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More precise sensors to identify ocean acidification in the Baltic Sea

The new European project PINBAL aims at the development of a spectrophotometric pH-measurement system for monitoring in the Baltic Sea

Today the European project PINBAL started with a kick-off meeting at the Leibniz Institute of Baltic Sea Research in Warnemünde (IOW). The four participating partners of the project met to organize the next steps for project implementation. Beside the IOW, which is also responsible for the project coordination, the University of Gothenburg, the Institute of Oceanology in Sopot and the enterprise CONTROS Systems and Solution participate in PINBAL.

Since the beginning of the industrial era a considerable part of the increasing CO_2 emissions dissolved into the ocean. As a result the pH value of the World´s Ocean has been decreased by 0.1. The Intergovernmental Panel on Climate Change (IPCC) considers the pH value to be decreased from 8.1 today to 7.7 in 2100 with severe consequences for the marine environment if the CO_2 production follows a "business as usual" scheme. For the Baltic Sea with its variable salinity, high concentrations of organic substances and the occurrence of hydrogen sulfide in the deep waters there are no suitable measuring methods up to day, to detect longtime variations. The PINBAL project group wants to bridge this gap.

Beside the monitoring demands, there is a strong interest of basic research, too, in such a development of a highly precise measuring method for the determination of the pH value in order to improve the option for investigating the Baltic Sea carbon dioxide turnovers. Gregor Rehder, project coordinator and marine chemist at the IOW, describes the aims of the project. "We want to develop a reliable and highly precise system to be deployed on so called voluntary observing ships (VOS)." In recent years these VOS – cargo ships or ferries – have been equipped with automated measurement and sampling systems to create an efficient monitoring system for environmental parameters in surface waters of the Baltic Sea. They shall be the carrier of the future development as well.

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