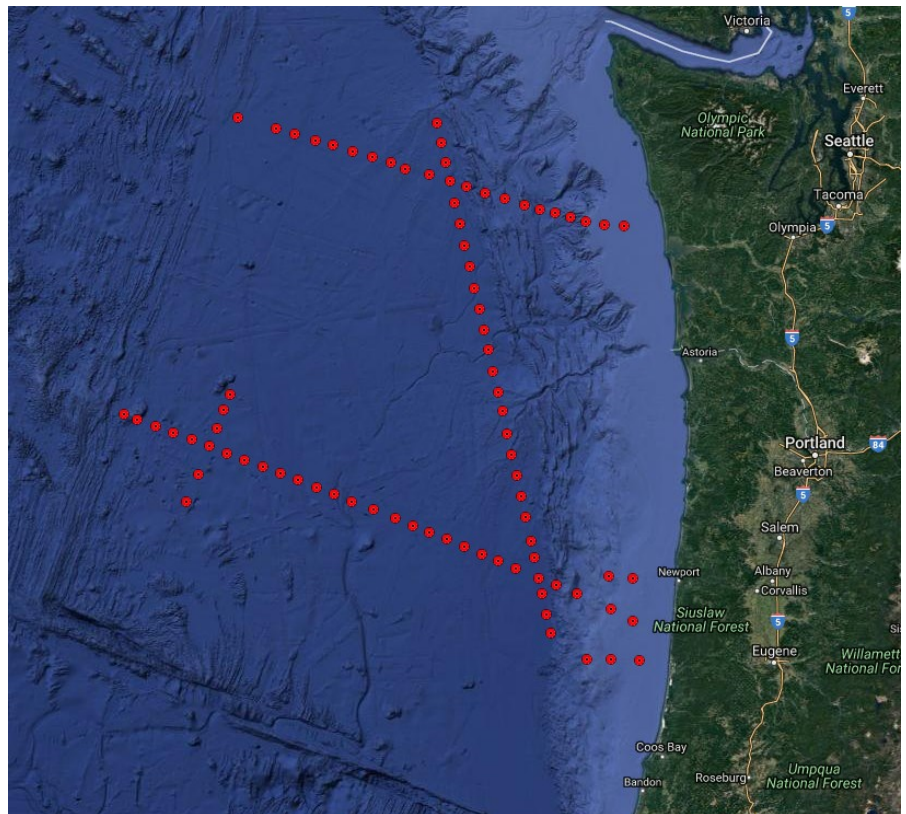


OBSIP Experiment Archive

Year:	2012
Experiment Name:	The Juan de Fuca OBS Experiment Evolution and hydration of the Juan de Fuca crust and uppermost mantle: a plate-scale seismic investigation from ridge to trench
Principal Investigator(s):	Suzanne Carbotte (LDEO) Helene Carton (LDEO) Mladen Nedimovic (LDEO)

Experiment Summary: (Taken from the NSF Abstract Award #[1029411](#)): Subduction is a process in which oceanic crust and upper mantle are consumed beneath the margins of island arcs, such as Japan and Sumatra, or the margins of continents, as along the northwest coast of the U.S. Subduction gives rise to violent volcanic eruptions as well as great megathrust earthquakes and tsunamis. Dramatic demonstrations of the destructive effects of subduction have occurred recently in Indonesia, Japan, and Chile. Water released from the subducted plate is a significant, but poorly understood, contributor to these events; this seismic survey of the Juan de Fuca Plate has the specific aim of characterizing the plate from its formation at the ridge, through alteration and hydration of the plate as it ages, to subduction of the plate along the Cascadia margin. Owing to the very high risk of large earthquakes in Cascadia, improved understanding of the role of water in the subduction process is a primary broader impact of the survey. The project is also an important adjunct to the Cascadia Initiative, a multi-year deployment of instruments both onshore and offshore to study the structure and seismicity of the Cascadia region.



Deployment of the Juan de Fuca experiment

Continued Next Page

OBSIP Experiment Archive

...Continued

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Principal Investigator(s):	Suzanne Carbotte (LDEO) Helene Carton (LDEO) Mladen Nedimovic (LDEO)

Cruises:

6/7/2012 - 7/4/2012:

47 short period seismometers from SIO and WHOI were deployed.

7/5/2012 - 7/14/2012:

Seismometers recovered.

Data:

Data from all OBSIP instruments deployed will be archived under temporary network code [X6](#) at the IRIS DMC.

Downloads/Links:

[S. Carbotte Website](#)

[Experiment Website](#)

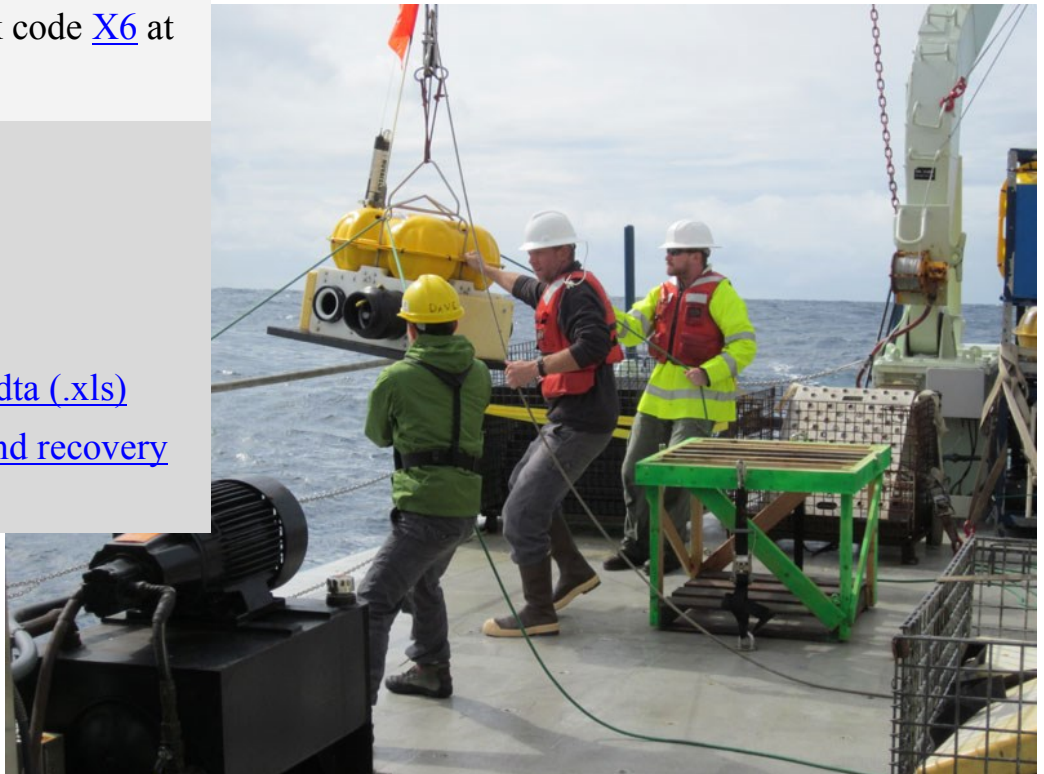
[Cascadia in Motion](#)

[Juan De Fuca OBS Metadta \(.xls\)](#)

[Cruise Report - deploy and recovery](#)

Additional Collaborators:

- J. Pablo Canales (WHOI)
- Mladen Nedimovic (Dalhousie University)
- Anne Trehu (Oregon State University)
- Geoffrey Abers (LDEO)



Scripps and Oregon State technicians deploy a short period instrument