03/2024

CONMAR

PROJEKTNEWS

From the DAM Research Mission sustainMare

Research progress on the effect of explosive compounds on marine diatoms

As part of the CONMAR project, the Federal Environment Agency ('Umweltbundesamt/' UBA) is investigating the effects of munition compounds released into the sea on marine organisms.

Research is currently being conducted on effects of such compounds on the marine diatoms *Skeletonema marinoi* and *Phaeodactylum tricornutum* – tiny but essential components of the marine food web.

Diatoms play a key role in the ecosystems of the North and Baltic Seas, as they act as primary producers and provide important nutrients for other marine organisms. It is therefore crucial to understand the effects of pollutants, such as chemical compounds released from the munition lying at the bottom of the sea, on these algae in order to assess and minimise ecological risks.

After intensive laboratory tests, the experiments have now been finalised. The analyses to determine the concentration of the chemical compounds released from the munition were carried out this summer at the University Medical Centre Schleswig-Holstein (UKSH) in Kiel in collaboration with colleagues from the UKSH (Fig. 1 left).

Sandra Schelzig presented the results at thie SETAC GLB conference, 8.-12. September 2024 in Giessen and Bod Homburg, one of the most important platforms for ecotoxicology in the German-speaking world. Her presentation on her work in the CONMAR project was awarded 1st place for the best young scientist presentation (Fig. 1 right).

Fig 1. left: Sample preparation in the laboratory at the UKSH; right: Sandra Schelzig award ceremony at the SETAC GLB

Once all the results are available, CONMAR Colleagues from the Federal Environment Agency will finalise the risk assessment and

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contribute our findings to the further procedure for dealing with munitions in the sea.

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Research sustainMare Annual Meeting in Hamburg

From 24–25 September 2024, more than 100 researchers and stakeholder representatives met in Hamburg. Besides the important exchange between the individual sustainMare projects and the various mission working groups, the meeting was intended to provide a review of the 1st phase and an outlook on the goals and work of the 2nd project phase. In the poster session, young scientists in particular were able to present their work and results from the first phase and discuss them with colleagues from the mission and stakeholders. Further information can be found *here*.

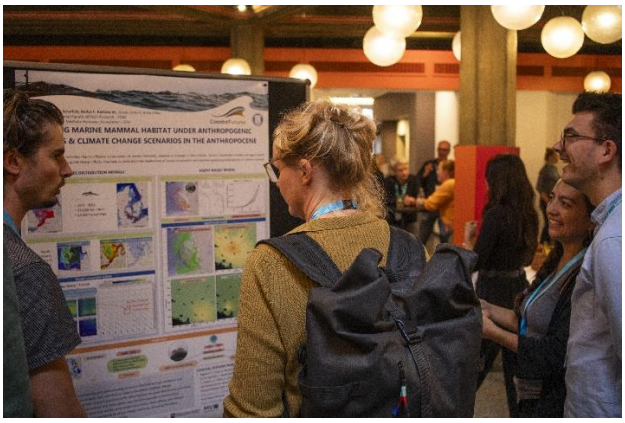

Fig. 2. Participants of the sustainMare Annual Meeting at the poster session

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Research in the framework of the pilot clearance in the Lübeck Bay

On AL622 (14.–22.10.2024), CONMAR investigated the effects of the work of clearance companies that cleared several tonnes of munitions in the Lübeck Bay as part of the German government's 'Sofortprogramm'. Water and sediment samples as well as fish and marine animals living around and in the sediment near the cleared areas were collected. What impact does the clearance have on the environment in terms of the release of munition compounds? How much of the chemical munition compounds are released by through the clearance activities? What are the dimensions and physical effects of the clearance (sediment cloud)? These and other questions will be discussed by the CONMAR team. AL622 is the second of a total of three cruises that will investigate the clearance activities. AL622 also showed that the several hundred V1 flying bombs, each weighing approx. 350kg, are the main sources of TNT/DNB/RDX pollutants in the Lübeck Bay.

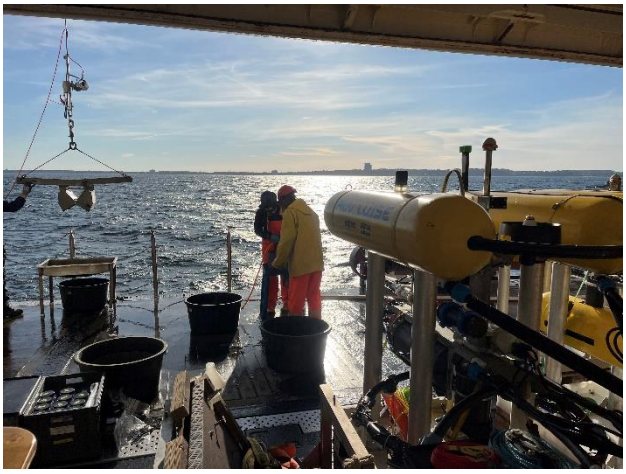

Fig. 3. Work on deck of the RV ALKOR on the Al622 cruise.

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