



University of Oregon Natural Hazards Mitigation Plan

September 2022

Plan Summary

Prepared for
University of Oregon

Prepared by
The University of Oregon
Institute for Policy Research & Engagement
School of Planning, Public Policy, and Management

Acknowledgements

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About the Institute for Policy Research and Engagement



**School of Planning, Public
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Institute for Policy
Research and Engagement**

The Institute for Policy Research & Engagement (IPRE) is a research center affiliated with the School of Planning, Public Policy, and Management at the University of Oregon. It is an interdisciplinary organization that assists Oregon communities by providing planning and technical assistance to help solve local issues and improve the quality of life for Oregon residents. The role of IPRE is to link the skills, expertise, and innovation of higher education with the transportation, economic development, and environmental needs of communities and regions in the State of Oregon, thereby providing service to Oregon and learning opportunities to the students involved.

About the Oregon Partnership for Disaster Resilience

The Oregon Partnership for Disaster Resilience (OPDR) is a coalition of public, private and professional organizations working collectively toward the mission of creating a disaster-resilient and sustainable state. Developed and coordinated by IPRE, OPDR employs a service-learning model to increase community capacity and enhance disaster safety and resilience statewide.

NHMP Template Disclaimer

This NHMP is based in part on a plan template developed by the Oregon Partnership for Disaster Resilience. The template is structured to address the requirements contained in 44 CFR 201.6; where language is applicable to communities throughout Oregon, OPDR encourages the use of standardized language. OPDR hereby authorizes the use of all content and language provided to the University of Oregon in the plan template.

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.FEMA approval

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UO Adoption

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Plan Summary

The University of Oregon (UO) updated this Stand-Alone Natural Hazards Mitigation Plan (NHMP) to prepare for the long-term effects resulting from hazards. It is impossible to predict exactly when these hazards will occur, or the extent to which they will affect the UO community. However, with careful planning and collaboration among university, other public agencies, private sector organizations, and faculty, staff, and students, it is possible to create a resilient university that will benefit from long-term recovery planning efforts.

FEMA defines mitigation as “. . . the effort to reduce loss of life and property by lessening the impact of disasters . . . through risk analysis, which results in information that provides a foundation for mitigation activities that reduce risk.” Said another way, hazard mitigation is a method of permanently reducing or alleviating the losses of life, property and injuries resulting from hazards through long and short-term strategies.

Example strategies include policy changes, such as updated ordinances, projects, such as seismic retrofits to critical facilities; and education and outreach to targeted audiences, such as non-English speaking residents or the elderly. Hazard mitigation is the responsibility of the “Whole Community.” FEMA defines Whole Community as, “private and nonprofit sectors, including businesses, faith-based and disability organizations and the public, in conjunction with the participation of local, tribal, state, territorial and Federal governmental partners.”

44 CFR 201.6 – The local mitigation plan is the representation of the jurisdiction’s commitment to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards. . .

Why Develop this Mitigation Plan?

The Disaster Mitigation Act of 2000 (DMA2K) and the regulations contained in Title 44 CFR Part 201 require that jurisdictions (including universities) maintain an approved NHMP to receive FEMA Hazard Mitigation Assistance (HMA) funds for mitigation projects. To that end, the UO is involved in a broad range of hazard and emergency management planning activities. University and federal approval of this NHMP ensures that the UO will (1) remain eligible for pre- and post-disaster mitigation project grants and (2) promote local mechanisms to accomplish risk reduction strategies.

44 CFR 201.6(a)(1) – A local government must have a mitigation plan approved pursuant to this section in order to receive HMGP project grants . . .

What is Mitigation?

“Any sustained action taken to reduce or eliminate long-term risk to life and property from a hazard event.”

- U.S. Federal Emergency Management Agency

The purpose of this natural hazard mitigation plan is to assist the UO in reducing risk. The plan will also guide and coordinate mitigation activities on UO campuses and facilities.

Planning for mitigation activities provides the university with several benefits:

- reduced vulnerability to future hazard events, specifically” reduced loss of life, property, essential services, critical facilities, and economic hardship;
- reduced short-term and long-term recovery and reconstruction costs;
- quicker resumption of university operations, including education, research, and business systems;
- increased cooperation and communication within the campus community through the planning process; and
- increase potential for state and federal funding for mitigation and recovery projects.

The natural hazard mitigation plan is non-regulatory in nature, meaning that it does not set forth any new policy. Rather, it is designed to help build the foundation and vision for enhanced coordination and collaboration among university departments and administrative units to prepare for and reduce the risks posed by natural hazards. To be successful, mitigation practices must be integrated into current and future university plans and policies.

Who Participated in Developing the Plan?

The UO NHMP is the result of a collaborative effort between university schools, departments, faculty, and staff. The Campus Vulnerability Assessment Team (CVAT) guided the NHMP development process. For a list of specific CVAT participants, refer to the acknowledgements section above.

44 CFR 201.6(c)(1) – Documentation of the planning process used to develop the plan, including how it was prepared, who was involved in the process and how the public was involved.

The Continuity and Emergency Manager convened the planning process and will take the lead in implementing, maintaining, and updating the plan. The UO is dedicated to directly involving the university community in the continual review and update of the NHMP. The UO achieves this through systematic engagement of a wide variety of active groups, organizations or committees, infrastructure partners, campus groups, and numerous

others. Although members of the CVAT represent the university community to some extent, the university community will continue to provide feedback about the NHMP throughout the implementation and maintenance period.

Methodology

Since the adoption of the UO’s first NHMP in 2006 the university established an Emergency Management & Continuity program (UOEMC) that now oversees mitigation activities at UO campuses and facilities.

The primary tasks of the plan update process included:

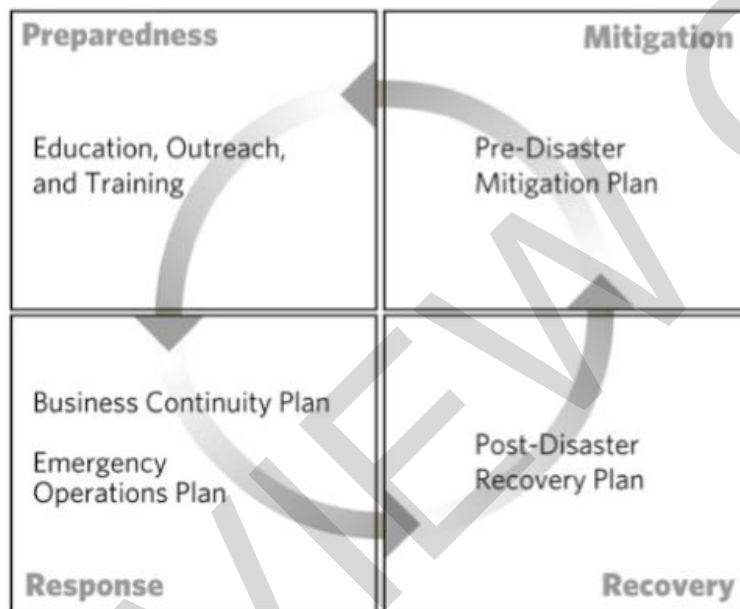
- Reconvening the steering committee (CVAT)
- Interviewing CVAT members and stakeholders
- Revising the NHMP mission and goals

- Researching university characteristics
- Updating the Eugene Campus and OIMB risk assessment
- Developing the Portland Campus, Pine Mountain Observatory, and The Shire risk assessment
- Reviewing, updating, and developing mitigation strategies (action items)
- Reviewing and revising the plan maintenance process and implementation schedules

What is Integrated Emergency Management?

Mitigation is only one of the four phases of what is commonly referred to as the disaster cycle. Every risk or vulnerability we mitigate today reduces our overall exposure, thereby decreasing the pressure on the response side of the disaster cycle and lowering our recovery costs from future events. To effectively reduce risk, all phases of the disaster cycle need to be carefully evaluated, and plans need to be developed to guide activities during each phase.

Figure UO-1 Disaster Cycle



Key Definitions

Mitigation:

a method to reduce or eliminate injuries and loss of life and/or property from natural hazards through short and long-term activities.

Preparedness:

refers to activities, programs, and systems developed prior to a disaster, designed to build and enhance capabilities to support the response to and recovery from disasters.

Response:

begins as soon as a disaster event occurs. Response is the provision of search and rescue, medical services, access control, and repairing and restoring communication and data systems.

Recovery:

operations that provide for basic needs and restore the community. The process of recovery can take months or even years to accomplish.

What is the NHMP's Mission?

The NHMP mission states the purpose and defines the primary functions of the NHMP. The UO updated their Plan mission and goals after first reviewing and evaluating the 2017 Plan and State of Oregon NHMP mission, vision, and goals. The mission is intended to be adaptable to any future changes made to the NHMP and need not change unless the campus environment or priorities change.

Mission

The University of Oregon is a community of scholars dedicated to the highest standards of academic inquiry, learning, and service. To carry out its missions, the university must be able to provide a safe environment for students, staff, faculty, and visitors, and must be able to recover quickly from any disaster that might jeopardize its functioning.

Reduce or Eliminate Impacts to Campus and University Owned and Operated Facilities from Natural Disasters.

In doing so, the university will be better prepared to protect lives, essential functions, and the physical campus, and to withstand, respond and recover from a disaster.

What are the NHMP Goals?

Mitigation plan goals are more specific statements of direction that the campus community, as well as public and private partners, can take while working to reduce the UO's risk from natural hazards. These statements of direction form a bridge between the broad mission statement and serve as checkpoints as the mitigation action items are implemented.

Goals are designed to drive actions and are intended to represent the general end toward which the university's effort is directed. Goals also identify how the university intends to work toward mitigating risk from natural hazards. The goals are guiding principles for the specific recommendations that are outlined in the action items. Goal 6 is new, and Goals 1 and 3 were revised for the 2022 Plan update. All NHMP goals are important and are listed below in no order of priority.

GOAL 1: Reduce risk of property damage, injury, and loss of life posed by natural disaster events on the main campus and university owned and operated facilities from natural disasters.

GOAL 2: Continue to advance the integration of institutional and hazard data to better identify campus risk and enhance emergency planning.

GOAL 3: Increase awareness of risks and risk reduction among campus community members through a variety of techniques and strategies, and increase communication, coordination, and collaboration among the university and internal and external stakeholders.

GOAL 4: Integrate risk reduction strategies into university plans, policies, and practices.

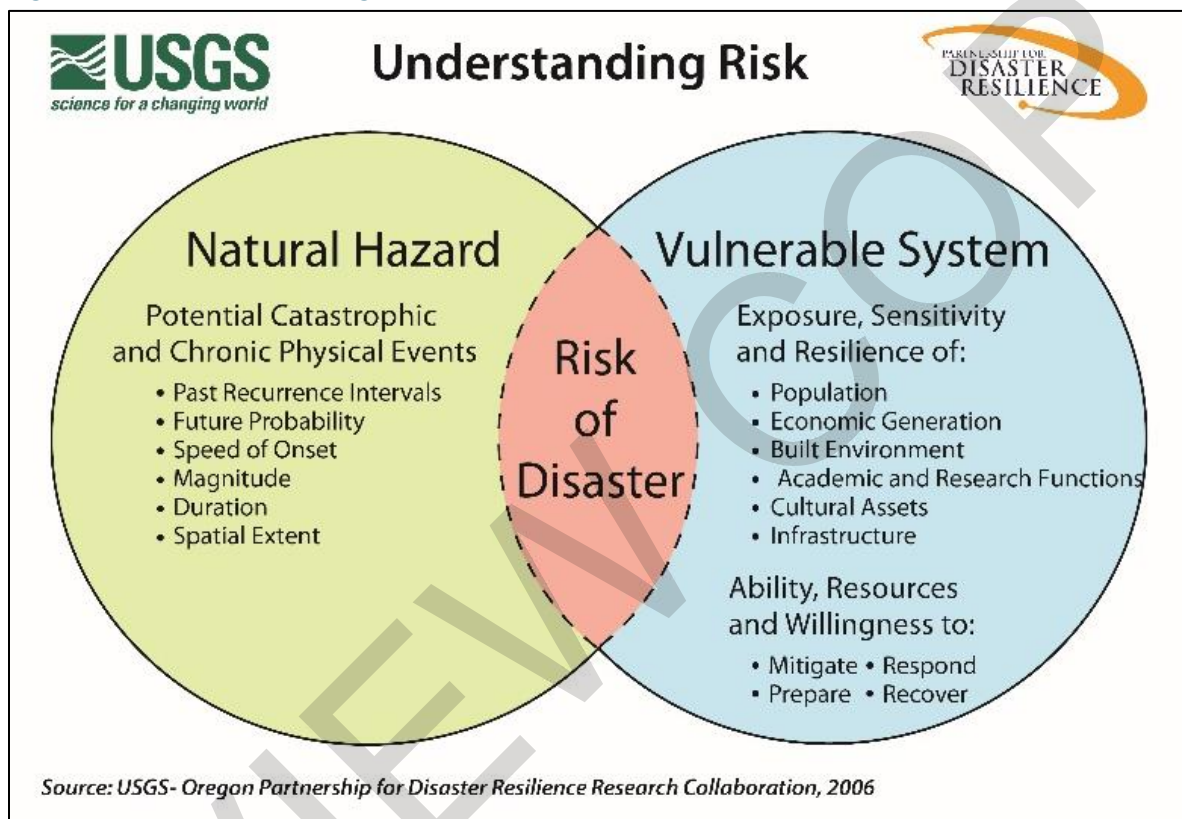
GOAL 5: Establish and maintain methods to ensure plan implementation and further mitigation practices on campus.

GOAL 6: Mitigate the inequitable impacts of natural hazards by prioritizing and directing resources and investments to build resilience among campus community members who may be challenged in their ability to respond and recover.

How Does this NHMP Reduce Risk?

The NHMP is a tool for the UO to use to mitigate the impacts of natural hazards by identifying resources, information, and strategies for risk reduction. It is also intended to guide and coordinate mitigation activities throughout the UO campuses and facilities. A risk assessment (Figure UO-2) consists of three phases: hazard identification, vulnerability assessment, and risk analysis.

Figure UO-2 Understanding Risk



Natural hazards are normal processes and include earthquakes, tsunamis, floods, landslides, severe weather (extreme heat, windstorms, winter storms), and wildfires. A natural disaster occurs when a natural hazard impacts people and property and creates adverse conditions within a community. Planning for natural disasters requires understanding the characteristics of the natural hazard and the community that it might impact.

By identifying and understanding the relationship between hazards, vulnerable systems, and existing capacity, the UO is better equipped to identify and implement actions aimed at reducing the overall risk to hazards.

What is UO's Overall Risk to Hazards?

The CVAT reviewed and updated the risk assessment to evaluate the probability of each hazard as well as the vulnerability of the community to that hazard. In 2006, the University of Oregon identified three major hazards with the greatest potential to affect the Eugene UO campus: earthquakes, floods, and severe weather (i.e., windstorms and winter storms). The 2011 and 2017

Plans continued to focus on these hazards.¹ The 2022 Plan Update enlarges the focus to include hazards that may impact the Eugene campus or the UO's satellite campuses and facilities.

Table UO-1 lists the profiled natural hazards. The UO profiles eight (8) natural hazards across its campuses and facilities. The UO does not profile coastal hazards, drought, or volcanic events which have minimal if any impact upon the UO.

More information on the hazards that impact the UO can be found in the Risk Assessment within the [Oregon NHMP](#) (2020). See also the following local NHMPs:

- [Eugene-Springfield Area Multi-Jurisdictional NHMP](#) (2020)
- [Lane County Multi-Jurisdiction HMP](#) (2018)
- [Portland Mitigation Action Plan](#) (2021)
- [Multnomah County Multi-Jurisdictional NHMP](#) (2017)
- [Coos County NHMP](#) (2017)
- [Deschutes County Multi-Jurisdictional NHMP](#) (2021)

Table UO-1 Hazard Identification

Oregon NHMP Identified Hazard	UO Profiled Hazard				
	Eugene Campus	Portland Campus	OIMB	The Shire	Pine Mountain Observatory
Coastal Hazards					
Drought					
Earthquake	X	X	X	X	X
Extreme Heat	X	X			
Flood	X	X	X	X	
Landslide			X	X	X
Tsunami			X		
Volcanic Events					
Wildfire	X		X	X	X
Windstorm	X	X	X	X	X
Winter Storm	X	X	X	X	X

Source: UO CVAT (2022) and State of Oregon NHMP (2020)

How are the Action Items Organized?

Data collection, research, and the public participation process resulted in the development of the action items. The Action Item Matrix documents the title of each action along with, the coordinating organization, timeline, cost, and potential funding resources.

44 CFR 201.6(c)(3)(ii) – A section that identifies and analyzes a comprehensive range of specific mitigation actions . . .

¹ Regarding other hazards: the university's main campus in Eugene does not contain landslide or wildfire prone areas; the committee felt that volcanic hazards provided limited opportunities for cost-effective mitigation efforts.

What is the Comprehensive Mitigation Strategy?

The mitigation strategy (action items) are detailed recommendations for activities that UO departments and others could engage in to reduce risk. The CVAT will prioritize the following actions to focus their attention, and resource availability, upon an achievable set of high leverage activities over the next five-years.

Table UO-2 Priority Action Items

Action Type	Action Item Description	Coordinating Organization	Timeline	Hazard	Impacted Campus			Potential Funding Source	Cost
					Eugene	Portland	OIMB		
Processes	Redo tsunami evacuation charts to make evacuation-route navigation easier for visitors and those unfamiliar with the area. Some people may head toward the Charleston School.	UOEMC	Ongoing	Tsunami			X	UO Resources	Low
	Assess the structural vulnerability of building stock by qualified engineers.	Campus Planning and Facilities Management	Long-term/ongoing	Earthquake	X	X	X	UO Resources, HMA	Medium
	Develop proposals and secure funding to complete retrofit projects for high priority buildings.	Campus Planning and Facilities Management	Long-term/ongoing	Earthquake	X	X	X	UO & State Resources, HMA	High
	Continue to complete building by building assessment and install water and float alarms in basements and ground floors throughout campus, particularly for areas housing sensitive assets or records.	Campus Planning and Facilities Management	Ongoing	Flood	X	X	X	UO Resources	Medium

Projects	Evaluate the vulnerability of campus utilities (including UO-owned sewer, stormwater).	Campus Planning and Facilities Management	Long-term	Multi-Hazard	X	X	X	UO Resources	Medium
	Develop a post-disaster recovery plan for campus. Consider applying for a HMGP grant to assist with this effort.	UOEMC	Short-term/ongoing	Multi-Hazard	X	X	X	UO Resources, HMA (HMGP)	Medium
	Feasibility study on new data center space out of Cascadia zone	Information Services	<TBD – discussion pending>	Multi-Hazard	X			UO Resources	High
	Off campus, out of Cascadia zone voice trunking site	Information Services	Short-term	Multi-Hazard	X			UO Resources	Medium
	Anchor cabinets and shelving throughout facility (particularly Terwilliger labs, Terwilliger sample room, all classrooms, shop, NERR labs, Emlet labs, Maslakova lab, library, stockroom, dock storage room)	UOEMC	Long-term/ongoing	Earthquake			X	UO Resources	Low
	Work with Coast Guard to clear stairway uphill from Coast Guard housing to OIMB property.	UOEMC	Long-term/ongoing	Earthquake			X	UO & Coast Guard Resources	Low

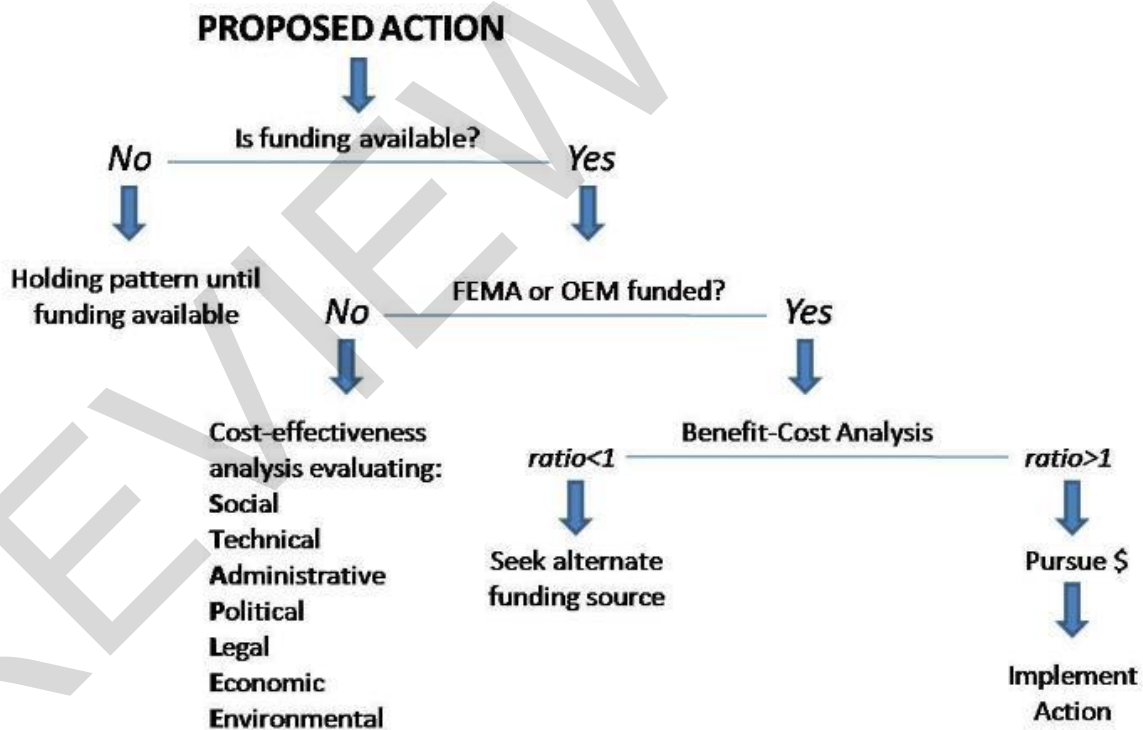
What is the Implementation and Maintenance Strategy?

Implementation and maintenance are the formal processes that will ensure that the UO NHMP remains an active and relevant document. The UO Continuity and Emergency Manager is the designated NHMP convener and is responsible for overseeing the review and implementation processes. The NHMP maintenance process includes a schedule for monitoring and evaluating the NHMP quarterly and revising the NHMP every five years. This section also describes how the UO will integrate participation throughout the implementation and maintenance process.

The accomplishment of the NHMP goals and actions depends upon regular CVAT participation and adequate support from UO leadership. Comprehensive familiarity with this NHMP will result in the efficient and effective implementation of appropriate mitigation activities and a reduction in the risk and the potential for loss from future natural hazard events.

UO faculty, staff, administration and the CVAT can identify new projects and potential actions items to be included in the NHMP. Establishing and implementing a project prioritization process is important because it: (1) is a required element of the Disaster Mitigation Act of 2000 [Title 44 CFR Part 201.6]; can assist the CVAT in making decisions about how to move forward; (3) can assist in directing the effective use of limited mitigation dollars; and (4) helps develop recommendation for priority action items.

Figure UO-3 Benefit Cost Decision Criteria



Source: Oregon Partnership for Disaster Resilience, 2010.

NHMP Adoption

Once the NHMP is locally reviewed and deemed complete the Continuity and Emergency Manager (or their designee) submits it to the State Hazard Mitigation Officer at the Oregon Department of Emergency Management (OEM). OEM reviews the NHMP and submits it to FEMA Region X for pre-approval. This review will address the federal criteria outlined in [Title 44 CFR Part 201.6](#). Once pre-approved by FEMA, the UO may formally adopt it via resolution.

44 CFR 201.6(c)(5) – Documentation that the plan has been formally adopted by the governing body of the jurisdiction . . .

44 CFR 201.6(d) – Plan review [process] . . .

The Continuity and Emergency Manager will be responsible for ensuring university adoption of the NHMP and providing the support necessary to ensure NHMP implementation. Once the resolution is executed by the university and documentation is provided to FEMA, the NHMP will be formally approved by FEMA and the UO will regain eligibility for Hazard Mitigation Assistance (HMA) grants.

The Continuity and Emergency Manager met to review the NHMP update process, and the Vice President of Finance and Administration adopted the NHMP as shown below. Copies of adopting documents are provided at the beginning of this NHMP.

Date of Adoption and Approval

The University of Oregon adopted their NHMP on **Date, 2022**. FEMA Region X approved the NHMP on **Date, 2022**. With approval of this NHMP the UO is now eligible to apply for the Robert T. Stafford Disaster Relief and Emergency Assistance Act's hazard mitigation project grants through **Date, 2027**.