

Johnson County, MO

Risk-assessment baseline packet

Unit **County area 29101** 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

This product uses the Federal Emergency Management Agency's OpenFEMA API, but is not endorsed by FEMA. The Federal Government or FEMA cannot vouch for the data or analyses derived from these data after the data have been retrieved from the Agency's website(s).

Plan clock

Status	Approved, expires 2028-07-19	Plan	Johnson County (2023) (FEMA plan 109135)
Approved	2023-07-20	Expires	2028-07-19
As of	2026-09-28	Days	660 days to expiry

What changed since your last plan (approved 2023-07-20)

New federal declarations	none (0 declaration rows; 0 counted incidents)	Storm Events records since approval	53 (data through 2026-06-30)
Repetitive loss now	FMA RL 0, SRL 0 (44 CFR 77.2); any definition: 4	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
Johnson County (unincorporated area)	Unincorporated	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Centerview city	City	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Chilhowee town	Town	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Holden city	City	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Knob Noster city	City	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Leeton city	City	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		

Jurisdiction	Type	Status	Plan	Approved	Expires	Days to expiry	Update underway	Notes
						<i>negative = days since expiry</i>		
Warrensburg city	City	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Chilhowee R-IV School District	School/School District	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Holden R-III School District	School/School District	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Knob Noster R- VIII School District	School/School District	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Leeton R-X School District	School/School District	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		
Warrensburg R- VI School District	School/School District	Approved, expires 2028-07-19	Johnson County (2023) (FEMA plan 109135)	2023-07-20	2028-07-19	660		

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.

CONTENTS

1. Plan clock, page 1	7. Supports B1-e: probability, page 15
2. What changed since your last plan (approved 2023-07-20), page 1	8. Supports B1-f: variation across the planning area, page 18
3. Supports B1-a: hazards, page 3	9. Supports B2-a and B2-b: assets and impacts, page 20
4. Supports B1-b: location, page 5	10. Supports B2-a: context, page 21
5. Supports B1-c: extent, page 5	11. Supports B2-c: repetitive loss, page 22
6. Supports B1-d: previous occurrences, page 8	12. Sources and OpenFEMA disclaimer, page 23

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	Relatively Low	Relatively Low	\$9,513,267	\$800,891	\$1,617,470	\$11,931,628	141		
2	Cold Wave	Relatively Moderate	Relatively High	\$235	\$376,854	\$4,841,504	\$5,218,593	10		Includes 1 Frost/Freeze record, event types the NRI definition of this hazard leaves out.
3	Heat Wave	Relatively Moderate	Relatively Moderate	\$413	\$7	\$2,134,026	\$2,134,446	16		
4	Tornado	Relatively Low	Relatively Low	\$1,485,046	\$5,117	\$608,128	\$2,098,291	21		
5	Hail	Relatively Low	Relatively Moderate	\$631,063	\$977	\$36,592	\$668,632	248		
6	Strong Wind	Relatively Low	Relatively Low	\$39,618	\$4,588	\$504,837	\$549,043	197		Includes 4 High Wind records, event types the NRI definition of this hazard leaves out.
7	Drought	Relatively Low	Relatively Moderate		\$428,965		\$428,965	28		
8	Ice Storm	Relatively Moderate	Relatively Moderate	\$152,749		\$265,621	\$418,370	9		
9	Earthquake	Very Low	Relatively Low	\$290,159		\$67,766	\$357,924			Not in Storm Events. 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	Lightning	Relatively Low	Relatively Low	\$12,279		\$286,330	\$298,609	3		
11	Winter Weather	Relatively Moderate	Relatively Moderate	\$183,304	\$183	\$7,404	\$190,890	40		
12	Wildfire	Very Low	Very Low	\$13,400	\$99	\$4,036	\$17,535	0		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.
13	Hurricane	Very Low	Very Low	\$5,615	\$4,198	\$8	\$9,821	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
14	Landslide	Very Low	Very Low	\$319		\$3,352	\$3,671	0		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.
	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).
	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 14
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 14
Cold Wave	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	14 of 14
Drought	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	12 of 14
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.	14 of 14
Hail	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	14 of 14
Heat Wave	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	14 of 14
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.	14 of 14
Ice Storm	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	14 of 14
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.	14 of 14
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.	14 of 14
Lightning	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	14 of 14
Strong Wind	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	14 of 14
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.	14 of 14
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 14
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 14
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.	14 of 14
Winter Weather	Affects the whole planning area; national data do not distinguish locations within the county. Confirm locally.	14 of 14

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	9, 1997 to 2025 (9 zone-level)	1 day to 22 days (median 4 days); 7 with a recorded value	22 days, 2000-12-10 to 2000-12-31, from 1 monthly summary record (a monthly summary record covers most or all of a month; it does not count days at wave conditions), zone-level		Zone-level records: applies countywide; national data do not locate these events within the county.	Wind chill: in event narratives only; local data required.
Frost/Freeze (outside NRI Cold Wave definition)	crop damage	1, 2007 to 2007 (1 zone-level)		No crop damage reported in 1 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	28, 2000 to 2025 (28 zone-level)	5 days to 243 days (median 70 days); 7 with a recorded value	243 days (8 months), 2012-07-01 to 2013-02-28, a run of 8 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)	292, 1956 to 2026	0.75 in to 3 in (median 1 in); 292 with a recorded value	3 in hail, 2004-08-17	Hail, 2006-03-30, \$50,000 property; crops not reported (2006 dollars)	Event records naming member places: Warrensburg city (71 records), Holden city (22 records), Knob Noster city (15 records), Centerview city (13 records), Chilhowee town (13 records), Leeton city (13 records).	
Excessive Heat, Heat	heat index (narratives)	16, 1999 to 2023 (16 zone-level)	1 day to 14 days (median 5 days); 14 with a recorded value	14 consecutive days, 1999-07-18 to 1999-07-31, 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.
Ice Storm	Sperry-Piltz (local data)	9, 1997 to 2020 (9 zone-level)		Ice Storm, 2002-01-30, \$200,000 property; crops not reported, reported for the zone (2002 dollars); NWS zone MOZ044 (JOHNSON), 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.

Hazard	Scale	Records <i>count, years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to members	Note
Flash Flood, Flood, Lakeshore Flood	damage and flood days (FIRM for depth)	141, 1996 to 2020 (68 zone-level)		No damage reported in 141 records.		Event records naming member places: Holden city (9 records), Warrensburg city (9 records), Knob Noster city (6 records), Centerview city (5 records), Leeton city (1 record). Zone-level records (68) 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)	3, 2000 to 2024		Lightning, 2024-06-28, \$0 property; \$0 crops (2024 dollars), 1 direct death, 1 direct injury	Lightning, 2000-07-12, \$16,000 property; crops not reported (2000 dollars)	Event records naming member places: Holden city (2 records), Warrensburg 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)	4, 1999 to 2019 (4 zone-level)	45 kt (52 mph) to 54 kt (62 mph) (median 51 kt (59 mph)); 4 with a recorded value	54 kt (62 mph) measured gust, High Wind, 2019-11-26; NWS zone MOZ044 (JOHNSON), zone-level: may include parts of neighboring counties	High Wind, 1999-05-10, \$20,000 property; crops not reported, reported for the zone (1999 dollars)	Zone-level records: applies countywide; national data do not locate these events within the county.	
Thunderstorm Wind	wind speed (kt and mph)	241, 1955 to 2025	50 kt (58 mph) to 90 kt (104 mph) (median 53 kt (61 mph)); 209 with a recorded value	90 kt (104 mph) measured gust, Thunderstorm Wind, 2003-05-08	Thunderstorm Wind, 1998-11-09, \$60,000 property; \$0 crops (1998 dollars)	Event records naming member places: Warrensburg city (54 records), Holden city (23 records), Centerview city (21 records), Knob Noster city (14 records), Leeton city (13 records), Chilhowee town (5 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)	34, 1960 to 2017	F/EF0 to F/EF2 (median F/EF1); 34 with a recorded value	F2 tornado, 2006-03-12, 12 mi within this county, 200 yd wide, \$2,000,000 property; crops not reported (2006 dollars), 4 direct injuries		Event records naming member places: Holden city (4 records), Warrensburg city (4 records), Centerview city (2 records), Leeton city (2 records), Chilhowee town (1 record), Knob Noster 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)	40, 2000 to 2026 (40 zone-level)		No damage reported in 40 records.		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 rows21

Counted incidents17

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
2020-03-26	2020-01-20	DR-4490-MO	Major disaster	COVID-19 PANDEMIC	Non-natural, not counted	none placed in this county by FEMA's record; \$369,154.74 for this declaration is not placed in any county (see the list below)		
2020-03-13	2020-01-20	EM-3482-MO	Emergency	COVID-19	Non-natural, not counted	none found		same incident as DR-4490
2015-08-07	2015-05-15	DR-4238-MO	Major disaster	SEVERE STORMS, TORNADOES, STRAIGHT-LINE WINDS, AND FLOODING	Inland Flooding; Strong Wind; Tornado	\$372,165.84		
2011-03-23	2011-01-31	DR-1961-MO	Major disaster	SEVERE WINTER STORM AND SNOWSTORM	Winter Weather	\$311,905.80		
2011-02-03	2011-01-31	EM-3317-MO	Emergency	SEVERE WINTER STORM	Winter Weather	none found		same incident as DR-1961
2009-01-30	2009-01-26	EM-3303-MO	Emergency	SEVERE WINTER STORM	Ice Storm	none found		
2008-06-25	2008-06-01	DR-1773-MO	Major disaster	SEVERE STORMS AND FLOODING	Inland Flooding	none placed in this county by FEMA's record; \$587,766 for this declaration is not placed in any county (see the list below)		
2007-12-12	2007-12-08	EM-3281-MO	Emergency	SEVERE WINTER STORMS	Ice Storm	none found		
2006-03-16	2006-03-08	DR-1631-MO	Major disaster	SEVERE STORMS, TORNADOES AND FLOODING	Inland Flooding; Tornado	PA not declared for this county		
2005-09-10	2005-08-29	EM-3232-MO	Emergency	HURRICANE KATRINA EVACUATION	Hurricane: evacuation support, not a local hazard event; not counted	none found		

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance <i>federal share obligated, nominal dollars</i>	Flags	Notes
2004-06-11	2004-05-18	DR-1524-MO	Major disaster	SEVERE STORMS, TORNADOES, AND FLOODING	Inland Flooding; Tornado	PA not declared for this county		
2003-05-06	2003-05-04	DR-1463-MO	Major disaster	SEVERE STORMS, TORNADOES, AND FLOODING	Inland Flooding; Tornado	none found		
2002-05-06	2002-04-24	DR-1412-MO	Major disaster	SEVERE STORMS, TORNADOES AND FLOODING	Inland Flooding; Tornado	\$87,311.64		
2002-02-06	2002-01-29	DR-1403-MO	Major disaster	SEVERE WINTER ICE STORM	Ice Storm	\$956,195.21		
1995-06-02	1995-05-13	DR-1054-MO	Major disaster	SEVERE STORMS, TORNADOES, HAIL, FLOODING	Hail; Inland Flooding; Tornado	none found		
1993-07-09	1993-06-10	DR-995-MO	Major disaster	SEVERE STORMS & FLOODING	Inland Flooding	none found		
1990-05-24	1990-05-15	DR-867-MO	Major disaster	SEVERE STORMS & FLOODING	Inland Flooding	none found		
1986-10-14	1986-09-18	DR-779-MO	Major disaster	SEVERE STORMS & FLOODING	Inland Flooding	none found		
1976-09-24	1976-09-24	EM-3017-MO	Emergency	DROUGHT	Drought	none found		
1973-04-19	1973-04-19	DR-372-MO	Major disaster	HEAVY RAINS, TORNADOES & FLOODING	Inland Flooding; Tornado	none found		
1965-07-27	1965-07-27	DR-203-MO	Major disaster	SEVERE STORMS & FLOODING	Inland Flooding	none found		

School districts and special districts in this county: \$3,343.20 (included in the county total above). Public Assistance matched by applicant name to the school districts and special districts FEMA lists as plan members in this county. They are not shown as member blocks, so their total is listed here. These dollars are already included in the county PA column of the declarations table (the FEMA record places each applicant in this county); do not add this line to the county total.

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
1964-07-08	1964-07-08	DR-173-MO	Major disaster	SEVERE STORMS & FLOODING	Inland Flooding		
1961-05-27	1961-05-27	DR-114-MO	Major disaster	FLOODS	Inland Flooding		
1960-04-20	1960-04-20	DR-100-MO	Major disaster	FLOODS	Inland Flooding		
1957-05-22	1957-05-22	DR-75-MO	Major disaster	TORNADOES & FLOODS	Tornado (primary); also designated: Inland Flooding		

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: 24 rows, \$2,272,582.85

Disaster number	Declared	Applicant	County field in FEMA data	PA obligated <i>federal share obligated, nominal dollars</i>	Why not placed
4490	2020-03-26	Presbyterian Manors, Inc. (MO)	Sedgwick County	\$369,154.74	county field is a county of another state and the applicant name does not identify a place in the declaring state
4435	2019-05-20	Northwest Atchison Levee District	Fremont County	\$93,849.88	county field is a county of another state and the applicant name does not identify a place in the declaring state
4435	2019-05-20	Missouri Valley Drainage District	Fremont County	\$416,259.32	county field is a county of another state and the applicant name does not identify a place in the declaring state
4435	2019-05-20	Lewis Drainage District	Fremont County	\$111,060.76	county field is a county of another state and the applicant name does not identify a place in the declaring state
4435	2019-05-20	Hamburg Pumping Facility	Fremont County	\$0	county field is a county of another state and the applicant name does not identify a place in the declaring state
4435	2019-05-20	Buchanan Levee and Drainage District	Fremont County	\$37,254.37	county field is a county of another state and the applicant name does not identify a place in the declaring state
4012	2011-08-12	Northwest Atchison Levee District	Fremont County	\$51,527.94	county field is a county of another state and the applicant name does not identify a place in the declaring state
4012	2011-08-12	Lewis Drainage District	Fremont County	\$88,490.09	county field is a county of another state and the applicant name does not identify a place in the declaring state
4012	2011-08-12	Hamburg Pumping Facility	Fremont County	\$21,000.75	county field is a county of another state and the applicant name does not identify a place in the declaring state
4012	2011-08-12	Buchanan Levee and Drainage District	Fremont County	\$81,338.68	county field is a county of another state and the applicant name does not identify a place in the declaring state
1934	2010-08-17	Missouri Valley Drainage District	Fremont County	\$39,820.05	county field is a county of another state and the applicant name does not identify a place in the declaring state
1934	2010-08-17	Lewis Drainage District	Fremont County	\$45,161.25	county field is a county of another state and the applicant name does not identify a place in the declaring state
1934	2010-08-17	Hamburg Pumping Facility	Fremont County	\$89,457.75	county field is a county of another state and the applicant name does not identify a place in the declaring state

Disaster number	Declared	Applicant	County field in FEMA data	PA obligated	Why not placed
				<i>federal share obligated, nominal dollars</i>	
1934	2010-08-17	BUCHANAN LEVEE DISTRICT	Fremont County	\$79,455.75	county field is a county of another state and the applicant name does not identify a place in the declaring state
1773	2008-06-25	Northwest Atchison Levee District	Fremont County	\$3,124.50	county field is a county of another state and the applicant name does not identify a place in the declaring state
1773	2008-06-25	Missouri Valley Drainage District	Fremont County	\$8,796	county field is a county of another state and the applicant name does not identify a place in the declaring state
1773	2008-06-25	Lewis Drainage District	Fremont County	\$190,008	county field is a county of another state and the applicant name does not identify a place in the declaring state
1773	2008-06-25	Hamburg Pumping Facility	Fremont County	\$259,200	county field is a county of another state and the applicant name does not identify a place in the declaring state
1773	2008-06-25	BUCHANAN LEVEE DISTRICT	Fremont County	\$126,637.50	county field is a county of another state and the applicant name does not identify a place in the declaring state
1708	2007-06-11	Northwest Atchison Levee District	Fremont County	\$11,315.35	county field is a county of another state and the applicant name does not identify a place in the declaring state
1708	2007-06-11	Missouri Valley Drainage District	Fremont County	\$8,932.31	county field is a county of another state and the applicant name does not identify a place in the declaring state
1708	2007-06-11	Lewis Drainage District	Fremont County	\$35,385.85	county field is a county of another state and the applicant name does not identify a place in the declaring state
1708	2007-06-11	Hamburg Pumping Facility	Fremont County	\$76,935.18	county field is a county of another state and the applicant name does not identify a place in the declaring state
1708	2007-06-11	BUCHANAN LEVEE DISTRICT	Fremont County	\$28,416.83	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 records	During plan review records	Last 5 years records	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
Cold Wave	10	1	1	2	0	0	1996 to 2026-06-30	Includes 1 Frost/Freeze record, event types the NRI definition of this hazard leaves out.
Drought	28	8	7	16	1	0	1996 to 2026-06-30	
Earthquake	0	0	0	0	0	0		No Storm Events record; local data required (e.g., USGS).
Hail	292	9	12	23	1	0	1955 to 2026-06-30	

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
Heat Wave	16	1	0	1	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	9	0	0	0	3	0	1996 to 2026-06-30	
Inland Flooding	141	0	0	0	12	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	3	2	0	2	0	0	1996 to 2026-06-30	
Strong Wind	245	30	1	33	1	0	1955 to 2026-06-30	Includes 4 High Wind records, event types the NRI definition of this hazard leaves out.
Tornado	34	0	0	0	7	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	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Winter Weather	40	2	0	5	1	0	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
2024-06-28	Lightning		\$0 property; \$0 crops (2024 dollars)	1, 1	HOLDEN	new since last plan; within last 5 years	deaths or injuries recorded
2024-06-28	Lightning		damage not reported	1, 0	HOLDEN	new since last plan; within last 5 years	deaths or injuries recorded

Date	Event type	Magnitude or extent	Damage <i>nominal dollars</i>	Direct deaths, injuries <i>indirect not counted</i>	Location	Flags	Why listed
2019-11-26	High Wind	54 kt (62 mph) measured gust	\$0 property; \$0 crops, reported for the zone (2019 dollars)	0, 0	NWS zone MOZ044 (JOHNSON), zone-level: may include parts of neighboring counties		B1-c worst recorded: High Wind and Strong Wind (outside NRI Strong Wind definition)
2012-07-01	Drought		\$0 property; \$0 crops, reported for the zone (2012 dollars)	0, 0	NWS zone MOZ044 (JOHNSON), zone-level: may include parts of neighboring counties		B1-c worst recorded: Drought
2006-03-30	Hail	1.75 in	\$50,000 property; crops not reported (2006 dollars)	0, 0	CHILHOWEE		B1-c most damaging: Hail
2006-03-12	Tornado	F2, 12 mi within this county, 200 yd wide	\$2,000,000 property; crops not reported (2006 dollars)	0, 4	LEETON		B1-c worst recorded: Tornado
2004-08-17	Hail	3 in	\$5,000 property; crops not reported (2004 dollars)	0, 0	WARRENSBURG		B1-c worst recorded: Hail
2003-05-08	Thunderstorm Wind	90 kt (104 mph) measured gust	damage not reported	0, 0	(SZL)WHITEMAN AFB		B1-c worst recorded: Thunderstorm Wind
2002-01-30	Ice Storm		\$200,000 property; crops not reported, reported for the zone (2002 dollars)	0, 0	NWS zone MOZ044 (JOHNSON), zone-level: may include parts of neighboring counties		B1-c worst recorded: Ice Storm
2000-12-10	Extreme Cold/ Wind Chill		damage not reported	0, 0	NWS zone MOZ044 (JOHNSON), zone-level: may include parts of neighboring counties		B1-c worst recorded: Cold/Wind Chill, Extreme Cold/Wind Chill
1999-07-18	Heat		damage not reported	0, 0	NWS zone MOZ044 (JOHNSON), zone-level: may include parts of neighboring counties		B1-c worst recorded: Excessive Heat, Heat
1964-04-12	Tornado	F2, 10.7 mi path length (records before 1996 may include the whole path; rating and listing come from the county where the tornado began), 100 yd wide	\$250,000 property; crops not recorded (1964 dollars)	1, 3	location not recorded		deaths or injuries recorded

The full list is in the **XLSX** file, sheet "**B1-d Storm Events history**" (818 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.

FEMA's declaration data list no tribal or special-area declarations for this state.

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	2.21	event-days per year	about 2.21 days per year	Likely	event-days in 6 of 30 years, 1996 to 2025 (20%)	42	2005-11-12 to 2024-11-12 (19 years)	countywide	NRI gives about 2.21 cold 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 6 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. Frost/Freeze records are not counted in this descriptor: they record crop freezes, not cold waves.
Drought	11.1	event-days per year	about 11.1 days per year	Likely	event-days in 8 of 30 years, 1996 to 2025 (26.7%)	413	2000 to 2025 (25.25 years; D3 and D4 only)	countywide	NRI gives about 11.1 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 8 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	0.00147	annual probability at a location	chance a given location in the county has at least minor-damage shaking in a year: 0.147%			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	6.68	events per year	about 6.68 per year	Highly likely	FEMA annualized frequency (modeled)	254.0 (modeled)	1986 to 2023 (38 years)	countywide	
Heat Wave	13.6	event-days per year	about 13.6 days per year	Likely	event-days in 9 of 30 years, 1996 to 2025 (30%)	163	2005-11-12 to 2024-11-12 (19 years)	countywide	NRI gives about 13.6 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 9 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.

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
Hurricane	0.01	events per year	about 1 in 100 years	Possible	FEMA annualized frequency (modeled)	0	1851 to 2024 (Atlantic)	see B1-f	NRI counts hurricane and tropical storm tracks passing within storm-force wind range; federal declarations are counted separately in B1-d and need not match.
Ice Storm	0.754	event-days per year	about 0.754 days per year	Likely	event-days in 9 of 30 years, 1996 to 2025 (30%)	51	1946-12-31 to 2014-02-12 (67 years)	countywide	
Inland Flooding	4.18	event-days per year	about 4.18 days per year	Likely	event-days in 21 of 30 years, 1996 to 2025 (70%)	117	1996 to 2023 (28 years)	see B1-f	
Landslide	0.199	events per year (modeled)	about 1 in 5 years	Likely	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	
Lightning	50	days per year with a strike	about 50 days per year	Highly likely	FEMA annualized frequency (modeled)	not shown	1995 to 2023 (29 years; CONUS)	countywide	
Strong Wind	4.78	events per year	about 4.78 per year	Highly likely	FEMA annualized frequency (modeled)	182	1986 to 2023 (38 years)	countywide	
Tornado	0.446	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	0.000399	annual probability at a location	chance a given location in the county burns in a year: 0.0399%		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)
Winter Weather	10.5	event-days per year	about 10.5 days per year	Likely	event-days in 20 of 30 years, 1996 to 2025 (66.7%)	200	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	159	30	5.3
Hail	2.00 in+	1996 to 2025	11	30	0.367
Strong Wind (Thunderstorm Wind records)	50-64 kt	1996 to 2025	168	30	5.6
Strong Wind (Thunderstorm Wind records)	65 kt+	1996 to 2025	20	30	0.667
Strong Wind (Thunderstorm Wind records)	unmeasured or below 50 kt	1996 to 2025	5	30	0.167

Hazard	Band	Years	Events <i>county-coded records</i>	Years in period	Events per year <i>events / years</i>
Tornado	EF0-1	1996 to 2025	19	30	0.633
Tornado	EF2-3	1996 to 2025	2	30	0.0667
Tornado	EF4-5	1996 to 2025	0	30	0
Tornado	unrated (EFU)	1996 to 2025	0	30	0

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 14				Not Applicable 14	
Coastal Flooding	0 of 14				Not Applicable 14	
Cold Wave	14 of 14	80.6	91.5	96.4	Very High 2, Relatively High 12	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.
Drought	12 of 14	69.0	91.1	96.4	Relatively Moderate 4, Relatively Low 4, Very Low 4, No Rating 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 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	14 of 14	18.3	44.7	60.4	Relatively Low 9, Very Low 5	
Hail	14 of 14	66.6	82.2	88.3	Relatively Moderate 12, Relatively Low 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.
Heat Wave	14 of 14	72.7	86.9	92.6	Relatively High 9, Relatively Moderate 5	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	14 of 14	22.3	29.1	38.2	Very Low 14	
Ice Storm	14 of 14	69.3	88.5	93.9	Relatively High 4, Relatively Moderate 10	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	14 of 14	8.0	64.8	89.3	Relatively High 5, Relatively Moderate 4, Relatively Low 4, Very Low 1	
Landslide	14 of 14	22.8	73.1	91.8	Relatively Low 6, Very Low 8	

Hazard	Tracts <i>rated of all</i>	Risk score min <i>NRI score, 0 to 100</i>	Median	Max	Tracts by rating	Note
Lightning	14 of 14	47.8	68.6	82.3	Relatively High 3, Relatively Moderate 10, Relatively Low 1	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	14 of 14	49.6	72.1	83.9	Relatively High 1, Relatively Moderate 10, Relatively Low 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.
Tornado	14 of 14	48.2	67.0	79.8	Relatively High 2, Relatively Moderate 9, Relatively Low 3	
Tsunami	0 of 14				Not Applicable 14	
Volcanic Activity	0 of 14				Not Applicable 14	
Wildfire	14 of 14	20.3	59.0	78.1	Relatively Low 6, Very Low 8	
Winter Weather	14 of 14	67.6	87.0	93.2	Relatively High 11, Relatively Moderate 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.

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
Johnson County (unincorporated area)	Unincorporated	Approved, expires 2028-07-19	FMA RL 0, SRL 0; any 1	\$1,344,671.57	0; 0	
Centerview city	City	Approved, expires 2028-07-19	FMA RL 0, SRL 0; any 0	\$4,308.38	41; 10	
Chilhowee town	Town	Approved, expires 2028-07-19	FMA RL 0, SRL 0; any 0	\$2,925	19; 0	
Holden city	City	Approved, expires 2028-07-19	FMA RL 0, SRL 0; any 0	\$52,575.02	60; 5	
Knob Noster city	City	Approved, expires 2028-07-19	FMA RL 0, SRL 0; any 1	\$11,692.91	36; 1	
Leeton city	City	Approved, expires 2028-07-19	FMA RL 0, SRL 0; any 1	\$30,006.72	29; 3	
Warrensburg city	City	Approved, expires 2028-07-19	FMA RL 0, SRL 0; any 1	\$171,123.31	139; 6	

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 2023-07-20 <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	\$12,966,803,729	\$180,167,796	53,973	\$235	\$376,854	\$4,841,504	under 0.0001%				
Drought		\$56,573,921			\$428,965		0.758% (agriculture)				NRI has no building exposure for this hazard; agriculture shown
Earthquake	\$22,646,406,573		54,013	\$290,159		\$67,766	0.00128%				
Hail	\$12,966,803,729	\$180,167,796	53,973	\$631,063	\$977	\$36,592	0.00487%				
Heat Wave	\$12,966,803,729	\$180,167,796	53,973	\$413	\$7	\$2,134,026	under 0.0001%				
Hurricane	\$12,966,803,729	\$180,167,796	53,973	\$5,615	\$4,198	\$8	under 0.0001%				
Ice Storm	\$12,966,020,836		53,971	\$152,749		\$265,621	0.00118%				
Inland Flooding	\$12,964,599,122	\$17,520,436	609	\$9,513,267	\$800,891	\$1,617,470	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. EAL as % of exposure: n/a.
Landslide	\$101,793,434		498	\$319		\$3,352	0.000313%				

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 2023-07-20 <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
Lightning	\$12,966,803,729		53,973	\$12,279		\$286,330	under 0.0001%	\$0			
Strong Wind	\$12,966,803,729	\$180,167,796	53,973	\$39,618	\$4,588	\$504,837	0.000306%				
Tornado	\$12,966,803,729	\$180,167,796	53,973	\$1,485,046	\$5,117	\$608,128	0.0115%				
Tsunami											Not Applicable in NRI for this county
Volcanic Activity											Not Applicable in NRI for this county
Wildfire	\$1,888,452,798	\$35,100,336	10,822	\$13,400	\$99	\$4,036	0.00071%				
Winter Weather	\$12,966,803,729	\$180,167,796	53,973	\$183,304	\$183	\$7,404	0.00141%				

Totals since 2023-07-20 (Storm Events through 2026-06-30): 41 county-coded records, 1 with a damage value recorded (including \$0), \$0; 12 zone-level records, 0 with a damage value recorded (including \$0), \$0 reported for the zone; Public Assistance on counted declarations none found (0 declarations, 0 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	53,973
Building value (total, not at risk)	\$12,966,803,729
Agriculture value (total, not at risk)	\$180,167,796
NRI risk rating (all hazards)	Relatively Low
Expected annual loss, buildings and agriculture, all hazards	\$13,949,345
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)	\$10,377,073

Measure	Value
Social vulnerability rating	Very Low
Community resilience rating	Relatively Moderate
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	4	Severe repetitive loss, NFIP insurance definition	0

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 and state-level rows

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	4	0	4	0	1
WARRENSBURG, CITY OF	0	0	1	0	1	0	1
LEETON, CITY OF	0	0	1	0	1	0	0
KNOB NOSTER, CITY OF	0	0	1	0	1	0	0
JOHNSON COUNTY *	0	0	1	0	1	0	0
State level, not in this county: county not reported	0	0	3	0	3	0	0

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 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
Johnson County (unincorporated area)	290809	0	0	1	0	1	0	0	
Centerview city	290626	0	0	0	0	0	0	0	
Chilhowee town	290627	0	0	0	0	0	0	0	

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
Holden city	290714	0	0	0	0	0	0	0	
Knob Noster city	290724	0	0	1	0	1	0	0	
Leeton city	290562	0	0	1	0	1	0	0	
Warrensburg city	290194	0	0	1	0	1	0	1	

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.

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)

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	4	0	4	0	1
2 to 4 unit residential	0	0	0	0	0	0	0
other residential	0	0	0	0	0	0	0
non-residential	0	0	0	0	0	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 fmaRl field description omits the Increased Cost of Compliance clause of 44 CFR 77.2(i). NFIP repetitive loss (FEMA insurance definition, nfipRl) 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 4 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_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

OpenFEMA disclaimer

This product uses the Federal Emergency Management Agency's OpenFEMA API, but is not endorsed by FEMA. The Federal Government or FEMA cannot vouch for the data or analyses derived from these data after the data have been retrieved from the Agency's website(s).

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.

Reuse, citation and corrections

Reuse and citation: Hazard Plain text and tables are licensed under Creative Commons Attribution 4.0 International (CC BY 4.0, <https://creativecommons.org/licenses/by/4.0/>); credit Hazard Plain and the release. The underlying federal data are public domain; OpenFEMA data are also subject to the OpenFEMA terms and conditions.

Cite this: Hazard Plain (2026). Johnson County, MO: risk-assessment baseline packet, release 2026-10 (data as of 2026-09-28; County area 29101). Preview: automated baseline. 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: 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_MO_29101. Preview: automated baseline.