

RV SONNE

SO285 „TRAFFIC 2“

Emden - Emden,

20th August - 2nd November 2021

10th Weekly report

18th – 24th October 2021



After packing most of the laboratory equipment back into boxes, this week was all about cataloging what we had done so far. Each sample, that has been taken must be assigned to a specific number, by which it can be identified and found again. With this sample ID, it must be possible to get information about when the sample was taken, where, at which water depth, with which equipment, on which research cruise, for which kind of analyses it was intended, and where it will remain when processing is completed. This information can be found in the cruise report. For example, if a sample, of which the sample ID begins with "SO285", shows up in a laboratory, it is immediately clear to the laboratory staff that all further details about that sample can be found in the cruise report SO285.



*Figure 1: Packing of boxes on the working deck (left) and fixing of boxes in the container (right).
Picture: Knut Heinatz*

Therefore, each of the six research groups on board kept proper records throughout the voyage. This week was the time, when all records were merged and common lists and tables were created for the cruise report. This sounds easy and simple, but imagine that we had 150 CTD stations. There are 24 Niskin bottles on the CTD rosette that allowed us to collect samples at up to 24 different water depths on each deployment. In total, 2090 Niskin bottles were closed to fill one or more sample bottles. Since each sample is in a row, an Excel spreadsheet with 2090 rows and a column titled "Sample Number" is created. The various planned analyses such as the analysis of nutrients, trace gases, etc. then fill the heads of the following columns. Cataloging net catches are similarly complex, and things get really voluminous, when the so-called "underway" data came into the game. These are recordings from measuring devices installed in the ship. They determine for example the CO₂ concentration and the temperature in the surface waters almost every second, enabling us to observe the diurnal migration of plankton. Many zooplankton and fish species come to feed in the water layers near the sea surface at night and dive back down at the break of the day to hide from other predators in

the dark ocean depths. This daily up and down in the ocean is among the largest migrations in the animal kingdom. Well, all this information has to be summarized in overview tables to keep track of it all. Therefore, this week, the seminar room of RV SONNE was fully occupied and the entire scientific crew was busy with desk or computer work.

However, since we will soon return to the temperate climate zone and have to expect stormy weather and rougher seas, we interrupted our office work today and took the opportunity to pack the containers, while the weather was still relatively nice – a welcoming change and chance to relax our eyes by taking a glance at the blue sky. But it was not quite that easy. Perhaps it is still known from the first reports of this cruise that we recovered PIRATA buoys drifting freely in the South Atlantic Ocean. In order to assure that they were out of our way during the station work, we stowed them in one of our containers. Unfortunately, these are loan containers that we have to return after coming back to Germany and are not allowed to divert them to the USA. Thus, before loading our containers, clearing out the PIRATA buoys was on the agenda.

RV SONNE, at sea, 28°N / 15°W, 24th of October 2021

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