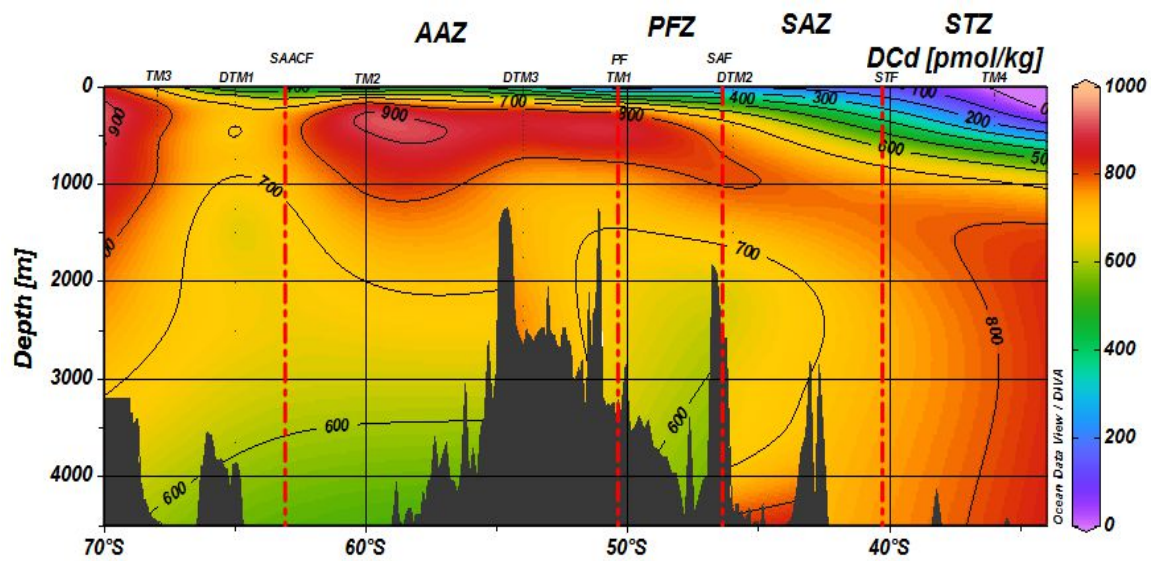
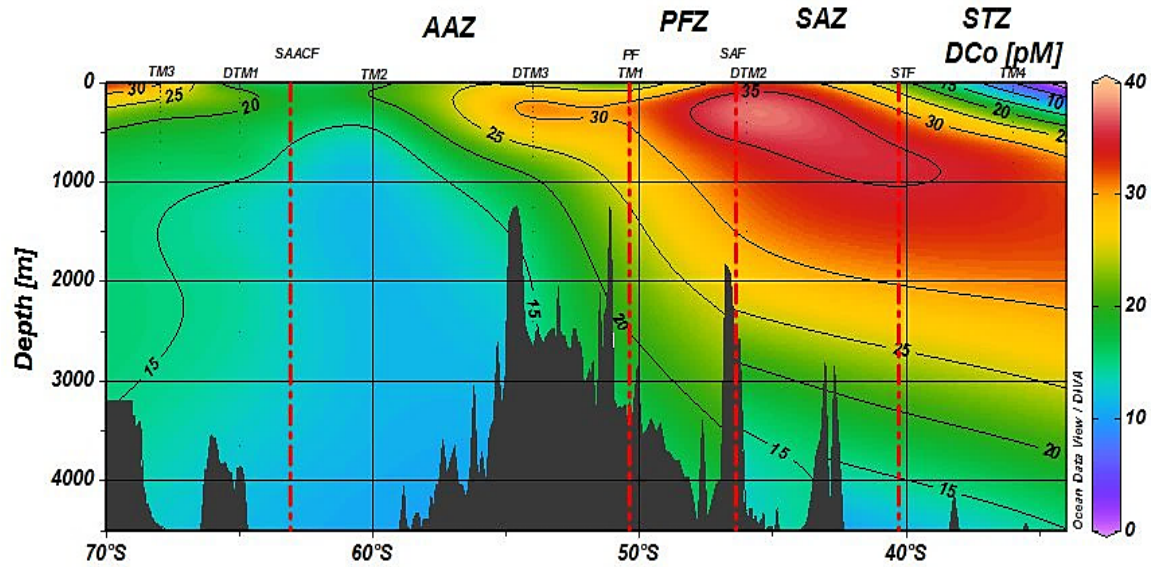


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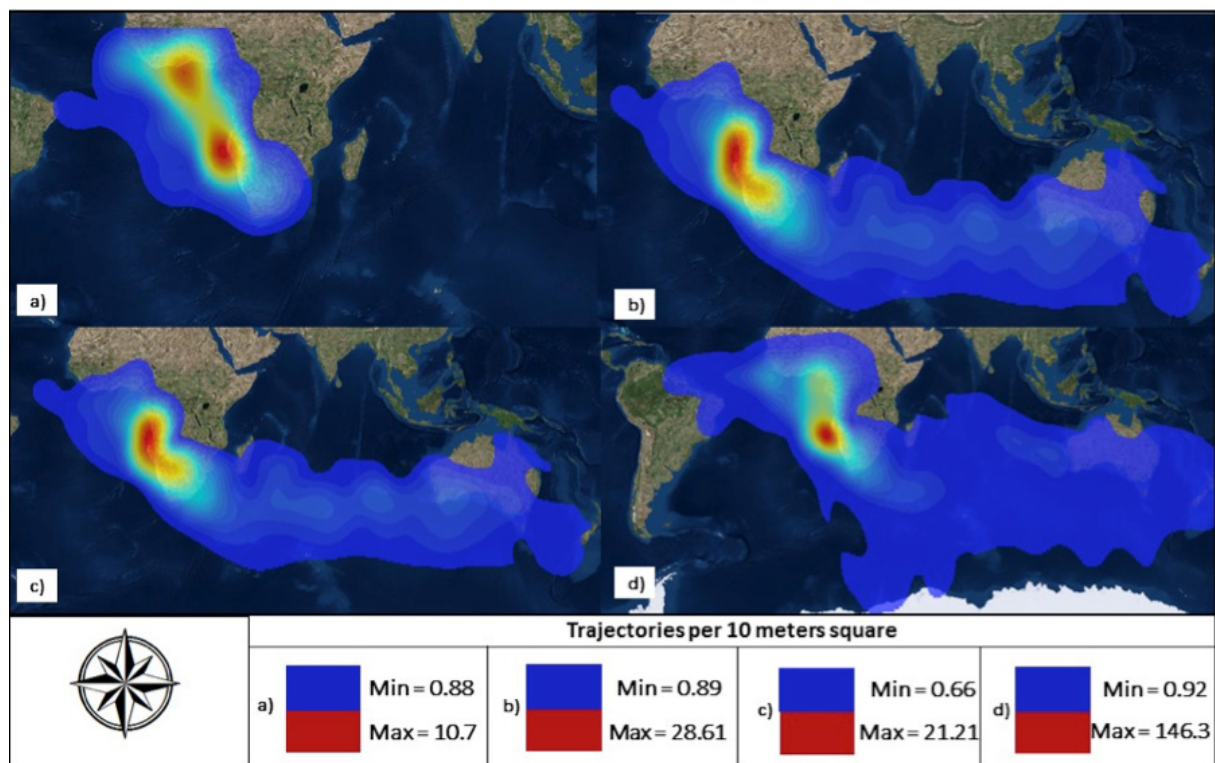
May 1st, 2016 to April 30th, 2017

New results

- Co and Cd distribution across zero meridian (Roychoudhury et al. unpublished)



- Modelled trajectories of Southern African dust to Southern Ocean (Fietz et al, unpublished)



Meetings

- S. Fietz, R. Cloete, J. Loock, R. Philibert, A.N. Roychoudhury, N. van Horsten, T. Mtshali, S. Thomalla (2016) Response of Southern Ocean Phytoplankton to iron and light limitation 34th SCAR Biennial Meeting, Kuala Lumpur, Malaysia, August 22 – 26, 2016
- R. Cloete, J. Loock, T. Mtshali, S. Fietz, A.N. Roychoudhury (2016) The distribution and controls of bioactive trace elements (Cu and Zn) in the Atlantic Sector of the Southern Ocean. 34th SCAR Biennial Meeting, Kuala Lumpur, Malaysia, August 22 – 26, 2016 – Awarded Best Student Poster
- J. Loock, R. Cloete, T. Mtshali, S. Fietz, A.N. Roychoudhury (2016) The seasonal distribution and controls of bioactive trace elements cadmium and cobalt in the southern ocean, Atlantic sector. 34th SCAR Biennial Meeting, Kuala Lumpur, Malaysia, August 22 – 26, 2016 Awarded Best Student Oral presentation
- K. Kanguuehi, F. D. Eckardt, A. N. Roychoudhury, J. Von Holdt, S. Fietz (2016) Aerosol trace metal concentration and dissolution from known dust sources in Southern Africa. SANAP Symposium, Pretoria, South Africa, July 27 – 29, 2016.
- Viljoen JJ, Fietz S and Roychoudhury AN (2016) Analysis of photosynthetic pigments and CHEMTAX determination of phytoplankton community composition in the Southern Ocean. SANAP Symposium, Pretoria, South Africa, July 27 – 29, 2016
- J. Loock, R. Cloete, S. Fietz, T. Mtshali, A.N. Roychoudhury (2016) The Seasonal Distribution and Controls of Bioactive Trace Elements Cadmium and Cobalt in the

Southern Ocean, Atlantic Sector. SANAP Symposium, Pretoria, South Africa, July 27 – 29, 2016.

Cruises

Winter cruise (Southern Ocean physics and biogeochemistry) was undertaken along the BONUS-GOODHOPE line in the Southern Ocean to support the following projects (June/July 2016):

1. Seasonal Cycle of Carbon in Southern Ocean – SNA2011112600001
2. Fe and light limitation in Southern Ocean phytoplankton – SNA2011120600005
3. Bioactive trace elements in Southern Ocean – SNA2011110100001
4. Stratification dynamics in the Southern Ocean mixed layer: a high resolution approach – YREF 0000005441
5. Southern Ocean Phytoplankton Adaption to mimicked future changes in light and iron availability - Molecular bases and modelling – SANCOOP 234229
6. Bio-optics - SNA2011120800004

During this cruise, samples for GEOTRACES process study SOSCEX were also collected. As per SOSCEX III objectives, multiple occupations of the same two stations were carried out in the winter early, mid and late summer that aim to resolve the seasonal evolution of the Fe profile/ferricline in the SAZ.

Theses

- Ryan Cloete (2017) Measurement and distribution of Dissolved Copper (DCu) and Zinc (DZn) in the Southern Ocean, Atlantic Sector: Validation of an improved seawater collection and ICP-MS based analytical technique. MSc Thesis
- Jean Looek (2017) The meridional biogeochemistry of bio-active trace metals cobalt and cadmium in the Southern Ocean, Atlantic Sector – A simultaneous ICP-MS quantification technique. MSc Thesis

New funding

- Roychoudhury AN (2017-2019) Nanoparticles at Air-Sea interface. NRF Competitive Rated Researcher Grant, R 1,550,000
- Roychoudhury AN (2016) TraceEx: Establishment of Center of excellence in Trace and experimental Biogeochemistry, Donor funding, R 17 Million

Other activities (e.g., acquisition of new sampling systems)



TISCH Aerosol sampler was acquired by Dr Fietz. The sampler is currently being tested for sampling atop Department of Earth Sciences, Stellenbosch University. The sampler will be installed on Agulhas II to sampling Aerosol particles in the Southern Ocean.

McLane pumps: Two McLane pumps are being acquired by Prof Roychoudhury:

1. WTS-LV08_Dual Filter Mode (4-8 l/min) – 30 Ah high capacity battery pack
2. WTS-LV04 Standard Sampler (1-4 l/min) - D cell batteries

They are expected to arrive in June 2017.

Report Submitted by Prof. AN Roychoudhury (roy@sun.ac.za).