

**ANNUAL REPORT ON GEOTRACES ACTIVITIES IN NEW ZEALAND**  
JUNE 2013 – JUNE 2014

The NZ GEOTRACES research voyage (June 2011) data workshop took place at Wellington, New Zealand in April 2013, with 12 scientists in attendance. Hydrographic and biogeochemical data were presented and discussed arising from the transect along the GP13 line, west to east along 32.5oS from 172 °W to 150°W in the South Pacific gyre.

The first paper from the NZ Geotraces research voyage was published in June 2012: “Law, C.S., Breitbarth, E., Hoffmann, L.J., McGraw, C.M., Langlois, R.J., LaRoche, J., Marriner, A. and Safi, K.A. 2012. No stimulation of nitrogen fixation by non-filamentous diazotrophs under elevated CO<sub>2</sub> in the South Pacific, *Global Change Biology*, 18:3004–3014, doi: 10.1111/j.1365-2486.2012.02777.x

Three NZ scientists (PhD student Mr John Rolison, PhD student Mr Ejin George and Dr Rob Middag) participated in the 3 legs of the Netherlands GEOTRACES cruises in the Mediterranean and Black Sea (Leg 1: (# 64PE370) Lisbon to Istanbul – May 14, 2013 to June 5, 2013; Leg 2: (# 64PE373) Istanbul to Istanbul – July 13, 2013 to July 25, 2013; Leg 3: (# 64PE374) Istanbul to Lisbon – July 25, 2013 to August 11, 2013). Shipboard measurements were done for dissolved aluminium at 65 stations resulting in 1401 samples. At 64 stations samples were collected and extracted shipboard for the metals Y, Cd, La, Pb, Sc, Ti, Mn, Fe, Ni, Zn and Ga, resulting in 1422 extracts that were analysed at the ICP-MS facility of the University of California Santa Cruz during a 1 week visit. Samples for Fe and Cd isotopes were collected at all three legs resulting in 289 samples from 9 full depth stations and 24 surface stations. Additionally samples for Zn isotopes were collected at leg 1 and 3 (7 full depth stations and 20 surface stations) and samples for U isotopes at leg 2 (2 full depth stations and 4 surface stations). The U samples have been analysed and the results will be presented as an invited talk at the upcoming Goldschmidt Conference in Sacramento (June 2014, California, USA) by Assoc. Prof. Claudine Stirling. Dissolved trace metal concentrations for the Black Sea leg of this cruise will also be presented at this year’s Goldschmidt Conference by PhD student Mr John Rolison.

First results of the Mediterranean cruise were presented by NZ scientists at the Ocean Science Meeting (February 2014) in Honolulu (Hawaii, USA).

Cadmium isotopic and concentration results from the NZ GEOTRACES research voyage (June 2011) will be presented at the 2014 Goldschmidt Conference, to be held in Sacramento, USA by PhD student Mr Ejin George.

The SCOR WG 139, co-chaired by Res. Assoc. Prof. Sylvia Sander from University of Otago, met in Honolulu, Hawaii on 23rd February 2014 for the third time with 14 members and three guests in attendance. Besides other business the group also discussed intercalibration efforts for organic ligand analysis as part of the GEOTRACES program. Databases for several trace metal ligand data are currently being set up in a similar way to those being accumulated for other trace metal data by GEOTRACES. The need for BIO-GEOTRACES was discussed.

**New Funding:** The University of Otago has funded the purchase of a Nu Attom HR-ICP-MS that will be housed in the Community Trust of Otago Centre for Trace Element Analysis.

Submitted by Rob Middag (rob.middag@otago.ac.nz).