

Expedition MSM-139 GreenHAB
Reykjavík – Reykjavík
Weekly report Nr. 2
28. July – 03. August 2025



At 8 am UTC on 28 July 2025, we started the first sampling on the RV “Maria S. Merian” at 59° 46.566’ N, 44° 29.59’ W. The sea was rather rough and it was quite wet. Nevertheless, everything went satisfactorily, and we finished the programme faster than expected.

On 29 August, we continued our work in the first research area, the Skovfjord Fjord in the Greenland fjords. The fjord greeted us with early morning fog. Our analysis of the plankton samples revealed that diatoms dominated the plankton community, though we also found a few potentially toxic microalgae, including species of *Pseudo-nitzschia*, *Alexandrium* and *Dinophysis*. As the sun came out in the morning, we could see Narssaq and some small agricultural farms on the shore. Furthermore, the fog had disappeared thanks to the sun, allowing us to enjoy the icebergs and the fjord while we took samples. We successfully took the first sediment samples near Narsuarssuaq in Tunugdliarfik. We hope that, with the help of the sediment cores, which are up to five metres long, we will be able to gain a good understanding of the geological and biological processes of the last 2-300 years, in order to put today's changes in the right context of climate and environmental changes.

Several on board experiments investigating how the plankton community adapts to higher temperatures and changing nutrient conditions have commenced, where we have also initiated experiments on the resilience of Greenlandic plankton communities compared to their temperate counterparts. These experiments are being conducted in various research areas along the coast to demonstrate the extent to which northern regions in particular may potentially change in the future.

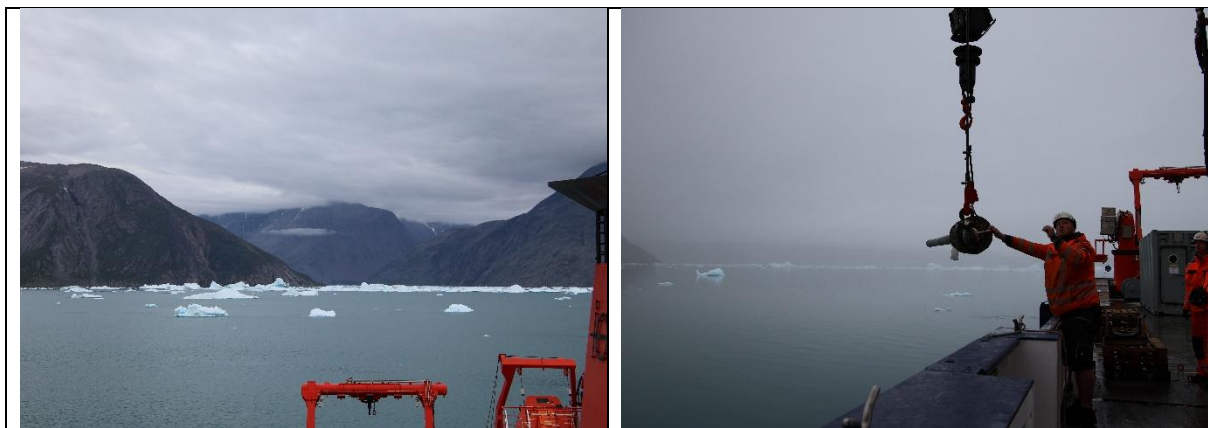


Photo Nancy Kühne

We left our first research area, passing Narssaq and travelling through the Bredefjord. Progress was slow due to the large amount of ice, and we reached the last station on 31 July 2025 before setting off for Nuuk.

At the entrance of the Godthabs Fjord, we were greeted by impressive scenery, with the rising sun illuminating the mountains around Nuuk. In our second research area, the weather was sunny and the fjords were covered in small and medium-sized icebergs. We completed our research programme successfully. We took sediment samples and studied the plankton communities. As before, the plankton community here was dominated by diatoms, including some *Pseudo-nitzschia* species. Among the dinoflagellates, we found some potentially toxic species, such as *Dinophysis* and *Alexandrium*. We also determined how primary production may vary experimentally here, by investigating how quickly the plankton communities grow at different temperatures and how much carbon and nitrogen they metabolise in the process.



Photo: Julia Oelker

On the evening of 3 August 2025, we completed our final stop at the Godthabs Fjord system near Nuuk and set sail for Meville Bay. We have about 70 hours ahead of us and are looking forward to exploring northern Greenland.

Best regards on 3 August, at 64° 25.50' N / 51° 30.60' W.

Uwe John

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