

Exploring the Tectonics of the Pacific Northwest through a Hands-On Exhibit

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UNAVCO is developing an informal museum exhibit that uses Plate Boundary Observatory data to explore plate tectonics in the Pacific Northwest of the United States, particularly the relationships among plate subduction of the Juan de Fuca plate, hazards caused by the crumpling landscape, and resulting earthquakes and tsunamis. Additional components will illustrate how scientists conduct research of natural hazards with high precision GPS and potential future hazard mitigation through real-time GPS supported early warning systems. The purpose of this exhibit is to communicate basic information to the general public and K-12 students/teachers about motion and deformation of Earth's tectonic plates, how they are studied, and how plate tectonics impact people's lives.

Through GPS data, the build up of strain can be illustrated and translated into physical-kinesthetic models that learners can explore and experience. By interacting with the hands-on models, museum visitors will experience the build up of strain in materials, different kinds of deformation (compression, extension, shear, rotation), sudden release of elastic strain (earthquakes), and resulting tsunamis. It will include supportive free-standing interpretive panels and an accompanying interactive kiosk which extends the Cascadia Active Earth Monitor content set. Intended audiences include K-12 classroom programs and tours, family and senior groups, and the general public. The exhibit will undergo design, development, and prototyping in collaboration with professional museum designers this spring and summer; with fabrication and installation planned as a visiting exhibit in the Hatfield Marine Science Center in Oregon State University in Newport, Oregon in the Fall 2013.

