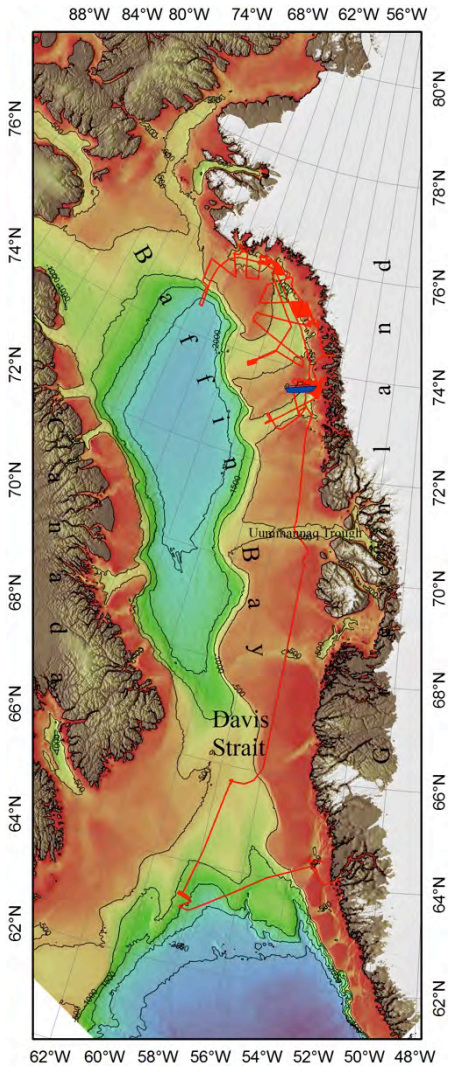
MSM 44
Nuuk – Nuuk
30.06.2015 – 30.07.2015

4th Weekly Report

By now, our fourth week on board of the RV MARIA S. MERIAN is almost over. Until the 27th we are still busy continuing watches, collecting gravity cores, sampling box cores and counting plankton. After this, there will be 3 days of transit until the pilot will pick us up on the 30th at 08:00.



On Sunday, we finished exploring the middle one of the three shelf-troughs in the Melville Bay. In order to get a comprehensive understanding of the movement of the glaciers in the area, we extended our search for glaciogenic seafloor features to the inshore areas of the large shelf-troughs and to troughs locally formed by in the seaward extension of glaciers. There, we did several detailed bathymetric surveys from the bottom of the troughs towards the shore.

The maps based on these data nicely show various glaciogenic landscapes in association with the underlying geology. In the middle shelf-trough for example, glaciers have carved out faults and folds by removing softer rocks leaving the harder rocks to stick out. This has created a relief that gives us a glimpse of the geology at the seafloor. Later at home, it will be very interesting to compare the seafloor structures to those nearby on land. In addition to the tectonic elements, we have found glaciogenic features in this area, which we mapped to understand the local ice movements.

To gain additional, more inshore information on the past movements of glaciers, we mapped out several troughs these glaciers have formed, which we crossed during the transfer form the middle to the southern shelf-trough in the Melville Bay. We followed the glacier

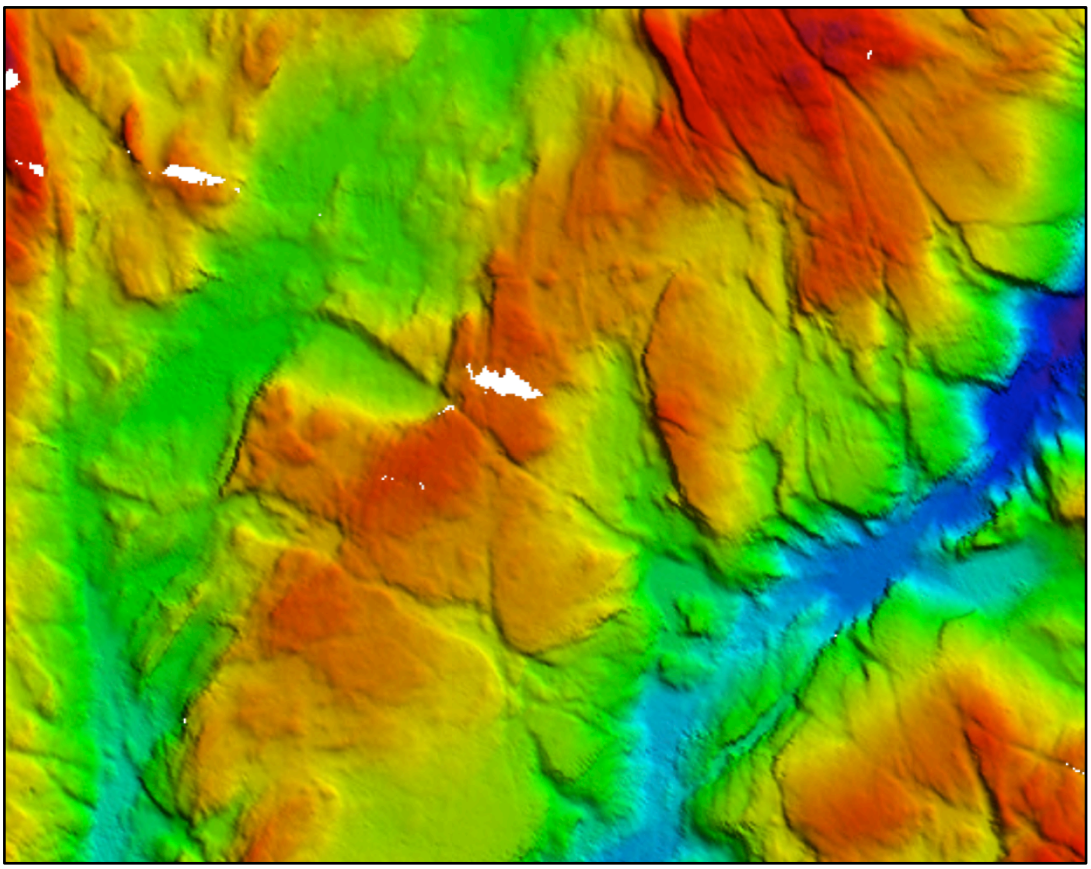
related troughs towards the coast as far as sea ice and icebergs allowed. While doing so, sediments were sampled wherever the seafloor was suitable. In this way sediments from interesting sites were sampled for potential high-resolution palaeo-climatic studies for the Holocene.

By now, detailed bathymetric surveys are completed for the southern shelf-trough of. In this area, again, nice glaciogenic seafloor features were found overprinting the exposed geological structures. And the geologists on board have found promising sampling targets.

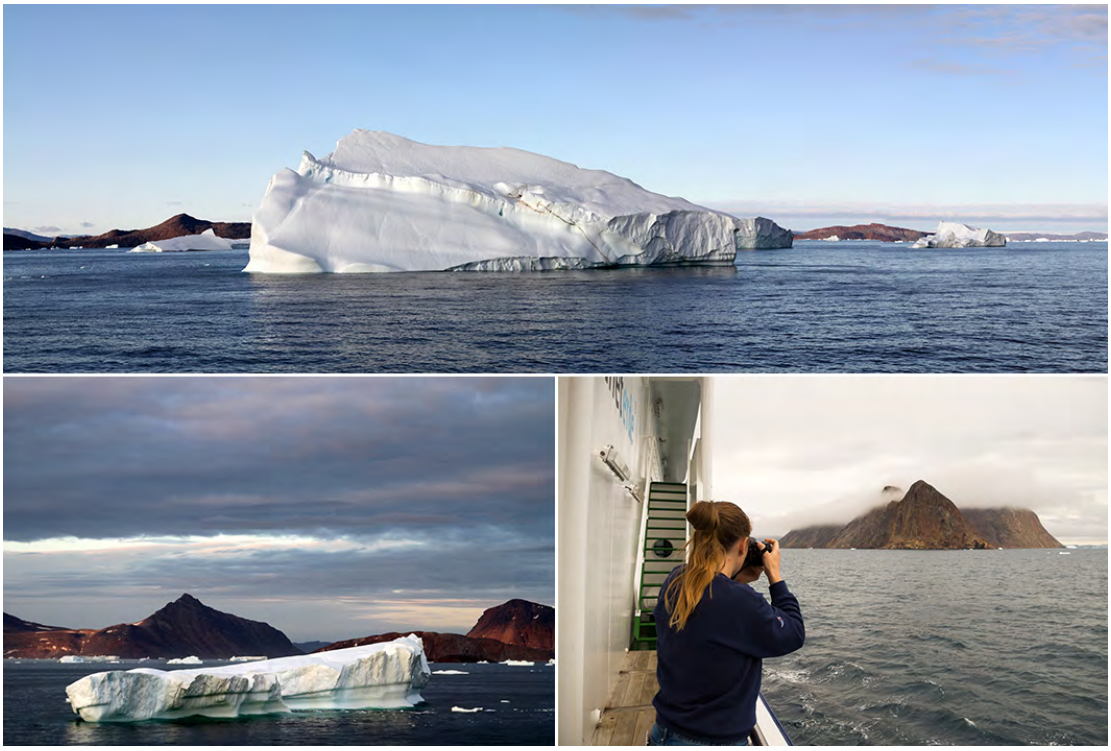
After almost four weeks now, work on board is very routine and one may get the feeling that we have never done anything but mapping the seafloor, determining sampling sites, recovering sediment cores, sampling the water column and counting plankton. But I am confident that at least some of us would like to continue this life for a while. After all, it is impressions, like the ship moving between icebergs with the Greenland ice sheet in sight, which create priceless memories. Never the less, on Monday, she will turn her bow south starting the transit to Nuuk. With our working programme almost completed, the last things to do will be to clean the labs and back-up and store data and samples.

On behalf of the scientists and crew I sent my regards from the southern Melville Bay.

Boris Dorschel



First impressions of a newly mapped area of seafloor in the Melville Bay. To the right, the blue colours show the start canyon extending towards the coast.



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