

Clackamas County, OR

Risk-assessment baseline packet

County FIPS: 41005 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 2029-09-11. Plan: Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732), approved 2024-09-12.

Since the plan was approved on 2024-09-12: 1 new hazard declaration (1 incident): DR-4907-OR (Severe Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides).

NOAA Storm Events records since that date: 18 records (data through 2026-06-30).

Highest expected annual loss (FEMA National Risk Index, modeled total; see B1-a): Earthquake (\$108,503,784 a year), Inland Flooding (\$76,621,954) and Cold Wave (\$14,975,866).

Repetitive-loss flood properties now: FMA RL 9, SRL 9 (44 CFR 77.2); any definition: 61.

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; 41005 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.

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Plan clock

Status:	Approved, expires 2029-09-11	Plan:	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)
Approved:	2024-09-12	Days to expiry:	1,077
What changed since your last plan (approved 2024-09-12)			
New federal declarations:	1 new hazard declaration (1 incident): DR-4907-OR (Severe Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides)	Storm Events records since approval:	18 records (data through 2026-06-30)
Repetitive loss now:	FMA RL 9, SRL 9 (44 CFR 77.2); any definition: 61	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: 17 rows, in the section "Plan clock: Plan status for every jurisdiction listed in this county" on the following pages.

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

Plan clock

Plan status for every jurisdiction listed in this county

Source: 1

						Days to expiry negative = days since expiry
Jurisdiction	Type	Status	Plan	Approved	Expires	
Clackamas County	County	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Canby city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Estacada city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Gladstone city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Happy Valley city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Lake Oswego city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Milwaukie city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Molalla city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Oregon City city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Portland city	City	Approved, expires 2027-12-11	City of Portland 2021 Natural Hazard Mitigation Plan (FEMA plan 108245)	2022-12-12	2027-12-11	437
Sandy city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
West Linn city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Wilsonville city	City	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Clackamas Fire District #1	Fire/EMS District	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Clackamas River Water	Water/Sewer Authority	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Colton Water District	Water/Sewer Authority	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077
Oak Lodge Water Services	Water/Sewer Authority	Approved, expires 2029-09-11	Clackamas County Multi-Jurisdictional Hazard Mitigation Plan (FEMA plan 109732)	2024-09-12	2029-09-11	1,077

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	Earthquake	Relatively High	Relatively High	\$71,471,197	n/a	\$37,032,586	\$108,503,784			Storm Events does not record earthquakes.
2	Inland Flooding	Relatively High	Relatively High	\$75,871,870	\$50,766	\$699,318	\$76,621,954	58		
3	Cold Wave	Relatively High	Relatively High	\$364	\$18,435	\$14,957,067	\$14,975,866	11		Includes 4 Frost/Freeze records (outside NRI's Cold Wave definition; counted in this table and in B1-d, not in the B1-e descriptor).
4	Heat Wave	Relatively Moderate	Relatively Moderate	\$2,869	\$96,687	\$8,380,841	\$8,480,397	34		
5	Strong Wind	Relatively High	Relatively High	\$3,146,227	\$163	\$147,275	\$3,293,665	118		Includes 59 High Wind and 45 Strong Wind records (NOAA non-thunderstorm wind types, outside NRI's Strong Wind definition).
6	Avalanche	Relatively High	Relatively Moderate	\$22	n/a	\$1,507,000	\$1,507,022	1		
7	Ice Storm	Relatively High	Relatively High	\$319,057	n/a	\$990,804	\$1,309,861	13		
8	Lightning	Relatively High	Relatively High	\$40,922	n/a	\$1,049,853	\$1,090,775	8		
9	Wildfire	Relatively Low	Relatively Moderate	\$1,042,611	\$24	\$41,394	\$1,084,028	25		
10	Tornado	Relatively Low	Relatively Low	\$476,251	\$793	\$528,851	\$1,005,895	6		
11	Volcanic Activity	Relatively Moderate	Relatively Moderate	\$195,176	n/a	\$299,713	\$494,889	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
12	Winter Weather	Relatively High	Relatively High	\$43,039	\$4,027	\$320,511	\$367,577	320		Includes 1 Sleet record (outside NRI's Winter Weather definition).
13	Landslide	Relatively Moderate	Relatively Moderate	\$9,366	n/a	\$200,505	\$209,871	13		
14	Hail	Very Low	Relatively Low	\$136,266	\$7,445	\$21,471	\$165,182	15		

Rank by EAL	Hazard	NRI risk rating	EAL rating	EAL buildings modeled dollars per year	EAL agriculture modeled dollars per year	Cost of expected deaths and injuries FEMA's dollar value per year, not property damage	EAL total (see note) modeled dollars per year	Storm Events records, 1996 to 2026-06-30 count	Why this hazard can be left out NRI Not Applicable, no declaration and no Storm Events record since 1996	Storm Events coverage note
15	Drought	Very Low	Very Low	n/a	\$378	n/a	\$378	0		No recorded events in Storm Events since 1996 (data through 2026-06-30).
16	Coastal Flooding	Very Low	Very Low	\$187	n/a	\$14	\$200	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-3228-OR 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 volcanic activity records (Storm Events records this hazard only in part).

Not applicable to this county per NRI, with no federal declaration and no Storm Events record since 1996: tsunamis. 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.

Coastal Flooding and 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.

Hazards that vary within the county: highest-rated census tracts

Source: 5

Hazard	Highest-rated census tracts <i>NRI risk rating, score 0 to 100</i>
Avalanche	tract 234.01 (Relatively Moderate, 86.3); tract 223.01 (Relatively Moderate, 86.1); tract 241 (Relatively Moderate, 86.0)
Earthquake	tract 215 (Very High, 99.6); tract 221.08 (Very High, 99.6); tract 208 (Very High, 99.4)
Hurricane	no tract has a National Risk Index rating for this hazard
Landslide	tract 243.04 (Relatively High, 99.3); tract 240 (Relatively High, 99.3); tract 243.02 (Relatively Moderate, 99.1)
Tornado	tract 227.02 (Relatively Low, 33.9); tract 238 (Relatively Low, 32.0); tract 215 (Relatively Low, 31.7)
Volcanic Activity	tract 243.03 (Relatively High, 99.4); tract 243.04 (Relatively High, 99.4); tract 243.02 (Relatively Moderate, 98.8)
Wildfire	tract 243.04 (Relatively High, 98.4); tract 243.02 (Relatively Moderate, 95.4); tract 243.03 (Relatively Moderate, 94.7)

Up to 3 census tracts per hazard, highest National Risk Index rating first, then highest score; a tract number is the Census tract number (for example 234.01 is Census Tract 234.01). 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)	1 record, 2008 (1 zone-level)		No damage reported in 1 record.		Countywide (zone-level records).	Physical measure: in event narratives only (local data needed).
Coastal Flood, Storm Surge/ Tide	none in data (flood depth: FIRM)	0					Flood depth: see the FEMA Flood Insurance Rate Map.
Cold/Wind Chill, Extreme Cold/Wind Chill	wind chill	7 records, 1998 to 2025 (7 zone-level)	1 day to 11 days (median 2 days); 7 with a recorded value	11 consecutive days, 2017-01-01 to 2017-01-11, 4 direct deaths, zone-level		Countywide (zone-level records).	Wind chill: 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
Frost/Freeze (outside NRI's Cold Wave definition)	crop damage	4 records, 2014 to 2024 (4 zone-level)		No crop damage reported in 4 records.		Countywide (zone-level records).	Temperature: in event narratives only (local data needed).
Drought	U.S. Drought Monitor scale (D0 to D4)	0					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)	15 records, 1996 to 2025 (1 zone-level)	0.25 in to 1.75 in (median 0.88 in); 14 with a recorded value	1.75 in hail, 1999-08-04	Hail, 2022-04-14, \$50,000 property; \$0 crops (2022 dollars)	Event records naming jurisdictions in the plan: Sandy city (3 records), Oregon City city (2 records), Molalla city (1 record). Zone-level records (1) apply countywide.	
Excessive Heat, Heat	heat index (in event narratives)	34 records, 1998 to 2026 (34 zone-level)	1 day to 9 days (median 3 days); 28 with a recorded value	9 consecutive days, 2024-07-05 to 2024-07-13, 10 direct deaths, zone-level	Excessive Heat, 2021-06-26, \$50,000 property; \$50,000 crops, reported for the zone (2021 dollars)	Countywide (zone-level records).	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)	13 records, 1996 to 2024 (13 zone-level)		Ice Storm, 2021-02-11, \$10,000,000 property; \$0 crops (2021 dollars); NWS zone ORZ007		Countywide (zone-level records).	Ice thickness: in event narratives only (local data needed).
Flash Flood, Flood, Lakeshore Flood	damage and flood days (flood depth: FIRM)	58 records, 1996 to 2025 (19 zone-level)		Flood, 2011-01-16, \$9,000,000 property; \$0 crops (2011 dollars)		Event records naming jurisdictions in the plan: Estacada city (13 records), Canby city (5 records), Oregon City city (5 records), West Linn city (1 record). Zone-level records (19) 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.

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Debris Flow	none (count and damage only)	13 records, 1996 to 2022 (10 zone-level)		Debris Flow, 2009-01-02, \$500,000 property; \$0 crops (2009 dollars); NWS zone ORZ010		Event records naming jurisdictions in the plan: Oregon City city (1 record). Zone-level records (10) apply countywide.	Physical measure: in event narratives only (local data needed).
Lightning	annualized frequency (the measure FEMA's Local Mitigation Planning Handbook names)	8 records, 1998 to 2026		Lightning, 1998-08-20, \$75,000 property; crops not reported (1998 dollars)		Event records naming jurisdictions in the plan: Molalla city (3 records), West Linn city (1 record), Wilsonville city (1 record).	Storm Events lists lightning with damage or casualties; physical measure in event narratives only (local data needed).
High Wind and Strong Wind (outside NRI's Strong Wind definition)	wind speed (kt and mph)	104 records, 1996 to 2025 (104 zone-level)	25 kt (29 mph) to 104 kt (120 mph) (median 50 kt (58 mph)); 102 with a recorded value	104 kt (120 mph), measurement type not recorded, High Wind, 1999-02-05; Storm Events area SE MULTNOMAH/C & S HOOD RIVER/E CLAKAMAS/E MARION/E LINN/E LANE (legacy zone code ORZ011)	High Wind, 2020-09-07, \$2,000,000,000 property; \$0 crops, reported for the zone (2020 dollars)	Countywide (zone-level records).	
Thunderstorm Wind	wind speed (kt and mph)	14 records, 1996 to 2025	50 kt (58 mph) to 70 kt (81 mph) (median 52 kt (60 mph)); 13 with a recorded value	70 kt (81 mph) estimated sustained, Thunderstorm Wind, 2005-06-19	Thunderstorm Wind, 2019-06-26, \$15,000 property; \$0 crops (2019 dollars)	Event records naming jurisdictions in the plan: Molalla city (3 records), Estacada city (1 record), Lake Oswego city (1 record), Milwaukie city (1 record), Oregon City city (1 record), West Linn city (1 record).	
Tornado	Enhanced Fujita (Fujita before Feb 2007)	8 records, 1957 to 2022	F/EF0 to F/EF1 (median F/EF0); 8 with a recorded value	F1 tornado, 2000-10-09, 0.1 mi within this county, 75 yd wide, \$50,000 property; crops not reported (2000 dollars)	Tornado, 2022-10-22, \$50,000 property; \$0 crops (2022 dollars)	Event records naming jurisdictions in the plan: Canby city (1 record), Molalla city (1 record), Oregon City city (1 record).	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).

Hazard	Scale	Records <i>count and years</i>	Observed range	Worst recorded event	Most damaging (when different)	How it applies to jurisdictions	Note
Wildfire	acres burned (local data)	25 records, 2008 to 2023 (25 zone-level)		Wildfire, 2022-09-09, \$500,000 property; \$0 crops (2022 dollars); NWS zone ORZ006		Countywide (zone-level records).	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)	320 records, 1996 to 2026 (320 zone- level)		Winter Storm, 2008-12-20, \$9,000,000 property; \$11,600,000 crops (2008 dollars); NWS zone ORZ006		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: 23 declarations covering 16 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	2025-12-15	DR-4907-OR	Major disaster	Severe Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	Inland Flooding; Landslide; Strong Wind; Winter Weather	\$225,978.30	new since last plan; within last 5 years	
2024-04-13	2024-01-10	DR-4768-OR	Major disaster	Severe Winter Storms, Straight-Line Winds, Landslides, and Mudslides	Landslide; Strong Wind; Winter Weather	\$1,769,538.01	in the 12 months before plan approval; within last 5 years	
2022-09-10	2022-09-10	FM-5454-OR	Fire management	Milo McIver Fire	Wildfire	no Public Assistance recorded	within last 5 years	
2021-05-04	2021-02-11	DR-4599-OR	Major disaster	Severe Winter Storm	Winter Weather	\$8,188,011.72		
2020-09-15	2020-09-07	DR-4562-OR	Major disaster	Wildfires and Straight-Line Winds	Wildfire	\$2,163,406.63		
2020-09-10	2020-09-08	FM-5370-OR	Fire management	Clakamas County Fire Complex	Wildfire	no Public Assistance recorded		same incident as DR-4562
2020-09-10	2020-09-08	EM-3542-OR	Emergency	Wildfires	Wildfire	no Public Assistance recorded		same incident as DR-4562
2020-09-09	2020-09-08	FM-5366-OR	Fire management	Riverside Fire	Wildfire	no Public Assistance recorded		same incident as DR-4562
2020-09-08	2020-09-07	FM-5356-OR	Fire management	Beachie Creek Lionshead Fire Complex	Wildfire	no Public Assistance recorded		same incident as DR-4562
2020-03-28	2020-01-20	DR-4499-OR	Major disaster	COVID-19 Pandemic	Non-natural, not counted	\$19,903,853.82		

Declared	Incident began	FEMA number	Type	Title	Mapped hazard	County Public Assistance	Flags	Notes
						<i>federal share obligated, nominal dollars</i>		
2020-03-13	2020-01-20	EM-3429-OR	Emergency	COVID-19	Non-natural, not counted	no Public Assistance recorded		same incident as DR-4499
2016-02-17	2015-12-06	DR-4258-OR	Major disaster	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	Inland Flooding; Landslide; Strong Wind; Winter Weather	\$2,206,810.61		
2014-09-16	2014-09-15	FM-5080-OR	Fire management	36 Pit Fire	Wildfire	no Public Assistance recorded		
2011-02-17	2011-01-13	DR-1956-OR	Major disaster	Severe Winter Storm, Flooding, Mudslides, Landslides, and Debris Flows	Inland Flooding; Landslide; Winter Weather	\$1,752,801.54		
2009-03-02	2008-12-13	DR-1824-OR	Major disaster	Severe Winter Storm, Record and Near Record Snow	Winter Weather	\$852,515.85		
2006-03-20	2005-12-18	DR-1632-OR	Major disaster	Severe Storms, Flooding, Landslides, and Mudslides	Inland Flooding; Landslide	\$427,792.01		
2005-09-07	2005-08-29	EM-3228-OR	Emergency	Hurricane Katrina Evacuation	Hurricane: evacuation support, not a local hazard event; not counted	no Public Assistance recorded		
2004-02-19	2003-12-26	DR-1510-OR	Major disaster	Severe Winter Storms	Winter Weather	\$290,892.43		
1996-02-09	1996-02-04	DR-1099-OR	Major disaster	High Winds, Severe Storms and Flooding	Inland Flooding (primary); also designated: Strong Wind	no Public Assistance recorded		
1993-04-26	1993-03-25	DR-985-OR	Major disaster	Earthquake	Earthquake	no Public Assistance recorded		
1974-01-25	1974-01-25	DR-413-OR	Major disaster	Severe Storms, Snowmelt & Flooding	Inland Flooding	no Public Assistance recorded		
1972-01-21	1972-01-21	DR-319-OR	Major disaster	Severe Storms & Flooding	Inland Flooding	no Public Assistance recorded		
1964-12-24	1964-12-24	DR-184-OR	Major disaster	Heavy Rains & Flooding	Inland Flooding	no Public Assistance recorded		

School districts and special districts in this county: \$273,760.71 (included in the county total above). Public Assistance matched by applicant name to the school districts and special districts FEMA lists as plan participants in this county. They have no row of their own in the jurisdiction table, 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), so this line is not added to it.

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
1963-02-25	1963-02-25	DR-144-OR	Major disaster	Floods	Inland Flooding
1962-10-16	1962-10-16	DR-136-OR	Major disaster	Severe Storms	Hazard not mapped (severe storm title names no single hazard); not counted
1957-03-01	1957-03-01	DR-69-OR	Major disaster	Flood	Inland Flooding
1956-07-20	1956-07-20	DR-60-OR	Major disaster	Storm & Flood	Inland Flooding
1955-12-29	1955-12-29	DR-49-OR	Major disaster	Flood	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.

27 Fire Management declarations (1973-08-17 to 2001-08-17) FEMA filed as Statewide with no county; each names one local fire. Listed on the state page.

Public Assistance not placed in any Oregon county: 1 row, \$479,867.27; listed on the Oregon 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	1	0	0	0	0	0	1996 to 2026-06-30	
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	11	1	3	5	0	0	1996 to 2026-06-30	Includes 4 Frost/Freeze records.
Drought	0	0	0	0	0	0	1996 to 2026-06-30	No recorded events, 1996 to 2026-06-30, NOAA NCEI Storm Events
Earthquake	0	0	0	0	1	0		Storm Events does not record earthquakes; the USGS earthquake catalog is the source.
Hail	15	1	1	3	0	0	1955 to 2026-06-30	
Heat Wave	34	3	2	10	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	13	0	1	1	0	0	1996 to 2026-06-30	
Inland Flooding	58	1	0	2	8	1	1996 to 2026-06-30	

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
Landslide	13	0	0	3	5	1	1996 to 2026-06-30	
Lightning	8	1	0	2	0	0	1996 to 2026-06-30	
Strong Wind	118	2	3	17	4	1	1955 to 2026-06-30	Includes 59 High Wind and 45 Strong Wind records.
Tornado	8	0	0	1	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	25	0	0	3	3	0	1996 to 2026-06-30	
Winter Weather	320	9	13	37	7	1	1996 to 2026-06-30	Includes 1 Sleet record.

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
2024-07-05	Heat		damage not reported	6, 0	NWS zone ORZ111 (INNER PORTLAND METRO), zone-level	in the 12 months before plan approval; within last 5 years	B1-c worst recorded: Excessive Heat, Heat
2024-01-12	Winter Storm		\$10,250,000 property; \$0 crops, reported for the zone (2024 dollars)	9, 12	NWS zone ORZ006 (GREATER PORTLAND METRO AREA), zone-level	in the 12 months before plan approval; within last 5 years	deaths or injuries recorded
2022-09-09	Wildfire		\$500,000 property; \$0 crops, reported for the zone (2022 dollars)	0, 0	NWS zone ORZ006 (GREATER PORTLAND METRO AREA), zone-level	within last 5 years	B1-c worst recorded: Wildfire
2022-07-25	Excessive Heat		\$0 property; \$0 crops, reported for the zone (2022 dollars)	9, 0	NWS zone ORZ006 (GREATER PORTLAND METRO AREA), zone-level	within last 5 years	deaths or injuries recorded
2021-06-26	Excessive Heat		\$50,000 property; \$50,000 crops, reported for the zone (2021 dollars)	93, 0	NWS zone ORZ006 (GREATER PORTLAND METRO AREA), zone-level		deaths or injuries recorded
2021-02-11	Ice Storm		\$10,000,000 property; \$0 crops, reported for the zone (2021 dollars)	0, 0	NWS zone ORZ007 (CENTRAL WILLAMETTE VALLEY), zone-level		B1-c worst recorded: Ice Storm
2017-01-01	Cold/Wind Chill		\$0 property; \$0 crops, reported for the zone (2017 dollars)	4, 0	NWS zone ORZ006 (GREATER PORTLAND METRO AREA), zone-level		B1-c worst recorded: Cold/Wind Chill, Extreme Cold/Wind Chill
2011-01-16	Flood		\$9,000,000 property; \$0 crops (2011 dollars)	0, 0	CATTRELL to BULL RUN		B1-c worst recorded: Flash Flood, Flood, Lakeshore Flood
2005-06-19	Thunderstorm Wind	70 kt (81 mph) estimated sustained	damage not reported	0, 0	COLTON		B1-c worst recorded: Thunderstorm Wind
2000-10-09	Tornado	F1, 0.1 mi within this county, 75 yd wide	\$50,000 property; crops not reported (2000 dollars)	0, 0	MOLALLA		B1-c worst recorded: Tornado
1999-02-05	High Wind	104 kt (120 mph), measurement type not recorded	\$10,000 property; crops not reported, reported for the zone (1999 dollars)	0, 0	Storm Events area SE MULTNOMAH/C & S HOOD RIVER/E CLAKAMAS/E MARION/E LINN/E LANE (legacy zone code ORZ011), zone-level		B1-c worst recorded: High Wind and Strong Wind
1998-08-20	Lightning		\$75,000 property; crops not reported (1998 dollars)	0, 0	WILSONVILLE		B1-c worst recorded: Lightning

The full list is in the Excel file, sheet "B1-d Storm Events history" (624 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	
Coastal Flooding	0.315	events per year at a location (modeled)	about 0.32 per year at a given location in the county		Storm Events records in 0 of 30 years, 1996 to 2025 (0%)	not shown	modeled	see B1-f	No descriptor: no Storm Events record 1996 to 2025
Cold Wave	0.381	event-days per year	about 0.381 days per year	Likely (from Storm Events: 6 of 30 years)	event-days in 6 of 30 years, 1996 to 2025 (20%)	7.25	2005-11-12 to 2024-11-12 (19 years)	countywide	
Drought	6.8	event-days per year	about 6.8 days per year		event-days in 0 of 30 years, 1996 to 2025 (0%)	343	2000 to 2025 (25.25 years; D3 and D4 only)	countywide	No Storm Events drought record, 1996 to 2025
Earthquake	0.015	annual probability at a location	chance a given location in the county has at least minor-damage shaking in a year: 1.5%			not shown	modeled	see B1-f	No descriptor (Storm Events does not record earthquakes).
Hail	0.128	events per year	about 1 in 8 years	Likely	FEMA annualized frequency (modeled)	4.9 (modeled)	1986 to 2023 (38 years)	countywide	
Heat Wave	4.92	event-days per year	about 4.92 days per year	Likely (from Storm Events: 13 of 30 years)	event-days in 13 of 30 years, 1996 to 2025 (43.3%)	77.3	2005-11-12 to 2024-11-12 (19 years)	countywide	
Hurricane		events per year					1851 to 2024 (Atlantic); 1949 to 2024 (Pacific)	see B1-f	Not Applicable in NRI for this county; no descriptor.
Ice Storm	1.11	event-days per year	about 1.11 days per year	Likely (from Storm Events: 8 of 30 years)	event-days in 8 of 30 years, 1996 to 2025 (26.7%)	75	1946-12-31 to 2014-02-12 (67 years)	countywide	
Inland Flooding	0.929	event-days per year	about 0.929 days per year	Likely (from Storm Events: 21 of 30 years)	event-days in 21 of 30 years, 1996 to 2025 (70%)	26	1996 to 2023 (28 years)	see B1-f	
Landslide	1.93	events per year (modeled)	about 1.93 per year	Highly likely	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	
Lightning	8.43	days per year with a strike	about 8.43 days per year	Highly likely	FEMA annualized frequency (modeled)	not shown	1995 to 2023 (29 years; CONUS)	countywide	
Strong Wind	0.0776	events per year	about 1 in 13 years	Possible	FEMA annualized frequency (modeled)	3	1986 to 2023 (38 years)	countywide	

Hazard	FEMA annualized frequency (modeled) <i>unit per row</i>	Unit	In plain terms	Descriptor	Descriptor basis	NRI events or days in its record period (hail, wind and tornado are area-weighted, so can be fractional)	NRI period	Location	Note
Tornado	0.148	events per year	about 1 in 7 years	Likely	FEMA annualized frequency (modeled)	not shown	1950 to 2023 (EF2+); 1986 to 2023 (EF0-1)	see B1-f	
Volcanic Activity	0.0123	annual probability	about 1 in 81 years	Possible	FEMA annualized frequency (modeled)	not shown	modeled	see B1-f	
Wildfire	0.000649	annual probability at a location	chance a given location in the county burns in a year: 0.0649%	Likely (from Storm Events: 9 of 30 years)	Storm Events records in 9 of 30 years, 1996 to 2025 (30%)	not shown	modeled	see B1-f	Descriptor from Storm Events, not NRI.
Winter Weather	26.1	event-days per year	about 26.1 days per year	Highly likely (from Storm Events: 30 of 30 years)	event-days in 30 of 30 years, 1996 to 2025 (100%)	495	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	6	30	0.2
Hail	2.00 in+	1996 to 2025	0	30	0
Thunderstorm Wind (counted as NRI Strong Wind)	50-64 kt	1996 to 2025	12	30	0.4
Thunderstorm Wind (counted as NRI Strong Wind)	65 kt+	1996 to 2025	1	30	0.0333
Thunderstorm Wind (counted as NRI Strong Wind)	unmeasured or below 50 kt	1996 to 2025	1	30	0.0333
Tornado	EF0-1	1996 to 2025	6	30	0.2
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

Range of census tract risk within the county

Source: 5

Hazard	Tracts <i>rated of all</i>	NRI risk score, 0 to 100			Tracts by rating
		Min	Median	Max	
Avalanche	12 of 87	81.4	84.2	86.3	Relatively Moderate 12, Not Applicable 75
Coastal Flooding	1 of 87	74.6	74.6	74.6	Very Low 1, No Rating 86
Cold Wave	87 of 87	20.8	77.6	89.5	Relatively High 43, Relatively Moderate 38, Relatively Low 6
Drought	13 of 87	66.9	67.6	75.1	Very Low 13, No Rating 74
Earthquake	87 of 87	42.0	89.5	99.6	Very High 6, Relatively High 45, Relatively Moderate 35, Relatively Low 1
Hail	87 of 87	1.9	26.4	48.4	Relatively Low 5, Very Low 82
Heat Wave	87 of 87	2.1	74.8	88.5	Relatively High 7, Relatively Moderate 74, Relatively Low 5, Very Low 1
Hurricane	0 of 87				Not Applicable 87
Ice Storm	87 of 87	1.8	75.6	89.0	Relatively Moderate 52, Relatively Low 34, Very Low 1
Inland Flooding	87 of 87	0.4	52.3	97.0	Very High 2, Relatively High 18, Relatively Moderate 29, Relatively Low 35, Very Low 3
Landslide	87 of 87	13.3	76.5	99.3	Relatively High 2, Relatively Moderate 8, Relatively Low 25, Very Low 52

Hazard	Tracts <i>rated of all</i>	NRI risk score, 0 to 100			Tracts by rating
		Min	Median	Max	
Lightning	87 of 87	0.6	47.9	72.6	Relatively Moderate 40, Relatively Low 46, Very Low 1
Strong Wind	87 of 87	9.8	67.0	92.1	Relatively High 7, Relatively Moderate 65, Relatively Low 14, Very Low 1
Tornado	87 of 87	1.4	22.6	33.9	Relatively Low 4, Very Low 83
Volcanic Activity	87 of 87	74.4	92.7	99.4	Relatively High 2, Relatively Moderate 2, Relatively Low 82, Very Low 1
Wildfire	85 of 87	18.5	53.7	98.4	Relatively High 1, Relatively Moderate 5, Relatively Low 20, Very Low 59, No Rating 2
Winter Weather	87 of 87	19.9	56.3	84.0	Relatively High 3, Relatively Moderate 65, Relatively Low 19

Drought: Agriculture is all of NRI's expected annual loss for this hazard in the county, so the tract range mostly reflects where crop and livestock value is.

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.

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.

Frequency data for cold wave, drought, hail, heat wave, ice storm, lightning, strong wind and winter weather are county-wide or coarse (49 km grid or NWS zone), the same for every jurisdiction; the tract range mostly reflects where buildings and people are (crop and livestock value where a line above names agriculture).

Each jurisdiction (starting figures from federal data)

Sources: 1, 3, 4, 6

Jurisdiction	Type	Plan status	Repetitive loss <i>FMA RL and SRL (44 CFR 77.2); repeat-flood, any definition</i>	Public Assistance to this jurisdiction <i>FEMA records matched by applicant name; federal share obligated, nominal dollars</i>	Event records naming this place <i>all years; since its plan</i>	Notes
Clackamas County	County	Approved, expires 2029-09-11	FMA RL 5, SRL 6; any 40	\$11,635,584.15	0 total; 0 since its plan	Includes \$4,620,300.29 for declarations not counted as hazard incidents (DR-4499-OR).
Canby city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 0	\$234,724.14	6 total; 0 since its plan	Includes \$6,715.89 for declarations not counted as hazard incidents (DR-4499-OR).
Estacada city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 0	\$57,506.10	14 total; 0 since its plan	
Gladstone city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 0	\$110,539.96	0 total; 0 since its plan	
Happy Valley city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 0	\$145,203.59	0 total; 0 since its plan	
Lake Oswego city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 0	\$2,218,046.97	1 total; 0 since its plan	
Milwaukie city	City	Approved, expires 2029-09-11	FMA RL 4, SRL 1; any 11	\$1,744,822.01	1 total; 0 since its plan	
Molalla city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 1	\$110,871.35	8 total; 1 since its plan	
Oregon City city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 1	\$1,226,044.75	10 total; 0 since its plan	
Portland city	City	Approved, expires 2027-12-11	FMA RL 0, SRL 3; any 16	no Public Assistance recorded	0 total; 0 since its plan	Whole community, including the part in Multnomah County and Washington County; none of its repeat-flood properties are in this county.

Jurisdiction	Type	Plan status	Repetitive loss	Public Assistance to this jurisdiction	Event records naming this place	Notes
			<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>	
Sandy city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 0	\$222,423.01	3 total; 0 since its plan	
West Linn city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 1	\$2,015,495.19	3 total; 0 since its plan	
Wilsonville city	City	Approved, expires 2029-09-11	FMA RL 0, SRL 0; any 0	\$365,670.83	1 total; 0 since its plan	

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

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

County Public Assistance in B1-d also includes applicants filed under the county that are not jurisdictions in this plan (for example state agencies, special districts and nonprofits), so the jurisdiction rows add up to less.

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	Agriculture exposure	Population exposed	EAL buildings	EAL agriculture	Cost of expected deaths and injuries	EAL as % of exposure	Storm Events damage since 2024-09-12	Zone-level damage since plan	Public Assistance since plan	Note
	<i>modeled dollars</i>	<i>modeled dollars</i>	<i>people</i>	<i>modeled dollars per year</i>	<i>modeled dollars per year</i>	<i>FEMA's dollar value per year, not property damage</i>	<i>buildings; agriculture where noted</i>	<i>county-coded records, property plus crops, nominal dollars</i>	<i>property plus crops, reported for the zone</i>	<i>nominal dollars; see note</i>	
Avalanche	\$1,574,777	n/a	10	\$22	n/a	\$1,507,000	0.0014%				
Coastal Flooding	\$229,455	n/a	1	\$187	n/a	\$14	0.0813%				
Cold Wave	\$103,628,121,621	\$484,545,028	421,252	\$364	\$18,435	\$14,957,067	under 0.0001%		\$0		
Drought	n/a	\$84,628,728	n/a	n/a	\$378	n/a	0.000447% (agriculture)				NRI has no building exposure for this hazard; agriculture shown

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 2024-09-12 <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
Earthquake	\$174,212,948,575	n/a	421,401	\$71,471,197	n/a	\$37,032,586	0.041%				
Hail	\$103,628,121,621	\$484,545,028	421,252	\$136,266	\$7,445	\$21,471	0.000131%	\$0			
Heat Wave	\$103,628,121,621	\$484,545,028	421,252	\$2,869	\$96,687	\$8,380,841	under 0.0001%		\$0		
Hurricane											Not Applicable in NRI for this county
Ice Storm	\$103,612,678,039	n/a	421,155	\$319,057	n/a	\$990,804	0.000308%				
Inland Flooding	\$103,486,961,017	\$30,817,466	5,882	\$75,871,870	\$50,766	\$699,318	n/a (see note)	\$0		\$225,978.30	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	\$5,404,021,488	n/a	20,634	\$9,366	n/a	\$200,505	0.000173%			\$225,978.30	
Lightning	\$103,628,121,621	n/a	421,252	\$40,922	n/a	\$1,049,853	under 0.0001%	\$0			
Strong Wind	\$103,628,121,621	\$484,545,028	421,252	\$3,146,227	\$163	\$147,275	0.00304%	\$2,000	\$3,000	\$225,978.30	Storm Events damage since the plan includes 1 zone-level Strong Wind record (\$3,000): a NOAA non-thunderstorm wind type, outside NRI's Strong Wind definition.
Tornado	\$103,628,121,621	\$484,545,028	421,252	\$476,251	\$793	\$528,851	0.00046%				
Volcanic Activity	\$103,628,121,621	n/a	421,252	\$195,176	n/a	\$299,713	0.000188%				
Wildfire	\$6,908,975,090	\$41,515,275	34,424	\$1,042,611	\$24	\$41,394	0.0151%				
Winter Weather	\$103,628,121,621	\$484,545,028	421,252	\$43,039	\$4,027	\$320,511	under 0.0001%		\$0	\$225,978.30	

Totals since 2024-09-12 (Storm Events through 2026-06-30): 4 county-coded records, 4 with a damage value recorded (including \$0), \$2,000; 14 zone-level records, 14 with a damage value recorded (including \$0), \$3,000 reported for the zone; Public Assistance: \$225,978.30 on 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	421,252
Building value (total, not at risk)	\$103,628,121,621
Agriculture value (total, not at risk)	\$484,545,028
NRI risk rating (all hazards)	Relatively High
Expected annual loss, buildings and agriculture, all hazards	\$152,934,141
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)	\$66,177,204
Social vulnerability rating	Very Low
Community resilience rating	Relatively High
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)	9	Severe repetitive loss, FMA definition (44 CFR 77.2)	9
Repetitive loss, NFIP insurance definition	59	Severe repetitive loss, NFIP insurance definition	8

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

Repeat-flood properties: county and state-level rows

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	9	9	59	8	61	2	29
of which: Damascus city (community ID not in plan data)	0	0	2	0	2	0	2
of which: Milwaukie city	4	1	11	1	11	0	4
of which: Molalla city	0	0	1	0	1	0	0
of which: Oregon City city	0	0	1	0	1	0	1
of which: Rivergrove city (community ID not in plan data)	0	2	4	2	4	0	0
of which: West Linn city	0	0	1	0	1	0	1
of which: Tualatin city (community ID not in plan data)	0	0	1	0	1	0	0
of which: Clackamas County (unincorporated area)	5	6	38	5	40	2	21
Statewide, no county in FEMA's file	0	0	1	0	1	0	0

The statewide row counts properties FEMA's file gives with no county in this state; they are listed for reference and are not in this county's counts.

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>	Note
Clackamas County	415588	5	6	38	5	40	2	21	
Canby city	410014	0	0	0	0	0	0	0	
Estacada city	410016	0	0	0	0	0	0	0	
Gladstone city	410017	0	0	0	0	0	0	0	
Happy Valley city	410026	0	0	0	0	0	0	0	
Lake Oswego city	410018	0	0	0	0	0	0	0	
Milwaukie city	410019	4	1	11	1	11	0	4	
Molalla city	410020	0	0	1	0	1	0	0	
Oregon City city	410021	0	0	1	0	1	0	1	
Portland city	410183	0	3	15	2	16	2	5	Whole community, including the part in Multnomah County and Washington County; none of its repeat-flood properties are in this county.
Sandy city	410023	0	0	0	0	0	0	0	

Jurisdiction	NFIP community ID	RL, FMA properties	SRL, FMA properties	RL, NFIP properties	SRL, NFIP properties	Any category properties	Mitigated properties	Currently insured properties	Note
West Linn city	410024	0	0	1	0	1	0	1	
Wilsonville city	410025	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

Sources: 1, 4

Occupancy group	RL, FMA properties	SRL, FMA properties	RL, NFIP properties	SRL, NFIP properties	Any category properties	Mitigated properties	Currently insured properties
single-family residential	4	9	50	8	52	2	23
2 to 4 unit residential	4	0	6	0	6	0	4
other residential	1	0	1	0	1	0	1
non-residential	0	0	2	0	2	0	1
not reported	0	0	0	0	0	0	0

FEMA's occupancy groups have no institutional class; institutional properties are counted in non-residential or other residential in the table by occupancy group.

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 2 properties are FMA repetitive loss but not NFIP repetitive loss, and 52 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.

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).

Reuse, citation and corrections

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Cite this: Hazard Plain (2026). Clackamas County, OR: risk-assessment baseline packet, release 2026-10 (data as of 2026-09-30; County FIPS 41005). Automated baseline. <https://hazardplain.org/or/41005/> 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.