

## United Kingdom

Further details about UK GEOTRACES activity is available at: <http://www.ukgeotraces.com/>

### ***Cruises:***

UK seagoing efforts within the GEOTRACES programme have focused on two full sections in the Atlantic, on a process study in the Baltic, and on planning for future Arctic activity.

#### *GA06: Tropical Atlantic*

This section was completed in mid 2011 on board the *RRS Discovery* as cruise D361, led by Eric Achterberg (Southampton). The goals of the cruise were focused on understanding ecosystem responses to cycling of micronutrient cycles, with a major motivation being to understand the relationship between micronutrient supply and nitrogen fixation. Work in the last year has been to complete shore-based measurements on the considerable number of water and particulate samples recovered during this successful cruise.

#### *GA10: South Atlantic*

This section was re-scheduled following an incomplete transit of the Atlantic in late 2010. It was completed successfully in Dec 2011 to Jan 2012 onboard the *RRS James Cook* as cruise JC068 led by Gideon Henderson (Oxford). The cruise successfully completed work at 24 stations, reoccupying a number of stations in the Cape Basin from the previous cruise (D357), and then completing the transect from Cape Town to Montevideo. The major research goal was to quantify the fluxes and processes providing micronutrients to the highly productive 40°S surface waters, and to deep waters shortly before they upwell in the HNLC Southern Ocean and productive tropical Atlantic. In addition to full-depth CTD casts (e.g. Figure 14) the cruise pursued Stand Alone Pumping for recovery of particulates, mega-coring to retrieve intact sediment surfaces, and velocity microstructure profiler deployments to assess iso- and dia-pycnal mixing rates. Argo floats and a glider were also deployed. Scientists from 10 UK institutes were involved, along with those from New Zealand, the USA, and Slovenia. The cruise met all its ship-board objectives and the work of shore-based analysis is now in full swing.

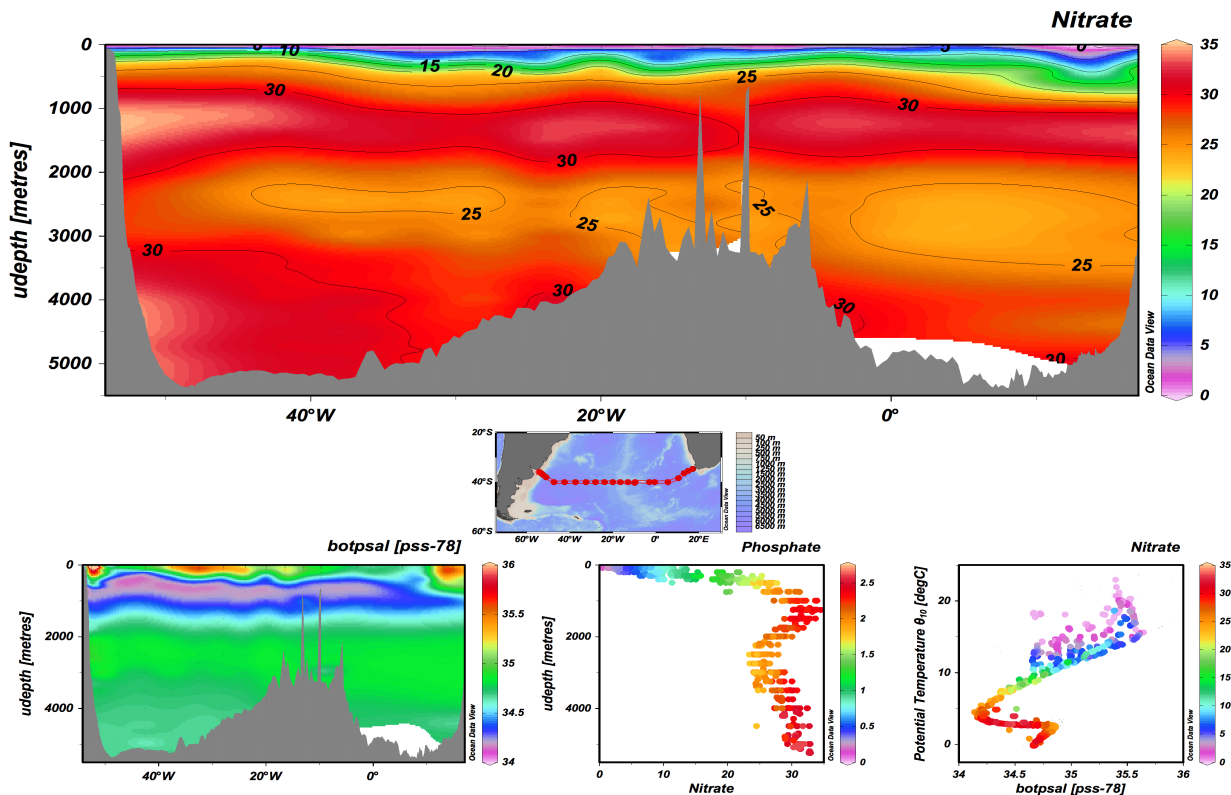


Figure 14: Ship-board macro-nutrient data for the GA10 (JC068) cruise (Malcolm Woodward), also showing the cruise track and stations.

### Meetings:

- UK scientists have presented results GEOTRACES results at AGU, Ocean Sciences, and Goldschmidt conferences.
- UK scientists played a role in organizing the 3rd Data-Model Synergy workshop, and there was significant UK attendance at that meeting
- UK scientists have been involved in planning for future Arctic GEOTRACES efforts through international meetings and dialogue
- UK scientists played a role in organizing the TrainMIC training school, and several UK students attended to learn about quality control issues.
- A post-cruise meeting for GA06 was held in early 2012, and a similar meeting for GA10 will be held in September 2012.
- A COST and SCOR sponsored meeting focused on trace metal isotopes in seawater will take place in September in London, organized by scientists from Imperial College (Mark Rehkamper and Tina van der Flierdt).

### National and international service:

- A UK GEOTRACES Steering Committee has been established in the last year consisting of Eric Achterberg (Southampton); Walter Geibert (Edinburgh); Gideon Henderson (Oxford); Maeve Lohan (Plymouth); Carol Robinson (UEA); and Tina van der Flierdt (Imperial).
- The UK continues to host the GEOTRACES Data Assembly Centre at the British Oceanographic

Data Centre in Liverpool.

- The UK is represented on the International GEOTRACES SSC by Gideon Henderson (Co-Chair) and Maeve Lohan, and on the International Standards and Intercalibration Committee by Maeve Lohan.
- There are three UK representatives on the GEOTRACES-related COST Action Management Committee: Gideon Henderson (Chair); Ed Mawji (Chair Data Working Group); Maeve Lohan (Chair Training Working Group).

Submitted by: Gideon Henderson