

The Brazilian SAMOC Program

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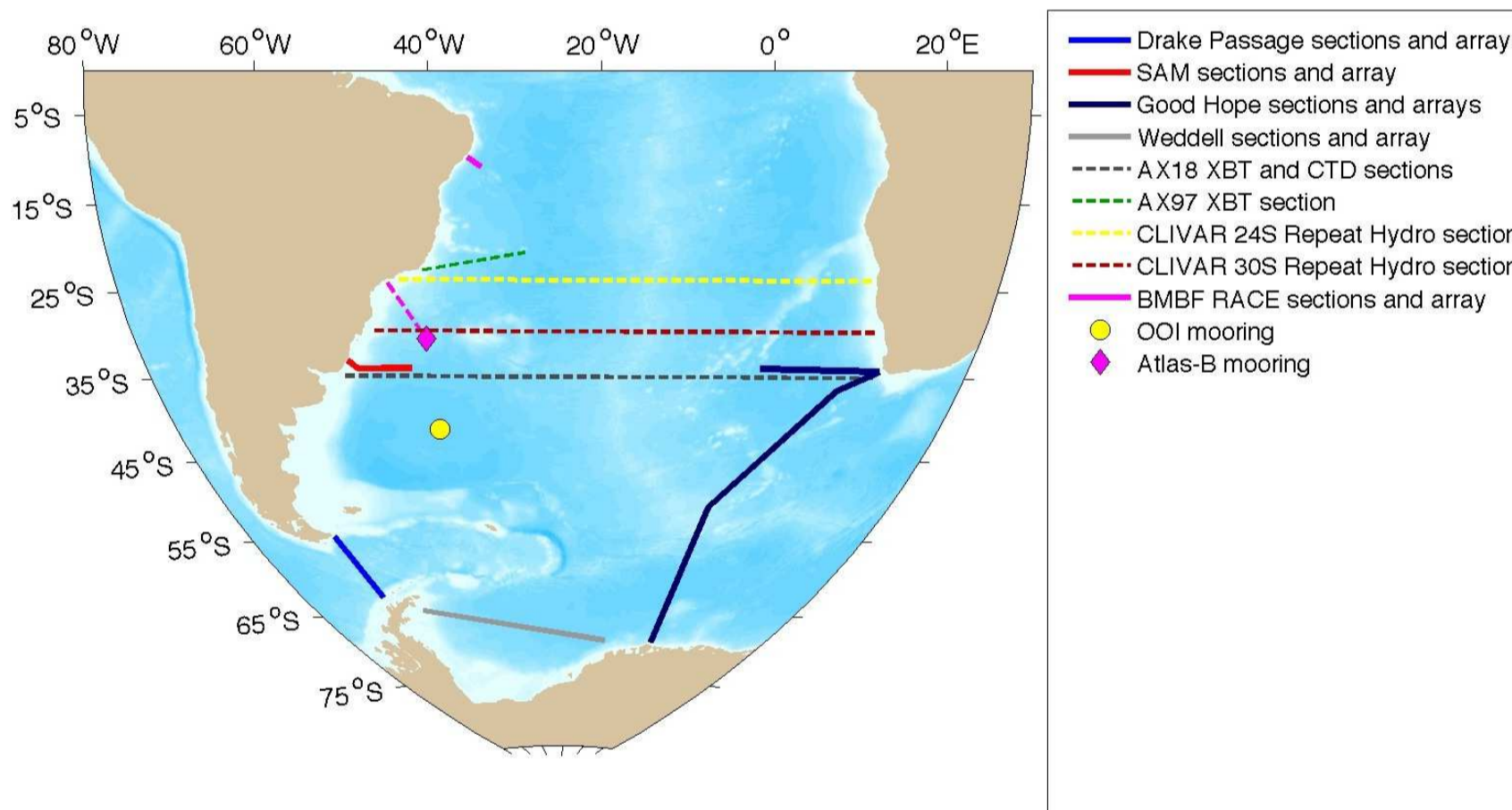
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The International SAMOC Program

The South Atlantic Meridional Overturning Circulation (SAMOC) Program is a Clivar endorsed collaborative effort involving investigators from the U.S., France, Brazil, South Africa, Argentina, Russia, and Germany to monitor the Meridional Overturning Circulation (MOC) in the South Atlantic.

Brazil, France, South Africa, Germany and the U.S. are providing the major instrumentation for the moored array along 34.5°S. This SAMOC Basin-wide Array (SAMBA) is the backbone of the SAMOC field program. South Africa, Russia, Brazil, Germany and Argentina contribute with ship-time and local-expertise for the turn-around and recovery cruises. France and Brazil lead the development of a common strategy in regional climate models apt to downscale climate variability and assess the ocean circulation influence on climate changes and their impact over South America and Africa.



The SAMOC Observing System

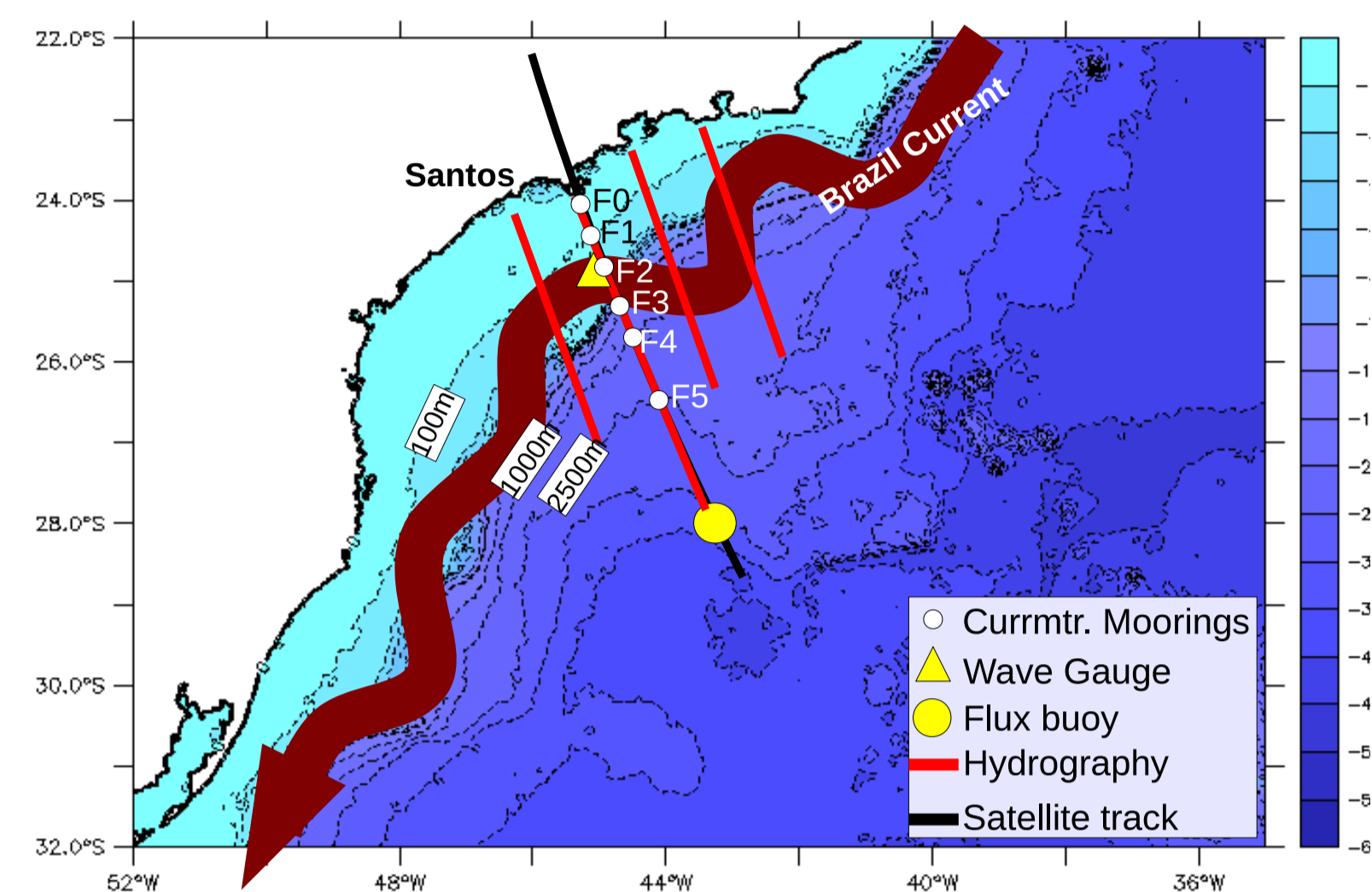
The Brazilian Contribution to SAMOC

Brazil contributes to SAMOC with a number of projects that include numerical modeling and the deployment and maintenance of a currentmeter array across the Brazil Current, at approximately 23°S, and an array of C-PIES, ADCPs and bottom pressure gauges in the western end of the 34.5°S SAMBA line. These projects are being conducted in close cooperation with NOAA/AOML, France and Argentina. The first cruises of the Brazilian SAMOC are scheduled for November and December, 2012.

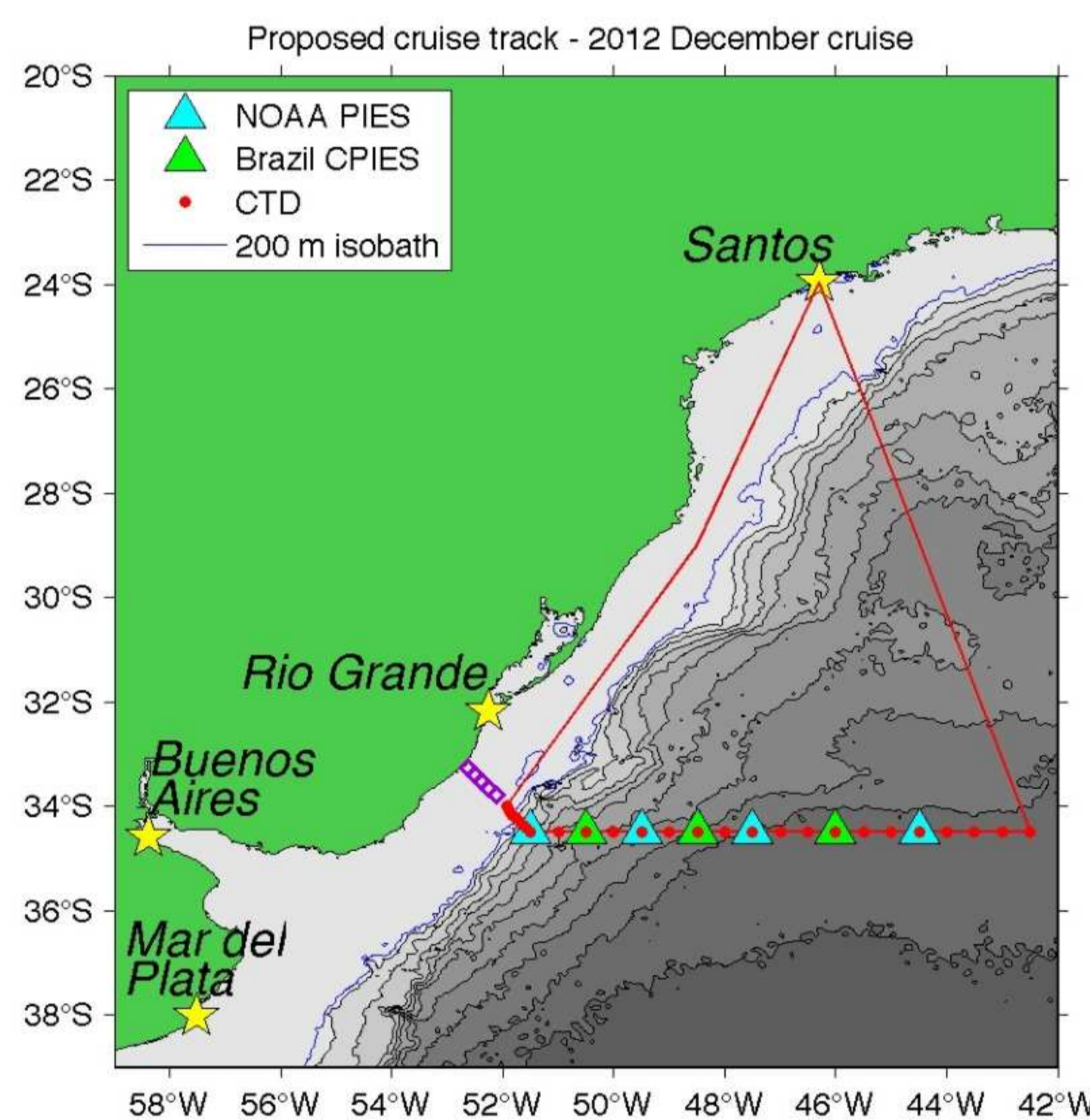
Component	Funding Agency	Principal Investigators	Country	Status
Western boundary ADCP (1), BPR (1), western boundary hydrographic, turn-around, recovery cruises	CNPq/INCT	E. Campos F. Niencheski	Brazil	Funded
The CALSA Project (Numerical Modeling)	FAPESP	E. Campos	Brazil	Funded
The ATLAS-B, the NAP-MC and FAPESP-MC Projects (Atlas mooring, current meter and cruises in the Santos Bight, ~23-28S)	FAPESP, CNPq, INCT & USP	E. Campos	Brazil	Funded
Western boundary C-PIES (3), western boundary hydrographic, turn-around/recovery cruises	FAPESP/ FACEPE	E. Campos A. Fetter	Brazil	Funded

The ATLAS-B and the SAMOC-BR

The ATLAS-B and the SAMOC-BR are the two major Brazilian contributions to SAMOC.

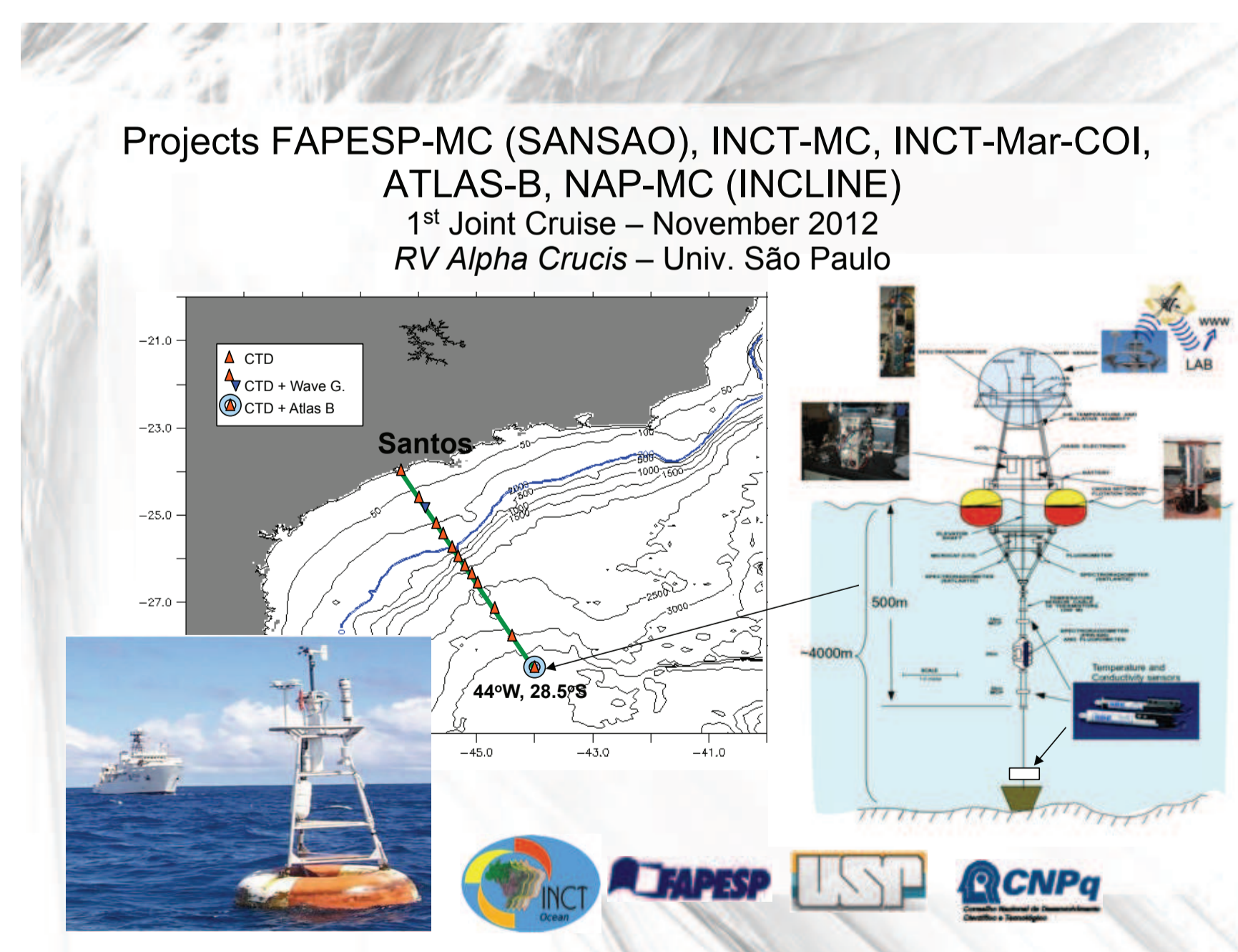


The ATLAS-B

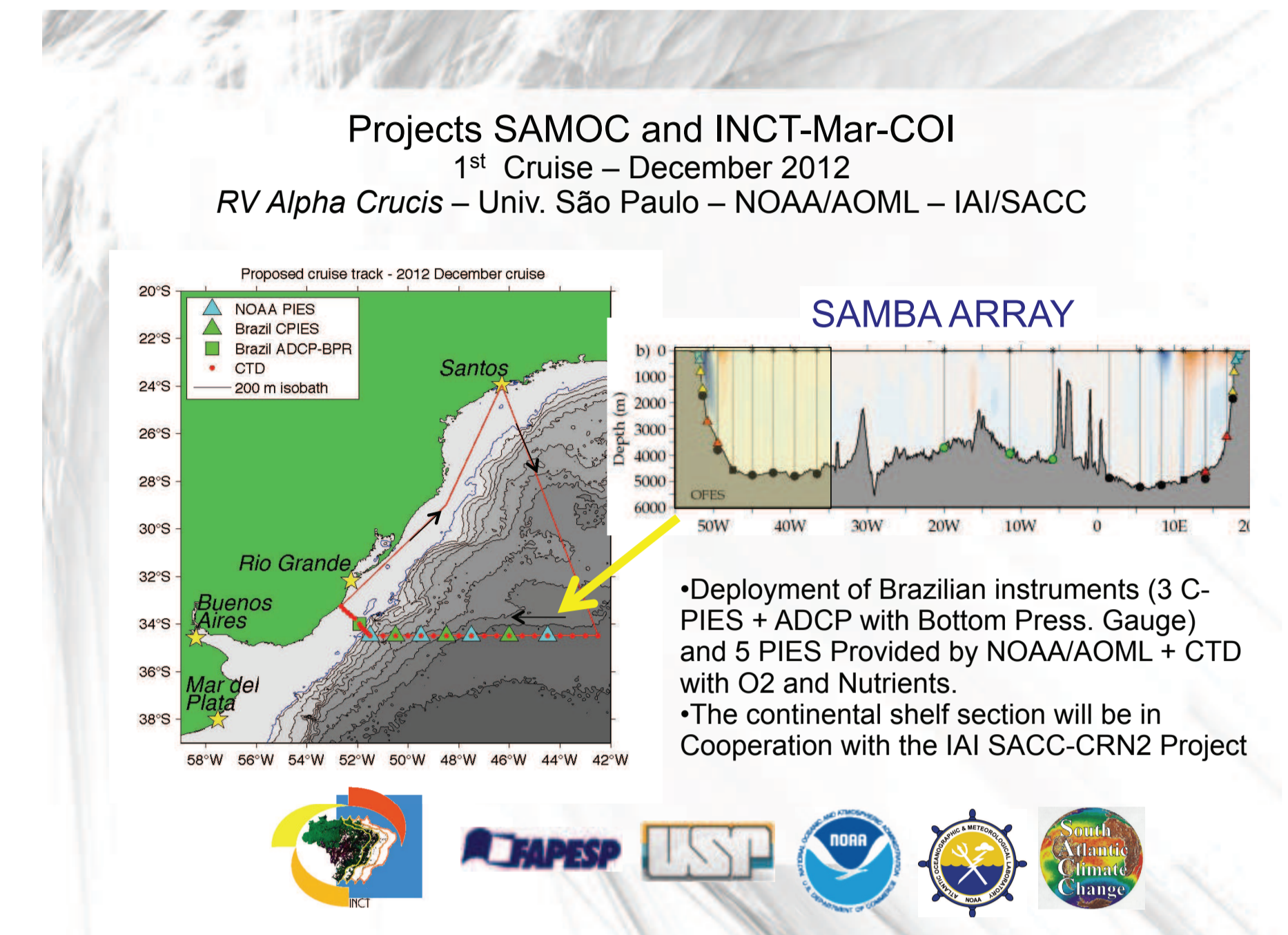


The SAMOC-BR experimental design

The SAMOC-BR inaugural cruises



An Atlas Buoy prototype built entirely in Brazil will be deployed at 28°S, 44°W for monitoring variables at the air-sea interface and oceanic properties in the upper 500 meters



The SAMOC-BR Cruises will service the western end of the SAMBA Array. During the first cruise, in December of 2012, it will be deployed five C-Pies provided by AOML/NOAA, and three C-Pies and a bottom mounted ADCP with pressure gauge provided by Brazil. Full-depth hydrography will be also conducted, sampling Temperature, Salinity, O₂, nutrients and several other chemical and biological properties.

The R/V Alpha Crucis



The Brazilian SAMOC Cruises will be conducted mainly with the University of São Paulo's research vessel **Alpha Crucis**.

Acknowledgments

The Brazilian SAMOC work is developed in the context of the Research Groups GEOCLIM and LABMON, and is funded by different agencies in Brazil. The main resources are provided by the the São Paulo State Research Foundation (FAPESP, Procs. 2008/58101-9; 2010/01943-8 and 2011/50552-4), and by the Brazilian Council for Scientific and Technological Development (CNPq, Procs. 558039/2009-0 and INCT-MC 573797/2008-0). Additional support are provided by SeCIRM, the CNPq/INCT-MC-Mar-COI and USP's NAP-MC (INCLINE). E. Campos also acknowledges CNPq for a Research Fellowship (Proc. 301117/2010-1).

