

Research Vessel SONNE

SO278 (GPF 19-2_007H): 12.10. – 01.12.2020

Emden – Emden

1st Weekly Report: 12 – 18 October 2020



On Monday, 12 October 2020 at 10:00 a.m. local time, R/V SONNE left its berth at the port of Emden, Südkai Poller 16-20, to set out for the eastern Mediterranean, where marine geological studies are planned in Greece and Italy. The departure was preceded by 4 days of quarantine for all ship crew members and scientific participants, which were spent in single rooms in hotels in Leer without physical contact. Nevertheless, we stayed in contact via the internet and telephone and held a first video conference among the scientists. All participants were tested for the corona virus and after all tests were negative, the expedition was able to start. The crew and a vanguard of 3 scientists embarked on Saturday, 10 October on the SONNE, and the main group of scientists followed the day after. Our 6 containers with the scientific equipment had already been delivered from Bremen on Friday, 9 October, and had been loaded onto the ship at a place we had previously selected. After the arrival of the scientists on Sunday morning, 11 October, on SONNE, the containers were opened and most of the scientific equipment was distributed in the laboratories and on the working deck and tied down for the sea. After 4 days in the hotel almost all of us welcomed this physical work. The departure of R/V METEOR, which was on the north quay on the opposite side of the harbor basin, was observed in the afternoon at 2:30 p.m., while our colleagues waved vigorously.



Figure 1: View from the observation deck of R/V SONNE at the entrance to the large sea lock that connects the Emden inland port with the Ems (© Yiting Tseng).



Figure 2: On 12 October, 2020, R/V SONNE left the lock chamber to the Emden outer harbor at 11:10 a.m. with destination of the Mediterranean Sea (©Tabea König).

After a first night on the research ship in the port of Emden, it was time to cast off on Monday, 12 October at 10:00 a.m., and the SONNE moved away from the pier. On the starboard side of the ship, the lifeboat, which had been repainted in the shipyard, was hauled in. Subsequently, the ship moved towards the lock with the help of a tug boat and under the supervision of the port pilot. Everyone on deck watched the lock maneuver in fresh sea air and a view of the Ems and the Dollart (Fig. 1). After the SONNE had left the lock chamber (Fig. 2), it followed the Ems estuary past the island of Borkum into the North Sea, where there were significantly more ship movements. Wind force 7 on the Beaufort scale with occasional gusts of 8 in the North Sea were already a first challenge for some of us, which put us in the mood for the coming weeks of seafaring. As we continued towards the English Channel, the sea calmed down more and more, so that we had a fairly calm journey, albeit in cloudy weather, and therefore could only see the famous chalk cliffs of Dover very blurred. On Tuesday, 13 October, the mandatory safety maneuver was carried out and that afternoon we started our

daily series of lectures, which familiarize all scientists on board with the scientific topics of the voyage. The weather also played a role in the passage through the Biscay and got better and better on the journey along the Iberian Peninsula to the south. Consequently, we passed the Strait of Gibraltar into the Alboran Sea on Saturday, 17 October in glorious sunshine, and in the evening we were able to steam past the brightly lit METEOR at a distance of approximately 6 nautical miles.

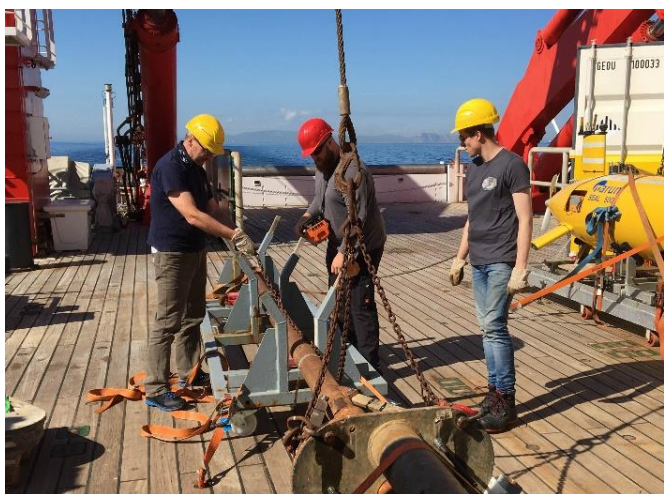


Figure 3: Preparation of the heat flow probe on the working deck of R/V SONNE, shortly after crossing the Strait of Gibraltar on Saturday (© Gerhard Bohrmann).

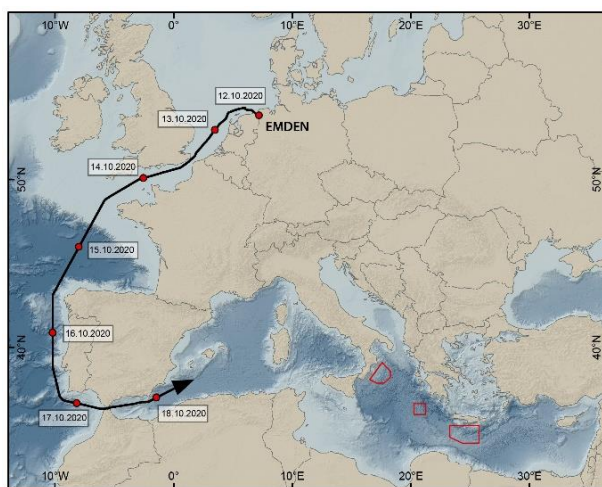


Figure 4: Previous route of R/V SONNE from Emden in Germany to the western Mediterranean. Thanks to the good weather, we made very good progress.

In addition to setting up the equipment and laboratories (Fig. 3), we used the transit route from Emden to the eastern Mediterranean to discuss the scientific program in order to be well prepared for the planned station work. We are 28 scientists, engineers, technicians and students from the universities of Bremen, Greifswald, Trieste and Athens. Our expedition is part of the Bremen Cluster of Excellence "The Ocean Floor – Earth's Uncharted Interface" at MARUM, during which we want to investigate the fluid and gas circulation on the sea floor of the Mediterranean Ridge. This region is characterized by the convergence of the Eurasian and African tectonic plates and has many characteristic elements of active fluid and mud flow. Before we reach this region in Greece in a few days, we plan to carry out station work on the Sartori mud volcano in the Calabrian arc of Italy on Wednesday of the coming week.

In anticipation of these tasks, we are currently steaming along south of the Balearic Islands with wonderful weather and absolutely smooth seas, heading east towards the target area (Fig. 4). Tomorrow, Monday 19 October, when we enter the Italian EEZ, we will start recording with the hydroacoustic systems in order to obtain survey data of the seabed, which we will use for further scientific evaluations within the European project "EMODNET".

All participants are healthy and look forward to the first station work after the transit.

Best regards on behalf of the cruise participants,
Gerhard Bohrmann
MARUM, University of Bremen

FS SONNE, Sunday 18 October 2020