



UNIVERSITY OF OREGON

Emergency MANAGEMENT AND CONTINUITY

Natural Hazard Mitigation Plan

Full plan updated Fall 2016

Executive Summary

The purpose of the Natural Hazard Mitigation plan is to enhance disaster safety and resilience at the University of Oregon, thereby protecting the University's core mission of teaching, research, and public service.

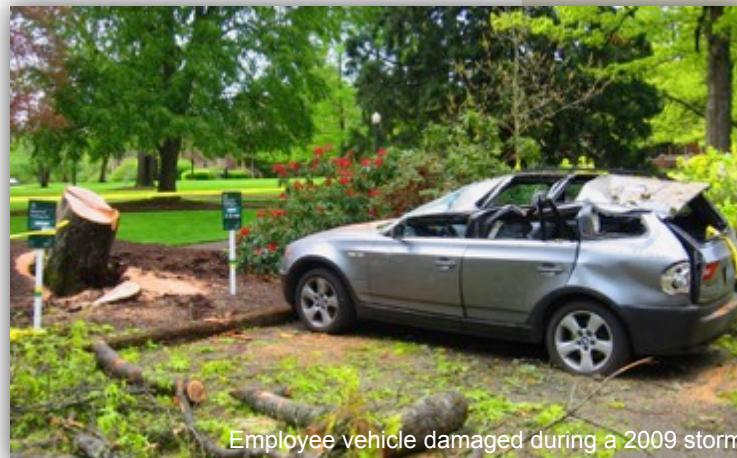
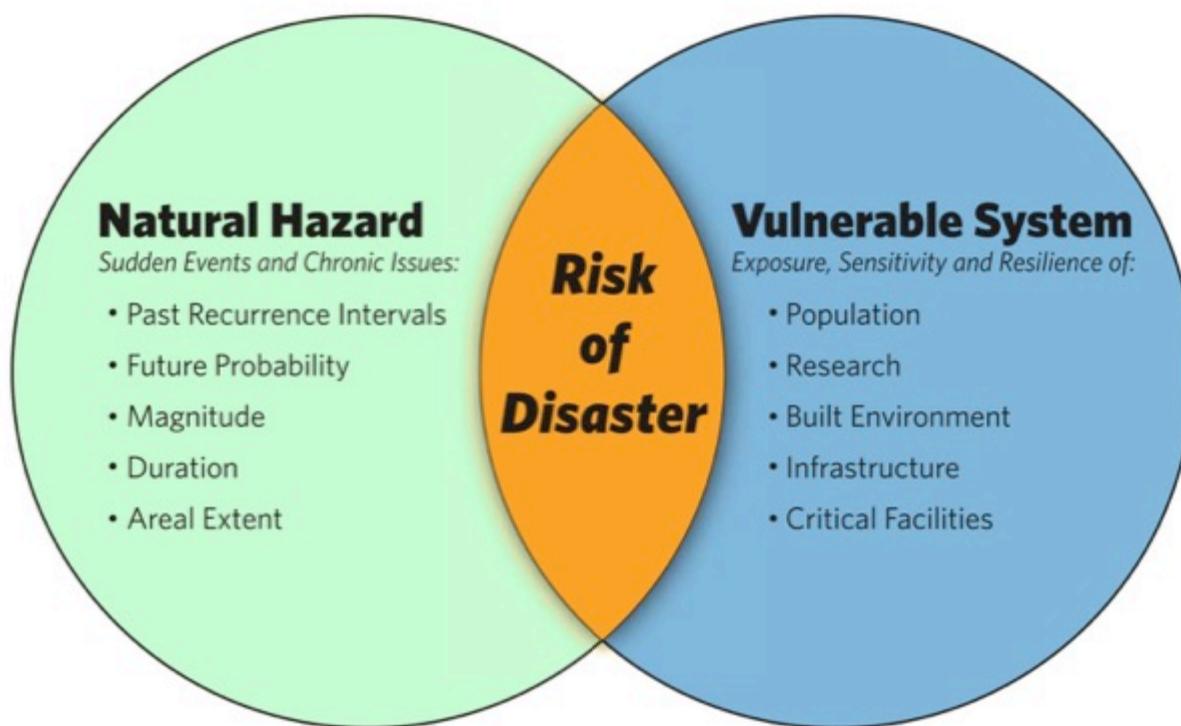


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Understanding Risk

Natural hazards are normal earth processes. They include: floods, earthquakes, coastal erosion, tsunami, volcanic eruption, severe winter storm, windstorm, drought, and wildfire. A natural disaster occurs when a natural hazard impacts people or 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.



Source: ONHW and USGS

Introduction

Why develop a Mitigation Plan?

This plan focuses on the three natural hazards that could directly affect the University of Oregon: earthquakes, floods, and severe storms (winter and wind storms).

The purpose of this natural hazard mitigation plan is to assist the University of Oregon in reducing risk. The plan will also help guide and coordinate mitigation activities on campus.

Planning for mitigation activities provides the university with a number of 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
- increased 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 a foundation and a 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.

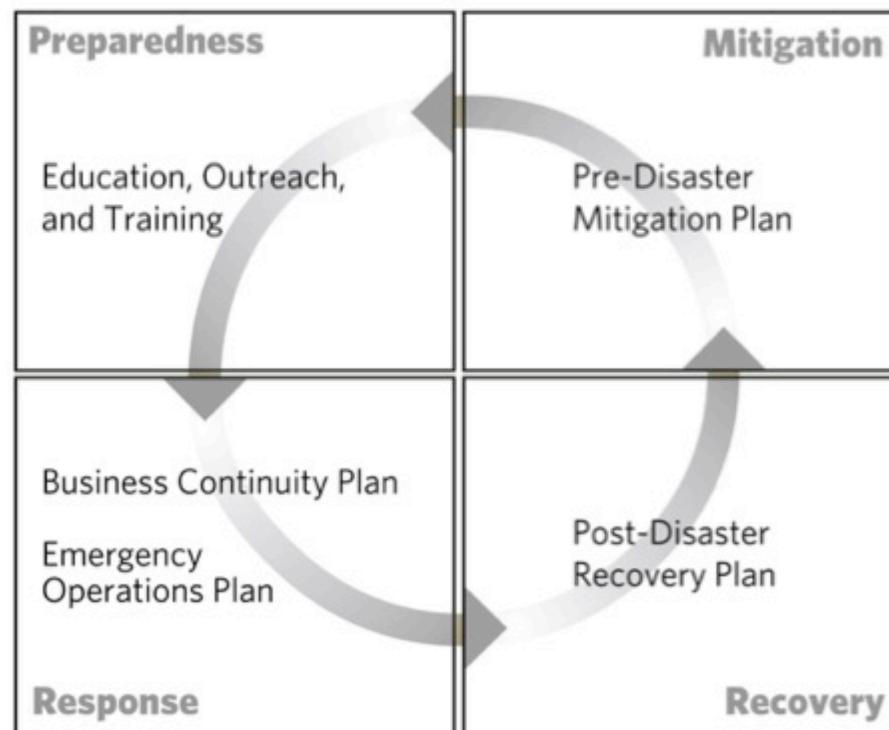


EMU Water Damage, 2006

Introduction

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.



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.

Methodology

Since the adoption of the original Hazard Mitigation Plan in 2006 the university established an Emergency Management & Continuity program (UOEMC) that now oversees mitigation activities on campus. In 2009, UOEMC started the process to update the 2006 University of Oregon Natural Hazards Mitigation Plan, which was approved by FEMA in 2011. In 2015, UOEMC began the next update due to FEMA in 2016.

The plan update process, started in 2015 and completed in 2016, was funded through UOEMC's general budget.

The primary tasks of the plan update process included:

- Reconvening of the steering committee
- Interviews of steering committee members and stakeholders
- Research of University characteristics
- Development of risk assessment
- Revision of goals and action items
- Revision of the plan maintenance and implementation schedule
- Development of an appendix to address the Oregon Institute of Marine Biology, Portland, and Pine Mountain.

Steering committee members represented the following departments:

Campus Planning & Facilities Management

Emergency Management & Continuity

Environmental Health & Safety

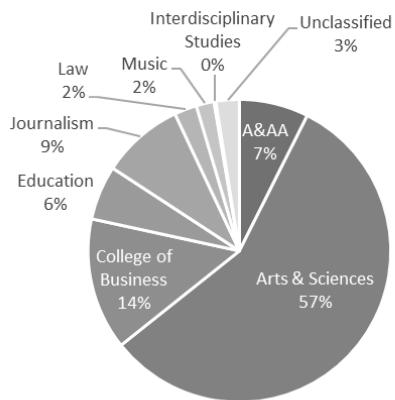
Information Services

Housing

Risk Management

Campus Profile

Student Body Enrollment by School, 2012



Research Award Amounts by Unit, FY15

Principle Investigator Home Unit	Award Amount	Percent of Total
Arts & Sciences, College of	\$56,239,163.00	49.1%
Education, College of	\$32,965,893.00	28.8%
Research Centers & Institutes	\$8,664,845.00	7.6%
Library	\$3,846,118.00	3.4%
Research VPRI Office	\$3,298,454.00	2.9%
Architecture & Allied Arts, School of	\$3,004,660.00	2.6%
VP Academic Affairs	\$2,467,481.00	2.2%
Graduate School	\$1,567,522.00	1.4%
International Affairs	\$1,153,635.00	1.0%
Law, School of	\$505,652.00	0.4%
Research Core Services	\$297,632.00	0.3%
Honors College	\$182,914.00	0.2%
University Advancement	\$140,046.00	0.1%
Business, College of	\$138,000.00	0.1%
Journalism & Communication, School of	\$65,000.00	0.1%
VP Student Life	\$58,459.00	0.1%
Research and Innovation Services	\$22,500.00	0.0%
Senior VP & Provost	\$11,784.00	0.0%
Campus Planning, Design & Construction	\$5,000.00	0.0%
Grand Total	\$114,634,756.00	100%

The University of Oregon serves a dynamic population of nearly 30,000 students, faculty, and staff, plus a large number of visitors for athletic events, performances, and other public gatherings.

The 300+ acre Eugene campus consists of over 100 buildings, ranging from the 136-year old Deady Hall to the brand-new Lewis Integrative Science Building. In addition, the campus contains 140 acres of diverse open space, from historic quads to riverfront property.

The scale of the University of Oregon becomes most apparent when its economic impact is considered. Direct spending by the University, its students, and visitors totals \$1.14 billion annually, representing a broader economic impact that exceeds \$2.5 billion each year.

hazard type

Earthquake

The State's hazard assessment identified Lane County's probability of experiencing a future earthquake as low, meaning that Lane County could expect to have one major earthquake event in the next 75 to 100 years. However, the State's hazard assessment rated the vulnerability of the county's population and assets to a future earthquake event as high.¹



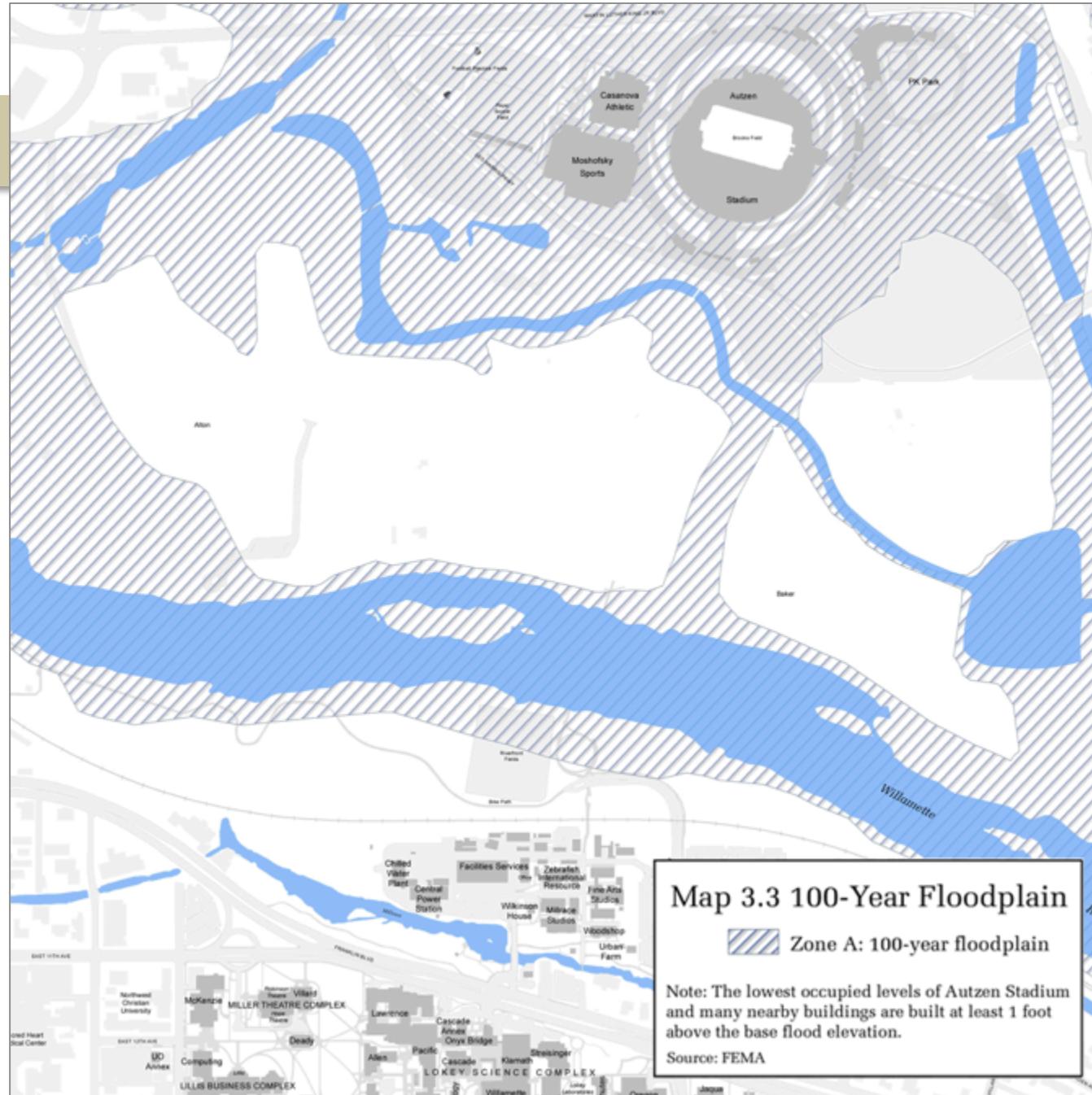
Source: Oregon Resilience Plan, 2013

¹State Interagency Hazard Mitigation Team. 2004. State of Oregon Natural Hazard Mitigation Plan.

The university's geographic position makes it susceptible to earthquakes from three sources:

1. The off-shore Cascadia Fault Zone
2. Deep, intra-plate events within the subducting Juan de Fuca plate
3. Shallow crustal events within the North America Plate.

Tsunamis are common after earthquakes and pose a considerable risk for the Oregon Institute for Marine Biology.



hazard type

Flood

The majority of the University of Oregon campus is located outside the 100-year floodplain (one of the most common ways for designating flood risk). The areas most vulnerable to flooding are those along the Willamette River and near Autzen Stadium. It should be noted that most buildings within the 100-year floodplain were constructed at raised elevations to reduce the potential for flood damage.

hazard type

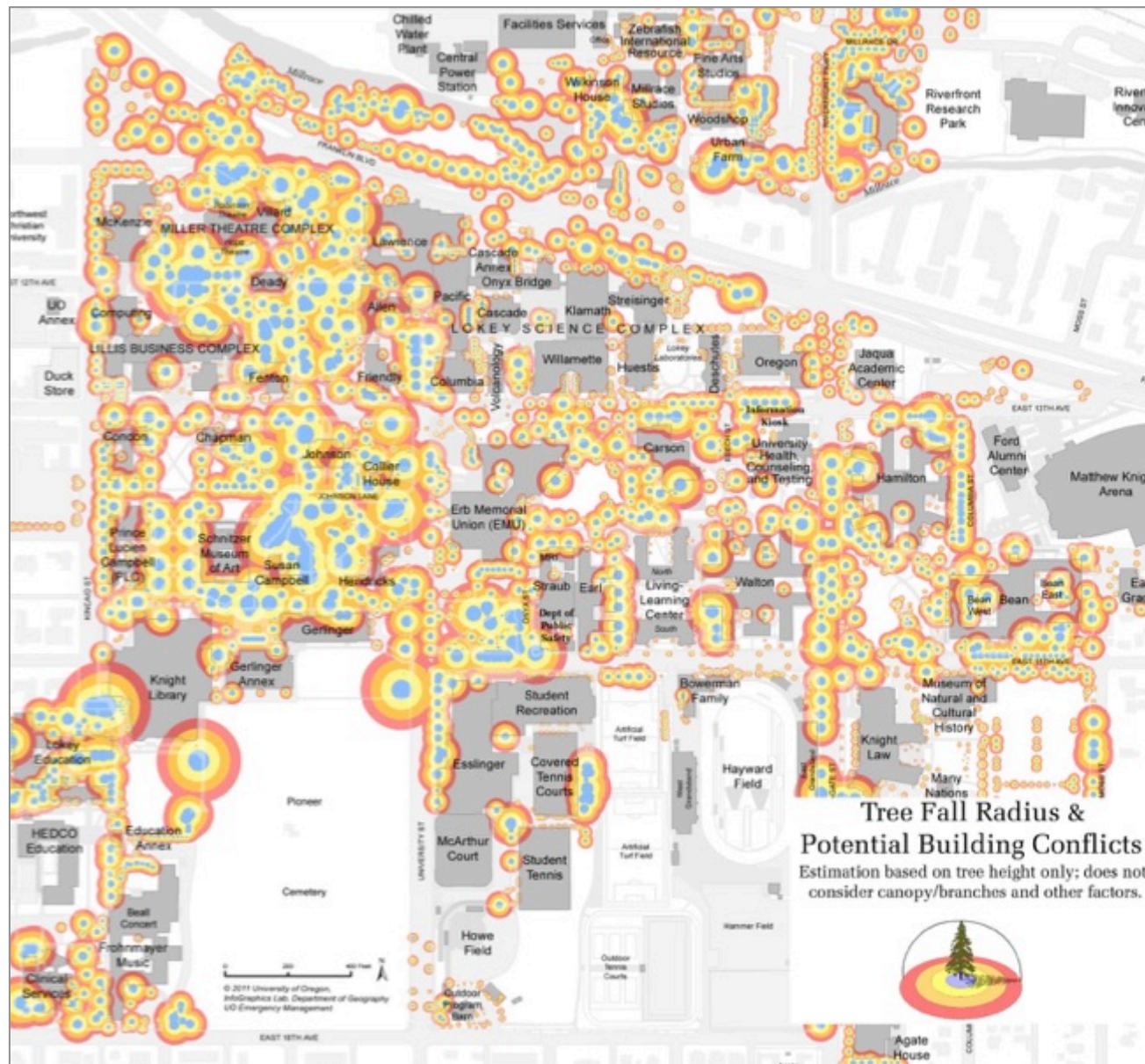
Severe Storm

Key Issues

Life Safety: Falling branches and other debris from trees pose a threat to people living, working, and studying on campus.

Property Vulnerability: During a severe storm trees can damage structures and the contents of buildings. Water damage may also threaten the campus.

Emergency Routes: Fallen trees and other debris may block essential routes and hinder emergency response.



Mission & Goals

Mission: The mission of the University of Oregon Natural Hazard Mitigation Plan is to create a disaster resilient University of Oregon

Goal 1: Reduce risks posed by seismic, flood, and severe storm events on campus.

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 and promote risk reduction activities through education and outreach.

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.

Key Definitions

The goals and action items form the core of the plan. They work together to create tangible ways that the university can implement the plan and reduce risk on campus.

Mission:

The mission statement is a philosophical or value statement that answers the question “Why develop a plan?”

Goals:

Goals are intended to represent the general ends toward which the plan is directed. They are guiding principles for the specific recommendations outlined in the action items, but do not specify how the university is to achieve the desired level of performance.

Action Items

Each of the five goals in the plan has a set of related action items. To facilitate implementation, each of these action items is fully described in a worksheet contained within the full plan. The template below illustrates the information recorded in each worksheet, while the tables on the following pages summarize the 32 action items contained in the plan.

Action Item 1.1

Proposed Action Item:	Alignment with Plan Goals:	
Alignment with Existing Plans/Policies:		
Rationale for Proposed Action Item:		
Ideas for Implementation: .		
Coordinating Organization:		
Internal Partners:	External Partners:	
Potential Funding Sources:	Estimated cost:	Timeline: <input type="checkbox"/> Short Term (0-2 years) <input type="checkbox"/> Long Term (2-4+ years) <input type="checkbox"/> Ongoing
Form Submitted by:		
Action Item Status:		

Action Items:

The action items are detailed recommendations for activities that the university and its partners could engage in to reduce risk of damage from natural disasters. These specific recommendations/activities may be considered for state, federal, or other outside funding.

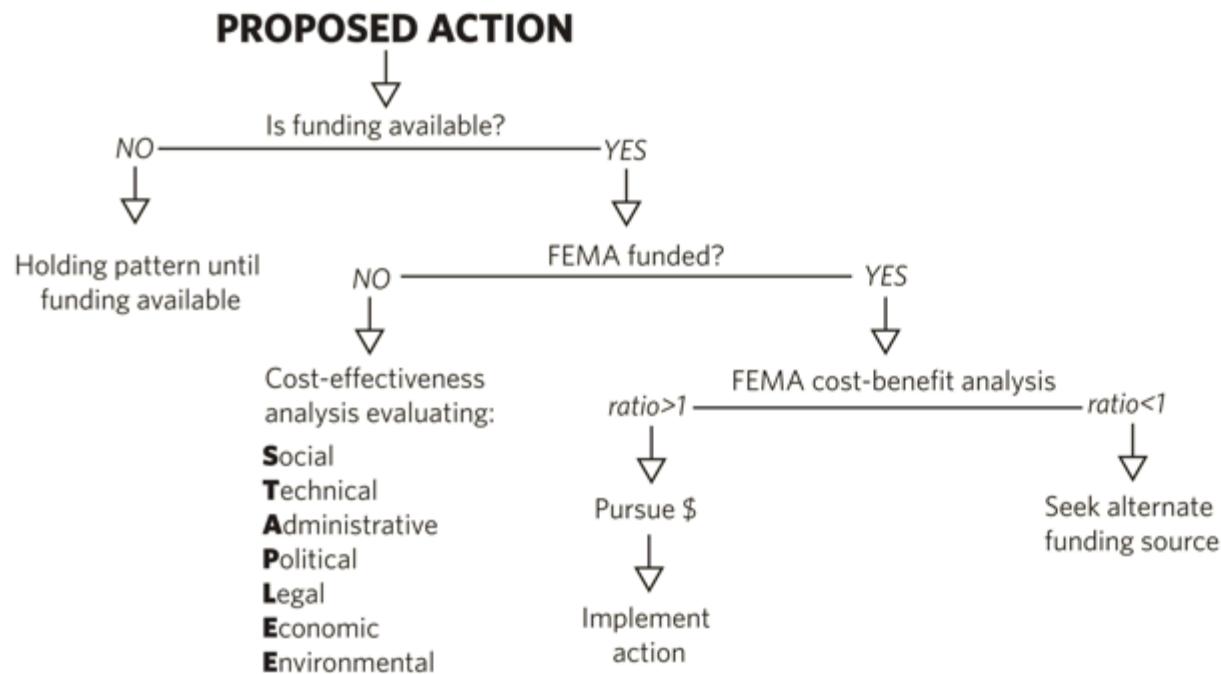


Priority Actions

Action Item Description	Coordinating Organization	Internal Partners	External Partners	Timeline	Hazard (if applicable)
Evaluate the vulnerability of campus utilities.	Campus Planning and Facilities Management	Utilities and Energy, Telecom/Network Services, Campus GIS, EHS, UOEMC	EWEB, City of Eugene	Short-term	Multi-Hazard
Assess the structural vulnerability of building stock by qualified engineers.	Campus Planning and Facilities Management	EHS, Planning, Department of Architecture, UOEMC	Contracted structural engineer, FEMA	Short-term	Earthquake
Develop proposals and secure funding to complete retro-fit projects for high priority buildings.	Campus Planning and Facilities Management	Office of the President, Office of the Provost, VPFA, UOEMC	Contracted structural engineer, FEMA	Short-term	Earthquake
Install water alarms in basements and ground floors throughout campus, particularly for areas housing sensitive assets or records.	Campus Planning and Facilities Management	UOPD, Department heads, building managers		Short-term	Flood
Develop a post-disaster recovery plan for campus. Consider applying for a HMGP grant to assist with this effort.	UOEMC	UOPD, EHS, Campus Planning and Facilities Services, Auxiliary Units, Central Administration, Business Affairs	City of Eugene, Lane County	Short-term/ Ongoing	Multi-Hazard

Implementation

UO faculty, staff, administration and the Advisory Committee can identify new projects and potential action items to be included in the Plan. Establishing and implementing a project prioritization process is important because it: (1) is a required element of the Disaster Mitigation Act of 2000 [44 CFR Part 201.6]; (2) can assist the Advisory Committee in making decisions about how to move forward; (3) can assist in directing the effective use of limited mitigation dollars; and (4) helps develop recommendations for high, medium, and low priority Action Items.



Prioritization Process

Step 1:

Assess Availability of Funding

Potential funding stream requirements will be assessed to ensure that the mitigation activity would be eligible.

Step 2:

Complete Cost-Benefit Analysis

Depending on the type of project and the funding source, either a quantitative or qualitative assessment of cost effectiveness will be completed.

Step 3:

Integrate Actions into Existing Plans and Policies

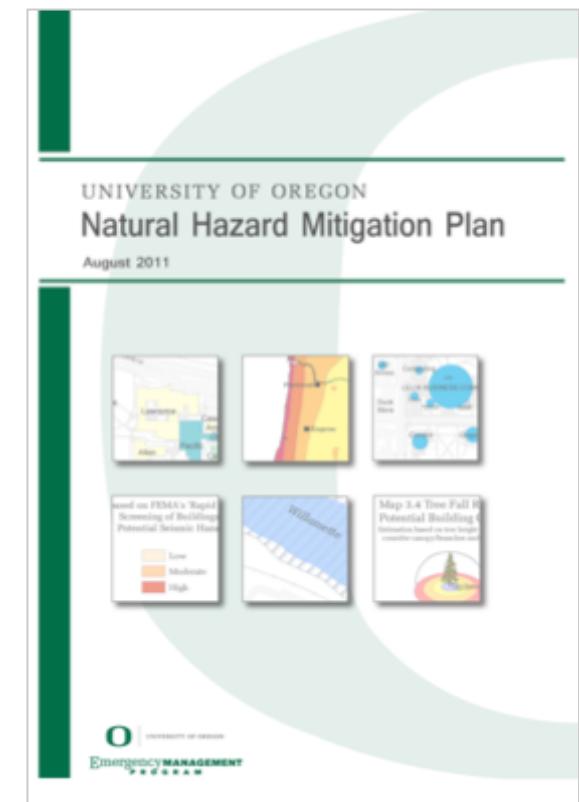
Where possible, the university should implement mitigation action items through existing plans and policies.

Maintenance

This plan is overseen by the University of Oregon Natural Hazards Mitigation Steering Committee and the Campus Vulnerability Assessment Team (CVAT). UOEMC provides staff support to both groups.

The Steering Committee is responsible for overseeing and guiding the implementation of the mitigation plan. This group, composed of directors of many administrative units that have an expressed role or responsibility for any element in the emergency management phases (e.g. response, recovery, preparedness, and mitigation), reports to the CVAT. UOEMC will hold the title of Convener and will ensure that the committee regularly meets and achieves its objectives.

The Steering Committee will be responsible for maintaining and updating the plan by holding quarterly meetings and 2-Year Review Meetings.



Enterprise Risk Services

Emergency Management & Continuity

Contact Information

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Mitigation Committee

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- Darin Dehle, Campus Planning and Facilities Management
- Allen Gidley, University
- Tony Hardenbrook, Campus Planning and Facilities Management
- Flo Hoskinson, Risk Management
- Jon Marchetta, Finance & Administrative Shared Services
- Brett Rogers, Campus Planning and Facilities Management
- Tony Saxman, Information
- Steve Stuckmeyer, Environmental Health & Safety