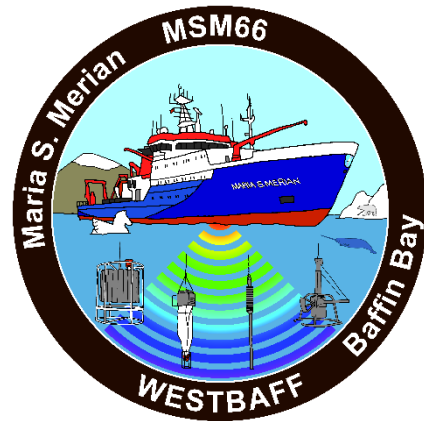


RV *Maria S. Merian*

Expedition MSM66 – WESTBAFF

22.07. – 28.08.2017

Nuuk (Greenland) – Reykjavik (Iceland)



1. Weekly report

22.07. – 23.07.2017

Large ice streams of the Greenland ice sheet as well as the glacial Laurentide and Innuitian Ice Sheets terminate and terminated in the past in northern Baffin Bay. Large volumes of freshwater released by these ice sheets in the north Atlantic affected, and continue to affect, the climate of the northern hemisphere. During interglacial periods, Baffin Bay is also a major pathway for ice and freshwater from the Arctic to the north Atlantic. The interplay and the influence of these water masses on oceanographic process in the North Atlantic can be studied with proxy data. A better understanding of the proxies results in improved studies of the underlying processes. In addition, glacial landforms at the seabed allow for the reconstruction of past retreats and advances of the ice sheets bordering Baffin Bay.

With fair winds and sunny skies, the RV *Maria S. Merian* left Nuuk for northern Baffin Bay on the 22nd of July. The goal of the expedition is to collect data, in the frame of the WESTBAFF research project, for palaeoclimatic, palaeoceanographic and palaeontologic studies. These data and samples will be used to reconstruct the glacial history and palaeoceanography of northern Baffin Bay. On board is an international, interdisciplinary team with participants from the Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung in Bremerhaven (AWI), Aarhus Universitet (GEO AU), Geological Survey of Denmark and Greenland (GEUS), Geological Survey of Canada (GSC), Zentrum für Marine Umweltwissenschaften, Universität Bremen (MARUM), Université Laval in Québec City (ULava), Université du Québec à Montréal (UQAM), Université du Québec à Rimouski (UQAR). Among the participants are 7 PhD students from the International Research Training Group ArcTrain. For them, this expedition provides the opportunity to gain hands-on experiences in hydrography, in geological sampling, in the culturing of foraminifers and in the sampling of the water column.

Soon after leaving Nuuk, the scientific programme commenced by collecting bathymetric data along the transit track to our first study area. Most parts of Baffin Bay are not covered

by high-resolution bathymetric data. Therefore, we continuously record bathymetric data with the permanently installed EM122 and EM712 multibeam system when the ship is moving. In this way, previously unmapped areas are charted during the transit.

We arrived at our first study area on the upper continental slope of the Greenland shelf in southern Baffin Bay in the afternoon of the 23rd of July. There, we started a bathymetric survey to map elongated furrows and depressions in 700 m to 1200 m water depth. The processes causing these features are still not fully understood. This survey will continue until the 24th of July and provide detailed maps that will form the basis for subsequent sampling for the next days.

The atmosphere on board is very good and all the teams are busy setting up labs and preparing for the upcoming tasks. We have 24/7 sunshine and light winds. Icebergs, fields of ice floes and mirages have already been the first touristic highlights.

On behalf of all on board, I sent greetings from Baffin Bay,

Boris Dorschel



RV Maria S. Merian leaving Nuuk for Expedition MSM66.

Photo V. Diekamp, MARUM