

R/V METEOR

M176/2 "RainbowPlume"

1<sup>st</sup> September – 6<sup>th</sup> October 2021

Emden-Emden



### 5<sup>th</sup> Weekly Report

(27<sup>th</sup> September - 3<sup>rd</sup> October 2021)



*Last titanium CTD brought on deck on M176/2 (Photo C. Rohleder).*

The cruise has been very successful, and we have completed our full planned station schedule and achieved all our objectives. The days were long, and we typically had 24 hour operations on the vessel. The weather has been very kind and no time has been lost due to bad weather. In total we have conducted 114 CTD deployments with 3 different CTD frames, and 19 Video Multi Corer deployments. We had a tow fish out in the water each night for surface water collection for biological experiments, and have operated an aerosol collector on the ship's monkey island to sample aerosols.

Cruise M176/2 completed its last sampling day on September 27. On the last day we had our usual sequence of CTDs and MUC deployments, and then following the last CTD deployment at 18:30 h UTC the Meteor commenced her transect back to Emden. The temperatures on our travel back north decreased gradually, whilst the winds increased. We have made excellent progress and are now in the English Channel with France in sight. We have avoided the worst storms in the Bay of Biscay, which has allowed a smooth passage. We will now arrive in good time in Emden, and all of us should be travelling to our homes on Wednesday afternoon October 6.



*R/V METEOR on her way back to Emden after cruise M176/2 (Photo C. Rohleder).*

In addition, we surveyed the non-bouyant hydrothermal plume nearly each evening and this way obtained a 3-dimensional overview of the plume flow. On board we have analysed total and methyl mercury samples, and also dissolved aluminium samples from 19 stations. Furthermore, nutrients have been analysed on-board ship. Thousands of samples for elemental and isotope analyses in seawaters, particles, sediments and porewaters will be transported to our home laboratories. Also, mineralogy will be assessed in the plume and sediment particles, and a range of biological variables will be analysed.

The cruise has allowed a range of early career scientists to obtain samples, after a long and difficult COVID period with cancelled research cruises. Therefore the cruise has been very important to the career development



of these scientists, and will allow them to complete their PhD projects and postdoc plans. Also, our HiWis have had the opportunity to learn to work in large teams at sea and contribute to exciting and excellent science. Cruise M176/2 has been the first METEOR cruise since the outbreak of COVID, which had a nearly full complement of scientists and technicians on-board (27 persons). The ship's crew was very pleased to sail with a full ship, full of people and activities.

*Our wonderful team of technicians and researchers who mad M176/ a very successful cruise (Photo V. Menon).*

An important highlight this week was our lunch today. The galley cooked a wonderful lunch this afternoon (October 3) to celebrate the German Re-unification day. Many thanks! We would like to thank the captain, officers and crew of the METEOR for making M176/2 a successful and very pleasant voyage.

RV METEOR at sea 50°N/00°W

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Jacobs University: <https://www.jacobs-university.de/blog-posts-research-cruise-m1762>