Earthquake early warning gets a boost from businesses

Scientific in-flight advertisement from Korean Air: Because you can’t always choose who you sit next to. Convenient direct aisle access from every seat.

Earthquake early warning gets a boost from businesses

Originally published February 2, 2016 at 8:44 pm Updated February 3, 2016 at 12:57 pm Corrected

Seafloor seismometers get seed money

The Moore Foundation is giving the UW $1 million for preliminary studies of a network to monitor the Cascadia Subduction Zone and improve quake early warning.

Source: University of Washington

Kelly Shea / The Seattle Times
The Obama administration Tuesday offered strong support for an earthquake alert system on the West Coast that would warn residents and businesses seconds to minutes before the shaking starts.

By Sandi Doughton

*Seattle Times science reporter*

At a White House summit Tuesday, the Obama administration offered strong support for an earthquake-alert system on the West Coast that would warn residents and businesses seconds to minutes before the shaking starts.

“Earthquake early warning is coming,” said Suzette Kimball, director of the U.S. Geological Survey (USGS). “Our main objective looking forward is to develop the current prototype into a robust, full West Coast system producing reliable,
actionable warnings.”

With next year’s federal budget still in the works, the administration didn’t promise additional funding. But a private foundation and Northwest businesses, including Amazon and Intel, pledged financial or organizational resources. Some of the money will also be used to plan a network of seafloor seismometers off the Northwest coast to more closely monitor the 700-mile fault called the Cascadia Subduction Zone.

**Prepare for an earthquake**

Earthquakes may be unpredictable — but they are also inevitable. Here are some tips to help you get ready before the next one hits.

Kimball said a functional early-warning system just started beta testing, and Congress appropriated $8.2 million this year. But adding enough instruments for a top-notch network could cost $38 million, while yearly operations could run about $16 million.

**Most Read Stories**
“We’re halfway there,” said John Vidale, director of the Pacific Northwest Seismic Network at the University of Washington.

It was prompted, in large part, by a July article in The New Yorker magazine called “The Really Big One,” detailing the impact of a Cascadia megaquake and tsunami.

Interior Secretary Sally Jewell, a Seattle native, pointed out that her home is situated in the area west of Interstate 5 that the article implied would be “toast.”

“I am keenly aware of that,” she said during the opening session of the summit, which was streamed live.
out that Japan and several other countries already have systems that detect the initial seismic waves from a quake and warn of the most damaging vibrations arrive. Warnings are sent to the public via cellphone, while trains and industrial processes are wired to aut

“...we can’t do this,” Jewell said, adding that it will require cooperation with communities, universities and corporations.

President Obama also issued an executive order, requiring that all new or renovated federal buildings meet the latest seismic codes.

It’s not enough that buildings stay standing in a quake — they should be usable after the dust settles, said Alice Hill, senior director for resilience policy at the National Security Council.

Amazon awarded a $300,000 grant to the University of Washington under a cooperative-research program called Amazon Catalyst. The funding will be used to help develop ways to integrate data from GPS stations into an early-warning system. GPS measures actual ground motion and can determine the magnitude of the most powerful quakes more quickly and accurately than seismometers, Vidale explained.

Intel, which has small operations in Washington but employs nearly 18,600 people in Oregon, didn’t put a dollar value on its contribution. But the company said it will help bring the high-tech community to the table to support early...
warning.

“The business impacts from a Cascadia Subduction Zone earthquake would be extreme,” said a prepared statement from Intel. “Having advance notice of an event will allow Intel and other private sector companies to safely react to an earthquake before it occurs, saving millions of dollars per hour in potential downtime.”

The Puget Sound Energy Foundation is giving the UW $100,000 to add eight new seismic instruments across the state.

UW scientists are especially excited by a $3.6 million grant from the Gordon and Betty Moore Foundation, which helped launch the existing prototype early-warning system now being tested in the Northwest and California.

The money will be shared with universities in California. UW will get $1 million to help design a network of seafloor seismometers and pressure sensors. Positioned off the coast, such instruments could provide quick tsunami warnings. They also could reveal more about the fault’s structure, including where the biggest ruptures are likely to occur, as well as detect small quakes and patches that slip.

There’s some evidence that the seafloor off Japan was slipping slowly before the magnitude 9 quake in 2011. Though that’s no guarantee the Cascadia fault will exhibit similar precursors, seismologists say it’s important to study the possibility.

“Essentially, we’re doing an engineering survey of different options and how
much they would cost,” Vidale said.

The seafloor network’s price tag is sure to be steep. Current estimates range between $300 million to $500 million.

Corrections:
Information in this article, originally published Feb. 2, 2016, was corrected Feb. 3, 2016. A $100,000 grant to purchase seismometers is from the Puget Sound Energy Foundation, not PSE.

Sandi Doughton at: 206-464-2491

Email Newsletter Signup
Custom-curated news highlights, delivered weekday mornings.

email address

Subscribe

View 2 Comments

Next Story
Scientists in Germany switch on nuclear fusion experiment

Previous Story
Scientists map bedbug genome, follow pest through NYC subway

Recommended in
Shops may not survive Seattle’s Central District...
The Latest: Daughter: Arizona rancher killed in...
Rescuers tow capsized cargo ship before it hits...
State’s top high-school players and their...

Around the Web

What Donald Trump Thinks About Home Solar Panels
(Solar America®)

Worst States to Live in When You Retire
(Kiplinger)

3 Winning Powerball Tickets Sold For $1.6 Billion Jackpot
(Unterview)

WWII Test Your Knowledge Quiz
(HowStuffWorks)

Don't Buy One of These 15 Worst New Cars of 2015
(Forbes)

9 Amazing Military Technologies That Will Change Warfare
(Kiplinger)

Recommended by