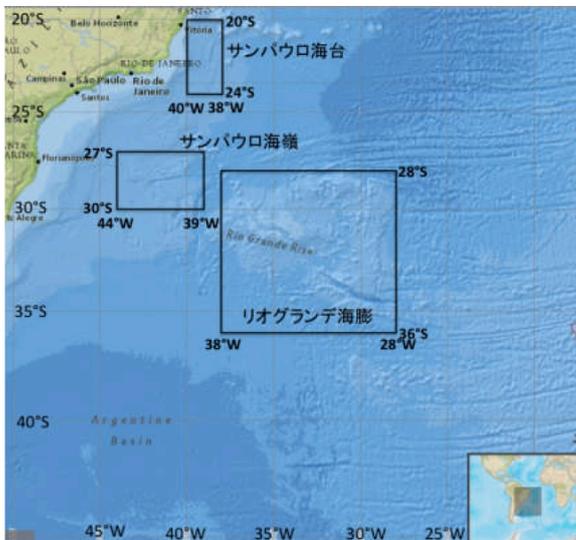


Cruise Summary

1. Cruise Information

- Cruise ID YK13-04 leg 1
- Name of vessel M/V Yokosuka
- Title of the cruise QUELLE 2013
- Chief scientist [Affiliation] Hiroshi Kitazato (Biogeos, JAMSTEC)
- Representative of the Science Party [Affiliation] Hiroshi Kitazato (Biogeos, JAMSTEC)
- Title of proposal
- Cruise period 13th, April, 2013 – 5th, May, 2013
- Ports of call Cape town, South Africa – Rio de Janeiro, Brazil
- Research area Rio Grande Rise and São Paulo Ridge, off Brazil, South Atlantic Ocean
- Research map



2. Overview of the Observation

- Overview of the observation
 - (1) Southern slopes of the Sao Paulo Ridge at depths of 2,600 to 4,200 meters
Period: April 23 to 28, 2013
Details:

- i. Geological survey
 - Outcrops on southern slopes were observed and rock samples were obtained, using SHINKAI 6500 and a deep-tow ocean floor survey system.
 - Data on the submarine topography, gravity and magnetism were measured, using instruments on the vessel.
 - ii. Survey on depth distribution of organisms
 - Visual observation was conducted and samples were collected to survey depth-related distribution of organisms living near bottom and in/on rocks and sediments, using SHINKAI 6500 and the deep-tow ocean floor survey system.
 - Field data including seawater temperature, salinity and dissolved oxygen concentrations were measured with CTDO during dives.
- (2) Surveys in Rio Grande Rise at depths of 650 to 1,200 meters
Period: April 22, and April 30 to May 2, 2013
Details:
- i. Geological survey
 - Data on the submarine topography, gravity and magnetism were measured, using instruments on the vessel.
 - Data on shallow subsurface geologic structure were measured, using a sub-bottom profiler installed in the vessel.
 - Visual observation of outcrops was conducted and samples were obtained during dives of SHINKAI 6500.
 - ii. Survey on biological communities in various habitats
 - JAMSTEC tried to discover and survey seepage-related ecosystems.
 - Visual observation of deep-sea coral ecosystems was conducted and samples were collected during dives of SHINKAI 6500.

The surveys off Brazil have been carried out jointly with CPRM (Companhia de Pesquisa de Recursos Minerais), the Institute of Oceanography at the University of São Paulo, and PETROBRAS