

OBSIP Experiment Archive

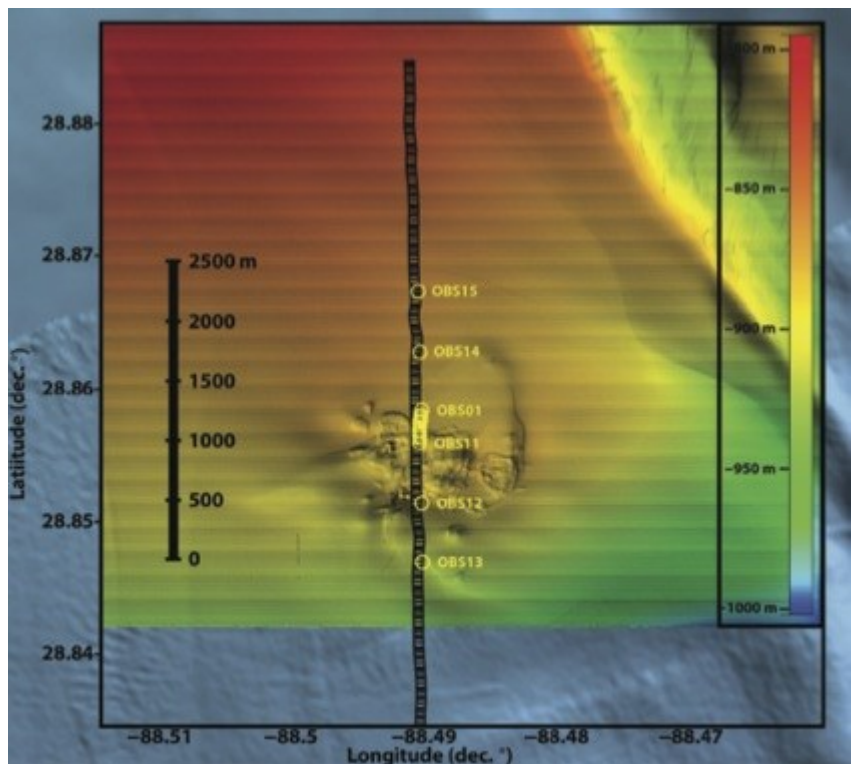
Year:	2011
Experiment Name:	Gulf of Mexico Hydrates
Principal Investigator(s):	Peter Gerstoft (SIO)

Experiment Summary: (Taken from Carriere and Gerstoft, doi: 10.1190/GEO2012-0241.1):

The study and monitoring of complex natural marine hydrates require long-term or periodic data collection. For this purpose, data collected from long-term deployment of ocean-bottom seismometers (OBS) can be used for detecting and monitoring changes in hydrate distribution and other hydrocarbon related subsurface process. In this paper, empirical Green's functions are extracted from crosscorrelated signals collected over a 2D transect of OBS. Results are used to estimate seismic reflectivity of the shallow subsurface.

Data were acquired at Woolsey Mound, a very active carbonate/ hydrates structure in Mississippi Canyon Lease Block 118 (MC118), Northern Gulf of Mexico, used as seafloor observatory by the Hydrates Research Consortium for more than a decade (McGee et al., 2009). The mound is about 1 km in diameter and located in nearly 900-m water depth. Recent study of the mound subsurface integrating several seismic data sets at different resolutions (backscatter, autonomous underwater vehicle [AUV], and shallow source/deep receiver [SSDR] surveys) has shown that the mound is formed by crestal normal faults nucleating at the top of a diapir-shaped salt body present in the shallow subsurface (Macelloni et al., 2012). The OBS transect used here crosses one of the main normal faults of the mound.

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Cruises:

4/3/2011 - 4/8/2011:

15 WHOI instruments were deployed and recovered a few days later along the Woolsey Mound site.

Data:

Data from all instruments deployed are archived under temporary network code [XJ](#) and assembled data set ID [#11-018](#) at the IRIS DMC.

Downloads/Links:

None.