

RV SONNE – SO296/2

21.1.2023 - 21.02.2023

Talcahuano (Chile) - Talcahuano (Chile)



1st Weekly Report (19. - 21.01.2023)

On 19.1. and 20.1.2023 a mixed team of 22 scientists from the Leibniz Institute for Baltic Sea Research, Warnemünde (IOW), one scientist from ICBM (Oldenburg), 15 scientists from the University of Concepción and 1 scientist from CU in Boulder (USA) came on board and started to settle in. Unfortunately, 4 of 5 containers from Germany were still missing at that time. In addition, the one punctual container surprised us with a colorful mixture of stickers, which it had apparently collected during its transport (Fig.1).



Fig.1: The punctual container full of stickers. (Photo: C. Burmeister)

After some exciting research and with a lot of help from our Chilean colleagues, we managed to get the outstanding research permit just in time in the afternoon of January 20. In the same evening we miraculously received 3 more containers and in the late evening the Chilean observer arrived, so that we could leave on schedule in the morning of 21.1.

The cruise is divided into 3 working areas, each with slightly different participants and scientific focus. Until the 27.1. in the first working area off Concepción, measurements will be carried out several times along an east-west transect across the shelf to a water depth of 1000 m.

We started our program in the morning of 21.1. with measurements at the first station named 14 just outside the 3 mile zone (54 m depth). There, a first CTD profile was successfully run, on which a low-oxygen water mass was found above the sediment, as hoped (Fig.2).

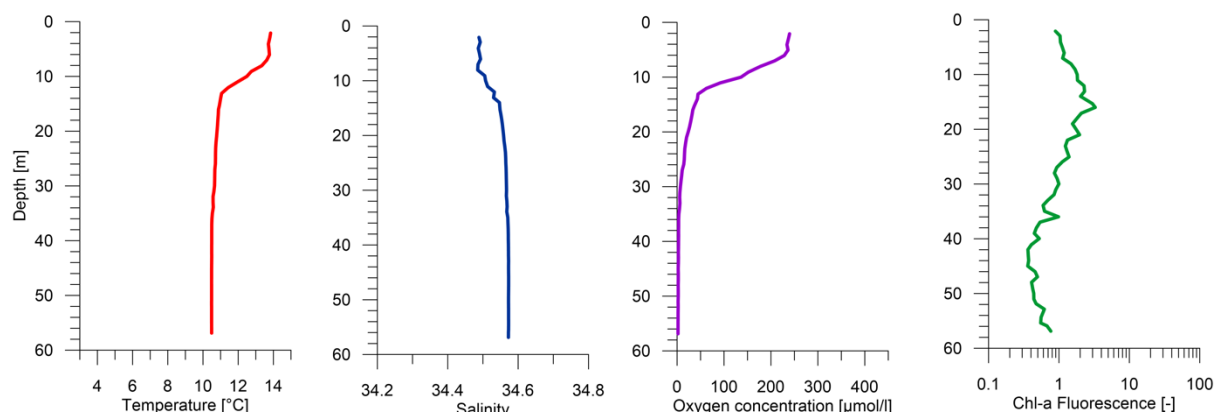


Fig.2: First CTD profile at station 14 with oxygen-poor bottom water in the lower 40 m.

An initial deployment of the VanVeen grab and dredge showed that despite the lack of oxygen, the sediment was inhabited by numerous benthic organisms (Fig.3).



Fig.3: Left: Frank Pohl and Michel Zettler sampling with the Dredsche (Photo: M. Gogina) Right: Benthic organisms from the sediment of the shallow station 14 with low oxygen bottom water. (Photo: M. Zettler)

Beginning with station 14, 4 stations along the transect were sampled in search of phytoplankton blooms with fungal infections. As water depth increased, such infections were indeed observed with greater regularity (Fig.4). Afterwards, a transit to the last and deepest station of the transect (station 39 at around 1000 m water depth) took place.



Fig.4: Left: Anna Feuring and Isabell Klawonn sampling the phytoplankton net. Right: Phytoplankton organisms with fungal infections (white arrows). (Photo: left N. Choisnard, right I. Klawonn).

On station 39 the large MOCNESS-net of the Chilean colleagues was used for the first time during the night from 21 to 22 January. This net can only be used on very large ships (Fig. 5). The net deployment was followed by another sampling of the sediment with the dredge to obtain benthic organisms from this very deep station with oxygen-rich bottom water (Fig. 6).



Fig.5: Deployment of the large MOCNESS net during night and some examples of the deep sea fish caught. (Photo: net H. Schulz-Vogt, fishes F. Fuentes)



Fig.6: Benthic organisms from the sediment of the deep station 39 with oxygen rich-bottom water. (Photo: M. Zettler)

Later on Sunday (22.01.2023), the MOCNESS-net will be deployed once again at the deep Station 39 during daylight hours to record the migrations of deep-sea fish. This will be followed by a larger deployment of the CTD to collect water samples so that all working groups are supplied with samples before we start a detailed investigation of the oceanographic situation on the shelf with the microstructure probe in the following 24 hours.

All participants are healthy and in good spirits. We are glad about the good weather and the excellent support of the crew.

Greetings on behalf of all cruise participants,

Heide Schulz-Vogt
(Leibniz Institute for Baltic Sea Research, Warnemünde)