



Earthquake monitoring to protect Alaskans



Road damage in the MatSu Valley from the Nov. 30 earthquake, one of the largest in Alaska history. Photo by Jonathan Lettow via AP

Alaska has four out of five earthquakes nationwide, far more than California and all other states combined. High-quality seismic data allow the research necessary to forecast future earthquake activity. **If we can't understand them, we can't prepare.**

The per-capita risk of loss from earthquakes in Alaska's Railbelt is comparable to Los Angeles and San Francisco. **Alaska is the only high-hazard state that is not pursuing an earthquake early warning system. USArray will make this feasible.**

Issue reliable tsunami warnings: Reliable tsunami warnings require a comprehensive network that can remain operational during a damaging earthquake.

Investing in Alaska's seismic network FY20 \$5 million General Fund

The USArray Initiative helps safeguard Alaska through seismic data and advanced technology. This project will improve forecasting for natural disasters and provide substantial benefits to communities and industry.

As required under Alaska Statute 14.40.075, the Alaska Earthquake Center at the University of Alaska provides real-time seismic monitoring through a statewide network of specialized monitoring stations. These multifaceted instruments have unprecedented capabilities.

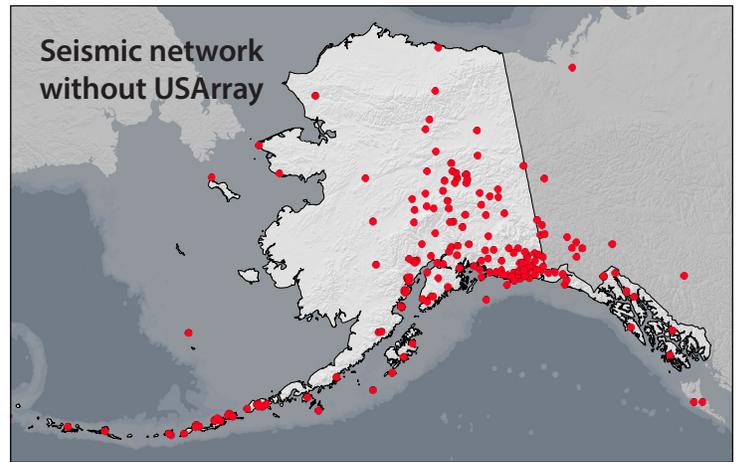
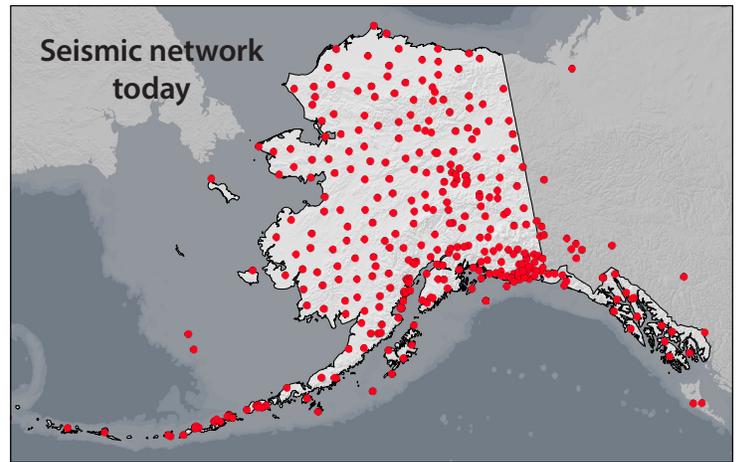
More than just seismic, the network measures weather, infrasound, and soil temperature. It monitors critical infrastructure such as the Trans-Alaska Pipeline, and collects data for many state and federal agencies including the U.S. Air Force, NASA, and Department of Homeland Security.

Sustaining the seismic network

The USArray partnership with the National Science Foundation will end in 2019. The network will be decommissioned and, with action, **we can retain 80 seismic stations.**

The University of Alaska is requesting \$5 million in one-time state investment to integrate part of the USArray into Alaska's seismic monitoring network. **An investment of \$5 million in the FY20 university capital budget would activate 100% federal support to retain the USArray network.**

Seizing this short-lived opportunity will enhance safety and earthquake monitoring in Alaska long into the future.

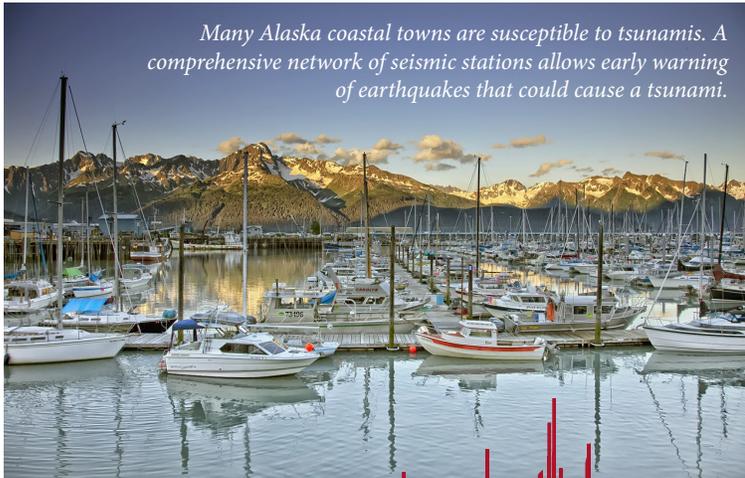


The USArray project has added critical monitoring stations where no earthquake detection existed previously. Top: Seismic stations across Alaska, including the USArray. Bottom: Seismic stations before the USArray was installed.

More than just earthquakes: The USArray includes **meteorological sensors, cameras and survey equipment.** Aviation, military and marine agencies, as well as private companies, use these data to enhance weather forecasts and support their operations across the state.

Building Alaska safely

Accurate information about seismic activity **allows pipelines, roads, drill sites, ports and mines to be designed to match natural hazards.** Data collected from the USArray informs building codes and environmental permits. This information is the foundation for building codes, insurance rates and environmental reviews. It guides safe construction of houses and schools, while avoiding overbuilding and costly retrofits.



Precise earthquake data helped calibrate building codes, **limiting the catastrophic potential of the magnitude 7 earthquake in November 2018.**

Address real world hazards

According to the U.S. Geological Survey, Alaska is the only region of the United States where earthquakes that are large enough to be felt by humans cannot be reliably recorded. **FEMA estimates Alaska's average earthquake risk at well over \$50 million annually.** The USArray delivers tools to reduce that risk.



Infrastructure such as bridges can be destroyed by earthquakes. Precise data about earthquake risk is used to design roads, bridges, ports, drill sites, mines and other infrastructure to withstand earthquakes, without overbuilding or costly retrofits.

