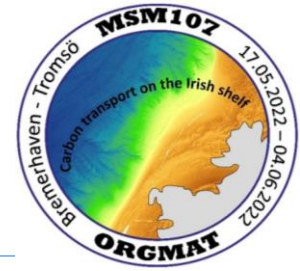


RV MARIA S. MERIAN – MSM107

18.05. – 03.06.2022, Bremerhaven - Tromsø

3rd Weekly Report (30.05. – 03.06.2022)



We are currently steaming through the fjords towards Tromsø. The pilot has boarded and in three hours we will arrive safely back in port after our MSM107 cruise. All are very happy with the cruise and the collected samples and data. We had some intense days of research during our short but very efficient research program. In the nine days of research, we managed to investigate four main stations where we deployed all our instruments for both pelagic and benthic studies, as well as performing continuous hydroacoustic measurements. In between these stations, we carried out a number of smaller stations along three transects where we always deployed the CTD-Rosette and in situ camera systems, and at times, also the MUC to collect sediments. Along the way we also carried out extensive hydroacoustic surveys.

We began this week (Monday 30th May) with the final hydroacoustic survey within the sampling area. This was carried out parallel to the coast line on the slope (where water depths ranged between 871 and 1237m), this allowed us to gain insights into the source of the nepheloid layers which we have been observing throughout the cruise. Upon leaving the research area, all hydroacoustic equipment was turned off, however work in the laboratories continued. The team which had picked up the drifting trap a few days earlier prepared the collected material for later biogeochemical analyses back at home. Respiration and sinking velocity measurements were also carried out on the final particles collected in the snow catcher. In the cool rooms, oxygen penetration depths were measured in cores from the last MUC deployments and the sediment biogeochemists continued to work on the sediments collected at shelf station S2.

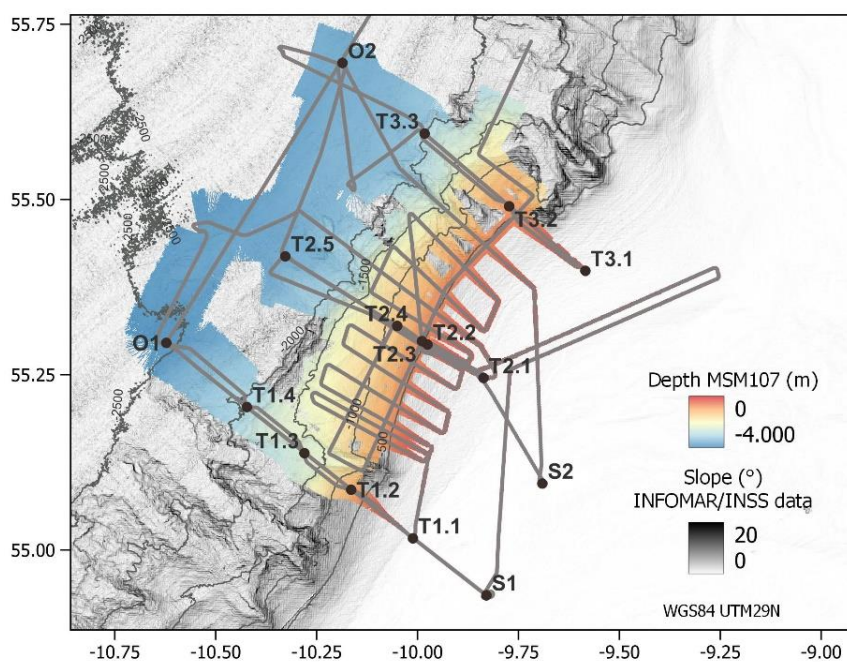


Fig. 1.: Cruise track in the research area with the four key stations; two open ocean (O1 and O2) and two shelf stations (S1 and S2), as well as all the transect stations: T1.1 – T3.3.

On the 31st of May we continued to steam towards international waters in calm and sunny weather. Upon reaching international waters we began hydroacoustic profiling again. When we reached a latitude and longitude of 66°58.070'N 0°59.921'W (between the Faroe Islands and Norway), we had a final station. Here the and the in situ camera ROSINA equipped with a CTD in order to provide background information for colleagues who will be returning to that location in around two weeks on another research vessel. We were surprised to see a relatively high abundance of copepods and jellyfish at around 1700 m; much deeper than at the previous stations.

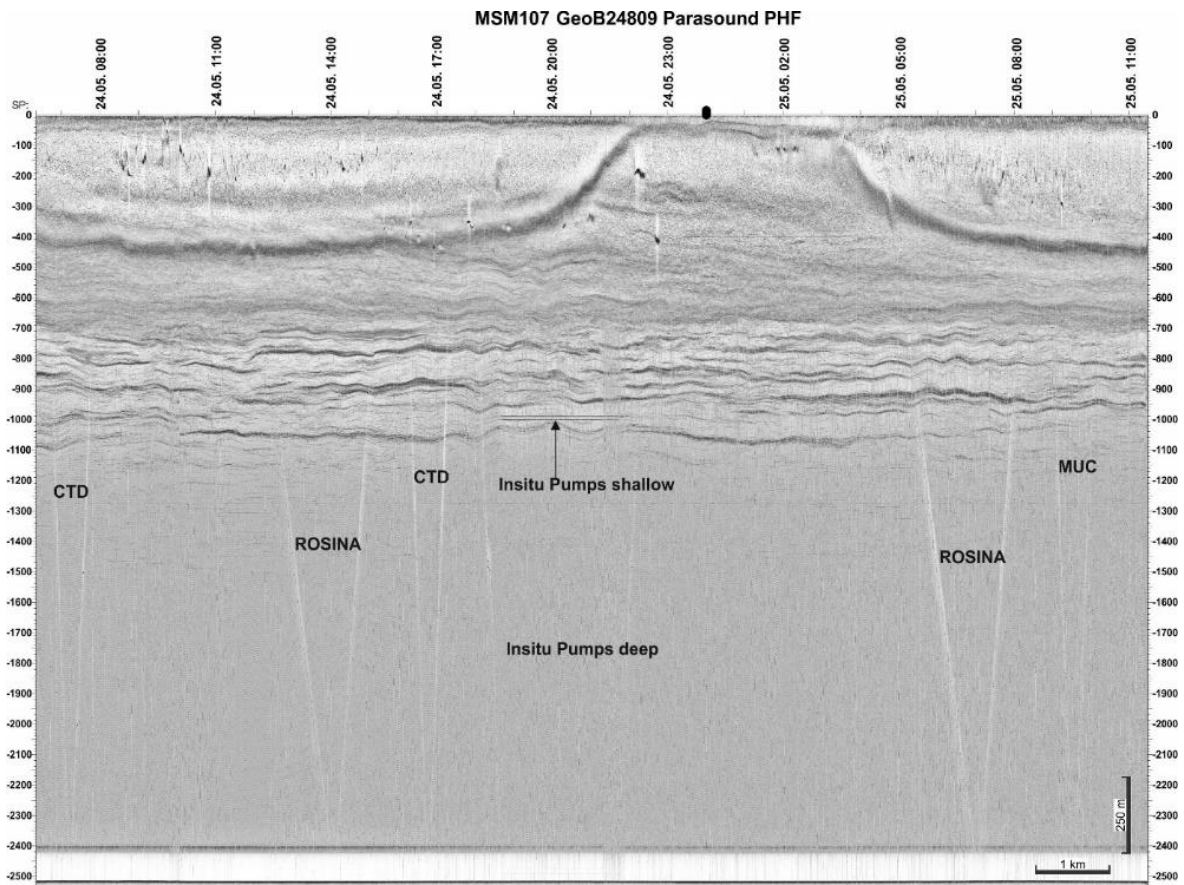


Fig. 2. PARASOUND profile (18 kHz; PHF) collected during station GeoB24809 images the water column over 29 hours. The horizontal and vertical axes are given in Time (UTC) and Depth [m], respectively.

Since the 31st of May we have been steaming towards Tromsø, Norway, where our cruise will come to an end on the 3rd of June. While we are packing up the equipment and cleaning down our workstations under sunny Arctic skies it continues to be a pleasure to work with the ship's crew.

Best regards from all MSM107 participants,

Morten Iversen

MARUM, University of Bremen