



We are now in our second week at sea on leg 2 of the FS MARIA S. MERIAN Expedition MSM129. To summarise, it can be said that thanks to the remarkable commitment of the crew and the scientific and technical staff, all work in connection with the moored devices has progressed smoothly and with great success.

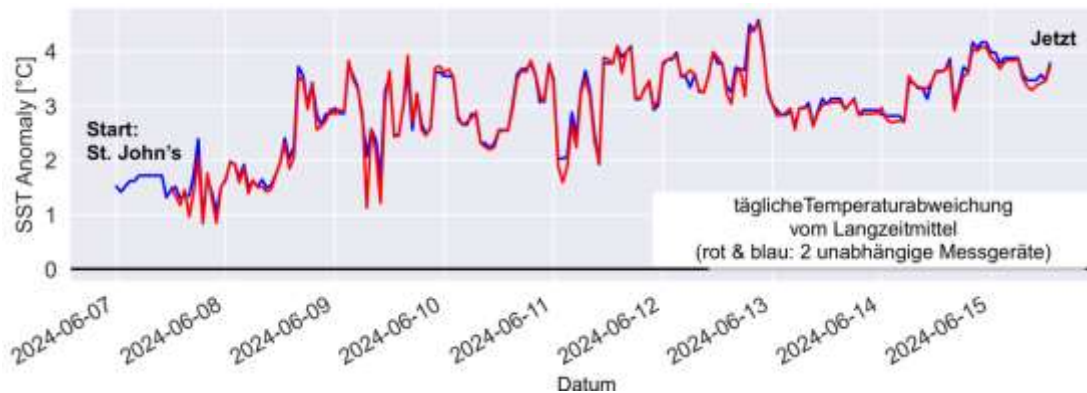
We have recovered the 7 moorings of the 53°N observatory that we installed here two years ago, the data has been read out from the devices and now all the devices are back in the Labrador Sea for the next two years.

Of the more than 70 devices in use, we can report an almost 100% data yield. Only one device has so far failed to recover any data. Over the next three weeks or so, we will recover another four moorings and also deploy four, but with more time and spread over a much larger area.



A mooring floating on the surface after the bottom weight has been released is taken by the hook and then brought on deck of the Maria S Merian in the following hours (Fig.: Fehmi Dilmahamod)

The focus of the expedition will now also shift somewhat and we are more interested in local profile measurements of the current state of the ocean. We are applying a measurement concept that is still in its infancy - "adaptive sampling". This requires in our case the access to satellite data and data from model analyses - in our case to find evidence for the existence of ocean eddies. To do this, it is necessary to draw on satellite data and data from model analyses - in our case to find evidence for the existence of ocean eddies. Once corresponding candidates have been identified, a detailed survey is initiated. Thanks to a fast internet connection currently installed on the Maria S Merian on a trial basis, we also have the data access we need on the FS Maria S Merian and can develop an appropriate course.



Deviation of the surface temperature measured on site (SST anomaly) from the long-term average (1980-2010) plotted against time. From the start of the journey on the left to the present day (17 June 2024) (Fig.: Lasse Glüsen)

To do this, it is necessary to draw on satellite data and data from model analyses - in our case to find evidence for the existence of ocean eddies. Once corresponding candidates have been identified, a detailed survey is initiated. Thanks to a fast internet connection currently installed on the Maria S Merian on a trial basis, we also have the data access we need on the FS Maria S Merian and can develop an appropriate routine.

We continue to use the mean sea surface temperatures derived from satellite data for the years 1980 to 2010 to compare the data we have measured. In principle, the warming of the surface water already observed in cruise section 1 also continues in the Labrador Sea. Here, however, it is up to 4°C warmer than usual - a remarkable value, considering that at this time of year the water here only has a temperature of 4°C.

The weather has been kind to us so far and we haven't had to stop any station work due to heavy seas. Let's hope it stays that way. It also worked out that we were able to watch the opening game of the European Football Championship together in the hangar - a real highlight.

You can continue to follow the progress of our cruise and the current weather on the GEOMAR Beluga web portal at <https://beluga.geomar.de/msm129>, and the blog of the cruise, which is well worth reading and listening to, can be found at (<http://www.oceanblogs.org/msm129/>).

Best regards from the sea on behalf of all participants,

Johannes Karstensen
(chief scientist of the MSM129/2 expedition)