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How storm surges affect the coastal marshes of the Baltic Sea

Bachelor graduate Denise Otto receives Otto Krümmel Prize 2023

20 September 2023/Kiel, Germany. For her bachelor's thesis, Denise Otto studied the biogeochemical effects of floods on the soils of a coastal marsh. Today, the young scientist will receive the Otto Krümmel Award 2023 in Kiel. The 1,500 Euro prize is awarded annually by the "Society to Support GEOMAR Helmholtz Centre for Ocean Research Kiel" for outstanding bachelor theses in the field of marine research.

Joint press release of the GEOMAR Helmholtz Centre for Ocean Research Kiel and the Leibniz Institute for Baltic Sea Research Warnemünde

They form a unique interface between sea and land: Coastal peatlands characterise the landscape of the southern Baltic Sea in many places. Here, salty water from the Baltic Sea and low-salt groundwater as well as surface water from the bog can exchange above and below ground. In her bachelor's thesis, Denise Otto investigated how fluctuating water levels in the Baltic Sea and flooding influence the biogeochemical composition of a bog. With a focus on carbon and sulphur compounds, she carried out isotopic geochemical investigations of soils and pore water in the Hütelmoor, a nature reserve near Rostock, after a severe storm surge. For her outstanding degree in geology at the University of Greifswald, she is being honoured today in Kiel with the Otto Krümmel Award, worth 1,500 euros, donated in equal parts by the "Society for the Promotion of GEOMAR Helmholtz Centre for Ocean Research Kiel" and the Briese shipping company. Denise Otto carried out her research at the Leibniz Institute for Baltic Sea Research Warnemünde (IOW) in the working group Geochemistry & Isotope Biogeochemistry, where she was supervised by IOW biogeochemist and deputy head of section Prof. Dr Michael E. Böttcher.

"The bachelor's degree still receives little attention, especially in the natural sciences, and is often seen as a stepping stone to a master's degree," says Dr Peter Gimpel, Chairman of the Society for the Promotion of GEOMAR Helmholtz Centre for Ocean Research Kiel e.V. "However, the students have already acquired a solid basic knowledge and had to show in their final thesis that they are able to work scientifically". The prize-winning theses often indicate particularly talented and qualified students early on. The Otto Krümmel Sponsorship Award is intended to honour them in a special way, said Gimpel.

"The award is a wonderful confirmation for young scientists", says GEOMAR Director Professor Dr Katja Matthes. "To experience how relevant one's own research can be is a great motivation for one's further scientific career". That is why she is particularly pleased that from this year on the prize will be awarded during the GEOMAR Science Day, which will give the prize and the award winners more attention.

"I am very pleased that Ms Otto is receiving this award, as she has worked with great motivation and commitment," says Michael Ernst Böttcher, Denise Otto's supervisor at IOW and also Professor of Marine Geochemistry at the University of Greifswald. "Her work is a valuable contribution to the DFG Research Training Group Baltic TRANSCOAST at the University of Rostock, which is carrying out fundamental research on material flows in renaturalised peatlands under the influence of seawater". The results will help to better assess the future development of ecosystems at the transition from land to sea under conditions of rising sea levels, Böttcher added. "I wish Denise every success in her further studies in marine geosciences, which she will continue at the University of Bremen," Böttcher concluded.

About the Otto Krümmel Award:

The "Society to Support GEOMAR Helmholtz Centre for Ocean Research Kiel" has been awarding the "Otto Krümmel Promotion Prize" since 2016. The prize, which is awarded annually, honours outstanding bachelor's degrees (including FH degrees) in the field of marine research, including the interaction of the ocean with the seabed and the atmosphere. Scientists are eligible to apply if they have completed their Bachelor's degree at a German university no more than one year ago and received a grade of "excellent" or "very good". All disciplines of marine research, including marine technology, are eligible. The winners are selected by an independent committee with the participation of external scientists. The prize is endowed with 1,500 euros, half of which is donated by the Supporting Society and half by the shipping company Briese.

About Otto Krümmel:

Professor Dr Otto Krümmel (1854-1912) is regarded as the founder of general oceanography in Germany. He taught and worked mainly in Kiel. Krümmel's ideas about the shape of the seafloor were fundamental. With around 100 publications, his work covers almost all areas of general geography, oceanography and hydrographic surveying. He was internationally recognised for his interdisciplinary research and, together with other scientists, argued that the open seas could only be understood and exploited through international cooperation. It was this conviction that led to the establishment of the International Council for Marine Research in 1902 as a state-coordinated scientific association.

Links:

<https://www.geomar.de/zentrum/foerdergesellschaft> Website of the Supporting Society
<https://www.io-warnemuende.de/geo-ag-geochemie.html> Working Group Geochemistry and Isotope Biogeochemistry at IOW
<https://www.baltic-transcoast.uni-rostock.de/> Baltic TRANSCOAST

Images:

After the embargo period, images will be available for download at www.geomar.de/n9109 .

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