

RV METEOR

M179/1 FjordFlux (GPF 19-1_077)

22.12.2021 - 12.01.2022, Las Palmas - Punta Arenas

3rd weekly report (03. - 09.01.2022)

The third week of our expedition started with calm seas and continued sunny weather. However, on 05.01., there was a change in the weather and stronger swell. For this reason we decided to dismantle the radiometers attached to the front of the ship as a precaution. This proved to be reasonable, as the bow of the ship dipped into the water from time to time. Water also got into the radiometer control computer, but the scientific-technical service (WTD) on board was able to repair it so that the measurements could continue after the weather conditions improved.

However, the daily sampling from the ship's seawater system was unaffected by the weather. The collected samples were analyzed directly on board for their optical properties, fluorescence spectra, and gross species composition. Further samples were processed for a more detailed taxonomic analysis as well as for the measurement of the concentration of vitamins (possibly a limiting factor for phytoplankton growth), as well as the presence of phycotoxins.

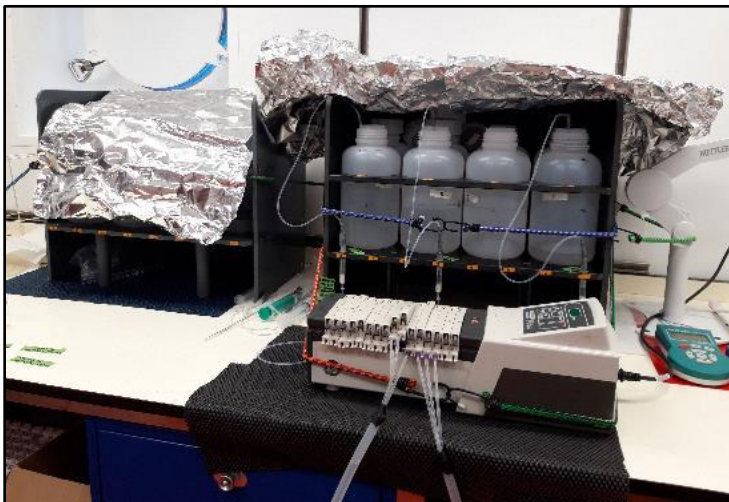


Fig. 1: Filtration unit for processing the sensitive vitamin samples

On the evening of 07.01., we reached the Rio de la Plata's area of influence, and although we are still outside the 200 nautical mile zone, this was evident by an abrupt change in salinity and temperature of the surface water. Chlorophyll-a concentrations also increased slightly. While the phytoplankton communities in the open ocean were dominated by small flagellates, at this site also larger diatoms could be observed.



Fig. 2: Real-time data from the FerryBox when we passed the mouth of the Rio de la Plata (red: temperature, yellow: salinity, white: chlorophyll-a concentration, green: turbidity).



Fig. 3: Images from FlowCam. Phytoplankton from the open ocean (left) and phytoplankton in the Rio de la Plata influence area (right).

For the beginning of the next week the weather forecast announces another storm, which will probably accompany us until we enter Punta Arenas.

All participants are still in good health and send greetings home. They also continue to inform about the research activities and life on board on Twitter (<https://twitter.com/ThoelenClaudia>) and in blog posts (<https://icbm-auf-see.uni-oldenburg.de/>).

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