

Atlas-B: Development and Mooring of a Brazilian Prototype of the Atlas Buoy



Edmo Campos

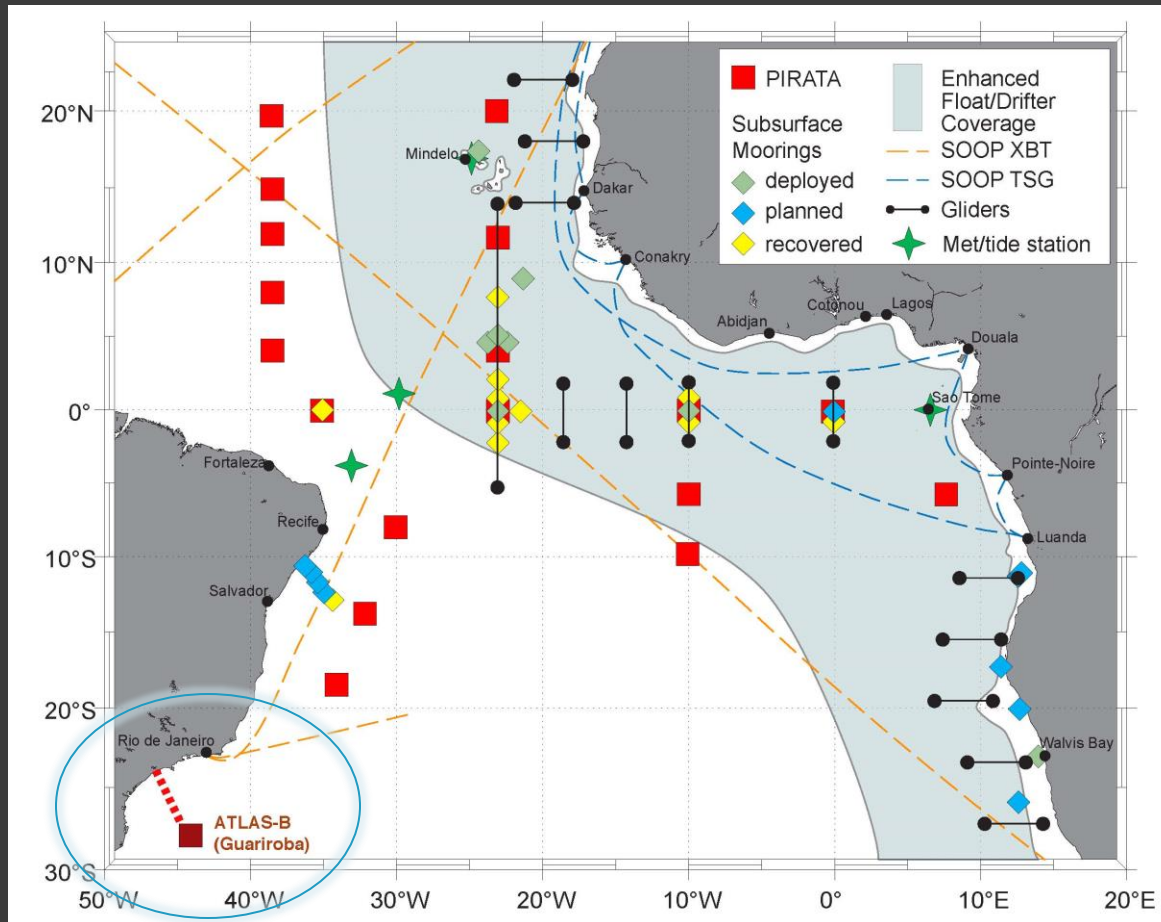
Oceanographic Institute – University of São Paulo
Brazil

Scientific and Technical Workshop of the Data Buoy Cooperation Panel
Twenty Ninth Session of the Data Buoy Cooperation Panel (DBCP-XXIX),
UNESCO Headquarters, Paris, France, 23 - 27 Sept. 2013



The Atlas-B Project

A proposed addition to the PIRATA Southwestern Extension

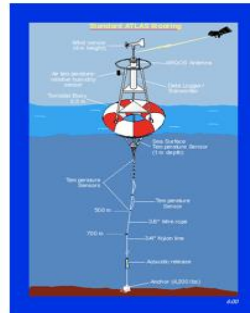
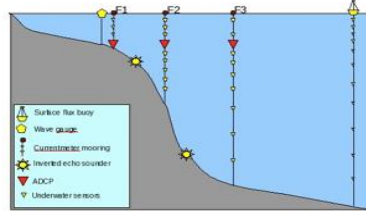
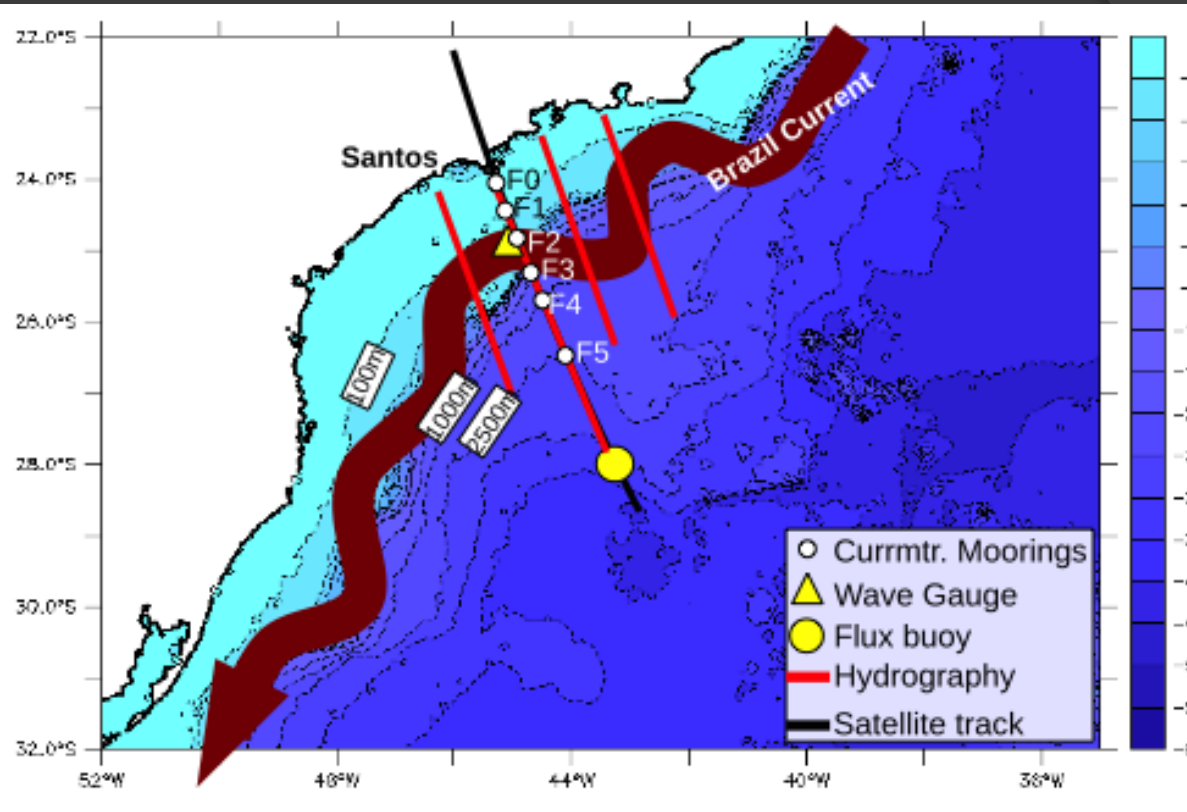


Courtesy of P. Brandt – IfM-Geomar/Kiel

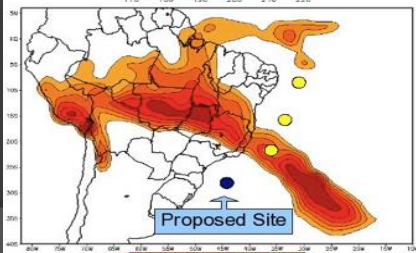
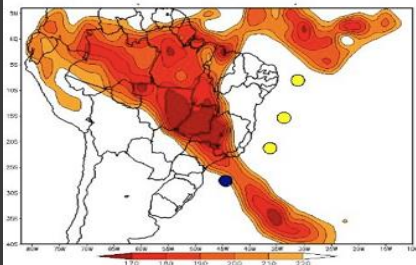
The Atlas-B Project is intended to be a component of the monitoring array in the tropical and subtropical South Atlantic, which comprises the TACE, TAV and PIRATA Programs.

Motivation

The Catarina



Need for observations of ocean properties and ocean-atmospheric fluxes in the region under the influence of the South Atlantic Convergence Zone (SACZ), where in 2004 an extra-tropical cyclone gained strength and evolved into the first hurricane (**the Catarina**) in the South Atlantic





The SACZ is responsible for the occurrence of extremes events of precipitation in Brazil.

A better understanding of its variability will enhance weather and short term climate forecast.



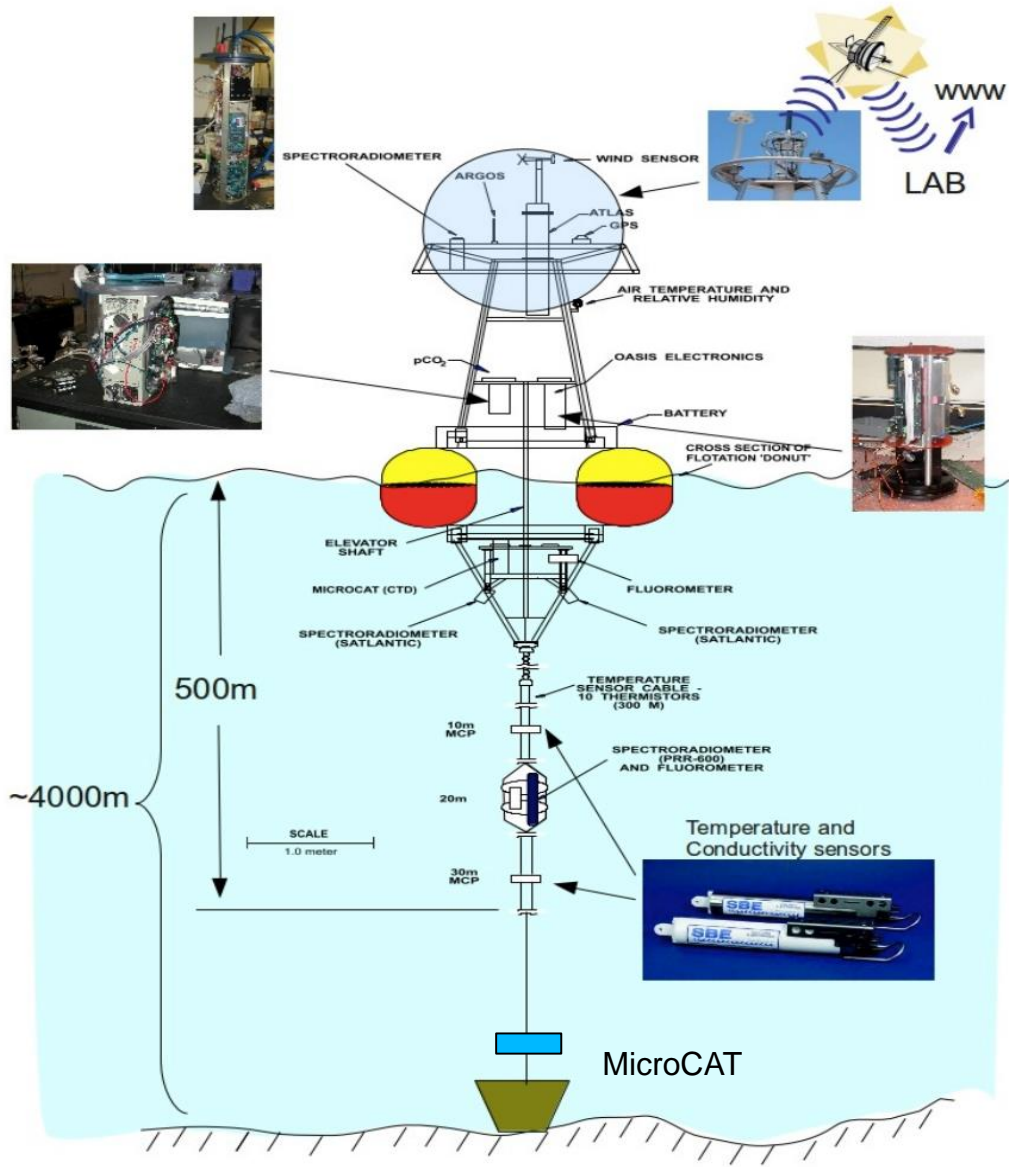
Constructing the Atlas-B



The Atlas-B, including the floater and the instrumented mooring line is being entirely assembled in Brazil



The 1st Atlas-B, being recovered after a six-month mooring test



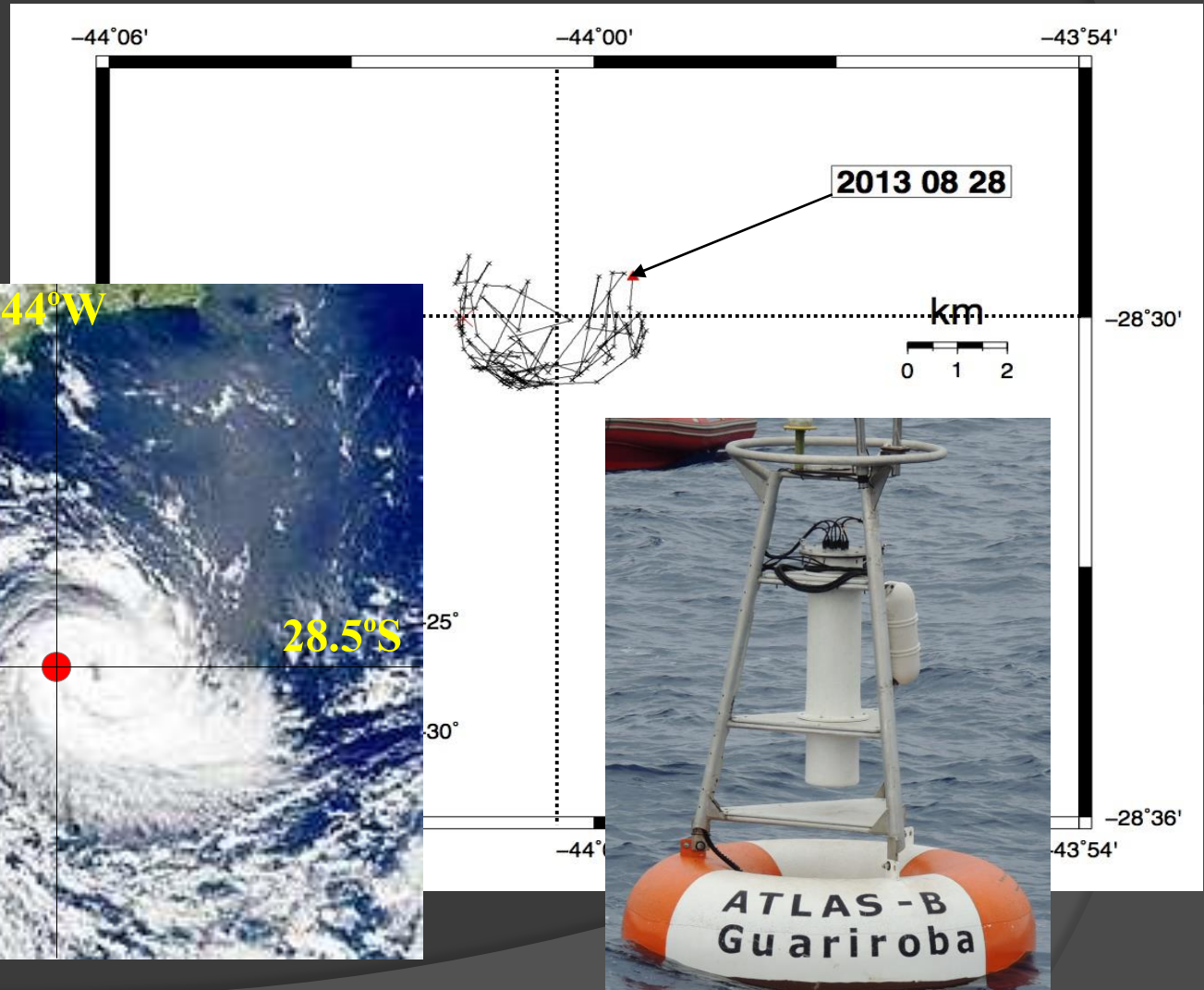
The Atlas-B is a “clone” of the TAO/PIRATA buoys.

The Atlas-B mooring includes a deep microCAT, in compliance with the OceanSITES recommendations.



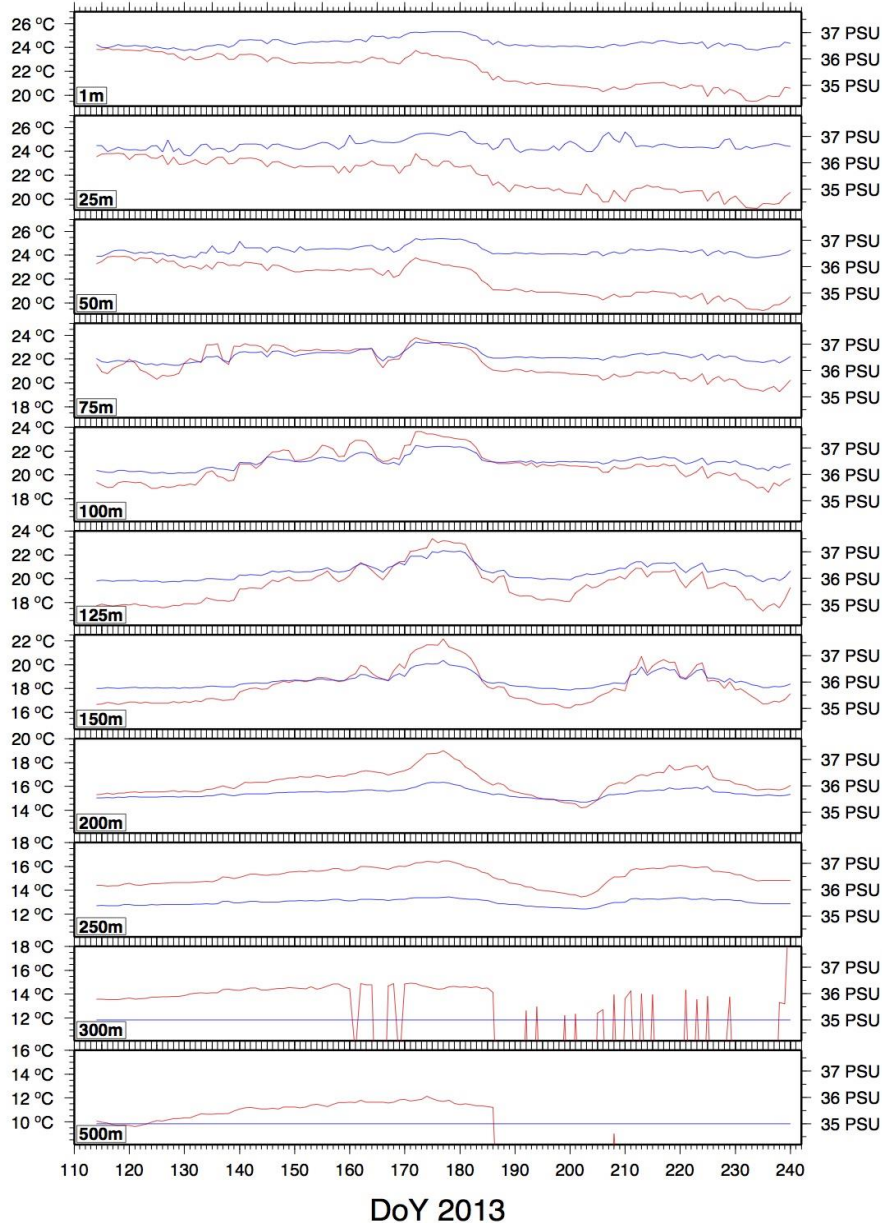
The Atlas-B “Guariroba”, at 28.5° S, 44° W

The data will
be soon in the
GTS



ATLAS-B T,S series

— Temperatura — Salinidade

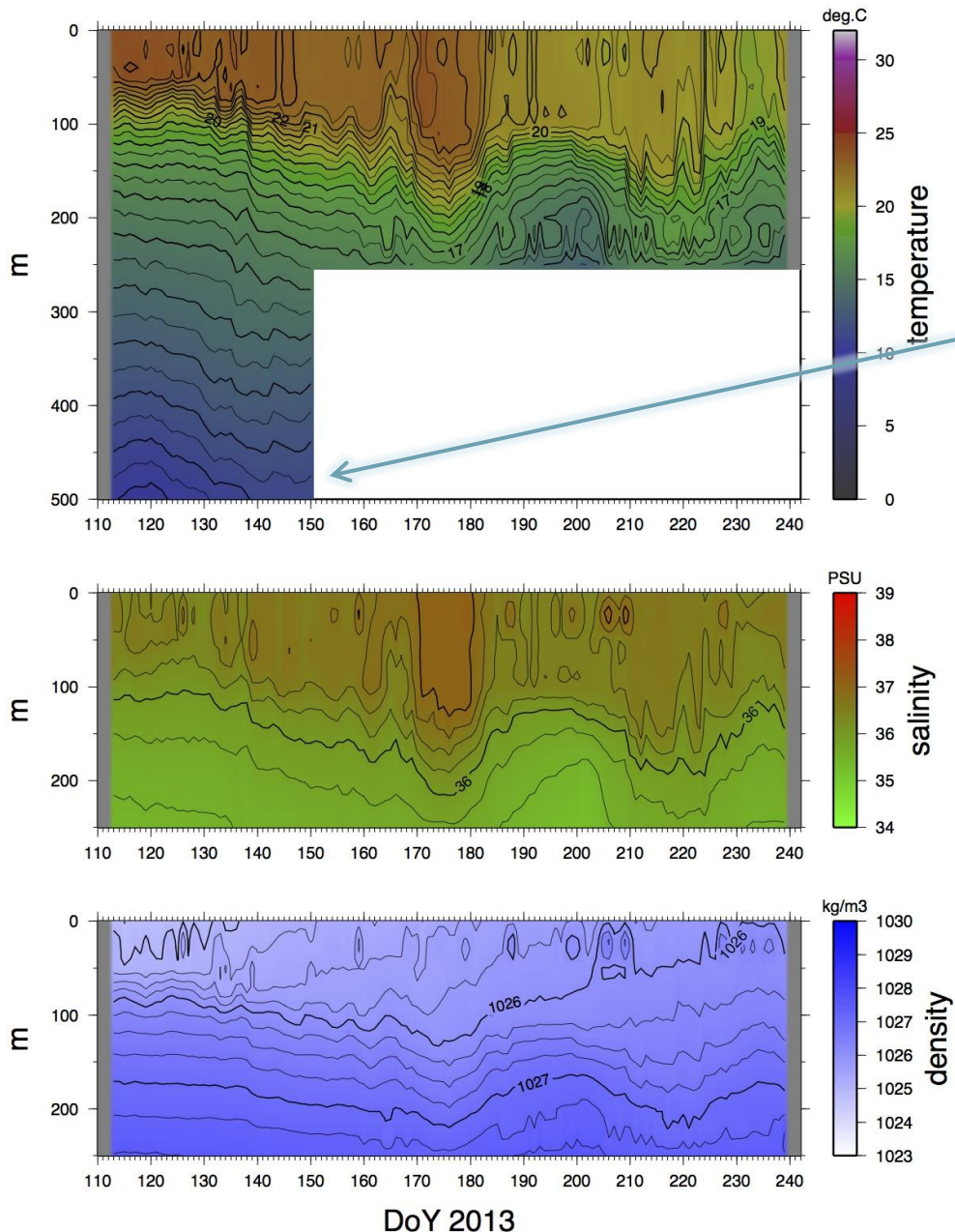


Data transmission has been done without major failure since deployment.

Data can be downloaded from:

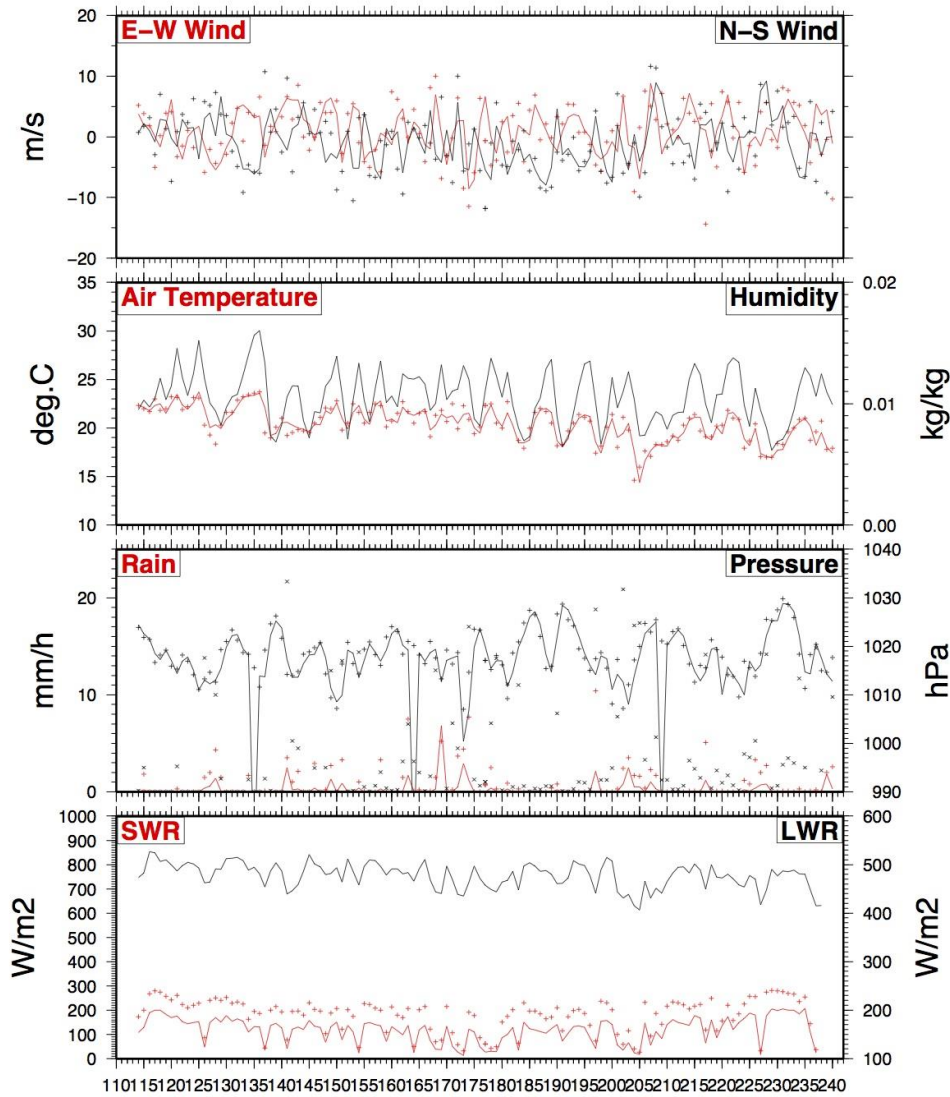
<ftp.io.usp.br/labmon/ATLAS-B>

ATLAS-B Guariroba



Two microCATs (300m and 500m) stopped data transmission about 40 days after deployment.

It is likely a problem with the electromagnetic inductive modem.

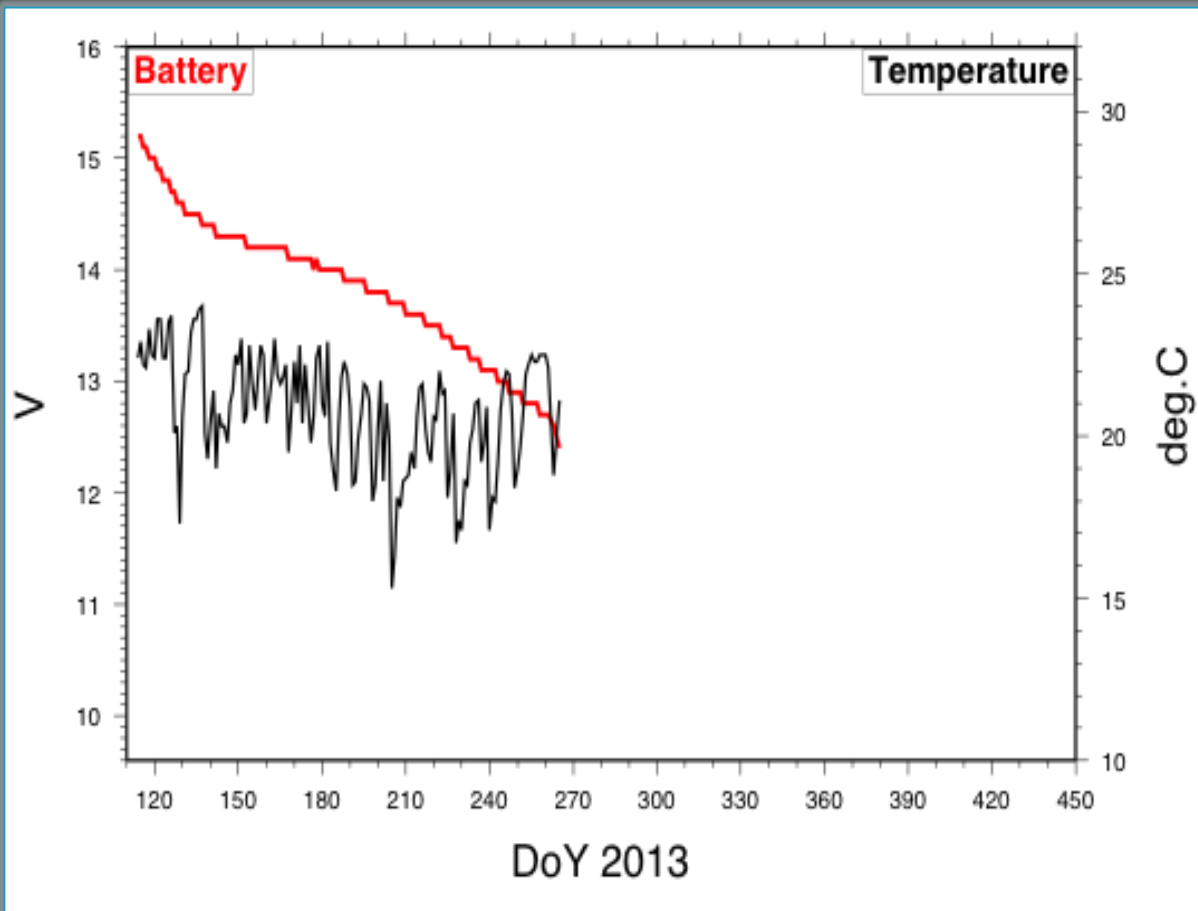


DoY 2013

The surface meteorological data is being received regularly.

Data agrees well with NCEP products.

Battery life and datalogger temperature



Summary

- For the first time, a deep ocean buoy has been completely assembled and deployed by a Brazilian team
- This buoy will be maintained as a PIRATA/BRASIL pilot program, with a potential to become part of the International PIRATA Program.

