

## Germany

GEOTRACES activities in Germany mainly focused on the analysis of samples collected on cruises in previous years and the submission of two cruise proposals for the Arctic Ocean in 2015 (Central Arctic) and 2016 (Fram Strait) on *R/V Polarstern*.

### ***Cruise proposals***

We have submitted proposals for two *R/V Polarstern* expeditions 2015 and 2016, both with GEOTRACES components as part of the coordinated GEOTRACES program for the Arctic Ocean. The proposal for the 2015 expedition aims at sampling the central Arctic Ocean, while our part in the 2016 proposal has the objective to study the Fram Strait in order to quantify the tracer exchanges through this gateway to the Atlantic Ocean. Both proposals have received excellent reviews and have been selected to be scheduled as requested. A final decision is expected in July 2013.

Proposal for 2015: *Trans-Arctic Survey of the Arctic Ocean in Transition*, R/V Polarstern, 2015 (PIs: U. Schauer, M. R. v.d. Loeff, H.de Baar, M. Rijkenberg, P. Masqué, K. Pahnke, M. Frank).

Proposal for 2016: *FRAM Strait oceanography and GEOTRACES, East Greenland glacier melt*, R/V Polarstern, 2016 (PIs: U. Schauer, M. R. v.d. Loeff, H.de Baar, M. Rijkenberg, P. Masqué, K. Pahnke, M. Frank).

### ***New results***

Data for the intermediate data product obtained during M81/1 (GA11) (M. Frank, GEOMAR) and ANTXXVI-2 (Nd isotope data, C. Basak, K. Pahnke, U. of Oldenburg) have been submitted. The cruise report of M81/1 has been approved by the funding agency. A publication on the Nd/Hf isotope data obtained during the Baltic Sea process study has been submitted to GCA.

Cd isotope profiles from Pelagia cruise PE369 and stable Sr and Ca isotopes in seawater have been acquired.

The first five water column profiles from *R/V Sonne* cruise SO223T (GEOTRACES Process Study) have been analyzed for dissolved Nd isotopes.

### ***Other activities***

The trace metal clean rosette and CTD of GEOMAR has been purchased and delivered. The clean van for taking clean samples is close to being finished and a mobile winch is in the ordering process at GEOMAR. Eric Achterberg will join GEOMAR in August and will be a new player in the German GEOTRACES activities. Submission of a joint cruise proposal, most likely for the Indian Ocean, is planned for September.

Samples for the intercalibration of Nd isotopes, REE concentrations, and Si isotopes to be measured at GEOMAR have been collected on the GEOTRACES Mediterranean cruise.

### ***Publications***

#### *Submitted manuscripts*

- Abouchami, W., Galer, S.J.G., de Baar, H.J.W., Middag, R., Klunder, M., Mezger, K., Feldmann, H., Andreae, M.O. (2013, Cadmium isotopes in the Southern Ocean – a tracer of nutrient cycling, *Geochimica Cosmochimica Acta* (in revision).

- Chen, T.-Y., Stumpf, R., Frank, M., Beldowski J. and Staubwasser, M. (2013) Contrasting geochemical cycling of hafnium and neodymium in the central Baltic Sea. *Geochimica Cosmochimica Acta* (submitted).

*Oral and poster presentations*

- Abouchami, W., Galer, S.J.G., Feldmann, H., Andreae, M. O., de Baar, H.J.W., Middag, R., Klunder, M., Laan, P. (2012) Micronutrient Cadmium, distribution and stable isotope fractionation. AGU Fall Meeting, San Francisco, 2012 (invited talk).
- Abouchami, W., Galer, S.J.G., Feldmann, H., Andreae, M. O., de Baar, H.J.W., Middag, R., Klunder, M., Laan, P., Rijkenberg, M., Gerringa, L., de Jong, J., Timmermanns, K., Schuback, N. (2012). Stable Cd Isotopes in Seawater, UK Geotraces Meeting, London, September 2012 (Talk).
- Basak, C., Pahnke, K. (2012). Bottom Water Changes in the South Pacific Over the Last 30 ka Documented by Nd Isotopes. Goldschmidt Conference, Montréal, Canada, *Mineralogical Magazine* 76, 1458 (Talk).
- Basak, C., Pahnke, K. (2012). South Pacific Water Mass Structure From Nd Isotopes: Present And Past, AGU Fall Meeting, San Francisco (Talk).
- Chen, T., Frank, M. und Stumpf, R. (2012) *Nd & Hf concentrations and isotopic compositions in the Baltic Sea*. Goldschmidt Conference, Montréal, Canada (Talk).
- Pahnke, K., Basak, C., Gersonde, R. (2012) Neodymium isotopic composition of South Pacific bottom water. Goldschmidt Conference, Montréal, Canada, *Mineralogical Magazine* 76, 2199.
- Pöhle, S., Koschinsky, A., and Schmidt, K. (2012) Determination of Zr, Hf, Nb and Ta in seawater by the use of an online-preconcentrations system connected to inductively coupled mass-spectrometry (ICPMS). *Geoanalysis, 8th International Conference on the Analysis of Geological and Environmental Materials*, Buzios (Brazil), Sept. 16-20, 2012. (Talk)
- Pöhle, S., Koschinsky, A., Moos, S., and Sander, S., Chromium speciation in the oceanic water column. ASLO 2013 Ocean Sciences Meeting, New Orleans, 2013. (Talk)
- Zieringer, M., Frank, M. und Hathorne, E. (2012) *The distribution of neodymium isotopes and REE patterns in the water column of the tropical Atlantic Ocean*. Goldschmidt Conference, Montréal, Canada (Talk).

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