

# Chapter 1 Introduction

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## 1.1 Background and Purpose

The dramatic increase in the costs associated with natural disasters over recent decades fostered interest in identifying and implementing effective means of reducing vulnerability. On February 26, 2002, the Federal Emergency Management Agency (FEMA) published Interim Final Rule 44 CFR Part 201, which required all states and local governments to develop natural hazards mitigation plans to be eligible for certain hazard mitigation grant programs, and in the case of the states, to be eligible for certain categories of disaster assistance.

Disasters occur as a predictable interaction among three broad systems: natural systems (e.g., watersheds and tectonic plates), the built environment (e.g., cities and roads), and social systems (community organization infrastructure that includes demographics, business climate, service provision, etc.). What is not predictable is exactly when natural hazards will occur or the extent to which they will affect communities within the state. However, with careful planning and collaboration it is possible to minimize the losses that can result from natural hazards.

Hazard mitigation is defined in the Code of Federal Regulations (CFR) at 44 CFR 201.2 as “any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.” Hazard mitigation is the responsibility of individuals, private businesses and industries, state and local governments, and the federal government. Engaging in mitigation actions provides the state, counties, cities, businesses, and citizens with several benefits: fewer injuries and deaths; less damage to buildings, critical facilities, and infrastructure; diminished interruption in essential services; reduced economic hardship; minimized environmental harm; and quicker, lower-cost recovery.

The Oregon Natural Hazards Mitigation Plan (NHMP, Plan) provides information to guide mitigation actions throughout the state. It contains the most complete and up-to-date description of Oregon’s natural hazards and their probability, the state’s vulnerabilities, its mitigation strategies and

implementation resources. Oregon’s counties and cities can rely upon this information when preparing local natural hazards mitigation plans. Similarly, local NHMPs provide the state with a deeper understanding of local and regional mitigation goals and issues, advancing alignment of mitigation goals and strategies statewide. Oregon’s Natural Hazards Mitigation Plan meets FEMA eligibility requirements for hazard mitigation and disaster assistance funding, benefitting the state and local communities alike.

The Oregon NHMP has a five-year life cycle. It must be reviewed, updated, and re-approved by FEMA every five years to maintain state and local eligibility for certain federal natural hazards mitigation funding sources.

The Oregon NHMP comprises Volume I of the *State Comprehensive Emergency Management Plan*, administered by the Oregon Department of Emergency Management (OEM). Figure 1.1-1 illustrates this organizational relationship.

**Figure 1.1-1 The Oregon NHMP in the State Comprehensive Emergency Management Plan.**



Source: Modified from the Oregon Department of Emergency Management.

### 1.1.1 Oregon’s Natural Hazards

The State of Oregon is subject to 12 natural hazards. Table 1.1.1-1 lists each hazard and describes in general terms where the hazard is located.

**Table 1.1.1-1 Oregon Hazards Overview**

	Hazards	Generalized Locations
1	Coastal Hazards	Coast
2	High Hazard Potential Dam Failure	Localized risks statewide
3	Droughts	Generally east of the Cascades, with localized risks statewide

Hazards		Generalized Locations
4	Earthquakes	Cascadia Subduction Zone earthquakes primarily in western Oregon. Other active earthquake faults localized statewide.
5	Extreme Heat	Statewide
6	Floods	Localized risks statewide
7	Landslides	Localized risks statewide
8	Tsunamis	Coast
9	Volcanic Hazards	Central Oregon, Cascade Range and southeast Oregon, High Lava Plains
10	Wildfires	Primarily southwest, central and northeast Oregon, with localized risks statewide
11	Windstorms	Statewide
12	Winter Storms	Statewide

Source: Oregon NHMP lead state agencies for each hazard

Table 1.1.1-2 shows the state agencies in Oregon responsible for the 12 natural hazards addressed in this plan.

**Table 1.1.1-2 Oregon NHMP Hazard Agencies**

Hazard	Agencies
Coastal Hazards	Department of Geology and Mineral Industries Department of Land Conservation and Development Department of State Lands
Dam Failure	Oregon Water Resources Department Dam Safety Program Department of Land Conservation and Development
Droughts	Oregon Water Resources Department Oregon Health Authority Oregon Climate Change Research Institute
Earthquakes	Department of Geology and Mineral Industries Oregon Department of Emergency Management
Extreme Heat	Oregon Health Authority, Public Health Division Oregon Health Authority – Health, Security, Preparedness, and Response Division Oregon Climate Change Research Institute
Floods	Department of Geology and Mineral Industries Department of Land Conservation and Development Department of State Lands
Landslides	Department of Geology and Mineral Industries
Tsunamis	Department of Geology and Mineral Industries Department of Land Conservation and Development
Volcanic Hazards	Department of Geology and Mineral Industries Oregon Department of Emergency Management
Wildfires	Oregon Department of Forestry Oregon Office of the State Fire Marshal Department of Land Conservation and Development

Hazard	Agencies
Windstorms	Oregon Department of Energy Oregon Climate Change Resource Institute
Winter Storms	Oregon Public Utilities Commission Oregon Climate Change Research Institute

Source: DLCD

The United States began formally tracking natural disasters in 1955. Since that time, Oregon has received 40 Presidential major disaster declarations, 4 emergency declarations, and 73 fire management assistance declarations. Section 1.1.2 lists each of the major disaster declarations, the hazard to which it is attributed, and the impacted counties. Since 1955, approximately one-third of Oregon’s counties have been impacted by 10 or more federally declared disasters. Of the 40 major disasters to impact Oregon, the majority have resulted from storm events. Notably, flooding impacts from those events are reported in over two-thirds of the major disaster declarations. The federal disaster declarations document that storm events, floods, and wildfires have been the primary chronic hazards with major disaster impacts in Oregon over the last 70 years.

## 1.1.2 Presidential Major Disaster Declarations Since 1955

### DR-4768

**Incident Period:** Jan. 10, 2024 - Jan. 22, 2024

**Disaster Type:** Oregon Severe Winter Storms, Straight-line Winds, Landslides, and Mudslides

**Affected Counties and Indian Reservations:** Benton, Clackamas, Coos, Hood River, Lane, Lincoln, Multnomah, Sherman, Siletz Indian Reservation, Tillamook, Wasco

### DR-4733

**Incident Period:** Jun. 11-12, 2023

**Disaster Type:** Burns Paiute Tribe Severe Storm, Flooding, Landslides, and Mudslides

**Affected Counties and Indian Reservations:** Burns Paiute Indian Reservation

### DR-4599

**Incident Period:** Feb. 11-15, 2021

**Disaster Type:** Oregon Severe Winter Storm

**Affected Counties and Indian Reservations:** Benton, Clackamas, Grand Ronde Indian Reservation, Linn, Marion, Polk, Yamhill

## DR-4562

**Incident Period:** Sep. 7, 2020 - Nov. 3, 2020

**Disaster Type:** Oregon Wildfires and Straight-line Winds

**Affected Counties and Indian Reservations:** Benton, Clackamas, Columbia, Coos, Deschutes, Douglas, Jackson, Jefferson, Josephine, Klamath, Lake, Lane, Lincoln, Linn, Marion, Multnomah, Tillamook, Wasco, Washington, Yamhill

## DR-4499

**Incident Period:** Jan. 20, 2020 - May 11, 2023

**Disaster Type:** Oregon Covid-19 Pandemic

**Affected Counties and Indian Reservations:** Benton, Burns Paiute Indian Reservation, Clackamas, Clatsop, Columbia, Coos, Crook, Curry, Deschutes, Douglas, Gilliam, Grant, Harney, Hood River, Jackson, Jefferson, Josephine, Klamath, Lake, Lane, Lincoln, Linn, Malheur, Marion, Morrow, Multnomah, Polk, Sherman, Tillamook, Umatilla, Union, Wallowa, Wasco, Washington, Wheeler, Yamhill

## DR-4519

**Incident Period:** Feb. 5-9, 2020

**Disaster Type:** severe storms, flooding, landslides, and mudslides

**Affected Counties and Indian Reservations:** Umatilla, Union, Wallowa

## DR-4452

**Incident Period:** Apr. 6-21, 2019

**Disaster Type:** severe storms, flooding, landslides, and mudslides

**Affected Counties and Indian Reservations:** Curry, Douglas, Grant, Linn, Umatilla, Wheeler

## DR-4432

**Incident Period:** Feb. 23-26, 2019

**Disaster Type:** severe winter storms, flooding, landslides, and mudslides

**Affected Counties and Indian Reservations:** Coos, Curry, Douglas, Jefferson, Lane

## **DR-4328**

**Incident Period:** Jan. 7-10, 2017

**Disaster Type:** severe winter storms, flooding, landslides, and mudslides

**Affected Counties and Indian Reservations:** Columbia, Deschutes, Hood River, Josephine

## **DR-4296**

**Incident Period:** Dec. 14-17, 2016

**Disaster Type:** severe winter storm and flooding

**Affected Counties and Indian Reservations:** Josephine, Lane

## **DR-4258**

**Incident Period:** Dec. 6-23, 2015

**Disaster Type:** severe winter storms, straight-line winds, flooding, landslides, and mudslides

**Affected Counties and Indian Reservations:** Clackamas, Clatsop, Columbia, Coos, Curry, Douglas, Lane, Lincoln, Linn, Multnomah, Polk, Tillamook, Washington, Yamhill

## **DR-4169**

**Incident Period:** Feb. 6–14, 2014

**Disaster Type:** severe winter storm

**Affected Counties and Indian Reservations:** Benton, Lane, Lincoln, Linn

## **DR-4055**

**Incident Period:** Jan. 17–21, 2013

**Disaster Type:** severe winter storm / flooding / landslides / mudslides

**Affected Counties and Indian Reservations:** Benton, Columbia, Coos, Curry, Douglas, Hood River, Lane, Lincoln, Linn, Marion, Polk, Tillamook

## **DR-1964**

**Incident Period:** Mar. 11, 2011

**Disaster Type:** tsunami

**Affected Counties and Indian Reservations:** Coos, Curry, Lincoln

## **DR-1956**

**Incident Period:** Jan. 13–21, 2011

**Disaster Type:** winter storms / flooding / mudslides/ landslides / debris flows

**Affected Counties and Indian Reservations:** Clackamas, Clatsop, Crook, Douglas, Lincoln, Tillamook

## **DR-1824**

**Incident Period:** Dec. 13, 2007–Jan. 26, 2008

**Disaster Type:** winter storms / flooding

**Affected Counties and Indian Reservations:** Clackamas, Clatsop, Columbia, Morrow, Polk, Sherman, Tillamook, Washington, Yamhill

## **DR-1733**

**Incident Period:** Dec. 1–17, 2007

**Disaster Type:** storms / flooding / landslides / mudslides

**Affected Counties and Indian Reservations:** Sherman, Tillamook, Washington, Yamhill

## **DR-1683**

**Incident Period:** Dec. 14–15, 2006

**Disaster Type:** winter storms / flooding

**Affected Counties and Indian Reservations:** Benton, Clatsop, Columbia, Lincoln, Sherman, Siletz Indian Reservation, Tillamook, Wasco, Wheeler, Yamhill

## **DR-1672**

**Incident Period:** Nov. 5–8, 2006

**Disaster Type:** storms / flooding / landslides / mudslides

**Affected Counties and Indian Reservations:** Clatsop, Hood River, Lincoln, Tillamook

## **DR-1632**

**Incident Period:** Dec. 18, 2005 – Jan. 21, 2006

**Disaster Type:** storms / flooding / landslides / mudslides

**Affected Counties and Indian Reservations:** Benton, Clackamas, Clatsop, Columbia, Coos, Crook, Curry, Douglas, Gilliam, Jackson, Jefferson, Josephine, Lincoln, Linn, Sherman, Siletz Indian Reservation, Tillamook, Warm Springs Indian Reservation, Wheeler, Yamhill

## **DR-1510**

**Incident Period:** Dec. 26, 2003 – Jan. 14, 2004

**Disaster Type:** winter storms

**Affected Counties and Indian Reservations:** Baker, Benton, Clackamas, Clatsop, Columbia, Crook, Deschutes, Douglas, Gilliam, Grant, Harney, Hood River, Jefferson, Lake, Lane, Lincoln, Linn, Malheur, Marion, Morrow, Multnomah, Polk, Sherman, Tillamook, Umatilla, Union, Wallowa, Wasco, Wheeler, Yamhill

## **DR-1405**

**Incident Period:** Feb. 7-8, 2002

**Disaster Type:** winter storm

**Affected Counties and Indian Reservations:** Coos, Curry, Douglas, Lane, Linn

## **DR-1221**

**Incident Period:** May 28–June 3, 1998

**Disaster Type:** flooding

**Affected Counties and Indian Reservations:** Crook

## **DR-1160**

**Incident Period:** Dec. 25, 1996 –Jan. 6, 1997

**Disaster Type:** winter storm / flooding

**Affected Counties and Indian Reservations:** Coos, Douglas, Jackson, Josephine, Klamath, Lake, Lane, Wallowa

## **DR-1107**

**Incident Period:** Dec. 10–12, 1995

**Disaster Type:** storms / high winds



**Affected Counties and Indian Reservations:** Benton, Clatsop, Columbia, Douglas, Lane, Lincoln, Linn, Tillamook, Washington, Yamhill

## **DR-1099**

**Incident Period:** Feb. 4–21, 1996

**Disaster Type:** storms / flooding

**Affected Counties and Indian Reservations:** Benton, Clackamas, Clatsop, Columbia, Coos, Deschutes, Douglas, Gilliam, Hood River, Jefferson, Josephine, Lane, Lincoln, Linn, Marion, Morrow, Multnomah, Polk, Sherman, Tillamook, Umatilla, Union, Wallowa, Wasco, Washington, Yamhill

## **DR-1061**

**Incident Period:** July 8–9, 1995

**Disaster Type:** flash flooding

**Affected Counties and Indian Reservations:** Wasco

## **DR-1036**

**Incident Period:** May 1–Oct. 31, 1994

**Disaster Type:** El Niño effects

**Affected Counties and Indian Reservations:** Clatsop, Columbia, Coos, Curry, Douglas, Lane, Lincoln, Tillamook

## **DR-1004**

**Incident Period:** Sep. 20, 1993

**Disaster Type:** earthquakes

**Affected Counties and Indian Reservations:** Klamath

## **DR-985**

**Incident Period:** Mar. 25, 1993

**Disaster Type:** earthquake

**Affected Counties and Indian Reservations:** Clackamas, Marion, Washington, Yamhill

## **DR-853**

**Incident Period:** Jan. 6-9, 1990

**Disaster Type:** storms / flooding

**Affected Counties and Indian Reservations:** Clatsop, Tillamook

## **DR-413**

**Incident Period:** Jan. 25, 1974

**Disaster Type:** storms / flooding / snow melt

**Affected Counties and Indian Reservations:** Benton, Clackamas, Columbia, Coos, Curry, Douglas, Gilliam, Hood River, Jackson, Josephine, Lane, Lincoln, Marion, Polk, Tillamook, Wallowa, Wasco, Washington, Yamhill

## **DR-319**

**Incident Period:** Jan. 21, 1972

**Disaster Type:** storms / flooding

**Affected Counties and Indian Reservations:** Clackamas, Clatsop, Coos, Douglas, Lane, Lincoln, Linn, Multnomah, Tillamook, Washington

## **DR-301**

**Incident Period:** Feb. 13, 1971

**Disaster Type:** storms / flooding

**Affected Counties and Indian Reservations:** Clatsop, Tillamook

## **DR-184**

**Incident Period:** Dec. 24, 1964

**Disaster Type:** heavy rains / flooding

**Affected Counties and Indian Reservations:** Baker, Benton, Clackamas, Clatsop, Columbia, Coos, Crook, Curry, Deschutes, Douglas, Gilliam, Grant, Harney, Hood River, Jackson, Jefferson, Josephine, Klamath, Lake, Lane, Lincoln, Linn, Malheur, Marion, Morrow, Multnomah, Polk, Sherman, Tillamook, Umatilla, Union, Wallowa, Wasco, Washington, Wheeler, Yamhill

## **DR-144**

**Incident Period:** Feb. 25, 1963

**Disaster Type:** flooding

**Affected Counties and Indian Reservations:** No individual county impact data available

## **DR-136**

**Incident Period:** Oct. 16, 1962

**Disaster Type:** storms

**Affected Counties and Indian Reservations:** No individual county impact data available

## **DR-69**

**Incident Period:** Mar. 1, 1957

**Disaster Type:** flooding

**Affected Counties and Indian Reservations:** No individual county impact data available

## **DR-60**

**Incident Period:** July 20, 1956

**Disaster Type:** storm / flooding

**Affected Counties and Indian Reservations:** No individual county impact data available

## **DR-49**

**Incident Period:** Dec. 29, 1955

**Disaster Type:** flooding

**Affected Counties and Indian Reservations:** No individual county impact data available

### **1.1.3 Disasters in Each County or Indian Reservation**

Baker: 2

Benton: 13

Burns Paiute Indian Reservation: 2

Clackamas: 14

Clatsop: 15

Columbia: 14

Coos: 15

Crook: 6

Curry: 11

Deschutes: 6

Douglas: 17  
 Gilliam: 6  
 Grant: 4  
 Grand Ronde Indian Reservation: 1  
 Harney: 3  
 Hood River: 9  
 Jackson: 6  
 Jefferson: 7  
 Josephine: 9  
 Klamath: 5  
 Lake: 5  
 Lane: 17  
 Lincoln: 18  
 Linn: 14  
 Malheur: 3

Marion: 9  
 Morrow: 5  
 Multnomah: 8  
 Polk: 9  
 Sherman: 9  
 Siletz Indian Reservation: 3  
 Tillamook: 20  
 Umatilla: 6  
 Union: 5  
 Wallowa: 7  
 Warm Springs Indian Reservation: 1  
 Wasco: 9  
 Washington: 11  
 Wheeler: 6  
 Yamhill: 14

### 1.1.4 Local Risk Assessment and State Risk Assessment Comparison

**KEY** - Hazard not present  
**L** Low risk  
**M** Medium risk  
**H** High risk  
**Y** High hazard potential dam present

**Yellow Shading:**  
 Different risk rating, used higher rating

**Green shading:**  
 No specific designation, included in broader rating

**Orange Shading:** EQ was for CSZ and Crustal, used the higher rating of the two

County	Coastal Hazards		Tsunami		Dam Failure		Drought		Earthquake		Extreme Heat		Flood		Landslide		Volcano		Wildfire		Windstorm		Winter Storm	
	Local State		Local State		Local State		Local State		Local State		Local State		Local State		Local State		Local State		Local State		Local State		Local State	
Baker	-	-	-	-	-	Y	H	H	H	M	-	H	M	M	L	M	L	-	H	M	M	H	M	H
Benton	-	-	-	-	L	Y	M	L	L	M	M	L	H	L	M	L	L	-	H	L	H	M	H	M
Clackamas	-	-	-	-	-	Y	L	L	H	L	M	L	M	L	L	L	L	L	M	L	L	L	M	M
Clatsop	M	L	H	M	-	Y	H	L	H	H	-	L	H	M	L	H	L	-	L	L	H	H	H	H
Columbia	-	-	-	-	-	-	L	L	H	M	-	L	H	M	-	M	M	-	M	L	-	H	-	H
Coos	L	M	H	M	-	Y	M	M	H	H	-	M	H	M	H	M	-	-	M	L	H	H	H	H
Crook	-	-	-	-	-	Y	-	H	H	H	-	M	H	M	L	M	H	-	M	M	-	M	-	M
Curry	M	H	H	M	-	Y	M	M	H	H	M	M	M	H	H	H	L	-	H	M	H	H	H	—
Deschutes	-	-	-	-	-	Y	L	M	H	L	-	M	L	L	L	L	H	H	H	M	H	L	H	H
Douglas	L	M	M	H	-	Y	M	M	H	M	M	M	M	M	M	M	-	M	H	M	M	M	H	M
Gilliam	-	-	-	-	-	-	H	H	M	M	*	H	M	H	H	H	L	-	H	H	M	L	H	H
Grant	-	-	-	-	-	Y	H	H	M	H	-	H	H	H	L	H	H	-	H	H	L	H	H	H
Harney	-	-	-	-	-	-	H	H	L	H		H	-	H		M		-		H	-	L	-	M

County	Coastal Hazards		Tsunami		Dam Failure		Drought		Earthquake		Extreme Heat		Flood		Landslide		Volcano		Wildfire		Windstorm		Winter Storm	
	Local	State	Local	State	Local	State	Local	State	Local	State	Local	State	Local	State	Local	State	Local	State	Local	State	Local	State	Local	State
Hood River	-	-	-	-	-	Y	M	M	M	M	-	L	L	L	M	M	L	H	H	M	L	H	H	H
Jackson	-	-	-	-	-	Y	M	M	H	M	M	H	M	M	L	M	L	M	H	M	M	H	M	H
Jefferson	-	-	-	-	-	Y	H	H	L	M	-	M	M	H	L	M	L	H	H	H	M	—	H	H
Josephine	-	-	-	-	-	Y	H	M	H	M	M	H	M	M	L	M	L	-	H	M	M	H	H	H
Klamath	-	-	-	-	M	Y	H	H	H	M	H	M	M	M	M	M	H	H	H	H	M	-	M	M
Lake	-	-	-	-	-	Y	H	H	H	H	-	M	H	H	L	H	H	-	H	H	H	M	H	H
Lane	-	M	M	L	-	Y	L	M	H	M	*	L	H	M	H	L	L	M	H	L	H	M	H	H
Lincoln	L	H	H	M	-	Y	M	M	H	H	-	L	M	H	H	H	L	-	M	L	H	H	M	—
Linn	-	-	-	-	L	Y	M	M	M	M	H	L	M	M	L	L	M	M	M	L	M	M	H	H
Malheur	-	-	-	-	-	Y	H	H	L	H	*	H	M	H	L	M	L	-	M	M	-	M	H	M
Marion	-	-	-	-	H	Y	H	L	H	M	M	L	H	L	H	L	M	M	H	L	-	H	-	H
Morrow - North	-	-	-	-	-	Y	M	M	H	M	M	M	L	M	L	M	H	-	L	M	M	M	H	H
Morrow - South	-	-	-	-	-	Y	M	M	H	M	M	M	M	M	M	M	L	-	H	M	M	M	M	M
Multnomah	-	-	-	-	-	Y	H	L	H	L	H	L	M	L	M	L	L	L	H	L	H	H	H	H
Polk	-	-	-	-	-	Y	M	L	H	M	M	L	M	M	L	L	L	-	M	L	H	H	H	-
Sherman	-	-	-	-	-	Y	H	H	L	M	H	H	L	H	M	H	M	-	H	H	H	M	H	-
Tillamook	M	M	H	L	-	-	H	L	H	H	H	L	H	M	H	H	-	-	H	L	H	H	H	H
Umatilla	-	-	-	-	-	Y	H	H	H	M	-	H	H	M	M	L	H	-	H	M	-	H	-	H
Union	-	-	-	-	L	Y	M	H	M	M	M	M	M	M	L	M	-	-	M	M	M	H	H	H
Wallowa	-	-	-	-	M	Y	H	H	H	M	M	H	M	H	M	H	-	-	H	H	M	M	M	M
Wasco	-	-	-	-	-	Y	H	H	M	H	H	H	M	M	L	H	H	H	H	H	-	H	-	H
Washington	-	-	-	-	M	Y	H	L	H	M	M	L	M	L	L	L	M	-	M	L	M	H	H	H
Wheeler	-	-	-	-	-	Y	H	H	H	M	-	M	H	M	H	H	H	-	H	H	M	M	H	H
Yamhill	-	-	-	-	-	Y	M	L	H	H	-	M	H	M	L	M	L	-	L	L	M	M	H	H

Notes:

- Marion County used a different risk assessment method that still resulted in High, Medium, or Low rankings.
- The Morrow County Natural Hazard Mitigation Plan assessed risk separately for the North County and South County. The Oregon Natural Hazards Risk Assessment assessed the county as a whole.

This comparison shows similarities and differences between local and state vulnerability rankings. For some counties, local and state assessments agree on the level of vulnerability to a hazard. In other

instances, local and state rankings are not the same. For example, in several instances a county did not score itself for a hazard (indicating it is not at risk to that hazard) or scored itself “L” (as having low vulnerability) to a hazard, while the state ranked that county as having “H” (high) vulnerability to that hazard. DLCD used GIS software to break the risk assessment preference scores (that include socio-economic factors) into three categories using Jenks classification to create a 3-tiered state ranking (Low, Medium, High) in order to have consistency with local assessments. However, it is important to note this manipulation is exclusive to this analysis.

It would be instructive to compare the results of the 2025 risk assessment with local risk assessments and the National Risk Index. The results of such a comparison could lead to more accurate assessments by local planners and illuminate areas that could most benefit from mitigation investment. Traditional ecological knowledge from indigenous populations is also useful to assess risk. All four perspectives – local practitioners, state hazard experts, indigenous ecological knowledge, and objective data – are necessary for reaching the best assessment of vulnerability. They complement one another and lead to more robust mitigation.

Some hazards and counties have nuanced reporting. For example, dam failure is reported as simply the presence of a high hazard potential dam within the county, and similarly symbolized with an “Y” to indicate the presence of a federally or state regulated high hazard potential dam, and dash to indicate no presence of a state or federally regulated high hazard potential dam. Additionally, Morrow County splits its county into two geographic regions, north and south, and assesses hazards based on those regions. We report those evaluations and a single county evaluation for the statewide assessment.

While this perspective may be skewed by the last hazard event suffered, it also contextualizes the assessment with a depth of knowledge and experience with the community that is valuable to the assessment. Local practitioners with such understanding can identify errors in data, assumptions, or interpretation that may be made by outside experts. They know the places that the population cares about protecting, for example iconic establishments or heritage sites. The local perspective is also helpful on the human side of vulnerability assessment. People know their neighbors and the organizations in the community that serve those in need. They are invaluable in identifying the potential and actual human costs of hazard events. While the state may provide data and analysis, the local risk assessors can use that data and analysis to derive a deeper understanding of the vulnerabilities of their community, use that knowledge to improve the local risk assessment, and then to more effectively mitigate. Local risk assessments therefore can add depth and granularity to the state risk assessment.

As the state strives to incorporate local risk assessments into the state risk assessment (Chapter 3), this deeper local understanding of local vulnerability and risk, based in part on state data and analysis and in part on local knowledge and experience, will help the state focus its limited resources in communities that need them most and in the ways those communities need them most. This linkage between state and local mitigation planning promises to be beneficial to tribal governments, local governments, state government and all Oregonians.

## 1.2 Approach

The 2025 Oregon Natural Hazards Mitigation Plan meets the requirements of 44 CFR 201.4, Standard State Mitigation Plans.

### **Oregon set several goals for the 2025 Oregon NHMP Update:**

- To employ a sophisticated, scientifically-sound risk assessment method.
- The results of the risk assessment should provide the information necessary to drive strategic investments in natural hazards mitigation.
- Priority mitigation actions should be those that:
  - Respond to the risk assessment results through the mitigation goals.
  - Meet FEMA requirements.
  - The state has or can quickly obtain the capability to accomplish.
  - The state can accomplish within the five-year life of the Plan.
  - Are as specific as possible.
  - Are measurable, if possible.
  - Will not result in inequities, to the extent foreseeable.
- Reduce the NHMP's size to enhance user experience.

The 2025 Oregon Natural Hazards Risk Assessment (ONHRA) produced results at the census tract level for the entire state for nine of the 12 hazards addressed in this plan:

- Coastal Hazards
- Droughts
- Earthquakes
- Extreme Heat
- Floods
- Landslides
- Tsunamis
- Volcanic Hazards
- Wildfires

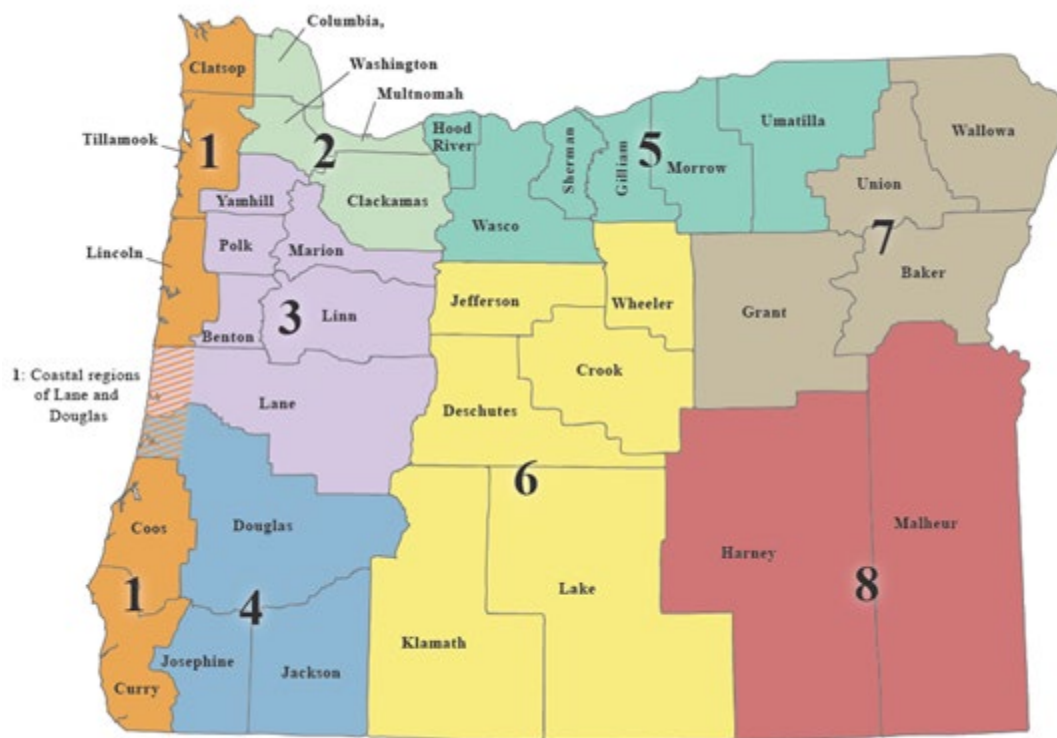
Data for Windstorms and Winter Storms is available in a form that is incompatible with this method. The standard dam risk assessment method also does not lend itself to this method. While dam failure is generally not considered a natural hazard, FEMA requires that state NHMPs include a section on “high hazard potential dams (HHPDs),” to maintain eligibility for certain FEMA dam mitigation grants. Thus, the Oregon Natural Hazards Mitigation Plan includes a section on dam failure, and the ONHRA focuses on the nine hazards listed above.

Recognizing that this Plan has a five-year life, the state is focusing on the areas the risk assessment methods identified as most vulnerable or most at risk. This method takes social as well as physical vulnerability into account. State mitigation goals and actions will focus on reducing the risk in the areas identified.

## **1.2.1 Natural Hazards Mitigation Planning Regions**

Because Oregon is a large state with diverse geophysical regions that experience natural hazards differently, the state uses eight natural hazards mitigation planning regions to address their characteristics, hazards, and mitigation, referring to them by number.

Figure 1.2-1 Oregon NHMP Natural Hazards Mitigation Planning Regions



## 1.3 Plan Structure

The 2025 Oregon NHMP contains nine chapters.

**Chapter 2 – Oregon Profile:** General overview of the state’s physical and human geography, built environment, and economy.

**Chapter 3 – Hazard Identification and Risk Assessment:** Introduces and characterizes Oregon’s natural hazards and discusses how vulnerability and risk were assessed. It presents the results of the assessments, highlighting areas most at risk from natural hazards.

**Chapter 4 – Statewide Mitigation Capability Assessment:** Summarizes and evaluates Oregon’s ability to implement natural hazards mitigation through its legal and regulatory framework, policies, programs, and funding sources. Building codes, FEMA’s National Flood Insurance and Risk Mapping, Analysis, and Planning Programs receive special attention.

**Chapter 5 – Mitigation Strategy:** Establishes Oregon’s natural hazards mitigation goals based on the risk assessment. It describes mitigation actions to advance achievement of those goals over time through the capabilities identified in Chapter 4.



**Chapter 6 – Local Capabilities and Planning Coordination:** Contains a general description and evaluation of local government capabilities to accomplish natural hazards mitigation. It describes how the state supports local governments in developing, updating, and submitting their natural hazards mitigation plans to FEMA for approval, and sharing mitigation data and priorities. It contains criteria for prioritizing jurisdictions to receive mitigation grants.

**Chapter 7 – Planning Process:** Describes the 2025 update process, highlighting coordination with other state agencies and integration with other state planning efforts. It describes the process of evaluating the 2020 Oregon NHMP, and processes for tracking implementation progress, monitoring, evaluating, and updating the 2025 Plan.

**Chapter 8 – Abbreviations and Glossary:** Defines acronyms, abbreviations, and terms used in the plan.

**Chapter 9 – Appendices:** Additional background data to support other chapters.