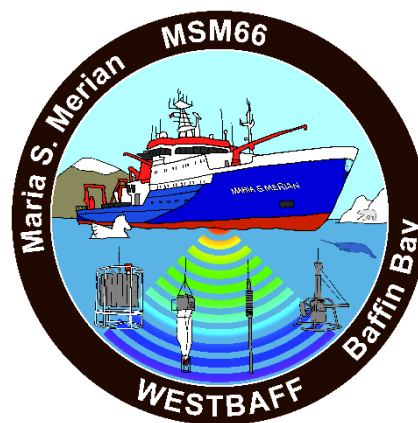
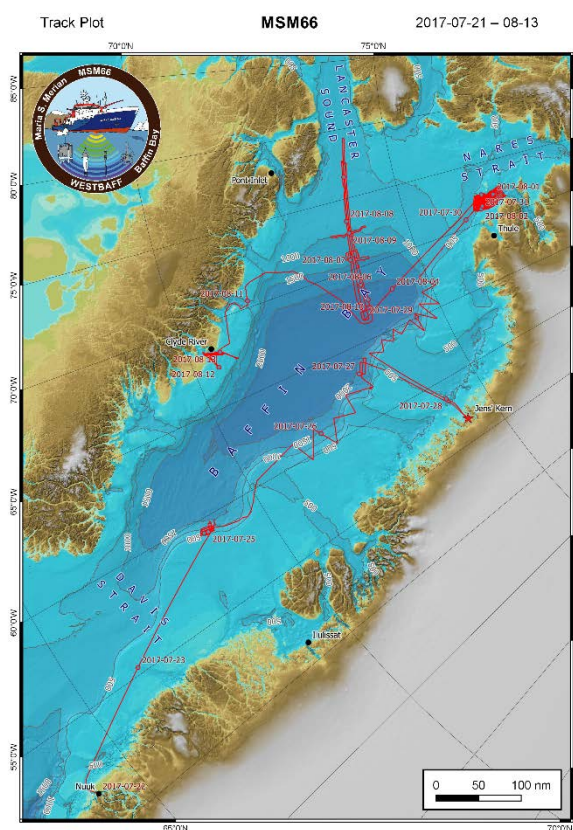


RV *Maria S. Merian*
Expedition MSM66 – WESTBAFF
22.07. – 28.08.2017
Nuuk (Greenland) – Reykjavik (Iceland)



4. Weekly report **07.08. – 13.08.2017**

Last week, we finished our work on the Lancaster Sound trough mouth fan. After a short transit, we commenced our work in Clyde Inlet in front of Baffin Island.



Map: S. Dreutter, AWI

In total, we crossed the Lancaster Trough mouth fan with four transects each more than 200 nm long. By offsetting the transects, we mapped a two to twenty kilometre wide strip of seabed in high resolution with the shipboard multibeam echosounders. The width of the strip was a function of the water depth. Under good conditions (little swell, no ice, good reflection of the seafloor), it was possible to open the swath of the echosounders to 120°-150°. This resulted in widths of seafloor covered between 3.5 and 7.5 times the water depth. A first glance at the data revealed glacial debris flow deposits. Furthermore, the data show a distinct slope parallel step in the topography at 900 m water depth that we managed to map 80 km along-strike to the slope. At this moment, it is still unclear which

sedimentological processes may have caused this step. The sediment cores we collected will hopefully shed some light on these processes and help to interpret them, especially in the context of the glaciation and climatological history and the palaeoceanography of Baffin Bay. Similar to the other study areas, on the Lancaster Sound trough mouth fan, a sampling

campaign followed the mapping survey. At five sites, sediments for geological analyses were sampled while the water and plankton samples were collected from three sites.



(Bylot Island and seal on ice floe in Clyde Inlet, Photos: S Dreutter, AWI)

Once the work on the Lancaster Sound trough mouth fan was finished, we sailed to Clyde Inlet, a glacial trough on Baffin Island. At the beginning of the expedition, the ice situation in western Baffin Bay seemed to prevent any activities on the Baffin Island shelf. Over the course of the past weeks, however, it improved in a way that we were able to reach north Baffin Island. Since we arrived on the 11th of August around noon, we are busy mapping Clyde Inlet and the seaward extending Clyde Trough. Due to the size of the area, this will keep us occupied for a couple of days longer. From the work in this area, we hope to receive information about the glacial retreat in western Baffin Bay supplementing our work on the Greenland side of Baffin Bay.



(Work on all decks. Fotos: V. Diekamp, MARUM)

In Clyde Inlet at the mouth of Clyde River is an Inuit community. Prior to our arrival, we contacted the community officials to invite them on board *RV Maria S. Merian*. We would like

to use this opportunity to inform them about our intended work and to liaise for potential future activities. The invitation has been accepted and we only need to find a suitable date.

In the meantime, we are more than half way into the cruise. This middle of the cruise was celebrated with the traditional '*Bergfest*', the mid-cruise barbeque on deck. It is hard to believe that we have been on board *RV Maria S. Merain* for over three weeks having sailed over 8000 km. The atmosphere on board is still excellent and the cooperation between ship and scientists and among the scientists is superb.

On behalf of all on board, I send greetings from Clyde Inlet (70°20'N/68°20'W),

Boris Dorschel