

Sweet Grass County, MT

Risk-assessment baseline packet

County FIPS: 30097 Release: 2026-10 Data as of: 2026-09-30 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.

Summary

Plan status as of 2026-09-30: Approved, expires 2029-11-20. Plan: Western Montana Regional Hazard Mitigation Plan 2024 (FEMA plan 110263), approved 2024-11-21.

Since the plan was approved on 2024-11-21: 1 new hazard declaration (1 incident): DR-4902-MT (Severe Winter Storm and Straight-Line Winds).

NOAA Storm Events records since that date: 58 records (data through 2026-06-30).

Highest expected annual loss (FEMA National Risk Index, modeled total; see B1-a): Inland Flooding (\$3,395,280 a year), Wildfire (\$1,454,520) and Cold Wave (\$577,849).

Repetitive-loss flood properties now: FMA RL 0, SRL 0 (44 CFR 77.2); any definition: 0.

The tables that follow are organized by the items of FEMA's Local Mitigation Plan Review Tool, Element B (B1-a to B2-c); each heading says which item its tables support.

TERMS USED

EAL: expected annual loss: FEMA's modeled average yearly loss from a hazard.

NRI: FEMA's National Risk Index (version 1.20, December 2025).

NFIP: National Flood Insurance Program.

RL, SRL: repetitive loss and severe repetitive loss: flood-insured properties with repeated claims (definitions in B2-c).

FMA, HMGP: Flood Mitigation Assistance and Hazard Mitigation Grant Program, FEMA mitigation grants.

PA: FEMA Public Assistance: disaster aid to governments and some nonprofits.

Zone-level: NOAA logged the event for a National Weather Service forecast zone, which may include parts of neighboring counties.

County-coded: NOAA logged the event to this county.

FIPS: the federal code for a place; 30097 is this area.

D0 to D4: U.S. Drought Monitor categories, from abnormally dry (D0) to exceptional drought (D4).

F/EF, EFU: Fujita and Enhanced Fujita tornado ratings; EFU is an unrated tornado.

kt, CONUS: knots (1 kt is about 1.15 mph); the contiguous United States.

CFR: Code of Federal Regulations.

A4-a, E1-a: other items of FEMA's Local Mitigation Plan Review Tool (sources, and changes since the last plan).

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

CONTENTS

1. Summary and terms used, page 1
2. Plan clock, page 2
3. What changed since your last plan (approved 2024-11-21), page 2
4. Supports FEMA checklist item B1-a: hazard identification, page 3
5. Supports FEMA checklist item B1-b: hazard location, page 5
6. Supports FEMA checklist item B1-c: hazard extent, page 5
7. Supports FEMA checklist item B1-d: previous occurrences, page 8
8. Supports FEMA checklist item B1-e: probability of future events, page 12
9. Supports FEMA checklist item B1-f: hazards that vary across jurisdictions, page 14
10. Supports FEMA checklist items B2-a and B2-b: vulnerability and potential impacts, page 16
11. Supports FEMA checklist item B2-a: vulnerability (county context), page 18
12. Supports FEMA checklist item B2-c: repetitive loss properties, page 18
13. Sources, what the plan adds, disclaimer and citation, page 19

Plan clock

Status:	Approved, expires 2029-11-20	Plan:	Western Montana Regional Hazard Mitigation Plan 2024 (FEMA plan 110263)
Approved:	2024-11-21	Days to expiry:	1,147

What changed since your last plan (approved 2024-11-21)

New federal declarations:	1 new hazard declaration (1 incident): DR-4902-MT (Severe Winter Storm and Straight-Line Winds)	Storm Events records since approval:	58 records (data through 2026-06-30)
Repetitive loss now:	FMA RL 0, SRL 0 (44 CFR 77.2); any definition: 0	Repeat-flood change:	this release sets the baseline count.

Sources: 1, 2, 4, 6 (numbered list at the end)

Plan status for every jurisdiction listed in this county

Source: 1

Jurisdiction	Type	Status	Plan	Approved	Expires	Days to expiry negative = days since expiry	Notes
Sweet Grass County	County	Approved, expires 2029-11-20	Western Montana Regional Hazard Mitigation Plan 2024 (FEMA plan 110263)	2024-11-21	2029-11-20	1,147	this jurisdiction approved 2025-04-21
Big Timber city	City	Approved, expires 2029-11-20	Western Montana Regional Hazard Mitigation Plan 2024 (FEMA plan 110263)	2024-11-21	2029-11-20	1,147	this jurisdiction approved 2025-04-21

Plan 110263 covers 54 other participants, named in the Excel file.

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

Supports FEMA checklist item B1-a: hazard identification

Hazards NRI does not cover (local data needed)

- 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)

Sources: 5, 6

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>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL total (see note) <i>modeled dollars per year</i>	Storm Events records, 1996 to 2026-06-30 <i>count</i>	Why this hazard can be left out <i>NRI Not Applicable, no declaration and no Storm Events record since 1996</i>	Storm Events coverage note
1	Inland Flooding	Very Low	Very Low	\$3,391,618	\$246	\$3,417	\$3,395,280	11		
2	Wildfire	Relatively Low	Relatively Moderate	\$1,446,884	\$82	\$7,554	\$1,454,520	12		
3	Cold Wave	Relatively Low	Relatively Low	\$2,577	\$61,625	\$513,648	\$577,849	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
4	Earthquake	Very Low	Very Low	\$137,045	n/a	\$19,779	\$156,824			Storm Events does not record earthquakes.
5	Hail	Very Low	Very Low	\$87,397	\$17,826	\$3,688	\$108,911	117		
6	Lightning	Very Low	Relatively Low	\$167	n/a	\$87,393	\$87,560	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
7	Winter Weather	Relatively Low	Relatively Low	\$320	\$47	\$46,033	\$46,400	272		
8	Strong Wind	Very Low	Very Low	\$6,865	\$3,070	\$15,426	\$25,361	287		Includes 248 High Wind records (a NOAA non-thunderstorm wind type, outside NRI's Strong Wind definition).
9	Tornado	Very Low	Very Low	\$14,162	\$159	\$2,170	\$16,491	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).

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>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL total (see note) <i>modeled dollars per year</i>	Storm Events records, 1996 to 2026-06-30 <i>count</i>	Why this hazard can be left out <i>NRI Not Applicable, no declaration and no Storm Events record since 1996</i>	Storm Events coverage note
10	Heat Wave	Very Low	Very Low	\$7	\$913	\$11,702	\$12,622	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
11	Drought	Very Low	Very Low	n/a	\$3,512	n/a	\$3,512	1		
12	Landslide	Very Low	Very Low	\$2,025	n/a	\$955	\$2,980	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
13	Ice Storm	Very Low	Very Low	\$2,060	n/a	\$251	\$2,311	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
14	Avalanche	Very Low	Very Low	\$53	n/a	\$2,183	\$2,236	11		
15	Volcanic Activity	No Rating	No Expected Annual Losses	\$0	n/a	\$0	\$0	0		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-3253-MT 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).

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

NRI risk rating combines expected annual loss with social vulnerability and community resilience; EAL rating rates expected annual loss alone. Both compare this county with all U.S. counties.

Local data needed: state and local lightning, landslide and volcanic activity records (Storm Events records these hazards only in part).

Not applicable to this county per NRI, with no federal declaration and no Storm Events record since 1996: coastal flooding and tsunami. That is the evidence for leaving them out of the plan.

The state hazard mitigation plan also lists hazards for this county; FEMA asks the plan to explain any hazard it leaves out.

Supports FEMA checklist item B1-b: hazard location

Affects the whole county (national data give no location within it): Cold Wave, Drought, Hail, Heat Wave, Ice Storm, Lightning, Strong Wind and Winter Weather.

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.

NRI rating of the county's single census tract

Source: 5

Hazard	Census tract <i>NRI risk rating, score 0 to 100</i>
Avalanche	tract 9670 (Very Low, 53.9)
Earthquake	tract 9670 (Relatively Low, 77.7)
Hurricane	no tract has a National Risk Index rating for this hazard
Landslide	tract 9670 (Relatively Low, 95.4)
Tornado	tract 9670 (Very Low, 28.4)
Volcanic Activity	no tract has a National Risk Index rating for this hazard
Wildfire	tract 9670 (Very High, 99.2)

A tract number is the Census tract number (for example 9670 is Census Tract 9670). FEMA's Resilience Analysis and Planning Tool maps the National Risk Index for every tract: <https://www.fema.gov/emergency-managers/practitioners/resilience-analysis-and-planning-tool>

Supports FEMA checklist item B1-c: hazard extent

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

Sources: 6, 7

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Avalanche	none (count and damage only)	11 records, 2010 to 2025 (11 zone-level)		No damage reported in 11 records.		Countywide (zone-level records).	Physical measure: in event narratives only (local data needed).
Cold/Wind Chill, Extreme Cold/Wind Chill	wind chill	0					Wind chill: in event narratives only (local data needed).
Frost/Freeze (outside NRI's Cold Wave definition)	crop damage	0					Temperature: in event narratives only (local data needed).

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Drought	U.S. Drought Monitor scale (D0 to D4)	1 record, 2021 (1 zone-level)	31 days; 1 with a recorded value	31 days (1 month), 2021-08-01 to 2021-08-31, zone-level		Countywide (zone-level records).	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					Storm Events does not record earthquakes; the USGS earthquake catalog is the source.
Hail	hail size (inches)	130 records, 1955 to 2025	0.75 in to 2.5 in (median 1 in); 126 with a recorded value	2.5 in hail, 2013-06-13		Event records naming jurisdictions in the plan: Big Timber city (50 records).	
Excessive Heat, Heat	heat index (in event narratives)	0					Heat index: in event narratives only (local data needed).
Hurricane, Tropical Storm, Tropical Depression	Saffir-Simpson	0					Storm Events files every zone of a storm's episode under the storm's type; flooding from the storm is filed as Flood or Flash Flood records.
Ice Storm	Sperry-Piltz ice scale (local data)	0					Ice thickness: in event narratives only (local data needed).
Flash Flood, Flood, Lakeshore Flood	damage and flood days (flood depth: FIRM)	11 records, 1997 to 2023 (1 zone-level)		Flood, 2011-05-20, \$4,000,000 property; \$0 crops (2011 dollars)		Event records naming jurisdictions in the plan: Big Timber city (2 records). Zone-level records (1) apply countywide.	Flood depth: see the FEMA Flood Insurance Rate Map. Storm Events damage is often \$0 or blank for floods, major ones included; FEMA Public Assistance by declaration (B1-d) shows which floods cost the most.
Debris Flow	none (count and damage only)	0					Physical measure: in event narratives only (local data needed).
Lightning	annualized frequency (the measure FEMA's Local Mitigation Planning Handbook names)	0					Storm Events lists lightning with damage or casualties; physical measure in event narratives only (local data needed).

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
High Wind and Strong Wind (outside NRI's Strong Wind definition)	wind speed (kt and mph)	248 records, 2005 to 2026 (248 zone-level)	35 kt (40 mph) to 92 kt (106 mph) (median 56 kt (64 mph)); 248 with a recorded value	92 kt (106 mph) measured gust, High Wind, 2020-11-13; NWS zone MTZ066		Countywide (zone-level records).	
Thunderstorm Wind	wind speed (kt and mph)	41 records, 1988 to 2026	50 kt (58 mph) to 75 kt (86 mph) (median 54 kt (62 mph)); 40 with a recorded value	75 kt (86 mph), measurement type not recorded, Thunderstorm Wind, 1994-07-09		Event records naming jurisdictions in the plan: Big Timber city (9 records).	
Tornado	Enhanced Fujita (Fujita before Feb 2007)	2 records, 1965 to 1973	F/EF0 to F/EF1 (median between F/EF0 and F/EF1); 2 with a recorded value	F1 tornado, 1965-08-22, 1.5 mi path length (whole path, pre-1996), 33 yd wide, damage not recorded (pre-1996 record)	Tornado, 1973-05-20, \$30 property; crops not recorded (1973 dollars)	No event record names a jurisdiction in the plan.	Before 1996 a tornado is listed once, under the county where it began, with its whole path's rating and length; from 1996 on, each county lists its own segment. Length is not used to rank tornadoes (see Methods).
Volcanic Ash, Volcanic Ashfall	Volcanic Explosivity Index (local data)	0					Physical measure: in event narratives only (local data needed).
Wildfire	acres burned (local data)	12 records, 1998 to 2021 (10 zone-level)		No damage reported in 12 records.		No event record names a jurisdiction in the plan. Zone-level records (10) apply countywide.	Acres burned: in event narratives only (local data needed).
Winter Storm, Heavy Snow, Blizzard, Lake-Effect Snow, Winter Weather, Sleet	none in data (snowfall: local data)	272 records, 2005 to 2026 (272 zone-level)		No damage reported in 272 records.		Countywide (zone-level records).	Snow depth: in event narratives only (local data needed).

Storm Events records are more complete after 1996; before 1996 only Tornado (from 1950), Hail and Thunderstorm Wind (from 1955) exist. Zone-level records whose zone no NWS zone-county file places in this county (mostly before 2020) are not counted here (the Methods page explains the zone matching).

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

Supports FEMA checklist item B1-d: previous occurrences

Federal declarations for this county: 10 declarations covering 7 separate hazard incidents counted in this packet (declarations for the same incident count once; non-natural and evacuation-only declarations are not counted).

Federal disaster declarations for this county

Sources: 1, 2, 3

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance <i>federal share obligated, nominal dollars</i>	Flags	Notes
2026-04-07	2025-12-17	DR-4902-MT	Major disaster	Severe Winter Storm and Straight-Line Winds	Strong Wind (primary); also designated: Winter Weather	none placed in this county by FEMA's record; \$569,734.59 for this declaration is not placed in any county (see the state page)		new since last plan; within last 5 years
2022-06-16	2022-06-10	DR-4655-MT	Major disaster	Severe Storm and Flooding	Inland Flooding	\$289,936.65		within last 5 years
2020-03-31	2020-01-20	DR-4508-MT	Major disaster	COVID-19 Pandemic	Non-natural, not counted	no Public Assistance recorded		
2020-03-13	2020-01-20	EM-3476-MT	Emergency	COVID-19	Non-natural, not counted	no Public Assistance recorded		same incident as DR-4508-MT
2011-06-17	2011-04-04	DR-1996-MT	Major disaster	Severe Storms and Flooding	Inland Flooding	\$1,570,889.38		
2006-08-30	2006-08-30	FM-2671-MT	Fire management	Derby Fire	Wildfire	no Public Assistance recorded		
2005-09-13	2005-08-29	EM-3253-MT	Emergency	Hurricane Katrina Evacuation	Hurricane: evacuation support, not a local hazard event; not counted	no Public Assistance recorded		
2003-08-11	2003-08-10	FM-2488-MT	Fire management	Mt-Hobble Fire-08/07/2003	Wildfire	no Public Assistance recorded		
2000-08-30	2000-07-13	DR-1340-MT	Major disaster	Wildfires	Wildfire	PA not declared for this county		
1997-07-25	1997-03-01	DR-1183-MT	Major disaster	Severe Storms, Ice Jams, Snow Melt, Flooding	Inland Flooding	no Public Assistance recorded		

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.

Statewide declarations

Source: 2

Declared	Incident began	FEMA number	Type	Title	Mapped hazard
1964-12-18	1964-12-18	DR-182-MT	Major disaster	Severe Winter Storm	Winter Weather
1964-06-09	1964-06-09	DR-172-MT	Major disaster	Heavy Rains & Flooding	Inland Flooding
1953-06-06	1953-06-06	DR-5-MT	Major disaster	Floods	Inland Flooding

FEMA recorded these with designated area Statewide and no county, so they are listed on every county page in the state and not counted with county rows. Local data needed: whether each one affected this county.

11 Fire Management declarations (1973-08-16 to 1996-09-06) FEMA filed as Statewide with no county; each names one local fire. Listed on the state page.

Public Assistance not placed in any Montana county: 2 rows, \$679,475.72; listed on the Montana state page.

Source: 3

Previous occurrences by hazard, with explicit no-event rows

Sources: 2, 6, 7

Hazard	Storm Events records, all years on file <i>(years in the Period column)</i>	Since plan approval <i>records</i>	In the 12 months before plan approval <i>records</i>	Last 5 years <i>records</i>	Declared incidents, all years <i>separate disasters</i>	Declared since approval <i>separate disasters</i>	Period	Statement
Avalanche	11	1	0	4	0	0	1996 to 2026-06-30	
Cold Wave	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Drought	1	0	0	0	0	0	1996 to 2026-06-30	
Earthquake	0	0	0	0	0	0		Storm Events does not record earthquakes; the USGS earthquake catalog is the source.
Hail	130	2	0	3	0	0	1955 to 2026-06-30	
Heat Wave	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
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	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Inland Flooding	11	0	0	3	3	0	1996 to 2026-06-30	
Landslide	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Lightning	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Strong Wind	289	28	12	87	1	1	1955 to 2026-06-30	Includes 248 High Wind records.

Hazard	Storm Events records, all years on file <i>(years in the Period column)</i>	Since plan approval <i>records</i>	In the 12 months before plan approval <i>records</i>	Last 5 years <i>records</i>	Declared incidents, all years <i>separate disasters</i>	Declared since approval <i>separate disasters</i>	Period	Statement
Tornado	2	0	0	0	0	0	1950 to 2026-06-30	
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	12	0	0	0	3	0	1996 to 2026-06-30	
Winter Weather	272	27	11	65	1	1	1996 to 2026-06-30	

Notable Storm Events records

Sources: 1, 6, 7

Date	Event type	Magnitude or extent	Damage <i>nominal dollars</i>	Deaths, injuries <i>direct only</i>	Location	Flags	Why listed
2022-12-31	Avalanche		\$0 property; \$0 crops, reported for the zone (2022 dollars)	1, 0	NWS zone MTZ067 (ABSAROKA / BEARTOOTH MOUNTAINS), zone-level	within last 5 years	deaths or injuries recorded
2022-02-19	Avalanche		\$0 property; \$0 crops, reported for the zone (2022 dollars)	1, 1	NWS zone MTZ067 (ABSAROKA / BEARTOOTH MOUNTAINS), zone-level	within last 5 years	deaths or injuries recorded
2021-08-01	Drought		\$0 property; \$0 crops, reported for the zone (2021 dollars)	0, 0	NWS zone MTZ067 (ABSAROKA / BEARTOOTH MOUNTAINS), zone-level		B1-c worst recorded: Drought
2020-11-13	High Wind	92 kt (106 mph) measured gust	\$0 property; \$0 crops, reported for the zone (2020 dollars)	0, 0	NWS zone MTZ066 (BEARTOOTH FOOTHILLS), zone-level		B1-c worst recorded: High Wind and Strong Wind
2019-11-05	Winter Weather		\$0 property; \$0 crops, reported for the zone (2019 dollars)	1, 0	NWS zone MTZ141 (NORTHERN SWEET GRASS), zone-level		deaths or injuries recorded
2016-12-11	Avalanche		\$0 property; \$0 crops, reported for the zone (2016 dollars)	1, 0	NWS zone MTZ067 (ABSAROKEE / BEARTOOTH MOUNTAINS), zone-level		deaths or injuries recorded
2015-12-19	Avalanche		\$0 property; \$0 crops, reported for the zone (2015 dollars)	1, 0	NWS zone MTZ067 (ABSAROKEE / BEARTOOTH MOUNTAINS), zone-level		deaths or injuries recorded
2013-06-13	Hail	2.5 in	\$0 property; \$0 crops (2013 dollars)	0, 0	MELVILLE		B1-c worst recorded: Hail
2011-05-20	Flood		\$4,000,000 property; \$0 crops (2011 dollars)	0, 0	MELVILLE to GREYCLIFF		B1-c worst recorded: Flash Flood, Flood, Lakeshore Flood
1994-07-09	Thunderstorm Wind	75 kt (86 mph), measurement type not recorded	\$500,000 property; crops not recorded (1994 dollars)	0, 0	Big Timber		B1-c worst recorded: Thunderstorm Wind
1973-05-20	Tornado	F0, 0.1 mi path length (whole path, pre-1996), 17 yd wide	\$30 property; crops not recorded (1973 dollars)	0, 0	location not recorded		B1-c most damaging: Tornado
1965-08-22	Tornado	F1, 1.5 mi path length (whole path, pre-1996), 33 yd wide	damage not recorded (pre-1996 record)	0, 0	location not recorded		B1-c worst recorded: Tornado

The full list is in the Excel file, sheet "B1-d Storm Events history" (728 rows).

Location is the place NOAA recorded, as written in its data; it need not be a jurisdiction in this plan.

Local data needed: state-declared emergencies, from your state emergency management agency (federal data do not include them).

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

Supports FEMA checklist item B1-e: probability of future events

Probability: FEMA annualized frequency and descriptor per hazard

Sources: 5, 6

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	0.133	events per year	about 1 in 8 years	Likely	FEMA annualized frequency (modeled)	4	1994 to 2023 (30 years)	see B1-f	
Cold Wave	2.41	event-days per year	about 2.41 days per year		event-days in 0 of 30 years, 1996 to 2025 (0%)	45.9	2005-11-12 to 2024-11-12 (19 years)	countywide	No Storm Events cold wave record, 1996 to 2025.
Drought	65.7	event-days per year	about 65.7 days per year	Possible (from Storm Events: 1 of 30 years)	event-days in 1 of 30 years, 1996 to 2025 (3.33%)	1,659	2000 to 2025 (25.25 years; D3 and D4 only)	countywide	
Earthquake	0.00493	annual probability at a location	chance a given location in the county has at least minor-damage shaking in a year: 0.493%			not shown	modeled	see B1-f	No descriptor (Storm Events does not record earthquakes).
Hail	1.32	events per year	about 1.32 per year	Highly likely	FEMA annualized frequency (modeled)	50.3 (modeled)	1986 to 2023 (38 years)	countywide	
Heat Wave	0.75	event-days per year	about 0.75 days per year		event-days in 0 of 30 years, 1996 to 2025 (0%)	7.55	2005-11-12 to 2024-11-12 (19 years)	countywide	No Storm Events heat wave record, 1996 to 2025
Hurricane		events per year					1851 to 2024 (Atlantic)	see B1-f	Not Applicable in NRI for this county; no descriptor.
Ice Storm	0.0149	event-days per year	about 0.0149 days per year		event-days in 0 of 30 years, 1996 to 2025 (0%)	0	1946-12-31 to 2014-02-12 (67 years)	countywide	No Storm Events ice storm record, 1996 to 2025
Inland Flooding	0.393	event-days per year	about 0.393 days per year	Likely (from Storm Events: 8 of 30 years)	event-days in 8 of 30 years, 1996 to 2025 (26.7%)	11	1996 to 2023 (28 years)	see B1-f	
Landslide	2.27	events per year (modeled)	about 2.27 per year	Highly likely	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	
Lightning	36.1	days per year with a strike	about 36.1 days per year	Highly likely	FEMA annualized frequency (modeled)	not shown	1995 to 2023 (29 years; CONUS)	countywide	
Strong Wind	0.602	events per year	about 0.6 per year	Likely	FEMA annualized frequency (modeled)	23	1986 to 2023 (38 years)	countywide	
Tornado	0.0632	events per year	about 1 in 16 years	Possible	FEMA annualized frequency (modeled)	not shown	1950 to 2023 (EF2+); 1986 to 2023 (EF0-1)	see B1-f	

Hazard	FEMA annualized frequency (modeled)	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
	<i>unit per row</i>									
Volcanic Activity	0.0001	annual probability	about 1 in 10,000 years	Unlikely	FEMA annualized frequency (modeled)	not shown		modeled	see B1-f	
Wildfire	0.00124	annual probability at a location	chance a given location in the county burns in a year: 0.124%	Likely (from Storm Events: 5 of 30 years)	Storm Events records in 5 of 30 years, 1996 to 2025 (16.7%)	not shown		modeled	see B1-f	Descriptor from Storm Events, not NRI.
Winter Weather	22.7	event-days per year	about 22.7 days per year	Likely (from Storm Events: 21 of 30 years)	event-days in 21 of 30 years, 1996 to 2025 (70%)	431		2005-11-12 to 2024-11-12 (19 years)	countywide	

FEMA annualized frequency (modeled) is the National Risk Index v1.20 (December 2025) estimate of how often a hazard affects this county in a year; it is not recorded events divided by years, and its unit differs by hazard (events, event-days, or days with a lightning strike per year). For earthquake, wildfire, coastal flooding and tsunami the value is the chance (or number of events) at a location in the county, not across the county, so no "1 in N years" is given and the descriptor comes from Storm Events where it has a record (none for earthquake). The Methods page gives each hazard's method, from FEMA's National Risk Index Technical Documentation v1.20.

Where NRI gives event-days, the descriptor comes from the share of years with a Storm Events record; NRI's source records more events, so the two differ.

Descriptor scale used in this packet (defined per unit)

Sources: 5, 6

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

Intensity bands: historical frequency (Storm Events)

Source: 6

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	76	30	2.53
Hail	2.00 in+	1996 to 2025	3	30	0.1
Thunderstorm Wind (counted as NRI Strong Wind)	50-64 kt	1996 to 2025	32	30	1.07
Thunderstorm Wind (counted as NRI Strong Wind)	65 kt+	1996 to 2025	3	30	0.1
Thunderstorm Wind (counted as NRI Strong Wind)	unmeasured or below 50 kt	1996 to 2025	0	30	0
Tornado	EF0-1	1996 to 2025	0	30	0
Tornado	EF2-3	1996 to 2025	0	30	0
Tornado	EF4-5	1996 to 2025	0	30	0
Tornado	unrated (EFU)	1996 to 2025	0	30	0

The bands show how often events of each severity were recorded in this county, to profile how severe events have been (FEMA's probability item asks for the range of intensities).

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.

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 (<https://resilience.climate.gov/>).

Supports FEMA checklist item B1-f: hazards that vary across jurisdictions

NRI risk score of the county's single census tract

Source: 5

Hazard	Tract score <i>NRI score, 0 to 100</i>	Rating
Avalanche	53.9	Very Low
Cold Wave	96.1	Very High
Drought	83.6	Relatively Low
Earthquake	77.7	Relatively Low
Hail	91.0	Relatively High
Heat Wave	16.3	Very Low
Hurricane		Not Applicable
Ice Storm	29.2	Very Low
Inland Flooding	98.5	Very High
Landslide	95.4	Relatively Low
Lightning	97.3	Very High
Strong Wind	60.1	Relatively Moderate

Hazard	Tract score	
	<i>NRI score, 0 to 100</i>	Rating
Tornado	28.4	Very Low
Volcanic Activity		No Rating
Wildfire	99.2	Very High
Winter Weather	97.8	Very High

The score ranks a tract against all U.S. tracts (100 = highest). The rating is FEMA's category for the tract's risk value, computed differently, so the two can disagree.

Each jurisdiction (starting figures from federal data)

Sources: 1, 3, 4, 6

Jurisdiction	Type	Plan status	Repetitive loss	Public Assistance to this jurisdiction	Event records naming this place
			<i>FMA RL and SRL (44 CFR 77.2); repeat-flood, any definition</i>	<i>FEMA records matched by applicant name; federal share obligated, nominal dollars</i>	<i>all years; since its plan</i>
Sweet Grass County	County	Approved, expires 2029-11-20	FMA RL 0, SRL 0; any 0	\$1,860,826.03	0 total; 0 since its plan
Big Timber city	City	Approved, expires 2029-11-20	FMA RL 0, SRL 0; any 0	no Public Assistance recorded	61 total; 2 since its plan

Repetitive-loss counts are for whole NFIP communities, which can extend beyond this county (see the note in B2-c).

Supports FEMA checklist items B2-a and B2-b: vulnerability and potential impacts

Local data needed

The table below gives county-level starting figures; the plan describes impacts for each jurisdiction and its own assets.

- Critical facilities and lifelines per hazard
- A problem statement per jurisdiction 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

Sources: 1, 2, 3, 5, 6, 7

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>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL as % of exposure <i>buildings; agriculture where noted</i>	Storm Events damage since 2024-11-21 <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	\$13,185,973	n/a	under 1	\$53	n/a	\$2,183	0.000401%		\$0		
Cold Wave	\$2,285,549,516	\$33,093,102	3,674	\$2,577	\$61,625	\$513,648	0.000113%				
Drought	n/a	\$3,427,671	n/a	n/a	\$3,512	n/a	0.102% (agriculture)				NRI has no building exposure for this hazard; agriculture shown
Earthquake	\$3,868,849,777	n/a	3,678	\$137,045	n/a	\$19,779	0.00354%				
Hail	\$2,285,549,516	\$33,093,102	3,674	\$87,397	\$17,826	\$3,688	0.00382%	\$0			
Heat Wave	\$2,285,549,516	\$33,093,102	3,674	\$7	\$913	\$11,702	under 0.0001%				
Hurricane											Not Applicable in NRI for this county
Ice Storm	\$2,285,549,516	n/a	3,674	\$2,060	n/a	\$251	under 0.0001%				

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>	Cost of expected deaths and injuries <i>FEMA's dollar value per year, not property damage</i>	EAL as % of exposure <i>buildings; agriculture where noted</i>	Storm Events damage since 2024-11-21 <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
Inland Flooding	\$2,278,062,898	\$2,314,093	131	\$3,391,618	\$246	\$3,417	n/a (see note)				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.
Landslide	\$94,058,622	n/a	102	\$2,025	n/a	\$955	0.00215%				
Lightning	\$2,285,549,516	n/a	3,674	\$167	n/a	\$87,393	under 0.0001%				
Strong Wind	\$2,285,549,516	\$33,093,102	3,674	\$6,865	\$3,070	\$15,426	0.0003%	\$0	\$0	no Public Assistance recorded (1 declaration)	
Tornado	\$2,285,549,516	\$33,093,102	3,674	\$14,162	\$159	\$2,170	0.00062%				
Volcanic Activity	\$695,461,565	n/a	1,336	\$0	n/a	\$0	0%				
Wildfire	\$1,189,904,026	\$23,144,092	1,966	\$1,446,884	\$82	\$7,554	0.122%				
Winter Weather	\$2,285,549,516	\$33,093,102	3,674	\$320	\$47	\$46,033	under 0.0001%		\$0	no Public Assistance recorded (1 declaration)	

Totals since 2024-11-21 (Storm Events through 2026-06-30): 7 county-coded records, 7 with a damage value recorded (including \$0), \$0; 51 zone-level records, 51 with a damage value recorded (including \$0), \$0 reported for the zone; Public Assistance: none recorded on the 1 counted declaration.

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 does not add up to the total; the unit total counts each declaration once.

NRI computes earthquake exposure on its own basis, so it exceeds the county building value in B2-a.

Supports FEMA checklist item B2-a: vulnerability (county context)

County context

Source: 5

Measure	Value
Population	3,674
Building value (total, not at risk)	\$2,285,549,516
Agriculture value (total, not at risk)	\$33,093,102
NRI risk rating (all hazards)	Very Low
Expected annual loss, buildings and agriculture, all hazards	\$5,178,659
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)	\$714,197
Social vulnerability rating	Very Low
Community resilience rating	Relatively Moderate
NRI version	December 2025

FEMA's all-hazard expected annual loss adds buildings, agriculture and population equivalence; this table gives the property part and the population-equivalence part as separate rows.

Social vulnerability: higher means people are more likely to be harmed and slower to recover. Community resilience: lower means the community is less able to recover. High social vulnerability and low resilience both raise the NRI risk rating.

Supports FEMA checklist item B2-c: repetitive loss properties

Repetitive loss in this county, both definitions

Sources: 1, 4

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	0	Severe repetitive loss, NFIP insurance definition	0

The state NFIP coordinator's list, the source FEMA's Handbook names, often uses the NFIP insurance definition (second row).

Repeat-flood properties: county total and NFIP communities

Sources: 1, 4

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	0	0	0	0	0

Repeat-flood properties by jurisdiction in the plan (NFIP community)

Sources: 1, 4

Jurisdiction	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>
Sweet Grass County	300167	0	0	0	0	0	0	0
Big Timber city	300106	0	0	0	0	0	0	0

Counts by occupancy group for each jurisdiction are in the Excel file, sheet "B2-c Jurisdictions".

Jurisdiction 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 jurisdiction row, while the county table counts only its part in this county.

County repeat-flood properties by occupancy group: 0 in every occupancy group.

Sources: 1, 4

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. NFIP repetitive loss (the FEMA insurance definition) is 2 or more claims over \$1,000 in 10 years, and a property can leave that group once it is mitigated. Also shown: NFIP severe repetitive loss, any category, mitigated and currently insured. The Methods page gives the OpenFEMA field details.

Counts are aggregates of FEMA's public NFIP Multiple Loss Properties file (FEMA's data date 2026-08-02; file version 2026-08-04). No property is identified. County assignment is FEMA's geocode.

In this county 0 properties are FMA repetitive loss but not NFIP repetitive loss, and 0 properties are NFIP repetitive loss but not FMA repetitive loss.

Exact counts; no count suppression.

Sources

Tables cite these sources by number. The full list, for the plan's bibliography (FEMA review item A4-a):

1. FEMA, OpenFEMA HazardMitigationPlanStatuses v1, version 2026-09-29T134039Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/HazardMitigationPlanStatuses> (API)
2. FEMA, OpenFEMA DisasterDeclarationsSummaries v2, version 2026-09-29T162832Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v2/DisasterDeclarationsSummaries> (API)
3. FEMA, OpenFEMA PublicAssistanceFundedProjectsSummaries v1, version 2026-09-29T150754Z, pulled 2026-09-30, <https://www.fema.gov/api/open/v1/PublicAssistanceFundedProjectsSummaries> (API)
4. FEMA, OpenFEMA NfipMultipleLossProperties v1, version 2026-08-04T164045Z, pulled 2026-09-30, <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 2026-09-30, 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 2026-09-30, <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 2026-09-30, <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 2026-09-30, 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_Gazetteer/2024_Gaz_cousubs_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_place_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_unsd_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_elsd_national.zip, https://www2.census.gov/geo/docs/maps-data/data/gazetteer/2024_Gazetteer/2024_Gaz_scsd_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 (used to match place names and codes; no table prints its values)

What this packet is and what the plan adds

This packet is the federal data for the plan's risk assessment, organized by the items of FEMA's Local Mitigation Plan Review Tool, Element B. Each section heading names the item its tables support; the plan and FEMA's review decide whether the item is met.

The plan adds what only the community has: local data on assets, critical facilities, development and each jurisdiction's impacts; local hazard history, including state-declared emergencies; the mitigation strategy; and adoption.

How the federal data are built: National Risk Index values are FEMA's model, not counts of events. Storm Events is more complete from 1996; zone-level records are placed by forecast zone, not by location in the county. Public Assistance for a jurisdiction is matched by applicant name. The Methods page gives every rule and the known edge cases.

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Cite this: Hazard Plain (2026). Sweet Grass County, MT: risk-assessment baseline packet, release 2026-10 (data as of 2026-09-30; County FIPS 30097). Automated baseline. <https://hazardplain.org/mt/30097/> Built from FEMA OpenFEMA, the FEMA National Risk Index and NOAA NCEI Storm Events; source versions in the packet's Sources list.

Corrections: to report an error, name the packet, the table and what your records show. Contact: contact@hazardplain.org

Hazard Plain release 2026-10. As of 2026-09-30; Storm Events data through 2026-06-30. Automated baseline.