OBSIP Experiment Archive

Year:	2013
Experiment Name:	Gulf of Mexico Hydrates (2013)
Principal Investigator(s):	Seth Haines (USGS) Patrick Hart (CMGP)

Experiment Summary: (Taken from USGS): The U.S. Geological Survey led a seismic acquisition cruise at Green Canyon 955 (GC955) and Walker Ridge 313 (WR313) in the Gulf of Mexico from April 18 to May 3, 2013, acquiring multicomponent and high-resolution 2D seismic data. GC955 and WR313 are established, world-class study sites where high gas hydrate saturations exist within reservoir-grade sands in this long-established petroleum province. Logging-while-drilling (LWD) data acquired in 2009 by the Gulf of Mexico Gas Hydrates Joint Industry Project provide detailed characterization at the borehole locations, and industry seismic data provide regional- and local-scale structural and stratigraphic characterization. Significant remaining questions regarding lithology and hydrate saturation between and away from the boreholes spurred new geophysical data acquisition at these sites. The goals of our 2013 surveys were to (1) achieve improved imaging and characterization at these sites and (2) refine geophysical methods for gas hydrate characterization in other locations.

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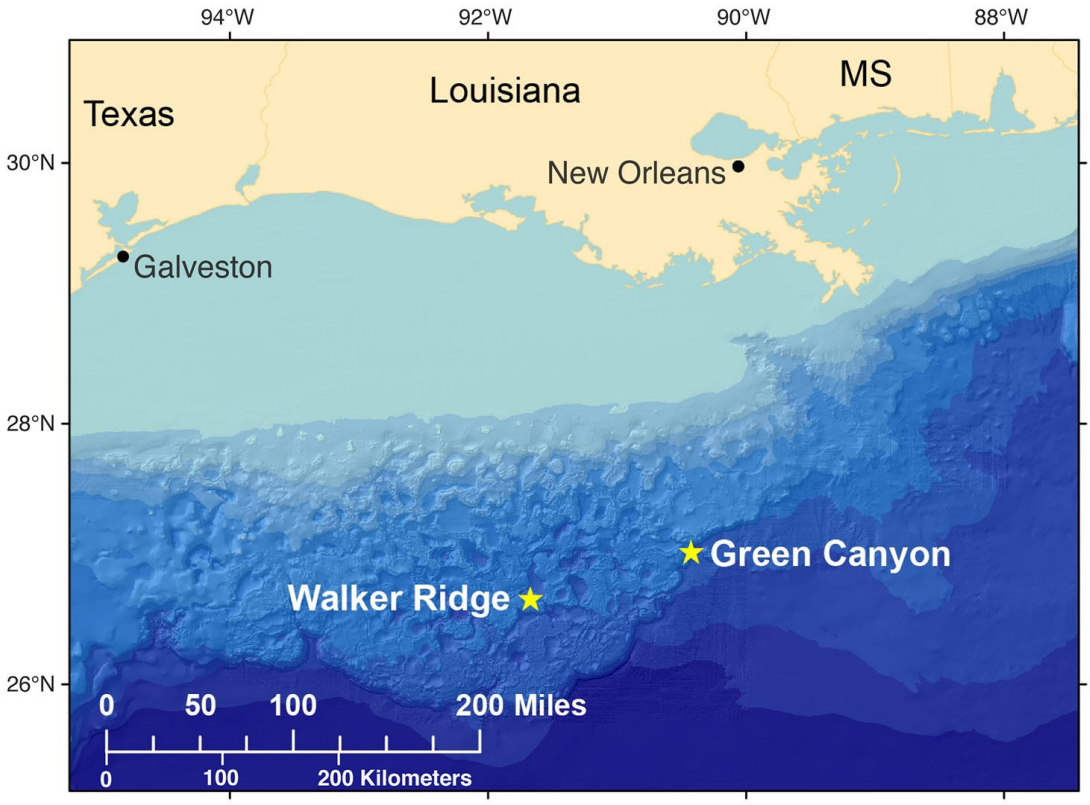

Stars show the sites of seismic surveys conducted on the research vessel Pelican in April and May 2013 to image previously identified deepwater gas hydrate deposits in the northern Gulf of Mexico.

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Experiment Summary: ...In the area of GC955 we deployed 21 ocean-bottom seismometers (OBS) and acquired approximately 400 km of high-resolution 2D streamer seismic data in a grid with line spacing as small as 50 m and along radial lines that provide source offsets up to 10 km and diverse azimuths for the OBS. In the area of WR313 we deployed 25 OBS and acquired approximately 450 km of streamer seismic data in a grid pattern with line spacing as small as 250 m and along radial lines that provide source offsets up to 10 km for the OBS. These new data afford at least five times better resolution of the structural and stratigraphic features of interest at the sites and enable considerably improved characterization of lithology and the gas and gas hydrate systems. Our recent survey represents a unique application of dedicated geophysical data to the characterization of confirmed reservoir-grade gas hydrate accumulations.

Cruises:
4/18/2013 - 5/3/2013:
21 WHOI instruments were deployed in the Green Canyon site and 25 were deployed in the Walker Ridge site onboard the R/V Pelican. 2D seismic data was collected over a combined area of ~850km at tight spacing of 50-250m and source offsets of less than 10 km.

Data:
Data from all instruments deployed are archived under temporary network code XZ and assembled data set ID #13-010 at the IRIS DMC.

Downloads/Links:

Sound Waves Article