

Short Cruise Report

Research Vessel: Maria S. Merian

Cruise No.: MSM 02, Leg 2

Port of Departure: Torshavn, 2nd July, 2006-12-14

Port/Date of Arrival: Longyearbyen, 26th July, 2006-12-14

Purpose of the cruise:

There were three scientific components (i) Deployment of a bottom current meter at the sill of the Jan Mayen Channel for our colleagues at the Geophysical Institute of the University of Bergen/Norway; (ii) Hydrographic section and recovery/redeployment of moored current meters on the shelf and the slope off Eastgreenland near 74° N for the University of Hamburg and (iii) Hydrographic sections and recovery/redeployment of moored profiling CTD's along 75° N from the shelf off Eastgreenland to the shelf north of Bear Island for the Alfred-Wegener-Institute for Polar and Marine Research in Bremerhaven.

Cruise itenary (see map)

The vessel left Torshavn on 2nd July and headed for the Jan Mayen Channel. This deep connection between the Greenland Sea base and the Lofoten basin is an import conduct for deep water exchange in the Nordic Seas, which is monitored by time series measurements of colleagues at the Geophysical Institute in Bergen. Following a short multibeam bathymetric survey in the night from July 3/4 for the exact location of the sill the mooring was deployed in the morning of July 4th in fine weather. The ship proceeded to the eastward end of the hydrographic section at 74° N, working its way to the Eastgreenland slope and shelf with CTD-stations and mooring work. The sea ice border was crossed on July 6th and the section could be worked westward until the fast ice edge at 17° W. All moorings were recovered except the one at 18° W, which was under fast ice and was recovered during the cruise leg MSM 02/4 in August 2006. The program 74° N was finished on July 8th. The vessel left the ice and turned northward to 75° N. To start the hydrographic work along 75° N, a most westward position on the shelf was reached at 14° W in heavy ice. From then on the course was eastward with 10 nm station spacing. In the central Greenland Sea Basis 5 moorings were successfully recovered and 3 redeployed.

An interrupt of the planned program was caused by a mooring in the Fram Strait, which had broken loose and was drifting SW-wards along the Eastgreenland ice edge. It was decided to

recover it and use the route to and from the position near 77° N, 11° W for two additional CTD-sections. The drifting mooring was successfully found and recovered, but unfortunately it consisted of the satellite beacon only. Upon return to the central Greenland Sea at 75° N a deep reaching eddy was detected from one of the CTD-stations. Since time was available, a 12 hour small-scale hydrographic survey was added to the program, before the section work towards the shelf north of Bear Island resumed. The scientific activities ended on 24th of July north of Bear Island. The vessel headed northward and reached Longyearbyen two days ahead of the scheduled arrival, in order to allow a German shipyard-crew to handle repairs and guarantee items on the new vessel, before it leaves for the next cruise leg.

Concluding remarks:

This has been the first experience with the Maria S. Merian in the Arctic ice of the Eastgreenland Current. We are happy to report that the vessel can take the ice as we had hoped for and that with 'Maria S. Merian' the German oceanographic community has access to an ice-strengthened vessel for working in the northern subarctic seas.

The scientific program was fully completed, the vessels winch facilities and manoeuvring capabilities do allow fast and efficient operations. Special thanks go to the Captain and the crew of 'Maria S. Merian' for professional and efficient support of our work.

Hamburg, 14. December 2006

Prof. Dr. J. Meincke
(Chief Scientist MSM 02)

Attachment: map of the cruise.

MSM 02/2

Tórshavn – Longyearbyen

2.7. – 26.7.2006

