

Oregon OCS Seafloor Mapping: Selected Lease Blocks Relevant to Renewable Energy

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Untrakdrover

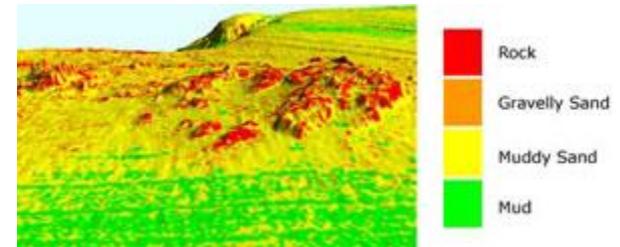
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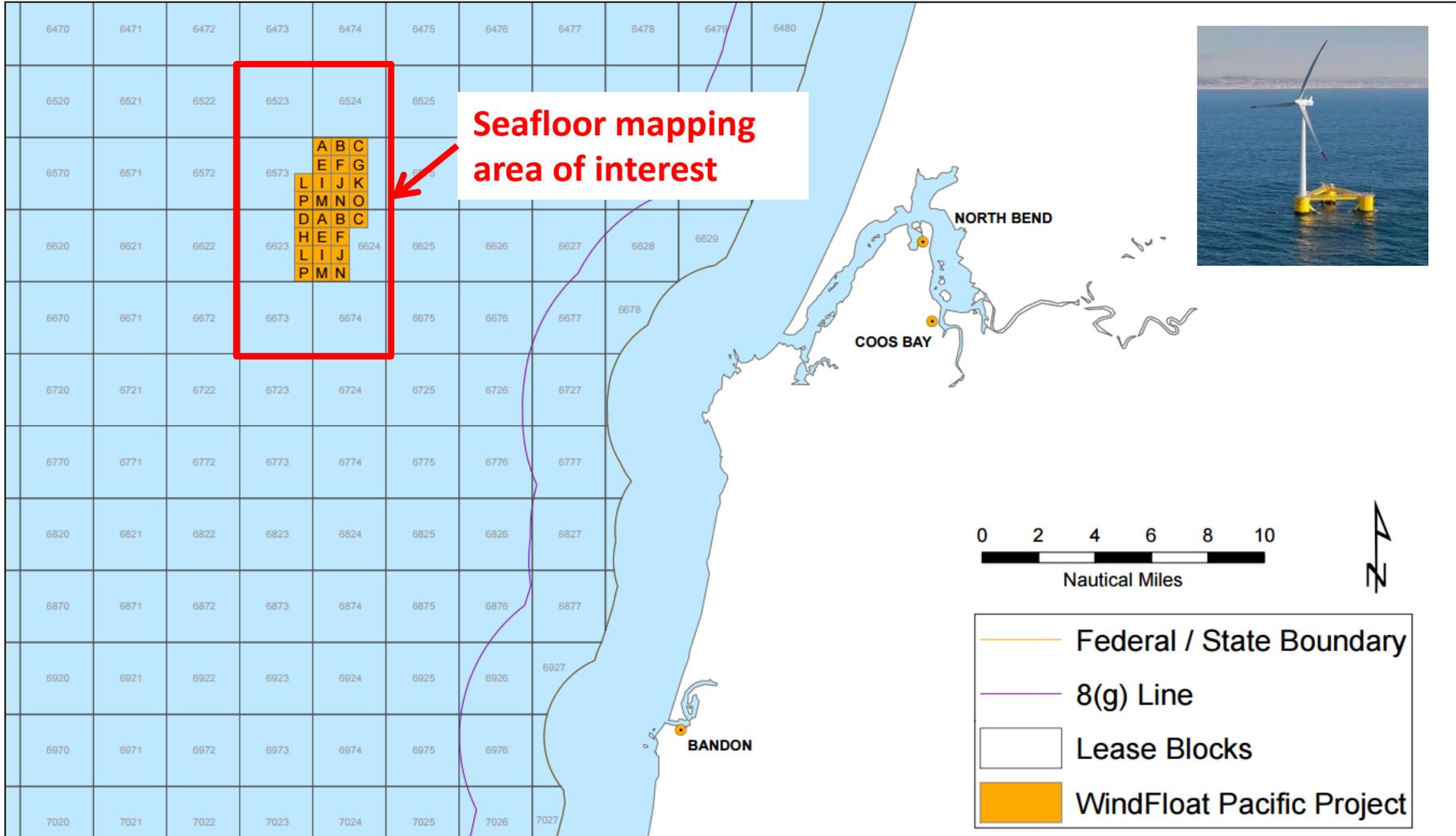
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Western Coastal and Marine Geology, Pacific Science Center



- **Geohazard assessment**
- **Geophysical data – infrastructure design**
- **Siting, large and fine scale**
- **Baseline site characterization**
 - **Habitat**
 - **Seafloor species (fishes and invertebrates)**
 - **Historical/archaeological resources**
- **Impact assessment**







The USGS Research Vessel *Parke Snavelly*

GPS antenna



transducer

swath

single beams

surveyed seabed



Towed high-definition video and camera sled used for groundtruthing

Field operations window:

August 20 – September 11 , 2014

23 days on site

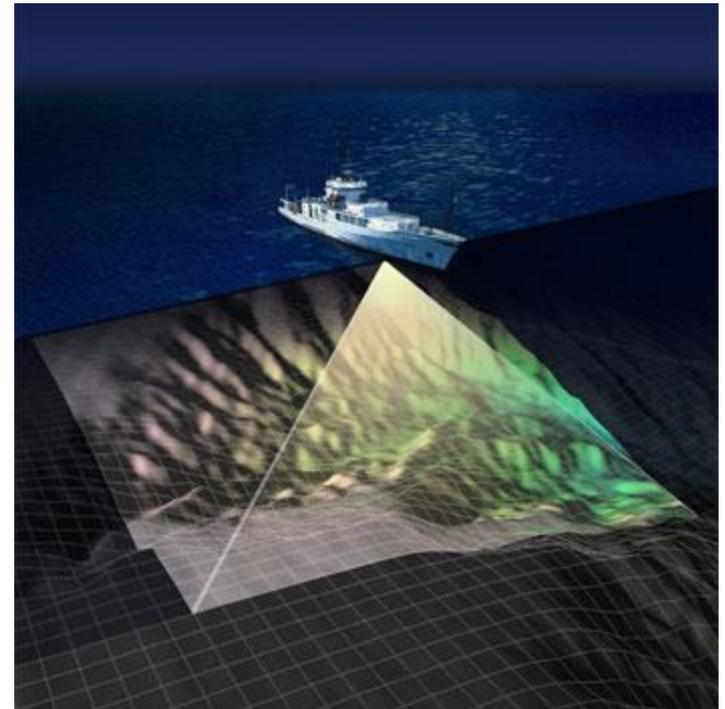
Final activity allocation:

9 days of sonar mapping

3 days of video groundtruthing

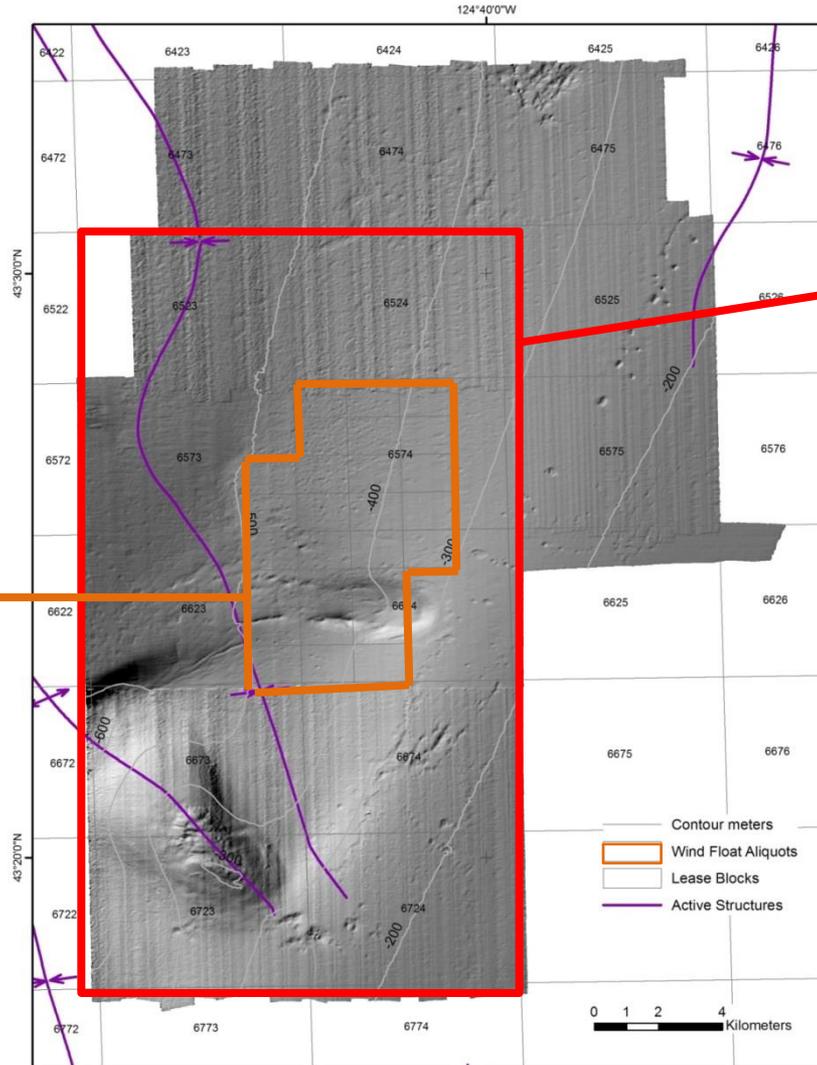
8 weather days (no operations)

3 days mobilizing/demobilizing



Shaded relief image of all the available multibeam sonar bathymetry data

Lease aliquots outline



Original area of interest

Numbers are OCS lease blocks.

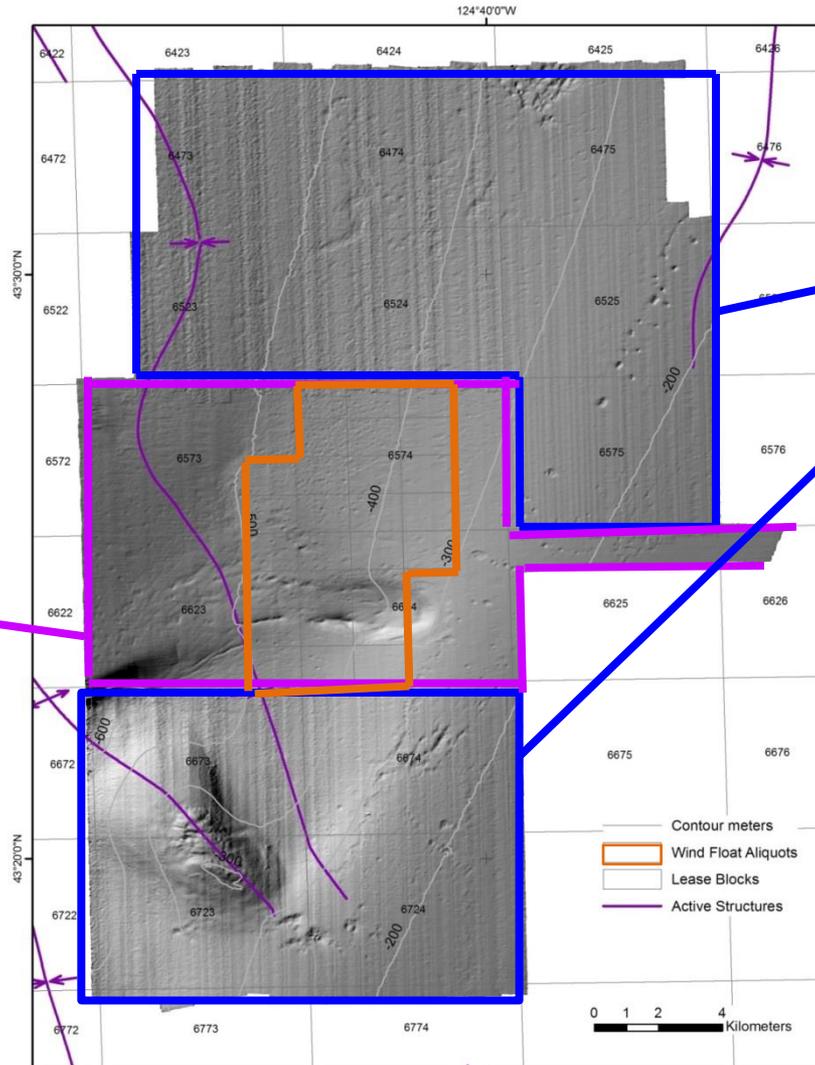
Active subsurface structure data from: Goldfinger, C, LD Kulm, and RS Yeats. 1992.

Neotectonic map of the Oregon continental margin and adjacent abyssal plain. Oregon Dept. of Geology and Mineral Industries Open-File Report O-92-4.

Shaded relief image of all the available multibeam sonar bathymetry data

Applicant data

USGS data

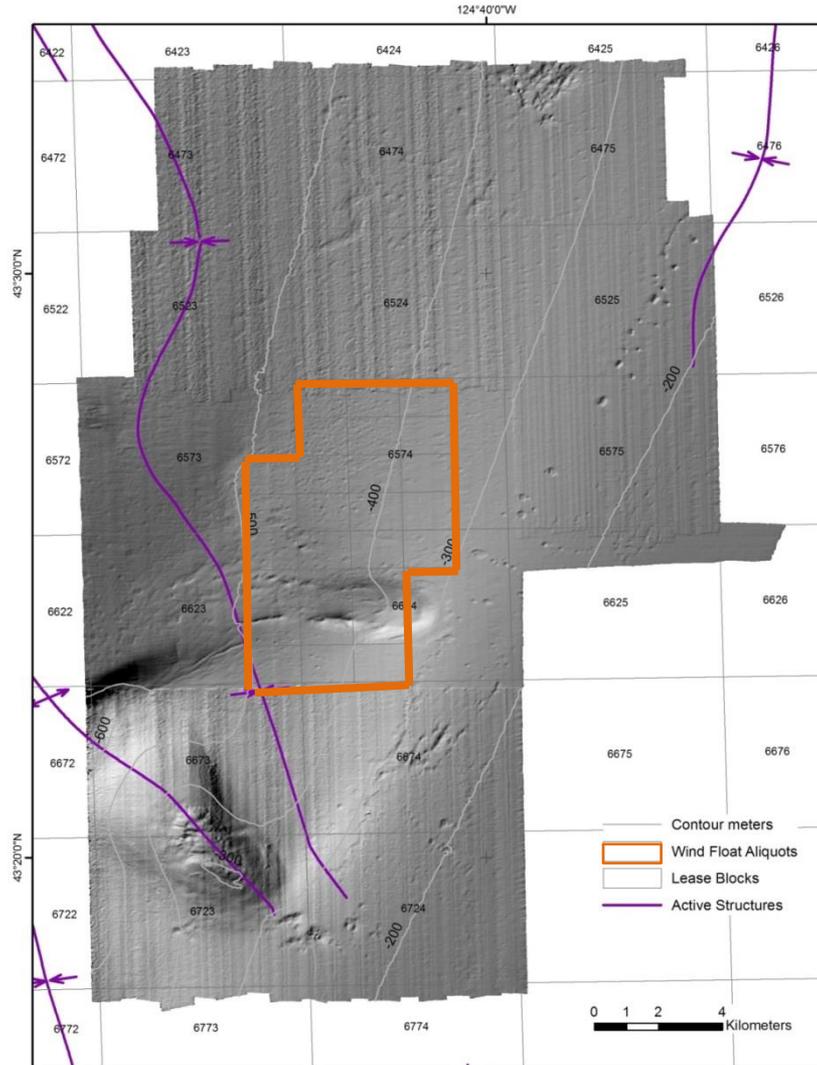


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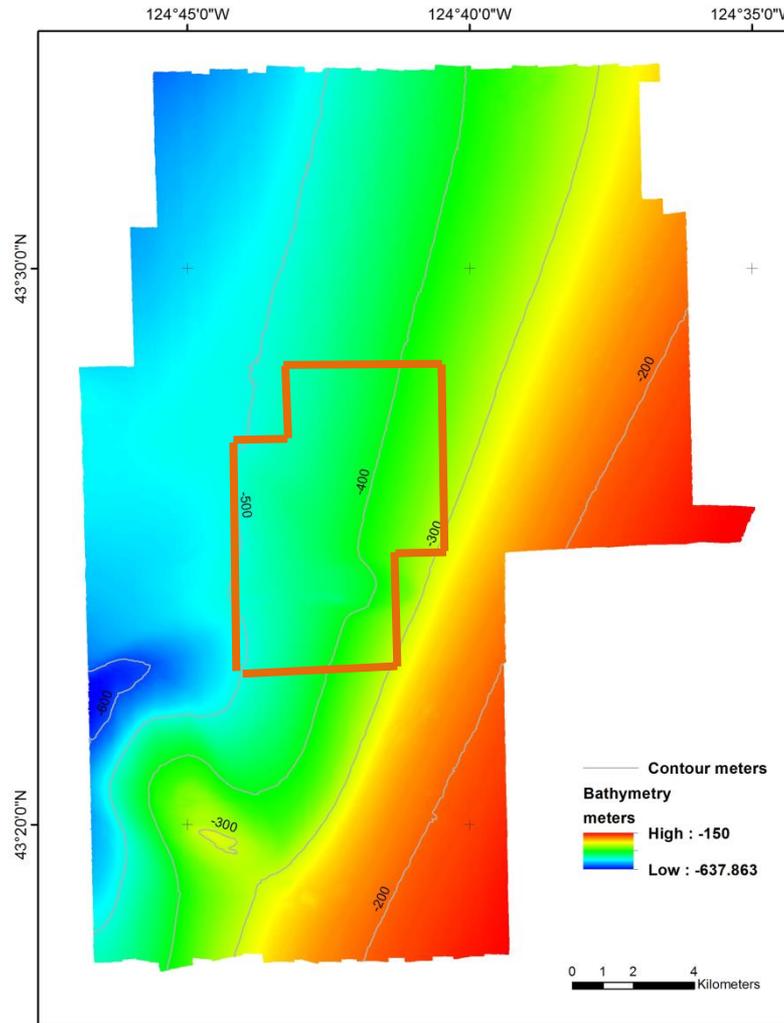
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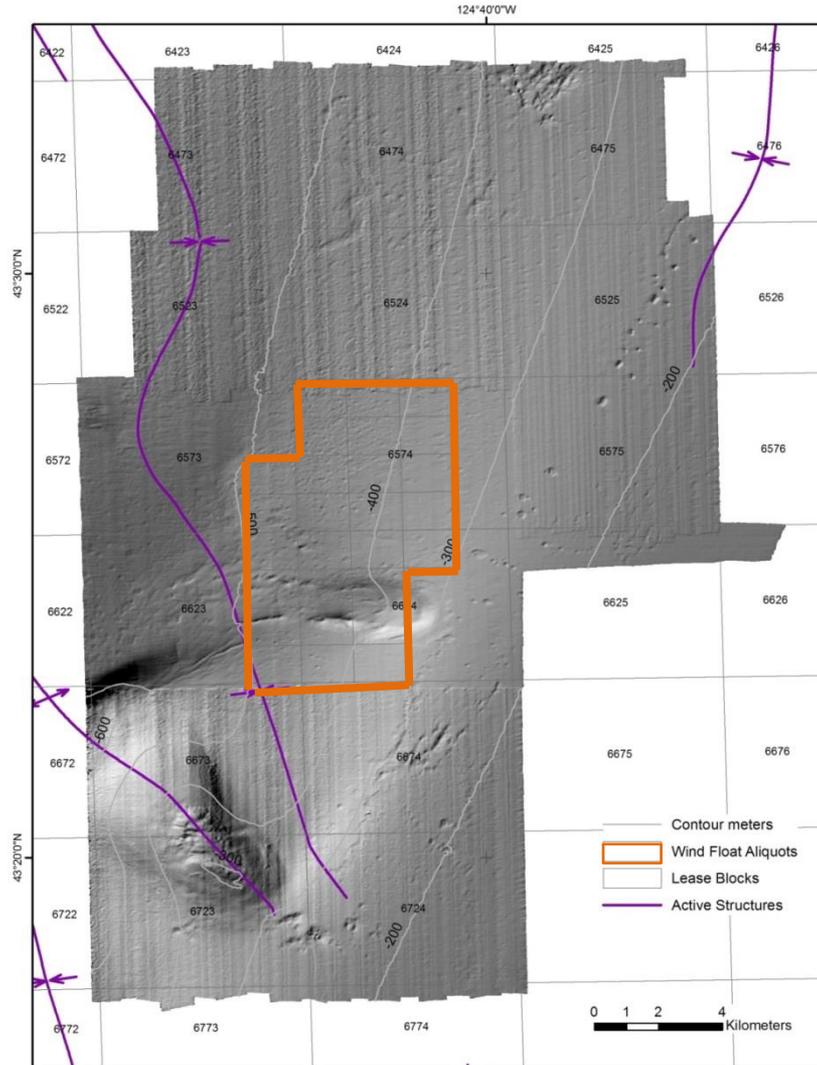


Color scale
image of all the
available
multibeam sonar
bathymetry data



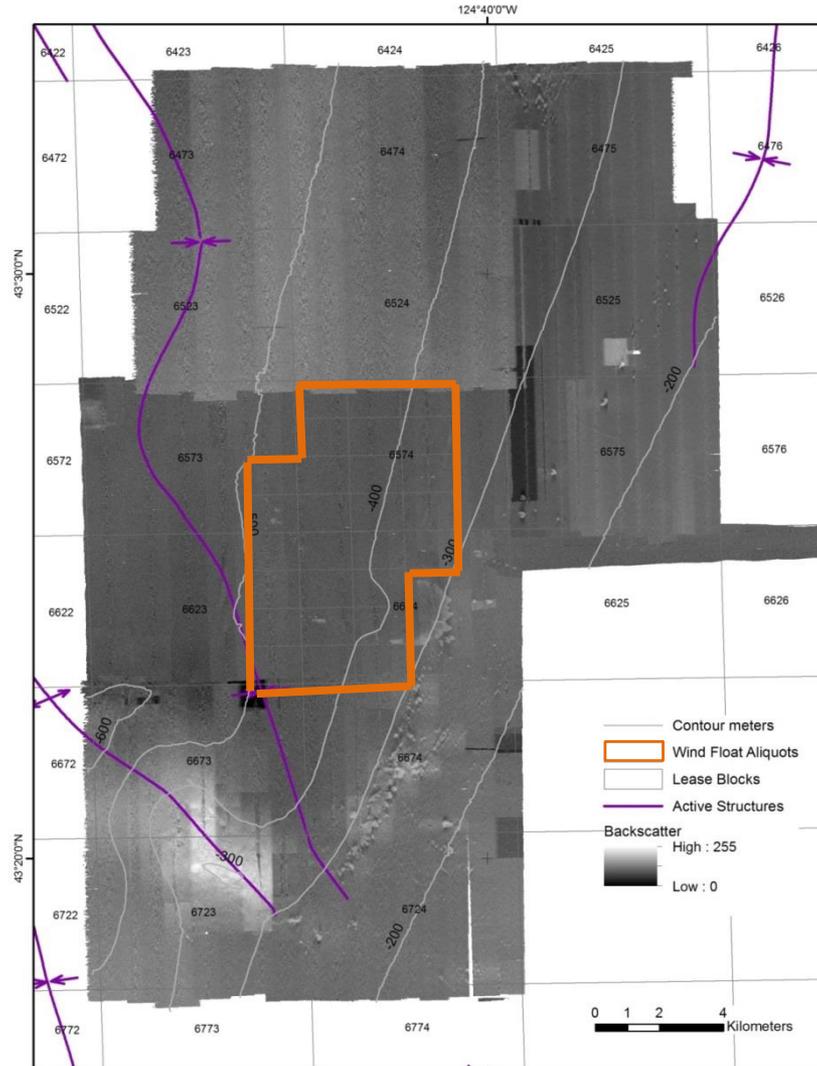


Shaded relief image of all the available multibeam sonar bathymetry data

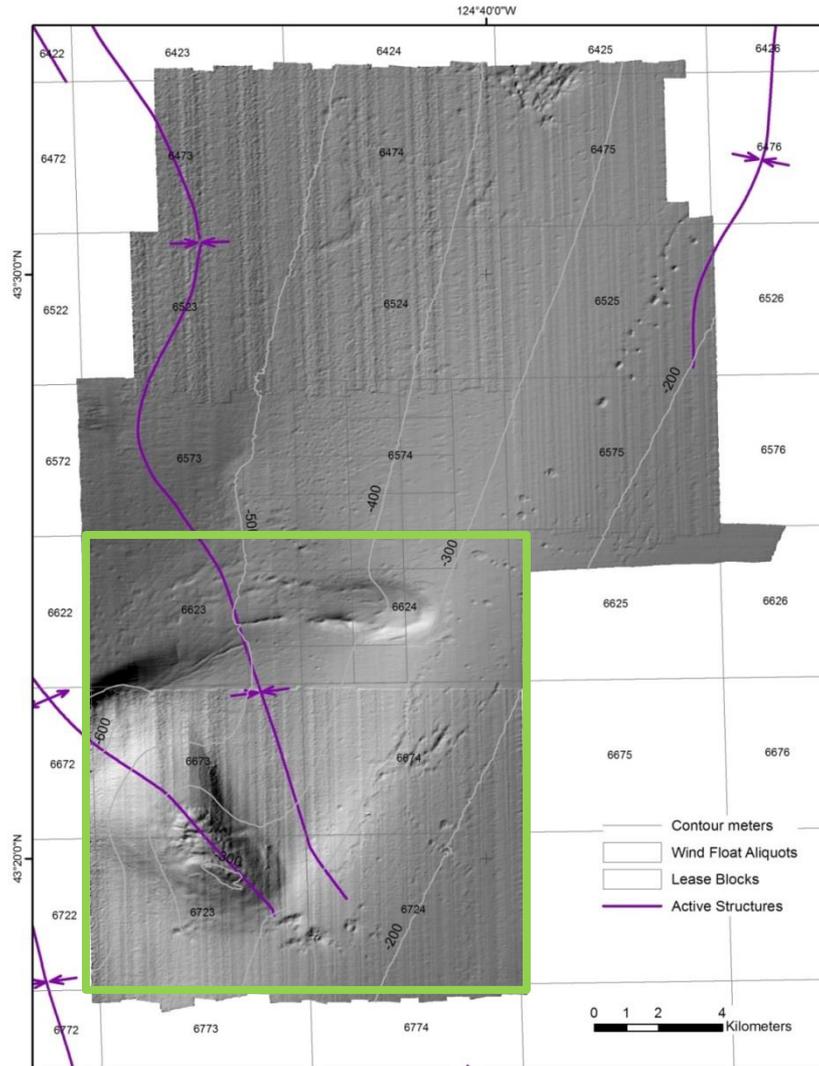




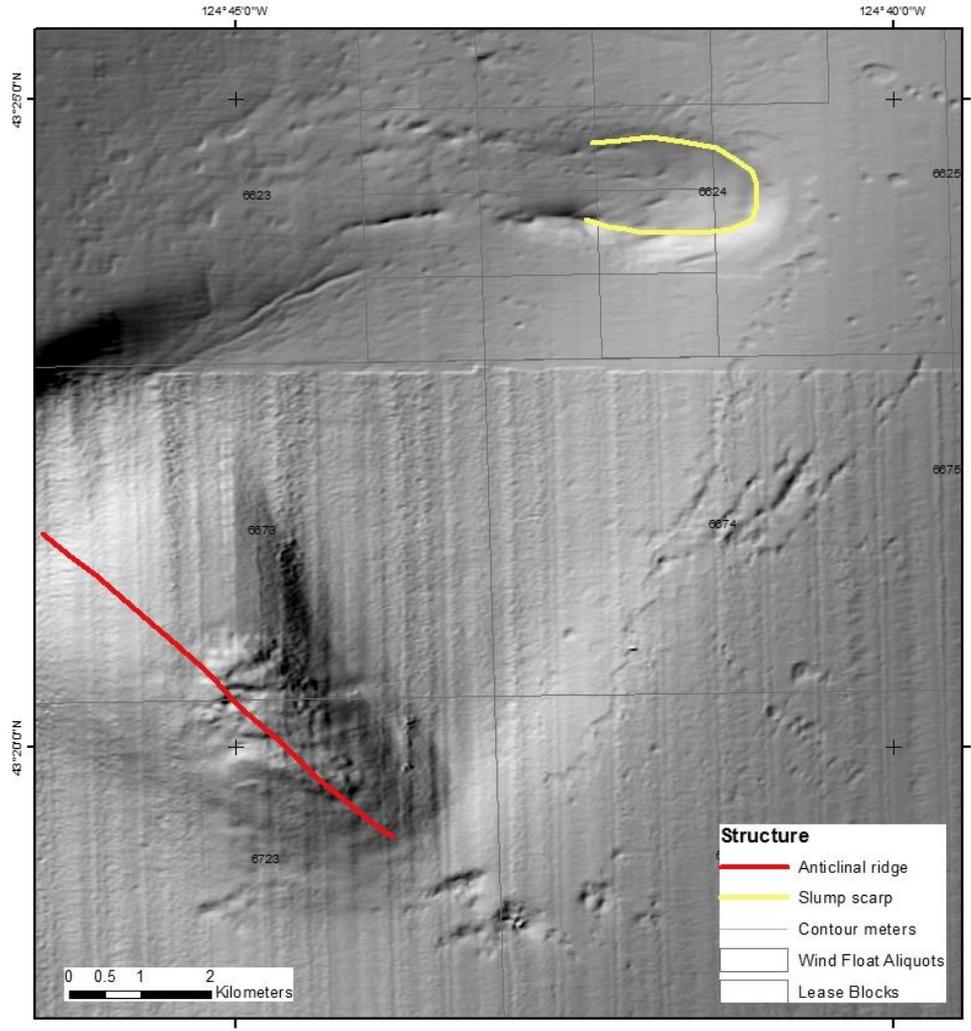
Backscatter
image of all the
available
multibeam sonar
data



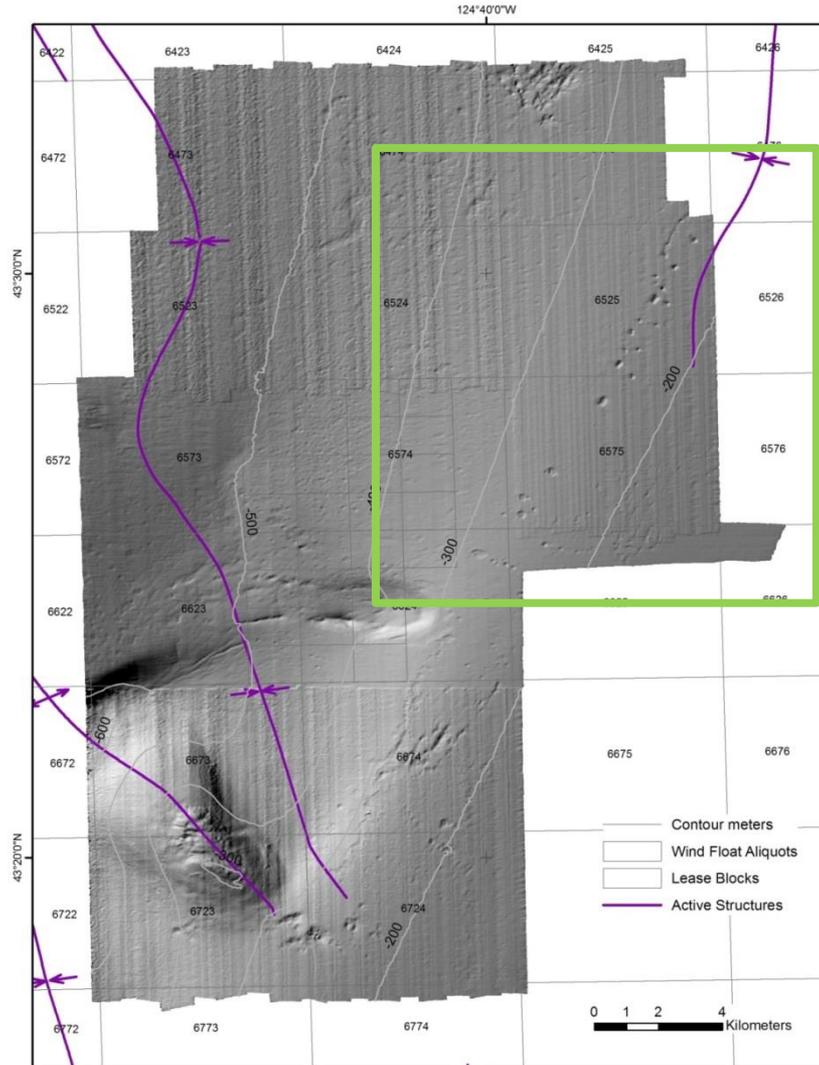
RESULTS: BATHYMETRY



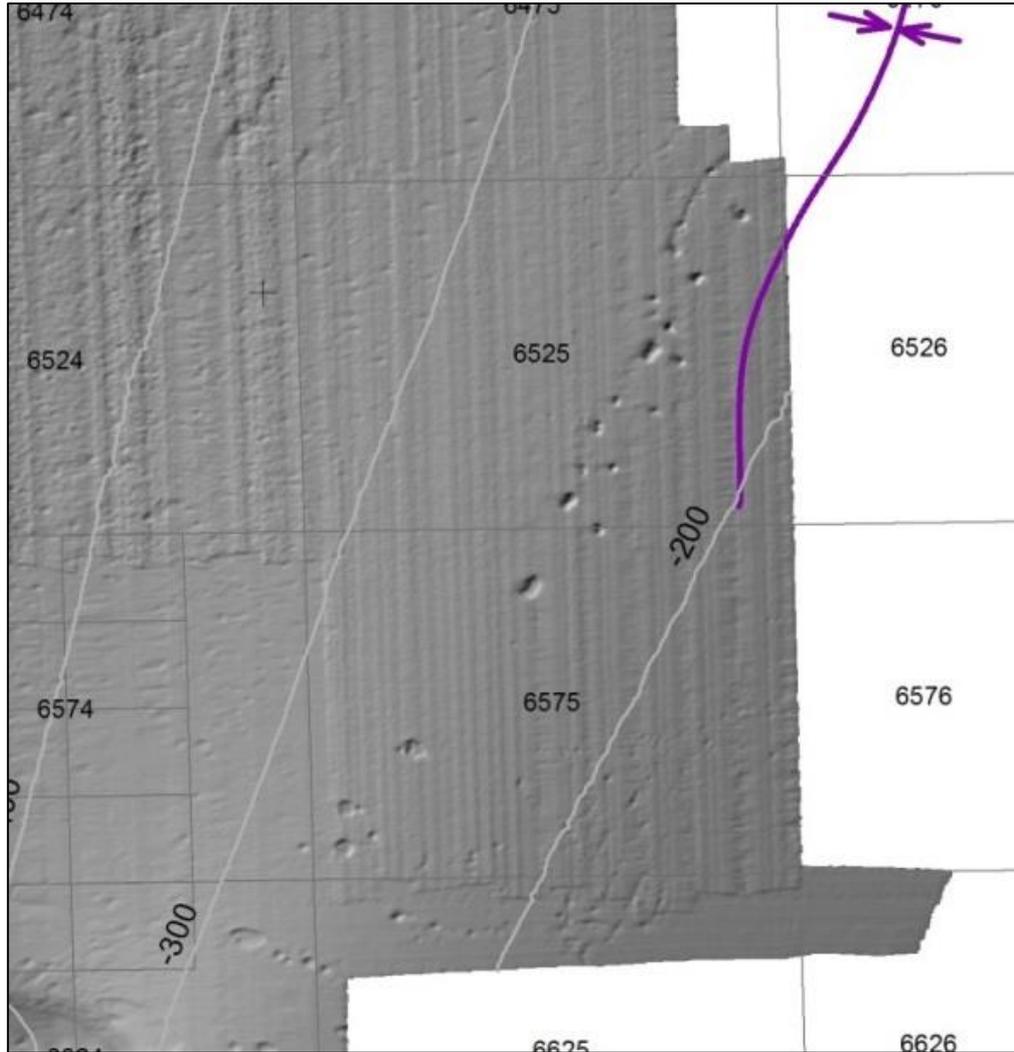
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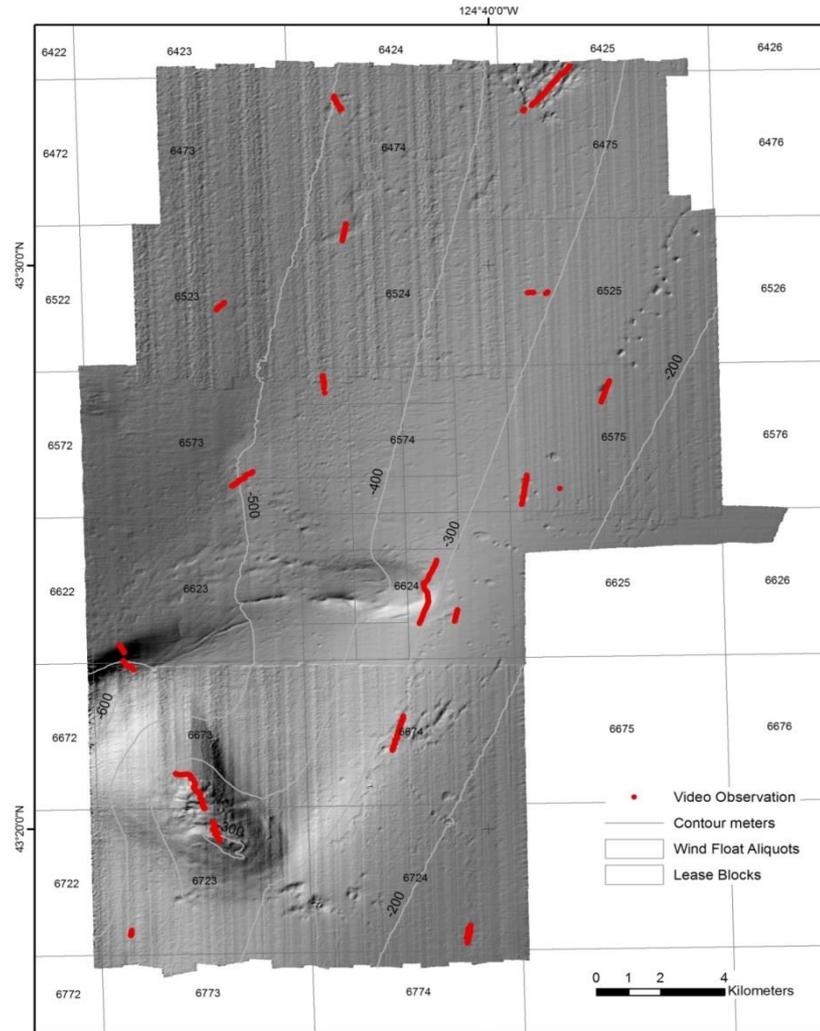
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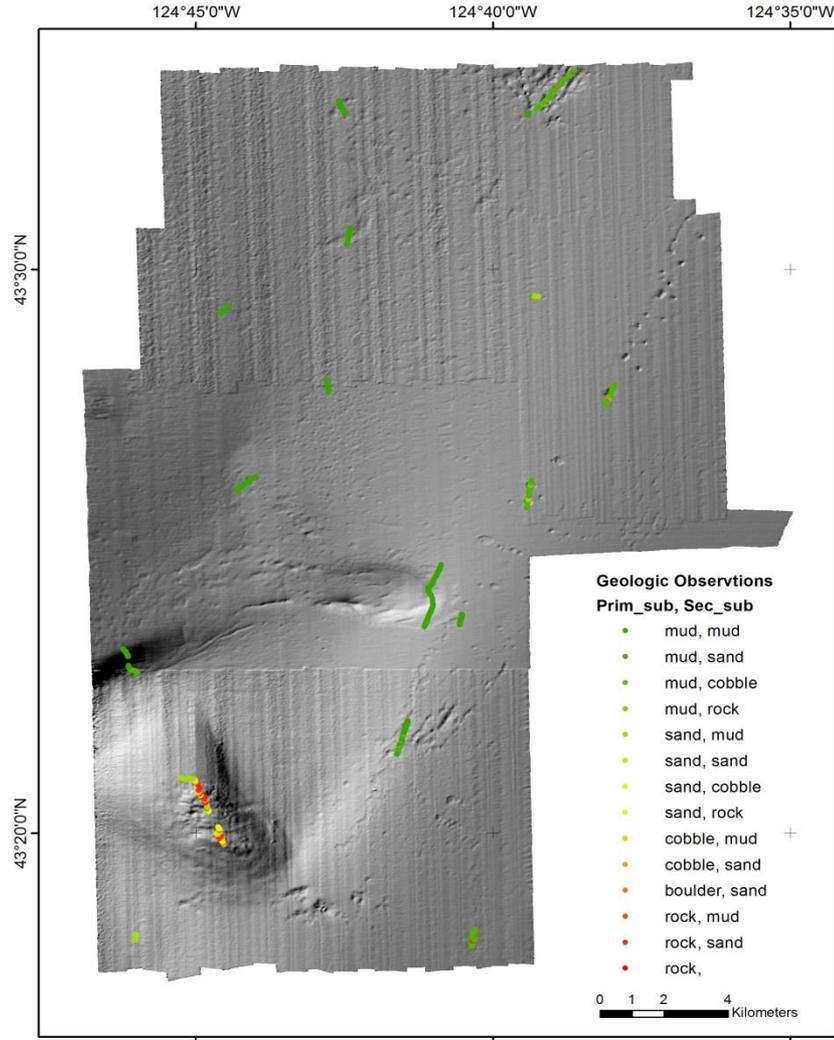
GROUNDTRUTHING



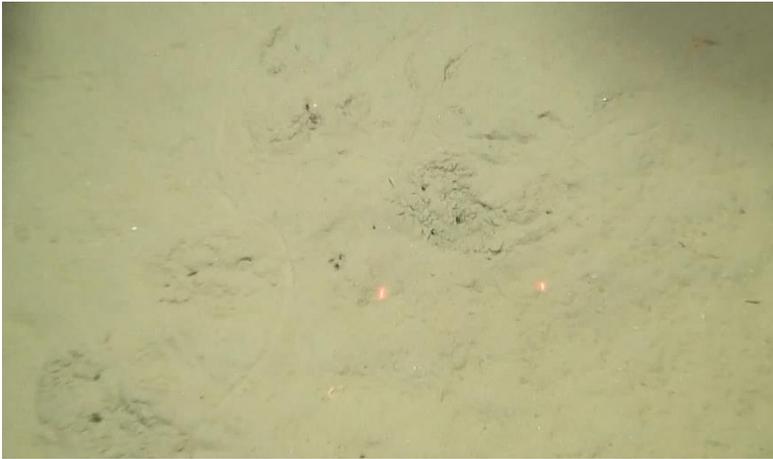
GROUNDTRUTHING



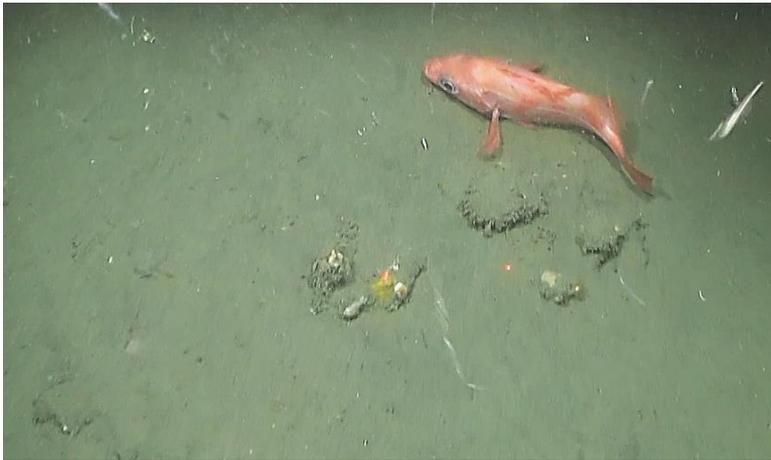
GROUNDTRUTHING



MUD

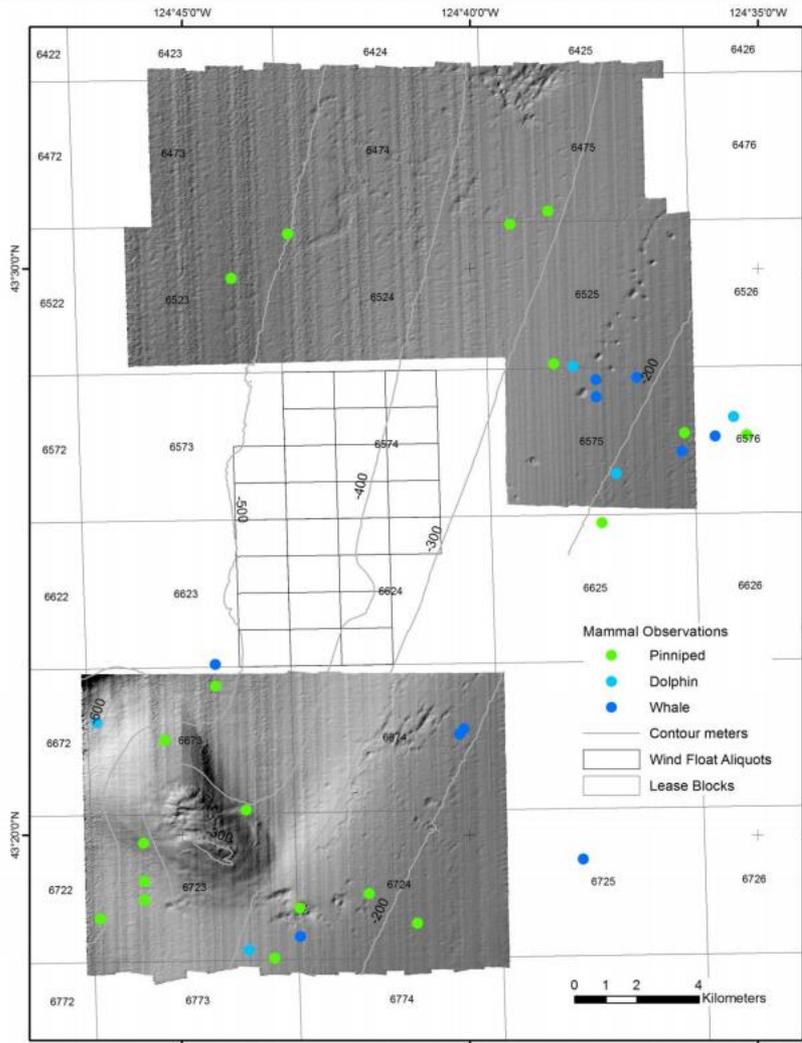


COBBLES



ROCK OUTCROP





Observations limited to fieldwork conducted by USGS



Common Name	21-Aug	22-Aug	Total	Notes
Pink-footed Shearwater	100	74	174	most moving north
Sooty Shearwater	58	94	152	most moving north
Red Phalarope	0	67	67	several flocks on current breaks and feeding on or around by-the-wind sailors
Black-footed Albatross	27	28	55	
Long-tailed Jaeger	4	18	22	southbound migrants both days with more on 22 Aug
Western Gull	10	7	17	
Fork-tailed Storm-Petrel	4	12	16	
Red-necked Phalarope	0	9	9	
Rhinoceros Auklet	2	7	9	
Northern Fulmar	2	3	5	early in season for them
California Gull	4	1	5	
Cassin's Auklets	2	1	3	
Sabine's Gull	0	3	3	uncommon species
Laysan Albatross	1	0	1	rare species
Buller's Shearwater	1	0	1	uncommon
Leach's Storm-Petrel	0	1	1	
Ashy Storm-Petrel	1	0	1	one of very few Oregon records
South Polar Skua	0	1	1	uncommon/rare species
Pomarine Jaeger	0	1	1	
Tufted Puffin	1	0	1	

SEABIRDS





- **Dataset**

October 16, 2015

A downloadable digital dataset with FGDC metadata, including multibeam data, and rasters and shapefiles of interpreted information.

<http://dx.doi.org/10.5066/F7V40S8V>

- **Maps**

March 2016

Printable pdf-format maps illustrating

- Bathymetry
- Backscatter intensity
- Seafloor character
- Coastal and Marine Ecological Classification Standard (CMECS)
 - surficial substrate
 - geomorphology

- **Final report and technical summary**

March 2016

A printable pdf-format summarizing the field work, methodology, and results of the study.

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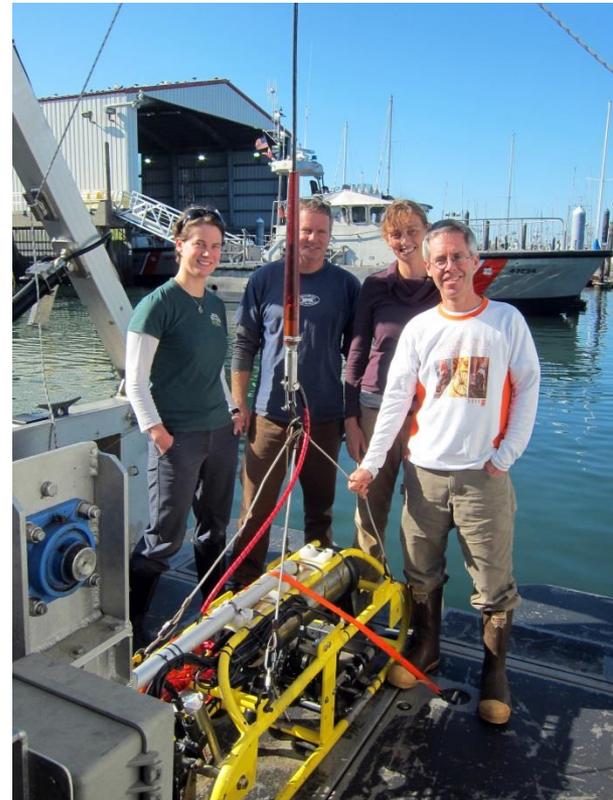
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QUESTIONS?

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