

Research Vessel SONNE

SO279 (GPF 20-3_089)

04.12.2020 – 05.01.2021, Emden – Emden

4th Weekly Report: 21 – 27 December 2020



The fourth week of SO279 started with everyone hard at work sampling station 6. We finished the station around 8:00 on **21 Dec.**, and SONNE immediately traveled to station 7. These stations are separated by only about 50 nmi, but they were sampled in Sept 2019 during cruise POS536 on RV POSEIDON, and the current cruise will provide a valuable comparison. Stations 6 and 7 are also located over the mid-Atlantic Ridge, a deep-sea mountain range several kilometers high. These were our shallowest stations, at only about 3000 m deep, so the sampling went relatively quickly.

The OFOS deployments at stations 6 and 7 were especially successful, as we saw a variety of plastic debris on the seafloor (Fig. 1). OFOS provides valuable information about a wider area of seafloor. Our box cores sample an area of approximately 50 x 50 cm, and the sparse distribution of anthropogenic debris, macrofauna, and Sargassum deposits make it unlikely that they would be captured in the cores. The plastic objects we saw ranged in size from a few cm to nearly a meter long and were generally not very overgrown or biofouled.

Sampling activities at Station 7 continued into **22 Dec.** and finished in the evening. Unfortunately, a low-pressure system developed over the working area, and the weather began to worsen. High winds and waves forced us to cancel the next few catamaran net deployments, and Station 8 was also not possible.

From **23 Dec.** to **25 Dec.**, SONNE transited slowly eastward against 4-5 m waves. We have been carefully monitoring conditions throughout the North Atlantic, and hoped to take advantage of a brief calm period forecast for the coming days between two major storm systems.

Festive spirits prevailed throughout SONNE despite the bad weather. Christmas trees had been stored in the ship's cold room, and were set up in the messe and lounge with a burst of evergreen scent (Fig. 2). The SONNE cooks and stewards prepared and served an amazing array of wonderful festive food over these several days.

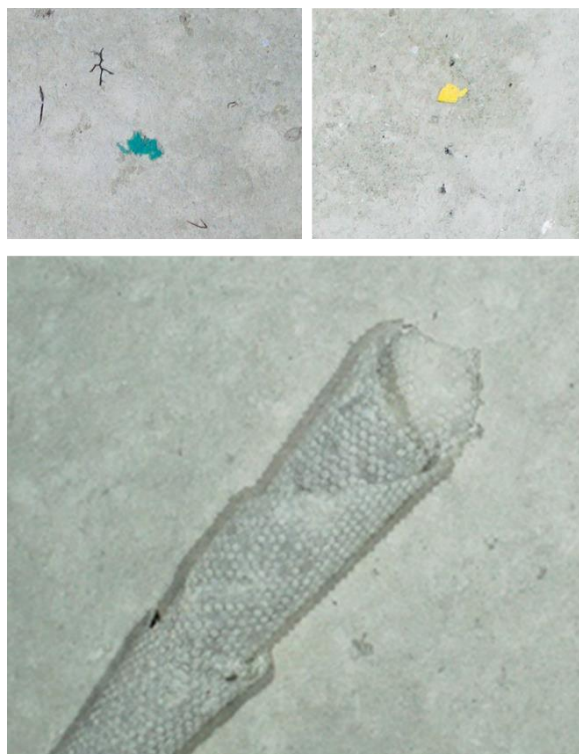


Figure 1. Some of the likely plastic items found on the seafloor with OFOS. The bubble wrap in the lower picture was a particular surprise on the seafloor. (© GEOMAR)

The weather improved noticeably during the evening of **26 Dec.**, and everyone welcomed the relative calm.

We arrived at an improvised station between the Azores and Madeira around 6:00 this morning, **27 Dec.** (Fig. 3). We'll be busy until late tomorrow trying to finish sampling activities before the next wave of winter storms reach us.

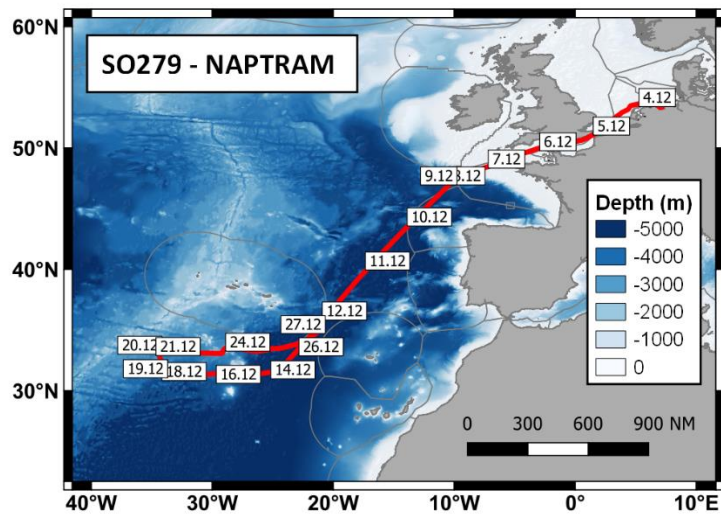


Figure 3. Ship track of SO279 as of Sunday morning. (© A. Beck / GEOMAR)



Figure 2. The Christmas tree in the SONNE lounge. (© S. Gueroun)

With greetings on behalf of the SO279 cruise participants,

Aaron Beck, GEOMAR

FS SONNE, Sunday 27 December 2020