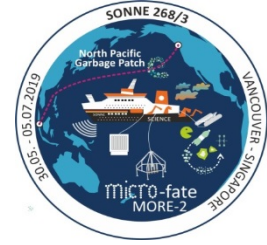




MICRO-fate MORE-2 SO 268/3



5. weekly report (6/24 – 6/30)

The RV Sonne science cruise from Vancouver, Canada to Singapore involves two projects: MICRO-FATE and MORE-2. MICRO-FATE investigates the distribution of plastic in oceans, from large accumulations down to decayed and degraded microstructures. Its goal is to capture for the northern Pacific near 30N the longitudinal and vertical distributions in the northern Pacific, including the sampling of sediments on the ocean floor. MORE-2 samples reference data over oceans in support of satellite remote sensing and global modeling and deploys 21 US ARGO floats along the way.

This week we passed through the southern parts of the Japanese EEZ. Temperature and relative humidity increased. Convective clouds well into the upper troposphere were common and caused intermittent brief precipitation events. After passing a frontal system with strong winds and heavy precipitation, we stopped for our final profiling station at 22N/127E on June 26. Recorded profiles are shown in Figure 1.

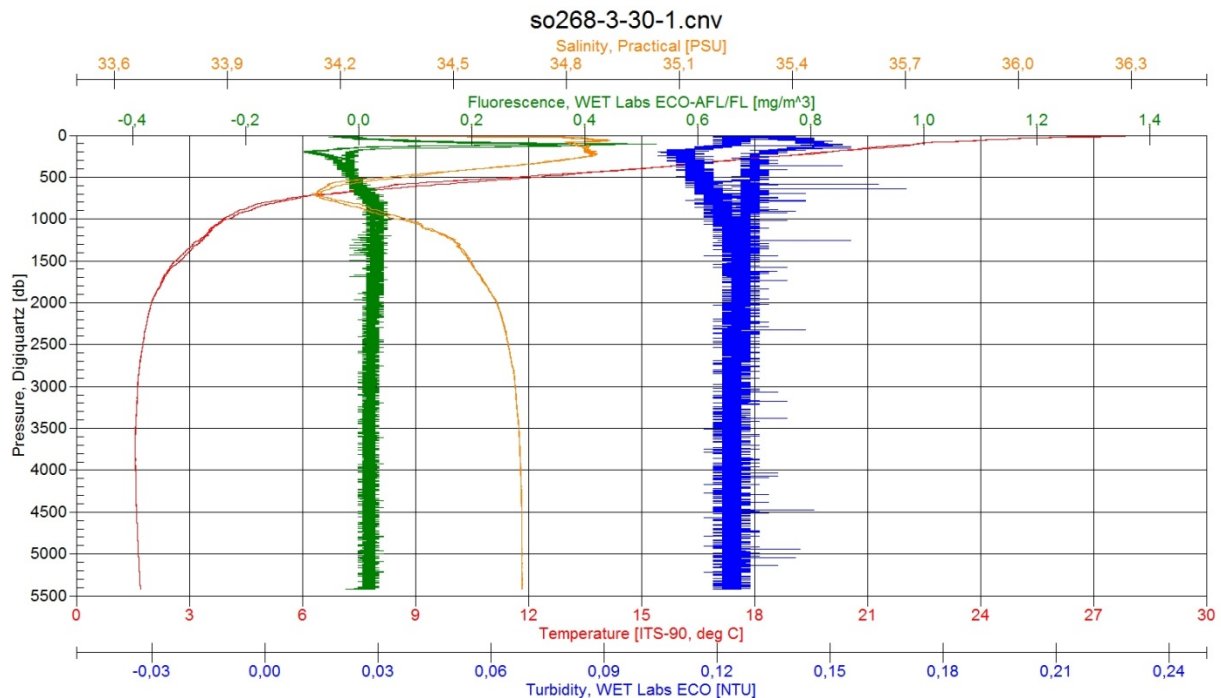


Figure 1. Ocean depth profiles for temperature (red), salinity (orange), fluorescence representing biological matter (green) and turbidity representing the small particle content (blue) at 22N/127E

After taking an extra CTD profile at 22N/124E, with data similar to those of Figure 1, we reached the EEZ region of the Philippines and stopped all ocean-data probing activity. Since the remaining time of our voyage will be a transit to Singapore, it is a good time to review time-series of continuous data samples for selected oceanic and atmospheric data with Figure 2.

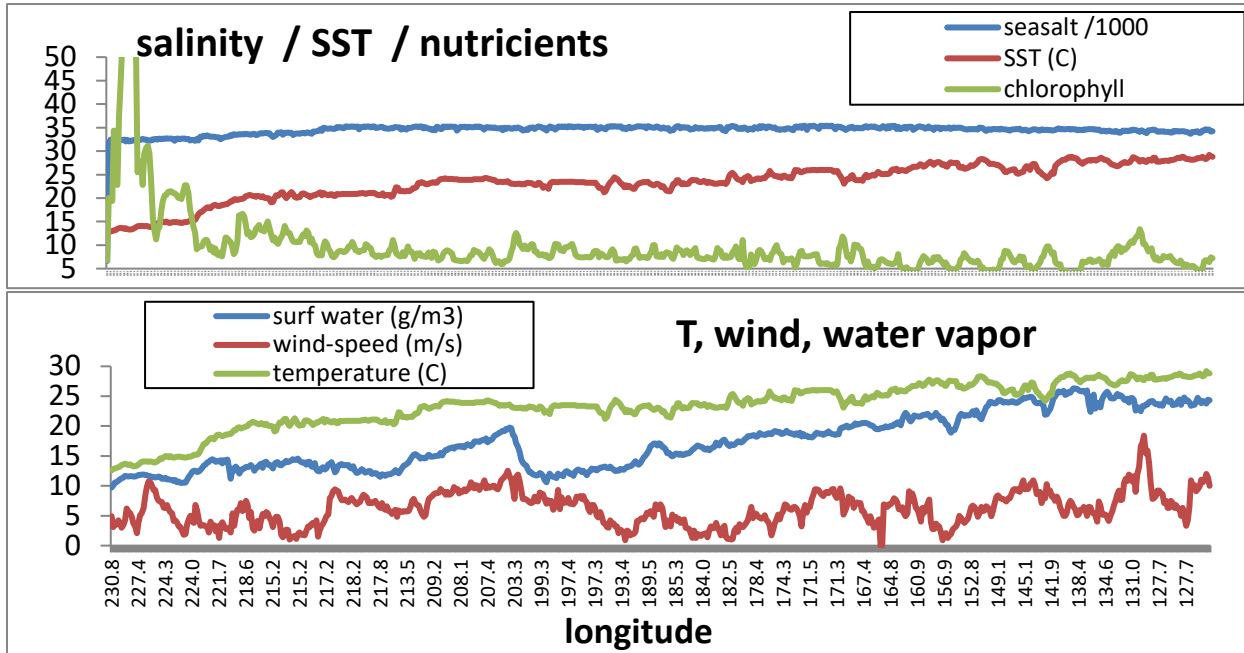


Figure 2. Hourly averages of continuous samples on the vessel during the SO 268-3 research cruise for seasalt-concentrations (blue), water-temperature (red), chlorophyll (green) in the upper part and for the water vapor concentration (blue), wind-speed (red) and air-temperature (green) in the lower part.

The chlorophyll-content in the central Pacific is very low, especially in the context to the nutrient rich upwelling water off the US-coast. The sea-salt content increased 32/1000 to values near 34 to 35/1000. Water temperatures were generally slightly warmer than air temperatures. Both temperatures and even more so the water vapor concentrations increased towards the east, even at the same latitude (near 30N from 215E to 145E). Except for the storm at 129E, the winds were relatively calm. On a few occasions the sea was almost without waves. For an overview on the travelled route, all station stops of the SO 268-3 cruise are summarized in Figure 3.



Figure 3. positions of extended profiling station stops (green), positions of ARGO deployment locations (yellow) and a picture of a ca 40cm long fish at the ocean bottom at a depth of more than 5000m.