

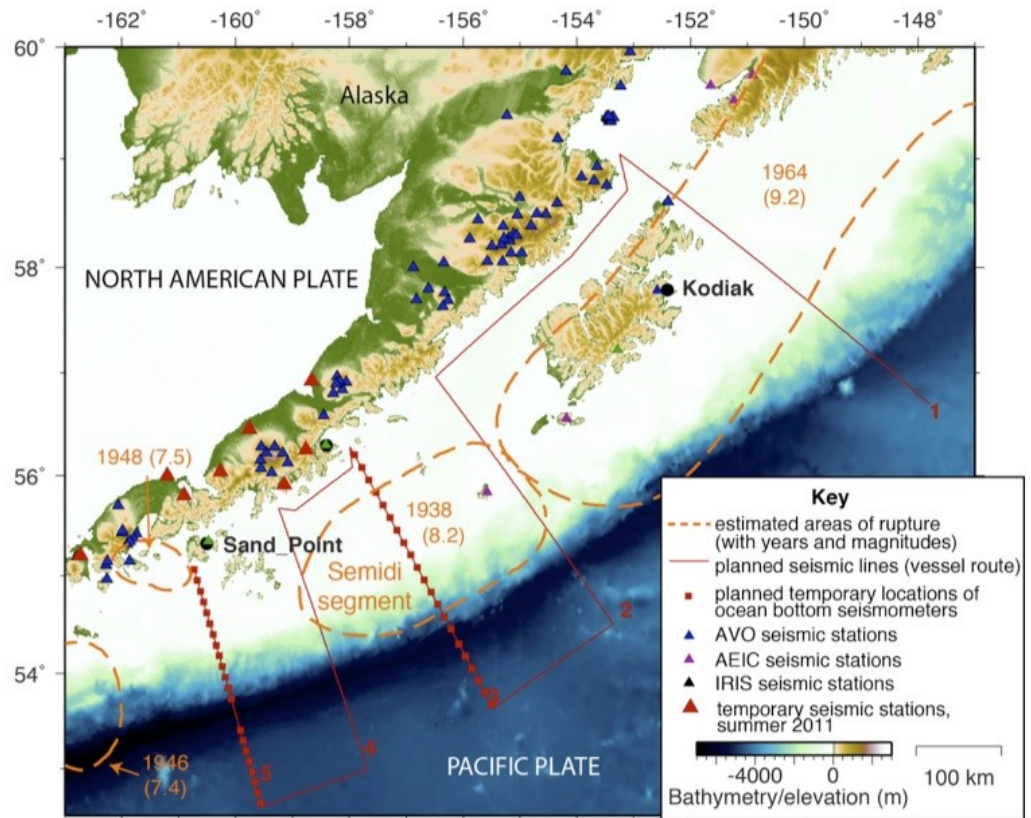
# OBSIP Experiment Archive

**Year:** 2011

**Experiment Name:** Alaska Langseth Experiment to Understand the megaThrust (ALEUT)

**Principal Investigator(s):** Donna Shillington (LDEO)

**Experiment Summary:** (Taken from the cruise report): The aim of this program is to characterize the megathrust, overriding and downgoing plates, and other fault systems associated with the Alaska-Aleutian subduction zone from the Shumagin gap, across the Semidi segment, to the western end of the Kodiak asperity. To achieve this, we will use multichannel seismic (MCS) reflection and wide-angle reflection/refraction (WARR) data, and relate the reflection and velocity images to the mechanical behavior of the megathrust and other faults based on the history of subduction earthquakes [Davies et al., 1981], historical intraslab and crustal earthquake hypocenter distribution, present-day locking of the plate boundary from GPS data [Fournier and Freymueller, 2007], and other available constraints. A secondary goal of the cruise is to conduct an oceanographic experiment to study the mixing processes in this area by acquiring hydrographic (XBT/XSV/XCTD/sea-surface salinity) data that are coincident in space and time with the collected MCS data. In support of the science objectives, we will collect the following coincident supplementary data: multibeam, sea bottom profiler (3.5 kHz Knudsen), magnetic, gravity, and navigation.



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*Map of planned survey (red lines),  
offshore short period seismic deployment (red circles),  
and temporary land broadband stations (red triangles) .*

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## Cruises:

*6/29/2011 - 7/12/2011:*

42 Scripps short period ocean-bottom seismometers were deployed in two lines of 21 instruments on board the R/V Langseth. Several temporary land stations were also deployed concurrently, and all stations recorded shots from the R/V Langseth's 6600 cu. in. airgun.

*7/11/2011 - 8/5/2011:*

MCS acquisition.

## Data:

Data from the ocean bottom seismometers will be archived at the IRIS DMC under temporary network code [ZF](#) and assembled data set ID [11-024](#). Temporary broadband land stations are archived under the temporary network code [XM](#) (2011).

## Downloads/Links:

[Experiment Website](#)

[Experiment Blog](#)