

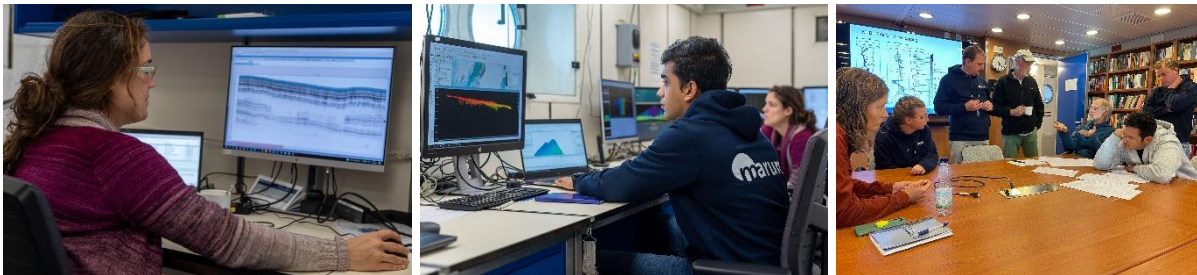
FS MARIA S MERIAN MSM111 "BAFFDEEP" 02.09. - 04.10.2022



5th Weekly Report 26.09. - 02.10.2022

Right at the beginning of the last week of our expedition on Monday we finished the geology program on the continental slope of Greenland and on Tuesday we started the long transit to the destination port in St. John's on Newfoundland.

Still in the night from Sunday to Monday the last MeBo well was completed, reaching to 126.3 m. The operation went very well this time - we exceeded our target depth of 115 m, determined from the initial evaluation of the core stratigraphy. The coring success was excellent - we achieved over 90% core recovery down to 123 m. Although the logging probe was only able to measure the natural gamma ray intensity, because it got stuck in the drill pipe a few meters before the end of the hole, the measured signal was excellent and could be perfectly correlated with the log from Hole 2. Immediately after retrieving the MeBo, we explored the deepest part of the slope to 1800 m and deployed another gravity corer. The hope was that in this core we would cover an even longer section of the younger sedimentary package due to the decreasing sedimentation rate with depth. Unfortunately, the gravity corer was stuck at 16 m and the top tube was slightly bent. Only 8.6 m of sediment was recovered, with a conspicuous light layer at the base. We then continued to investigate the slope with hydroacoustics until Tuesday.



During the expedition, the investigation of the seafloor with PARASOUND and bathymetry provided crucial information for the positioning of the MeBo boreholes, as well as for the understanding of present and past sedimentation processes on the continental slope. The results were compared with data from the cores in order to better understand, in teamwork, the geology of the investigated area as a whole. Photos: Volker Diekamp.

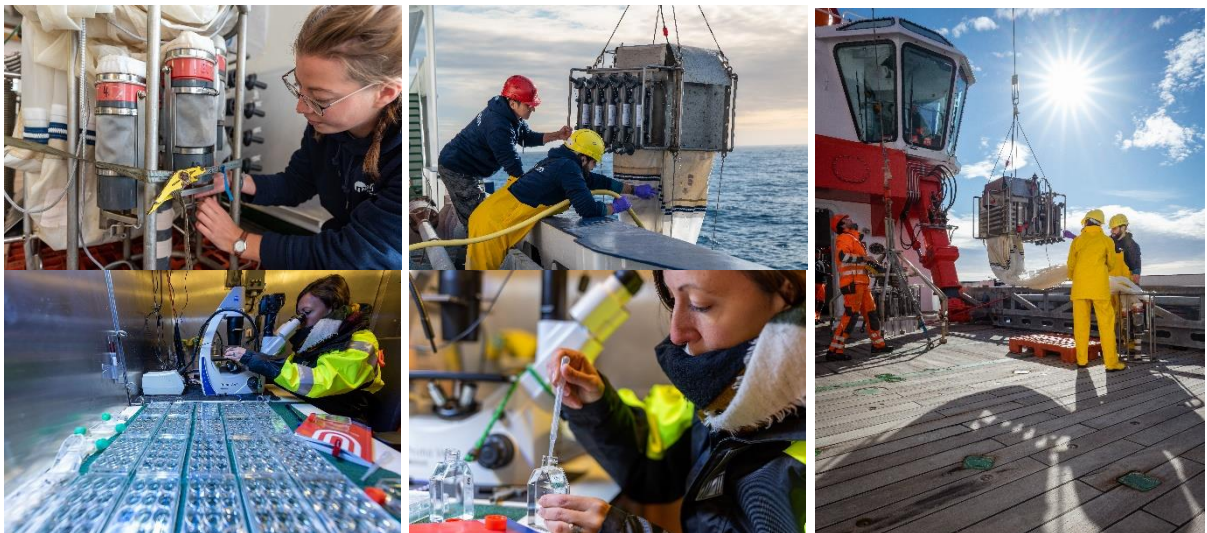
On Tuesday evening, we bid farewell to Baffin Bay and the Arctic with a small celebration, and began our return journey to St. John's. However, this was not the end of the scientific work yet. Thus, on Thursday, we conducted a short PARASOUND survey and sediment sampling south of Davis Strait on the location of planned IODP drilling sites. Using the data, our colleagues on the science team for the planned IODP-962 campaign will be able to better understand the arrangement of sediment layers in the shallow subsurface of the planned boreholes. During the work, we were surprised by a last short snowfall, before we continued our journey south under slightly higher swells.

On Saturday, we launched an ARGO buoy at 58.5°N in the Labrador Sea. It will join the fleet of several thousand of its kind scattered across the Earth's seas for several years, providing scientists around the world with important data on the state of the oceans. Finally, in the afternoon, we collected three plankton nets at the last station. These will provide data on the state of the plankton for a long-term series of observations, as well as freshly isolated foraminifera. We would like to examine these still alive in our laboratories in Bremen. Thus the scientific program of the cruise was finished. We look back on the unforgettable scenery of

Greenland, countless icebergs, the interesting life on board and the exciting science. After four weeks of intensive work, we return with a unique data set on the nature of the hitherto little explored continental slope outside Disko Bay, and in particular a with a true treasure trove of sedimentary records of Greenland's glaciation history, which we all look forward to exploring with great excitement.



A buoy from the international ARGO ocean monitoring program is deployed during MSM111. The instrument is first switched on with a magnet and then released overboard with a crane before it disappears into the ocean waves. Photos: Volker Diekamp.



The plankton net is prepared for deployment and then released overboard. It allows us to collect plankton from different depth layers of the ocean and isolate individual foraminifera from the plankton. These are then be cultured in the cold room at 6°C to study their growth and reproduction. Photos: Volker Diekamp, Raphael Morard and Johan Faust.

The weather of the last days has become a bit rougher, with increasingly strong winds and waves, which will accompany us until we enter St. John's. The last days of the expedition are used for final meetings. Packing and cleaning the labs make everyone feel that the end of the voyage is near. We are facing the coast of Newfoundland with a heavy load of valuable samples and data sets. Thanks to the hard work, perseverance and team spirit of all cruise participants, all goals of the expedition could be achieved.

The success of our expedition is just as clearly due to the excellent support of the navigators, engineers, mechanics, deck crew and ALL others on board. We sincerely thank the captain and his crew for their hospitality and are already looking forward to the next expedition with the MERIAN!

For all participants

Michal Kucera (MARUM/ University of Bremen)

To learn more about our expedition, follow us on:

<https://www.marum.de/en/Discover/MARIA-S.-merian-on-course-for-baffin-bay.html>

<https://www.marum.de/Entdecken/Logbuch-MSM-111.html>

<https://twitter.com/lilafisch>

<https://twitter.com/HenriekaD>

<https://twitter.com/VolkerDiekamp>

<https://twitter.com/drjofaust>

<https://www.instagram.com/jopst>



Last impressions of the Baffin Bay at sunset. Photos: Volker Diekamp.