2026

HAZARD MITIGATION PLAN

Bon Homme County, South Dakota



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Bon Homme County Hazard Mitigation Planning Team

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2026 Bon Homme 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 Bon Homme County Hazard Mitigation Plan, which was approved by FEMA in September 2021. The purpose of the plan is to prevent or reduce losses to people and property that may result from future hazard events in Bon Homme 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 Bon Homme County in its efforts to mitigate future disaster events.

This is a multi-jurisdictional plan. All the municipalities located within Bon Homme 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]:

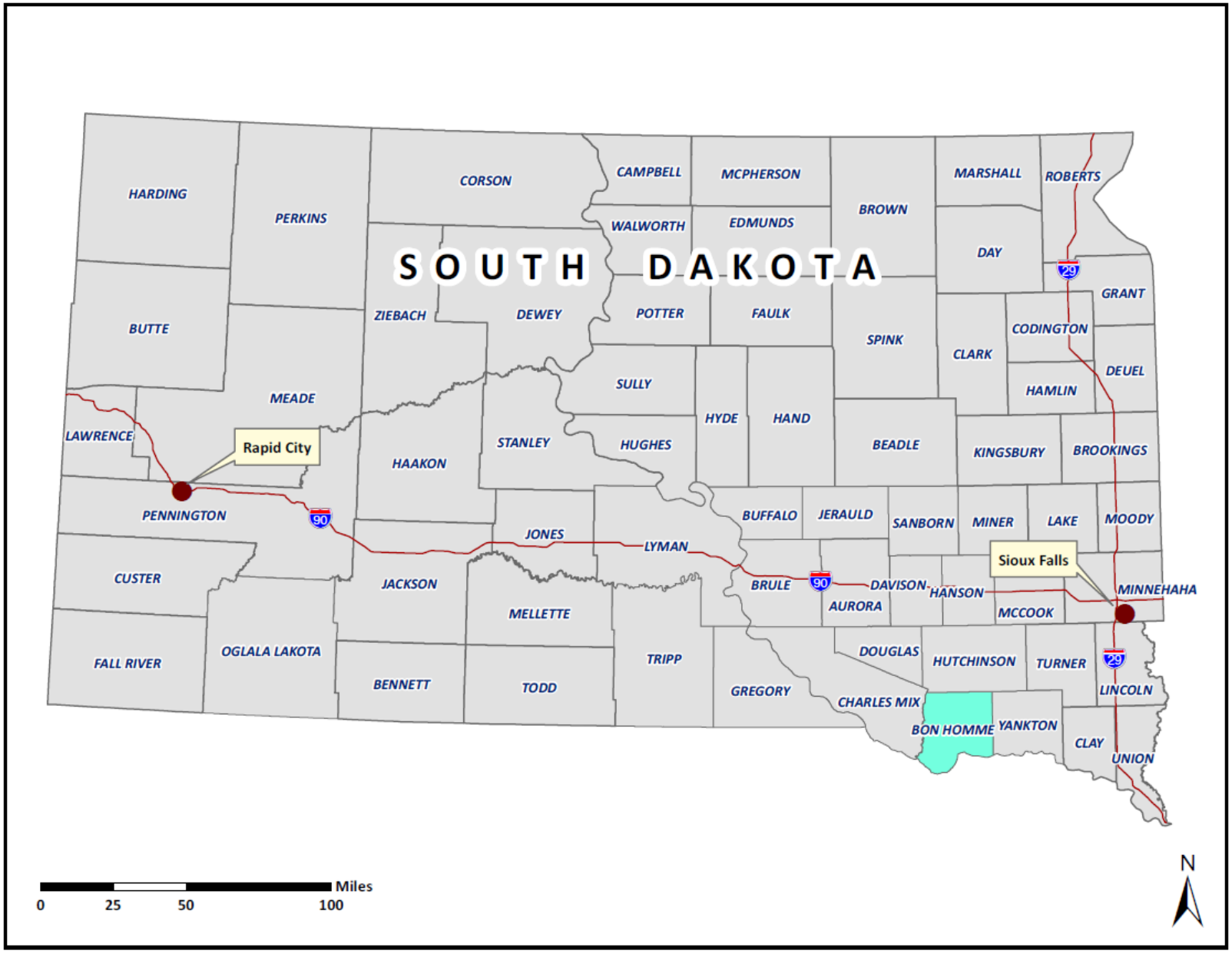
- Bon Homme County
- City of Avon
- City of Springfield
- Town of Tabor
- City of Tyndall

Production of the plan was the ultimate responsibility of the Bon Homme 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 fifteen of the counties in the District's planning area, including Bon Homme County's current plan.

[1] The City of Scotland was also invited to participate, but chose not to.

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 Bon Homme 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. These stakeholders included:

- Bon Homme Yankton Electric Association
- Randall Community Water District
- South Central Water Development District
- DGR Engineering
- U.S. Army Corps of Engineers
- St. Michael's Hospital, Tyndall
- Bon Homme School District
- Tyndall *Tribune & Register*
- Neighboring counties (Charles Mix, Douglas, Hutchinson, 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 07/15/26	Mtg 2 08/19/26	Mtg 3 10/07/26
John Clem	Planning District III	Planner	Plan author	X	X	X
Shannon Viereck	Planning District III	Planner	Research, Support	X	X	
Liam Quedensley	Bon Homme County	Emergency Manager	Input, Review	X	X	X
Duane Bachmann	Bon Homme County	Commissioner	Input, Review	X	X	X
Mary Jo Bauder	Bon Homme County	Commissioner	Input, Review	X	X	
Ed Van Gerpen	Bon Homme County	Commissioner	Input, Review	X	X	X
Jason Kokes	Bon Homme County	Commissioner	Input, Review	X	X	X
Brett Romkema	Bon Homme County	Commissioner	Input, Review		X	X
Carla Kopp	Bon Homme County	Auditor	Input, Review	X	X	X
Abigail Manger	Bon Homme County	States attorney	Input, Review	X	X	
Tammy Mesmer	Bon Homme County	States attorney office	Input, Review		X	
Brooke Swier Schloss	Bon Homme County	States attorney office	Input, Review		X	X
Mark Maggs	Bon Homme County	Sheriff's office	Input, Review			X
Amanda Whittington	City of Tyndall	Mayor	Input, Review	X	X	X
Teresa Holland	City of Tyndall	Finance Officer	Input, Review	X	X	X
Amanda Larson	City of Springfield	Finance Officer	Input, Review	X	X	X
Laverne Schieffer	Town of Tabor	Mayor	Input, Review	X	X	X
Ev Kloucek	Town of Tabor	Finance Officer	Input, Review	X	X	
Richard Sutera	Town of Tabor	Public works	Input, Review	X	X	X
Victoria Radack	City of Avon	Finance Officer	Input, Review	X		
Dan Knoll	City of Avon	Public works	Input, Review	X		
Alex Bachman	Tyndall Tribune	Editor		X		X
Ken Carda	B-Y Electric	Office manager	Input, Review		X	
Stephanie Horst	B-Y Electric	Staff	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 local newspaper, information posted online, 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 and to other city and county staff who did not participate in the planning meetings. To generate broader public input, the surveys were also made available online 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 Bon Homme 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.
Bon Homme County Comprehensive Plan	The environmental constraints section of the plan was used to identify areas suitable for development in the county.
Bon Homme County Highway Plan	The plan includes a list of county roads scheduled for improvements within the next five years.
Springfield Comprehensive Plan	The environmental constraints section of the plan was used to identify areas suitable for development within the city.
Springfield Capital Improvement Plan	The plan outlines major capital projects the City will consider pursuing through 2030, including ways to finance the projects.
Springfield Housing Study	The study presents socio-economic and demographic data and outlines potential housing development strategies for the city.
Preliminary Report for the Storm Drainage System in Tabor	The report analyzes various alternatives for improving storm water drainage in Tabor.
Electric System Study & Capital Improvements Plan for Tyndall	Although dated, the study provides useful information about the condition of the City's electrical infrastructure and outlines improvements that could be implemented.
Bon Homme Yankton Electric Association 2024-2027 Construction Work Plan	The plan provides details about the association's anticipated projects through 2027, including location and expected cost.
Lake Henry Emergency Preparedness Plan	The plan outlines procedures for warning, evacuation, and care of those living within the area potentially impacted by dam failure.

Planning Meetings

Several meetings were held to develop the plan, all of which took place at the Bon Homme 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 Bon Homme 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 an introduction to the concept of hazard mitigation for the team members, some of whom had not participated in the development of the current plan, followed by a discussion about the process by which the plan would be developed over the coming months. The team then reviewed the initial results of the survey and additional surveys were collected. The rest of the meeting was spent reviewing the County's current mitigation plan and discussing local mitigation capabilities, focusing on land use regulations, enforcement of building codes, and National Flood Insurance Program activities.

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, based on FEMA's guidance document *Mitigation Ideas: A Resource for Reducing Risk to Natural Hazards*.

Second Planning Team Meeting

The mitigation strategy began to be developed at this meeting, starting with the identification of hazards to be addressed. Following this, a review was made of the status of the proposed mitigation actions listed in the current plan.

Discussion then turned to identification of the mitigation goals and objectives to be achieved, followed by initial discussion of the specific mitigation actions to include in the plan. The

participants were reminded to focus on hazard mitigation, as opposed to preparedness, and they were encouraged to consider a comprehensive range of actions, regardless of whether they could be achieved in the foreseeable future.

Activity between meetings

After the second meeting, each jurisdiction further 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 4.6**).

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. The importance of integrating the plan into the existing planning mechanisms within the county was emphasized. Additional information was added to the plan based on discussion at the meeting, primarily involving clarification of some of the 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 Bon Homme 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 County Auditor Carla Kopp for arranging the planning team meetings and Emergency Management Director Liam Quedensley for coordinating with the participating jurisdictions. Thanks are also extended to Jim Poppen, Blaire Jonas, and Kyle Kafka at the South Dakota Office of Emergency Management for information and guidance that was helpful in developing the plan.

2026 Bon Homme 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 Bon Homme 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

Bon Homme County is located in southeast South Dakota (see **Figure 1.1**). The county covers approximately 581 square miles of area, and its Census 2020 population was 7,003. Its population density is about 12.1 people per square mile compared to 11.7 people per square mile in South Dakota and 93.8 people per square miles in the United States.

Five incorporated municipalities are located within the county - Avon (pop 586), Scotland (pop 785), Springfield (pop 1,914), Tabor (pop 407), and Tyndall (pop 1,057). The county seat is located in Tyndall. Unincorporated communities within the county include Kingsburg, Perkins, and Running Water. Another populated place is the Bon Homme Hutterite Colony located in the southeast corner of the county along the Missouri River [2]. **Figure 2.1** shows the county's communities and highway network.

Physical Characteristics

The landscape in Bon Homme County is mostly open, and the terrain is fairly level to gently rolling, except along the Missouri River, where wooded draws characterize the landscape. Much of the land in the county is devoted to agricultural production, primarily row crops such as corn, soybeans, and wheat, and there is also a considerable amount of pastureland.

[2] 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 – Bon Homme County

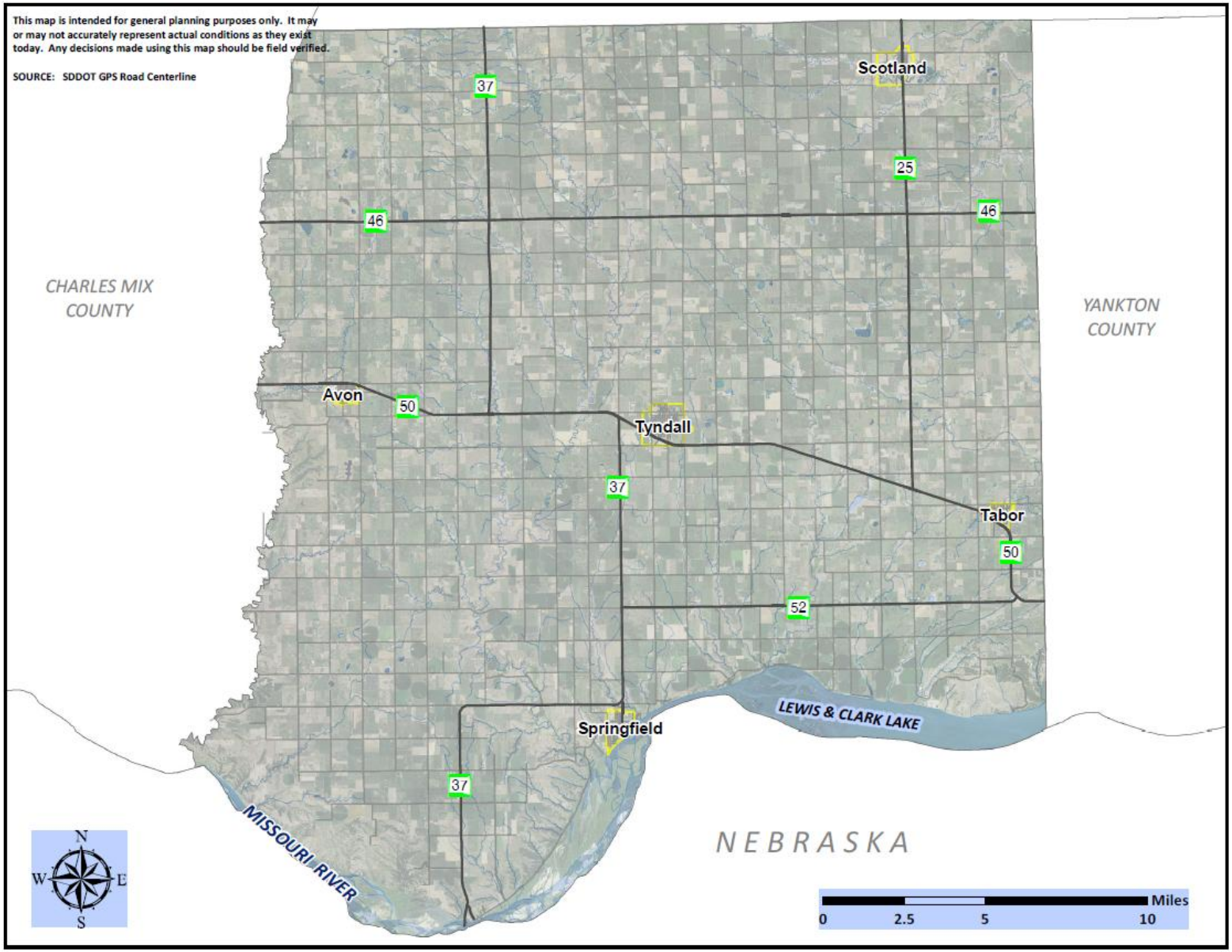


Table 2.1 provides a breakdown of the land cover in Bon Homme County, which is shown graphically in **Figure 2.2** on the following page. The table is based off satellite imagery from the United States Geological Service's National Land Cover Database. As the table shows, the predominant types of land cover in the county are cropland and pastureland, which together comprise approximately 77 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	314.0	54.0
Pasture land	132.2	22.7
Grassland and Shrub/Scrub	55.1	9.5
Developed land (open space)	24.9	4.3
Open water	21.9	3.8
Wetlands	16.3	2.8
Forested land	13.8	2.4
Developed land (low to high intensity)	2.8	0.5
Barren land	0.2	0.0

Source: www.mrlc.gov/index.php

As in most of South Dakota, the climate of Bon Homme 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 [3], while winter lows can drop below -20 degrees. Precipitation averages about 24 inches per year, much of which occurs during the spring and early summer. Following is climate data reported from the Tyndall weather station.

Table 2.2 - Monthly Climate Conditions in Bon Homme County (1893 - 2013)

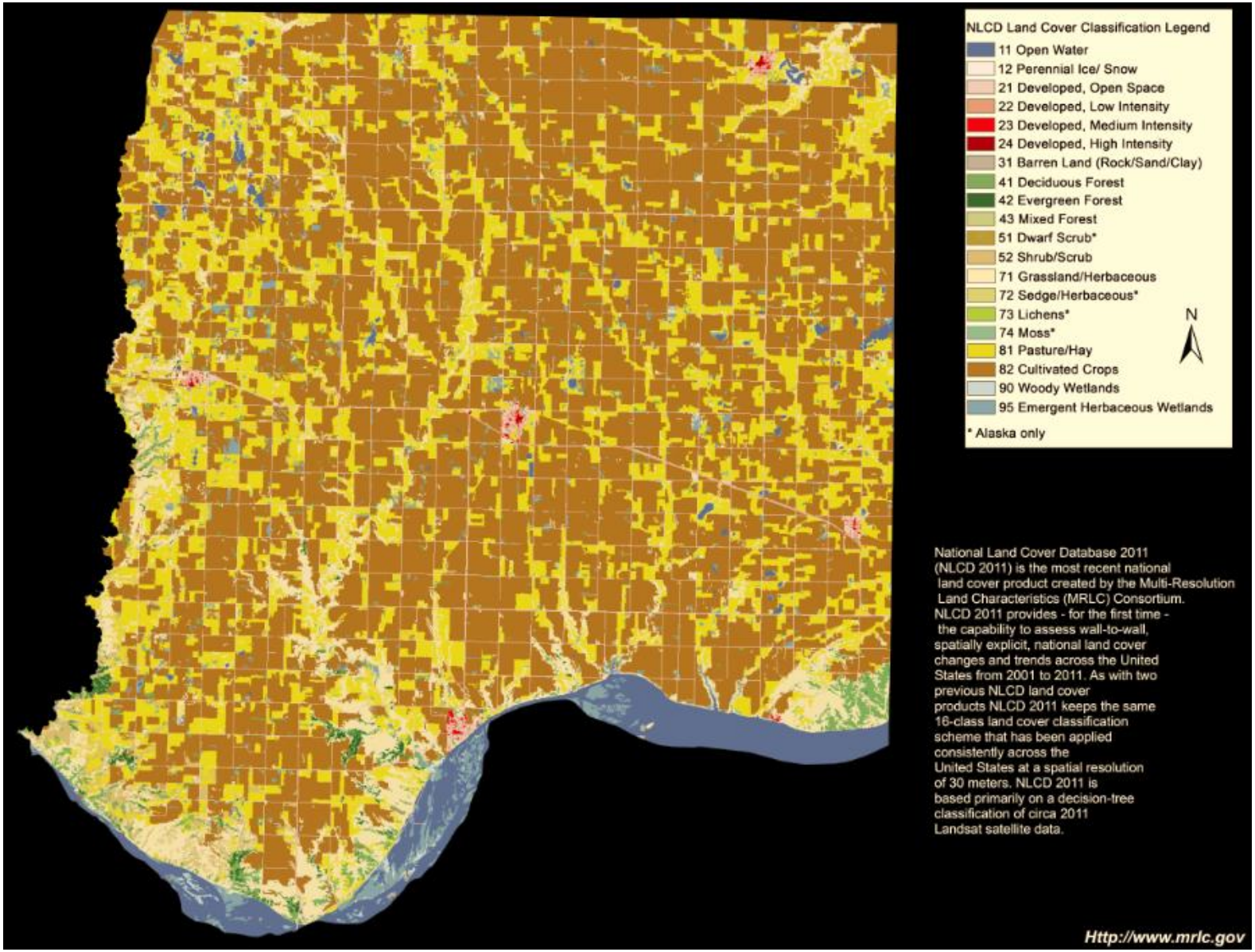
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Ave High	29.6	34.1	45.8	61.3	72.6	82.2	88.4	86.3	77.3	64.9	46.9	33.7
Ave Low	7.9	12.0	23.2	35.9	47.6	57.7	62.8	60.7	50.7	38.5	24.4	13.2
Ave Precipitation	0.5	0.7	1.4	2.5	3.5	3.6	3.1	3.0	2.3	1.6	0.9	0.6

Source: www.weather.gov/wrh/climate

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

[3] 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, Bon Homme County is expected to experience 16 more days per year that reach above 95 degrees Fahrenheit (from 25 days to 41 days per year) and the average annual temperature is expected to increase from 51°F to 54°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

Bon Homme County has been experiencing a steady population decline for the last several decades, although the population has stabilized since 1990. The county's Census 2020 population of 7,003 is only about 74 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 - Bon Homme 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
9,440	9,229	8,577	8,059	7,089	7,260	7,070	7,003	6,762	6,655	6,561

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 relatively high percentage of the county's population is composed of whites, as compared to South Dakota and the rest of the nation. The main minority group is American Indians. The table also shows that the county's population is relatively old, an indication that many of the young people are forced to leave the county to look for jobs and 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
Bon Homme Co.	88.4%	1.5%	6.6%	0.2%	1.0%	2.2%	1.7%	18.1%	21.2%	42.1
South Dakota	80.7%	2.0%	8.8%	1.5%	1.7%	5.3%	4.4%	24.1%	18.2%	38.5
United States	61.6%	12.4%	1.1%	6.0%	8.4%	10.2%	18.7%	21.7%	17.3%	39.0

Source: American Community Survey 2022 1-Year Estimates

Income and Education

Income levels in Bon Homme County are below state and national figures, although poverty rates are close to average. 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
Bon Homme Co.	$57,554	11.7%	23.1%	9.6%	88.9%	20.1%	6.1%
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 Bon Homme County is agriculture. Much of the non-ag employment for people who work in the county is in education and health care. Manufacturing, most of it on a small scale, is also important.

Table 2.6 – Employment Sectors

	Bon Homme County	South Dakota	United States
Agriculture, Forestry, Fishing, Mining	9.2%	6.4%	1.6%
Construction	5.5%	7.4%	6.9%
Manufacturing	15.0%	9.9%	9.9%
Wholesale Trade	4.0%	2.1%	2.2%
Retail Trade	9.8%	11.4%	11.1%
Transportation, Warehousing, Utilities	5.4%	4.4%	6.0%
Information	0.6%	1.5%	1.9%
Finance, Insurance, Real Estate	7.3%	6.0%	6.7%
Professional, Scientific, Management	3.6%	6.7%	12.6%
Education, Health Care, Social Assistance	26.0%	26.3%	23.1%
Arts, Entertainment, Recreation, Accommodation, Food Service	3.7%	8.8%	8.7%
Other Services	2.5%	4.3%	4.7%
Public Administration	7.5%	4.8%	4.6%

Source: American Community Survey 2022 1-Year Estimates

Vulnerable Populations

There are certain populations and social groups within Bon Homme 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 Bon Homme County has a low proportion of vulnerable people. The Centers for Disease Control Social Vulnerability Index shows Bon Homme County with a rating of .1899 (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 .44, which is close to the state and national figures, and the Community Resilience Challenges Index (CRCI) percentile is 32 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 Lack of Economic Diversity.

Infrastructure and Utilities

Transportation

Bon Homme County's main transportation routes are SD Highway 50, SD Highway 46, and SD Highway 37. A railroad line owned by the state of South Dakota and operated by Burlington Northern-Santa Fe runs through the northeast corner of the county, including the City of Scotland. There are plans to rehabilitate the old Napa Rail Line that once ran east-west through the county roughly parallel to SD Highway 50, but it is not known when or if the line will be rebuilt. For air travel, Springfield has a municipal airport, and a private landing strip north of Tyndall can be used for emergency landings.

Utilities

Water service is provided to most county residents by the Bon Homme-Yankton Rural Water System, which gets its water from the Missouri River. Bon Homme-Yankton provides bulk water to all the towns in the county except Springfield, which has its own municipal water system, and it serves rural residents individually. All the municipalities have their own wastewater collection and treatment system. Rural residences use individual septic tanks and drainfields.

Solid waste service is provided by the Southern Missouri Recycling and Waste Management District, which operates a landfill located about 1.5 miles west of Lake Andes. Most of the household waste generated within Bon Homme County ends up at the landfill. Designated rubble sites are located outside Avon, Scotland, Springfield, and Tyndall.

Electric power is provided to rural county residents by the Bon Homme Yankton Electric Association, which also serves Tabor. NorthWestern Energy provides service to Avon,

Scotland, and Springfield, including the rural areas around these communities. Tyndall operates its own municipal system. The only community in Bon Homme County with natural gas service is Scotland, which is served by NorthWestern Energy.

Services

Medical Services

Basic medical service is available within Bon Homme County at medical clinics in Avon, Scotland, and Tyndall. Two critical access care facilities are located in the county – the Landmann-Jungman Hospital in Scotland and St. Michael's Hospital in Tyndall. People needing serious medical attention can be transported to trauma-center hospitals in Sioux Falls or elsewhere.

Fire and Emergency Response

A fire department is based in each of the five municipalities in Bon Homme County, each in conjunction with an ambulance service. Each department has basic firefighting and rescue equipment, and they all respond to structural fires, wildland fires, and to accident situations. The departments also have limited capabilities regarding hazardous material (hazmat) response, but a serious incident would require assistance from outside the county.

Education

K-12 education is available in Avon, Scotland, and Tyndall, while Springfield has an elementary school. Education up through the high school level is provided at the Bon Homme Hutterite Colony. Post-secondary education is not available in the county.

2026 Bon Homme 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 Bon Homme County become disaster resilient and keep county residents safe, and it answers the following questions: What are the hazards that could affect Bon Homme 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.

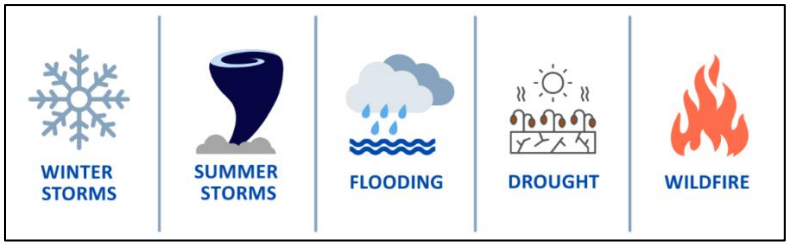
According to FEMA's mitigation planning guidance, the basic components of the risk assessment are: 1) identifying hazards that affect the community, 2) profiling the hazards, 3) conducting an inventory of community assets, and 4) analyzing impacts. This process measures the potential loss of life, personal 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:

- **Winter storms**
- **Summer storms**
- **Flooding**
- **Drought**
- **Wildfire**



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 Bon Homme County in any 100-year period, and virtually no chance of a magnitude 6 or greater earthquake [4]. The largest magnitude earthquake recorded in the county was a 4.3 magnitude quake, which occurred in November 1982. Regarding landslides, a review of the United States Geological Survey's Landslide Incidence and Susceptibility Map indicates the potential of a landslide occurring in Bon Homme County along the Missouri River, but any such event likely would be localized and minor in scale.
- Agricultural pests and diseases - this hazard is profiled in the South Dakota Hazard Mitigation Plan. However, despite the obvious importance of agriculture to the

[4] 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.

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.

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 Bon Homme 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 Bon Homme 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 Bon Homme 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

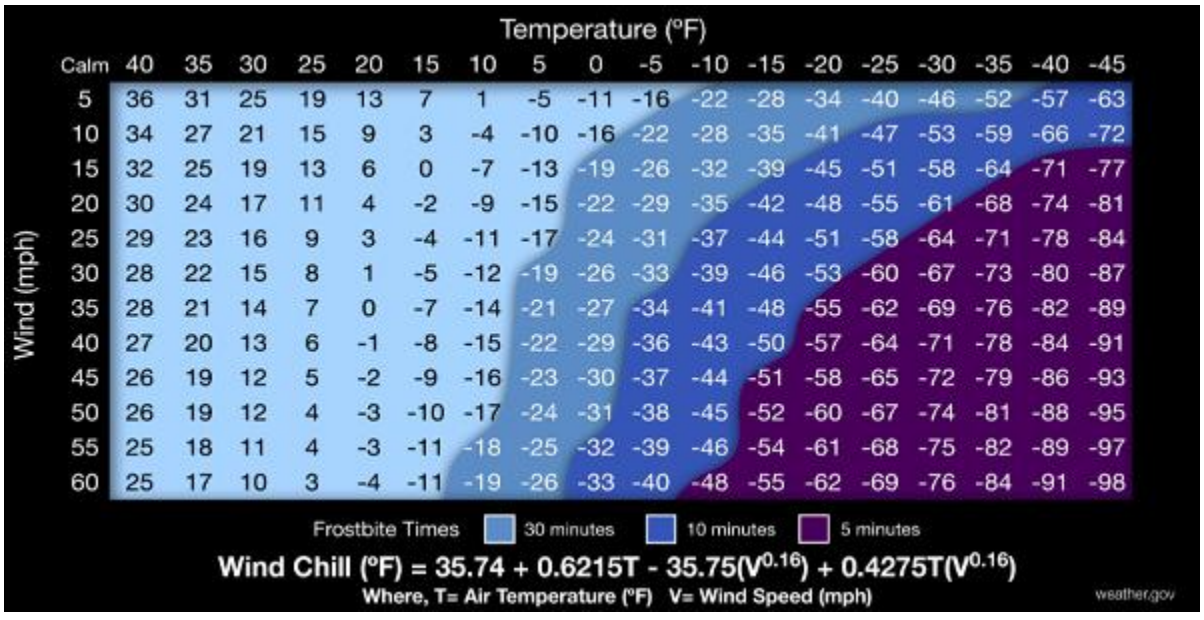
Description

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. Respondents to the survey conducted for this plan considered winter storms to be the fourth 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 windspeed.



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 grassland, which covers Bon Homme County and most of the state, offers 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 Bon Homme 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**).

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 Bon Homme 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.

Another very serious winter storm to impact Bon Homme 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 Bon Homme Yankton Electric Association suffered damages to its infrastructure in Bon Homme County that resulted in $244,618 of FEMA public assistance. Many roads were shut down for extended periods, and most schools and businesses were forced to close. Some households were without power for up to a week as power lines were being repaired.

A late-season winter storm struck South Dakota in March 2019, resulting in FEMA Disaster Declaration 4440. The storm resulted in approximately $1.5 million of public assistance funds allocated in Bon Homme County.

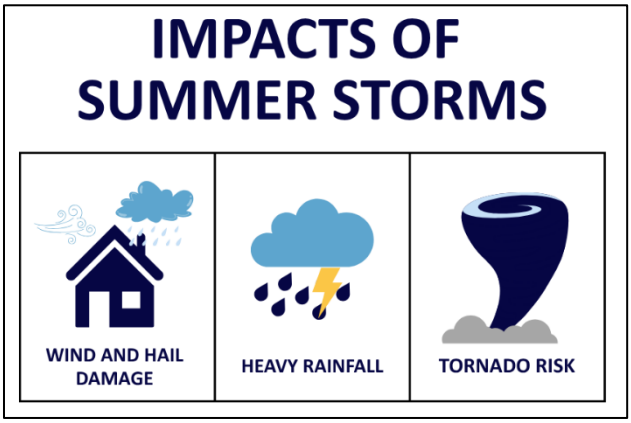
Probability

A total of 78 winter storm events, including blizzards, ice storms, and heavy snow, have been recorded in Bon Homme County since the mid-1990s, an average of about two and a half per year (see **Table C.2 in Appendix C**). Therefore, based on the historic evidence, the probability of a significant winter storm affecting Bon Homme 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

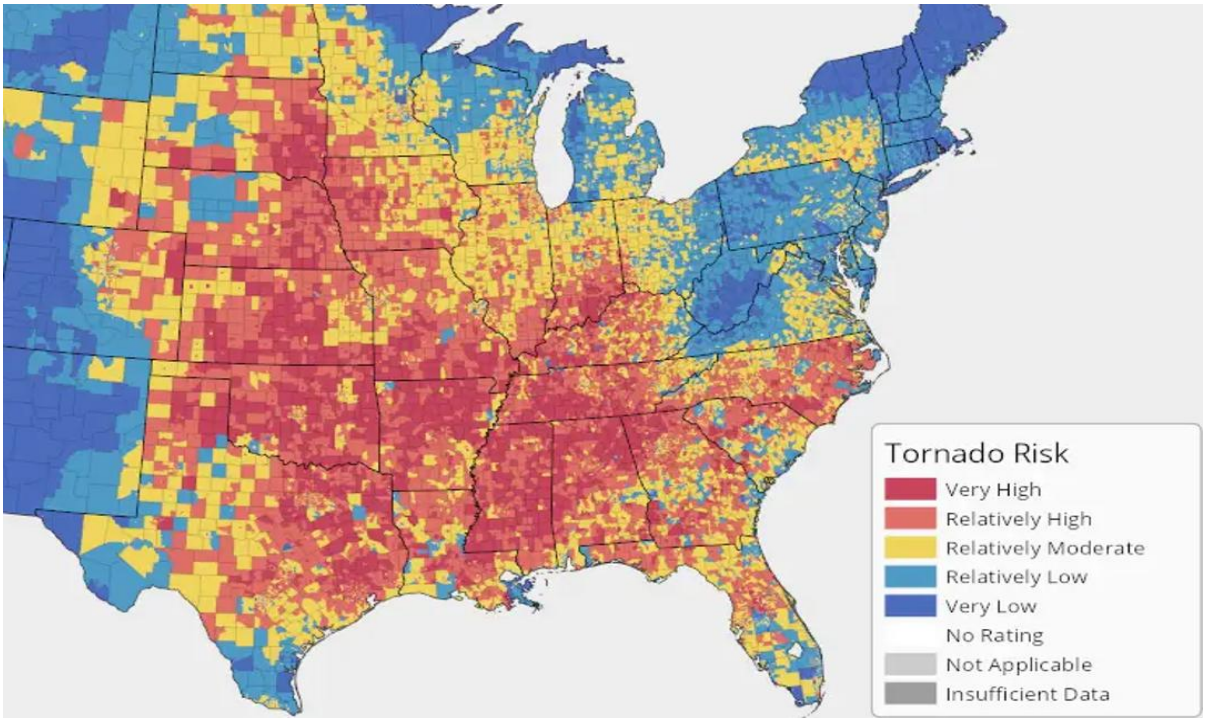
Summer storms can include heavy rainfall, hail, tornadoes, and thunderstorm activity. These events usually are associated with unstable weather conditions. In Bon Homme County, most damage from summer storms occurs because of high wind events and/or hail. Hail is always closely connected with thunderstorms. 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 Bon Homme County reports some kind of hail damage to crops or property. Survey respondents ranked hail as the fifth greatest hazard facing the county.



Tornadoes are the most dramatic type of summer storm experienced in Bon Homme 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. Survey respondents considered tornadoes to be the second 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 on the next page (it is difficult to tell at this scale, but Bon Homme County is in the 'Relatively 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 Bon Homme 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, five of which were over 70 knots. **Table C.2** also shows 56 events with hail at least one inch in diameter, including 11 events with hail at least two inches in diameter, and three 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 Bon Homme County. **Table C.2** in **Appendix C** lists many other significant summer storms that have impacted the county. One of the most significant recent summer storms occurred on May 12, 2022, when 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 reduced visibility to near zero. Winds from 70 to 100 mph devastated much of southeast South Dakota, resulting in FEMA Disaster Declaration 4656. In Bon Homme County, considerable tree and structure damage occurred around Tyndall and a county maintenance shed was destroyed.

Probability

A total of 110 summer storm events, including hailstorms, thunderstorms, lightning, and tornadoes, have been recorded in Bon Homme County since 1960, an average of about 1.7 per year (see **Table C.2 in Appendix C**). Twenty-one of these storms involved a tornado. From this information, the probability of a summer storm affecting Bon Homme 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

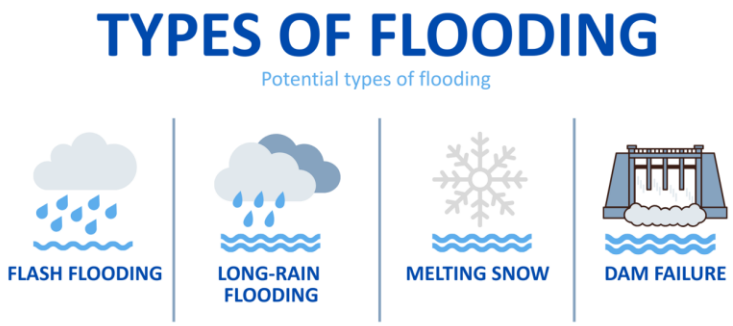
Description

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. Survey respondents considered flooding to be the seventh 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. Bon Homme County is vulnerable to this type of flood primarily because of the Fort Randall Dam, which impounds the Missouri River upstream from Bon Homme County and is classified as a high hazard dam [5].



Location

In the past, the greatest flooding threat in Bon Homme County was along the Missouri River, which flows south/southeastward across South Dakota in a deep, wide channel, draining almost the entire state. Flooding along the river used to be an annual threat until a series of huge dams along the river, including Fort Randall, were constructed in the 1950s. Now, most of the Missouri River within South Dakota consists of a chain of reservoirs impounded by the dams. From north to south, these dams are Oahe, Big Bend, Fort Randall, and Gavins Point, which were built for flood control, to provide water for irrigation, and for the generation of hydroelectricity. Gavins Point is located downstream from Bon Homme County, while the others are upstream. The closest dam is Fort Randall, located about 30 miles upstream from Bon Homme County's southwestern corner.

Because of the dams, the threat of flooding from the Missouri River has been greatly reduced, although it has not been eliminated. In 2011, significant flooding along the river did occur, with substantial damage. The primary cause of the flooding was very heavy snowmelt at the river's source in the Rocky Mountains, along with extremely high spring rains throughout much of the river's drainage basin. The complicated politics concerning river management also played a role in the disaster that unfolded over the next few months.

[5] 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.

In addition to land adjacent to the Missouri River, other low-lying areas of the county are also vulnerable to flooding. However, there are no designated flood hazard zones in Bon Homme County.

Extent

The extent of flooding in Bon Homme County has rarely been truly 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.

Perhaps the most serious flooding the county has ever experienced was during the historic 2011 Missouri River flood when the river reached a record 4.8 feet above flood stage at Springfield, inundating land along the river. The flooding that occurred in Bon Homme County in 2019 also was notable, both for its severity and its widespread impact throughout the county. Many areas of the county experienced water over county and township roads and at least three bridges sustained damage. 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 images on the following page show the current river gauge charts for the Missouri River at Springfield and Choteau Creek near Avon. Both charts include the minor, moderate, and major flood stages for comparison.

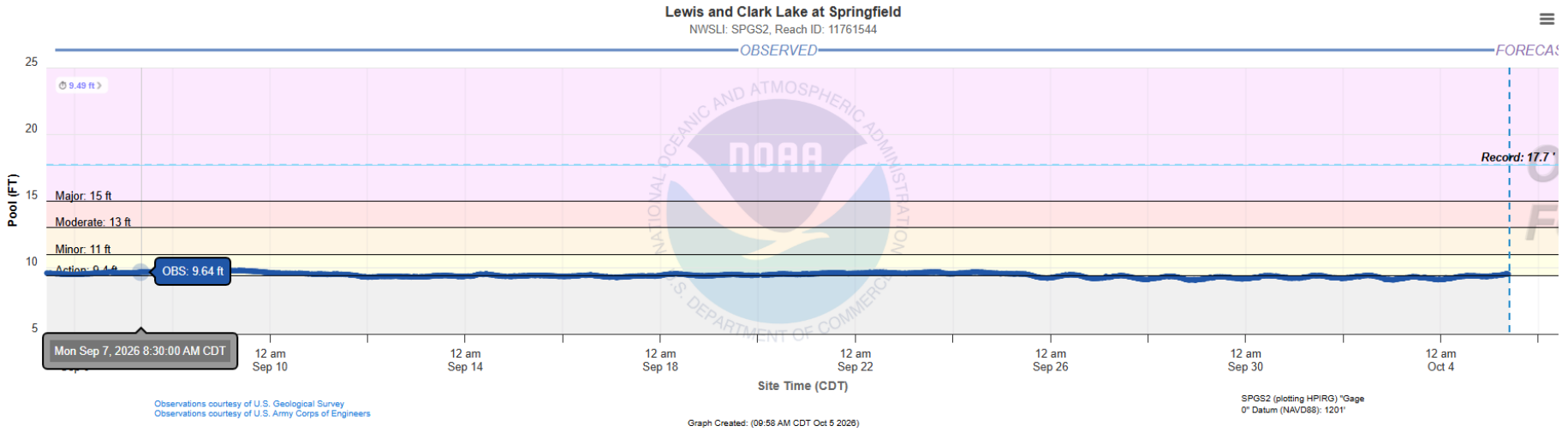
History

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**).

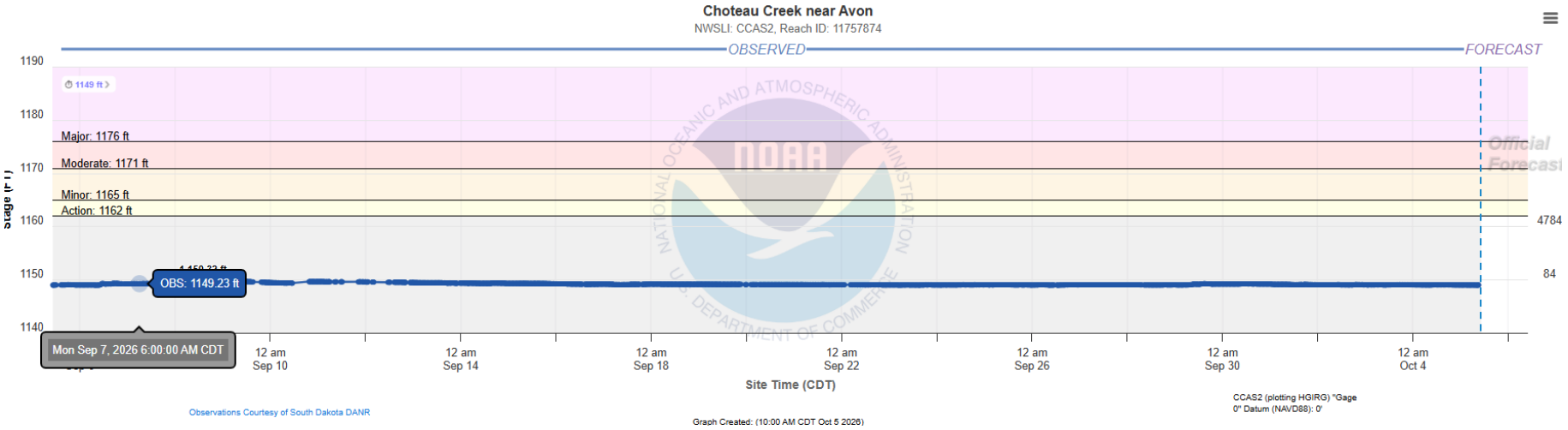
Serious flooding in 1984 resulted in FEMA Disaster Declaration 717, which caused almost $4.5 million of damage in the affected counties.

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.

River Gauge Charts



Graphic from: water.noaa.gov/gauges/SPGS2



Graphic from: water.noaa.gov/gauges/CCAS2

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 under water 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.

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 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 snowpack, 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.

Flooding in 2008 resulted in FEMA Disaster Declaration 1774. The event resulted in about $60,000 of public assistance costs in Bon Homme County.

The Missouri River flood of 2011 may have been the most notable flooding event ever to occur in the recorded history of South Dakota, resulting in FEMA Disaster Declaration 1984. Although Bon Homme County did not suffer as much damage as other counties bordering the Missouri River, the county did feel the impact of the event. Flooding began in May and increased throughout the month as runoff from excessive upstream snowmelt and rain reached the area. The river eventually reached a high point of 4.8 feet above flood stage near Springfield in late June. Many local roads in the vicinity of the Missouri were damaged, and a great deal of farmland along the river was flooded.

Flooding in 2019 had a major impact throughout the year in Bon Homme 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. This event resulted in FEMA Disaster Declaration 4440. Flooding continued during the summer and became more severe in September when very heavy rainfall flooded many county and township roads. Tabor was particularly impacted by the flooding. The Bon Homme Yankton Electric Association had to replace utility infrastructure in several locations due to floodwater damage.

In June 2024, heavy rainfall across Bon Homme County on top of an already wet spring caused overland flooding, with several township roads damaged by flood waters. This event resulted in FEMA Disaster Declaration 4807.

Probability

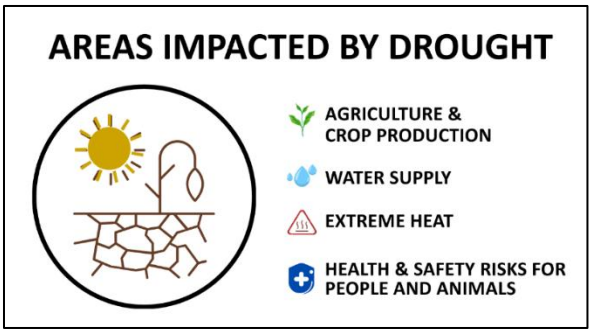
Table C.2 shows that 67 flooding events have been recorded in Bon Homme County since the mid-1990s. Excluding the events that were a recording of ongoing flood conditions, it appears there have been about 28 separate flood events in Bon Homme County since the mid-1990s, an average of about one per year. 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. It is certain that flooding will 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. Survey respondents ranked drought as the greatest hazard facing the county [6].

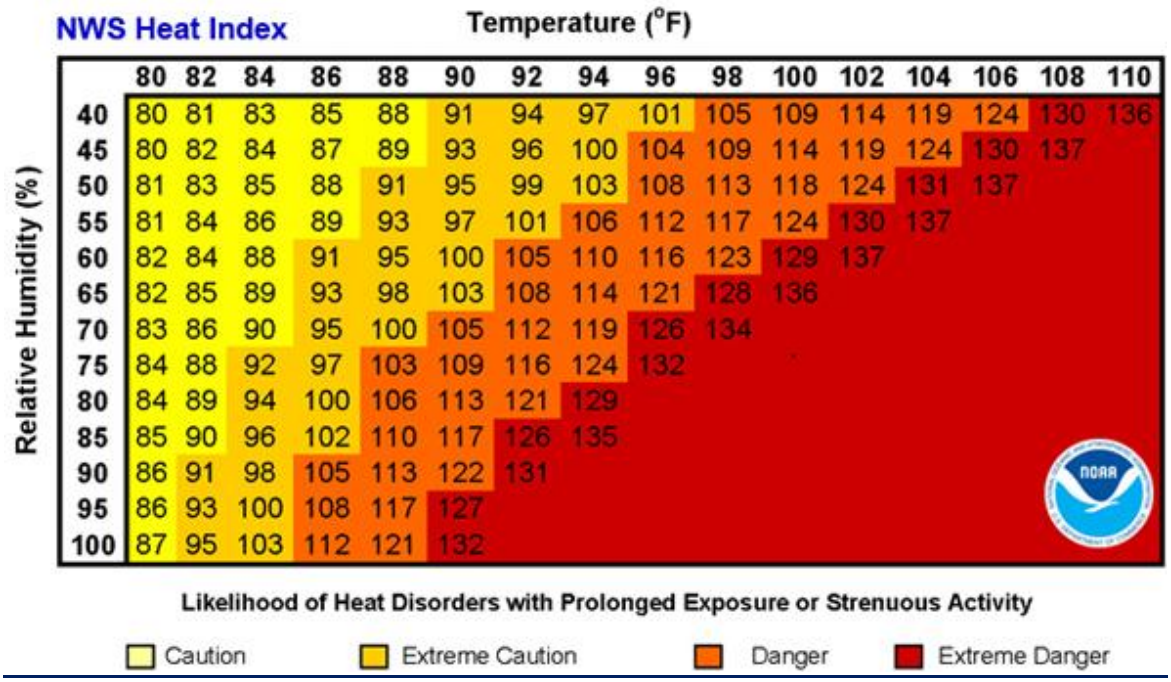
Droughts can occur at any time of the year, but the consequences are worse during the summer growing season, especially after dry winters. A small departure in normal precipitation during the months of June through August can have a significantly negative impact on crop production. The demand for water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

[6] It should be noted that the survey was taken during an extended regional drought, which may have influenced the results. Still, there is no doubt that drought is a serious hazard facing the county.

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.



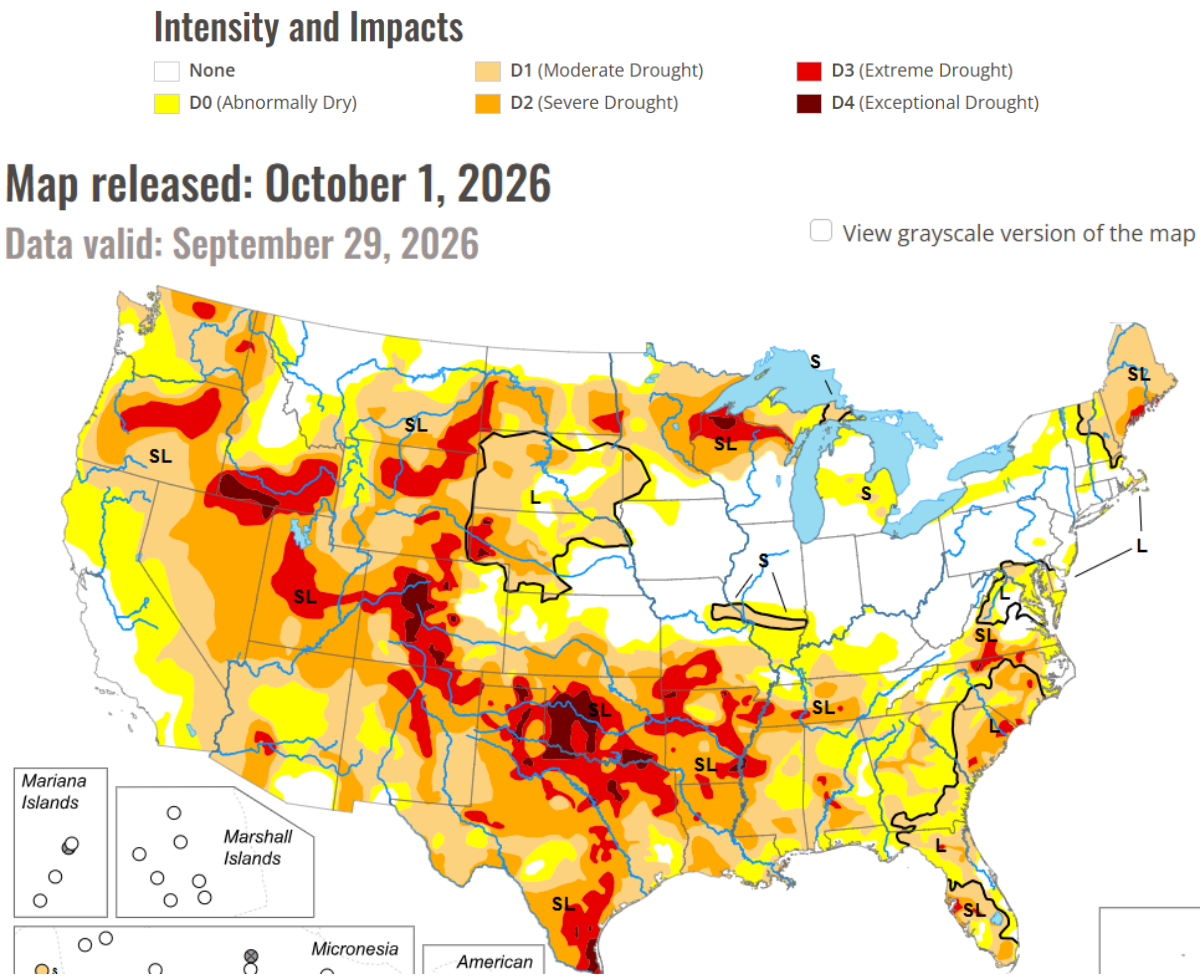
Location

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, Bon Homme County has experienced many years of below average annual precipitation, including eight years between 1930 and 2023 in which precipitation was less than two thirds of normal. In terms of duration, it is not unusual for Bon Homme 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.

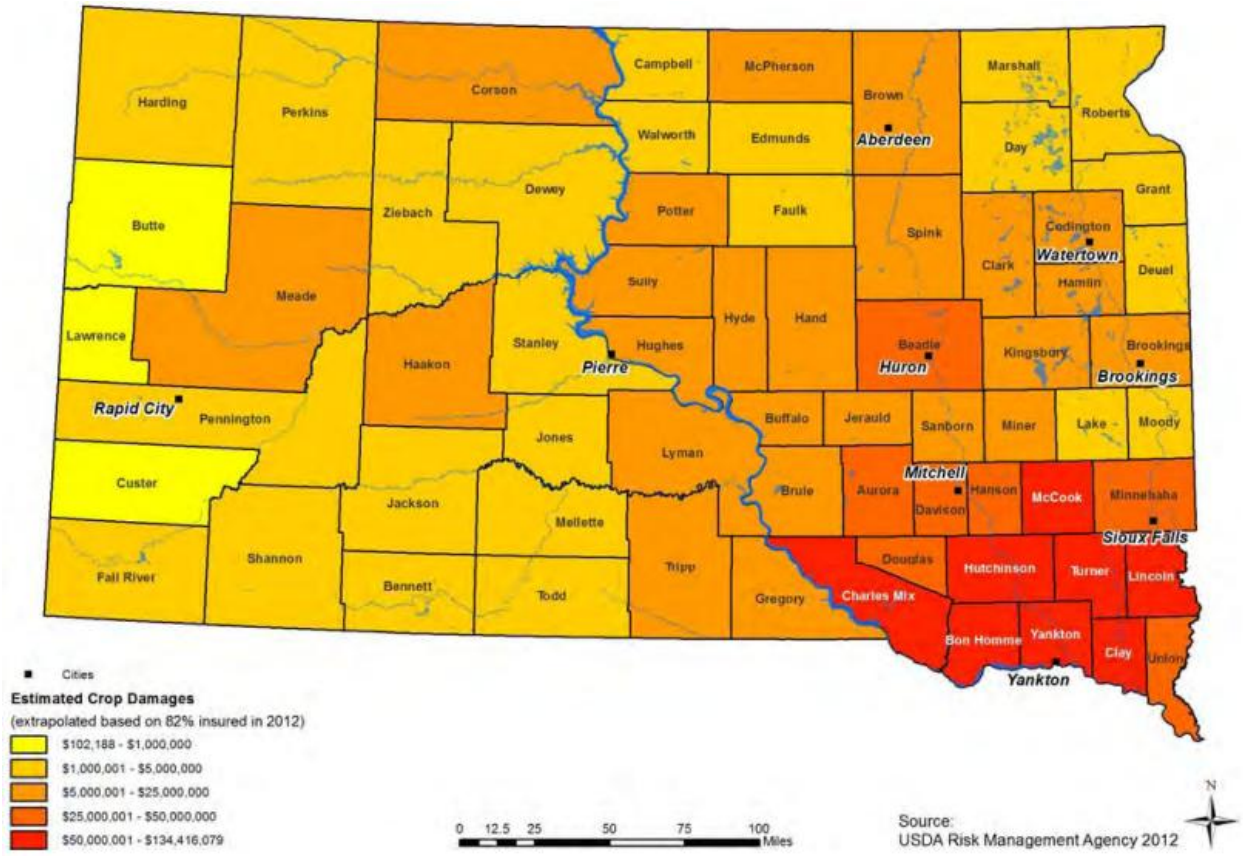
The U.S. Drought Monitor (USDM) has established the drought scale shown on the following page, which is much like those that rate hurricanes and tornadoes. The "D-scale" speaks to the "unusualness" of a drought episode, with D1 conditions expected to occur about 10 to 20 percent of the time and D4 conditions expected less than 2 percent of the time. Following the scale is the drought severity index map of the United States as of October 1, 2026.



History

Bon Homme 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 shown on the following page, 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 Bon Homme 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.

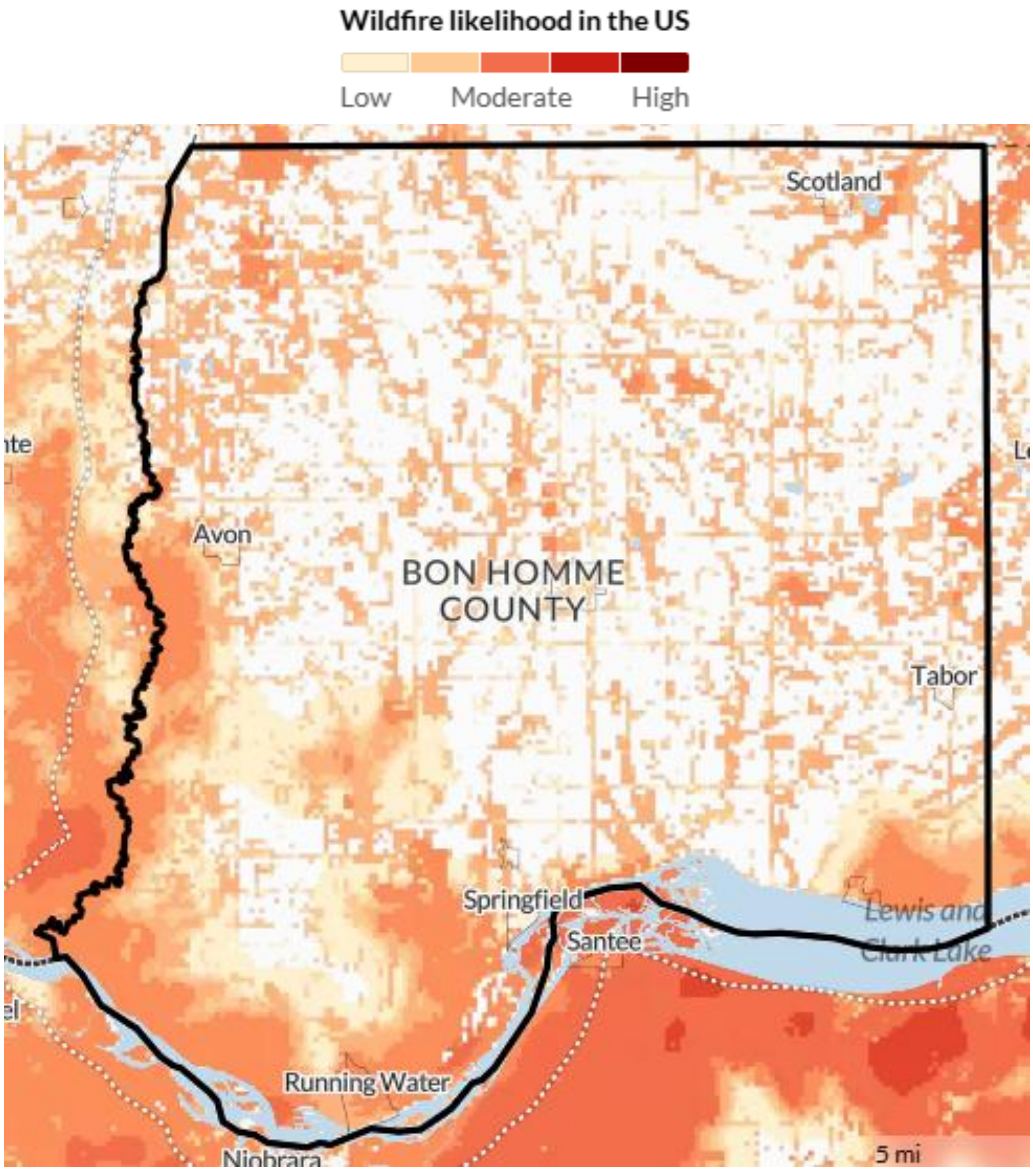
Wildfire

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 Bon Homme 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. Survey respondents considered wildfire to be the least serious of the eight disaster types they could choose from.

Location

Wildfires in Bon Homme County are most likely to occur in large areas of extensive brush or unmanaged vegetation, including pastureland and grassland, which together make up approximately 32 percent of the county's land base. Another concern is controlled burns that get out of control, which can occur almost anywhere in the county. The map below, 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 Bon Homme 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 of them impacting fewer than ten acres.

Table 3.6 – Wildfires in Bon Homme 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
132	71	5	5	3	4	318.7

Source: South Dakota Department of Public Safety

History

Some notable wildfires have occurred in Bon Homme County, but nothing on a truly destructive scale. A wildfire in September 2004 burned approximately 1,050 acres and in April 2014 a controlled burn on the Bon Homme Hutterite Colony got out of control and ended up consuming almost 1,000 acres, requiring assistance from five area fire departments. A wildfire in February 2022 burned 1,300 acres.

Probability

Wildfires affecting fewer than ten acres are likely to occur somewhere in Bon Homme County most years, but large-scale wildfires are much less common. **Table 3.6** shows only four 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 Bon Homme 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 Bon Homme 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

- Bon Homme County Courthouse, Tyndall
- City offices in Avon, Scotland, Springfield, Tabor, and Tyndall

Emergency preparedness and response

- Bon Homme County Emergency Management Office, Tyndall
- Bon Homme County Sheriff's Office, Tyndall
- Police departments in Avon, Scotland, Springfield, and Tyndall
- Fire departments in Avon, Scotland, Springfield, Tabor, and Tyndall

[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.

- Bon Homme County Highway Department, Tyndall
- Disaster relief shelters (*see p.59*)
- Emergency storm shelters (*see p.59*)

Medical facilities

- Landmann-Jungman Hospital, Scotland
- St. Michael's Hospital, Tyndall

Educational facilities

- Avon School (K-12)
- Scotland School (K-12)
- Bon Homme County School (Tyndall) (K-12)
- Springfield Elementary School (K-4)

Other important assets

- Bon Homme County 4-H Center
- Avon Legion Hall
- Springfield Community Center
- Tabor Community Center
- Tabor American Legion Hall
- Tabor Community Center
- Beseda Hall, Tabor
- Tyndall American Legion Hall
- Mike Durfee State Prison, Springfield
- POET Ethanol Center, Scotland

Hazard Impact Analysis

This section assesses the vulnerability of Bon Homme 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 Bon Homme 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 78 winter storm events, including blizzards, ice storms, and heavy snow, are shown in the National Climatic Data Center's Storm Events Database for Bon Homme County through 2024 (see **Table C.2 in Appendix C**). In comparison, the average for South Dakota counties is 104 winter weather events, indicating that Bon Homme 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 Bon Homme 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 Bon Homme 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 $92,060 per year in Bon Homme County compared to the state average of $322,350 per year.

Building Exposure:

The total value of buildings in Bon Homme County is approximately $684,670 million, according to the South Dakota Hazard Mitigation Plan, which ranks 28th 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:

Bon Homme County is sparsely populated, with an average of 12.1 people per square mile, slightly higher than the state figure of 11.7 people per square mile but far below the national figure of 93.8. Bon Homme County would have to be rated low in terms of population density.

Future Vulnerability

No development has occurred anywhere in Bon Homme 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 Bon Homme 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, Bon Homme 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 110 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 Bon Homme County 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 Bon Homme County may be somewhat less prone to summer storms than other counties in the state.

Past Damage Amounts:

Many summer storm events have caused significant damage in Bon Homme 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 Bon Homme County between 1950 and 2016 was $75,780. The average annual loss during this period for South Dakota counties was approximately $163,730, indicating that Bon Homme County may be somewhat less vulnerable to suffering tornado damage than other counties in the state.

Bon Homme 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 Bon Homme County due to severe summer weather between 2000 and 2023. During this period of analysis, summer storm-related payouts averaged approximately $272,540 per year in Bon Homme County compared to the state average of $461,120 per year.

Building Exposure:

The total value of buildings in Bon Homme County is approximately $684,670 million, according to the South Dakota Hazard Mitigation Plan, which ranks 28th 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:

Bon Homme County is sparsely populated, with an average of 12.1 people per square mile, slightly higher than the state figure of 11.7 people per square mile but far below the national figure of 93.8. Bon Homme 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 on the following page 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.

Table 3.7 – Housing Stock Characteristics

Community	Houses Built Before 1940	Houses Built Since 2000	Mobile Homes
Avon	45.6%	3.3%	2.9%
Scotland	30.4%	3.3%	2.7%
Springfield	39.3%	5.2%	4.3%
Tabor	36.9%	0.0%	6.7%
Tyndall	37.7%	5.7%	5.5%
South Dakota	*14.6%*	*31.5%*	*6.4%*

Source: 2020 US Census (DP04 Selected Housing Characteristics)

Future Vulnerability

No development has occurred anywhere in Bon Homme 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, Bon Homme 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, Bon Homme 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 0.4 percent is well below the median statewide figure of 0.75 percent. Likewise, the 1.7 percent of the county's population potentially displaced by flooding is far below the state figure of 4.6 percent.

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 Bon Homme County due to flooding and excess moisture between 2000 and 2023. During this period of analysis, flood-related payouts averaged approximately $2,109,370 per year in Bon Homme County compared to the state average of $2,204,140 per year.

Approximately 57% of the flood-related indemnity payouts to Bon Homme 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 Bon Homme County, approximately 111,665 acres of land were not planted, which was about 48% of land that would have otherwise been planted, ranking the county 8th 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 some land outside the municipal boundaries).

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
Avon	$60,000	56	21	3	$2,800,000
Scotland	$145,000	169	2	0	$0
Springfield	$395,000	349	6	0	$290,000
Tabor	$145,000	76	119	54	$4,000,000
Tyndall	$3,875,000	2,533	295	148	$8,950,000

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

Future Vulnerability

No development has occurred in flood prone locations or anywhere else within Bon Homme 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

Bon Homme County are not available, but future updates to this plan could explore this trend in more depth.

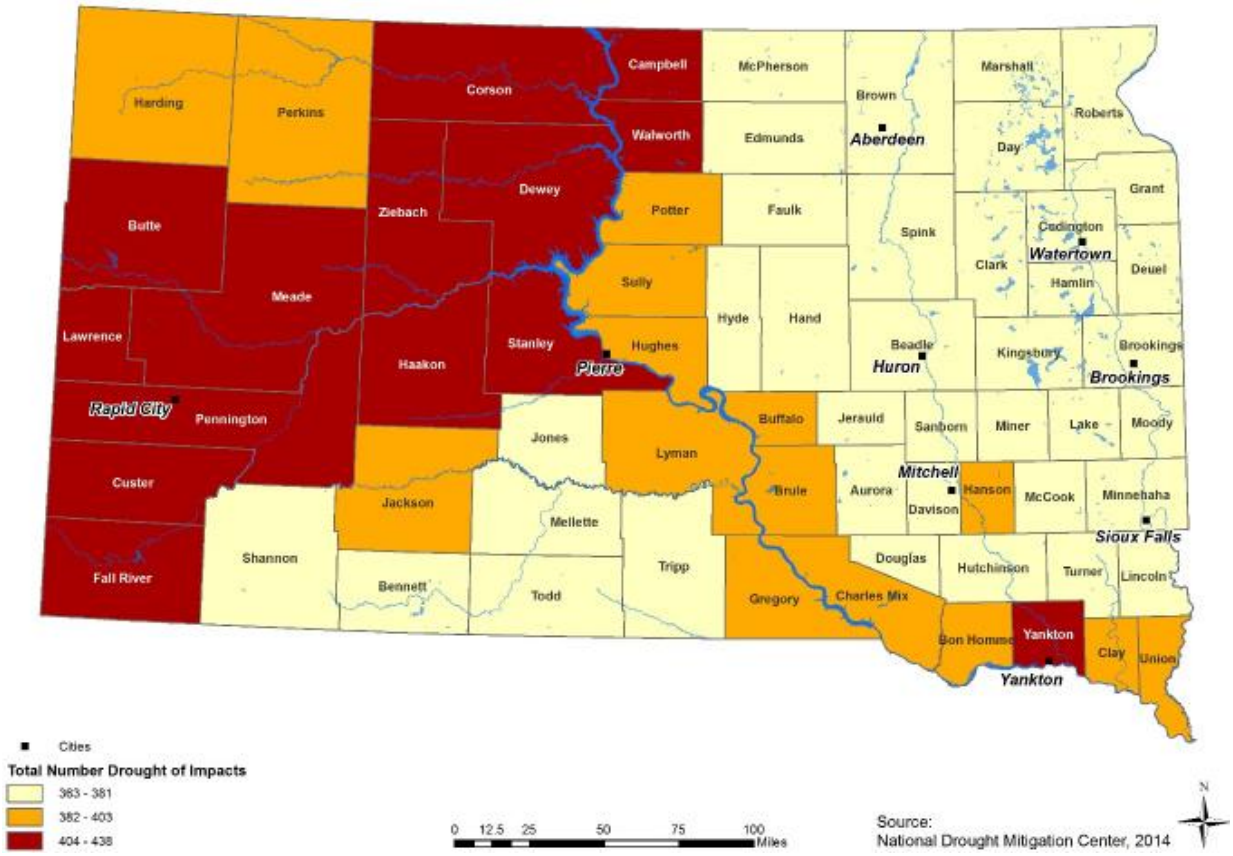
The nature and frequency of flooding also could be altered by climate change. The South Dakota Hazard Mitigation Plan notes a long-term trend of increasing annual precipitation across South Dakota, among the highest in the country, much of it occurring in the spring and fall seasons, and there is high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

Drought

Without question, Bon Homme 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 Bon Homme 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 Bon Homme County due to drought and heat between 2000 and 2023. During this period of analysis, drought-related payouts averaged approximately $6,438,635 per year in Bon Homme County compared to the state average of $2,942,115 per year. About 41 percent of the payouts were due to the 2012 drought.

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. Bon Homme County's loss ratio of 13.0% was far higher than the 3.1% average for South Dakota counties and ranked second in the state. The authors of the South Dakota Drought Mitigation Plan assigned Bon Homme 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 on the following page from the South Dakota Drought Mitigation Plan, Bon Homme County is in the medium range of counties in terms of the number of drought impacts.



Future Vulnerability

No development has occurred anywhere within Bon Homme 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 Bon Homme 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 Bon Homme County was analyzed using two different sources. According to the U.S. Forest Service's Wildfire Risk to Communities website, Bon Homme County's overall risk is considered medium, with homes in the county having a greater wildfire risk than 37% of South Dakota counties and 52% of counties nationwide. Information from the SILVIS Lab at the University of Wisconsin shows that 425 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 approximately 15% of the total housing stock in Bon Homme County, whereas the statewide figure is about 26%.

Future Vulnerability

No development has occurred in areas prone to wildfire or anywhere else within Bon Homme 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 Bon Homme County and each of 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 36 showed 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**

Bon Homme County's vulnerability to winter storms can be considered high. The authors of the South Dakota Hazard Mitigation Plan assigned Bon Homme 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**

Bon Homme County's vulnerability to summer storms can be considered moderate to high. The authors of the South Dakota Hazard Mitigation Plan assigned Bon Homme 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.

- **Flooding**

The overall vulnerability of Bon Homme County to flooding can be described as low to moderate. 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 below the average for the state. Much of the vulnerability is to cropland and to rural county roads, including low-lying areas along the Missouri River, but flooding in 2019 impacted a much broader area. Following is a summary of vulnerability in each of the communities:

Avon: There is some vulnerability to flooding in the city, as indicated in **Table 3.8**. Important structures located in areas identified by HAZUS as being flood prone include the local grain elevator. Flooding in 2019 had a minor impact in Avon.

Scotland: There is some vulnerability to flooding in the city, primarily along Dawson Creek, which flows through the southern part of town. A few homes are located close to flood prone land along the creek, and the local golf course is affected. Flooding in 2019 had an impact in Scotland, with two residents receiving FEMA Individual Assistance funds due to water caving in basement walls.

Springfield: There is some vulnerability to flooding in the city, as indicated in **Table 3.8**. No critical infrastructure or other important structures are located in areas identified by HAZUS as being flood prone. Flooding in 2019 had an impact in Springfield, with at least five residences reporting property damage.

Tabor: The degree of vulnerability to flooding here is fairly high, as indicated in **Table 3.8**. Flooding in 2019 had a major impact in Tabor. Almost all residences suffered some amount of flood damage, including basement flooding due to rising groundwater levels and damage from overland flooding.

Tyndall: The degree of vulnerability to flooding here is high, as indicated in **Table 3.8**. One important structure located in areas identified by HAZUS as being flood prone is the Bon Homme County High School. Flooding in 2019 had a substantial impact in Tyndall, with an estimated 25% of residences suffering some amount of flood damage, mostly due to water in basements. A substantial amount of road damage was also sustained, especially along 24th Avenue on the northern edge of the city.

- **Drought**

Bon Homme 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 Bon Homme 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, although Scotland did impose restrictions on lawn watering during the summer of 2026 in response to high water usage due to ongoing drought conditions.

- **Wildfire**

The overall vulnerability to wildfire in Bon Homme County can be considered low. No truly destructive wildfire has ever occurred in the county and only about 15% of the county's population lives in a location considered to be vulnerable to wildfire, below the statewide figure of 26%.

Figure 3.1 – Avon



Figure 3.2 - Scotland

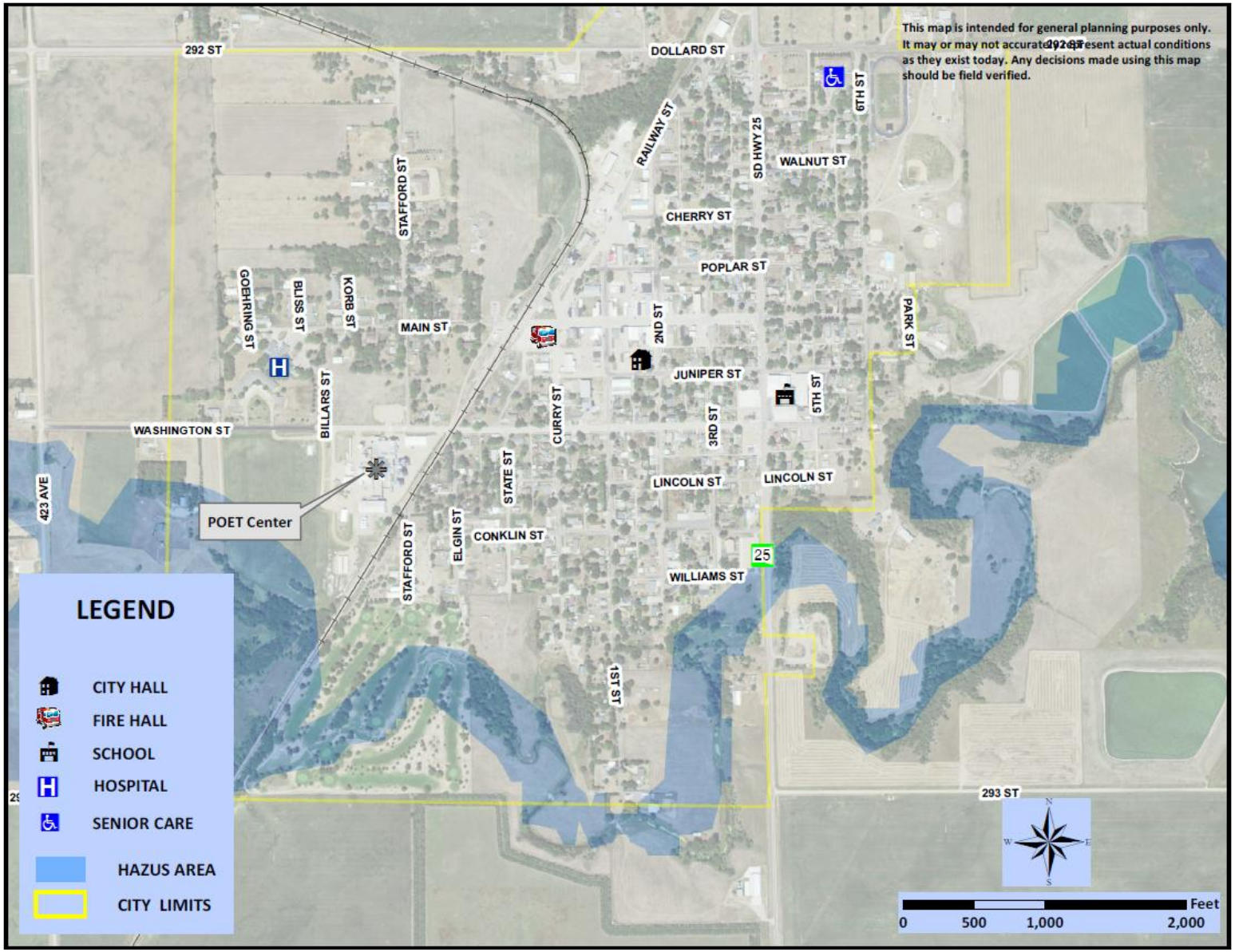


Figure 3.3 – Springfield

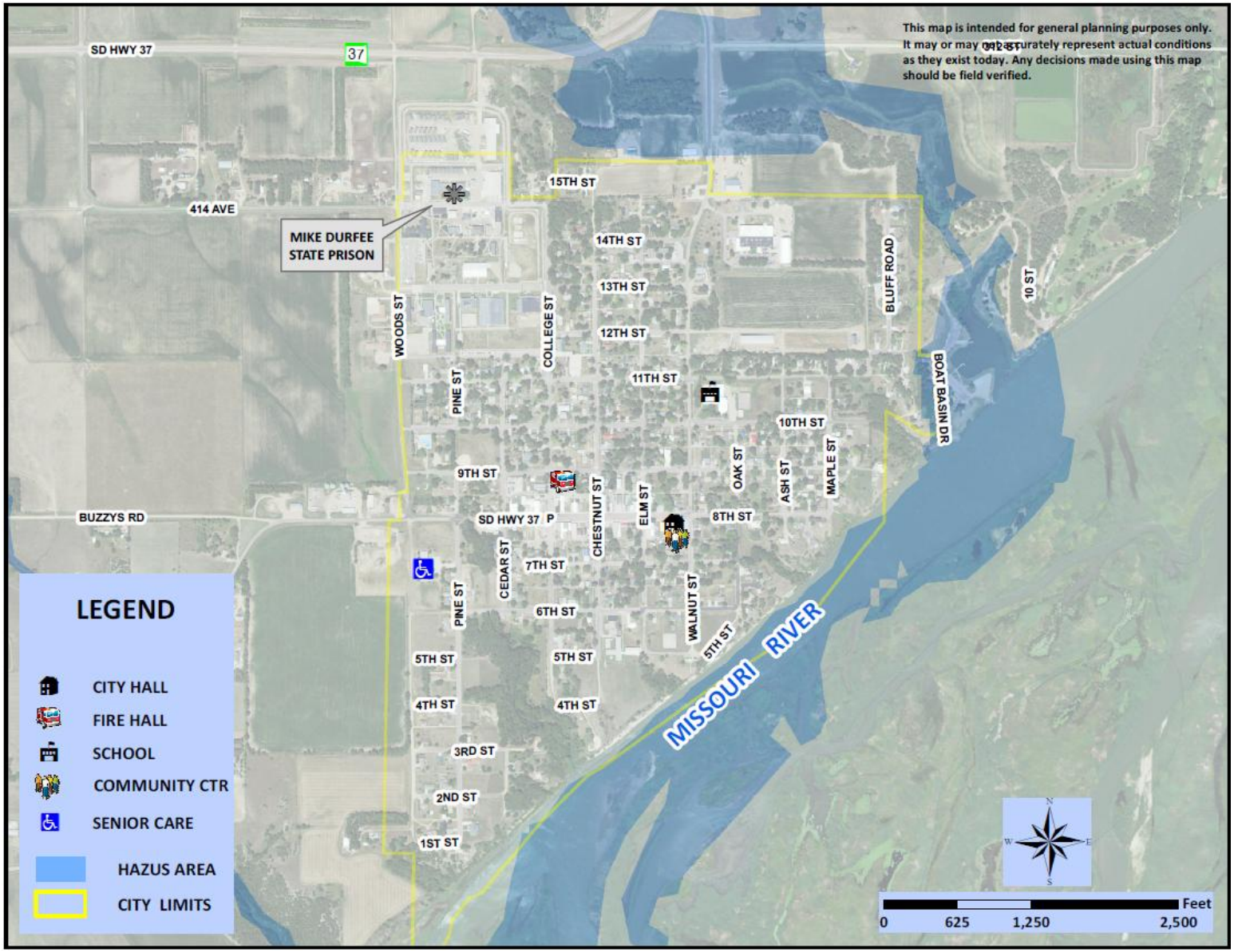


Figure 3.4 – Tabor

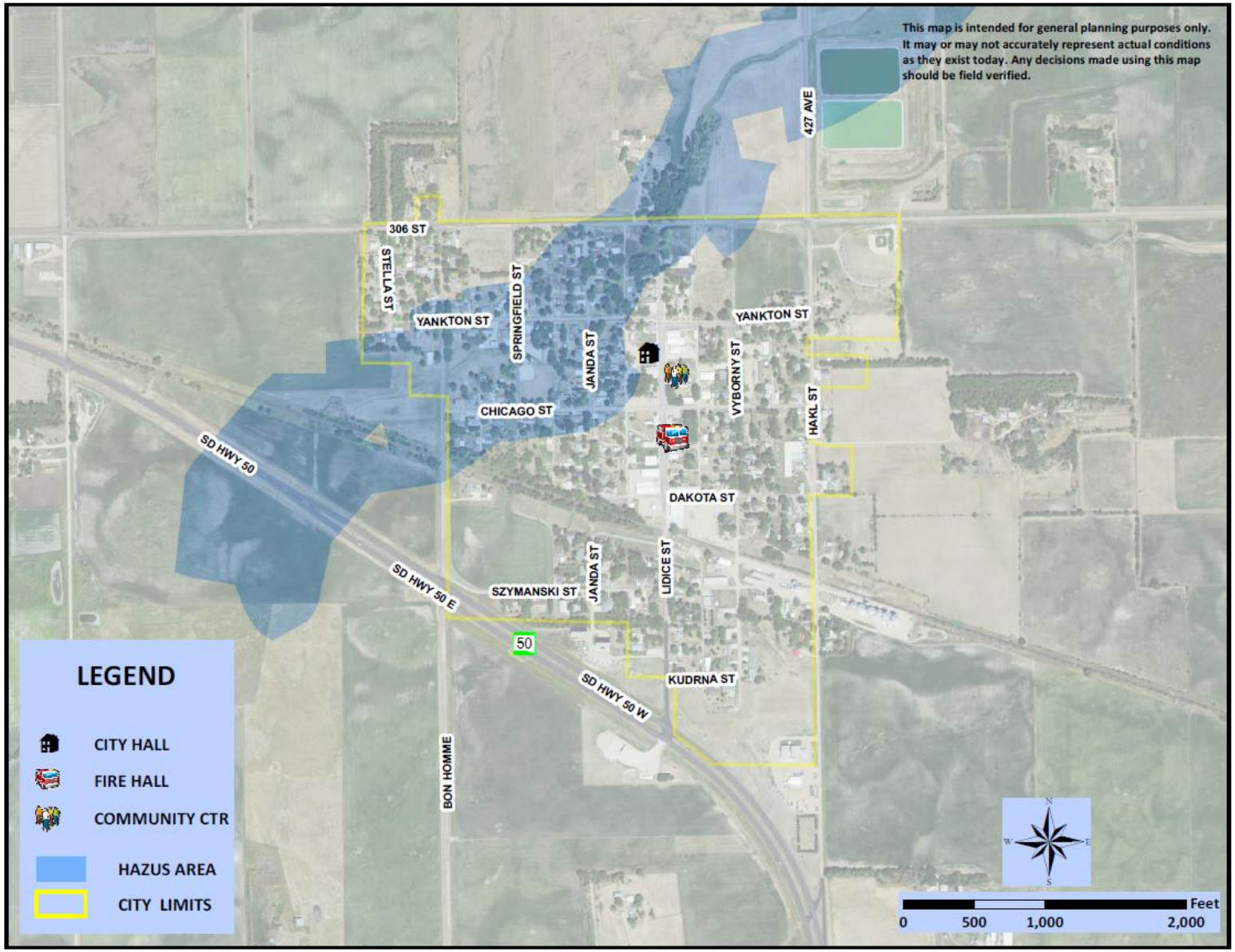
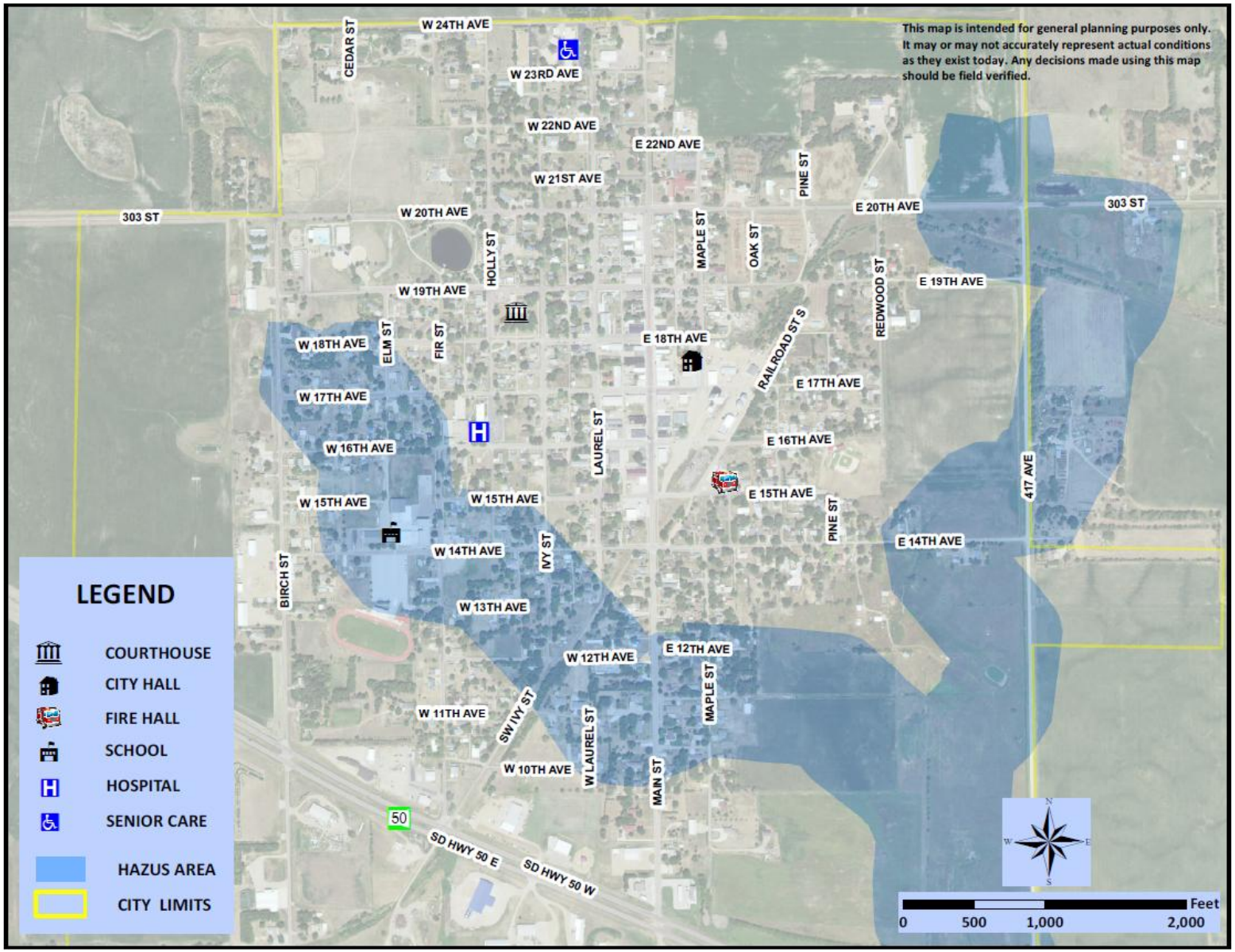


Figure 3.5 – Tyndall



2026 Bon Homme 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 Bon Homme 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 4.6** 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 Bon Homme 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 Bon Homme County are limited. For instance, none of the jurisdictions have adopted a building code ordinance [9]. The following table summarizes the formal regulatory policies within Bon Homme County that can support the local mitigation strategy.

Table 4.1 – Regulatory Mechanisms

Item	Notes
Bon Homme County Zoning Ordinance	The ordinance controls where growth and development can occur within the county.
Bon Homme County Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**).
Bon Homme County Burn Ban	The County has the authority to prohibit open burning during very dry periods. Burn bans are issued by the Bon Homme County Emergency Management Office acting under the authority of the county commission.
Avon Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**).
Scotland Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**).
Springfield Zoning Ordinance	The ordinance controls where growth and development can occur in the community.

[9] By South Dakota state law, any local unit of government that has not adopted building codes is required to follow the current edition of the International Building Code. However, there is no local enforcement mechanism in any of the jurisdictions.

Springfield Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**).
Tabor Zoning Ordinance	The ordinance controls where growth and development can occur in the community.
Tabor Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**).
Tyndall Floodplain Ordinance	Regulates development within flood hazard areas (see **Table 4.2**).

Regulatory authority also exists within Bon Homme 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. Scotland imposed limitations on lawn watering during the summer of 2026 in response to high water usage due to ongoing drought conditions.

As shown in the following table, all jurisdictions in Bon Homme County participate in the National Flood Insurance Program (NFIP) but none have been mapped. Since there are no Flood Insurance Rate Maps, there are no NFIP requirements to enforce or regulate, and there are no areas to regulate for substantial damage and improvement provisions since there are no Special Flood Hazard Areas.

Training and information on NFIP for many of the jurisdictions has not been passed down over the years as positions have turned over, which 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
Bon Homme Co	(NSFHA)	06/08/98	Emergency Manager	There are no floodplain regulations to administer.	Not applicable
Avon	(NSFHA)	06/08/98	Finance Officer	There are no floodplain regulations to administer.	Not applicable
Scotland	(NSFHA)	01/30/84	Finance Officer	There are no floodplain regulations to administer.	Not applicable
Springfield	(NSFHA)	06/08/98	Finance Officer	There are no floodplain regulations to administer.	Not applicable
Tabor	(NSFHA)	04/25/97	Finance Officer	There are no floodplain regulations to administer.	Not applicable
Tyndall	(NSFHA)	04/25/97	Finance Officer	There are no floodplain regulations to administer.	Not applicable

There are no active National Flood Insurance Program policies in Bon Homme County, but two claims totaling $24,184 have been paid for properties in Tabor that are no longer insured. No repetitive losses or severe repetitive losses have ever been recorded anywhere in the county.

Other Capabilities

Other resources and capabilities exist within Bon Homme 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

	Bon Homme Co.	Avon	Scotland	Springfield	Tabor	Tyndall
ADMINISTRATIVE & TECHNICAL						
Emergency management	X					
Land use planning	X			X	X	
Public works	X	X	X	X	X	X
Municipal electric system						X
Floodplain management	X	X	X	X	X	X
Building code enforcement						
FINANCIAL						
Budgeting process	X	X	X	X	X	X
Levy/Project surcharge for specific purposes		X	X	X	X	X
EDUCATION AND OUTREACH						
Internet / Social media	X	X	X	X		X
Emergency alerts to cellphones	X		X	X		X
PHYSICAL ASSETS						
Relief shelter	X	X	X	X	X	X
Storm shelter	X					
Warning siren		X	X	X	X	X

Administrative and technical staff to support hazard mitigation in the county are limited. For instance, Bon Homme County has an emergency manager, but the position is only half-time and there are no 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 Bon Homme 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 4.6** 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 Bon Homme County is limited, but efforts are being made. The Bon Homme 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. Hazard mitigation information is also available on most of the municipal websites.

There are many physical assets in Bon Homme 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 Bon Homme County courthouse basement. The following facilities can provide short-term relief following a disaster.

Table 4.4 – Designated Shelter Facilities in Bon Homme County

Community	Facility	Capacity	Meals Served	Generator	Blankets	Med Supplies
Avon	Fire Hall	20	51-99		Yes	Yes
Avon	Legion Hall	50	100-199	Yes		
Avon	Avon School	100	Over 300	Yes	Yes	Yes
Scotland	Fire Hall	20	51-99	Yes		Yes
Scotland	City Hall	50	100-199	Yes		Yes
Scotland	Scotland School	100	200-299	Yes		Yes
Springfield	Community Services Center	25	200-299		Yes	
Springfield	Fire Hall	20	51-99	Yes		Yes
Springfield	Professional Services Center	15	51-99			
Springfield	Springfield School	100	200-299			Yes
Tabor	Legion Hall	50	51-99			
Tabor	Beseda Hall	50	Over 300			
Tabor	Community Center	20	51-99			
Tabor	Tabor School	100	Over 300	Yes		Yes
Tabor	Fire Hall	20	51-99	Yes	Yes	Yes
Tyndall	Bon Homme School District	100	Over 300	Yes	Yes	Yes
Tyndall	Community Center	100	Over 300			
Tyndall	Fire Hall	30	51-99	Yes	Yes	Yes
Tyndall	Tyndall Legion Hall	15	21-50			Yes

The ability of Bon Homme 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, which have decades of experience working on various planning and community development activities within Bon Homme County, wrote the county's current hazard mitigation plan and helped develop applications to fund hazard mitigation projects within the county.

Mitigation Goals and Objectives

For this plan update, there are no significant changes in Bon Homme 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 [10]. 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.
- 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.

[10] The lack of development is shown by the fact that a total of only 177 building permits were issued throughout Bon Homme County between 2010 and 2022, an average of fewer than 14 per year.

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 4.5 – Progress on Implementing Previously Proposed Actions

Mitigation Action	Hazard	Current Status
BON HOMME COUNTY		
Continue NFIP compliance. Request more training and information from state NFIP coordinator.	Flooding	The County remains compliant, but little progress has been made on learning about the NFIP program.
Address drainage along county roads.	Flooding	Small-scale projects, as outlined in the County's Five Year Highway Plan, continue to be implemented, but more work is needed.
Powerline burial.	Winter storm	The Bon Homme Yankton Electric Association buries an average of approximately 15 miles of overhead powerline per year in Bon Homme County.
CITY OF AVON		
Continue NFIP compliance. Request more training and information from state NFIP coordinator.	Flooding	The City remains compliant, but little progress has been made on learning about the NFIP program.
Acquire battery backup for warning siren.	Summer storm	The town is in the process of acquiring a new siren.
CITY OF SCOTLAND		
Continue NFIP compliance. Request more training and information from state NFIP coordinator.	Flooding	The City remains compliant, but little progress has been made on learning about the NFIP program.
Warning siren upgrade or acquisition.	Summer storm	No progress has been made due to lack of funds.
Drainage improvements.	Flooding	No progress has been made due to lack of funds.
Begin participating in StormReady Community Program.	Summer storm	No progress has been made.
CITY OF SPRINGFIELD		
Continue NFIP compliance. Request more training and information from state NFIP coordinator.	Flooding	The City remains compliant, but little progress has been made on learning about the NFIP program.

Mitigation Action	Hazard	Current Status
Place overhead power lines underground.	Winter storm	No progress has been made (project is no longer a priority).
Trim or remove trees impacting power lines.	Winter storm	The City trims trees every year.
TOWN OF TABOR		
Ensure continued NFIP compliance. Town will contact the state NFIP coordinator to see if a flood hazard map can be developed for the community.	Flooding	The City remains compliant, but no progress has been made on the development of a flood hazard map.
Drainage improvements – East and West water retention ponds.	Flooding	No progress has been made due to lack of funds.
Drainage improvements – northeast creek cleanout.	Flooding	The project was completed in 2025.
Powerline burial.	Winter storm	The Bon Homme Yankton Electric Association has replaced 11 blocks of overhead powerline in Tabor and has 22 blocks left to go.
Expand the fire hall.	Winter storm	The Tabor Fire District is in the process of raising funds for the project. It is hoped that construction can begin in 2027.
CITY OF TYNDALL		
Continue NFIP compliance. Request more training and information from state NFIP coordinator.	Flooding	The City remains compliant, but little progress has been made on learning about the NFIP program.
Storm sewer extension.	Flooding	No progress has been made due to lack of funds.
Powerline burial.	Winter storm	The City continues to make progress on upgrading its electrical system and additional work is planned.

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. Some 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 4.6**. 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 two years, Mid-term actions from two to five years, and Long-term actions are expected to take more than five years to implement.
- 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 Bon Homme 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:

FEMA grant programs

- Hazard Mitigation Grant Program (HMGP)
- Building Resilient Infrastructure and Communities Program (BRIC)
- Flood Mitigation Assistance Program (FMA)

Other grant and loan programs/sources

- 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
- Western States Wildland Urban Interface Grant Program

Table 4.6 - Proposed Mitigation Actions

BON HOMME COUNTY ACTIONS	HAZARD	PRIORITY	PROJECT LEAD	TIME	ESTIMATED COST	FUNDING	NOTES
Continue participation in the National Flood Insurance Program.	Flooding	High	Emergency Mgmt Director	Ongoing	Minimal	Staff time	The Emergency Management Director will contact the South Dakota floodplain coordinator to learn more about the NFIP program and participate in future training sessions.
Continue to pursue flood mitigation and drainage work along county and township roads.	Flooding	High	Hwy superintendent	Ongoing	≈ $1 mil	Highway fund; FEMA; SDDOT	The County will continue to implement projects along county and township roads prone to flooding and may apply for funding for projects that pass a benefit-cost analysis.
Bury overhead powerlines.	Winter storm; Summer storm	High	B-Y Electric Assoc; Emergency Mgmt Director	Ongoing	≈ $5 mil to $10 mil	FEMA	The Association will continue to bury powerlines and may work with Bon Homme County to apply for mitigation funds as they are available. The Coop would be the lead in the development of any application for mitigation funds.
Acquire generator for county highway shop.	Winter storm; Summer storm	High	Hwy superintendent	Mid	$100,000	Highway fund; FEMA	The highway shop is a critical facility for the County's response to disaster events, and it should therefore have a reliable source of power. The County may pursue grant funds.
Participate in the Storm Ready Program.	Summer storm	Medium	Emergency Mgmt Director	Short	Minimal	Staff time	The Emergency Management Director will look into the program and would work with the towns to implement it.
Participate in the Firewise Program.	Wildfire	Medium	Emergency Mgmt Director	Short	Minimal	Staff time	The Emergency Management Director will look into the program and would work with the towns to implement it.
Develop a prescribed burning plan with landowners.	Wildfire	Medium	Emergency Mgmt Director	Ongoing	≈$25,000	General fund; WUIGP	The Emergency Management Director will contact the Southeast Dakota Prescribed Burn Association about the possibility of developing a prescribed burning plan with willing landowners. One of the goals is to control the spread of cedar trees, which are spreading and increasing fire risk.
Conduct outreach to educate people about water conservation.	Drought	Medium	Emergency Mgmt Director	Short	Minimal	Staff time	The Emergency Management Director will work with the towns on public outreach, including school groups.

AVON ACTIONS	HAZARD	PRIORITY	PROJECT LEAD	TIME	ESTIMATED 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.
Look into acquiring a generator or battery backup for fire hall.	Winter storm; Summer storm	High	Fire chief	Mid	$75,000	General fund; FEMA	The facility is Avon's primary relief shelter, and it should therefore have a reliable source of power. The City may pursue grant funds.
Participate in the Storm Ready Program.	Summer storm	Medium	City council	Short	Minimal	Staff time	The City would work with the County to implement the program.
Participate in the Firewise Program.	Wildfire	Medium	Fire chief	Short	Minimal	Staff time	The City would work with the County to implement the program.
Conduct outreach to educate people about water conservation.	Drought	Medium	City council	Short	Minimal	Staff time	The City will work with the County on outreach to the public, including school groups. Other methods might also be used, such as including information with utility bills.
Enact restrictions on water usage.	Drought	Medium	City council	Short	Minimal	Staff time	As needed, and under the direction of the Bon Homme-Yankton Rural Water System, the City will take steps to minimize local residential and commercial water usage.
SPRINGFIELD ACTIONS	**HAZARD**	**PRIORITY**	**PROJECT LEAD**	**TIME**	**ESTIMATED 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.
Upgrade storm sewer system.	Flooding	High	Public works director	Mid	≈ $2 mil	General fund; DANR; FEMA	The City intends to pursue grant funding for a project focused on College, Ninth, and Elm Streets. Other areas may be addressed as needed.
Acquire generators for the community center.	Winter storm; Summer storm	High	City council	Short	$185,000	General fund; FEMA	The facility is Springfield's primary relief shelter and power must be available there at all times. The City has applied for grant funding.
Participate in the Storm Ready Program.	Summer storm	Medium	City council	Short	Minimal	Staff time	The City would work with the County to implement the program.

Construct a tornado shelter or retrofit an existing structure	Summer storm	Medium	City council	Mid	≈ $350,000	General fund; FEMA	The City may pursue grant funding to build a tornado safe room at a location to be determined or to retrofit an existing structure.
Participate in the Firewise Program.	Wildfire	Medium	Fire chief	Short	Minimal	Staff time	The City would work with the County to implement the program.
Conduct outreach to educate people about water conservation.	Drought	Medium	City council	Short	Minimal	Staff time	The City will work with the County on outreach to the public, including school groups. Other methods might also be used, such as including information with utility bills.
Enact restrictions on water usage.	Drought	Medium	City council	Short	Minimal	Staff time	As needed, the City will take steps to minimize local residential and commercial water usage.
TABOR ACTIONS	**HAZARD**	**PRIORITY**	**PROJECT LEAD**	**TIME**	**ESTIMATED 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.
Upgrade storm sewer system.	Flooding	High	Public works director	Long	The total for all projects is ≈ $4.5 mil	General fund; DANR; FEMA; SCWDD	Several projects are proposed in the storm drainage system study developed by the Town's engineering consultant. The Town intends to pursue grant funding for one or more of the projects.
Bury overhead powerlines.	Winter storm; Summer storm	High	Bon Homme Yankton Electric Association	Mid	≈ $1.1 mil	General fund; FEMA	The Association intends to replace the remaining 22 blocks of overhead powerlines in Tabor with underground lines. The cost is about $50,000 per block or $1.1 million overall. The Association may apply for funds if a project can pass a benefit-cost analysis.
Construct a tornado safe room.	Summer	High	Fire chief	Short	≈ $250,000	General fund; FEMA	The Town is considering incorporating a tornado safe room into the fire station being designed and expected to be under construction within the next two years.
Acquire generator for community center.	Winter storm; Summer storm	Medium	Town board	Mid	$75,000	General fund; FEMA	The facility is one of the town's designated relief shelters and power should be available there at all times. The Town may pursue grant funding.
Participate in the Storm Ready Program.	Summer storm	Medium	Town board	Short	Minimal	Staff time	The Town would work with the County to implement the program.
Participate in the Firewise Program.	Wildfire	Medium	Fire chief	Short	Minimal	Staff time	The Town would work with the County to implement the program.

Conduct outreach to educate people about water conservation.	Drought	Medium	Town board	Short	Minimal	Staff time	The Town will work with the County on outreach to the public, including school groups. Other methods might also be used, such as including information with utility bills.
Enact restrictions on water usage.	Drought	Medium	Town board	Short	Minimal	Staff time	As needed, and under the direction of the Bon Homme-Yankton Rural Water System, the Town will take steps to minimize local residential and commercial water usage.
TYNDALL ACTIONS	**HAZARD**	**PRIORITY**	**PROJECT LEAD**	**TIME**	**ESTIMATED 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.
Upgrade storm sewer system.	Flooding	High	Public works director	Long	≈ $1 mil to $5 mil	General fund; DANR; FEMA; SCWDD	The Town intends to pursue grant funding to improve water drainage in the community, including the construction of water detention basins.
Bury overhead powerlines.	Winter storm; Summer storm	High	City council	Ongoing	≈ $1 mil to $2 mil	General fund; FEMA	The City may apply for funding if a section of powerline can pass a benefit-cost analysis.
Acquire generator for community center.	Winter storm; Summer storm	Medium	City council	Mid	$75,000	General fund; FEMA	The facility is a designated relief shelter and power must be available there. The City may pursue grant funding.
Participate in the Storm Ready Program.	Summer storm	Medium	City council	Short	Minimal	Staff time	The City would work with the County to implement the program.
Participate in the Firewise Program.	Wildfire	Medium	Fire chief	Short	Minimal	Staff time	The City would work with the County to implement the program.
Conduct outreach to educate people about water conservation.	Drought	Medium	Town board	Short	Minimal	Staff time	The City will work with the County on outreach to the public, including school groups. Other methods might also be used, such as including information with utility bills.
Enact restrictions on water usage.	Drought	Medium	City council	Short	Minimal	Staff time	As needed, and under the direction of the Bon Homme-Yankton Rural Water System, the City will take steps to minimize local residential and commercial water usage.

Potential Resources for Funding Assistance:

DANR South Dakota Dept of Agriculture and Natural Resources
FEMA FEMA Hazard Mitigation Assistance (BRIC or HMGP)
SCWDD South Central Water Development District
SDDOT South Dakota Dept of Transportation
WUIGP Wildland Urban Interface Grant Program

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CHAPTER V

Plan Maintenance

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 Bon Homme 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 Bon Homme County and municipal websites, and a copy is also available for review at the Bon Homme County courthouse and in the finance office of each participating jurisdiction. Going forward, Bon Homme 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 Bon Homme 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 Bon Homme 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 Bon Homme County Emergency Management Director is ultimately responsible for implementing this plan. The director will work under the direction of the Bon Homme County Commission and with the support of the Bon Homme 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 Bon Homme 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. 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 available to assess the risk for any of the hazards?
- 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, Bon Homme

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 Bon Homme 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 [11].

- Bon Homme County Comprehensive Plan and Zoning Ordinance – the Planning & Development District III office developed the comprehensive plan and zoning ordinance working with the Bon Homme 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.
- Bon Homme County Highway Plan – the highway plan is developed by the Bon Homme 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

[11] Nothing is shown for Avon because the community has no planning mechanisms or policies.

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

- Springfield 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.
- Springfield Housing Study - the City will integrate relevant information acquired through the development of this plan into the housing study when it is next updated.
- Springfield Capital Improvements Plan – the plan outlines a schedule for the implementation of major capital needs projects through 2030. City staff responsible for the CIP will be able to utilize the knowledge gained during the development of this plan to identify capital projects that may be eligible for FEMA funding.
- Tabor Comprehensive Plan and Zoning Ordinance – the Town 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.
- Electric System Study & Capital Improvements Plan for Tyndall – the study analyzes the condition of the City's electrical infrastructure and outlines improvements that could be made. Information from this plan will help inform the decisions that are made regarding which improvements can be feasibly pursued.

Perhaps 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 Bon Homme 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 4.6**. 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 Bon Homme 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 Bon Homme 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 online, and surveys that were made available to the public.

Press Release in Tyndall *Tribune & Register* Prior to First Meeting:

City council meeting July 8

The City Council of Tyndall will meet in Wednesday, July 8 (note date change) at 6:30 p.m. in the Tyndall Auditorium. Following is the tentative agenda:

+ Call to order
+ Pledge of Allegiance
+ Approve agenda
+ Approve minutes
+ Approve claims
+ Department reports
+ Oath of office for new council
+ Elect president and vice president
+ Committee assignments
+ Annual report
+ Scooter ordinance
+ Camber ordinance
+ Hospital contract
+ Pool
+ Condemn house
+ Donation to 4H
+ Demolition of house
+ Fire truck
+ Curb and gutter
+ Executive session, if necessary
+ Next meeting May 4
+ Adjourn

to be taken as Neuman was there to update commissioners on his certification and answer any questions.

Present for the meeting were commissioners Jason Kokes, Brett Romkema, Ed Van Gerpen and Duane Bachmann. Absent was Mary Jo Bauder.

Also during the discussion with the sheriff's department, Maggs requested permission to get quotes to add a door between the states attorney's and the emergency management offices. This will ensure privacy to both departments moving forward. Consensus of the board was to allow Maggs to get quotes to be presented at a later time.

Teresa Meredith presented a quote from J&P Electrical in the amount of $1,475 for the purchase of three new ceiling fans for the courtroom and another for new electrical outlets in the commissioner's room in the amount of $800. One fan in the courtroom does not work, and the other two are on their way out. During the installation of the new fans, Teresa will level each fan length so they are all the same height. Commissioners approved both

er than having to raise the roadway.

Commissioners approved a request from Hauck to hire Katelyn Peterson and Jeremiah Nelson as full-time highway workers for the Tabor and Avon shops.

Abby Monger presented handbook additions regarding disciplinary actions that can be taken by department heads regarding their department employees. The additions will apply to all departments but leaves enough leniency for each department head to decide how they would like to reprimand an employee, if needed.

Commissioners reviewed and discussed various areas of the 2027 budget and identified areas of the budget that could possibly be decreased. At the next meeting, commissioners will meet with various department heads to discuss their budget.

Claims in the amount of $303,699.72 were approved - general fund, $100,154.90; county road and bridge, $201,429.61; 911 service fund co share1,062.42; emergency and disaster, $290.49; 24/7 sobriety fund, $762.30.

Also, during the meeting, commissioners reviewed and approved the minutes of the June 17 meeting and reviewed timecards.

With no other business, the meeting adjourned at 10:45 a.m.

Food distribution July 23 in Tyndall

Feeding South Dakota food distribution in Scotland, Tyndall and Avon will be THURSDAY July 23 at 8:30 a.m., at the Scotland Community Church; 10:30 a.m., at the Tyndall Fire Hall and 12 noon at the Avon Fire Hall.

Hazard mitigation meeting July 15

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, Bon Homme 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 Bon Homme County Courthouse, Wednesday July 15 at 9:15 a.m. 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 Bon Homme County Emergency Management Office, by going to www.districtiii.org or by scanning this QR code:

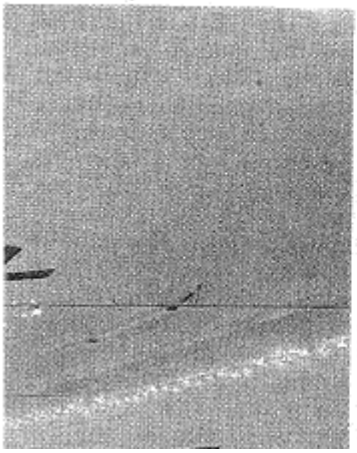
For more information, please contact the Bon Homme County Emergency Management Office at bhem@bonhommecountysd.org or by calling 605-589-4212. You can also contact John Clem at 800-952-3562 or by email at John.Clem@districtiii.org.

Press Release in Tyndall *Tribune & Register* Before Final Meeting:

yndall

e & Register

MME COUNTY, SOUTH DAKOTA Wednesday, September 30, 2026



County's Hazard Mitigation Plan meeting October 7

The final meeting to update the Bon Homme County Hazard Mitigation Plan will take place Wednesday, Oct. 7 at 9:30 a.m. at the Bon Homme County Courthouse. The focus of the meeting will be to review the first draft of the hazard mitigation plan, which is available for public review at the Bon Homme County Emergency Management Office. The plan can also be accessed at www.districtiii.org.

The public is invited to attend the meeting or to provide comments and suggestions regarding the plan, which can be sent to the Bon Homme County Emergency Management Office at bhem@bonhommecountysd.org or by calling 605 589-4212. All comments received will be included in the final copy of the plan that will be submitted for approval to the State and FEMA.

Survey Poster

PUBLIC PARTICIPATION NEEDED!

BON HOMME COUNTY



HAZARD MITIGATION PLAN PUBLIC SURVEY

The Bon Homme 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 environment. Bon Homme County is seeking feedback from stakeholders and the public to incorporate into the plan.

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

The hazard mitigation plan represents Bon Homme 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 Bon Homme County to reduce negative impacts from future disasters on lives, property, and the local economy.

TAKE THE SURVEY

www.districtiii.org

PUBLIC PARTICIPATION IN HAZARD MITIGATION PLANNING

Public participation in the Bon Homme 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 Bon Homme County and the participating municipalities eligible to apply for FEMA hazard mitigation funding.

PHONE: (605) 589-4212
EMAIL: BHEM@BONHOMMECOUNTYSD.ORG

Survey Form with Responses

BON HOMME COUNTY HAZARD MITIGATION SURVEY (*WITH RESPONSES IN RED TYPE*)

The Bon Homme 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. Bon Homme 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? **Bon Homme County (All)**

2. What town do you live in? **Avon: 6; Springfield: 6; Tabor: 8; Tyndall: 2**

3. How long have you lived in South Dakota?

   Less than 1 year: **0**
   1-5 years: **0**
   6-10 years: **1**
   More than 10 years: **21**

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

Yes: 10 **No: 12**

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: 7**

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	12	7	3	0	0		31
Extreme Heat	10	4	6	2	0		22
Flood	6	9	6	1	0		20
Hail	5	14	1	2	0		22
Tornado	8	12	1	1	0		27
Wildfire	2	9	4	6	1		5
Winsdstorm	9	10	2	0	1		26
Winter storm/Blizzard	5	15	1	0	1		23

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) **8**
Economic (Business closures and/or job losses) **9**
Infrastructure (Damage or loss of bridges, utilities, schools, etc.) **14**
Environmental (Damage or loss of forests, rangeland, waterways, etc.) **9**
Government (Ability to maintain order and/or provide public amenities and services) **8**

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	5	10	5	1	1		17
I support policies to prohibit development in areas subject to natural hazards	5	12	5	0	0		22
I support enhancing the function of natural systems (e.g., streams, wetlands)	11	8	3	0	0		30
I support the use of tax dollars to compensate landowners for not developing in areas subject to natural hazards	3	6	5	7	1		3
I support the use of tax dollars to reduce risks and losses from natural disasters	4	9	8	1	0		16
I support the disclosure of natural hazard risks during real estate transactions	8	10	4	0	0		26

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	14	8	0	0	0		36
Protecting critical facilities (e.g., transportation networks, hospitals, fire stations)	17	5	0	0	0		39
Protecting utilities and infrastructure	17	5	0	0	0		39
Protecting historic and cultural landmarks	4	15	3	0	0		23
Strengthening emergency services (fire, police, etc.)	17	4	1	0	0		38

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:

Bon Homme County Hazard Mitigation Planning Meeting

July 15, 2026

NAME	REPRESENTING
John Clem	Planning District III
Shannon Viereck	Planning District III
Liam Quedensley	EM for Bon Homme County
Duane Bachmann	BH Commissioner
Carla Kopp	BH Auditor
Mary Jo Bauder	BH Commissioner
Ed Van Norman	BH Commission
Jason Kokes	BH commissioner
Alex Bachman	Newspaper
Teresa Holland	City of Tyndall
Amanda Larson	City of Springfield
Amanda Whittington	Mayor Tyndall
Laverne Schieffer	Mayor of Tabor
Richard Sutera	Town Tabor Maintenance
Ed Klocek	Town Tabor finance offic
Victoria Radacik	City of Avon
Dan Knoll	City of Avon
Abigail Monger	BHCo State's Attorney

SIGNUP SHEET – SECOND PLANNING TEAM MEETING:

Bon Homme County Hazard Mitigation Planning Meeting

August 19, 2026

NAME	REPRESENTING
John Clem	Planng District III
Shannon Viereck	Planning Dist III
Amanda Larson	City of Springfield
Brett Romkema	BH Commission
Jason Kokes	BH Commission
Ed Van Gerpen	" "
Mary Jo Bruda	BH County Commission
Daniel Backman	BH Co Commissioner
Carla Kopp	Auditor
Abigail Monger	State's Attorney
Teresa Holland	City of Tyndall
Rich Sutera	Town of Tabor Maintenance
Tammy Mesman	State's Attorney Office
Brooke Swier Schloss	State's Attorney Office
Ken Carda	Tabor & B-H Electric
Ed Klaval	Tabor FD
Laverne Schieffer	Tabor - Mayor
Mark Mayo	Sheriff
Liam Quesenbery	Emergency Manager
Amanda Whittington	Mayor of Tyndall

SIGNUP SHEET – FINAL PLANNING TEAM MEETING:

Bon Homme County Hazard Mitigation Planning Meeting

October 7, 2026

NAME	REPRESENTING
John Clem	Planning District III
Jason Kokes	Co Comm Tabor
Brett Ronkema	Co Comm Springfield
Ed Van Beusen	Co Comm Avon
Dvora Bachman	Co Comm Tyndall
Carla Kopp	Auditor
Brooke Suier Schloss	State's Attorney
Alex Bachman	Newspaper
Teresa Holland	City of Tyndall
Richard Sutera	Town Tabor
Lorene Schieffer	Town Tabor
Stephanie Horst	Bon Homme Yankton Electric
Amanda Larson	Springfield
Mark Meyer	BHCSO
Amanda Washington	Tyndall
Liam Quedenstey	BHCSO/ Emergency Manager

September 3, 2026

The Bon Homme County Commissioners met in regular session at 9:00 a.m. on Thursday, September 3, 2026 in the Bon Homme County Commissioner's room. Those in attendance were: VanGerpen, Bachmann, Romkema and Bauder. Also present were Brooke Schloss, Deputy Auditor Susan Raysby, reporter Alex Bochman.

Commissioner Bachmann led the board with the pledge of allegiance.

Motion by Bauder and seconded by VanGerpen to approve the agenda. All voting aye, motion carried.

Adding to the Provisional Budget $35,000 for software upgrade in 2027. Motion by Romkema and seconded by VanGerpen to add the software upgrade. All voting aye, motion carried.

Romkema stated had Geotek soil boring testing grounds survey proposed for jail location bid for $4,600. Motion by Romkema and seconded by Bauder to except the bid. All voting aye, motion carried.

Romkema requested executive session for personnel. Motion by Romkema and seconded by Bauder to enter executive session per SDCL 1 25-2 subsection 1 at 9:03a.m. All voting aye, motion carried.

Bachmann declared the board out of executive session at 9:11a.m. The Home Rule was discussed this would allow the county the power of self-government through a voter approved including having some elected positions being appointed.

Chester stated that the CD's at Security Bank Midwest are up for renewal. The 7 CD's will renew at 4.05% interest for one year. The total right now of the CD's are $1,8000,000. Motion by Romkema and seconded by Bauder to go with renewing the 7 CD's with the 4.05% interest. All voting aye, motion carried.

Romkema asked Chester to discuss with 1st Savings in Springfield if they could give a better rate for the CD's. Chester said she will look into this and discuss what she finds out at the next meeting.

Highway Superintendant, Matt Hauck met with the board and presented the fuel quotes. September fuel quotes: **Farmer's Pride:** #2, $4.99: **Central Farmers Coop:** Unleaded $4.07, Ethanol $3.59, #2 Fuel, $4.45; **Tabor Lumber Coop:** Unleaded or ethanol, pump price; #1 $4.80, #2 $4.60, LP, $1.49. **Schmidt's Service:** Unleaded $3.99; #2 Fuel $4.80; **Best Propane:** LP, $1.49; **Stern Oil**: Unleaded $3.72, Ethanol $4.24, #1 fuel, $5.69; #2 Fuel $5.46; LP, $1.45. Consensus of the board was to accept the fuel quotes as submitted.

Hauck presented the equipment he wishes to purchase in 2027 the board accepted his list for next year to review. Motion by Romkema and seconded by VanGerpen.

Hauck asked to purchase two road rakes for $10,600 for the pair from Mountain Lake, MN. Motion by Romkema and seconded by VanGerpen to purchase them. All Voting aye, motion carried.

Hauck asked the Commissioners to approve and sign a design exemption for the Lake Henry Road that would lower the speed limit from 55 mph to 45 mph. The project is in the design phase and a commitment was needed that if the project is completed in the future, the speed limit will be reduced as requested. Motion by VanGerpen and seconded by Bauder to approve & sign. All Voting aye, motion carried.

Motion by Romkema and seconded by VanGerpen to approve the August 19th minutes. All voting aye, motion carried.

Moved by Bauder and seconded by Romkema to approve the following claims. All voting aye, motion carried. (*DELETED*)

Raysby asked to have the Cortrust credit card changed from Abby's name to Brooke's with the change in States Attorney position. Motion by Bauder and seconded by Bachmann to change the names on the card. All voting aye, motion carried.

Commissioners signed the LEMPG agreement for 2027. All voting aye, motion carried.

Discussed Hazard Mitigation Projects-Approve list on motion by VanGerpen and seconded by Bauder. All Voting aye, motion carried.

Amended add-in: Building permits for July were David Guthmiller, swine nursery; David Guthmiller, swine nursery; David Guthmiller, swine nursery; Chad Kokesh, cold storage, Tim & Gloriann Hovorka, move in garage & tear down building; Aaron & Dana Cass, 62x256 cattle hoop building.

Consensus of the board to approve timesheets for August.

With no further business, motion by Romkema and seconded by VanGerpen to adjourn. All voting aye. motion carried. Meeting adjourned at 10:12 a.m.

ATTEST: _____ _____

Susan Raysby, Deputy Auditor Duane Bachmann, Chairman

AVON MINUTES

Avon City Council Meeting

September 9, 2026

Mayor Kevin Tjeerdsma called the meeting to order at 7:03 P.M., at the Avon Meeting Room with Alderperson Muller, Voigt, Thury, and Berndt. Also present, Finance Officer Tori Radack, Joe Paulsen, Dennis Powers, Patrick Glover, and Charles Ramirez.

All present recited the pledge of Allegiance.

Moved by Berndt second by Voigt to approve the agenda with the addition of Curb and Gutter by Gas Station and to Remove the ROCS item listed under new business. Motion carried.

Moved by Thury second by Muller to approve August 19, 2026 minutes. Motion carried.

Moved by Berndt second by Muller to approve September claims. Motion carried.

Motion by Thury second by Voigt to approve the revenue. Motion carried.

PUBLIC COMMENT: None

COMMITEE REPORTS: Dump-None, Streets-Joe to reach out to Commercial Asphalt on Thursday or Friday following meeting to see when they will be coming to complete road repairs. Library-Ilene Muller has not received the Library Month End Report at this time and the Library Board Meeting to be held in September.

POLICE REPORT: Finance Officer, Tori Radack, spoke with Police Officer, Justin Hidinger, who stated that training is going well and that his uniform should be arriving within the next week.

OLD BUSINESS: Housing Study: Finance Officer, Tori Radack, will get in touch with Suzanne Smith with Augustana University to provide the requested information for the housing study and to draft a notice to go into the paper informing residents to contact Suzanne with any questions they may have about the housing study or to let her know any information they may have that may be helpful when conducting the study.

NEW BUSINESS: Reese Powers – Chamber Address for Stripe Account: A discussion was held on allowing the Chamber to use the City's physical address to sign up for a Stripe account, which allows customers to make payments. Motion by Berndt second by Voigt to allow the Chamber to use the City's physical address to set up the Stripe Account. Motion carried.

1st Reading of Budget Ordinance #362: 2027 Budget

Hazard Mitigation Plan: Motion by Voigt second by Thury to approve the proposed mitigation actions/projects with the change to acquire generator for fire hall to look into acquiring a generator or a battery back for the fire hall. Motion carried.

Delinquent Notice/Disconnections: There was 2 delinquent notice sent this month, but no disconnections.

Motion by Muller second by Thury to approve repairing the curb and gutter at the gas station. Motion carried.

Motion by Muller second by Berndt to enter into executive session for litigation at 8:52 P.M. All in Favor, motion carried.

Joe Paulsen Left at 9:10 PM.

Out of Executive Session at 10:00 P.M.

Motion by Thury second by Berndt to Replace Beam Dental and Vision with Colonial Dental and Avesis Vision. Motion carried.

Motion by Thury second by Berndt to Adjourn at 10:06 P.M. Motion carried.

Motion Thury second by Voigt to have next special meeting Wednesday September 16, 2026 at 7:00 P.M. Motion carried.

Attest:_____ Date:_____

Kevin Tjeerdsma, Mayor

Attest:_____ Date:_____

Victoria Radack, Finance Officer

SPRINGFIELD MINUTES

Springfield Common Council Meeting
September 3, 2026

The regular meeting of the Common Council was held on September 3, 2026 at the CSC. The meeting was called to order at 6:30pm by Mayor Kostal. The Pledge of Allegiance was spoken. Roll Call: Burch absent, Dietsch, Ludens, and Mueller were present. Also present, FO Larson, Asst FO Rothschadl, *Springfield Times* Reporter Bochman, Attorney Barrett, Edward Walter, Deb Stockholm, Doug Stockholm, Billy Minder, James Burkett, Lorri Dietsch, Julie Fleek, Kimberlee Schroeder, Kelly Namminga, Mike Grosshuesch, Will Paulson, Chris Mace and Carol Hagen (via phone).

MONTHLY ITEMS: Agenda Approval: Ludens moved, Mueller second to approve the agenda as amended. Three voted in favor, one absent, motion carried. Minutes Approval: Dietsch moved, Ludens second to approve the minutes of August 3, 2026, regular meeting. Three voted in favor, one absent, motion carried. Finance Officer's Report: Mueller moved, Dietsch second to approve the Finance Officer's Report. Three voted in favor, one absent, motion carried.

DONATION(S): None.

PUBLIC COMMENT: James Burkett addressed comments made at the August 3, 2026, meeting. Will Paulson expressed discontent with current mayor and council actions. Deb Stockholm spoke of concerns regarding placement and language of personal opinions. Carol Hagen voiced that there is not always agreement with the decisions of the council but appreciates the work they do.

OFFICIAL CORRESPONDENCE: None.

DEPARTMENTAL REPORTS: Reports were reviewed from the following departments – Utilities, Streets, Police, Ambulance, Airport, Library, Finance Office and Mayor.

CAPITAL IMPROVEMENT PROJECTS: Water Treatment Plant open house will be Saturday, October 3, 2026, from 10:00am to 12:00pm.

OLD BUSINESS: Personnel Policy Manual – Section IV Recruitment & Selection: PP4.12 – Residency Requirement -Mueller moved, Dietsch second to approve Personnel Policy Manual Section PP4.12 – Residency Requirement as presented. Three voted in favor, one absent, motion carried. PP4.13 – Employment of Relatives (Nepotism) - Ludens moved, Mueller second to approve Personnel Policy Manual Section PP4.13 – Employment of Relatives (Nepotism) as presented. Three voted in favor, one absent, motion carried. Abandoned/ Property Update: Jones Property – Tom Week surveyed the properties; moving forward with licensing the trailer. (Former) Richey Property –Mayor Kostal noted that there has been little to no progress since May.

NEW BUSINESS: Election Rates: Ludens moved, Dietsch second to approve November 3, 2026, Election Rates as presented. Three voted in favor, one absent, motion carried.
Election Board: Mueller moved, Dietsch second to approve November 3, 2026, Election Board as presented. Three voted in favor, one absent, motion carried.

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Resolution 2026-05 – Amending Water Treatment Plant Budget: Dietsch moved, Ludens second to approve Resolution 2026-05 amending the Water Treatment Plant Budget as presented. Three voted in favor, one absent, motion carried.
Ordinance 626-2027 Budget Appropriations: First Reading - Ludens moved, Dietsch second to approve the First Reading of Ordinance 626 – 2027 Budget Appropriations. Three voted in favor, one absent, motion carried.
Special Meeting Date – A special meeting date will be set within the week of September 15-18, 2026.
Personnel Policy Manual – Section V- Hours of Work: Mueller moved, Ludens second to postpone Personnel Policy Manual – Section V- Hours of Work until October 5, 2026, meeting. Three voted in favor, one absent, motion carried.
SecureSD Cybersecurity Training – September 30, 2026: Ludens moved, Dietsch second to authorize Namminga, Rothschadl and Larson to attend the SecureSD Cybersecurity Training September 30, 2026. Three voted in favor, one absent, motion carried.
Special Event On-Sale Alcohol License – Fall Festival – October 3, 2026: Mueller moved, Ludens second to approve Norm's Inc/ Doug's Food Center October 3, 2026, Fall Festival Special Event On-Sale Alcohol License. Three voted in favor, one absent, motion carried.
Special Event On-Sale Alcohol License – High- Stakes Bingo- October 30,2026: Ludens moved, Dietsch second to approve Norm's Inc October 30, 2026, High- Stakes Bingo Special Event On-Sale Alcohol License. Three voted in favor, one absent, motion carried.
Surplus List: Dietsch moved, Mueller second to approve the surplus items listed as presented. Three voted in favor, one absent, motion carried.
Surplus Board of Appraisal: FO Larson explained the need for the three property owners to appraise surplus list items.
Revolving Loan Fund Update: Attorney Barrett is reviewing changes in the law.
Hazard Mitigation Plan: Discussion was held about the proposed mitigation actions/ projects for Springfield.

OTHER BUSINESS: Mayor Kostal spoke on the 2025-2026 sales tax increase from 2025 to 2026 per Department of Revenue. Mike Grosshuesch inquired if the council had established a unified response to the growing concerns regarding the profanity and placement of the camper around town.

EXECUTIVE SESSION: Mueller moved, Dietsch second to enter executive session pursuant to SDCL 1-25-2(1) Personnel at 8:02pm., exiting at 8:07pm. Ludens moved, Dietsch second to approve rollover of 13 hours vacation time for Les Jelsma. Three voted in favor, one absent, motion carried.

ADJOURNMENT: Ludens moved, Dietsch second to adjourn. Three voted in favor, one absent, motion carried. Meeting adjourned at 8:09pm.

Mayor Scott L. Kostal

Amanda Larson
Finance Officer

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TABOR MINUTES

September 8, 2026

Tabor Town Board Meeting

Chairperson Laverne Schieffer called Tabor Board of Trustees to order Tuesday, Sept. 8, 2026 @ 6:30 p.m. at Tabor Community Center with Ken Carda, Brian Neumayer, Linda Bares, Randy Hall, Ev Kloucek (FO), Rich Sutera (main), Jerry Stibral present. Absent Kent Lehr, lawyer. Pledge of Allegiance was recited.

Motion Bares, second Carda to approve agenda as posted. Motion carried. Motion Hall, second Neumayer to approve financial report as presented. Motion carried. Motion Carda, second Neumayer to approve last months minutes as published. Motion carried. Motion Bares, second Hall to pay bills as presented. Motion carried.

FINANCIAL: General; -$290665.02/ CD's- $548978.83; Water- $ 138644., CD $50860.95/ SRF- $57667.66; Sewer: $564004.66, CD- $468200.24 SRF- $238513.23; Savings $23534.23.

DELEGATION: None.

BUSINESS: No lawyer present, Code Enforcer update as Board asked Jerry Stibral, if will be in compliance by Sept. 18 as to remove 3 freezers, as he stated working on it, as Board will have inspection with Code Enforcer.

Hazard mitigation projects discussed: Continue to work with National Flood Insurance Program; Stormwater system work, including creek north of town; B-Y Electric working on burying system and upgrading; Participating with County on in Storm Ready program; Looking into tornado safe room, possibly at Takota Park or at new firehall; Participating with County in Firewise program; Educate residents on water conservation.

Motion Carda, second Hall to approve 2nd reading of Budget Appropriation Ordiance 2026-07. Motion carried. SPN water study, tabled.

NEW BUSINESS: Discussion held on replacing Takota Park Picnic shelter, as resident rented and water flooded area and bathrooms, and men's door in need of replacing, tabled as will get estimates. Brandt surveyed city lot N Lidice. Clerkbooks will be updating water billing / ledger program Dec. 7 and a class will be Dec./ 14-15 for FO. Summary of Summer Program given to Board with expense of $4828. And income of $4313. Presented Board with SDDENR publication of water permits that will be published.

MAINTENACE: Motion Hall, second Carda to accept Road Guy Proposal to chip seal East and West Blocks of $51000. Motion carried. Discussion held on W Chicago ditch drainage, as Maintenance to contact someone. Motion Carda, second Bares for Rich to be attending

class in Yankton. Motion carried. Will continue to spray for mosquitoes. Will be gone Sept 25.Spulak patio. 7 late water notice sent with 4-2nd notices sent. No D/C

Public Comment: Jerry Stibral observing.

Motion Schieffer, second Carda to enter into executive session of litigation.at 7:55. Motion carried. Chairperson declared out of session at 8:12 with no action taken.

Motion Carda, second Neumayer to adjourn at 8:12. Motion carried

Next Town Board Meeting Tuedsay Oct. 6 @ 6:30 p.m.

Evelyn Kloucek, Finance Office Laverne Schieffer,Chairperson

TYNDALL MINUTES

City of Tyndall Regular Meeting
September 8, 2026, 6:30 pm

The meeting was called to order at 6:30 pm by Mayor Amanda Whittington.
The Pledge of Allegiance was led by Whittington.
Roll call present was Amanda Whittington, John Slama, Joel Humpal, Casey Kostal, Jamie Muller, Wendy Hicks and Michael Cuka. Also present were Dylan Bertsch, Teresa Holland, Kelly Young, Cole Humpal, Zac Heesch, Jarrod Slaght, Maggie Fiscel, Becky Tycz, Roger Bartlett, and Bill VanGerpen.

Approval of Agenda
Motioned by Kostal, seconded Humpal to approve the agenda as presented. All present voted aye. Motion carried.

Approval of Minutes
Motioned by Slama, seconded by Hicks to approve August 11, 2026, minutes. All present voted aye. Motion carried.
Motioned by Hicks, seconded by Kostal to approve August 19, 2026, minutes. All present voted aye. Motion carried.
Approval of Claims
The Council discussed approval of bills/claims. Motioned by Slama, seconded by Humpal to approve the following claims. All present voted aye, Muller abstained. Motion carried.

Public Comment
Bill VanGerpen visited with the council about the lift station that was once discussed for North Development. He understood that the development area was to be residential only. Council informed VanGerpen that the engineers will be at the October meeting to discuss the options for the lift stations in the town and to bring all council members up to date with the sewer study.
Roger Bartlett spoke to the council on a drainage issue on Railroad Street and 16th Avenue. City personnel will look at what can be done to help eliminate the pond issues in the backyards of 16th and Railroad residents.

Department Reports
Finance- There were 73 late notices, with two disconnects.
Holland asked council for permission to go to Cyber Security Training in Wagner. Motioned by Slama seconded by Muller to approve the request. All present voted aye, motion carried.
Library Report was read by Whittington.
Police no reports.
Utilities – Slaght asked for permission to purchase a new locator as the current one is having some issues. Motioned by Slama, seconded by Muller to purchase a new locator.
Streets-Cuka asked the council if the city can sweep the Church parking lot after the chip sealer contractor completes work. Council agreed to sweep the parking lot.
Attorney-Discussion was held regarding board authority, adherence to the Council's adopted policies and ordinances, and the importance of maintaining professional and productive working relationships among board members. The board was reminded that members act on behalf of the town as a whole and are expected to follow applicable laws, ordinances, policies, and actions approved by the Council.
Mayor & Council- Discussion was held regarding the recent weather warning and concerns that some residents did not hear the warning sirens. The Council discussed providing additional notification methods, including text messages and telephone notifications, to supplement the outdoor warning system. The possibility of providing additional information to residents regarding available emergency notifications was discussed. The Council also discussed emergency shelter locations and clarification of who is responsible for opening public buildings during severe weather events.

Old Business:
Building Permit Committee-Discussion was held regarding establishing a Building Permits Committee and developing clearer guidelines for when a building permit is required.
The Council discussed having the committee review projects involving additions, structural changes, curb and gutter, and potential impacts to city water and sewer services. A motion was made by Wendy to establish a Building Permits Committee; John seconded the motion. Motion carried. Amanda and Mike volunteered to serve on the committee.
Hiring of Maintenance Personnel- Discussion was held regarding advertising for a new city maintenance position and whether the position should be advertised as a general maintenance position or include additional qualifications related to electrical work. A motion by Kostal, seconded by Hicks to advertise the position with an electrical or powerline background. All in favor, aye. Motion carried.
Police Policy- The Council reviewed the Police Policy Book prepared for the City. The policy book includes required policies as well as additional policies applicable to the Police operations. Motioned by Slama, seconded by Hicks to approve the police policy manual. All present voted aye, motion
State Water Plan-Council discussed the state water plan for proposed water and infrastructure projects. It was explained that inclusion in the plan does not obligate the City to complete the listed projects but is necessary for the City to be eligible to pursue certain state or grant funding opportunities. A motion by Hicks, seconded by Slama to approve the State Water Plan. All present voted aye, motion carried.
Hazard Mitigation Plan-Council reviewed the Hazard Mitigation projects that were proposed at the county mitigation meetings. Projects discussed included burying electrical lines throughout the city, improvements at the Community Center, a possible tornado shelter or safe room at the fire hall, and other potential infrastructure and emergency preparedness projects. Motioned by Slama, seconded by Muller to approve the proposed projects for the Hazard Mitigation Plan. All present voted aye, motion carried.
Special Meeting Overview- The Council discussed the applicable compensation amounts for the Mayor and Council members and reviewed the provisions contained in the City's policies. No action was taken about special meetings.
Expenditure limit-The council discussed establishing a dollar limit on expenditure spending. Motioned by Slama, seconded by Cuka to establish a $1000 expenditure limit without prior council approval, except for emergency expenditures.
Attorney review and process-Discussion on the process for ordinances and policy changes to be given direction by the council to the attorney will be brought forward.
Change orders -The council discussed if there is a change in a project that the committee reviews it and brings the information to the council meeting for documenting and transparency.

Ordinance 2027 Budget Appropriations #684
Motioned by Kostal, seconded by Hicks to approve the first reading of the ordinance. All present voted aye, motion carried.

Executive Session
Motioned by Slama, seconded by Hicks to enter executive session for personnel SDCL 1-25-2-(1)
At 9:00 pm. All present voted aye, motion carried.
Exited executive session at 9:17 pm with no action taken.

Next special meeting September 21st at 6:30 pm for 2nd reading budget ordinance.
Next regular meeting October 5, 2026 at 6:30 pm.

Motioned by Kostal, seconded by Humpal to adjourn the meeting at 9:22 pm. All present voted aye, motion carried.

Teresa Holland
Finance Officer

APPENDIX C: History of Previous Hazard Occurrences

This section provides details about hazard events that have impacted Bon Homme County in the past, beginning with the following table showing the major disaster declarations in which Bon Homme 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 Bon Homme County farmers.

Major Disasters

Table C.1 lists all the events since 1970 that resulted in a major disaster declaration in which Bon Homme County was part of the designated area. Records from FEMA were consulted for federal assistance provided following each disaster through FEMA's Public Assistance program.

Table C.1 – Major Disaster Declarations Affecting Bon Homme County

Dec #	Declaration Date	Type	Primary Damage Impact	Obligated Amount
3015	Jun 1976	Drought		
717	Jul 1984	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		
1173	Apr 1997	Severe storms; Flooding		
1620	Dec 2005	Severe winter storm		$451,205
1702	May 2007	Severe storms, Tornado, Flood		$133,677
1774	Jul 2008	Severe storms; Flooding	Roads and bridges	$40,658
4440	Jun 2019	Severe winter storm; Flooding	Roads and bridges	$1,620,290
4656	Jun 2022	Severe Storm; Straight-line Winds; Tornado; Flooding	Utilities	$83,309
4807	Aug 2024	Severe Storms; Straight-line Winds; Flooding	Roads and bridges	$365,769

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

Significant Hazard Events

Table C.2 is a list of significant hazard events reported for Bon Homme County from 1960 through 2024, as recorded in the National Climatic Data Center's Storm Events Database. The National Climatic Data Center receives 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 prior to 1996, the only event types recorded by the National Weather Service were tornadoes, thunderstorm winds, and hail. Another issue is that damage amounts in some cases are estimates and for larger-scale events, such as winter storms and drought, the data is collected 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 Bon Homme County

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
6/22/1960	Hail		2.00 in.		
5/14/1961	Tornado		F1	3	
6/5/1962	Tornado		F3	250	
6/26/1965	Tornado		F3	250	
7/17/1965	Hail		5.00 in.		
6/19/1966	Hail		2.75 in.		

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
7/4/1966	Hail		1.50 in.		
7/29/1968	Hail		3.00 in.		
6/21/1969	Hail		3.25 in.		
6/15/1970	Tornado		F1		
6/13/1972	Tornado		F0		
5/6/1975	Tornado		F1		
5/6/1975	Tornado		F0		
7/19/1981	Tornado		F1		
7/2/1982	Hail		1.75 in.		
6/22/1984	Tornado		F0		
4/20/1985	Tornado		F2	250	
4/20/1985	Tornado		F1	25	
4/20/1985	Tornado		F0		
7/21/1985	Hail		1.75 in.		
4/26/1986	Hail		2.75 in.		
5/7/1986	Hail		2.75 in.		
7/11/1987	Thunderstorm Wind		64 kts.		
7/24/1987	Hail		1.75 in.		
8/5/1987	Thunderstorm Wind		60 kts.		
5/23/1989	Hail		1.75 in.		
5/28/1991	Thunderstorm Wind		75 kts.		
5/15/1992	Hail		1.50 in.		
8/15/1993	Hail		1.75 in.		
9/12/1993	Thunderstorm Wind		65 kts.	50	1
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				
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.		20	
4/12/1996	Heavy Snow				
4/25/1996	High Wind		62 kts.	20	
8/6/1996	Hail		1.75 in.		
8/6/1996	Lightning	Lightning caused small fires in two houses, and directly damaged a television and CB radio in one of the houses.		10	

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
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	
12/16/1996	Blizzard				
12/25/1996	Heavy Snow				
1/4/1997	Blizzard				
1/9/1997	Blizzard	Strong winds, gusting as high as 60 mph, combined with loose heavy snow cover and 1 to 3 inches of new snow to produce widespread and prolonged blizzard conditions. Wind chills as cold as 80 below zero also occurred. Transportation, schools, and commerce were halted as roads were blocked by drifting and zero visibility otherwise made travel impossible. Drifts as high as 20 feet were reported. Livestock losses were suspected to be in the thousands as many died during the blizzard and stress was expected to produce additional losses with time. Some roofs collapsed from the weight of snow, especially on farm buildings. Some power outages occurred from broken lines and poles, mainly in rural areas.		20	
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				
4/1/1997	Flood				
4/6/1997	High Wind		63 kts.	10	
4/9/1997	Heavy Snow				
7/27/1997	Thunderstorm Wind	Thunderstorm winds caused tree and power line damage, and blew out a large window. Minor damage occurred to homes, mainly from wind blown tree debris.	61 kts.	100	
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.			
5/25/1998	Flood				
6/17/1998	Lightning	Lightning started a fire which destroyed a barn.		20	
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				
2/22/1999	Heavy Snow				
3/8/1999	Winter Storm				
5/3/1999	Tornado		F0		
9/4/1999	Flash Flood	Up to 4 inches of rain caused flooding of farmland and other low areas, including park flooding in Tyndall.			
11/1/1999	Drought	Generally dry weather that began in August continued through November. Dry surface and soil conditions became quite			

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
		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.			
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, but in some areas such as Tyndall, limbs and large branches were broken. A few power lines and poles were also pulled down by the weight of the ice.			
8/16/2000	Hail		1.75 in.	50	
8/16/2000	Thunderstorm Wind		69 kts. E	30	
11/11/2000	Winter Storm				
12/16/2000	Blizzard				
1/29/2001	Winter Storm				
2/24/2001	Winter Storm				
7/7/2001	Thunderstorm Wind	Thunderstorm winds caused widespread tree damage. including some large trees blown down. Some falling trees damaged houses, especially roofs, with at least one chimney broken off. Several vehicles were also damaged.	61 kts. E	100	
7/30/2001	Lightning			5	
10/9/2001	Hail		1.25 in.		
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				
5/5/2002	Hail		1.75 in.		
6/7/2002	Hail		1.75 in.		
6/25/2002	Hail		1.25 in.		
7/9/2002	Thunderstorm Wind		61 kts. E	10	
8/9/2002	Hail		1.75 in.		100
8/9/2002	Thunderstorm Wind		61 kts. E		
8/16/2002	Hail		2.00 in.		
1/15/2003	Heavy Snow				

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
4/6/2003	Heavy Snow				
6/9/2003	Hail		1.75 in.	50	
6/24/2003	Thunderstorm Wind	Thunderstorm winds caused tree damage, including numerous trees and large limbs down. Several houses and vehicles were damaged by falling trees or tree debris.	61 kts. E	100	
7/8/2003	Flash Flood				
11/23/2003	Winter Storm				
12/8/2003	Winter Storm				
1/25/2004	Winter Storm				
2/5/2004	Winter Storm				
3/15/2004	Heavy Snow				
7/3/2004	Thunderstorm Wind		61 kts. E		
7/3/2004	Flash Flood				
7/15/2004	Hail		1.75 in.		
8/23/2004	Flash Flood				
1/4/2005	Heavy Snow				
4/10/2005	Thunderstorm Wind	Thunderstorm winds blew over and heavily damaged a concession stand at a ball park, damaged front of two businesses on Main Street, blew down several trees, damaged several small buildings at nearby farms, and injured several calves.	78 kts. E	150	
6/4/2005	Flash Flood	Heavy rainfall of 4 to 6 inches caused flooding of numerous city streets, other roads, and basements. Several roads were partially washed out.		50	
6/20/2005	Hail		1.75 in.		
6/20/2005	Flash Flood	Heavy rainfall of up to 4.50 inches caused widespread flooding of streets, ditches, and other low areas. A small stream running through a golf course was also flooded.			
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 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.		1,000	
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	
2/16/2006	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			

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
		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.			
6/16/2006	Thunderstorm Wind	Thunderstorm winds caused widespread tree damage. Several trees and large branches were blown down. Some of the falling trees and branches damages homes and vehicles, including the roof of one house and one pickup truck which were heavily damaged. The wind blew down numerous power poles and power lines, causing a power outage in most of Springfield which lasted several hours.	69 kts. E	100	
7/18/2006	Drought				
8/1/2006	Drought				
8/5/2006	Hail		1.50 in.		
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.			
3/1/2007	Blizzard				
3/11/2007	Flood				
4/21/2007	Thunderstorm Wind		69 kts. E		
5/5/2007	Thunderstorm Wind		65 kts. E	10	
5/5/2007	Tornado	A tornado blew over a shed, damaged several outbuildings, and flipped over a hog shed. A house was damaged when hit by debris from the hog shed. The tornado also shifted a two car garage off its foundation, damaged the adjoining house, blew a chimney off the roof, twisted a windmill, and caused tree damage.	EF2	50	
5/5/2007	Tornado	A tornado damaged two farms, including a house shifted off its foundation, and several outbuildings destroyed. The tornado also caused widespread tree damage, including some trees debarked and uprooted. The tornado also blew off the tops of grain bins and blew down power lines.	EF2	100	
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 near Scotland on May 11th. Some parks and other recreation areas were affected. The flooding delayed planting of crops in some areas.		100	
6/1/2007	Flood				
6/6/2007	Thunderstorm Wind		61 kts. E		
8/10/2007	Thunderstorm Wind		61 kts. E		
8/21/2007	Hail		1.75 in.		
3/31/2008	Heavy Snow				
4/10/2008	Blizzard				

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
5/29/2008	Hail		2.00 in.		
5/29/2008	Tornado		EF0		
5/29/2008	Flash Flood				
6/4/2008	Flash Flood	Heavy rain caused flash flooding of roads and fields. Roads were closed in the town of Springfield due to the flooding.			
6/5/2008	Thunderstorm Wind		61 kts. E		
3/23/2009	Tornado	A tornado destroyed a garage and machine shed. A vehicle in the garage was damaged. Debris and equipment from the machine shed was scattered about the farm.	EF1	30	
3/31/2009	Blizzard				
4/4/2009	Blizzard				
7/9/2009	Thunderstorm Wind		78 kts. E	10	
8/8/2009	Hail	Large hail smashed windows on vehicles and buildings, dented vehicles, damaged roofs, and damaged crops. The amount of crop damage was not known.	4.00 in.	100	
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				
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.			
6/11/2010	Flood				
7/1/2010	Flood				
8/1/2010	Flood				
8/2/2010	Flash Flood				
8/8/2010	Thunderstorm Wind		63 kts. M	40	
8/8/2010	Flash Flood				
9/1/2010	Flood				
10/1/2010	Flood				
12/31/2010	Winter Storm				
1/9/2011	Heavy Snow				
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	Ice Storm	Freezing rain and sleet produced a quarter to a half inch of glaze, topped by similar sleet accumulations. Travel and walking surfaces were made very icy, and the ice accumulations caused an unknown amount of damage to trees and power lines.			
5/20/2011	Flood	Flooding along the Missouri River developed and then increased in late May as runoff from excessive upstream snowmelt and rain reached the area. Lowlands flooded included camping and other recreational facilities including marinas next to Springfield. Roads flooded included some outlying Springfield streets. The river reached its highest May stage at about 3 feet above flood stage near Springfield and near Niobrara, Nebraska at the end of the month.			

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
5/29/2011	Hail		1.75 in.		
6/1/2011	Flood	Flooding from upstream spring snowmelt and subsequent heavy rain continued to worsen for most of June. Lowlands along the river including numerous roads, parks, recreational areas and several homes were flooded. Several roads, homes, and parks in and near Springfield were flooded, including a golf course. Thousands of acres of usually dry land were flooded, with several farms affected and farm equipment damaged. The highest stage near Springfield was a record 4.8 feet above flood stage on June 22nd.			
7/1/2011	Flood	Flooding from upstream spring snowmelt and subsequent heavy rain continued at major levels through July. Lowlands along the river including numerous roads, parks, recreational areas including a golf course, and several homes remained flooded. Thousands of acres of usually dry land, including several farms, remained flooded. The river began a very slow general fall late in the month. The highest stage near Springfield was 4.6 feet above flood stage on July 12th. This was only 0.2 feet below the record crest recorded in June.			
7/15/2011	Extreme heat				
8/1/2011	Flood	Major impacts from Missouri River flooding continued into August, with flooding varying from minor to major, and evacuated areas remaining evacuated. Water levels receded very slowly during the month, and effects of the flooding slowly began to abate, but in many places the extent of damage to homes, businesses, and lowlands was beginning to become evident. The highest stage near Springfield was 3.9 feet above flood stage on August 1st.			
8/18/2011	Hail		1.75 in.	10	
8/28/2011	Hail		1.25 in.		
9/1/2011	Flood	Missouri River flooding decreased steadily in September, and ended along most of the river by late in the month. As the water retreated, additional damage continued to be revealed. The highest stage near Springfield was 0.6 feet above flood stage on September 1st.			
4/15/2012	Tornado		EF0		
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.			

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
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				
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.			
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 and freezing drizzle producing light ice accumulations, then changing to sleet and then snow, with sleet and snow accumulations reaching 5.5 inches at Tyndall. The winter precipitation made travel very difficult, resulting in schools and businesses being forced to close.			
5/1/2013	Drought				
6/21/2013	Hail		1.75 in.		
7/26/2014	Hail		1.75 in.		
1/31/2015	Winter Storm				
2/1/2015	Winter Storm				
5/25/2015	Hail		1.00 in.		
6/6/2015	Hail		1.00 in.		
9/9/2015	Hail		1.75 in.		
9/23/2015	Heavy Rain				
11/20/2015	Heavy Snow				
11/30/2015	Winter Storm				
12/25/2015	Winter Storm				
2/2/2016	Blizzard				
3/23/2016	Winter Storm				
5/25/2016	Hail		1.25 in.		
6/10/2016	Extreme heat				
6/17/2016	Thunderstorm Wind		61 kts. EG		

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
7/19/2016	Extreme heat				
9/4/2016	Thunderstorm Wind	Thunderstorm winds damaged or destroyed several houses and other structures, caused widespread tree damage, moved a large boat 25 yards from a parked position, and destroyed outdoor furniture.	96 kts. EG	1,000	
9/15/2016	Flash Flood				
11/18/2016	Winter Storm				
12/17/2016	Extreme cold				
1/24/2017	Winter Storm				
2/23/2017	Winter Storm				
6/29/2017	Hail		1.50 in.		
8/13/2017	Hail		1.00 in.		
12/26/2017	Extreme cold				
12/31/2017	Extreme Cold	Low temperature at Tyndall was -18.			
1/15/2018	Extreme cold				
1/22/2018	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 as high as 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 6.6 inches was measured at Tyndall.			
4/18/2018	Winter Storm				
4/29/2018	Flood	Snow melt and runoff from periods of heavy rainfall produced minor flooding which impacted lowland agricultural areas.			
5/24/2018	Hail		1.00 in.		
6/26/2018	Flood				
7/3/2018	Extreme heat				
7/8/2018	Flood				
7/11/2018	Extreme heat				
7/12/2018	Flood				
8/1/2018	Flood				
9/1/2018	Flood				
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.			
1/1/2019	Cold/wind Chill				
3/13/2019	Flash Flood				
3/13/2019	Flood	A historic flooding event unfolded as heavy rainfall drenched the area on March 13-14, 2019. With frozen and impervious ground, full and rapid runoff was maximized. In addition to the rainfall, between 1 and 3 inches of snow water equivalent remained in the snow pack south of Interstate 90, with 3 to 6 inches of snow water			

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
		equivalent north of Interstate 90. Fifteen river gage sites measured record stages around the area. Winds gusted to 50 to 70 mph at times, and colder air filtering into the system at the end of the storm produced a light accumulation of ice west of the James River and from 1 to 4 inches of snowfall in parts of southeast South Dakota. The James River at Scotland reached major flood stage cresting 5.95 feet above flood stage on March 15.			
3/28/2019	Flood				
4/1/2019	Flood				
4/11/2019	Blizzard				
4/11/2019	Flood				
5/1/2019	Flood				
5/29/2019	Flood				
6/1/2019	Flood				
6/29/2019	Extreme heat				
7/1/2019	Flood				
7/9/2019	Flood				
8/1/2019	Flood			50	
8/7/2019	Hail		1.00 in.		
9/1/2019	Flood			25	
9/10/2019	Hail		1.00 in.		
9/10/2019	Tornado		EF0	6	
9/18/2019	Flood	A continuation of flooding from August. After falling briefly below flood stage on September 10, the James River near Scotland responded to rainfall of 4 to 8 inches upstream between September 10-12 to crest at a record 9.24 feet above flood stage on September 13. Numerous roads were inundated and closed for several days, including SD Hwy 46. A great amount of ag land was inundated.		5	
10/1/2019	Flood	A continuation of flooding from September. The Missouri River at Springfield started the month at a peak of 2.32 feet above flood stage on October 1. Flooding also continued along the James River.		5	
10/22/2019	Flood				
11/1/2019	Flood				
11/25/2019	Flood				
12/1/2019	Flood				
12/28/2019	Blizzard	Light mixed precipitation resulted in a minor glaze of ice accumulation, then heavy snowfall (11 inches near Springfield) and high wind resulted in white out conditions. Snow drifts to several feet were common.			
1/11/2020	Flood				
1/17/2020	Blizzard	Wind and snow reduced visibility, with travel not recommended. Snowfall reached 5.0 inches near Springfield.			
1/21/2020	Flood	Ice action on the Missouri River below Fort Randall Dam produced minor to moderate flooding.			

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
2/1/2020	Flood				
3/3/2020	Flood				
4/1/2020	Flood				
4/12/2020	Winter Storm				
5/1/2020	Flood				
6/12/2020	Flood				
7/2/2020	Flood				
7/6/2020	Hail		1.25 in.		4
7/17/2020	Hail		2.00 in.		
8/10/2020	Hail		1.00 in.		26
11/5/2020	Drought				52
12/1/2020	Drought				
12/23/2020	Blizzard				
12/29/2020	Winter Storm				
1/1/2021	Drought				
2/1/2021	Drought				
2/14/2021	Extreme cold				
6/1/2021	Drought				1,160
7/1/2021	Drought				4,650
8/1/2021	Drought				1,080
8/25/2021	Hail		1.50 in.		33
9/1/2021	Drought				67
9/16/2021	Thunderstorm Wind	Numerous branches were downed by thunderstorm winds, including an 8-inch diameter branch in Tyndall.	61 kts. EG		
10/1/2021	Drought				25
11/1/2021	Drought				18
12/10/2021	Winter Storm				
12/31/2021	Cold/wind Chill				
1/1/2022	Cold/wind Chill				
1/6/2022	Cold/wind Chill				
2/22/2022	Cold/wind Chill				
4/1/2022	Drought				
5/1/2022	Drought				
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	83 kts. EG		

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
		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.			
5/29/2022	Hail		1.00 in.		3
5/30/2022	Tornado	A tornado spun up in the Missouri River bottoms 4 miles east-northeast of Niobrara, Nebraska. Moving northeast through the river bottoms, it dissipated less than one mile south of Springfield. The average path width was 40 yards; no damage was noted.	EFU		
6/1/2022	Drought				
7/1/2022	Drought				
7/2/2022	Hail		1.25 in.		
7/5/2022	Thunderstorm Wind		67 kts. MG		25
8/1/2022	Hail		1.00 in.		
8/1/2022	Drought				
8/5/2022	Excessive Heat				
9/1/2022	Drought				
10/1/2022	Drought				
11/1/2022	Drought				
12/1/2022	Drought				
12/21/2022	Blizzard/Extreme Cold				
1/1/2023	Drought				
1/2/2023	Winter Storm				
1/18/2023	Winter Storm				
1/27/2023	Winter Storm				
2/1/2023	Drought				
2/21/2023	Blizzard				
2/23/2023	Cold/wind Chill				
3/1/2023	Drought				
3/30/2023	Hail		1.50 in.		
4/1/2023	Drought				
4/28/2023	Flood				
5/1/2023	Flood				
5/1/2023	Drought				
5/11/2023	Hail		1.75 in.		
6/6/2023	Drought				
6/16/2023	Thunderstorm Wind		65 kts. EG		
6/24/2023	Hail		1.25 in.		32
7/1/2023	Drought				3,500

Date	Event Type	Event Description	Mag	Prop Damage ($1,000s)	Crop Damage ($1,000s)
7/3/2023	Tornado		EF0		
7/10/2023	Hail		1.75 in.		45
7/12/2023	Thunderstorm Wind		61 kts. EG		
7/24/2023	Hail		1.75 in.		
7/26/2023	Excessive Heat				
7/30/2023	Hail		1.75 in.		
8/19/2023	Excessive Heat				
8/21/2023	Excessive Heat				
9/2/2023	Heat				
10/12/2023	Flood				
12/25/2023	Blizzard				
1/7/2024	Winter Storm				
1/11/2024	Flood				
1/12/2024	Extreme cold				
1/13/2024	Blizzard				
1/20/2024	Cold/wind Chill				
3/24/2024	Winter Storm				
6/21/2024	Flood	Rainfall across Bon Homme County from June 20-22 ranged from 2 to 3 inches with an estimated 5 to 6 inches across the far northern portion of the county. Overland flooding ensued with additional major flooding along the James River. During peak flooding on June 21, water was overflowing at least 60 roads county-wide with the worst impacts north of SD Hwy 46, including SD Hwy 25 and the intersection of SD Hwys 46 and 37. Water also overran SD Hwy 50 near the Bon Homme Golf Course. Preliminary damage assessments estimate loss to public infrastructure across the county to be nearly $1.17 million.		1,170	
7/1/2024	Flood				
7/13/2024	Excessive Heat				
7/29/2024	Thunderstorm Wind		65 kts. EG		
7/31/2024	Funnel Cloud				
7/31/2024	Heat				
8/2/2024	Heat				
8/25/2024	Excessive Heat				
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 Bon Homme 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 just under 1% of all indemnity payouts in Bon Homme County.

Table C.3 – Crop Loss Due to Winter Weather

Year	Frost	Freeze	Cold Winter	Cold Wet Weather
2000			$1,485	
2001	$4,651		$109,945	
2002	$555	$1,330		$963
2003			$382	$2,828
2004	$614		$1,697	$21,219
2005	$3,969	$7,209	$1,967	$7,111
2006			$86	$4,039
2007	$4,178	$451	$14,524	$740
2008	$2,448		$9,114	$20,580
2009		$21,971	$63,751	$6,445
2010				
2011	$8,340			$1,373,896
2012		$7,652	$2,572	
2013				$7,427
2014		$68,964	$47,892	$3,777
2015			$98,857	$9,934
2016		$3,808	$8,206	$4,420
2017		$8,913		$38,186
2018				$6,627
2019				$72,469
2020		$1,857		$41,347
2021			$2,435	
2022	$821		$35,808	
2023		$4,543	$36,425	
Ave Payout =	**$1,066**	**$5,279**	**$18,131**	**$67,584**

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 Bon Homme County.

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

Year	Hail	High Wind
2000	$239,983	$1,019
2001	$5,755	$15,763
2002	$443,913	
2003	$25,432	$3,233
2004	$38,874	$22,916
2005	$15,915	
2006	$380,393	$4,119
2007	$13,228	$11,584
2008	$483,107	$17,170
2009	$1,922,848	$6,574
2010	$9,439	$8,621
2011	$128,732	
2012	$109,102	$68,819
2013	$982	$2,771
2014	$138,613	
2015	$34,979	
2016	$4,563	$17,425
2017	$1,121,845	$190
2018	$14,827	
2019	$696,920	$11,091
2020	$45,353	$4,131
2021	$37,833	$75,049
2022	$6,007	$181,349
2023	$170,442	$0
Ave Payout =	**$253,712**	**$18,826**

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 22% of all indemnity payouts in Bon Homme County.

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

Year	Flooding	Excess Moisture
2000		$20,832
2001		$203,756
2002		$11,544
2003		$55,003
2004		$52,899
2005	$742	$2,680,986
2006	$1,104	$13,430
2007	$470	$1,582,551
2008	$6,967	$1,833,178
2009	$12,882	$71,500
2010		$821,112
2011		$1,505,798
2012		$10,549
2013		$40,890
2014		$886
2015	$8,683	$72,622
2016		$4,693,283
2017		$807,016
2018	$50,670	$4,867,597
2019		$28,730,015
2020		$2,104,415
2021		$304,172
2022		$40,487
2023		$18,897
Ave Payout =	**$3,397**	**$2,105,976**

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 68% of all indemnity payouts in Bon Homme County, far more than any other type of hazard [12].

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

Year	Drought	Heat
2000	$370,955	$9,311
2001	$338,097	$3,235
2002	$6,868,510	$33,200
2003	$1,309,218	$60,352
2004	$864,167	$4,896
2005	$2,204,583	$58,062
2006	$1,150,933	$46,763
2007	$454,257	$51,429
2008	$2,805,430	$73,737
2009	$60,043	
2010		
2011	$50,474	$118,023
2012	$56,302,322	$7,484,452
2013	$264,814	$38,615
2014	$79,464	
2015	$202,199	
2016	$510,816	$5,511
2017	$1,349,279	$82,415
2018	$15,829	
2019		
2020	$231,878	$15,078
2021	$9,650,915	
2022	$55,195,999	$1,061,039
2023	$4,727,083	$373,855
Ave Payout =	**$6,041,969**	**$396,666**

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

[12] 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

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