

The third week of our cruise started with work for the physical oceanography programme. We crossed the Weddell Gyre up to a seamount called Maud Rise. We were spoiled by the calm weather and the work proceeded without any delay.

Early on Friday morning we reached Atka Bight in the bright sun after some sea smoke had dissolved. Fast we found an appropriate landing-place at the ice shelf ramp. Little later the South African vessel „Agulhas“ landed in close vicinity and loaded material and trucks from the South African station „Sanae“ which is 227 km away. The team from the Neumayer station, consisting of summer guests and overwinterers, arrived soon with trucks and goods to start the loading operations. About 150 cubic metres of fuel were filled into the tank containers from the station. A snow mill, sledges and 16 containers, altogether 120 tons were loaded on board. During these activities those of us who had free time were able to visit the Neumayer station. The bright weather allowed many of the visitors to walk at least one way to the station covering a distance of 8 km.

The helicopters were highly demanded to transport persons and goods. In particular they supported the work at an annex of the station near to the ice shelf front from where a hydrophone shall transmit the noises of the ocean directly to Bremerhaven. The first step, which is reached at present, was the installation of an automated station with a direct data link. If it proves to work successfully even under harsh winter conditions, a hole will be drilled through the ice shelf and the hydrophone will be lowered into the ocean below.

In the early evening, the loading and pumping operations were successfully finished and crew and scientists from “Polarstern” could enjoy the sunny evening with a little party on the ice. The people from the Neumayer station and some crewmembers from the „Agulhas“ were our guests. We had to pick them up and to bring them back with our helicopter, since „Agulhas“ left the ramp after achieving its loading operations and spent the night in open water. Further guests were a group of Finnish scientists and the crew of the DC3 plane from ALCI which brought them from the Finnish station to Neumayer. Together with the remaining German members of the summer campaign and former overwinterers, they flew in the night from Saturday to Sunday to the Russian “Novolazarevskaya” station and from there to Cape Town and back home.

On Saturday we planned to pump additional fuel from the „Agulhas“ to the “Polarstern”. The evening before everything looked easy, but during the night the wind carried an ice field against the ramp so that it was not possible any more to lay there next to each other as during Friday. We searched with “Polarstern” for an appropriate alternative deeper in the bight and thought that we had found one. But when “Agulhas” came to the place, it appeared that there as well, there was too much ice. A further

trial, supported by a reconnaissance flight with the helicopter, started on the eastern shore of the bight where "Agulhas" had found an appropriate spot. Here both ships should lay stable in parallel with the bows against the ice front and the wind. However, when "Polarstern" approached, a significant lump of ice broke from the shelf ice front, giving evidence of its instability. Finally it was decided to transfer the fuel in open water. "Polarstern" went in front, "Agulhas" followed. Both ships steamed slowly when first ropes were transferred to fix them at a stable distance and then the fuel pipe was lined up between them.

Pumping occurred until late in the evening when 170 tons of fuel have been received on "Polarstern". When all the gear was back on board, both ships blew their horns for farewell and "Polarstern" left to the northeast back to our transect on the Greenwich Meridian. On the way on Sunday morning an Amphipod trap was recovered successfully which had been deployed on our way to Neumayer Station. In the night from Sunday to Monday the next biology station ANDEEP3 will begin.

With the best regards from all on board
Eberhard Fahrback