

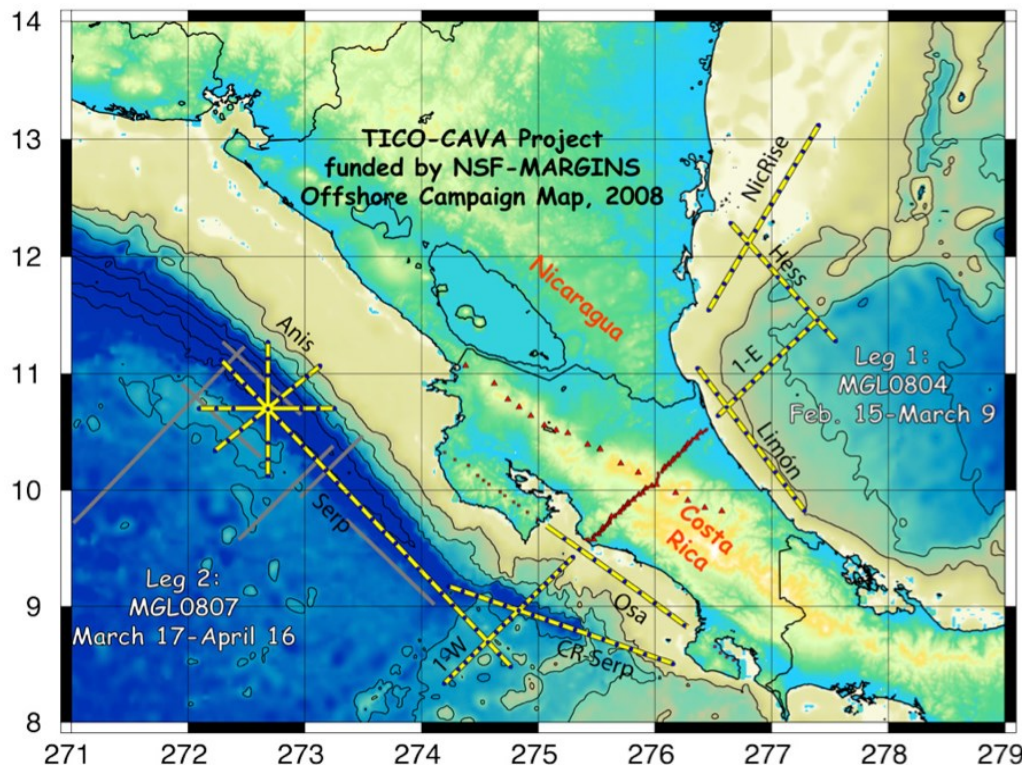
# OBSIP Experiment Archive

<b>Year:</b>	2008
<b>Experiment Name:</b>	Costa Rica Transects to Investigate the Composition and Origin of the Central American Volcanic Arc (TICO-CAVA)
<b>Principal Investigator(s):</b>	Steven Holbrook (U of Wyoming)

**Experiment Summary:** (Taken from the NSF Abstract Award #[0405654](#)): Under this award, the PIs will carry out an active-source seismic investigation of the volcanic arc, backarc, and downgoing plate in the Costa Rican portion of the Central American Focus Site. The program focuses on the central Costa Rican segment of the arc, a site of marked transitions in lava chemistry, because the narrow isthmus here is well-suited for detailed seismic imaging using onshore-offshore techniques. This location also enables the incorporation of data from the regional Costa Rican seismic network with the proposed areal active-source array. This combination will result in a detailed 3D image of arc crustal structure in the area. The goals are to determine the basic crustal architecture, composition, integrated magma flux, and fractionation processes of the arc, and to constrain the degree of hydration (e.g., serpentinization) in the downgoing Cocos Plate lithosphere. The work addresses the following: (1) What is the bulk composition of the Central American arc and, by inference, of its primary magma? (2) What is the long-term magma flux into the arc, and how does it compare to other arcs?

(3) What are the length scales and degree of lateral variability in the Costa Rica arc? (4) Does the state of hydration of oceanic crust and upper mantle vary along the arc, and if so, does it correlate with changes in the "fluid signal" (e.g., Ba/La) of arc lavas?

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OBS deployments for the two legs of the TICO-CAVA experiment (blue circles on yellow lines)

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## Cruises:

*2/16/2008 - 3/9/2008:*

48 OBS deployments were made during cruise MGL0804 on board the R/V Langseth. A total of 9 WHOI OBS and 38 SIO OBS recoveries were made.

*3/18/2008 - 4/16/2008:*

During Stage 1, 10 WHOI OBS and 36 SIO OBS were deployed, with 7 WHOI OBS and 36 SIO OBS recovered. In Stage 2, 6 WHOI OBS and 38 SIO OBS were deployed, with 6 WHOI OBS and 36 SIO OBS recovered. Operations occurred during cruise MGL0807 on board the R/V Langseth. A total of 13 WHOI OBS and 72 SIO OBS recoveries were made.

## Data:

Data from all OBSIP instruments deployed is archived under temporary network code [XB](#) and assembled data set ID #[08-012](#) and #[08-003](#) at the IRIS DMC.

Data is not archived for 110 SIO SP OBS in mSEED.

## Downloads/Links:

None.