

MSM93 (GPF 18-1_33) Emden-Emden

Weekly report 1

All participants of cruise MSM93 (GPF 19-1_33) were in a hotel in Leer for a Corona test. It was perfect northern German summer weather and one would really have preferred to be outside instead of sitting in a hotel room. The tests of all cruise participants were negative and therefore we were allowed to be driven from Leer to Emden by bus and we were allowed to board the ship. The ship was under quarantine in the harbor. Only people who had previously been tested negative were allowed to enter the ship and the crew was not allowed to get their normal time off on land. We were warmly welcomed on Merian and were quickly able to get around. Based on a quick meeting on board we could decide which equipment should be where on board. In the early afternoon our four containers as well as a truck with non-containerized goods arrived and were loaded onto the ship (photo 1). The loading was without contact; harbor employees were on land and the crew was on deck.



Photo 1: A container is loaded onto Merian in port of Emden.

Thursday was a very sunny day without any wind. We were able to empty all containers and move the equipment to its location on the ship and to test it. The Triaxus (photo 2) is a device which is towed behind the ship and it is supposed to be central for the work on our cruise. After we had connected the towing cable with the winch, which is located in its own container, we were able to successfully test the system. That was important as we could easily get advice from colleagues via phone while we were still in port. That gave us confidence that everything should be all right.



Photo 2: The towed instrument Triaxus is on the left in yellow, in the middle is the towing cable, and on the right is the container which houses the special winch. We were able to install the system as shown already in port and to test it.

Merian departed the dock on Friday morning. Most of the scientists did not even notice it, because the propulsion of Merian is very quiet and produces almost no vibrations. We had not felt the departure, but we were all the more happy about it when we realized it. There had been without exaggeration at least 20 significant changes in the plans for this cruise caused mostly, but not only, by Corona, and then the cruise finally started. I could not believe it for a long time, but when we crossed the lock (photo 3) from the harbor to the river Ems, there thankfully was nothing left to stop us.



Photo 3: The cruise finally starts: We are crossing the lock from the port of Emden to the river Ems.

Now we are on the long transit to our working area: the Fram Strait between Svalbard and Greenland. That is where warm salty water from the south (“Atlantic Water”) meets cold fresh water from the Arctic Ocean (“Polar Water”). The cold water transports sea ice. At the location where these water masses meet, strong currents are formed which draw sea ice into thin streaks of less than 1km thickness. We want to measure and understand the physics that forms these sea ice streaks and we also want to sample the biology. It is possible that the areas where the water masses are mixed become local hot spots for biological production. Whether that is actually the case is something that we will hopefully learn in the coming weeks. Furthermore, we will recover several moorings which were deployed by Merian two years ago and we will also deploy a few moorings. The moorings measure over the course of years how the Atlantic Water spreads and which temperature and velocity it has on the different months and days of a year.

But more about that later on, since for now we need to continue to install our equipment, test, and prepare ourselves. On Thursday, scientific measurements on Merian shall finally commence after a several months hiatus due to Corona. We are all very much looking forward to it.

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