

ANT XXIII/5 Weekly Report No. 8 (Punta Arenas - Cape Town)  
29 May - 4 June 2006

We needed more than half the week to reach our new working area. The transit was only interrupted by four biological stations. On the 1st of June we arrived at the Cape Rise Seamounts, a chain of seamounts extending almost to Cape Town. We will try to sample these structures next week.

Once again the geophysicists started our program by deploying their ocean bottom seismometers along an almost north-south profile. They are interested in the thickness and composition of the crust in the area between the Cape Rise Seamounts and Agulhas Ridge. The Agulhas Ridge lies along one of the largest transform zones in the South Atlantic. Some 100 million years ago Patagonia and southern Africa separated along this ridge when continental drift started opening the South Atlantic.

While we were deploying the ocean bottom seismometer we discovered some round structures, 500 m high, in the central part of the Agulhas Ridge. On Friday we started our seismic investigations. As reported earlier, the acoustic experiments allow us to image sedimentary units deep beneath the seafloor. The seismic data indicate that the round structures we identified in the swath bathymetry are just the peaks of much larger mountains. They are almost completely covered by sediments. We will try to sample these peaks next week to determine whether these mountains consist of basalt or some other type of rock. The seismic investigations were terminated on Sunday morning. However, the bad weather does not allow us to start picking up our bottom stations and we must wait until Monday.

Some further seismic investigations are planned on the Agulhas Ridge next week along with a 2-3 day dredging programme along the Cape Rise Seamounts. Starting around the middle of next week most of the scientific groups will be busy disassembling their equipment and packing it into containers. Only the petrology and bathymetry groups will continue to gather samples and data as we approach Cape Town. The long-term weather forecast for the next week is good so our packing will not be delayed. The weather predictions have been so reliable during the past eight weeks that they have had a big influence on our cruise planning.

This is the last weekly report from this cruise. All scientific groups have gathered their planned data and samples. The petrologists were so successful in dredging seamounts and ridges that they have run out of bags and have to store their larger rocks in front of the containers. However, many of the rocks will be unloaded in Cape Town for initial post-cruise processing. Now the struggle with the forms and reports begins!

Finally, all scientists wish to thank Captain Schwarze and his crew for their professional support for our experiments. We enjoyed the cruise and would be happy to once again join the Polarstern for another such productive expedition.

With kind regards on behalf of all cruise participants,

Wilfried Jokat

04. June 2006

Position 39°00'S 013°00'E, +18°C