTES**
Continue participation in the National Flood Insurance Program	Flooding	High	Finance Officer	Ongoing	Minimal	Staff time	The finance officer will contact the South Dakota floodplain coordinator to learn more about the NFIP program and participate in future training sessions.

Conduct outreach to homeowners on winter-proofing home (protect pipes from freezing, etc.)	Winter Weather	Medium	City Council	Ongoing	Minimal	Staff time	Sharing posts from the County EM on social media.
Warning siren for the north side of town	Summer Storm	Medium	City Council	Mid	$35,000	General Fund	The City is considering installing a siren to provide better coverage for the north side of the community.
Water tower replacement	Drought	Medium	City Council	Long	≈$1 mil	DANR; General Fund	The city recently did some rehab on the tower, but replacement is still likely in the near future.
Conduct outreach to educate people about water conservation practices.	Drought	Medium	City Council	Short	Minimal	Staff time	The city will work with the Hutchinson County emergency manager on outreach to the public, including school groups.
Review and update water restriction ordinance	Drought	Medium	City Council	Short	Minimal	Staff time	The city council will review current ordinance and improve as needed to help with water conservation efforts.
Implement a formal Fire Hydrant Maintenance Policy and standard operating procedures	Wildfire	Medium	City Council	Mid	Minimal	Staff time	This work will aim to ensure consistent inspection, operation, and documentation of hydrants within the Menno water distribution system.
Participate in the Firewise Program	Wildfire	Medium	Fire chief	Short	Minimal	Staff time	The city will work with the Hutchinson County emergency manager to implement this program.
Update Comprehensive Plan	All Hazards	Low	City Council	Mid	$3,500	General Fund	The city will reach out to District III and discuss the steps and actions needed to update the current comprehensive plan.
PARKSTON ACTIONS	**HAZARD**	**PRIORITY**	**PROJECT LEAD**	**TIME**	**COST**	**FUNDING**	**NOTES**
Continue participation in the National Flood Insurance Program	Flooding	High	Finance Officer	Ongoing	Minimal	Staff time	The finance officer will contact the South Dakota floodplain coordinator to learn more about the NFIP program and participate in future training sessions.
Continue study of Pony Creek floodplain, including area west of Hwy 37 (including Pony Creek maintenance and flood reduction)	Flooding	High	City Council	Ongoing	$850,000	FMA; General Fund	These studies have already started. The city will work to get them completed and to implement the work suggested by the studies.
Conduct outreach to homeowners on winter-proofing home (protect pipes from freezing, etc.)	Winter Weather	Medium	City Council	Ongoing	Minimal	Staff time	Sharing posts from the County EM on social media.
Promote text alert system to get more residents to opt-in to the program	Summer Storm	Medium	City Council	Ongoing	Minimal	Staff time	The city will look for ways to increase the number of residents who have opted-in to receive alert text messages.
Conduct outreach to educate people about water conservation practices.	Drought	Medium	City Council	Short	Minimal	Staff time	The city will work with the Hutchinson County emergency manager on outreach to the public, including school groups.

Participate in the Firewise Program	Wildfire	Medium	Fire Chief	Short	Minimal	Staff time	The city will work with the Hutchinson County emergency manager to implement this program.
TRIPP ACTIONS	**HAZARD**	**PRIORITY**	**PROJECT LEAD**	**TIME**	**COST**	**FUNDING**	**NOTES**
New warning siren for the city	Summer Storm	High	City Council	Mid	$35,000	General Fund	The City is considering installing a siren to provide better coverage in the community.
Tornado safe room in the city park (ball field area)	Summer Storm	High	City Council	Mid	≈$500,000	BRIC; General Fund	The city will look into and start planning for this project, in anticipation of applying for funds through grants.
Update Comprehensive Plan	All Hazards	Medium	Finance Officer	Mid	$3,500	General Funds	The city will reach out to District III and discuss the steps and actions needed to update the current comprehensive plan.
Conduct outreach to homeowners on winter-proofing home (protect pipes from freezing, etc.)	Winter Weather	Medium	City Council	Ongoing	Minimal	Staff time	Sharing posts from the County EM on social media.
Look into participating in the National Flood Insurance Program	Flooding	Medium	Finance Officer	Short	Minimal	Staff time	Reach out to the State Flood Ordinance Coordinator for more information on the program.
Conduct outreach to educate people about water conservation practices.	Drought	Medium	City Council	Short	Minimal	Staff time	The city will work with the Hutchinson County emergency manager on outreach to the public, including school groups.
Participate in the Firewise Program	Wildfire	Medium	Fire Chief	Short	Minimal	Staff time	The city will work with the Hutchinson County emergency manager to implement this program.
Possible Generator for Tripp Well (they borrow from county right now)	Winter Weather	Low	City Council	Mid	$100,000	BRIC; General Fund	The city may look into and start planning for this project, in anticipation of applying for funds through grants.

Potential Resources for Funding Assistance:

AFG	FEMA Assistance to Firefighters Grant Program
HMGP	FEMA Hazard Mitigation Grant Program
JRWDD	James River Water Development District
FMA	FEMA Flood Mitigation Assistance Program
DANR	South Dakota Dept of Agriculture and Natural Resources
DOT	South Dakota Dept of Transportation
BRIC	FEMA Building Resilient Infrastructure and Communities

2026 Hutchinson County (SD)
Hazard Mitigation Plan

CHAPTER V

Plan Maintenance

PLANNING & DEVELOPMENT DISTRICT III

CHAPTER V
PLAN MAINTENANCE

Background

Plan maintenance is a continuous process that requires long-term commitment and focused effort. The process involves evaluating the plan's effectiveness at achieving its goals, updating the plan as needed to keep it current, and making sure it is integrated into other local planning mechanisms. These activities provide the foundation for an ongoing mitigation program and will ensure that the plan remains relevant and effective. This chapter addresses how Hutchinson County officials intend to implement the plan so that it remains a dynamic, useful tool for mitigating against the impacts of future hazard events.

Public Participation

The plan can be accessed on the Hutchinson County, Freeman, Menno, Parkston, and Tripp websites, and a copy is also available for review at the Hutchinson County courthouse and in the finance office of each participating jurisdiction. Going forward, Hutchinson County and each of the jurisdictions will continue their efforts to make the public more informed about the plan. Outreach efforts will likely evolve over time as different methods are used to get greater public participation in the mitigation planning process. Activities may include any of the following:

- Meetings of the Hutchinson County Local Emergency Planning Committee.
- Press releases and social media posts.
- Surveys to get feedback from the public about mitigation priorities.
- Community visits by the Hutchinson County Emergency Management Director to discuss mitigation planning (local schools, civic meetings, etc.).

Any comments and suggestions received from the public through any of the forums described above will be included in the public outreach section of the plan.

Monitoring, Evaluating, and Updating the Plan

The Hutchinson County Emergency Management Director is ultimately responsible for implementing this plan. The director will work under the direction of the Hutchinson County Commission and with the support of the Hutchinson County Local Emergency Planning Committee (LEPC) to ensure that the plan's mitigation strategy is carried out, coordinating his/her activities with other county departments or the other participating jurisdictions as needed. The jurisdictions will also play a critical role in carrying out the action plan by

identifying and prioritizing the actions they want to pursue, allocating resources for their implementation, and applying for funding assistance as needed.

An important part of implementing the plan is plan monitoring and evaluation, which will be performed by the Hutchinson County Emergency Management Director with the support of the LEPC. The plan will be evaluated at least annually by the LEPC, and it may also be reviewed at other times as the need arises, such as following a significant hazard event or as federal funding for hazard mitigation becomes available.

All major elements of the plan – the planning process, the risk assessment, and the mitigation strategy - will be evaluated. The following are the specific criteria that will be used to measure whether the plan is achieving its goals:

Planning Process

- Could anything from the initial planning process be done more efficiently?
- Has the public become more aware of the plan? How can public participation improve?
- Have there been any public outreach activities to promote awareness of the plan?

Risk Assessment

- Have any recent disaster events impacted any of the jurisdictions?
- Should any hazards be added or removed from the plan?
- Have there been any changes in the nature or magnitude of risks?
- Has any new development occurred that might impact risk?
- Are new data sources for any of the hazards available?
- Do any new critical facilities or infrastructure need to be added to the community asset list?

Mitigation Strategy

- Is the mitigation strategy being carried out as expected? How many of the proposed mitigation actions have been completed or are in progress?
- Have there been any changes in mitigation priorities in any of the jurisdictions?
- Are there any new mitigation actions to consider? Should existing actions be revised or removed from the plan?
- Have parts of the plan been integrated into other planning mechanisms?
- Have any jurisdictions adopted new policies, plans, or regulations that could support the plan?
- Has NFIP participation changed in the participating jurisdictions?
- Is progress being made in education and outreach? How many outreach events have taken place?

Future updates to this plan may occur at any time in response to a change in any of the criteria identified above. However, barring a significant change in any of these factors, Hutchinson

County will begin the process of updating this plan approximately two years prior to the plan's expiration date. Led by the Emergency Management Director, the process will consist of the following general steps:

- Apply for funding assistance to update the plan
- Funding assistance obtained
- Hire contractor to write the plan
- Organize planning team
- Begin soliciting public participation and input
- Hold meetings of planning team to develop the plan
- Make draft of the plan available for public review and comment
- Submit plan for State review
- Revise plan as needed based on reviewer comments
- Plan submitted by State to FEMA
- Revise plan as needed based on reviewer comments
- Jurisdictional adoption of approved plan

Plan Integration

The Hutchinson County Hazard Mitigation Plan is the backbone for hazard mitigation planning within the county, but to remain useful, the plan cannot exist in a vacuum. It is designed to work with the planning mechanisms and development regulations that exist within the county, and local officials and policy makers should therefore be familiar with this plan. Neither this plan nor any of the others will work effectively if they contain contrary goals or policy recommendations. Following is a description of the process by which integration will occur into the local planning mechanisms [10].

- Hutchinson County Comprehensive Plan and Zoning Ordinance – the Planning & Development District III office developed the comprehensive plan and zoning ordinance, working with the Hutchinson County planning commission. The County and District III will integrate relevant information acquired through the development of this plan into the environmental constraints section of the comprehensive plan when it is next updated. The zoning ordinance will also be modified if needed. For example, if this plan identifies certain areas as unsuitable for development due to environmental hazards, this should be reflected in the zoning ordinance.
- Hutchinson County Highway Plan – the highway plan is developed by the Hutchinson County Highway Superintendent. It includes a table of significant county road projects scheduled to occur for the next five years. The South Dakota Dept of Transportation requires that the highway plan be updated annually and approved by the county commission. The highway superintendent will be able to utilize information learned during the development of this plan to identify and plan for road projects that may be

[10] Nothing is shown for Olivet because they have no planning mechanisms or policies.

eligible for FEMA funding, such as those that involve drainage improvements to mitigate flooding.

- Dimock Comprehensive Plan – the Planning & Development District III office developed the comprehensive plan working with the town planning board. The Town and District III will integrate relevant information acquired through the development of this plan into the environmental constraints section of the comprehensive plan when it is next updated.
- Freeman Comprehensive Plan and Zoning Ordinance – the Planning & Development District III office developed the comprehensive plan and zoning ordinance, working with the city planning board. The City and District III will integrate relevant information acquired through the development of this plan into the environmental constraints section of the comprehensive plan when it is next updated. The zoning ordinance will also be modified if needed. For example, if this plan identifies certain areas as unsuitable for development due to environmental hazards, this should be reflected in the zoning ordinance.
- Menno Comprehensive Plan and Zoning Ordinance – the Planning & Development District III office developed the comprehensive plan and zoning ordinance, working with the city planning board. The City and District III will integrate relevant information acquired through the development of this plan into the environmental constraints section of the comprehensive plan when it is next updated. The zoning ordinance will also be modified if needed. For example, if this plan identifies certain areas as unsuitable for development due to environmental hazards, this should be reflected in the zoning ordinance.
- Parkston Comprehensive Plan and Zoning Ordinance – the Planning & Development District III office developed the comprehensive plan and zoning ordinance, working with the city planning board. The City and District III will integrate relevant information acquired through the development of this plan into the environmental constraints section of the comprehensive plan when it is next updated. The zoning ordinance will also be modified if needed. For example, if this plan identifies certain areas as unsuitable for development due to environmental hazards, this should be reflected in the zoning ordinance.
- Tripp Comprehensive Plan and Zoning Ordinance – the Planning & Development District III office developed the comprehensive plan and zoning ordinance, working with the city planning board. The City and District III will integrate relevant information acquired through the development of this plan into the environmental constraints section of the comprehensive plan when it is next updated. The zoning ordinance will also be modified if needed. For example, if this plan identifies certain areas as unsuitable for development due to environmental hazards, this should be reflected in the zoning ordinance.

The best example to date of the county's current mitigation plan being incorporated into other planning mechanisms occurred during the most recent update of the Comprehensive Economic Development Strategy (CEDS) for the Planning & Development District III region,

which includes Hutchinson County. In particular, the risk analysis and mitigation strategy of the plan were utilized as the CEDS was updated in 2024.

Each jurisdiction will use this plan to help them as they prepare their annual budget each year. The process will be essentially the same in each jurisdiction, beginning with a review of the plan at the outset of the budgeting process, which typically begins in the summer. Each jurisdiction will especially note their list of proposed mitigation actions in **Table 4.5**. Those that are interested in seeking funds for a specific project listed in the table will be able to utilize knowledge gained during the development of this plan, including FEMA grant deadlines and the grant eligibility of specific types of mitigation projects, as they develop their budgets.

To expand on these efforts, each community should continue to participate in future updates to this plan. This will continue to expose them to the basic concepts of hazard mitigation, which may be the only practical way for some of the jurisdictions to expand their capabilities. An important part in this process will be played by the Hutchinson County Emergency Management Director, who will continue to reach out to each community at least annually to review their hazard mitigation needs and priorities.

2026 Hutchinson County (SD)
Hazard Mitigation Plan

APPENDICES

- Appendix A: Outreach Effort
- Appendix B: Documentation of Meetings
- Appendix C: History of Previous Hazard Occurrences
- Appendix D: References

PLANNING & DEVELOPMENT DISTRICT III

APPENDIX A: Outreach Effort

A major effort was made to solicit input into this plan. Outreach included press releases that were printed in the local newspapers, information posted on community websites and social media, and surveys that were made available to the public. This section documents the outreach effort.

Press release in *Freeman Courier*, *Parkston Advance*, and posted on Hutchinson County website Prior to First Meeting:

Freeman Courier:

HAZARD MITIGATION MEETING

Blizzards, tornadoes, and floods are a few of the natural hazards that strike this part of the country. Events like this have the potential of causing thousands of dollars annually in damage to property. To lessen the impact of these disasters in the future, Hutchinson County is beginning the process of updating its current Hazard Mitigation Plan.

A series of meetings, which are open for the public to attend, will occur this year to obtain input as the plan is developed. The first meeting will be held at the Hutchinson County Courthouse on Tuesday, March 10, 2026, at 3:00 PM. Agenda items for this kickoff meeting will include a discussion of hazard mitigation concepts, a review of the County's current hazard mitigation plan, and a discussion about the planning process going forward.

Another way to contribute to the planning process is to fill out a survey. A copy of the survey can be obtained at the Hutchinson County Emergency Management Office, by going to www.districtiii.org, or by scanning this QR code:

For more information, please contact the Hutchinson County Emergency Management Office at turnercoem@iw.net or by calling (605) 297-6000. You can also contact Shannon Viereck at (800) 952-3562 or by email at shannon.viereck@districtiii.org.

Parkston Advance:

HAZARD MITIGATION MEETING

Blizzards, tornadoes, and floods are a few of the natural hazards that strike this part of the country. Events like this have the potential of causing thousands of dollars annually in damage to property. To lessen the impact of these disasters in the future, Hutchinson County is beginning the process of updating its current Hazard Mitigation Plan.

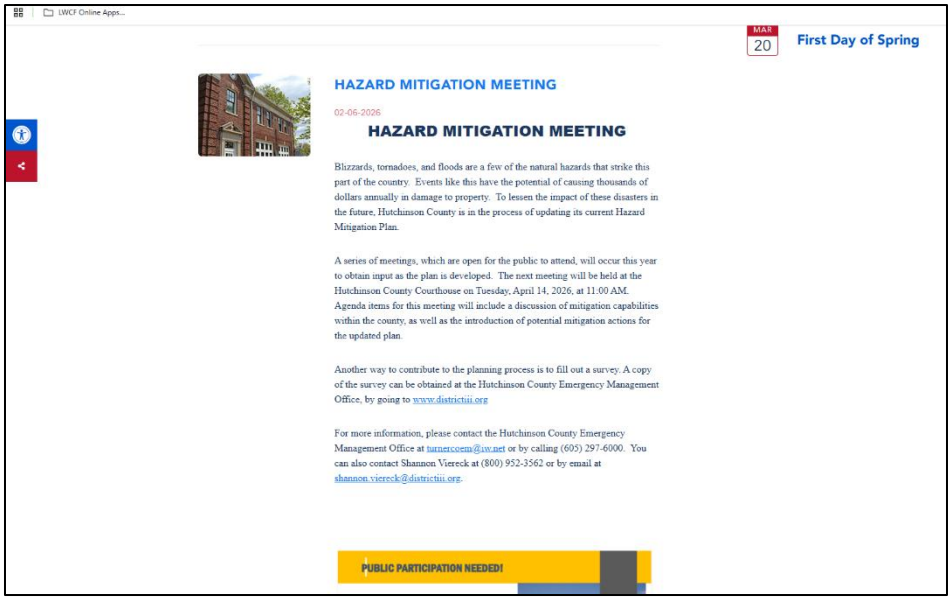
A series of meetings, which are open for the public to attend, will occur this year to obtain input as the plan is developed. The first meeting will be held at the Hutchinson County Courthouse on Tuesday, March 10, 2026, at 3:00 PM. Agenda items for this kickoff meeting will include a discussion of hazard mitigation concepts, a review of the County's current hazard mitigation plan, and a discussion about the planning process going forward.

Another way to contribute to the planning process is to fill out a survey. A copy of the survey can be obtained at the Hutchinson County Emergency Management Office, by going to www.districtiii.org, or by scanning this QR code:

For more information, please contact the Hutchinson County Emergency Management Office at turnercoem@iw.net or by calling (605) 297-6000. You can also contact Shannon Viereck at (800) 952-3562 or by email at shannon.viereck@districtiii.org.

Hutchinson County Website*:*

Posting on Hutchinson County Website Before Second Meeting:



Press Release in *Freeman Courier* and *Parkston Advance* Before Final Meeting:

Posting on Hutchinson County website Prior To Final Meeting:

Survey Poster

PUBLIC PARTICIPATION NEEDED!

HUTCHINSON COUNTY

HAZARD MITIGATION PLAN PUBLIC SURVEY

The Hutchinson County Office of Emergency Management is in the process of updating the County's Hazard Mitigation Plan. Hazard mitigation planning helps local leaders better understand risks from natural hazards, promoting the development of long-term strategies to reduce the effects of disaster-related events and their negative impact on people, property, and the environment. Hutchinson County is seeking feedback from stakeholders and the public to incorporate into the plan.

TAKE THE SURVEY

www.districtiii.org

WHAT IS A HAZARD MITIGATION PLAN & WHY IS IT IMPORTANT?

The hazard mitigation plan represents Hutchinson County's commitment to reduce risks from natural hazards, such as flooding, severe summer and winter weather, drought, and wildfires. The plan serves as a guide for local decision makers as they commit resources to reducing the effects of natural hazards, and it creates a framework for Hutchinson County to reduce negative impacts from future disasters on lives, property, and the local economy.

PUBLIC PARTICIPATION IN HAZARD MITIGATION PLANNING

Public participation in the Hutchinson County Hazard Mitigation Plan is an opportunity for county residents to evaluate a variety of potential hazards affecting the county and it is important to the overall success of the plan. Once approved, the plan will make Hutchinson County and the participating municipalities eligible to apply for FEMA hazard mitigation funding.

PHONE: (605) 387-4212
EMAIL: DREMMERS@HUTCHINSONCOUNTY.ORG

Survey Form with Responses

HUTCHINSON COUNTY HAZARD MITIGATION SURVEY (*RESPONSES IN RED TYPE*)

The Hutchinson County Office of Emergency Management is in the process of updating the County's Hazard Mitigation Plan. Hazard mitigation planning helps local leaders better understand risks from natural hazards and promotes the development of long-term strategies to reduce the effects of disaster-related events. Hutchinson County is seeking feedback from stakeholders and the public to incorporate into the plan. We would greatly appreciate it if you would complete the survey. Participation is voluntary and anonymous.

GENERAL HOUSEHOLD INFORMATION

First, we would appreciate any information you are willing to share with us about your household. This information will remain confidential and is for survey use only.

1. What county do you live in? **HUTCHINSON COUNTY (ALL)**

2. What town do you live in? **MENNO (15); PARKSTON (11); FREEMAN (8); TRIPP (5); OLIVET (1)**

3. How long have you lived in South Dakota?

   Less than 1 year: **0**
   1-5 years: **3**
   6-10 years: **2**
   More than 10 years: **35**

4. Before receiving this survey, were you aware of the county's hazard mitigation plan?

Yes: 19 **No: 21**

5. During the past 5 years, in the county you currently reside in, have you or someone in your household directly experienced a natural disaster? This could be a flood, severe windstorm, wildfire, or other type of natural disaster. **Yes: 15 No: 25 No Answer: 0**

6. How concerned are you about the following natural disasters affecting your county? (Check the corresponding box for each hazard)

Natural Disaster	Very Concerned	Somewhat Concerned	Neutral	Not Very Concerned	Not Concerned		Weighted Results
Drought	18	16	5	1	0		51
Extreme Heat	9	12	14	3	2		23
Flood	16	17	6	1	0		48
Hail	13	17	8	0	1		41
Tornado	13	17	6	2	1		39
Wildfire	6	12	13	6	3		12
Winsdstorm	10	25	5	0	0		45

Winter storm/Blizzard	9	19	8	3	1		32

7. Which of the following community assets do you see as being vulnerable in your community? (*You may check more than one*)

Human (Loss of life and/or injuries) **23**
Economic (Business closures and/or job losses) **27**
Infrastructure (Damage or loss of bridges, utilities, schools, etc.) **33**
Environmental (Damage or loss of forests, rangeland, waterways, etc.) **15**
Government (Ability to maintain order and/or provide public amenities and services) **13**

8. Please check the box that best matches your opinion of the following strategies to reduce risk and loss associated with natural disasters.

Community- wide Strategies	Strongly Agree	Agree	Neutral/ Not Sure	Disagree	Strongly Disagree		Weighted Results
I support implementing government rules and regulations to reduce risk	8	15	14	1	1		28
I support policies to prohibit development in areas subject to natural hazards	9	16	13	1	1		31
I support enhancing the function of natural systems (e.g., streams, wetlands)	11	19	10	0	0		41
I support the use of tax dollars to compensate landowners for not developing in areas subject to natural hazards	3	10	17	9	1		5
I support the use of tax dollars to reduce risks and losses from natural disasters	7	12	18	3	0		23
I support the disclosure of natural hazard risks during real estate transactions	12	19	6	3	0		40

9. How important are each of these priorities to you in planning for natural hazards?

Statements	Very Important	Somewhat Important	Neutral	Not Very Important	Not Important		Weighted Results
Protecting private property	22	15	3	0	0		59
Protecting critical facilities (e.g., transportation networks, hospitals, fire stations)	28	11	1	0	0		67
Protecting utilities and infrastructure	27	10	3	0	0		64
Protecting historic and cultural landmarks	9	21	7	3	0		36
Strengthening emergency services (fire, police, etc.)	24	13	3	0	0		61

APPENDIX B: Documentation of Meetings

This appendix includes the following items:

- Signup sheets from the planning team meetings.
- Minutes from each of the participating jurisdictions' meetings as they discussed the mitigation actions they wanted to include in the plan.

SIGNUP SHEET – FIRST PLANNING TEAM MEETING:

Hutchinson County Hazard Mitigation Planning Meeting

Tuesday, March 10, 2026 @ 3:00 PM | Hutchinson County Courthouse

NAME	REPRESENTING
Brad Henke	Hutchinson County
Larry Mehlhaff	Hutchinson County
Steve Friesen	Hutchinson County
Mike Wee	Hutchinson County
Curt Ulmer	Hutchinson County
Diane Hoffman	Hutchinson County
Brad Georgeson	Hutchinson Co Em.
Tim Semmler	City of Parkston Mayor
Darrell Ellock	Town of Olivet
Darrell Mehlhaf	City of Menno SD
Jodi Fischer	City of Menno
Lisa Edelman	City of Freeman
Eryn Waltner	Freeman Regional Health Services
Courtney Unruh	Freeman Regional Health Services
Lindsay Wilson	Avera St. Benedict Health Center, Parkston
Erin Denning	Avera St. Benedict Health Center
Kayla Wilson	City of Tripp
Dawn Ca. Hoven	City of Tripp
Todd Gross	City of Tripp
John Clem	Planning District III
Shannon Vierock	Planning Dist III

SIGNUP SHEET – SECOND PLANNING TEAM MEETING:

Hutchinson County Hazard Mitigation Planning Meeting

Tuesday, April 14 @ 11:00 AM | Hutchinson County Courthouse

NAME	REPRESENTING
John Clem	Planning District III
Shannon Viereck	District III
Brad Henke	Hutchinson Com.
Larry Mehlhaff	Hutchinson Com.
Steve Friesen	Hutchinson Com.
Mike Wolf	Hutchinson Com
Curt Ulmer	Hutchinson commissioner
Diane Hoffman	Hutchinson Co. Auditor
Brad Georgeson	Emergency Mgmt
Tim Semmler	Mayor Parkston
Lance Thury	Kaylor Agriservices
Jodi Fischer	City of Menno
Lisa Edelman	City of Freeman
Anthony York	Menno Public School
Lindsay Wurr	Avera St. Benedict - Parkston
Brian Sanders	Tripp
Todd Gross	Tripp
Dana Horn	Tripp
Kayla Albrecht	Tripp
Courtney Unruh	Freeman Regional Health Services
Evan Weltner	Freeman Regional Health Services

SIGNUP SHEET – FINAL PLANNING TEAM MEETING:

HUTCHINSON COUNTY COMMISSION MINUTES (May 26, 2026)

May 26, 2026

9:00 am: Chairman Ulmer called the meeting to order with the Pledge of Allegiance.

Members in attendance: Chairman Ulmer, Commissioners Mehlhaff, Friesen, Henke and Wolf were present.

Hazard Mitigation Project Selection was discussed between the board and Emergency Manager Brad Georgeson. The following items were discussed:

Southeastern Electric Coop will continue working on replacement projects that use stronger and larger poles and wires. - SE Electric continually performs upgrades to bury lines, it's mitigation and prevention against weather events to streamline power to consumers. I have asked them in the past how they perform this, and since they are non-profit, consumer-owned, they use grants when available besides investing their own funds. They bury or upgrade X number of miles per year (varies from year to year)

Update the Local Emergency Operations Plan (working with a shared EM with Turner County)- This will be performed by the end of FY26 for Emergency Management in Hutchinson County, which runs October 1, 2025 -September 30, 2026)

Conduct outreach to homeowners on winter-proofing home (protect pipes from freezing, etc.) - push out social media messages from NWS- Since we're out of winter/freezing season, this will resume in fall/winter as needed for home mitigations. NWS posts and messages are shared as needed, year-round.

Look into options for text alert systems- NWS already provides this as WEA/IPAWS alerts as needed for severe weather. EM isn't looking any further into a local system due to cost. I can't answer this beyond EM use or interest.

Conduct outreach to educate people about water conservation practices. - Some of this is already done through local County FSA/Conservation offices.

Educate farmers on soil and water conservation practices. - Some of this is already done through local County FSA/Conservation offices.

Work with the FSA and their CRP program concerning any prescribed burn plans- This action is done between landowners and fire departments currently and will be ongoing as needed.

The Comprehensive Plan will be reviewed and updated as needed.

MENNO CITY COUNCIL MINUTES (May 4, 2026)

MINUTES OF MENNO CITY COUNCIL PROCEEDINGS
May 4, 2026

Mayor Darrell Mehlhaf called the City Council to order at 6:00 p.m. on May 4, 2026 in the finance office at city hall. Council answering roll call: Amber Cross, Ron Diede, Jacob Mettler, and Jerry Fischer. Finance Officer Jodi Fischer, Police Chief Bryan Spiotti, and Superintendent Anthony Cokens were also present.

Hazzard Mitigation Project Selection: Hutchinson County is updating the Pre-Disaster Mitigation Plan and is requesting mitigation projects from all cities located in the county. Fischer moved to include the following projects in the plan, look into creating an comprehensive plan, conduct outreach to homeowners on winter-proofing their home, adding a warning sign on the northside of town, continue participation in the national flood insurance program which would include training for the flood ordinance coordinator, look into replacement of the water tower, educate people about water conservation practices, review and update the water restriction ordinance, look into the Firewise program, and implement a formal fire hydrant maintenance policy & standard operating procedures to ensure consistent inspection, operation, and documentation of hydrants within the Menno Water distribution system. Diede seconded the motion. All votes aye.

FREEMAN CITY COUNCIL MINUTES (May 5, 2026)

Council Minutes
Regular Session
Tuesday, May 5, 2026

The Freeman City Council met in regular session on Tuesday, May 5, 2026 at 6:30 pm at City Hall in Freeman. President Blaine Saarie called the meeting to order and the following members were present: Cody Fransen, Erin Lachman, Terry Jacobsen, Blaine Saarie, Clifford Tjaden and Steve Waltner. Also attending were Lisa Edelman, Duane Walters, Kellen Weidner, and Danny Ayers.

Hazard Mitigation Project Selections
A list of hazard mitigation projects was presented to the council. These were accepted as presented.

PARKSTON CITY COUNCIL MINUTES (May 12, 2026)

City of Parkston Council Meeting Tuesday MAY 12th, 2026

REGULAR MEETING OF THE PARKSTON CITY COUNCIL MAY 12TH, 2026 IN THE COUNCIL CHAMBER OF THE CITY HALL IN THE CITY OF PARKSTON, SOUTH DAKOTA.

Mayor Tim Semmler called the meeting to order at 7P.M. Roll call notes the following council members present, Dale Hofer, Matt Hoffman, Scott Kniffen, Jeff Murtha, Carroline Kniffen, and Sean Jolley joined at 7:15P.M. Also in attendance was Michael Schmit, Mike Wolf, Ryan Murtha, Jenna Moege, Tammie Maeschen, Magan Mohamed, and Joe Reiser.

The Hazard Mitigation Project Selection was discussed and reviewed by the city council and Mayor. The city actively participates in the Nixle alert system and National Flood Insurance Program. The Pony Creek floodplain is also actively occurring. No action was taken at this time.

TRIPP CITY COUNCIL MINUTES (May 18, 2026)

May 18th, 2026

The city council met in regular session in the council chambers at 7:30 p.m.

The meeting was called to order at 7:30 pm by President Jeff Friman

Present: Glen Batterman, Randy Squier, Cody Fischer, Jeff Friman

Absent: Marcillio Mora, Mark Mora

Motion by Glen Batterman and seconded by Randy Squier to approve the Hazard mitigation project selection for Tripp. Motion Carried.

APPENDIX C: History of Previous Hazard Occurrences

This section provides details about hazard events that have impacted Hutchinson County in the past, beginning with a table showing the major disaster declarations in which Hutchinson County was part of the designated disaster area. The next several pages are a comprehensive list of weather-related hazard events recorded in the county from the National Climatic Data Center's Storm Events Database. The section ends with several tables showing crop loss to Hutchinson County farmers.

Major Disasters

Table C.1 lists all the events since 1970 that resulted in a major disaster declaration in which Hutchinson County was part of the designated area.

Table C.1 – Major Disaster Declarations Affecting Hutchinson County

Dec #	Declaration Date	Type	Primary Damage Impact
3015	Jun 1976	Drought	
717	Jul 1984	Severe storms; Flooding	
764	May 1986	Severe storms; Flooding	
999	Jul 1993	Severe storms; Tornado	
1052	May 1995	Severe storms; Flooding	
1075	Jan 1996	Ice storm	
1156	Feb 1997	Severe winter storm; Blizzard	
1161	Feb 1997	Severe winter storm	
1173	Apr 1997	Severe storms; Flooding	
1620	Dec 2005	Severe winter storm	
1702	May 2007	Severe storms; Tornado; Flood	
1774	Jul 2008	Severe storms; Flooding	Roads, bridges
1887	Mar 2010	Severe winter storm	Utilities
1915	May 2010	Flooding	Roads, bridges
1984	May 2011	Flooding	Roads
4115	May 2013	Severe winter storm	Debris removal
4440	Jun 2019	Severe winter storm; Flooding	Roads, bridges
4469	Nov 2019	Severe storms; Tornado; Flooding	Roads, bridges
4656	Jun 2022	Severe storms; Straight-line Winds; Tornadoes; Flooding	Utilities
4807	Aug 2024	Severe storms; Straight-line Winds; Flooding	Roads, bridges

Sources: www.fema.gov/disasters/grid/state-tribal-government/72; www.fema.gov/data-feeds/openfema-dataset-public-assistance-funded-projects-summaries-v1

Significant Hazard Events

Table C.2 is a list of significant hazard events reported for Hutchinson County from 1960 through 2024, as recorded in the National Climatic Data Center's Storm Events Database. The National Climatic Data Center receives storm data from the National Weather Service, which gets information from a variety of sources, including county, state and federal emergency management officials, local law enforcement officials, National Weather Service damage surveys, the insurance industry, and the general public.

The Storm Events Database is useful, but it does have limitations. One problem is that records for certain hazards, including winter weather and drought, only go back to the 1990s. Another issue is that damage amounts in some cases are estimates and for certain types of events, such as winter storms, the data is tracked by forecast zone and thus does not lend itself to analysis at the county level. The database also contains a preponderance of records from the last few decades. This is due to an inconsistency in data reporting over the years and does not indicate an increase in the frequency of events affecting the county.

The table includes the following information about the events:

- Type of event.
- Descriptive information - details are provided for some of the more noteworthy events back to the 1990s.
- Magnitude - the magnitude of tornadoes, hail, thunderstorm winds, and high wind events is given. For thunderstorms and high wind events, only events with wind speeds of at least 60 knots are included in the table and only hail of at least one inch diameter is shown. For events occurring since 2000 the speed is represented by either the highest measured wind gust (M) or the highest estimated wind gust (E). Note that speeds are shown in knots - multiply figure by 1.15 to get approximate speed in miles per hour.
- Property and crop damage - the National Weather Service uses all available data from the sources identified above in compiling the damage amounts, but the figures should be considered as broad estimates. In many cases, damage amounts are unknown.

Table C.2 – History of Significant Hazard Events in Hutchinson County

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
6/19/1963	Hail		1.50 in.		
5/8/1964	Tornado		F1	25	
5/8/1964	Tornado		F1		
7/10/1964	Hail		1.75 in.		
9/9/1964	Hail		1.50 in.		
6/7/1965	Tornado		F1		
6/28/1965	Tornado		F2		

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
6/19/1966	Hail		2.75 in.		
8/17/1967	Hail		4.00 in.		
6/29/1968	Hail		4.00 in.		
7/23/1969	Hail		2.00 in.		
5/30/1970	Tornado		F0		
6/19/1970	Hail		1.75 in.		
7/14/1970	Hail		3.00 in.		
6/8/1971	Tornado		F0		
6/12/1971	Tornado		F0		
6/13/1972	Tornado		F0		
7/8/1973	Tornado		F2	3	
6/19/1975	Tornado		F1	25	
5/7/1979	Hail		1.75 in.		
6/6/1980	Hail		1.75 in.		
6/30/1983	Thunderstorm Wind		61 kts.		
6/5/1984	Tornado		F2	25	
6/22/1984	Hail		1.75 in.		
6/28/1984	Tornado		F0		
6/28/1984	Tornado		F0		
4/19/1985	Thunderstorm Wind		61 kts.		
4/19/1985	Tornado		F0		
5/11/1985	Tornado		F0		
7/21/1985	Hail		1.75 in.		
6/29/1986	Tornado		F0		
5/17/1987	Tornado		F0		
7/9/1987	Thunderstorm Wind		60 kts.		
7/11/1987	Thunderstorm Wind		78 kts.		
5/28/1991	Tornado		F1	250	
5/28/1991	Tornado		F1	25	
5/28/1991	Tornado		F0		
5/28/1991	Tornado		F0		
7/27/1991	Thunderstorm Wind		60 kts.		
6/16/1992	Tornado		F0	25	
5/7/1993	Tornado	A tornado carried a 60 X 120 foot metal pole barn into the tops of four grain bins causing extensive damage. The tornado also destroyed many small buildings and blew roofs off larger buildings on many farms in the area.	F2	500	
5/7/1993	Tornado	A tornado touched down on a farm west of Parkston and destroyed two pig barns and a corn crib.	F1	50	

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
8/7/1994	Hail		1.75 in.		
8/7/1994	Tornado		F0	1	4
1/17/1996	Blizzard	A blizzard spread across the area from the west. Snow 3 to 12 inches deep was accompanied by 50 to 60 mph winds and very cold temperatures. The wind chill dropped to around -70. Roads and many businesses and schools were shut down. The total destruction of at least 3 homes by fire was due in part to the inability of firefighters to travel across blocked roads. Several accidents occurred and other vehicles slid into ditches or became stranded.			
1/29/1996	Extreme cold	Wind chill readings as cold as 80 below zero occurred as winds over 30 mph combined with temperatures of 10 below to 30 below zero. Many vehicles failed to start, but the main impact was financial with greatly increased heating energy use, and purchase of supplies and services to ensure furnace operation.			
3/24/1996	Blizzard	Snow accumulating 3 to 8 inches was accompanied by winds over 50 mph at times, producing widespread whiteout conditions. Numerous vehicles slid into ditches and many people were stranded in vehicles. There were some rollovers and other accidents, including a fatality near Tripp		20	
4/25/1996	High Wind		62 kts.	20	
8/6/1996	Thunderstorm Wind		75 kts.	50	
11/14/1996	Ice Storm	Several periods of freezing rain caused widespread damage and paralyzed travel. Widespread damage occurred to electrical poles and lines, leaving thousands without power for up to four days. Numerous accidents occurred. Tree damage was widespread with tree debris blocking several roads and siedwalks. Some farm buildings and other small structures were damaged by the weight of ice and snow on roofs.		10	
12/14/1996	Heavy Snow				
12/16/1996	Blizzard				
1/4/1997	Blizzard				
1/9/1997	Blizzard				
1/15/1997	Extreme cold	Temperatures a few degrees below zero accompanied by wind gusts over 40 mph created wind chills as cold as 70 below zero. Drifting snow and areas of low visibility in blowing snow also occurred in open areas.			
2/3/1997	Heavy Snow				
3/12/1997	Flood	Widespread snowmelt flooding began in March and continued through the end of the month. Record flooding occurred on the James River. Widespread flooding of farmland and other lowlands occurred, both near and away from major river basins. Many roads, farm buildings, and some homes and businesses were flooded. Many basements were flooded just from groundwater seepage. Travel was severely hampered by flooded roads in some areas. Farmland flooding was severe and widespread.			
4/1/1997	Flood				
4/6/1997	High Wind		63 kts.	10	
4/9/1997	Heavy Snow				
5/1/1997	Flood				
6/19/1997	Hail		1.25 in.	10	100

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
6/20/1997	Thunderstorm Wind	Thunderstorm winds caused widespread damage to farm structures and trees, including roofs blown off of barns and grain bins destroyed.	61 kts.	300	
7/27/1997	Thunderstorm Wind	Thunderstorm winds caused tree and power line damages, and destroyed a fertilizer building and a barn near Menno.	61 kts.	100	
8/29/1997	Thunderstorm Wind		61 kts.	3	
9/8/1997	Tornado		F0		
3/31/1998	Heavy Snow	Snowfall of 6 to 16 inches occurred over a large area, causing some damage to power lines resulting in power outages.			
5/20/1998	Flood				
7/6/1998	Hail		1.75 in.		
7/6/1998	Thunderstorm Wind		61 kts.		
8/5/1998	Lightning	Lightning injured one of two people who took shelter under a tree at a golf course. The injured man received minor burns.			
11/10/1998	Blizzard	Snow accumulating 4 to 14 inches combined with winds gusting as high as 60 mph caused zero visibilities in snow and blowing snow, drifting snow, and damage to trees and power lines with resultant power outages. Some of the power outages lasted over 2 days. Most roads were closed and many people were stranded in vehicles after the sudden onset of the heavy snow.		20	
1/1/1999	Winter Storm				
3/8/1999	Winter Storm				
5/12/1999	Flood				
11/1/1999	Drought	Generally dry weather that began in August continued through November. Dry surface and soil conditions became quite pronounced in November. Water levels fell, especially in small streams and lakes. Damage to winter wheat crops was feared. The area experienced the third driest fall (September through November) period on record. Unusually warm weather during the month contributed to the drying. The most noticeable manifestation of the dry conditions was the large number of grass fires across the area. While damage was mainly limited to the grasslands, considerable manpower and expense was needed to fight the fires.			
12/1/1999	Drought				
2/1/2000	Drought	Dry weather that prevailed during the fall continued in February, Dry surface and soil conditions remained quite pronounced. Water levels continued to fall slowly. especially in wetlands, small streams, and lakes. Above normal temperatures contributed to further drying. Grass fires were again a problem in some areas. Two significant fires requiring considerable effort and time to extinguish took place in the Freeman area on the 3rd and the 6th of the month.			
3/1/2000	Drought				
4/1/2000	Drought				
4/16/2000	Ice Storm	Freezing rain caused significant ice accumulation on trees, power lines, and other exposed surfaces. The ice caused tree damage, much of it minor. A few power lines and poles were also pulled down by the weight of the ice.			
5/11/2000	Tornado		F0	10	
8/7/2000	Hail		1.75 in.	1,000	
8/7/2000	Thunderstorm Wind		61 kts. E	20	

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
11/11/2000	Winter Storm				
12/16/2000	Blizzard				
1/29/2001	Winter Storm				
2/24/2001	Winter Storm				
4/1/2001	Flood				
5/1/2001	Flood				
6/12/2001	Tornado		F0		
8/29/2001	Hail	Large hail caused damage to vehicles, including severe damage to vehicles at new car dealers. Windows were broken, and crops, especially soybeans, were damaged.	2.00 in.	100	50
11/26/2001	Heavy Snow	Most areas of southeast South Dakota received at least 8 inches of snow. The snowfall closed many schools and businesses, closed some government offices, and severely hampered transportation. The wet and heavy nature of the snow made it difficult to clear away.			
2/9/2002	Winter Storm				
3/14/2002	Winter Storm				
6/25/2002	Hail		1.75 in.		
8/16/2002	Hail		1.75 in.		
4/6/2003	Heavy Snow				
6/24/2003	Thunderstorm Wind	Thunderstorm winds caused blew down or damaged many trees in Freeman. Numerous roads were blocked by tree debris. There was shingle and trim damage to houses, and at least one window was broken. Power lines were down in part of town. At least two vehicles were heavily damaged by falling trees.	61 kts. E	200	
11/23/2003	Winter Storm				
12/8/2003	Winter Storm				
2/5/2004	Winter Storm				
3/15/2004	Heavy Snow				
4/18/2004	Hail		1.75 in.		
6/10/2004	Thunderstorm Wind		69 kts. E		
7/3/2004	Hail		2.50 in.		
8/2/2004	Thunderstorm Wind		61 kts. E		
1/4/2005	Heavy Snow				
3/18/2005	Heavy Snow				
4/10/2005	Thunderstorm Wind	Thunderstorm winds caused widespread damage in Menno. Numerous trees including several large trees were uprooted. Numerous homes were damaged, some directly by the wind and others by tree and other debris. Many homes and other buildings had windows broken and siding damaged. Several vehicles were damaged, including one pickup which was pushed partly onto the porch of a house. Power lines and poles were blown down, resulting in a power outage in Menno.	78 kts. E	500	
11/27/2005	Ice Storm	Heavy freezing rain coated roads, and power lines with ice up to 3 inches thick throughout SE South Dakota. Many roads were shut down for extended periods. Most schools and businesses were forced to close. Many miles of power lines and thousands of poles		1,000	

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
		were brought down, resulting in power outages to thousands of households. In some rural areas, power was out for more than two weeks. Many people took shelter wherever they could. Damage to power poles and lines was so great that repairs required assistance from crews from eight states.			
11/28/2005	Blizzard	Snowfall from 4 to 15 inches combined with winds gusting over 50 mph to produce blizzard conditions. Heaviest snowfall was near and west of the James River, in the area where a severe ice storm immediately preceded the blizzard. Several reports of 6 to 8 foot drifts were received. Travel was made impossible in many areas as roads were closed for extended periods. Most schools and businesses not already closed because of the ice storm were forced to close. The winds during the blizzard continued to bring down power lines and poles, most of which had been coated and weighted down by ice in the area hit by the ice storm.		100	
3/12/2006	Winter Storm				
3/19/2006	Winter Storm	A prolonged period of snowfall spread into the area from the west and south, and continued for over a day. Snowfall totals varied from 6 to 10 inches, with winds gusting over 35 mph, which caused near blizzard conditions. The storm halted travel in the area of the heaviest snow, and greatly curtailed travel in other areas. Numerous schools and businesses were closed. Power outages were reported from collapsed lines due to the heavy snow and winds.			
7/18/2006	Drought				
8/1/2006	Drought				
9/16/2006	Tornado		F0		
12/20/2006	Winter Storm	Freezing rain caused significant icing of around a quarter inch, which caused branches and power lines to break in a few places. The freezing rain was followed by 1 to 3 inches of snow. Travel was greatly slowed. Classes for December 21st were cancelled at several schools.		20	
12/29/2006	Winter Storm	Freezing rain and snow caused heavy icing of roads, trees, and power lines, with 2 to 6 inches of snow. Travel was brought to a standstill in places and many vehicles slid off roads. Ice accumulation was between a quarter and a half inch. Numerous power lines and tree branches were brought down by the ice, resulting in power outages.		100	
2/24/2007	Winter Storm	Rain changed to freezing rain, causing light icing before the precipitation quickly changed to snow. Snow accumulated 5 to 7 inches. The icing and subsequent snow accumulation made travel very difficult, with several vehicle accidents and numerous vehicles sliding into ditches.			
2/28/2007	Heavy Snow				
3/1/2007	Blizzard				
3/11/2007	Flood				
5/5/2007	Flood	Heavy rainfall caused flooding of low areas including fields, homes, businesses, schools, roads, streams, and bridges. The flooding was a longer term event than flash flooding, which also had resulted. Long term major flooding of the James River also resulted, with the river peaking at 6.2 feet above flood stage southeast of Olivet on May 11th. Some parks and other recreation areas were affected. A few roads and bridges were washed out by the high water. The flooding delayed planting of crops in some areas.		200	
5/5/2007	Hail		1.75 in.		
5/5/2007	Tornado		EF1		

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
5/5/2007	Tornado		EF0		
5/5/2007	Tornado		EF0		
6/1/2007	Flood				
12/1/2007	Winter Storm				
4/10/2008	Blizzard				
6/5/2008	Flash Flood	Repeated heavy rain from thunderstorms caused widespread flash flooding in western Hutchinson County. Communities affected included Parkston and Tripp, with Parkston being especially hard hit. Numerous roads and homes were flooded, including up to 200 homes in Parkston. Parks and businesses were also flooded. In nearby rural areas, numerous fields were flooded, causing an unknown amount of crop damage. Small streams such as Pony Creek in Parkston flooded, adding to the damage.		1,000	
7/24/2008	Flash Flood				
3/23/2009	Thunderstorm Wind		61 kts. E		
3/31/2009	Blizzard				
4/1/2009	Flood				
4/4/2009	Blizzard				
5/1/2009	Flood				
6/1/2009	Flood				
6/16/2009	Hail		1.75 in.		
6/16/2009	Thunderstorm Wind	Thunderstorm winds blew the roof off a tire storage building, blew out several windows, and caused shingle and other roof damage to several structures in Menno. The winds blew down numerous trees, some large. Several vehicles, garages, and roofs were damaged by falling trees and tree debris, including at least 2 vehicles destroyed. The winds blew down power lines, causing a power outage.	70 kts. E	100	
6/16/2009	Tornado	A tornado blew the roof off a hog barn, blew down two grain bins, blew about 20 feet of concrete off a silo, and blew down numerous trees.	EF1		
6/16/2009	Tornado		EF0		
6/16/2009	Tornado		EF0		
6/16/2009	Tornado		EF0		
7/1/2009	Flood				
7/9/2009	Hail		1.75 in.	3,000	3,000
7/9/2009	Thunderstorm Wind	Thunderstorm winds blew down several trees, some as large as two feet in diameter, and blew down numerous branches. Minor damage to homes and vehicles was caused by falling trees and tree debris.	61 kts. E	40	
12/23/2009	Blizzard	Prolonged snowfall produced heavy accumulations over southeast South Dakota, ranging up to over 20 inches in several areas. The snowfall took place from two days before to the day after Christmas. The snowfall was accompanied by increasing north to northwest winds which caused widespread blizzard conditions on Christmas day and the start of the next day.			
1/6/2010	Blizzard	Snowfall of 3 to 6 inches, previously existing snow cover, and northwest winds gusting to over 40 mph produced widespread blizzard conditions, with visibilities less than a quarter mile. New snowfall included 6 inches at Menno. Schools and businesses were			

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
		closed, and travel became impossible in much of the area. The wind combined with cold temperatures to produce wind chills colder than 35 below zero during the latter part of the storm. This extreme cold continued into the next day, Friday, January 8th.			
1/7/2010	Extreme cold	Persistent north/northwest winds combined with very cold air to produce wind chill values that dropped to 35 below zero.			
3/11/2010	Flood				
4/1/2010	Flood				
5/1/2010	Flood				
6/1/2010	Flood				
6/11/2010	Thunderstorm Wind		61 kts. E		
6/16/2010	Flood				
6/26/2010	Tornado		EF0		
7/1/2010	Flood				
7/21/2010	Flash Flood	Heavy rain caused flooding of streets in and near the town of Freeman. The water was deep enough on streets to result in numerous stalled vehicles.			
8/1/2010	Flood				
9/23/2010	Flood				
12/11/2010	Blizzard				
12/31/2010	Winter Storm				
1/1/2011	Winter Storm				
2/1/2011	Extreme cold	North/northwest winds averaging 15 to 30 mph combined with temperatures dropping below zero to produce wind chills of 35 to 40 below zero.			
2/20/2011	Winter Storm				
3/16/2011	Flood				
4/1/2011	Flood	Major flooding of the James River, as well as flooding of small streams and lakes in the county, continued through April. Much farmland remained flooded, both near to and away from the James River. The James River was 5.8 feet above flood stage northeast of Scotland on April 1st, and fell very slowly during the month. A large area of land and numerous roads were flooded at the start of the month. Water was running over other roads, from flooded streams, creeks, and fields as well as from the James River. Many roads were heavily damaged. Some homes and businesses were also flooded, with the flooding of these places slowly alleviating through the month. High water and groundwater levels from record precipitation in the year 2010, a main reason the flooding onset was so fast in March, was also a main reason that the flooding subsided so slowly during April.		1,000	
4/15/2011	Heavy Snow				
5/1/2011	Flood				
5/29/2011	Hail		1.50 in.		
5/30/2011	Hail		1.75 in.		
6/1/2011	Flood	Moderate to major flooding of the James River, ongoing since the snowmelt season in March, continued through June. Farmland and other lowlands near the river remained flooded, with the water level varying slowly during the month. The highest stage northeast			

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
		of Scotland was 3.1 feet above flood stage on June 2nd, though water levels were mostly below the levels of May.			
7/1/2011	Flood	Moderate to major flooding of the James River, ongoing since the snowmelt season in March, continued through July. Farmland and other lowlands near the river remained flooded, with the water level varying slightly up and down due to sporadic heavy rainfall. The highest stage northeast of Scotland was 3.3 feet above flood stage on July 7th, slightly higher than the peak stage of June, but not as high as peak levels earlier in the Spring.			
7/15/2011	Extreme heat				
8/1/2011	Flood	Moderate to major flooding of the James River, ongoing since the snowmelt season in March, continued into early August, with the flooding continuing but very slowly abating through the month. Flooding of farmland and other lowlands near the river very slowly abated. The highest stage northeast of Scotland was 3.0 feet above flood stage on August 3rd			
8/11/2011	Thunderstorm Wind	Thunderstorm winds blew down trees and power lines in Freeman, causing a power outage. The winds also caused minor roof damage to several structures. More substantial damage was caused to a few homes, mainly roofs, by falling trees and large limbs. Fallen trees and tree debris blocked some roads in town.	61 kts. E	100	
8/28/2011	Hail		3.00 in.		
5/8/2012	Flood	Heavy rain caused minor flooding of the James River, affecting some farmland and roads. The flooding was noticed mostly in the northern part of the county, with lesser flooding downstream. The River crested at less than a tenth of a foot above flood stage near Scotland on May 12th.			
6/1/2012	Drought	Well below normal rainfall aggravated long term dry soil conditions, producing stress on crops which had been planted unusually early due to a warm late winter and early spring. The crops had begun their growth with ample mid spring rains, but the stress quickly developed with the return to dry conditions which had existed generally since the previous fall.			
6/26/2012	Extreme heat				
7/1/2012	Drought	Drought conditions became established over the area. Stress on crops increased with no relief during the month. Hot weather added to the stress. Crop damage became certain. Severe non-ag water supply problems were not observed, but the long term dry conditions raised fears for the future.			
7/2/2012	Extreme heat				
7/15/2012	Extreme heat				
7/18/2012	Extreme heat				
8/1/2012	Drought	Drought was generally listed as severe to extreme for the area, and was being compared to the worst of the dust bowl years, though not yet over as long a time period. Stress on crops continued, even though August was less hot than July. Crop damage was quite evident. Many local governments had water use restrictions in place.			
8/1/2012	Extreme heat				
9/1/2012	Drought	Drought conditions continued over all of southeast South Dakota. Rainfall for the month varied from around half to less than a quarter of normal. Stress on crops that prevailed over the growing season became even more evident with the start of harvest. Local governments continued to use water use restrictions in an effort to prevent serious water supply problems.			
10/1/2012	Drought				

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
11/1/2012	Drought				
12/1/2012	Drought	Drought conditions continued over all of southeast South Dakota in December. The effects of the drought on farmers and ranchers continued. Hunting was also affected, with low pheasant numbers, and disease in the deer population.			
12/9/2012	Blizzard				
1/1/2013	Drought				
2/1/2013	Drought				
2/10/2013	Blizzard	Variable snowfall of 2 to 8 inches, northwest winds gusting to 45 mph, and snow cover existing before the storm in part of the area, produced blizzard conditions with visibilities below a quarter mile in blowing snow in many areas. The low visibilities and drifting snow forced some businesses to close, and also forced several school closings on Monday February 11th.			
3/1/2013	Drought				
4/1/2013	Drought				
4/9/2013	Winter Storm	An extended period of precipitation began with freezing rain quickly producing moderate to heavy ice accumulations, ranging up to more than a quarter of an inch. The precipitation then changed to sleet and then snow, with sleet and snow accumulations reaching the 5 to 8 inch range. Numerous branches and power lines were downed by the weight of ice and accompanying wind, with much of the power line damage affecting rural electric cooperatives. Trees and tree debris blocked roads, and damaged some vehicles and homes. Several power outages were reported. The winter precipitation made travel impossible in many areas, resulting in schools and businesses being forced to close.		10,000	
8/10/2013	Hail		2.00 in.	10	
8/10/2013	Thunderstorm Wind		61 kts. E	50	
12/3/2013	Winter Storm	Snow, heavy in areas, accumulated up to 8 inches from the evening of December 3rd through the afternoon of December 4th. Difficult travel conditions forced delayed openings or early closings of some schools and businesses on December 4th.			
5/26/2014	Hail		1.25 in.		
6/16/2014	Flood	Persistent rain caused flooding of fields and other lowlands, including several roads, homes, and businesses. This flooding lasted for almost two days. Some roads were damaged or washed out.		50	
7/26/2014	Hail		1.50 in.		
1/31/2015	Winter Storm				
5/10/2015	Tornado		EF0		
8/9/2015	Hail		1.00 in.		
8/15/2015	Hail		1.00 in.		
11/20/2015	Heavy Snow				
11/30/2015	Winter Storm				
12/25/2015	Winter Storm				
2/2/2016	Blizzard	Snow, combined with winds gusting over 40 mph, produced near zero visibilities. Total snow amounts included over 6 inches southeast of Menno. Travel was brought to a halt and several			

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
		vehicles slid off roads due to the combination of snowy roads and low visibility. Schools and numerous businesses were closed.			
2/19/2016	High Wind		65 kts. MG		
3/23/2016	Winter Storm				
6/10/2016	Extreme heat				
6/17/2016	Hail		1.25 in.		
7/19/2016	Extreme heat				
9/9/2016	Hail		1.75 in.		
11/18/2016	Winter Storm				
12/17/2016	Extreme cold				
1/24/2017	Winter Storm				
2/23/2017	Winter Storm				
6/12/2017	Hail		1.00 in.		
6/29/2017	Hail		1.00 in.		
8/21/2017	Hail		2.00 in.		
12/26/2017	Extreme cold				
12/31/2017	Extreme Cold	Low temperature at Parkston was -25, with a wind chill of -36.			
1/1/2018	Extreme Cold				
1/15/2018	Extreme Cold				
1/22/2018	Winter Storm				
2/10/2018	Extreme Cold				
2/22/2018	Winter Storm				
3/5/2018	Blizzard				
3/18/2018	Flood				
4/13/2018	Blizzard	Life threatening conditions developed, as a mix of rain, sleet and snow changed to all snow. Brutal winds gusting over 40 mph whipped visibility to less than a quarter mile at times. Businesses and schools were closed. Travel was not recommended for a two day period. Total snowfall of 9 inches measured at Menno.			
4/13/2018	Hail	Hail up to golf ball size fell for a few minutes north of Tripp.	1.75 in.		
4/18/2018	Winter Storm				
4/23/2018	Flood				
4/29/2018	Flood	Snow melt and runoff from periods of heavy rainfall produced minor flooding which impacted lowland agricultural areas.			
5/23/2018	Hail		1.00 in.		
5/25/2018	Hail		1.00 in.		
6/26/2018	Flood				
7/3/2018	Heat				
7/11/2018	Heat				
7/13/2018	Flood				

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
8/28/2018	Hail		1.75 in.		
8/28/2018	Hail		1.75 in.		
9/20/2018	Flood	Runoff from heavy rain produced moderate flooding which significantly impacted lowland agricultural areas between Mitchell and Yankton. River levels reached 2.1 feet above flood stage on the James River near Scotland.			
12/1/2018	Winter Storm				
12/27/2018	Winter Storm				
12/31/2018	Extreme Cold				
1/1/2019	Extreme Cold				
3/3/2019	Extreme Cold				
3/13/2019	Flood	Snow melt and heavy rainfall resulted in extensive flooding of agricultural lands and inundation of numerous roads, including SD Hwy 44 south of Milltown. A few farm buildings along the river stretch were also flooded. The James River at Scotland reached major flood stage cresting 5.95 feet above flood stage on March 15. Major flooding continued at the end of the month.			
4/1/2019	Flood	Runoff from occasional precipitation in late March and April maintained considerable flooding in the area. The James River at Mitchell crested at 6.30 feet above flood stage on April 22, the sixth highest crest on record. Major flooding continued at the end of the month.			
4/11/2019	Blizzard				
5/1/2019	Flood	Flooding continued during the month. The James River near Mitchell crested at major flood stage twice during the month. The first occurred on May 1 when levels crested at 5.79 feet above flood stage. Additional rainfall later in the month resulted in a secondary crest of 5.44 feet above flood stage on May 31. The river remained at major flood stage at the end of the month.			
6/1/2019	Flood	Flooding continued during the month. The James River near Scotland started at 4.90 feet above flood stage on June 1. Many rural roads near the river were inundated, with continued flooding of significant amounts of agricultural land.			
6/21/2019	Funnel Cloud				
6/29/2019	Extreme Heat				
6/30/2019	Heat				
7/1/2019	Flood	Flooding continued during the month. The James River near Mitchell crested 4.74 feet above flood stage on July 12, with a secondary crest 3.17 feet above flood stage on July 30. Many rural roads near the river were inundated, with continued flooding of significant amounts of agricultural land.			
7/17/2019	Lightning			90	
7/17/2019	Thunderstorm Wind		81 kts. EG	100	
7/17/2019	Tornado		EF1	100	
8/1/2019	Flood	Flooding continued during the month. The James River near Mitchell crested 4.97 feet above flood stage on August 8. Many rural roads near the river were inundated, with continued flooding of significant amounts of agricultural land.		10	
8/3/2019	Flood			10	5
8/17/2019	Hail		1.00 in.		

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
9/1/2019	Flood	A continuation of flooding from August. The James River near Mitchell responded sharply to 5 to 8 inches of rainfall between September 10-12 to reach the 4th highest crest on record at 8.05 feet above flood stage on September 13. Numerous county and township roads were inundated, including SD Hwy 37, SD Hwy 44, and US Hwy 18. A great amount of ag land remained flooded.		400	
10/1/2019	Flood	A continuation of flooding from September, as the James River near Scotland spent much of the month at moderate flood stage. Significant amounts of agricultural land remained flooded.		5	
10/22/2019	Flood				
11/1/2019	Flood				
11/25/2019	Flood	The James River near Scotland crested on November 30 at 0.30 feet above flood stage. Impacts were generally inundation of agricultural lands near the river.			
11/26/2019	Winter Storm				
12/1/2019	Flood				
12/29/2019	Blizzard	Light mixed precipitation resulted in a minor glaze of ice accumulation, then heavy snowfall (9 inches at Parkston and Menno) and high wind resulted in white out conditions. Travel was not recommended. Snow drifts to several feet were common.			
1/1/2020	Flood				
1/17/2020	Blizzard				
1/18/2020	Cold/wind Chill				
2/1/2020	Flood				
2/12/2020	Cold/wind Chill				
2/26/2020	Flood				
3/1/2020	Flood				
3/3/2020	Flood				
4/1/2020	Flood				
4/11/2020	Winter Storm				
5/1/2020	Flood				
6/1/2020	Flood				
6/8/2020	Flash Flood			5	
6/12/2020	Flood				
6/22/2020	Hail		1.00 in.		8
7/1/2020	Flood				
7/6/2020	Flash Flood				
7/6/2020	Hail		1.00 in.		23
10/6/2020	Drought				480
11/1/2020	Drought				
11/10/2020	Winter Storm				
12/1/2020	Drought				
12/23/2020	Blizzard				

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
1/1/2021	Drought				
2/1/2021	Drought				
2/14/2021	Extreme cold				
3/14/2021	Winter Storm				
6/1/2021	Drought				4,920
7/1/2021	Drought				7,070
7/5/2021	Hail		1.00 in.		
7/8/2021	Hail		1.50 in.		
8/1/2021	Drought				2,500
8/30/2021	Hail		1.75 in.		27
9/1/2021	Drought				328
9/16/2021	Thunderstorm Wind		63 kts. MG		
10/1/2021	Drought				132
11/1/2021	Drought				35
12/10/2021	Winter Storm				
12/31/2021	Cold/wind Chill				
1/1/2022	Cold/wind Chill				
1/6/2022	Extreme cold				
2/23/2022	Extreme cold				
3/5/2022	Winter Storm				
4/1/2022	Drought				
4/12/2022	Hail		2.75 in.		
5/1/2022	Drought				
5/11/2022	Hail		1.50 in.		
5/12/2022	Thunderstorm Wind	A highly unstable environment generated scattered storms with damaging winds. With many fields unplanted, a huge amount of dirt was lofted into the leading edge of the storms, which took on the characteristics of a haboob reducing visibility to near zero. Winds from 70 to 100 mph devastated much of southeast South Dakota, causing extensive tree and structural damage and many injuries. Vehicles were blown off several roads, shutting down traffic on Interstates 29 and 90. Power was disrupted in a widespread area, with estimates of over 45,000 customers impacted at one time. Many schools were closed due to damage and power issues. The storm resulted in a Presidential Disaster Declaration for damage to public infrastructure at an estimated cost of 6.7 million dollars across 20 counties and two reservations.	93 kts. MG		
5/29/2022	Hail		2.00 in.		
5/30/2022	Flood				
6/1/2022	Drought				
6/1/2022	Flood				
6/20/2022	Thunderstorm Wind		65 kts. EG		

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
7/1/2022	Flood				113
8/1/2022	Flood				45
8/2/2022	Drought				
8/5/2022	Excessive Heat				
9/1/2022	Drought				
10/1/2022	Drought				
11/1/2022	Drought				
12/1/2022	Drought				
12/15/2022	Winter Storm				
12/21/2022	Blizzard/Extreme Cold				
1/1/2023	Drought				
1/2/2023	Winter Storm				
1/27/2023	Winter Storm				
2/1/2023	Drought				
2/21/2023	Blizzard				
2/23/2023	Cold/wind Chill				
4/18/2023	Flood				800
4/28/2023	Flood				
5/1/2023	Flood				189
6/1/2023	Flood				
6/6/2023	Drought				
6/23/2023	Hail		1.00 in.		18
7/1/2023	Drought				3,130
7/12/2023	Thunderstorm Wind		74 kts. EG		
7/25/2023	Excessive Heat				
8/19/2023	Excessive Heat				
8/21/2023	Excessive Heat				
9/2/2023	Heat				
12/25/2023	Blizzard				
1/7/2024	Winter Storm				
1/12/2024	Extreme cold				
1/13/2024	Blizzard				
1/19/2024	Cold/wind Chill				
3/24/2024	Winter Storm				
5/30/2024	Hail		1.00 in.		
6/20/2024	Flood	Rainfall amounts across Hutchinson County from June 20-22 ranged from 4 to 6 inches. Overland flooding ensued with additional major flooding along Wolf Creek and the James River.		758	

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
		Multiple residences in Parkston, Tripp, Olivet, Menno, Freeman, and other smaller communities across the county had water or sewer backup into their homes. In addition, many roads had gravel wash and several culverts were swept away. Preliminary damage assessments estimate loss to public infrastructure across the county to be nearly $758,000. The majority of overland flooding subsided by June 24, but river flooding continued through the end of the month.			
7/1/2024	Flood				
7/13/2024	Excessive Heat				
7/29/2024	Thunderstorm Wind		64 kts. MG		
7/31/2024	Heat				
7/31/2024	Tornado		EFU		
8/2/2024	Heat				
8/25/2024	Excessive Heat				
8/26/2024	Hail		1.00 in.		
8/26/2024	Thunderstorm Wind		61 kts. EG		
10/8/2024	Drought				
11/1/2024	Drought				

Source: National Climatic Data Center Storm Events Database (www.ncdc.noaa.gov/stormevents)

Crop Loss

As described in **Chapter III**, farmers typically protect themselves from the impacts of adverse weather by insuring their crops against losses through multi-peril crop insurance, which is underwritten by the Risk Management Agency. The tables on the next few pages provide data on indemnity payouts to Hutchinson County farmers for crop loss due to natural hazard events from 2000 through 2023.

Table C.3 shows indemnity payouts due to winter weather events. During the 2000 – 2023 period of analysis, winter weather-related payouts represented approximately 1% of all indemnity payouts in Hutchinson County.

Table C.3 – Crop Loss Due to Winter Weather

Year	Frost	Freeze	Cold Winter	Cold Wet Weather
2000			$18,658	$7,095
2001			$384,444	$518
2002		$1,501	$5,455	$10,703
2003	$990		$12,897	
2004	$6,518	$6,351	$1,236	$6,117
2005	$1,642	$6,084	$2,006	
2006		$928	$6,113	$1,495
2007	$438	$819	$188,113	$434
2008		$20,226	$38,681	$103,563
2009			$341,728	$5,967
2010	$3,029		$14,418	$12,519
2011	$22,201		$17,997	$1,519,133
2012			$3,774	$1,675
2013	$3,001	$1,240	$8,033	$15,132
2014			$235,348	$17,392
2015			$346,430	$12,247
2016		$5,532	$11,512	$28,759
2017			$6,752	$60,200
2018		$749	$1,703	$129,738
2019			$18,222	$719,104
2020			$12,416	$116,187
2021	$20,408			
2022	$7,249			
2023			$125,313	$11,183
Ave Payout =	**$2,728**	**$1,810**	**$75,052**	**$115,798**

Source: USDA Risk Management Agency (www.rma.usda.gov/data/cause.html)

Table C.4 shows indemnity payouts due to severe summer weather. During the 2000 – 2023 period of analysis, summer storm-related payouts represented approximately 3% of all indemnity payouts in Hutchinson County.

Table C.4 – Crop Loss Due to Severe Summer Weather

Year	Hail	High Wind
2000	$625,527	$22,262
2001	$6,650	
2002	$230,764	
2003	$86,282	
2004	$103,300	$2,332
2005	$653	
2006	$9,180	
2007	$7,038	$23,847
2008	$292,326	$7,028
2009	$6,792,310	
2010		$1,663
2011	$343,606	$7,953
2012	$148,096	$9,012
2013	$1,383,655	
2014	$503,892	
2015	$102,704	$4,770
2016	$239,199	$33,411
2017	$1,597,002	$22,216
2018	$356,231	$3,838
2019	$474,613	$52,500
2020	$36,249	$27
2021	$27,073	$186,379
2022	$6,147	$1,361,641
2023	$24,578	
Ave Payout =	**$558,211**	**$72,453**

Source: USDA Risk Management Agency (www.rma.usda.gov/data/cause.html)

Table C.5 shows indemnity payouts due to flooding and excess moisture. During the 2000 – 2023 period of analysis, flood-related payouts represented approximately 27% of all indemnity payouts in Hutchinson County.

Table C.5 – Crop Loss Due to Flooding and Excess Moisture

Year	Flooding	Excess Moisture
2000	$0	$195,712
2001	$8,435	$2,459,338
2002	$1,476	$321,884
2003	$2,715	$242,738
2004	$23,920	$315,088
2005	$18,887	$1,689,061
2006	$11,151	$24,924
2007	$154,480	$4,661,921
2008	$709,894	$10,583,002
2009	$175,324	$1,922,694
2010	$273,895	$5,563,534
2011	$8,843	$5,522,415
2012	$17,059	$71,606
2013	$1,737	$152,976
2014	$736	$47,937
2015		$331,576
2016	$55,714	$6,053,246
2017	$67,746	$2,170,019
2018	$304,408	$5,450,319
2019		$62,144,585
2020	$14,119	$6,763,375
2021		$61,374
2022	$478,769	$152,520
2023	$988,526	$464,964
Ave Payout =	**$138,243**	**$4,890,284**

Source: USDA Risk Management Agency (www.rma.usda.gov/data/cause.html)

Table C.6 shows indemnity payouts due to drought and heat. During the 2000 – 2023 period of analysis, drought-related payouts accounted for approximately 63% of all indemnity payouts in Hutchinson County, far more than any other type of hazard [11].

Table C.6 – Crop Loss Due to Drought and Heat

Year	Drought	Heat
2000	$617,289	
2001	$655,967	$6,949
2002	$9,758,512	$84,810
2003	$728,827	$21,307
2004	$692,493	$3,373
2005	$5,779,279	$259,037
2006	$11,200,375	$266,322
2007	$830,450	$114,897
2008	$3,026,445	$2,209
2009	$6,695	$6,389
2010	$1,151	
2011	$434,897	$104,628
2012	$110,392,054	$10,331,252
2013	$164,019	$15,243
2014	$386,431	
2015	$301,033	
2016	$956,363	$30,438
2017	$1,142,904	$22,100
2018		
2019		
2020	$643,216	$29,261
2021	$19,551,251	$232,092
2022	$90,518,995	$3,203,287
2023	$4,364,133	$569,739
Ave Payout =	**$10,923,032**	**$637,639**

Source: USDA Risk Management Agency (www.rma.usda.gov/data/cause.html)

[11] Drought is the costliest natural hazard statewide for South Dakota farmers. From 2000 through 2017, drought payouts accounted for approximately 50% of all indemnity payouts in the state.

APPENDIX D: References

PRINT REFERENCES

- Hutchinson County Comprehensive Plan. Planning & Development District III. 1999.
- Hutchinson County Highway Plan. Hutchinson County Highway Department. 2025.
- Town of Dimock Comprehensive Plan. Planning & Development District III. 2002.
- City of Freeman Comprehensive Plan. Planning & Development District III. 2016.
- City of Menno Comprehensive Plan. Planning & Development District III. 1997.
- City of Parkston Comprehensive Plan. Planning & Development District III. 2003.
- City of Tripp Comprehensive Plan. Planning & Development District III.
- Parkston Housing Market Study. Planning & Development District III. 2023.
- Tripp Housing Study. Planning & Development District III. 2019.
- Southeastern Electric Cooperative Construction Work Plan and Upgrade Project List. 2026.
- Comprehensive Economic Development Strategy. Planning & Development District III. 2024.
- Electrical Transmission and Distribution Mitigation: Loss Avoidance Study Nebraska and Kansas FEMA-1674-DR-KS and FEMA-1675-DR-NE. Federal Emergency Management Agency. 2008.
- Local Mitigation Planning Handbook. FEMA. March 2013.
- Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards. FEMA. January 2013.
- State of South Dakota Hazard Mitigation Plan. South Dakota Office of Emergency Management/Wood Environment & Infrastructure Solutions. 2019.
- State of South Dakota Enhanced Hazard Mitigation Plan. South Dakota Office of Emergency Management. 2024.
- South Dakota Drought Mitigation Plan. South Dakota Drought Task Force/South Dakota Office of Emergency Management. 2015.
- South Dakota's Five-Year Floodplain Management Work Plan. South Dakota Office of Emergency Management. 2005.
- South Dakota Electric Cooperatives Mutual Aid Plan. South Dakota Rural Electric Association. 2008.

ELECTRONIC REFERENCES

- Census data: data.census.gov/cedsci/profile
- Building permit data: socds.huduser.gov/permits/
- Land cover information: www.mrlc.gov/index.php
- Climate extremes: www.weather.gov/fsd/climatearchive
- Climate projections: headwaterseconomics.org/tools/neighborhoods-at-risk/tool-about/
- Major disaster declarations and emergency declarations in South Dakota: www.fema.gov/disasters/grid/state-tribal-government/
- Public assistance amounts following declared disasters: www.fema.gov/data-feeds/openfema-dataset-public-assistance-funded-projects-summaries-v1
- Storm event records: www.ncdc.noaa.gov/stormevents/choosedates.jsp?statefips=46, SOUTHDAKOTA
- Crop loss records: www.rma.usda.gov/data/cause.html
- Tornado frequency: hazards.fema.gov/nri/tornado
- Flood insurance information: www.fema.gov/policy-claim-statistics-flood-insurance
- National Flood Insurance Program participation: www.fema.gov/cis/SD.html
- Flood risk: riskfactor.com
- 2019 flooding impact: fb.org/market-intel/prevent-plantings-set-record-in-2019-at-20-million-acres
- Drought impact: droughtreporter.unl.edu/map/
- Wildfire risk: wildfirerisk.org/explore/
- Wildfire risk: silvis.forest.wisc.edu/data/wui-change/
- Earthquake history in South Dakota: www.sdgs.usd.edu/publications/maps/earthquakes/earthquakes.htm
- Earthquake magnitude: en.wikipedia.org/wiki/Richter_magnitude_scale
- Landslide information: landslides.usgs.gov/hazards/nationalmap/
- Resilience: experience.arcgis.com/experience/0a317e8998534c30a9b2d3861c814d42/
- Building code adoption status: stantec.maps.arcgis.com/apps/MapSeries/index.html?appid=a053ac48343c4217ab4184bc8759c350
- Social vulnerability: data.cdc.gov/Vaccinations/Social-Vulnerability-Index/ypqf-r5qs