

OBSIP Experiment Archive

Year: 2007

Experiment Name: Central Oregon Locked Zone Array (COLZA)

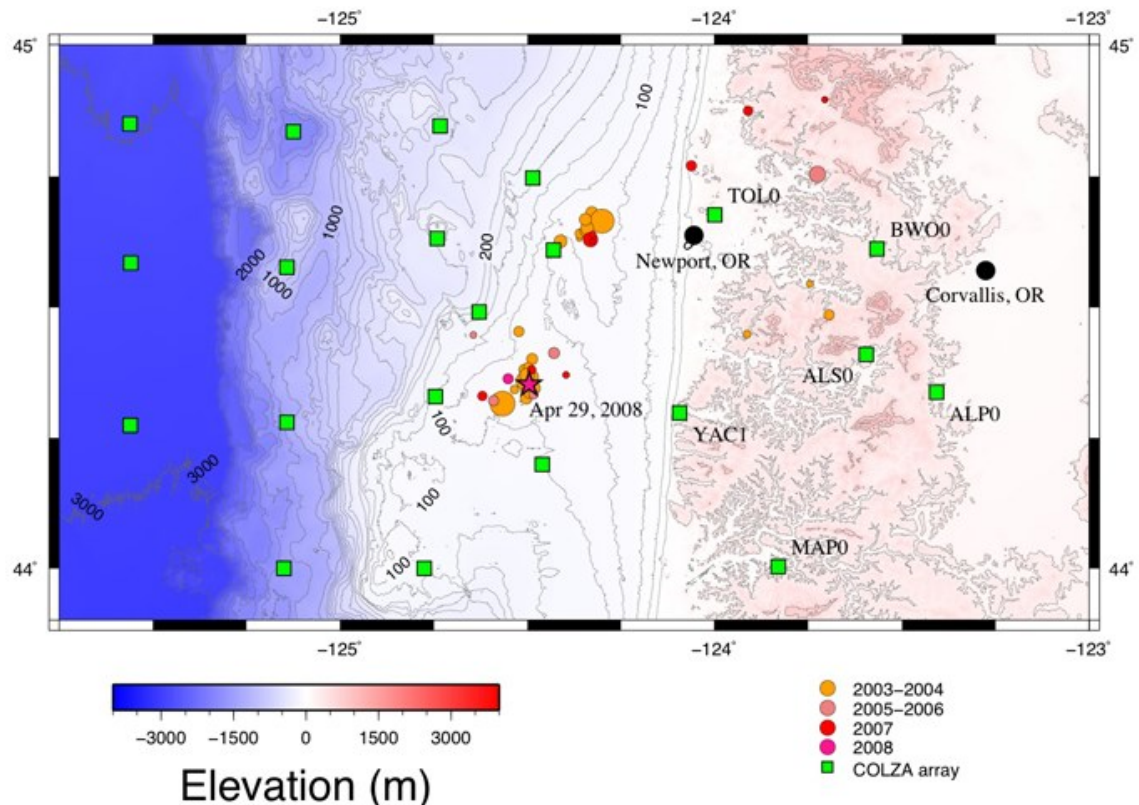
Monitoring Seismicity Associated with a Possible Asperity on the Cascadia Megathrust

Principal Investigator(s): Anne Tréhu (OSU)

Experiment Summary: (Taken from experiment website) Historically, the subducting Juan de Fuca plate has produced very large thrust earthquakes along the Cascadia subduction zone. These events occur every few hundred years on average, with very little documented seismic activity in the interim. Since 2003, about 40 earthquakes have been detected in the nominally "locked" zone offshore central Oregon. Analysis of the two largest earthquakes suggests that they were low angle thrust events on the plate boundary. We are currently operating an onshore/offshore seismic array (COLZA – Central Oregon Locked Zone Array) to better constrain microseismic activity in this region.

The COLZA experiment consists of six temporary land seismic stations from the FlexArray, part of EarthScope's USArray network of instruments, and two deployments of ocean bottom seismometers.

Our data are collected and archived with the help of the Program for Array Seismic Studies of the Continental Lithosphere (PASSCAL) and archived by the Incorporated Research Institutions for Seismology (IRIS).



Continued Next Page

OBSIP Experiment Archive

...Continued

Year:	2007
Experiment Name:	Central Oregon Locked Zone Array (COLZA) Monitoring Seismicity Associated with a Possible Asperity on the Cascadia Megathrust
Principal Investigator(s):	Anne Tréhu (OSU)

Cruises:

9/2007 - 9/2007:

10 short period and 3 broadband SIO ocean bottom seismographs were deployed.

7/1/2008 - 7/7/2008:

10 short period and 3 broadband SIO ocean bottom seismographs were recovered and 6 were deployed on board the R/V Wecoma. 1 short period instrument released early and was washed ashore in December 2007.

7/14/2009 - 7/20/2009:

Remaining ocean bottom seismographs were recovered.

Data:

Data from all instruments deployed will be archived at the IRIS DMC.

Downloads/Links:

[COLZA Website](#)

[Geology Publication](#)

[BSSA Publication](#)