

Pembina County, ND

Risk-assessment baseline packet

Unit **County area 38067** Release **2026-10** As of **2026-09-28** Storm Events data through **2026-06-30**

Hazard Plain is an independent product built from public federal data. It is not a FEMA document and is not reviewed or endorsed by FEMA or any state agency.

A starting point for the plan's risk assessment (FEMA Local Mitigation Plan Review Tool, Element B). It does not replace local data or FEMA review. Section headings say which FEMA review item each table supports; whether an item is satisfied is decided by the plan and its reviewers.

OPENFEMA DISCLAIMER

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Plan clock

Status	Expired on 2026-06-06	Plan	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)
Approved	2021-06-07	Expires	2026-06-06
As of	2026-09-28	Days	114 days since expiry
Update underway	none in FEMA's plan tracker		

Generally not eligible for FEMA mitigation project grants (HMGP, FMA) until a new plan is approved, barring a 44 CFR 201.6(a)(3) exception. Planning grants are not affected.

What changed since your last plan (approved 2021-06-07)

New federal declarations	DR-4660-ND, DR-4717-ND (2 declaration rows; 2 counted incidents)	Storm Events records since approval	94 (data through 2026-06-30)
Repetitive loss now	FMA RL 0, SRL 0 (44 CFR 77.2); any definition: 11	Repeat-flood change	First release: no prior release to compare.

SOURCES: FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API); FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API); NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>; FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)

Plan status for every jurisdiction listed in this county

Jurisdiction	Type	Status	Plan	Approved	Expires	Days to expiry <i>negative = days since expiry</i>	Update underway	Notes
Pembina County	County	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		
Bathgate city	City	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		
Canton City (Hensel) city	City	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		

Jurisdiction	Type	Status	Plan	Approved	Expires	Days to expiry	Update underway	Notes
						<i>negative = days since expiry</i>		
Cavalier city	City	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		
Crystal city	City	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		
Drayton city	City	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		
Mountain city	City	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		
Pembina city	City	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		
St. Thomas city	City	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		
Walhalla city	City	Expired on 2026-06-06	Pembina County, ND Hazard Mitigation Plan 2021 (FEMA plan 107567)	2021-06-07	2026-06-06	-114		

SOURCE: FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

State plan status and tribal plans in this state: see the state page.

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Supports B1-a: hazards

Hazards NRI does not cover: check locally

- dam failure (incl. upstream dams)
 - levee failure
 - flash flood as its own subtype
 - ice jams
- debris flows
 - erosion (riverine and coastal)
 - land subsidence and sinkholes
 - expansive soils

The 18 National Risk Index hazards, ranked by expected annual loss (EAL)

Rank by EAL	Hazard	NRI risk rating	EAL rating	EAL buildings modeled dollars per year	EAL agriculture modeled dollars per year	EAL population equivalence statistical value of life and injury, \$13.7M per life, not property damage	EAL total (see note) modeled dollars per year	Storm Events records since 1996 count	Evidence for an omission NRI Not Applicable, no declaration and no Storm Events record since 1996	Storm Events coverage note
1	Inland Flooding	Very Low	Very Low	\$2,683,346	\$180,092	\$9,083	\$2,872,521	56		
2	Cold Wave	Relatively Moderate	Relatively Moderate	\$3,129	\$1,788,861	\$196,289	\$1,988,279	86		Includes 9 Frost/Freeze records, event types the NRI definition of this hazard leaves out.
3	Ice Storm	Relatively Moderate	Relatively Moderate	\$282,243		\$21,509	\$303,752	6		
4	Hail	Relatively Low	Relatively Low	\$135,499	\$159,881	\$588	\$295,969	200		
5	Strong Wind	Relatively Low	Relatively Low	\$137,152	\$53,245	\$49,483	\$239,880	133		Includes 23 High Wind records and 1 Strong Wind record, event types the NRI definition of this hazard leaves out.
6	Tornado	Very Low	Very Low	\$205,348	\$6,300	\$14,698	\$226,346	34		
7	Winter Weather	Relatively Moderate	Relatively Moderate	\$133,684	\$507	\$60,633	\$194,824	161		
8	Lightning	Relatively Low	Relatively Low	\$3,234		\$146,786	\$150,020	2		
9	Wildfire	Relatively Low	Relatively Low	\$92,136	\$144	\$3,739	\$96,019	0		Declared 1 time; no Storm Events record of this type. Storm Events coverage of this hazard is limited; absence is not evidence of low risk.

Rank by EAL	Hazard	NRI risk rating	EAL rating	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	EAL population equivalence <i>statistical value of life and injury, \$13.7M per life, not property damage</i>	EAL total (see note) <i>modeled dollars per year</i>	Storm Events records since 1996 <i>count</i>	Evidence for an omission <i>NRI Not Applicable, no declaration and no Storm Events record since 1996</i>	Storm Events coverage note
10	Drought	Relatively Low	Very Low		\$26,744		\$26,744	13		
11	Heat Wave	Very Low	Very Low	\$237	\$1	\$20,586	\$20,823	2		
12	Earthquake	Very Low	Very Low	\$1,550		\$281	\$1,831			Not in Storm Events. Storm Events coverage of this hazard is limited; absence is not evidence of low risk.
13	Landslide	Very Low	Very Low	\$18		\$360	\$377	0		Declared 1 time; no Storm Events record of this type. Storm Events coverage of this hazard is limited; absence is not evidence of low risk.
	Avalanche	Not Applicable	Not Applicable					0	NRI rates avalanche Not Applicable for this county, and no federal declaration for this county names it.	No recorded events in Storm Events since 1996 (data through 2026-06-30).
	Coastal Flooding	Not Applicable	Not Applicable					0	NRI rates coastal flooding Not Applicable for this county, and no federal declaration for this county names it.	No recorded events in Storm Events since 1996 (data through 2026-06-30).
	Hurricane	Not Applicable	Not Applicable					0	NRI rates hurricane Not Applicable for this county, and no counted federal declaration for this county names it (EM-3247-ND names it but is not counted as a local occurrence; see B1-d).	No recorded events in Storm Events since 1996 (data through 2026-06-30).
	Tsunami	Not Applicable	Not Applicable					0	NRI rates tsunami Not Applicable for this county, and no federal declaration for this county names it.	No recorded events in Storm Events since 1996 (data through 2026-06-30). Storm Events coverage of this hazard is limited; absence is not evidence of low risk.
	Volcanic Activity	Not Applicable	Not Applicable					0	NRI rates volcanic activity Not Applicable for this county, and no federal declaration for this county names it.	No recorded events in Storm Events since 1996 (data through 2026-06-30). Storm Events coverage of this hazard is limited; absence is not evidence of low risk.

Total = buildings + agriculture + population equivalence; FEMA values each expected death (or 10 injuries) at \$13.7 million (2024 dollars).

SOURCES

FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)

NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

Check your state hazard mitigation plan's hazard list for this county; explain any hazard you drop.

Supports B1-b: location

Where each hazard occurs

Hazard	Location	Census tracts rated <i>rated of all tracts</i>
Avalanche	Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.	0 of 4
Coastal Flooding	Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.	0 of 4
Cold Wave	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	4 of 4
Drought	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	4 of 4
Earthquake	Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.	4 of 4
Hail	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	4 of 4
Heat Wave	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	4 of 4
Hurricane	Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.	0 of 4
Ice Storm	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	4 of 4
Inland Flooding	The FEMA Flood Insurance Rate Map (FIRM) is the required location source for flooding. See the FEMA Flood Map Service Center (https://msc.fema.gov) for this county.	4 of 4
Landslide	Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.	4 of 4
Lightning	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	4 of 4
Strong Wind	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	4 of 4
Tornado	Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.	4 of 4
Tsunami	Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.	0 of 4
Volcanic Activity	Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.	0 of 4
Wildfire	Census tract rating counts from the National Risk Index tract table (see B1-f). Tract maps and place names are not in this packet.	4 of 4
Winter Weather	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	4 of 4

SOURCE
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)

Supports B1-c: extent

Extent: scale, observed range and worst recorded event per hazard

Hazard	Scale	Records <i>count, years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to members	Note
Avalanche	none (count and damage)	0					Physical measure: in event narratives only; local data required.
Coastal Flood, Storm Surge/ Tide	none in data (FIRM for depth)	0					Flood depth: see the FEMA Flood Insurance Rate Map.

Hazard	Scale	Records <i>count, years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to members	Note
Cold/Wind Chill, Extreme Cold/Wind Chill	wind chill	77, 1996 to 2026 (77 zone-level)	1 day to 10 days (median 2 days); 63 with a recorded value	10 consecutive days, 2021-02-06 to 2021-02-15, zone-level	Cold/Wind Chill, 2003-03-08, \$50,000 property; crops not reported, reported for the zone (2003 dollars)	Zone-level records: applies countywide; national data do not locate these events within the county.	Wind chill: in event narratives only; local data required. Cold/Wind Chill records from May to September (a frost night, not a cold wave) are counted but not used for the longest run.
Frost/Freeze (outside NRI Cold Wave definition)	crop damage	9, 2008 to 2026 (9 zone-level)		No crop damage reported in 9 records.		Zone-level records: applies countywide; national data do not locate these events within the county.	Temperature: in event narratives only; local data required.
Drought	US Drought Monitor D-scale	13, 2006 to 2024 (13 zone-level)	15 days to 148 days (median 22 days); 5 with a recorded value	148 days (about 4.9 months), 2023-12-05 to 2024-04-30, a run of 5 consecutive Storm Events drought records, zone-level		Zone-level records: applies countywide; national data do not locate these events within the county.	Storm Events enters a drought at D2 or worse east of the Rockies and D3 or worse from the Rockies west (NWS Instruction 10-1605); NRI drought counts D3 and D4 only.
Earthquake	Modified Mercalli (local data)	0					No Storm Events record; local data required (e.g., USGS).
Hail	hail size (inches)	235, 1962 to 2024	0.75 in to 4.5 in (median 1 in); 235 with a recorded value	4.5 in hail, 1990-08-27	Hail, 2008-07-16, \$80,000 property; \$800,000 crops (2008 dollars)	Event records naming member places: St. Thomas city (27 records), Pembina city (23 records), Walhalla city (23 records), Cavalier city (22 records), Drayton city (14 records), Crystal city (11 records), Mountain city (11 records), Bathgate city (4 records), Canton City (Hensel) city (3 records).	
Excessive Heat, Heat	heat index (narratives)	2, 2001 to 2020 (2 zone-level)	1 day to 2 days (median 1.5 days); 2 with a recorded value	2 consecutive days, 2001-08-04 to 2001-08-05, zone-level		Zone-level records: applies countywide; national data do not locate these events within the county.	Heat index: in event narratives only; local data required.
Hurricane, Tropical Storm, Tropical Depression	Saffir-Simpson	0					Storm Events files every zone of a storm's episode under the storm's event type and category, so a Hurricane (Typhoon) record, especially an inland or remnant one, does not by itself mean hurricane-force winds here; read the damage and wind columns.

Hazard	Scale	Records <i>count, years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to members	Note
Ice Storm	Sperry-Piltz (local data)	6, 1996 to 2009 (6 zone- level)		Ice Storm, 1997-04-04, \$6,000,000 property; crops not reported, reported for the zone (1997 dollars); NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties		Zone-level records: applies countywide; national data do not locate these events within the county.	Ice thickness: in event narratives only; local data required.
Flash Flood, Flood, Lakeshore Flood	damage and flood days (FIRM for depth)	56, 1996 to 2023 (14 zone- level)		Flood, 1997-04-21, \$20,000,000 property; crops not reported, reported for the zone (1997 dollars); NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties		Event records naming member places: Drayton city (5 records), Pembina city (4 records), Cavalier city (3 records), Walhalla city (2 records), Crystal city (1 record), St. Thomas city (1 record). Zone-level records (14) apply countywide.	Flood depth: see the FEMA Flood Insurance Rate Map. Storm Events damage can be \$0 or blank even for a major flood, so the worst record here may not be the worst flood; compare FEMA Public Assistance by declaration in B1-d.
Debris Flow	none (count and damage)	0					Physical measure: in event narratives only; local data required.
Lightning	annualized frequency (the measure FEMA's Local Mitigation Planning Handbook names)	2, 1997 to 2017		Lightning, 1997-08-05, \$20,000 property; crops not reported (1997 dollars), 2 direct injuries		Event records naming member places: Cavalier city (1 record), Drayton city (1 record).	Storm Events lists lightning with damage or casualties; physical measure in event narratives only; local data required.
High Wind and Strong Wind (outside NRI Strong Wind definition)	wind speed (kt and mph)	24, 1997 to 2025 (24 zone- level)	35 kt (40 mph) to 66 kt (76 mph) (median 51.5 kt (59 mph)); 24 with a recorded value	66 kt (76 mph), measurement type not recorded, High Wind, 1999-11-01; NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties		Zone-level records: applies countywide; national data do not locate these events within the county.	
Thunderstorm Wind	wind speed (kt and mph)	134, 1959 to 2026	50 kt (58 mph) to 79 kt (91 mph) (median 58.5 kt (67 mph)); 100 with a recorded value	79 kt (91 mph) measured gust, Thunderstorm Wind, 2017-06-09	Thunderstorm Wind, 2005-06-19, \$2,000,000 property; crops not reported (2005 dollars)	Event records naming member places: Pembina city (14 records), Drayton city (13 records), Cavalier city (12 records), St. Thomas city (8 records), Walhalla city (7 records), Crystal city (6 records), Mountain city (5 records), Canton City (Hensel) city (2 records).	

Hazard	Scale	Records <i>count, years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to members	Note
Tornado	Enhanced Fujita (F before Feb 2007)	43, 1967 to 2025	F/EF0 to F/EF4 (median F/EF0); 42 with a recorded value	F4 tornado, 1999-06-06, 8 mi within this county, 500 yd wide, \$1,000,000 property; crops not reported (1999 dollars)		Event records naming member places: Mountain city (7 records), Crystal city (5 records), Pembina city (5 records), Canton City (Hensel) city (3 records), Cavalier city (2 records), Walhalla city (2 records), Bathgate city (1 record), Drayton city (1 record), St. Thomas city (1 record).	From 1996 on, tornado records are per-county segments and length is the path length within this county (NWS Instruction 10-1605); records before 1996 may give the whole path length, including the path outside this county, and before 1996 a tornado is listed once, under the county where it began, with the whole path's rating; counties farther along the path may not list it. Length is not used to rank tornadoes.
Tsunami	none (count and damage)	0					Physical measure: in event narratives only; local data required.
Volcanic Ash, Volcanic Ashfall	Volcanic Explosivity Index (local data)	0					Physical measure: in event narratives only; local data required.
Wildfire	acres burned (local data)	0					Acres burned: in event narratives only; local data required.
Winter Storm, Heavy Snow, Blizzard, Lake- Effect Snow, Winter Weather, Sleet	none in data (snowfall local)	161, 1996 to 2026 (161 zone-level)		Blizzard, 1997-04-05, \$6,000,000 property; crops not reported, reported for the zone (1997 dollars); NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties		Zone-level records: applies countywide; national data do not locate these events within the county.	Snow depth: in event narratives only; local data required.

Storm Events records are more complete after 1996; before 1996 only Tornado (from 1950), Hail and Thunderstorm Wind (from 1955) exist. Zone-level records are placed with NWS zone-county files, which exist from 2020 on; an earlier record is placed by its zone number in the nearest later file only when its zone name matches that file, records from zones NWS renumbered are placed by name or left out, and a record whose zone is in no known file is left out of every count, so counts before 2020 can be low. Some current zones are also missing from the NWS files, so recent counts can be low too.

Dollars are nominal (as reported), labeled with the year; not adjusted for inflation.

SOURCES

NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-28, <https://www.weather.gov/gis/ZoneCounty>

Supports B1-d: previous occurrences

Declaration rows

38

Counted incidents

33

Federal disaster declarations for this county

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance <i>federal share obligated, nominal dollars</i>	Flags	Notes
2023-07-05	2023-04-10	DR-4717-ND	Major disaster	FLOODING	Inland Flooding	\$980,011.92	new since last plan; within last 5 years	
2022-07-13	2022-04-22	DR-4660-ND	Major disaster	SEVERE WINTER STORM AND FLOODING	Inland Flooding; Winter Weather	\$5,028,947.77	new since last plan; within last 5 years	
2020-07-09	2020-04-01	DR-4553-ND	Major disaster	FLOODING	Inland Flooding	\$410,120.69	during plan review, check whether your last plan included it	
2020-04-01	2020-01-20	DR-4509-ND	Major disaster	COVID-19 PANDEMIC	Non-natural, not counted	none found		
2020-03-13	2020-01-20	EM-3477-ND	Emergency	COVID-19	Non-natural, not counted	none found		same incident as DR-4509
2019-06-12	2019-03-21	DR-4444-ND	Major disaster	FLOODING	Inland Flooding	\$217,727.32		
2017-07-12	2017-03-23	DR-4323-ND	Major disaster	FLOODING	Inland Flooding	\$254,876.97		
2013-07-12	2013-05-17	DR-4128-ND	Major disaster	SEVERE STORMS AND FLOODING	Inland Flooding	\$682,020.52		
2013-05-29	2013-04-22	DR-4118-ND	Major disaster	FLOODING	Inland Flooding	\$158,391.26		
2013-04-26	2013-04-22	EM-3364-ND	Emergency	FLOODING	Inland Flooding	none found		same incident as DR-4118
2011-05-10	2011-02-14	DR-1981-ND	Major disaster	FLOODING	Inland Flooding	\$1,006,055.21		
2011-04-07	2011-04-05	EM-3318-ND	Emergency	FLOODING	Inland Flooding	none found		
2010-04-30	2010-02-26	DR-1907-ND	Major disaster	FLOODING	Inland Flooding	\$48,284.24		
2010-03-14	2010-02-26	EM-3309-ND	Emergency	FLOODING	Inland Flooding	\$41,046.58		same incident as DR-1907
2009-03-24	2009-03-13	DR-1829-ND	Major disaster	SEVERE STORMS AND FLOODING	Inland Flooding	\$1,929,930.32		
2006-06-05	2006-03-30	DR-1645-ND	Major disaster	SEVERE STORMS, FLOODING, AND GROUND SATURATION	Inland Flooding	\$545,945.62		

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance	Flags	Notes
						<i>federal share obligated, nominal dollars</i>		
2005-09-13	2005-08-29	EM-3247-ND	Emergency	HURRICANE KATRINA EVACUATION	Hurricane: evacuation support, not a local hazard event; not counted	none found		
2005-07-22	2005-06-01	DR-1597-ND	Major disaster	SEVERE STORMS, FLOODING, AND GROUND SATURATION	Inland Flooding	\$232,153.27		
2004-05-05	2004-03-26	DR-1515-ND	Major disaster	SEVERE STORMS, FLOODING, AND GROUND SATURATION	Inland Flooding	\$443,332.03		
2002-09-10	2002-06-08	DR-1431-ND	Major disaster	SEVERE STORMS, FLOODING AND TORNADOES	Inland Flooding; Tornado	\$23,943.57		
2001-05-28	2001-03-01	DR-1376-ND	Major disaster	SEVERE STORMS, FLOODING, & GROUND SATURATION	Inland Flooding	\$321,405.62		
2000-06-27	2000-04-05	DR-1334-ND	Major disaster	SEVERE STORMS, FLOODING AND GROUND SATURATION	Inland Flooding	\$29,560.06		
1999-06-08	1999-03-01	DR-1279-ND	Major disaster	SEVERE STORMS, FLOODING, SNOW, ICE, GROUND SATURATION, LANDSLIDES, MUDSLIDES, AND TOR	Inland Flooding (primary); also designated: Landslide, Tornado	\$146,000.17		
1998-06-15	1998-03-02	DR-1220-ND	Major disaster	FLOODING, GROUND SATURATION, SEVERE STORMS	Inland Flooding	none found		
1997-04-07	1997-02-28	DR-1174-ND	Major disaster	SEVERE FLOODING, SEVERE WINTER STORMS, SNOWMELT, SPRING RAINS	Inland Flooding (primary); also designated: Wildfire, Winter Weather	none found		
1997-01-12	1997-01-03	DR-1157-ND	Major disaster	SEVERE WINTER STORMS AND BLIZZARD CONDITIONS	Winter Weather	none found		
1996-06-05	1996-03-12	DR-1118-ND	Major disaster	SEVERE STORMS, FLOODING, & ICE JAMS	Inland Flooding	none found		
1995-05-16	1995-03-01	DR-1050-ND	Major disaster	SEVERE STORMS, FLOODING, AND GROUND SATURATION	Inland Flooding	none found		
1993-07-26	1993-06-22	DR-1001-ND	Major disaster	SEVERE STORMS & FLOODING	Inland Flooding	none found		
1989-05-08	1989-03-29	DR-825-ND	Major disaster	FLOODING	Inland Flooding	none found		
1979-04-26	1979-04-26	DR-581-ND	Major disaster	SEVERE STORMS, SNOWMELT & FLOODING	Inland Flooding	none found		
1978-04-17	1978-04-17	DR-554-ND	Major disaster	STORMS, ICE JAMS, SNOWMELT & FLOODING	Inland Flooding	none found		
1975-07-11	1975-07-11	DR-475-ND	Major disaster	SEVERE STORMS & FLOODING	Inland Flooding	none found		
1974-05-14	1974-05-14	DR-434-ND	Major disaster	HEAVY RAINS, SNOWMELT & FLOODING	Inland Flooding	none found		
1970-06-05	1970-06-05	DR-287-ND	Major disaster	SEVERE STORMS & FLOODING	Inland Flooding	none found		

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance	Flags	Notes
						<i>federal share obligated, nominal dollars</i>		
1969-04-18	1969-04-18	DR-256-ND	Major disaster	FLOODING	Inland Flooding	none found		
1966-03-23	1966-03-23	DR-216-ND	Major disaster	FLOODING	Inland Flooding	none found		
1965-05-10	1965-05-10	DR-195-ND	Major disaster	FLOODING	Inland Flooding	none found		

County Public Assistance: applicants the FEMA record places in this county, including any state agencies FEMA files there; statewide rows are listed on the state page; federal share obligated, nominal dollars. Dollars are nominal (as reported), labeled with the year; not adjusted for inflation.

SOURCES

FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)
FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-26T151157Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

Statewide declarations

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	Flags	Notes
1957-06-22	1957-06-22	DR-79-ND	Major disaster	TORNADO	Tornado		

FEMA recorded these with designated area Statewide and no county. Listed on every county page in the state; not counted with county rows.

SOURCE

FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)

Public Assistance not placed in a county in this state: 1 row, \$23,693.61

Disaster number	Declared	Applicant	County field in FEMA data	PA obligated	Why not placed
				<i>federal share obligated, nominal dollars</i>	
1621	2006-01-04	SISSETON INDIAN RESERVATION (ALSO SD)	Roberts County	\$23,693.61	county field is a county of another state and the applicant name does not identify a place in the declaring state

FEMA's Public Assistance summaries file these applicants under a county field that is not a county of this state (an Alaska school area, the former Valdez-Cordova Census Area, or another state's county), and the applicant name does not identify one place here. They are listed for the whole state and are not in any county total. Check whether any of them worked in your county.

SOURCE

FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-26T151157Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)

Previous occurrences by hazard, with explicit no-event rows

Hazard	Storm Events records <i>full period</i>	Since plan approval <i>records</i>	During plan review <i>records</i>	Last 5 years <i>records</i>	Declared incidents <i>distinct incidents</i>	Declared since approval <i>distinct incidents</i>	Period	Statement
Avalanche	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Coastal Flooding	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events

Hazard	Storm Events records <i>full period</i>	Since plan approval <i>records</i>	During plan review <i>records</i>	Last 5 years <i>records</i>	Declared incidents <i>distinct incidents</i>	Declared since approval <i>distinct incidents</i>	Period	Statement
Cold Wave	86	21	4	21	0	0	1996 to 2026-06-30	Includes 9 Frost/Freeze records, event types the NRI definition of this hazard leaves out.
Drought	13	8	0	8	0	0	1996 to 2026-06-30	
Earthquake	0	0	0	0	0	0		No Storm Events record; local data required (e.g., USGS).
Hail	235	8	13	6	0	0	1955 to 2026-06-30	
Heat Wave	2	0	1	0	0	0	1996 to 2026-06-30	
Hurricane	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Ice Storm	6	0	0	0	0	0	1996 to 2026-06-30	
Inland Flooding	56	10	0	10	32	2	1996 to 2026-06-30	
Landslide	0	0	0	0	1	0	1996 to 2026-06-30	No Storm Events records of this type; 1 federal declared incident (see declarations table)
Lightning	2	0	0	0	0	0	1996 to 2026-06-30	
Strong Wind	158	15	6	11	0	0	1955 to 2026-06-30	Includes 23 High Wind records and 1 Strong Wind record, event types the NRI definition of this hazard leaves out.
Tornado	43	1	0	1	2	0	1950 to 2026-06-30	
Tsunami	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Volcanic Activity	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Wildfire	0	0	0	0	1	0	1996 to 2026-06-30	No Storm Events records of this type; 1 federal declared incident (see declarations table)
Winter Weather	161	31	1	31	3	1	1996 to 2026-06-30	

SOURCES

NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)

NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-28, <https://www.weather.gov/gis/ZoneCounty>

Notable Storm Events records

Date	Event type	Magnitude or extent	Damage <i>nominal dollars</i>	Direct deaths, injuries <i>indirect not counted</i>	Location	Flags	Why listed
2023-12-05	Drought		damage not reported	0, 0	NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties	new since last plan; within last 5 years	B1-c worst recorded: Drought
2021-02-06	Extreme Cold/ Wind Chill		\$0 property; \$0 crops, reported for the zone (2021 dollars)	0, 0	NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties	during plan review, check whether your last plan included it	B1-c worst recorded: Cold/Wind Chill, Extreme Cold/Wind Chill
2017-06-09	Thunderstorm Wind	79 kt (91 mph) measured gust	damage not reported	0, 0	GARDAR		B1-c worst recorded: Thunderstorm Wind
1999-11-01	High Wind	66 kt (76 mph), measurement type not recorded	\$40,000 property; crops not reported, reported for the zone (1999 dollars)	0, 0	NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties		B1-c worst recorded: High Wind and Strong Wind (outside NRI Strong Wind definition)
1999-06-06	Tornado	F4, 8 mi within this county, 500 yd wide	\$1,000,000 property; crops not reported (1999 dollars)	0, 0	CRYSTAL to MOUNTAIN		B1-c worst recorded: Tornado
1997-08-05	Lightning		\$20,000 property; crops not reported (1997 dollars)	0, 2	CAVALIER		deaths or injuries recorded
1997-04-21	Flood		\$20,000,000 property; crops not reported, reported for the zone (1997 dollars)	0, 0	NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties		B1-c worst recorded: Flash Flood, Flood, Lakeshore Flood
1997-04-05	Blizzard		\$6,000,000 property; crops not reported, reported for the zone (1997 dollars)	0, 0	NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties		B1-c worst recorded: Winter Storm, Heavy Snow, Blizzard, Lake-Effect Snow, Winter Weather, Sleet
1997-04-04	Ice Storm		\$6,000,000 property; crops not reported, reported for the zone (1997 dollars)	0, 0	NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties		B1-c worst recorded: Ice Storm
1997-01-09	Blizzard		damage not reported	1, 0	NWS zone NDZ008 (PEMBINA), zone-level: may include parts of neighboring counties		deaths or injuries recorded
1992-06-22	Tornado	F1, 7 mi path length (records before 1996 may include the whole path; rating and listing come from the county where the tornado began), 200 yd wide	\$250,000 property; crops not recorded (1992 dollars)	0, 4	location not recorded		deaths or injuries recorded
1990-08-27	Hail	4.5 in	damage not recorded (pre-1996 record)	0, 0	location not recorded		B1-c worst recorded: Hail

The full list is in the XLSX file, sheet "B1-d Storm Events history" (762 rows).

Storm Events records are more complete after 1996; before 1996 only Tornado (from 1950), Hail and Thunderstorm Wind (from 1955) exist. Zone-level records are placed with NWS zone-county files, which exist from 2020 on; an earlier record is placed by its zone number in the nearest later file only when its zone name matches that file, records from zones NWS renumbered are placed by name or left out, and a record whose zone is in no known file is left out of every count, so counts before 2020 can be low. Some current zones are also missing from the NWS files, so recent counts can be low too.

SOURCES

NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>
NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-28, <https://www.weather.gov/gis/ZoneCounty>
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

State-declared emergencies are not in federal data. Add them from your state emergency management agency.

Tribal and special-area declarations in this state are listed on the state page.

Supports B1-e: probability

Probability: FEMA annualized frequency and descriptor per hazard

Hazard	FEMA annualized frequency (modeled) <i>unit per row</i>	Unit	In plain terms	Descriptor	Descriptor basis	NRI events or days in its record period (hail, wind and tornado are area-weighted, so can be fractional)	NRI period	Location	Note
Avalanche		events per year					1994 to 2023 (30 years)	see B1-f	Not Applicable in NRI for this county; no descriptor.
Coastal Flooding		events per year at a location (modeled)				not shown	modeled	see B1-f	Not Applicable in NRI for this county; no descriptor.
Cold Wave	22.7	event-days per year	about 22.7 days per year	Likely	event-days in 24 of 30 years, 1996 to 2025 (80%)	432	2005-11-12 to 2024-11-12 (19 years)	countywide	Frost/Freeze records are not counted in this descriptor: they record crop freezes, not cold waves.
Drought	6.46	event-days per year	about 6.46 days per year	Likely	event-days in 5 of 30 years, 1996 to 2025 (16.7%)	182	2000 to 2025 (25.25 years; D3 and D4 only)	countywide	NRI gives about 6.46 drought event-days a year here (its annualized frequency over 25.25 years; not its event count divided by the years), but Storm Events has a record in only 5 of 30 years. NRI counts from a different source that records far more events than Storm Events, so this descriptor reads much lower than NRI's frequency; read the two together.
Earthquake	0.000073	annual probability at a location	chance a given location in the county has at least minor- damage shaking in a year: 0.0073%			not shown	modeled	see B1-f	Descriptor not assigned: the NRI value is the chance at a location in the county, not how often the hazard affects the county, and Storm Events does not record earthquakes.
Hail	2.29	events per year	about 2.29 per year	Highly likely	FEMA annualized frequency (modeled)	87.2 (modeled)	1986 to 2023 (38 years)	countywide	

Hazard	FEMA annualized frequency (modeled) <i>unit per row</i>	Unit	In plain terms	Descriptor	Descriptor basis	NRI events or days in its record period (hail, wind and tornado are area-weighted, so can be fractional)	NRI period	Location	Note
Heat Wave	1.05	event-days per year	about 1.05 days per year	Possible	event-days in 2 of 30 years, 1996 to 2025 (6.67%)	17	2005-11-12 to 2024-11-12 (19 years)	countywide	NRI gives about 1.05 heat wave event-days a year here (its annualized frequency over 19 years; not its event count divided by the years), but Storm Events has a record in only 2 of 30 years. NRI counts from a different source that records far more events than Storm Events, so this descriptor reads much lower than NRI's frequency; read the two together.
Hurricane		events per year					1851 to 2024 (Atlantic)	see B1-f	Not Applicable in NRI for this county; no descriptor.
Ice Storm	0.376	event-days per year	about 0.376 days per year	Likely	event-days in 4 of 30 years, 1996 to 2025 (13.3%)	26	1946-12-31 to 2014-02-12 (67 years)	countywide	
Inland Flooding	1.75	event-days per year	about 1.75 days per year	Likely	event-days in 19 of 30 years, 1996 to 2025 (63.3%)	49	1996 to 2023 (28 years)	see B1-f	
Landslide	0.106	events per year (modeled)	about 1 in 9 years	Likely	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	
Lightning	25.9	days per year with a strike	about 25.9 days per year	Highly likely	FEMA annualized frequency (modeled)	not shown	1995 to 2023 (29 years; CONUS)	countywide	
Strong Wind	1.29	events per year	about 1.29 per year	Highly likely	FEMA annualized frequency (modeled)	49	1986 to 2023 (38 years)	countywide	
Tornado	0.465	events per year	about 1 in 2 years	Likely	FEMA annualized frequency (modeled)	not shown	1950 to 2023 (EF2+); 1986 to 2023 (EF0-1)	see B1-f	
Tsunami		annual probability at the most exposed location (used in place of a county value)				not shown	modeled	see B1-f	Not Applicable in NRI for this county; no descriptor.
Volcanic Activity		annual probability				not shown	modeled	see B1-f	Not Applicable in NRI for this county; no descriptor.
Wildfire	0.00168	annual probability at a location	chance a given location in the county burns in a year: 0.168%		Storm Events records in 0 of 30 years, 1996 to 2025 (0%)	not shown	modeled	see B1-f	No Storm Events record of this hazard, 1996 to 2025; descriptor not assigned (the NRI value is the chance at a location in the county, not how often the hazard affects the county)

Hazard	FEMA annualized frequency (modeled) <i>unit per row</i>	Unit	In plain terms	Descriptor	Descriptor basis	NRI events or days in its record period (hail, wind and tornado are area-weighted, so can be fractional)	NRI period	Location	Note
Winter Weather	22.2	event-days per year	about 22.2 days per year	Highly likely	event-days in 30 of 30 years, 1996 to 2025 (100%)	421	2005-11-12 to 2024-11-12 (19 years)	countywide	

FEMA annualized frequency (modeled) comes from the National Risk Index v1.20 (December 2025). It is not recorded events divided by years, and what it measures depends on the hazard. For most hazards it estimates how often the hazard affects this county each year: it counts events or event-days (drought, heat wave, cold wave, winter weather, ice storm and inland flooding are in days per year; lightning is the number of days per year with a recorded cloud-to-ground strike, from the NOAA Storm Prediction Center daily lightning climatology); it may count events in the surrounding area (hail, strong wind, tornado, hurricane and ice storm use a 49 km grid and buffers) and is averaged over the county's area; and some hazards use a minimum value for places with no recorded event. Earthquake, wildfire and coastal flooding are different: FEMA computes them for each census block and averages them over the county, so the value is the chance (for coastal flooding, the modeled number of floods per year) at a location in the county, which is lower than the chance that the hazard strikes somewhere in the county. Earthquake is the chance of at least minor-damage shaking (U.S. Geological Survey model); wildfire is the chance that a location burns in a large fire (U.S. Forest Service burn probability); coastal flooding comes from FEMA flood zones and NOAA high-tide flooding, so it can be above 1 where high-tide flooding is frequent. Tsunami is the value at the county's most exposed location, from recorded events and modeled return periods. For these four hazards the packet gives no "1 in N years" and takes the descriptor from Storm Events (none for earthquake) unless the value is 1 or more a year. Landslide is a U.S. Geological Survey modeled county rate spread by slope susceptibility. Volcanic activity is the chance that a volcano affecting the county erupts in a year. Drought counts only extreme and exceptional drought (D3 and D4). Source: FEMA, National Risk Index Technical Documentation v1.20, sections 5.2.2 (Table 5), 5.2.3, 7.4, 10.4, 16.5, 17.1, 17.3.1, 17.5, 20.3.1, 21.4, 22.4 and 6 to 23.

SOURCES
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)
NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

Descriptor scale used in this packet (defined per unit)

Unit	Descriptor	Definition
events per year	Highly likely	1 or more per year
events per year	Likely	about once in 1 to 10 years
events per year	Possible	about once in 10 to 100 years
events per year	Unlikely	less than once in 100 years
annual probability	Likely	10% to under 100% chance in a given year
annual probability	Possible	1% to under 10% chance in a given year
annual probability	Unlikely	under 1% chance in a given year
event-days (share of years)	Highly likely	event-days recorded in 90% or more of years
event-days (share of years)	Likely	event-days recorded in 10% to under 90% of years
event-days (share of years)	Possible	event-days recorded in some years but under 10% of years
lightning strike-days	Highly likely	cloud-to-ground strikes on 1 or more days per year

SOURCES
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)
NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

Intensity bands: historical frequency (Storm Events)

Hazard	Band	Years	Events <i>county-coded records</i>	Years in period	Events per year <i>events / years</i>
Hail	1.00-1.99 in	1996 to 2025	106	30	3.53
Hail	2.00 in+	1996 to 2025	16	30	0.533
Strong Wind (Thunderstorm Wind records)	50-64 kt	1996 to 2025	67	30	2.23
Strong Wind (Thunderstorm Wind records)	65 kt+	1996 to 2025	23	30	0.767
Strong Wind (Thunderstorm Wind records)	unmeasured or below 50 kt	1996 to 2025	18	30	0.6
Tornado	EF0-1	1996 to 2025	31	30	1.03
Tornado	EF2-3	1996 to 2025	1	30	0.0333
Tornado	EF4-5	1996 to 2025	1	30	0.0333
Tornado	unrated (EFU)	1996 to 2025	1	30	0.0333

Hail smaller than 1 inch is not counted: on 2010-01-05 the National Weather Service raised its severe-hail threshold from 3/4 inch to 1 inch, so smaller reports became less common after 2009 (NWS Service Change Notice 09-52). NRI hail frequency uses a 0.75 inch threshold.

SOURCE
NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

Optional: future conditions. Not a required item in the 2025 FEMA Local Mitigation Planning Policy Guide; some states ask for it. The federal Climate Mapping for Resilience and Adaptation (CMRA) site gives county exposure to future climate conditions.

Supports B1-f: variation across the planning area

Range of census tract risk within the county

Hazard	Tracts <i>rated of all</i>	Risk score min <i>NRI score, 0 to 100</i>	Median	Max	Tracts by rating	Note
Avalanche	0 of 4				Not Applicable 4	
Coastal Flooding	0 of 4				Not Applicable 4	
Cold Wave	4 of 4	95.7	96.2	97.5	Very High 4	National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. Agriculture is 90% of NRI's expected annual loss for this hazard in the county, so the tract range above mostly reflects where crop and livestock value is, not where buildings and people are. Confirm locally.
Drought	4 of 4	86.0	86.9	87.8	Relatively Low 4	National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. Agriculture is all of NRI's expected annual loss for this hazard in the county, so the tract range above mostly reflects where crop and livestock value is, not where buildings and people are. Confirm locally.
Earthquake	4 of 4	2.7	2.9	5.7	Very Low 4	
Hail	4 of 4	87.0	88.3	92.3	Relatively High 2, Relatively Moderate 2	National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. Agriculture is 54% of NRI's expected annual loss for this hazard in the county, so the tract range above mostly reflects where crop and livestock value is, not where buildings and people are. Confirm locally.

Hazard	Tracts <i>rated of all</i>	Risk score min <i>NRI score, 0 to 100</i>	Median	Max	Tracts by rating	Note
Heat Wave	4 of 4	4.9	6.4	14.1	Very Low 4	National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally.
Hurricane	0 of 4				Not Applicable 4	
Ice Storm	4 of 4	95.3	95.6	98.5	Very High 1, Relatively High 3	National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally.
Inland Flooding	4 of 4	50.6	60.5	82.3	Relatively High 1, Relatively Moderate 3	
Landslide	4 of 4	66.1	79.8	85.9	Relatively Low 2, Very Low 2	
Lightning	4 of 4	79.7	85.4	96.6	Very High 1, Relatively High 3	National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally.
Strong Wind	4 of 4	80.1	82.9	91.6	Relatively High 2, Relatively Moderate 2	National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally.
Tornado	4 of 4	44.4	48.0	59.5	Relatively Moderate 1, Relatively Low 3	
Tsunami	0 of 4				Not Applicable 4	
Volcanic Activity	0 of 4				Not Applicable 4	
Wildfire	4 of 4	82.5	86.1	94.0	Relatively Moderate 1, Relatively Low 3	
Winter Weather	4 of 4	97.6	98.0	99.6	Very High 4	National data give a county-wide or coarse (49 km grid or NWS zone) frequency for this hazard, so they cannot show members' hazard differing. The tract range above mostly reflects where buildings and people are. Confirm locally.

Rated tracts only: No Rating (score 0.0), Not Applicable and Insufficient Data tracts are counted but not used for the minimum, median and maximum.

SOURCE
FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)

Per-member block (Starter, confirm locally)

Member	Type	Plan status	Repetitive loss <i>FMA RL and SRL (44 CFR 77.2); repeat- flood, any definition</i>	Public Assistance matched <i>federal share obligated, nominal dollars</i>	Event records naming this place <i>all years; since the member's plan</i>	Notes
Pembina County	County	Expired on 2026-06-06	FMA RL 0, SRL 0; any 4	\$6,271,960.74	0; 0	
Bathgate city	City	Expired on 2026-06-06	FMA RL 0, SRL 0; any 0	\$4,116.40	5; 0	

Member	Type	Plan status	Repetitive loss <i>FMA RL and SRL (44 CFR 77.2); repeat-flood, any definition</i>	Public Assistance matched <i>federal share obligated, nominal dollars</i>	Event records naming this place <i>all years; since the member's plan</i>	Notes
Canton City (Hensel) city	City	Expired on 2026-06-06		none found	8; 1	No NFIP community ID on this member's plan row.
Cavalier city	City	Expired on 2026-06-06	FMA RL 0, SRL 0; any 0	\$199,605.23	40; 0	
Crystal city	City	Expired on 2026-06-06	FMA RL 0, SRL 0; any 1	\$26,012.49	23; 0	
Drayton city	City	Expired on 2026-06-06	FMA RL 0, SRL 0; any 1	\$492,350.24	34; 4	
Mountain city	City	Expired on 2026-06-06	FMA RL 0, SRL 0; any 0	\$78,933.95	23; 1	
Pembina city	City	Expired on 2026-06-06	FMA RL 0, SRL 0; any 2	\$301,623.98	46; 5	
St. Thomas city	City	Expired on 2026-06-06	FMA RL 0, SRL 0; any 0	\$54,619.45	37; 2	
Walhalla city	City	Expired on 2026-06-06	FMA RL 0, SRL 0; any 0	\$16,814.37	34; 4	

Member rows are whole NFIP communities and need not add up to the county total: a community that extends into another county is counted in full on each member row, while the county table counts only its part in this county.

School districts and special districts get a plan clock row only.

SOURCES

FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)

FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-26T151157Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)

NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>

Supports B2-a and B2-b: assets and impacts

Local data required

County-level starter. The plan must describe impacts for each participant and its own assets.

- Critical facilities and lifelines per hazard
- A problem statement per participant per hazard
- Changes in development in hazard-prone areas since the last approval, or a statement of none (E1-a)
- Future assets

County-level starter: exposure, expected annual loss and damage since the plan

Hazard	Building exposure <i>modeled dollars</i>	Agriculture exposure <i>modeled dollars</i>	Population exposed <i>people</i>	EAL buildings <i>modeled dollars per year</i>	EAL agriculture <i>modeled dollars per year</i>	EAL population equivalence <i>statistical value of life and injury, \$13.7M per life, not property damage</i>	EAL as % of exposure <i>buildings; agriculture where noted</i>	Storm Events damage since 2021-06-07 <i>county-coded records, property plus crops, nominal dollars</i>	Zone-level damage since plan <i>property plus crops, reported for the zone</i>	Public Assistance since plan <i>nominal dollars; see note</i>	Note
Avalanche											Not Applicable in NRI for this county
Coastal Flooding											Not Applicable in NRI for this county
Cold Wave	\$2,904,985,480	\$363,997,488	6,825	\$3,129	\$1,788,861	\$196,289	0.000108%		\$0		
Drought		\$266,174,415			\$26,744		0.01% (agriculture)				NRI has no building exposure for this hazard; agriculture shown
Earthquake	\$5,271,746,713		6,844	\$1,550		\$281	under 0.0001%				
Hail	\$2,904,985,480	\$363,997,488	6,825	\$135,499	\$159,881	\$588	0.00466%				
Heat Wave	\$2,904,985,480	\$363,997,488	6,825	\$237	\$1	\$20,586	under 0.0001%				
Hurricane											Not Applicable in NRI for this county
Ice Storm	\$2,904,985,480		6,825	\$282,243		\$21,509	0.00972%				
Inland Flooding	\$2,904,772,367	\$85,117,875	1,484	\$2,683,346	\$180,092	\$9,083	n/a (see note)	\$1,044,000		\$6,008,959.69	NRI counts the full building value of any census block with some flood loss; this is not the value of buildings in the floodplain. Use local FIRM overlays for B2-a/B2-b. EAL as % of exposure: n/a.
Landslide	\$10,626,503		32	\$18		\$360	0.000167%				
Lightning	\$2,904,985,480		6,825	\$3,234		\$146,786	0.000111%				
Strong Wind	\$2,904,985,480	\$363,997,488	6,825	\$137,152	\$53,245	\$49,483	0.00472%		\$0		
Tornado	\$2,904,985,480	\$363,997,488	6,825	\$205,348	\$6,300	\$14,698	0.00707%				
Tsunami											Not Applicable in NRI for this county
Volcanic Activity											Not Applicable in NRI for this county
Wildfire	\$298,608,320	\$31,457,505	1,157	\$92,136	\$144	\$3,739	0.0309%				
Winter Weather	\$2,904,985,480	\$363,997,488	6,825	\$133,684	\$507	\$60,633	0.0046%		\$0	\$5,028,947.77	

Totals since 2021-06-07 (Storm Events through 2026-06-30): 31 county-coded records, 10 with a damage value recorded (including \$0), \$1,044,000; 63 zone-level records, 6 with a damage value recorded (including \$0), \$0 reported for the zone; Public Assistance on counted declarations \$6,008,959.69 (2 declarations, 2 with PA).

Total = buildings + agriculture + population equivalence; FEMA values each expected death (or 10 injuries) at \$13.7 million (2024 dollars).

FEMA does not split Public Assistance by hazard. A declaration mapped to several hazards is listed under each of them with its full amount, so the per-hazard column must not be added up; the unit total counts each declaration once.

Dollars are nominal (as reported), labeled with the year; not adjusted for inflation.

SOURCES

FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)
NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>
NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-28, <https://www.weather.gov/gis/ZoneCounty>
FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)
FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-26T151157Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

Supports B2-a: context

County context

Measure	Value
Population	6,825
Building value (total, not at risk)	\$2,904,985,480
Agriculture value (total, not at risk)	\$363,997,488
NRI risk rating (all hazards)	Very Low
Expected annual loss, buildings and agriculture, all hazards	\$5,893,350
Expected annual loss, population equivalence, all hazards (NRI values each statistical life at \$13.7M; a modeled value of expected deaths and injuries, not property damage)	\$524,034
Social vulnerability rating	Relatively Moderate
Community resilience rating	Relatively Low
NRI version	December 2025

FEMA's all-hazard expected annual loss total adds buildings, agriculture and population equivalence; the two parts are shown separately so the property figure is not read as including the statistical value of life.

SOURCE

FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)

Supports B2-c: repetitive loss

Repetitive loss in this county, both definitions

Definition	Properties	Severe repetitive loss	Properties
Repetitive loss, FMA definition (44 CFR 77.2)	0	Severe repetitive loss, FMA definition (44 CFR 77.2)	0
Repetitive loss, NFIP insurance definition	11	Severe repetitive loss, NFIP insurance definition	1

Your state NFIP coordinator's list may use the NFIP insurance definition, so its counts can be higher.

SOURCES

FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

Repeat-flood properties: county total and NFIP communities

Scope	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
County total	0	0	11	1	11	0	0
PEMBINA COUNTY*	0	0	4	0	4	0	0
CRYSTAL, CITY OF	0	0	1	0	1	0	0
DRAYTON, CITY OF	0	0	1	1	1	0	0
DRAYTON, TOWNSHIP OF (community ID not in plan data)	0	0	1	0	1	0	0
PEMBINA, CITY OF	0	0	2	0	2	0	0
Unknown (community ID Unknown in FEMA data)	0	0	2	0	2	0	0

SOURCESFEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)**Repeat-flood properties by plan member (NFIP community)**

Member	NFIP community ID	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>	Note
Pembina County	380079	0	0	4	0	4	0	0	
Bathgate city	380080	0	0	0	0	0	0	0	
Cavalier city	380081	0	0	0	0	0	0	0	
Crystal city	380082	0	0	1	0	1	0	0	
Drayton city	380150	0	0	1	1	1	0	0	
Mountain city	380277	0	0	0	0	0	0	0	
Pembina city	385368	0	0	2	0	2	0	0	
St. Thomas city	380249	0	0	0	0	0	0	0	
Walhalla city	380254	0	0	0	0	0	0	0	

Per-member types: XLSX sheet 'B2-c Members'.

Member rows are whole NFIP communities and need not add up to the county total: a community that extends into another county is counted in full on each member row, while the county table counts only its part in this county.

SOURCESFEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)**County repeat-flood properties by occupancy group**

Occupancy group	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
single-family residential	0	0	10	1	10	0	0
2 to 4 unit residential	0	0	0	0	0	0	0
other residential	0	0	0	0	0	0	0

Occupancy group	RL, FMA <i>properties</i>	SRL, FMA <i>properties</i>	RL, NFIP <i>properties</i>	SRL, NFIP <i>properties</i>	Any category <i>properties</i>	Mitigated <i>properties</i>	Currently insured <i>properties</i>
non-residential	0	0	1	0	1	0	0
not reported	0	0	0	0	0	0	0

Institutional properties cannot be separated in this data: FEMA's occupancy groups have no institutional class, so they fall in non-residential or other residential in the table by occupancy group.

SOURCES

FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)
FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)

FMA RL and FMA SRL are the Flood Mitigation Assistance definitions (44 CFR 77.2), the ones the FEMA Local Mitigation Planning Policy Guide cites; OpenFEMA's fmaRI field description omits the Increased Cost of Compliance clause of 44 CFR 77.2(i). NFIP repetitive loss (FEMA insurance definition, nfipRI) is 2 or more claims over \$1,000 in 10 years and can drop to false when a property is mitigated. Also shown: NFIP severe repetitive loss, any category, mitigated and currently insured.

Your state NFIP coordinator's list may use the NFIP insurance definition, so its counts can be higher.
Counts are aggregates of FEMA's public NFIP Multiple Loss Properties file (as of 2026-08-02). No property is identified. County assignment is FEMA's geocode.
Counts may differ from your state NFIP coordinator's list, which is the source the Handbook names.
In this county 0 properties are FMA repetitive loss but not NFIP repetitive loss, and 11 properties are NFIP repetitive loss but not FMA repetitive loss.
Exact counts; no count suppression.

Sources

Every table above lists its own sources. The full list, for the plan's bibliography (FEMA review item A4-a):

1. FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-26T121003Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)
2. FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-27T010817Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)
3. FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-26T151157Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)
4. FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-28, <https://www.fema.gov/api/open/v1/NfipMultipleLossProperties> (API)
5. FEMA, FEMA National Risk Index 1.20.0 (December 2025), county and census tract tables, version 1.20.0, pulled 2026-09-28, https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_Counties.zip (download, 25 MB), https://www.fema.gov/about/reports-and-data/openfema/nri/v120/NRI_Table_CensusTracts.zip (download, 635 MB)
6. NOAA NCEI, NOAA NCEI Storm Events Database, details files (csvfiles v1.0), version c20260918, pulled 2026-09-28, <https://www.ncei.noaa.gov/pub/data/swdi/stormevents/csvfiles/>
7. NOAA National Weather Service, NWS county-public forecast zones correlation file, version bp03mr20 to bp16ap26 (11 files; newest bp16ap26), pulled 2026-09-28, <https://www.weather.gov/gis/ZoneCounty>
8. U.S. Census Bureau, Census 2024 Gazetteer, 2020 place by county, CT county-to-cousub crosswalk, version 2024-gazetteer, pulled 2026-09-28, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_counties_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_cousubs_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_place_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_elsd_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gaz_unsd_national.zip, https://www2.census.gov/geo/docs/reference/codes2020/national_place_by_county2020.txt, https://www2.census.gov/geo/docs/reference/ct_change/ct_cou_to_cousub_crosswalk.xlsx

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Corrections: to report an error, name the packet, the table and what your records show. Contact: to be added

Hazard Plain release 2026-10. As of 2026-09-28; Storm Events data through 2026-06-30. File hazard-plain_2026-10_ND_38067. Preview: automated baseline.