

FS METEOR

M174 "N-Amazon"

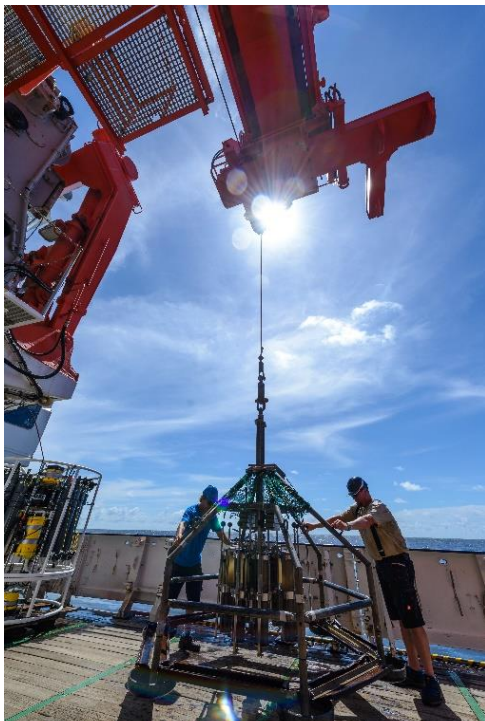
Las Palmas - Emden, 12.04. - 30.05.2021



5. weekly report

03. - 09.05.2021

Our work continues to be oriented to the outflow from the Amazon, whose river plume spreads northwest and bends east at about 10°N, while filaments continue north to Barbados. We are making very good progress with our work and during the second week we have been working on the shelf but increasingly also beyond in the western tropical North Atlantic.



*The multicorer just being put back on deck, loaded with 8 cores.
(Photo: N. Fröhberg)*

Most stations were still at depths below 100m water depth and the few excursions over the shelf edge, each were accompanied by Scanfish measurements. In addition to CTD hauls and lots of water samples for incubations to measure nutrient uptake and nitrogen fixation, we used the multicorer to sample sediments. Since the exact sediment composition, grain sizes and other properties, are not well known, we could not count on many samples. But surprisingly, we successfully recovered cores at 8 stations. The experience of our technician, Uwe Hehl, is invaluable. He even reliably fulfills requests regarding sediment quantity and the amount of overlying water.

Generally, the water above the cores was clear, but there were sometimes very fine organic deposits that clouded the water. Samples for nutrient, oxygen, and nitrous oxide measurements were taken and incubations were performed in the cold room. Surprisingly, in no case was there oxygen deficiency on the seafloor.

Sometimes concentrations were low, but saturation was always at least around 50%, so some snails, bivalves, and polychaetes could be observed. The sediments became more sandy with distance from the Amazon estuary, and there was also a lot of bivalve shell off French Guiana. Pore water was recovered for various projects at all stations. We are very pleased with the seafloor work and have accomplished much more than we anticipated.



Sediments from the Para (left), Brazilian Shelf (center), and French Guiana (right).

What helps us a lot in all our work is the flexibility of the crew, especially from the navigators on the bridge. Changes of plan are normality in our program, as the station selection has to be adjusted due to the daily changing spread of the river plume. We analyze satellite images and see on them the turbidity of the water and the chlorophyll content. These patterns change because of eddies, blooms that become more or less intense, and Atlantic water mixing. Thus, almost all the stations rigidly planned in advance have to be adapted to the images and shifted. How good that there is so much understanding for this on board. This will certainly have a positive effect on the quality of the data obtained.



Flying fish photo credit N. Fröhberg

To top it all off, the galley spoiled us with creative ideas and the best food. On May 1 in the evening we had a wonderful Spanish-Italian influenced buffet with cheese, ham, and antipasto. Unfortunately, not everyone was able to enjoy the specialties because the lab called, but many did not want to leave the fair at all.

So it can go on!

Maren Voß
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Link to the Blog of the cruise: <https://www.io-warnemuende.de/fs-meteor-m174-2021.html>