Issue Brief: The Oregon Hazards Lab at the University of Oregon

Using Science, Technology, and Community Engagement to Understand, Detect, and Mitigate Multi-Hazards

The Oregon Hazards Lab (OHAZ) operates a statewide sensor network for multi-hazard detection, early warning, and research. These tools include AI-enabled wildfire cameras, seismic monitoring stations, and earthquake early warning. OHAZ is part of the University of Oregon.

OHAZ directly contributes to building a more resilient, safe, and liveable future for all Oregonians. Through its dual mission of resilience monitoring and scientific observing, OHAZ helps communities across Oregon prepare for and respond to wildfires, earthquakes, and climate change. Its network provides public agencies and the private sector with actionable information during emergencies to protect people and inform response efforts. These sensors also collect the open-access data that scientists need to better understand our dynamic environment. This fosters the convergent research necessary to build a more disaster-resilient Oregon.

Impact of State Funding on Oregon Hazards Lab

OHAZ helps the State of Oregon address crises that impact all Oregonians. Recurring state funding would enable OHAZ to provide long-term support to the under-served communities, rural fire protection districts, and smaller utilities that have come to rely upon its public safety tools.

Becoming a permanent state program would enshrine OHAZ's successes and stabilize its finances, so it is less dependent on short-term investments. OHAZ has historically been funded in an ad-hoc method, building on cooperative agreements with federal agencies, state legislative grants, and philanthropic donations. Permanent state funding would also allow increased operational flexibility, including greater resources for community engagement and more choice about future sensor locations and types.

Oregon Hazards Lab Sensors Are In:

34
Oregon Counties

29
Senate Districts

45
House Districts

Developing the Most Advanced All-Hazards, Environmental, and Ecosystem Observing Platform in the United States

Seismic Monitoring and Earthquake Early Warning

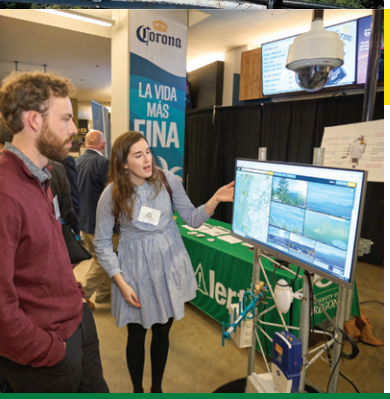
OHAZ is part of the Pacific Northwest Seismic Network, which operates hundreds of seismic monitoring stations in Oregon and Washington. In addition to improving knowledge of the Cascadia Subduction Zone, these stations send data to the ShakeAlert Earthquake Early Warning System. The ShakeAlert System rapidly detects significant earthquakes and alerts people before dangerous shaking arrives.

Wildfire Detection and Monitoring

OHAZ operates dozens of high-speed wildfire cameras that help firefighters spot and track fires. Any member of the public can visit ALERTWest.live to watch the landscape and fire behavior through real-time and timelapse images. Firefighters, dispatchers, and other emergency response personnel can directly control the cameras and receive AI-enabled alerts when new ignitions are detected in their region.

Scientific Observing and Innovation

Building community-level resilience depends on advancing scientific knowledge of natural and human-caused hazards. The OHAZ sensor network includes Wild Sage Nodes which use edge computing to collect and analyze vast quantities of environmental data to detect emerging issues like wildfires and study long-term trends due to climate change.



Stakeholder Engagement and Community Outreach

OHAZ works closely with communities to ensure its public services are available to stakeholders who need them. It assists community lifelines like schools and utilities in integrating ShakeAlert technology into their facilities. Upon earthquake detection, ShakeAlert can automatically deliver alerts over paging systems, close water and gas valves, and slow trains. OHAZ also helps firefighters use wildfire camera platforms.

UNIVERSITY OF OREGON

Want to learn more? Connect with us today!

ohaz.uoregon.edu / ohaz@uoregon.edu / 541-346-4573

@OregonHazardsLab @UOHazardsLab