

Research Vessel SONNE

SO279 (GPF 20-3_089)

04.12.2020 - 05.01.2021, Emden - Emden

1st Weekly Report: 3 – 6 December 2020



On Friday, 04 December 2020, RV SONNE set sail from the port of Emden, Germany, heading for the plastic accumulation zone in the North Atlantic Gyre south of the Azores. The scientists and the ship's crew spent four lonely days in individual quarantine in Leer before boarding the ship, the monotony of isolation broken only by emails, phone calls, and two early-morning visits from COVID testing professionals. It was a relief when everyone tested negative both times, and we were finally able to board the ship on 03 December (Fig. 1).

Most of our equipment was loaded onto SONNE by the ship's crew on Dec. 1st, while we were in quarantine, so we were able on the 3rd to immediately begin unloading the shipping containers and unpacking equipment (Figs. 2-3). RV SONNE has numerous, exceptionally well-equipped laboratories (from wet labs with large sinks and metal work tables, to dry labs with ultrapure water and chemical fume hoods, to temperature-controlled chambers for sample processing and on-board experiments), and everyone was excited to stake claim to various lab space and start setting up their equipment. The ship's crew provided invaluable expertise connecting sensors, installing pumps, setting up large sampling devices, and discussing deployment strategies.

The SO279 roster is made up of 22 scientists from eight institutes and four nations. We have a diverse sampling schedule planned within our primary working area south of the Azores and along the transit. The main program is focused on



Figure 1. Scientists boarding RV SONNE on 3 Dec.
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Figure 2. Unloading the containers at dusk.
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Figure 3. Pallets of equipment, ready to distribute among the labs.
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sampling microplastics from the sea surface to the deep ocean using a range of methods including water sampling rosette, in situ pumps, towed multi-depth nets, and sediment corers. We will also sample surface water from the ship's clean seawater supply, from a submersible pumps system, and from a towed "fish". If weather and time permit, we will use R/V SONNE's towed camera system (the so-called Ocean Floor Observation System, or OFOS) to search the deep seafloor for large biota and plastic debris.

After a slight delay waiting for delivery of some mis-directed equipment pallets, RV SONNE left her dock under assistance from a tugboat and entered the North Sea through the lock at Emden (Fig. 4). We had smooth sailing along the Dutch and Belgian coastline and past the cliffs at Dover. We are now moving slowly toward the Bay of Biscay (Fig. 5), with a watchful eye on a storm system ahead advertising six-meter waves and gale force winds. Fortunately, the German Weather Service (DWD) provides us daily weather updates and forecasts so we can plan the stations as safe and efficiently as possible.



Figure 1. Entering the lock in Emden. © A. Beck/GEOMAR

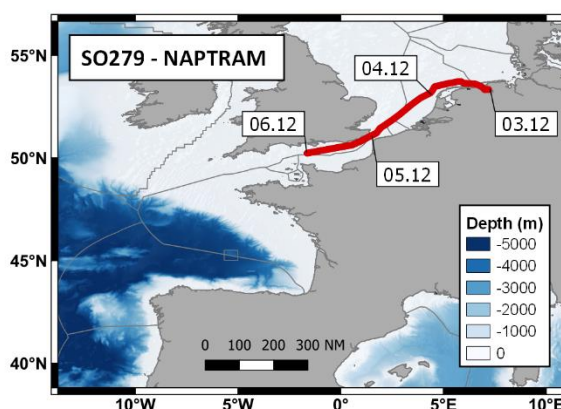


Figure 5. Current cruise track (red line). © A. Beck /GEOMAR

We're looking forward to our first station outside the EEZ line, hopefully tomorrow or Tuesday, weather permitting. Everyone is in good spirits, and so far, thoroughly enjoying being at sea on a state-of-the-art and comfortable ship.

On behalf of the SO279 cruise participants, greetings from the English Channel,

Aaron Beck, GEOMAR

FS SONNE, Sunday 06 December 2020