

Weekly Letter No. 7 of 20 March 2016

In this last week of the research cruise, we deployed one more time 20 ocean-bottom seismometers (OBS) along a profile in the western part of our work area. Thanks to the improved weather and relatively calm sea-state, we were able to complete the profile in a short time and collected all OBS systems undamaged. We are very curious on the outcome of their recordings of this profile, because we hope to see how far from the former Gondwana continental margin the Hikurangi Plateau had subducted beneath Chatham Rise and New Zealand. Seismic data that were collected some years ago by our New Zealand colleagues show the top of the Hikurangi Plateau halfway across Chatham Rise. Our new profile extends this existing line farther to the south. It would be quite a sensation, if we can trace the subducted plateau slab that far south. The question is then, what were the processes in the Earth's mantle and crust so that two overlying crusts, an overthickened oceanic crust beneath a continental crust, have a today's position below sea-level. This is one of the challenging questions in the geosciences.



The 3 km long streamer is being pulled in: 2 hours of concentrated operation by Thorsten (photo: N. Stoll).



Katharina watches over the streamer recovery operation and the removal of the depth-control units („birds“) (photo: N. Stoll).

One more time the dredge was lowered to the last seamount to collect rocks from its flank. The chain-bag returned full of rocks and made Reinhard's geologists happy.

All groups are packing and cleaning their labs. All? No! A small group is still active to the last minute of our research program: Ricarda's thermistor probe takes temperatures from the seafloor at several stations for geothermal heat-flow studies. One last time, the probe is lowered and returns back to the deck while the BBQ grill is being fired up for the End-of-Cruise Party. SONNE sets sail for the transit back to Wellington



Stephan hopes to find useful material in the core of the manganese knoll (photo: T.N. Gades).



Nina finds small organisms on some of the rocks collected by the dredge (photo: N. Stoll).

This is the last weekly letter before we will arrive in Wellington on Monday morning. I hope the readers have gotten some impression of our work in this very exciting research area of Chatham Rise. All working groups collected excellent data and samples, and everybody is now looking forward to some holidays and the return back home.

We are very grateful to the wonderful crew of SONNE for their support and help in all our work activities and instrument deployments. Their engagement and flexibility made this a very successful cruise and for all a good time on board. Many thanks!

With best regards and best wishes for the upcoming Easter holidays from all cruise participants

Karsten Gohl
(Chief Scientist)