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Appreciation from the United Nations: IOW's Baltic Sea long-term observation is officially part of the UN Oceans Decade

The Leibniz Institute for Baltic Sea Research Warnemünde (IOW) has been collecting physical, chemical and biological Baltic Sea data for many decades. These allow important conclusions about the state and environmental changes in the Baltic Sea and are freely accessible to both scientists and the public. As of this year, the centrepiece of the IOW's long-term observation programme – the annual monitoring ship expeditions – has been officially recognised as a project of the United Nations (UN) “Decade of Ocean Science for Sustainable Development 2021 – 2030”.

The UN recognises in particular that the IOW's long-term monitoring of the Baltic Sea makes a significant contribution to understanding both, the natural variability of the ecosystem and the effects of human influences such as nutrient overload, various pollutants and climate change. The results are therefore an essential contribution to the overall picture for stakeholders from politics and society in all Baltic Sea states for the science-based assessment of the state of the Baltic Sea and the resulting options for action. Furthermore, all IOW Baltic Sea data are available to the public in a freely accessible database – an important criterion for the UN in recognising it as part of the Ocean Decade. This means that not only researchers from the entire Baltic Sea region benefit from this wealth of data, but also anyone who has an interest in the Baltic Sea and wants to take action. Of the [10 challenges](#) identified as topics to be addressed in the course of the Ocean Decade, the IOW long-term observation programme contributes to the following three: 1) Understand and beat marine pollution, 2) Protect and restore ecosystems and biodiversity and 6) Increase community resilience to ocean and coastal risks.

“We greatly appreciate this recognition of our work as part of the UN Ocean Decade,” says Joanna Waniek, who is responsible for the overall management of the IOW long-term observation programme. “This kind of data collection, which is not directly aimed at specific research questions, but is primarily needed as baseline information and for which you need a lot of time and perseverance, is hardly known to the public,” the oceanographer continues. In the scientific world, too, long-term data collection sometimes receives little apparent recognition, as many scientific publications refer to it as background information, but few make it the main topic, adds Waniek. “We are now making the UN's appreciation visible to the public by displaying the Ocean Decade logo on our research vessel, the ELISABETH MANN BORGESE. For our scientific work, the UN's recognition opens up additional opportunities for international networking and collaboration on overarching research issues,” emphasises the IOW scientist.

The IOW's Baltic Sea data treasure trove: Open to everyone

The IOW has particularly valuable Baltic Sea data sets at its disposal. These include data series from tide gauge stations around the Baltic Sea, which have been continued for over 100 years. The research cruises between 1951 and 1991 of the Institute of Oceanography of the GDR, the direct institutional predecessor of the IOW, also contribute to the valuable pool of data and have found their nearly seamless continuation in the current long-term Baltic Sea monitoring of the IOW. Thus, there are data series that now span more than seven decades.

Currently, the research vessel ELISABETH MANN BORGESE cruises the Baltic Sea five times a year to record physical, chemical and biological parameters at numerous sampling points. Part of this ship-based Baltic Sea monitoring is carried out by the IOW on behalf of the Federal Maritime and Hydrographic Agency (BSH). However, the IOW ship is not only cruising German waters, but also those of other littoral Baltic Sea states. Only this year, the monitoring programme was extended northwards into the Gulf of Bothnia, which borders Sweden and Finland. All of the obtained data are freely researchable in the extensive IOW database [ODIN 2](#) (short for Oceanographic Database

Research with Interactive Navigation). In addition, hydrographic, meteorological and currents measurement data from three autonomous measuring stations permanently installed in the middle of the Baltic Sea have been included since 2007. Those stations are part of the BSH's MARNET measurement network in the North and Baltic Seas and are being operated by the IOW on the BSH's behalf. The ODIN 2 database currently comprises almost 90 million oceanographic readings, most of which relate to the Baltic Sea.

“This is a tremendous wealth of data. As measurements are available over such long periods of time, they not only allow us to draw important conclusions about the state of the Baltic Sea in the past and present, but also to look into the future through computer simulations,” explains Joanna Waniek. “We are seeing that it is not only authorities and researchers who are interested in the trends in water temperature, salinity, oxygen and nutrient content or pollutant concentrations that can be derived from the data.” According to the scientist, also fishermen, anglers and other interested persons have accessed the database. “However, our most important ‘customer’ is the international Helsinki Commission for the Protection of the Baltic Sea (HELCOM), which, with the support of the IOW and the many other Baltic Sea research institutions, regularly assesses the environmental status of the Baltic Sea and provides guidelines for action in the form of the Baltic Sea Action Plan,” concludes Waniek.

Further UN Ocean Decade activities of the IOW

Other IOW activities that do not have individual decade project status are also recognised as an official part of the UN Ocean Decade, as they support its aims:

- the IOW's participation in the research mission [CDRmare](#) (short for ‘Marine Carbon Storage as a Pathway to Decarbonisation’, CDR stands for Carbon Dioxide Removal) of the German Marine Research Alliance (DAM)
- the project ‘Exclusion of mobile, bottom-touching fisheries in protected areas of the German Baltic Sea ([MGF Baltic Sea](#))’ as part of the DAM research mission sustainMare
- the participation of the IOW in the joint project “[Peatland Climate Protection on the Baltic Sea Coast](#)” of the Naturschutzstiftung Deutsche Ostsee
- the [expedition with the research vessel SONNE](#) as part of the E-POLIO project (short for ‘Emerging pollutants and microplastics in the surface waters of the Indian Ocean’)

UN Ocean Decade 2021 - 2030

The Ocean Decade – officially the “Decade of Ocean Science for Sustainable Development” – is a global campaign initiated by the United Nations with the aim of collaboratively managing the ocean that humanity needs to survive in the future: healthy, full of life, with protected areas, but also sustainably managed. Launched in 2021, science-based solutions for the ocean’s most pressing problems are to be developed and implemented during the decade up to 2030. To this end, 10 challenges have been identified as areas of work that need to be tackled globally (see: <https://oceandecade.org/challenges>). The UN commissioned UNESCO’s Intergovernmental Oceanographic Commission (IOC) to coordinate the preparations and realisation of the decade. This enormous task is aimed both at marine research and at stakeholders from all areas of society. More information at: <https://oceandecade.org>

Scientific contact

Prof. Dr. Joanna Waniek | joanna.waniek@io-warnemuende.de | Tel.: +49 (0)381 – 5197 300

IOW Media contact:

Dr. Kristin Beck, Tel.: +49 (0)381 – 5197 135 | presse@io-warnemuende.de

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