

**NOAA Ship Ronald H. Brown A16N Leg 2 Scientific Report 07**  
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We are currently at about 6°S, 30°W on NOAA ship Ronald H Brown. We completed the last station (at 6°S 25°W) on the A16N\_2013 section yesterday and are steaming to port (Natal, Brazil). We are scheduled to arrive in Natal on October 3, 2013, a few days later than originally scheduled. Because of problems on Leg 2, several days were added to the length of Leg 2 of the cruise to allow us to complete the section successfully.

A total of 145 stations were occupied during the two legs of the A16N\_2013 expedition, which extended from about 63°N (near Iceland) to 6°S 25°W. About 4200 discrete water samples were collected on the expedition (see attached figure for locations where water samples were collected).

All of the major goals of the expedition were completed successfully, despite a hurricane, lost equipment, winch problems, and the partial shutdown of the US Federal government which began yesterday.

About 50 scientists from 6 countries (USA, Canada, United Kingdom, Norway, Germany and Russia) participated on the 2 legs of the A16N\_2013 expedition.

Programs on the cruise included measurements of:

Salinity

Oxygen Analysis

Nutrients

Chlorofluorocarbons, Sulfur Hexafluoride, Nitrous Oxide

Partial pressure of CO<sub>2</sub> (pCO<sub>2</sub>)

Dissolved Inorganic Carbon

pH

Alkalinity

Dissolved Organic Carbon

Radiocarbon

Tritium, helium and oxygen isotopes

Nitrous oxide isotope

Nitrate isotopes

Density

Colored Dissolved Organic Material (CDOM)

Underway and Lowered Acoustic Doppler Current Profilers (LADCP/ADCP)

Trace metals (aluminum, iron, cadmium, lead, cobalt, manganese, nickel, zinc...)

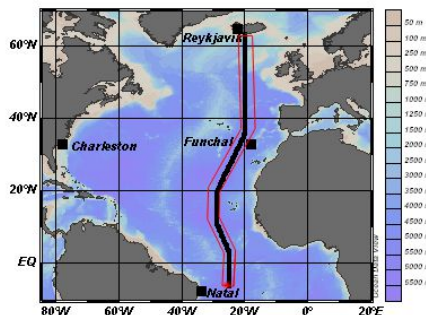
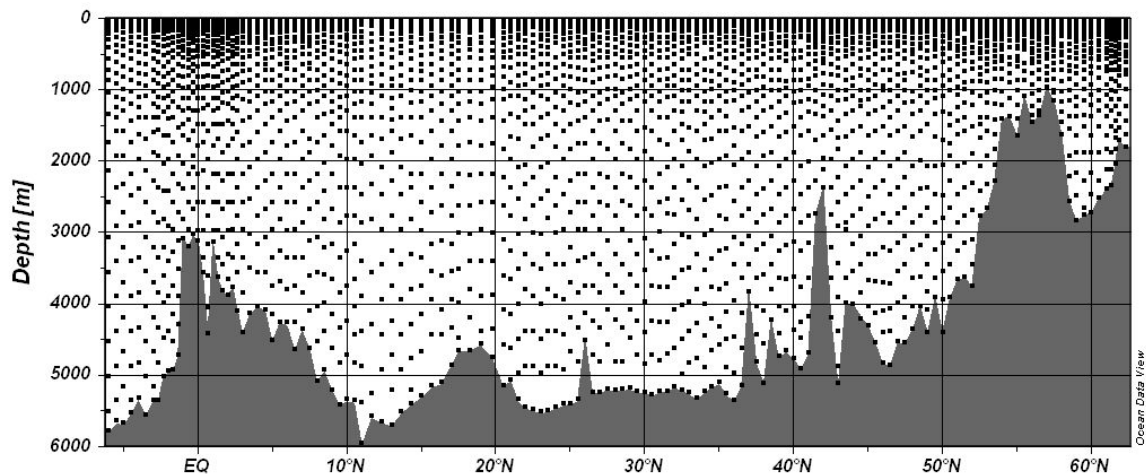
Aerosols

## Drifter/Argo Float Deployments

The overall quality of the A16N\_2013 data sets looks very good. A data report and preliminary version of the full data set is being compiled and will be available within about 30 days of completion of the cruise. These data will be compared with data collected about 10 years earlier (2003-2005) to look for changes in ocean properties in this region, and as a reference data set for future studies.

The southern leg of A16 (A16S) in the south Atlantic from 6°S to near 60°S (see attached map) is currently scheduled to begin a few months from now on NOAA ship Ronald H Brown. The cruise will last about 44 days and run from Natal to Punta Arenas, Chile (see attached map). Much of the scientific equipment used on A16N\_2013 will remain on board the ship for A16S.

We wish to thank the Captain and crew of NOAA ship Ronald H Brown for their support, without which this cruise could not have been completed successfully. We look forward to working with them again.



A16S (later this year)

