AIR Center

Developing the NETWORK
Proposal by Brazil

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The circulation off Brazilian shores is part of the Atlantic-Indian “Super-Gyre”. Changes in the “Agulhas Leakage” will fatally affect the Atlantic Ocean and, consequently, the Brazilian coastal zones as well.

Courtesy: Edmo Campos
New Oceanographic Vessel (RV Vital de Oliveira)

Consortium of four institutions:
- MCTIC
- Brazilian Navy
- Petrobrás
- Vale S.A.

- Total length: 78 meters;
- Beam: 20 meters;
- Accommodation: up to 146 people;
- Researchers onboard: 40 scientists, technicians and students;
- Laboratories: 05 (03 dry labs and 02 wet labs);
- Scientific System "state of the art" of oceanographic instrumentation, and
- Autonomy: 60 days

- Maiden voyage sampling from Cape Town to Rio de Janeiro
- Original data on eddies
- Intense cooperation among research groups
Brazil looks to project scientific power on the Atlantic

New world-class research vessel to do double duty in mineral prospecting

By Herton Escobar, in São Paulo, Brazil

With 8500 kilometers of coastline and hundreds of marine scientists, Brazil has everything a country needs to make a mark in ocean research—everything except a world-class research ship, that is. That’s about to change. At a ceremony in Rio de Janeiro on 23 July, Brazil unveiled its largest and most advanced scientific platform built for the high seas—a $77.5 million research vessel that scientists hope will take them farther and deeper into the Atlantic Ocean than they have ever ventured.

Brazil is finally ready to start doing “grown-up” ocean science, says Andrei Polejack of the Ministry of Science, Technology and Innovation in Brasília. “We are very anxious to put this ship to work and start filling some of the big data gaps that still exist in the South Atlantic Ocean.” But some academics worry that prospecting for mineral resources will dominate research aboard the ship, which was two-thirds funded by Petrobras and Vale, Brazil’s largest oil and mining companies.

Christened the Vital de Oliveira after a 19th century Brazilian Navy hydrographer, the 78-meter-long vessel, equipped with a remotely op-

With few research vessels plying it, the South Atlantic Ocean is a black box, with scant data available on its circulation patterns, temperature, salinity, biomass, carbon flux, and other basic parameters. That has practical as well as research consequences. “We have the supercomputers and the mathematical models, but we still lack a lot of experimental data to make reliable predictions” of weather patterns and ocean conditions, says Segen Estefen, an expert on oceanic infrastructure at the Federal University of Rio de Janeiro, who is overseeing the establishment of the new oceanographic institute. “There’s an enormous amount of

Brazil’s new research ship, the Vital de Oliveira, will fill data gaps on the South Atlantic Ocean.
Officially released by MCTIC (Brazil) and DST (South Africa) just last July 11th
Open to other South Nations
Identifies major gaps and opportunities for cooperation
Many researchers from Europe also involved
The Belem Statement

• Promote and facilitate human capital development and scientific exchange;
• Provide a platform and opportunities for scientific and technological cooperation resulting in joint activities; and,
• Encourage new models for cooperation on a coordinated and partnership-based approach to tackle the scientific and societal challenges of the Atlantic Ocean based on the principles of shared responsibility and mutual benefit in key common areas of interest such as:
  a. Climate variability and ecosystem approaches;
  b. Ocean observation (including seabed mapping), forecasting and monitoring processes and systems;
  c. Food security, fisheries management, aquaculture and biodiversity;
  d. Oceans technology (including for observation and renewable marine energy);
  e. The effects of emerging pollutants; and,
  f. Polar research (especially interconnections between the Atlantic, the Southern Ocean and Antarctica).
Despite the scientific projects that Brazilian researchers take part individually, MCTIC is the national coordinator of the following:

- Integration and interoperability of ocean observing systems
- South Atlantic systems include:
  - PIRATA
  - MOVAR
  - SIMCOSTA
  - SAMOC
- Important South-North link
- Intense scientific activities

- Support action devoted to the Atlantic Research Alliance (Galway Statement)
- Brazil and South Africa participate in the board, bridging South-South and North-North scientific frameworks
- Intense strategic dialogue
BG 08 call for proposals:

• Coordination and Support Action (CSA):

• AANCHOR (under evaluation)
• Support action devoted to the All Atlantic Research Alliance (Belem Statement)
• Leadership by FCT (Portugal)
• Brazil, South Africa, Argentina, Cape Verde, Spain, Portugal, Eurocean, JPI Oceans, among others
• Aim to develop multistakeholder platforms focused on the results expected by the Belem Statement
• Intense strategic dialogue
• Excellent framework for networking and prospecting expert feedback for the AIR scientific agenda
Islands as ocean observatories

The geographic position, at various distances from the coast, allows these islands to be used as a platforms for ocean observation systems, through the installation of meteorological stations, tide gauges, sensors (physical, chemical, biological) and atmospheric instruments.
Potential network of Islands Ocean Observatories
New Possibilities

New integrated Observatories

New lines at 11°S (in cooperation with Germany)

SAMBA line extension throughout the Atlantic (BR to ZA)
Obrigado

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