

UK

ANNUAL REPORT ON GEOTRACES ACTIVITIES IN THE UK

The last twelve months have seen significant funding successes in the UK and we are now preparing for two fully-funded full GEOTRACES Sections in the Atlantic.

Further details of UK GEOTRACES activities are now available at a dedicated website at <http://www.ukgeotraces.com/>

GEOTRACES A10: 40°S Zonal Section: Micronutrients and Paleoproxies

Ship time for this cruise had been secured with an earlier NERC Standard Grant to Henderson and Rickaby (Oxford), Mills (Southampton) and Pancost (Bristol). That grant was focused on paleoproxy calibration and did not cover costs for the majority of the GEOTRACES key parameters. In Jan 2010 we learnt of the success of a larger Consortium Proposal to NERC for 2.5 million pounds. This budget enables the full suite of GEOTRACES key parameters and a range of other measurements to be made, and includes a component of biological research, physical oceanography, and ocean modelling. That proposal involved 10 UK organizations and one from the US (WHOI), and had support from both South Africa and Uruguay. The funded work focuses on understanding the sources and cycling micronutrients to the highly productive 40°S region of the Atlantic, and on the importance of deep water micronutrients to the Equatorial Atlantic and Southern Ocean.

The cruise will sail 17th October to 25th November 2010 from Cape Town to Montevideo with 24 scientists on board the RRS Discovery. It plans 22 full depth stations with multiple casts at each station, and will also set up an aerosol station on the Falkland Islands and support analysis for a complementary proposal within Uruguay to sample the Plata River at regular intervals.

GEOTRACES A06: Tropics: Micronutrients and nitrogen fixation

Eric Achterberg (Southampton) led a group which also contained Maeve Lohan (Plymouth), Alex Baker (UEA) and Ric Williams (Liverpool) in a successful bid to NERC for 900 thousand pounds to run a tropical Atlantic cruise to assess the relationship between micronutrient supply and ecosystem function, with a particularly focus on nitrogen fixation. The cruise will sample waters influenced by the Sahara dust plume and also contains a transect to the coast to investigate low-oxygen conditions. The cruise will sail on the RRS Discovery in Feb and March 2011. Funding has so far only been secured for a limited number of the GEOTRACES key parameters, but there are plans to identify people to complete the list of parameters, and an expectation that this should be possible with the resources that have recently come to GEOTRACES from NERC.

Other activities

Purchase of clean sampling equipment: Funds have been secured this year for a UK clean winch and cable system. It is likely that this will fund the purchase of LeBus winch and Nexans conducting cable for full-water column trace metal clean work. The UK already has two 24 position titanium rosettes which will be deployed from this system. It is unlikely that the winch will be ready for the A10 cruise, which will instead deploy the Ti rosette from a high-breaking strain plastic rope with a depth trigger.

Data Management: BODC in Liverpool continues to host the International GEOTRACES Data Assembly Centre, with Ed Mawji as the dedicated Data Management Officer for GEOTRACES.

Initial NERC funding for to set up this post is close to its end and, although some additional funds have been secured in recent grants, efforts to provide continued support for this activity are important.

Planning for future activities: UK efforts are presently focused on A10 and A06, but discussions have begun on possible future UK interests. Several UK scientists attended the Arctic Basin Workshop this year and are interested in extending existing UK interest in the Arctic into GEOTRACES subject areas. There is also early discussion about possibly working in the Southern Indian Ocean in future years.

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