

UK

GEOTRACES activities in the UK have centred around three section cruises:

GA10: South Atlantic (Cape Town to Montevideo)

The RRS Discovery left Cape Town in October 2011 on this zonal section cruise. The cruise was led by Gideon Henderson (University of Oxford), and funded by a NERC consortium grant to ten UK institutes. It featured the full complement of GEOTRACES Key Parameters, to be measured over the full water column. Major science questions in this are:

- i. What supplies the micronutrients to support the band of high productivity at 40°S
- ii. What processes set the micronutrient concentration of AAIW and NADW before they upwell to the surface to the north and south of the section respectively
- iii. What are the controls on key paleoproxies including Pa/Th and $d^{30}\text{Si}$ in seawater and surface sediments.

Sadly a required medical emergency approximately one third the way across the Atlantic prevented the cruise from meeting its full set of objectives. Remaining ship time was used to accomplish repeat stations and high density sampling of the eastern third of the proposed section.

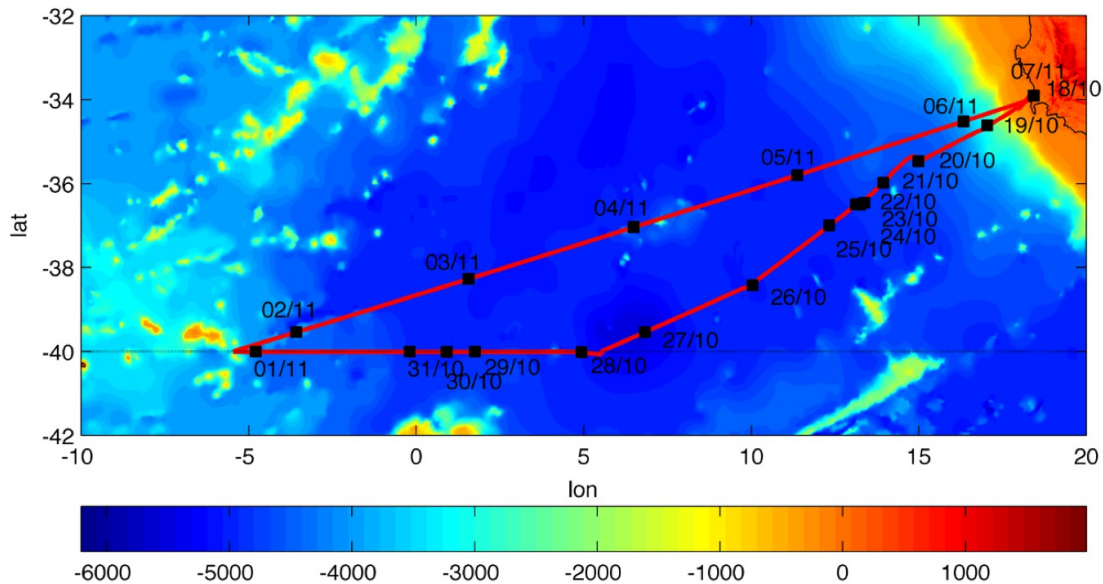


Figure 16: Portion of the GA10 section completed during 2010.

Following this incomplete cruise, NERC have generously provided additional funding and ship time to enable completion of the initial objectives. The rescheduled cruise will depart Port Elisabeth on 24th Dec 2011 on the RRS James Cook, heading for Montevideo on 27th January 2012.

GA06: Tropical Atlantic

The RRS Discovery sailed in February 2011 on a trajectory that ran perpendicular to the African coast to assess marginal fluxes from redox zones, and then on a broadly southward trajectory to cross the Saharan dust plume. The cruise was led by Eric Achterberg (University of Southampton) and funded by a NERC standard grant. The major scientific focus was on assessing the relative sizes of Fe fluxes in this region from sediments, dust, and upwelling, and to understand the relationship between Fe supply and nitrogen fixation. The cruise experienced initial delay due to engine problems, but made up time during the cruise and completed its sampling objectives. Samples were collected for the full range

of GEOTRACES Key Parameters, and over the full water column.

N08: Greenland-Iceland-Norway Seas

The next UK target section broadly follows the N08 section proposed during the Arctic workshop in June 2009. A proposal is being prepared, led by Carol Robinson (University of East Anglia) with Co-Is Maeve Lohan (University of Plymouth) and Eric Achterberg (University of Southampton). This will be submitted for a July 1st deadline and, if successful, will lead to a cruise in 2013 or 2014. The scientific goal of the cruise will be to link nutrient and trace metal distributions to the distribution and activity of phytoplankton and bacteria in the GIN Seas.

In other activities, the UK continues to host the GEOTRACES Data Assembly Centre at Liverpool, employing Ed Mawji to oversee UK and International GEOTRACES data. GEOTRACES has been represented at a number of UK meetings, and there have been meetings dedicated to each of the three cruises. UK scientists also play an active role in COST activities, and will take part in the forthcoming Baltic GEOTRACES Section led by the Polish.

Further details about UK GEOTRACES activities can be found at <http://www.ukgeotraces.com/>