

Weekly report 6 (18.01.2016-25.01.2016)

SO-245 „UltraPac“ 17.12.2015 (Antofagasta, Chile) – 28.01.2016 (Wellington, NZ).

In the last full week of the *UltraPac* Expedition the final three stations of a total of 15 stations were visited. After passing over our self-imposed International Dateline and thus skipping over January 20th, 2016, we arrived at our last full main station SO245-14 on Thursday, January 21, where we successfully completed a full program of water column and sediment sampling. Since last Monday, *Sonne* has been steaming under full power of all of her four diesel generators. With speeds approaching 15 knots we were able to reach the final station SO245-15 by midnight the 23rd of January, which allowed us to pursue nearly a full sampling program at this final site.

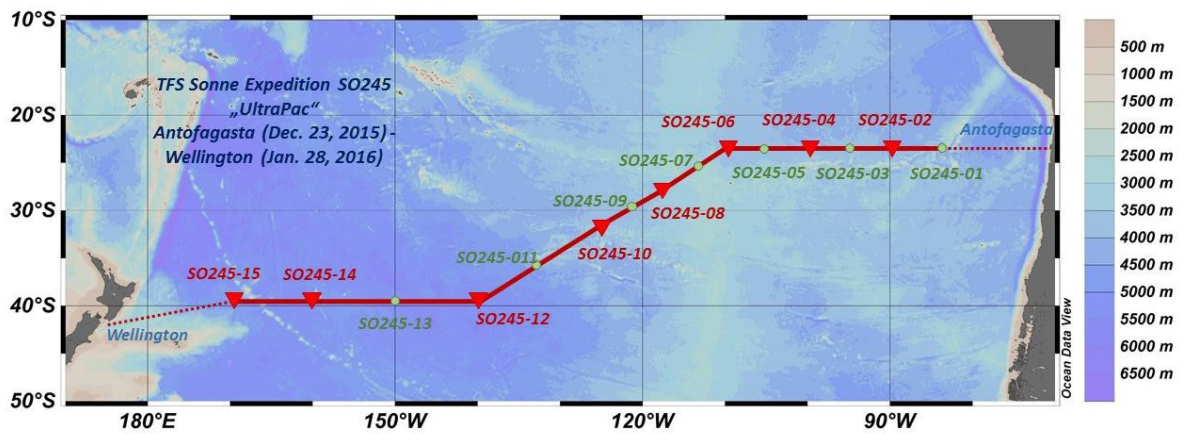
There is no question about it: Station SO245-15 is definitely out of the South Pacific Subtropical Gyre system, with chlorophyll rich waters between the surface and 112 meters with a peak at around 55 meters. We noted abundant diatoms on filters and micronet samples; returning equipment was often covered with troublesome jellyfish residues. Station SO245-15 also marks the link-up with a *GeoTraces* north-south transect station. As the *UltraPac* expedition is listed as a *GeoTraces* Data Compliance and Process Expedition, we were pleased to have adequate time to sample this site. The groups from the MPI-ICBM Marine Isotope Geochemistry and the Lamont Doherty Earth Observatory were particularly keen on obtaining U-Th and rare earth element isotope samples here. A major success was one another complete deployment of 8 in situ pumps at this last station. This meant that the In Situ Pump Team scored a perfect record of 8 pump deployments on all 8 stations where pumps were deployed. More importantly, 64 priceless filters sampled in situ from across the entire South Pacific are now available for particulate bound isotope and molecular ecology studies.

This will be our last Weekly Report. On Monday morning January 25th at dawn we will be leaving SO245-15 to start our transit to Wellington. Tropical storm Victor is on our heels. It may be a bit wet and windy, but we expect to make safe harbour as planned on the morning of 28th of January. Underway operations such as underway ferry box (salinity, temperature, fluorescence), atmospheric dust sampling, aerosol measurements (NASA Aeronet), microplastics sampling, and bird and seasurface litter surveying will also come to a close as we approach the New Zealand Economic Exclusive Zone. There is still more than a day of laboratory work in front of us before we shut down the labs on the evening of the 26th. With six containers of lab equipment and samples to pack and send on their way, there is still a lot to be done.

Nevertheless, we will be sailing into Wellington very pleased, if not also a bit proud, of the science and sampling that we have achieved over these 35 days at sea. Personally, I would like to thank the members of the shipboard scientific party for all their hard work and enthusiasm for this project. I thank my colleague Bernhard Fuchs for his translations of my English texts into a lively German version. Finally, I wish to express my gratitude to all the technicians, administrative personnel and scientists at home, who have poured so much energy into turning this expedition into a success.

On behalf of the scientific party I would like to express our sincere thanks to Captain Lutz Mallon and his crew for the ever-present and always friendly support of our research activities. It has been true privilege to sail on this ship and to imbibe the special "*Sonne* spirit".

Tim Ferdelman, von 39°00'S 170°00'W



Completed UltraPac stations



Filter processing and subsampling from the in situ pumps.



An albatross accompanying us our last transect approaching New Zealand.
Photo taken by our Chilean Observer, marine biology student and talented photographer, Diego Bravo.