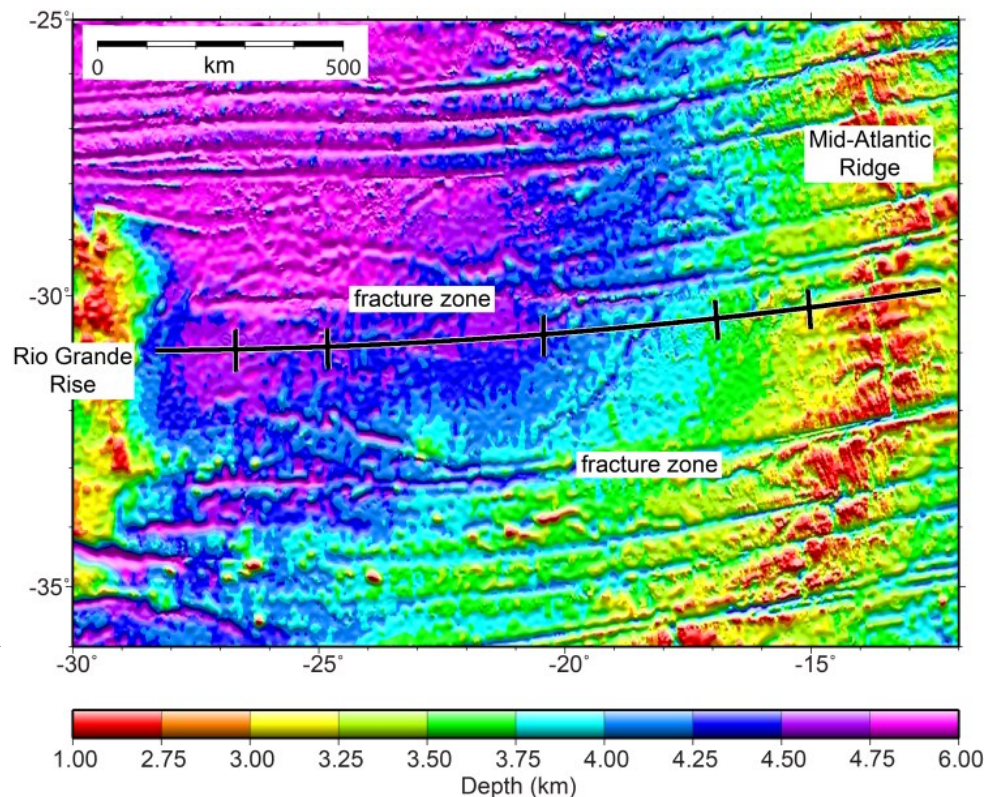


OBSIP Experiment Archive

Year:	2016
Experiment Name:	CREST (Crustal Reflectivity Experiment Southern Transect)
Principal Investigator(s):	Robert Reece (TAMU), Lead Gail Christeson (U of Texas)

Experiment Summary: (Taken from the NSF Abstract Award #[1537108](#)): Although the nature of oceanic crust has been studied for decades, many questions remain unanswered, owing to a paucity of data from crust formed more than a few million years ago. With ocean basins containing crust up to 200 m.y. in age, the history of Earth's largest tectonic plates remain to be studied. Key questions relate to chemical exchange between the crust and ocean-- does this continue beyond 7 m.y. or not, and, if so, for how long? Recent work shows that irregular seafloor on older crust can be the site of geothermal circulation that transfers material from crust to ocean. Another fundamental question is how long does an oceanic spreading segment behave in the same way- in terms of amount of magmatic activity versus tectonic rifting?

This project will use seismic imaging to measure the properties of the crust from the Mid-Atlantic Ridge, where new crust forms today, out to 70 m.y. old crust on the western flank of the spreading center. These data will answer questions about oceanic crustal evolution and they will provide information about where future seafloor drilling by the Integrated Ocean Discovery Program could be safely accomplished, to address questions about the evolution in ocean chemistry over long time scales. The field experiment will serve as a training platform for graduate students and early career scientists. Former veterans in a university network will be involved in aspects of the research.



Continued Next Page

Transects that are part of CREST (black lines)

OBSIP Experiment Archive

...Continued

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Gail Christeson (U of Texas)

Cruises:

1/4/2016 - 2/25/2016:

30 short period OBSIP ocean-bottom seismometers were deployed in sets of seven instruments along five transects in the South Atlantic on board the R/V Langseth.

Data:

Data from all OBSIP instruments deployed is archived under temporary network code [YB](#) and assembled data set ID #[16-003](#) at the IRIS DMC . The cruise data from MGL1601 is available under [doi: 10.7284/906652](https://doi.org/10.7284/906652).

Downloads/Links:

[CRESTfest Cruise Blog](#)



Gail Christeson, Dan Kot, and Akhil Amara check the progress of a deployed OBS as it descends to the seafloor

The intrepid Lead PI Dr. Bobby Reece as the R/V Langseth heads out of port at Cape Verde Islands to begin the long transit south.

