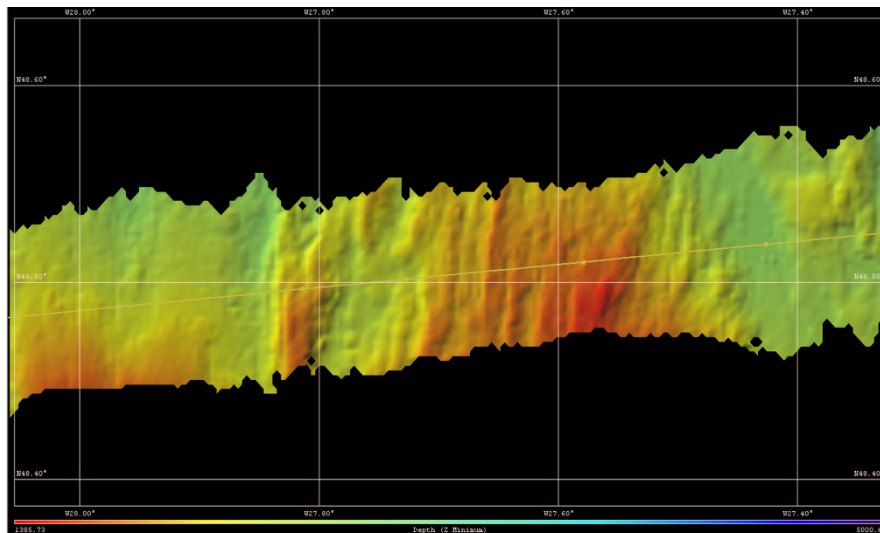


**R/V MARIA S. MERIAN**  
**MSM101, Emden - Emden, 12.06. - 20.07.2021**  
**6<sup>th</sup> Weekly Report, 12.07. - 18.07.2021**  
**NOVA SCOTIA MARGIN**  
**(NOVAMAR)**



The sixth week of cruise MSM101 was dedicated to the return from the southeastern coast of Newfoundland back to Germany, where we will arrive in Emden on Tuesday, July 20. On the way back, the hydroacoustic systems on board were further operated by the geophysics team in order to make the registered data available for archiving as so-called "underway data" to the German Alliance for Marine Research (DAM). In this project, survey data continuously recorded on the transit routes by all German research vessels are collected, archived and made available to other users from the scientific community. When reaching the exclusive economic zone of Ireland on Friday, 16.07., at 22:00 shipboard time, the survey measurements also finished.



*Fig. 1: Multibeam echo sounder image of the seafloor as it crosses the Mid-Ocean Ridge (MOR) at 48°30'N / 26°00'W. The north-south ridges and valleys show the central region of the MOR, which separates the North-American from the European-Asian plate and where new oceanic crust is formed.*

In addition to the underway data acquisition, three more CTD profiles were recorded on Tuesday, July 13, and Thursday, July 15, in large water depths west and east of the Mid-Ocean Ridge (MOR). These were used to characterize the deeper water masses in the North Atlantic, to calculate the sound velocity down to great depths for calibration of the ongoing hydroacoustic survey, as well as for sensor tests when using the CTD in water depths greater than 4000 m. With this, the station work of cruise MSM101 was finally completed.

In parallel, in the geology laboratories this week was used to intensively work on the more than 250 m of sediment cores. All multicorer cores were divided into more than 5500 individual samples as 1-cm slices and packed and cooled for transport.

Sediment cores up to 10 m long were divided into work and archive halves, and sediment columns were described lithologically and photographed. Selected sediment cores were sampled already onboard for individual proxy measurements, which are to start right after the arrival in Kiel for first paleoceanographic investigations. This work was completed yesterday evening, Saturday, July 17.

*Fig. 2: Sampling and packing of sediment cores in the hangar of MARIA S. MERIAN (Photo D. Lange).*

The last two days of MSM101 at sea we use for cleaning the laboratories, preparing the transport of our samples and part of the equipment back to Kiel, and copying all



the acquired data on our own data storage devices as a backup. Today, Sunday, July 18, we have already started the passage through the English Channel and the preparation of the scientific reports of the individual working groups is in progress.

Accompanied by wonderful sunshine and finally summer temperatures around 20°C, our thoughts are already rushing ahead to the arrival in Germany and how, after 6 weeks of living and working on board, we will succeed to get used to the special circumstances on land, which are still determined by the pandemic situation. On the other hand, the joy about the great success of the cruise prevails. This would not have been possible without the great support of the crew R/V MARIA S. MERIAN, especially for the many young student participants.

With best regards from the science and ship's crew on board R/V MARIA S. MERIAN.

Ralph Schneider  
(Kiel University)

July 20, 2021

Further Info: [www.oceanblogs](http://www.oceanblogs) / Instagram: @expedition.novamar / T