

# West Coast Earthquake Early Warning: **Time to Act**

Washington Emergency Management  
Council  
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# USGS Support Increases to help bridge the gap

## ShakeAlert Phase 6 Completed:

67 station upgrades

(52 in Washington)

30 New Stations- 10 in Washington

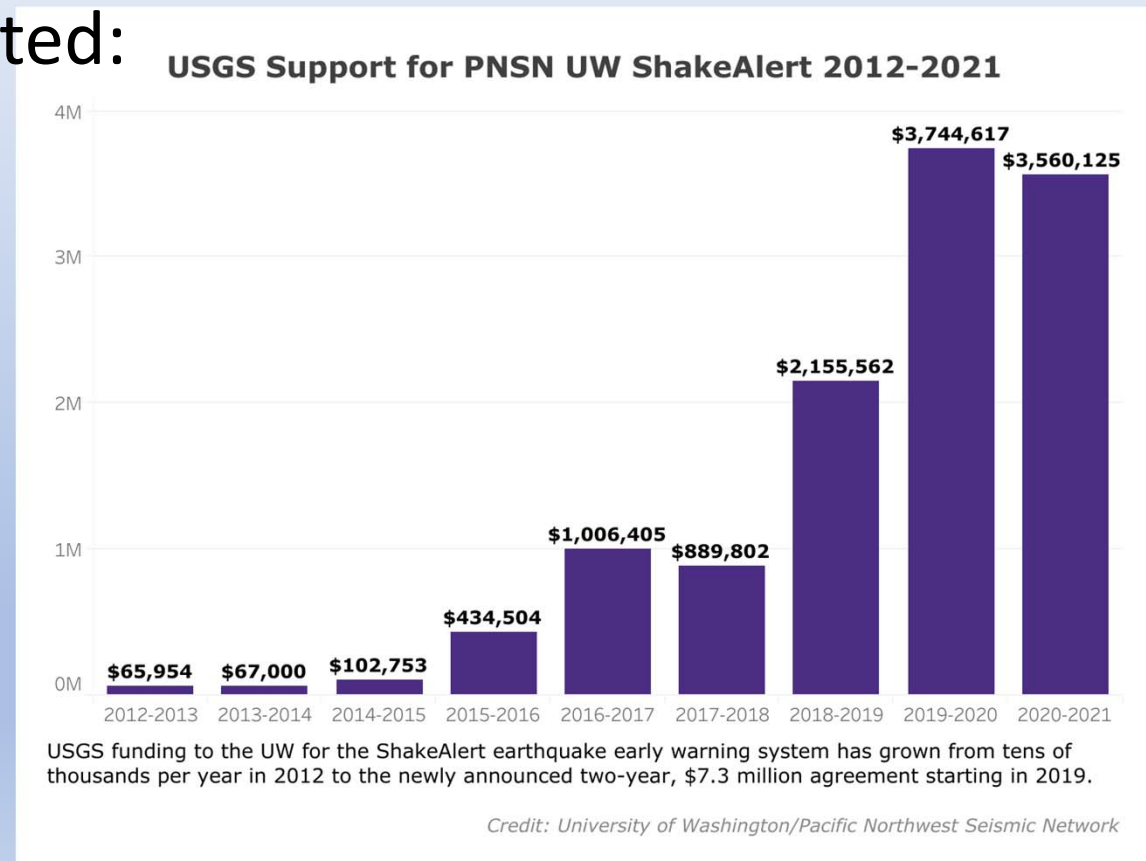
(OR DOGAMI Funding)

## Phase 7:

104 New Stations in WA

44 in Oregon

Plus Research and Outreach



# Washington State Funding for ShakeAlert

Support for new FTE for ShakeAlert Education and Training  
at Washington Emergency Management Division

500k per year for 2 years for seismic network build out



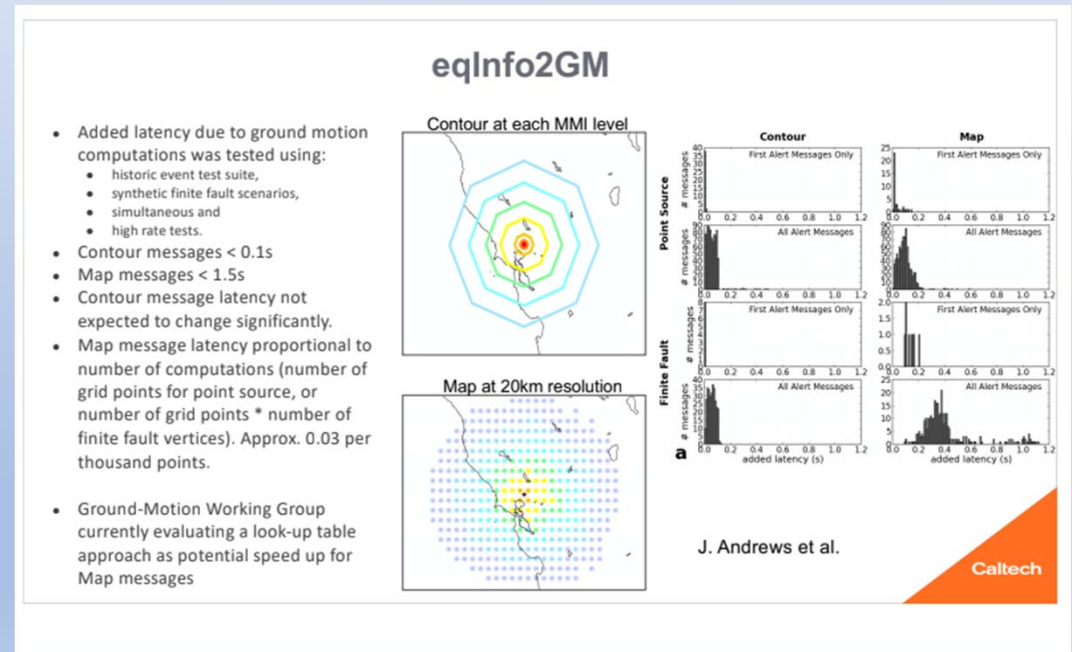
ShakeAlert 2.0 released last year

Now includes Ground Motion Prediction Maps

New User Display

Public alerting in LA County

Public Alerting in all CA beginning  
In October based on MyShake App  
UC Berkeley.



# Sample PNW ShakeAlert Testers

## Private Sector:

- Alaska Airlines
- The Boeing Company
- Intel Corporation
- Microsoft
- PACCAR Inc
- British Petroleum
- Puget Sound Energy
- Beta Tester for OSH
- Providence Health & Services

## Local Government:

- Portland Bureau of Emergency Management
- City of Seattle Office of Emergency Management
- Seattle Public Utilities (Water, Sewer, Garbage, Networks)
- Seattle City Light
- Port of Seattle
- Sound Transit
- OSPI for development in Public School Districts

## State and Provincial Government

- Emergency Management of British Columbia
- Oregon DOGAMI
- Oregon DOT
- UW, UO, CWU UUW (Inc. Medical Centers, Trauma Center)
- Washington DNR, EMD
- Washington DOT

## Federal Government:

- Bonneville Power Administration
- FEMA Region X
- Ocean Networks Canada
- Natural Resources Canada
- NOAA/PMEL
- Naval Air Station Whidbey Island
- USGS

## Utilities

- **15 Water and Sewer Districts**
- Puget Sound Energy
- Eugene Water Electric Board

## NGOs:

- North West Healthcare Response Network
- Cascadia Region Earthquake Workgroup

## Our research partners:

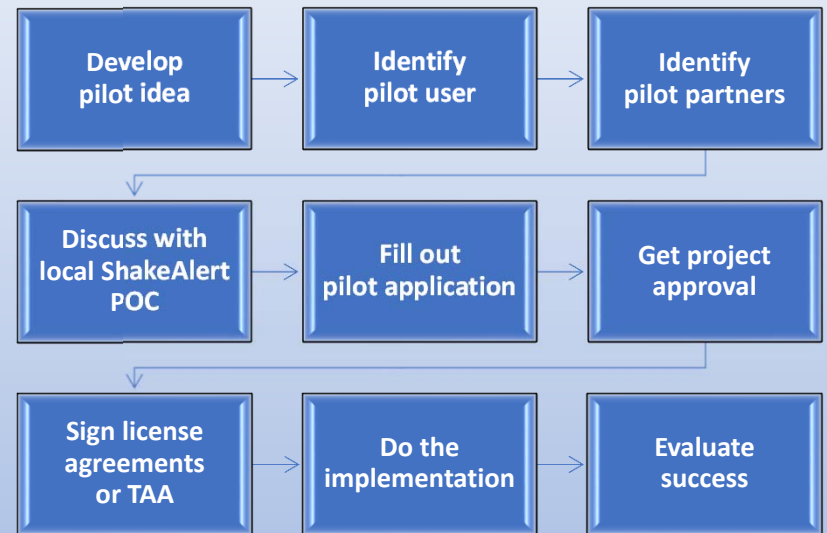
- Hawaiian Volcano Observatory
- Central Washington University
- Caltech
- University of Oregon
- Berkeley Seismology Laboratory
- USGS
- Early Warning Labs

# 2018 ShakeAlert Pilot Projects

## Pilot Project Criteria

- No public alerting
- Users must be trained
- Actions only within pilot organization
- Must be tolerant of errors
- No potential for injury, damage or loss
- Must be testable
- Must commit organizational resources to complete and sustain the project
- Should have potential for broader application

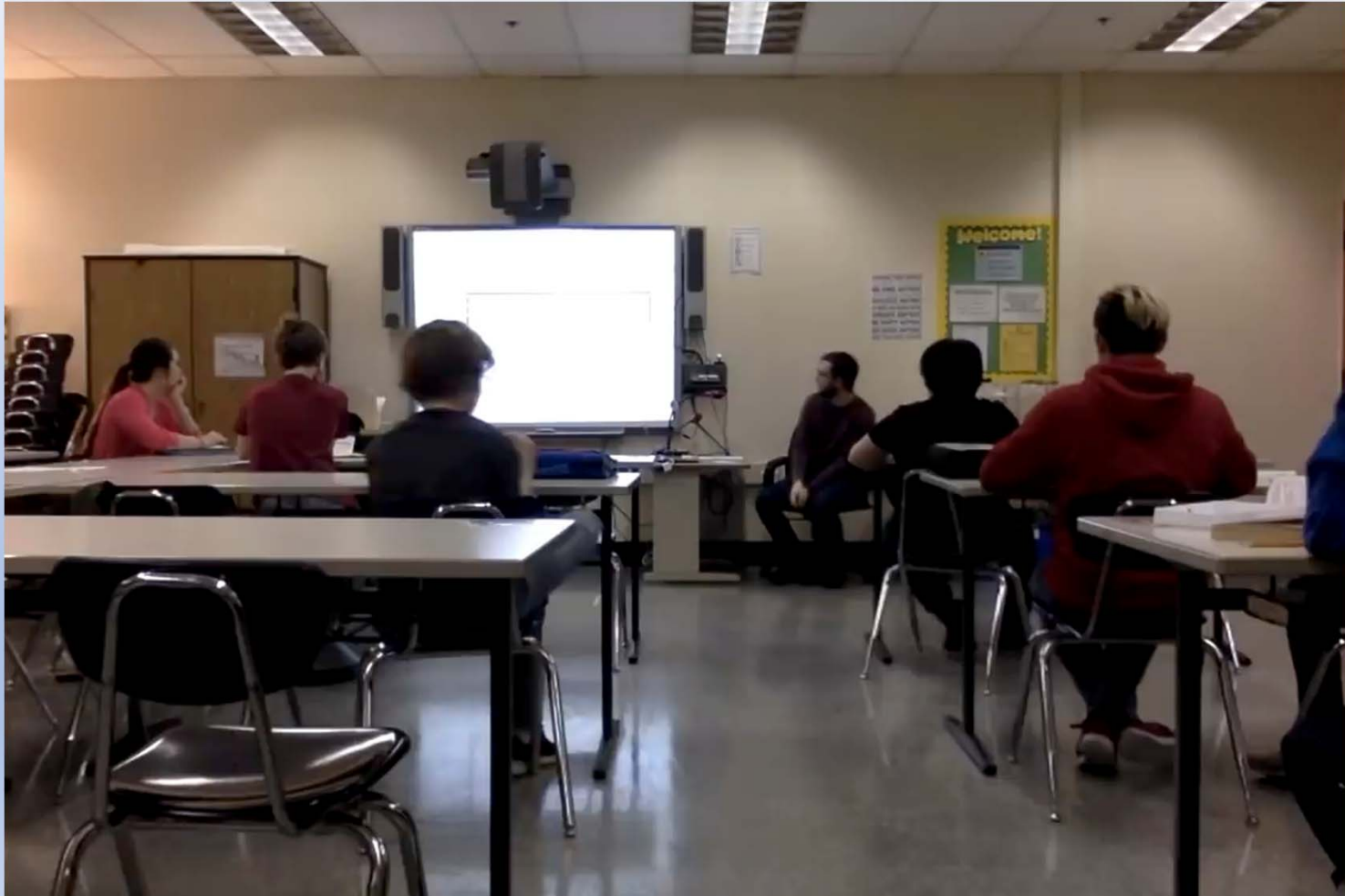
## Pilot Process



# 2019-2020 School Pilot Projects



# Training produces correct responses





# Cedars-Sinai Hospital

Phase 1: Audible alerts:

Radio Notification - Security and facilities

ShakeAlert provided to hospital and nursing stations.

Future implementations will include:

Operating room notifications - Visual

Lab Technician Notifications – Visual

## **Mechanical:**

- Elevator Recall
- Hazardous chemical isolation
- Radiation therapy machines – put into safe mode
- – Vehicle gates
- Door locks

BROIDY FAMILY PATIENT WING



# Other Medical Pilots in the works:



# Pilot Project Priorities

Schools  
Utilities  
Emergency Management  
Hospitals  
Large Private Sector Firms  
Commercial Dev. Partners  
Public Alerting Capability



B O N N E V I L L E P O W E R A D M I N I S T R A T I O N

# Welcome

**Cascadia Electrical Power Resilience Symposium**

**Sept. 12-13, 2019**  
Rates Hearing Room • 1201 NE Lloyd Street • Portland, Oregon 97232

The Cascadia Region Earthquake Workgroup (CREW) Lifelines Committee has partnered with Bonneville Power Administration

**CREW**  
Cascadia Region Earthquake Workgroup

**Bonneville**  
POWER ADMINISTRATION

- Regional earthquake hazards update
- ShakeAlert and power utilities
- Best practices & information sharing
- Cost benefit analysis of mitigation for utilities: A business case
- Resources for funding mitigation

Sponsored by the Pacific Northwest Seismic Network, your regional ShakeAlert facilitator.

**PNSN** — **ShakeAlert**

Space is limited • No registration fees • Additional sponsorship is highly appreciated  
For questions or follow-up please email Bill Steele at [wsteele@uw.edu](mailto:wsteele@uw.edu).