

R/V METEOR

M174 "N-Amazon"

Las Palmas - Emden, 12.04. - 30.05.2021



7. Weekly Report

17. - 23.05.2021

Research continues even though we left the actual cruise area on May 13. We use the privilege of the long transit to both continue sampling and slowly start the cleanup. More fun than rinsing incubation bottles and other equipment is our initial data evaluation. We have started a lecture series with all the scientists including the graduate students and even the undergraduate assistants. The schedule of lectures will last until we arrive in Emden on May 30th. This is a good basis to review the first results, to formulate our expectations for the measured data and to record ideas for cooperative evaluation. That there is still time for such work on board is a great gift.

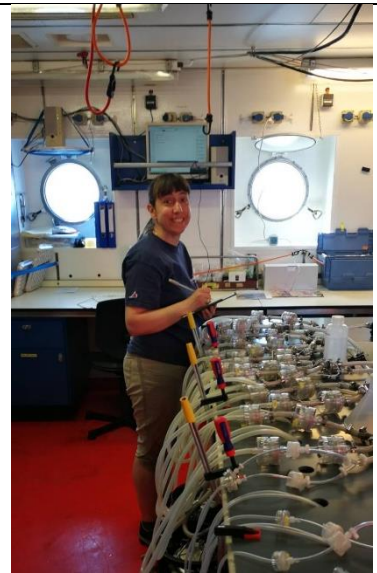
And then there is ongoing work like our "underway sampling". From the sine pump on board we take samples every 8 hours since leaving the working area to measure nitrogen fixation, nutrient and particle concentration, DNA and once a day nitrate uptake. We want to collect these data from the Caribbean to the English Channel - except of course the waters of the Azores and later the French waters, for which we have not requested working permits.



Joseph Montoya at the incubators on deck



Ajit Subramaniam at the radiometer measurements



Ana Fernandez Carrera filtering

Those involved in the "on the way" program include Joe Montoya, Ana Fernández Carrera, and several IOW people.

Rates of nitrogen fixation are expected to decrease as we leave the subtropics. But climate change is also causing northward dispersal of heat-loving species. Therefore, it is interesting to schedule incubations at 8-hour intervals to capture these rates. Similarly, the composition of organic material in water is changing, but the simple standard methods do not capture details, so Ana will look very closely at amino acids, which will require her to filter very large volumes of water.

A very short station daily to record underwater radiation with the radiometer is also made. Ajit Subramaniam of Lamont Doherty Earth Observers in New York is using these data to improve the algorithms for chlorophyll information from the satellite images. By taking many profiles on the way out, in the Amazon plume, and on the way back, the trip is helping to make this information from the satellites more and more reliable.

Our highlight of the week was a barbecue on deck, which took place in perfect weather. In order to allow everyone on board to participate, we started at 4pm and just skipped lunch. The kitchen served us a great buffet after seven weeks at sea despite the clear stocks in the cold rooms. There was very tasty grilled food for vegetarians and steak lovers alike. We even had music and dancing on deck with "Captain Rainer" and support from Stefan from the WTD. A great event was in the offing. Everyone could send a "message in a bottle". Volker Mohrholz and Toralf Heene had prepared suitable bottles and a multilingual letter in which everyone who wanted to could write their address. This letter was sealed well and dry in the bottles and entrusted to the sea during the celebration. We can all be very curious to know when and who will receive a message. Almost certainly this will not be for several months. Then, hopefully, the two initiators will receive news and greetings from all over the world.

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Link to our cruise blog: <https://www.io-warnemuende.de/fs-meteor-m174-2021.html>