

## Germany

The main German GEOTRACES activity of the past year was the preparation and realization of the RV Meteor cruise M81/1 (GEOTRACES cruise A11, chief scientist M. Frank, IFM-GEOMAR, Kiel) to the tropical Atlantic Ocean (Las Palmas, Canary Islands - Port of Spain, Trinidad and Tobago, 4<sup>th</sup> February until 8<sup>th</sup> March 2010), which was funded by the German Science Foundation. For this cruise, which was exclusively dedicated to GEOTRACES, the trace metal clean rosette, mobile winch with 8 km Kevlar cable and the clean van of the U.S. GEOTRACES programme had been borrowed. The system was successfully operated over the A-Frame of RV Meteor alternating with a normal rosette for less contaminant prone trace metals, as well as in situ pumps for particulate sampling, which were handled in a second clean laboratory container of the University of Bremen. A total of 17 full water depth stations were sampled for all core and ancillary parameters of the GEOTRACES program complemented by continuous surface water sampling with a towed fish (see Figure below). In addition to the core parameters, samples were taken for analyses of dissolved transition metals (Ti-Zr-Hf, V-Nb-Ta, Cr-Mo-W), stable Fe-, Cd-, and Si-isotope composition, dissolved Hf isotopes, REEs,  $^{234}\text{Th}$ ,  $^{227}\text{Ac}$  concentration, Ra isotopes, and anthropogenic radionuclides ( $^{239}\text{Pu}$ ,  $^{240}\text{Pu}$ ,  $^{237}\text{Np}$ , and  $^{137}\text{Cs}$ ). Two crossover stations for the forthcoming U.S. RV Knorr (eastern tropical Atlantic; see map) and the Dutch RV Pelagia cruises (western tropical Atlantic; see map) were occupied. All samples arrived back in the home laboratories safely and will be measured in the coming 2 years, for which a proposal for funding 4 PhD students will be submitted to the German Science Foundation in summer 2010.

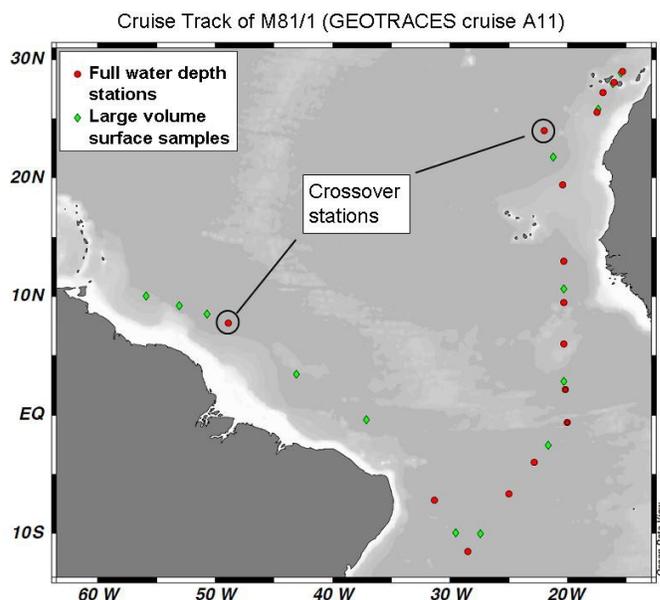


Figure: Track of RV Meteor cruise M81/1 (Las Palmas – Port of Spain, Feb.-March 2010).

In addition, German GEOTRACES scientists (group of M. Rutgers van der Loeff) took part in Leg 1 of Dutch RV Pelagia cruise (GEOTRACES) in the western North Atlantic and will receive samples from Leg 2 of this cruise for measurements of GEOTRACES core parameters  $^{231}\text{Pa}$  and  $^{230}\text{Th}$  and a number of additional profiles for Nd isotope measurements to complement and extend the section of cruise M81/1.

The main planning activities of the German GEOTRACES community over the past year was the Arctic planning workshop in Delmenhorst (June 6-8, 2009) mainly funded by the EU GEOTRACES COST program ES801 (The Ocean Chemistry of Bioactive Trace Elements and Paleoclimate Proxies). The workshop report is available on the GEOTRACES website.