

**Expedition SO280 (GPF 20-3\_087)**  
**- IceDivA**  
**Emden - Emden**  
**Weekly Report 3**  
**18.01. - 24.01.2021**



**Gone with the wind ... Off to the south!**

In the North Atlantic, several low pressure areas have established themselves, some of which generating waves over 10m height around 48° N. Current weather conditions at our 4 most northern work areas means that work there would be an impossibility. Therefore, early in the morning on Monday this week we went to our southernmost work area at 36° N, where the wind and swell were manageable, despite still reaching up to Force 6. The planned sorting of samples during the journey became a challenge due to the movement of the ship and only the trained eye could withstand the samples moving under the binocular. With less practice, trying to sort a sample was more likely to cause an episode of seasickness.

On Tuesday evening at 6:00 p.m. we reached our work area and started with a deep CTD down to 20m above ground and benthic mapping. Due to the weather conditions, the "plankton block" was pushed behind the "benthos block", as the strong winds

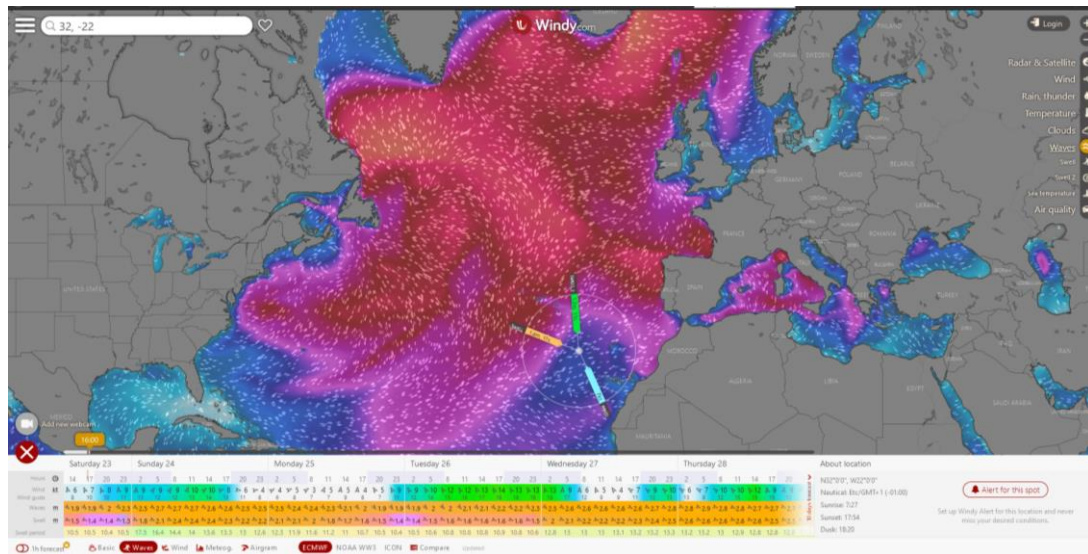


would cause issues for the nets; strong winds that would dissipate over the course of the week. Weather conditions, especially the swell, also caused difficulties with the benthic devices. The Multicorer did not trigger properly three times and the EBS "Ursula" came back on board with a torn net. Despite better wind conditions, two nets of the Multinet broke. In a short time, a laboratory was converted into a net repair workshop and the needle and thread were used. Overall, everyone turned out to be a solution-oriented team, so that we were able to successfully bring samples on board with all devices.

On Thursday evening we were successfully able to deploy the OFOS to directly observe the seafloor. Our OFOS transect not only brought the impression of the animal world, but also followed the findings of our previous trip SO279: There are not only animals, but also worrying amounts of plastic on the sea floor!

**Figure 1:** Katrin Linse (British Antarctic Survey) and Nicole Gatzemeier (Senckenberg) repairing the nets in the repair shop.  
 Photo: Kai Horst George (Senckenberg).

When using all devices (CTD, Multibeam, Bongo net, Plankton net, Multinet, Neuston catamaran, OFOS, Large box corer, Multicorer, EBS, and ARGO), a deep station takes between 68 and 76 hours (3.5 to 4 days). Therefore we were busy at 36° N until the afternoon of January 22<sup>nd</sup>, 2021 (Friday) and headed south around 4:00 p.m. Wind and waves had already reached 36° N, meaning that now any work under our original plan was not possible. It was therefore inevitable to move to more southern regions. Here, too, everyone pulled together and in joint consultation of the scientific program, and strategic weather chess moves by the captain, we calculated a new route to 32 ° N, which will secure two more deep stations for us, as long as current weather predictions hold.



**Figure 2:** Weather forecast via “windy”, showing current position and weather as of 8pm Saturday 23<sup>rd</sup> January. We are currently located in the only workable area on this side of the Atlantic, with some areas to the North having over 10m waves.

The highlight of the week - coinciding with the middle of the trip - was our appearance on the site of the federal government. The direct link to the article can be found at:

<https://www.bundesregierung.de/breg-de/aktuelles/tiefseeforschung-im-atlantik-1839762>.

On Saturday evening we started with the CTD at 32 ° N, with the OFOS running overnight, with the “plankton block” occurring Sunday morning, followed by the Box corer overnight. We are in good spirits to be able to complete two more full deep stations before we have to start the now longer way back to Emden. The atmosphere on board is relaxed and everyone on the cruise is relieved to have found a feasible alternative program with the change of plan to the south. On behalf of everyone we send a greeting ashore,

Sunday, January 24<sup>th</sup> 2021

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