IOW press release, November 4, 2015

Review of an exceptional year:
Baltic Sea status report 2014 for the first time available in English

The yearly assessment of the hydrographic-hydrochemical status of the Baltic Sea by the Leibniz Institute for Baltic Sea Research Warnemünde (IOW) is an important component of the HELCOM monitoring programme. This year, for the first time, IOW has published the report for 2014 in English as a service specifically targeted at international experts and stakeholders in the Baltic littoral states, who depend on the extensive analysis of such important core data. Especially the documentation of last year's exceptional salt water inflow events is of particular interest for the Baltic expert community.

The Baltic Sea status report 2014 looks back on an exceptional year with the highest surface water temperatures in 25 years and a number of remarkable inflow events of high-salinity oxygen-rich North Sea water after a stagnation period of more than 10 years. These inflow events are of crucial importance for the Baltic Sea ecology as they provide the only aeration mechanism of the Baltic Sea's deep central basins. Two inflow phenomena were especially noteworthy: For the first time, IOW scientists were able to detect a cumulative effect of several smaller inflows that resulted in a brief aeration period of the deep central basins, because their individual volumes – too small by themselves – added up to a total volume large enough to overcome the undersea obstacles. Furthermore, the report provides an extensive documentation of the saltwater inflow of the century in December 2014, a so-called Major Baltic Inflow (MBI), which turned out to be the third largest within the last 130 years and has – for the time being – notably improved the hydrographic-hydrochemical underwater climate of the deep Baltic Sea basins.

IOW's hydrographic-hydrochemical status assessment is based on yearly investigations on behalf of the Federal Maritime and Hydrographic Agency (BSH) as well as long-term measurements, which are part of IOW's own research programme. The assessment report provides experts with extensive analyses of water exchange processes between the North Sea and the Baltic Sea, of meteorological conditions as a major influencing factor for marine ecosystems as well as of physical and chemical key parameters such as water temperature, salinity, oxygen content, and inorganic nutrients. The study area comprises not only German coastal waters and Germany's exclusive economic zone (EEZ), but also areas in the central Baltic Sea because the conditions in these areas are of special importance for the overall situation. For their assessment of the Baltic Sea status, the IOW experts have a comprehensive data set at their disposal: It comprises measurements of five regular monitoring cruises that cover the four seasons, results of other IOW research projects as well as selected data from other research institutions in the Baltic Sea littoral states. The ship-based investigations are supplemented by continuous measurements at three autonomous stations within the German MARNET environmental monitoring network, which are positioned at the Darsser Sill, in the Arkona Basin and at the Oder Bank.

A PDF of the "Hydrographic-hydrochemical assessment of the Baltic Sea 2014" (DOI: 10.12754/msr-2015-0096) is available as a free online download at:
www.io-warnemuende.de/state-of-the-baltic-sea-2014.html

(German version: www.io-warnemuende.de/zustand-der-ostsee-2014.html).

For scientific questions regarding the Baltic Sea status report 2014, please contact:
Dr. Günther Nausch | Head of the IOW working group „General Marine Chemistry"
Tel.: +49 (0)381 5197 332 | guenther.nausch@io-warnemuende.de

Press and Public Relations at IOW:
Dr. Kristin Beck | Phone: +49 (0)381 – 5197 135 | kristin.beck@io-warnemuende.de
Dr. Barbara Hentzsch | Phone: +49 (0)381 – 5197 102 | barbara.hentzsch@io-warnemuende.de

The IOW is a member of the Leibniz Association with currently 89 research institutes and scientific infrastructure facilities. The focus of the Leibniz Institutes ranges from natural, engineering and environmental sciences to economic, social and space sciences as well as to the humanities. The institutes are jointly financed at the state and national levels. The Leibniz Institutes employ a total of 18.100 people, of whom 9.200 are scientists. The total budget of the institutes is 1.64 billion Euros. (www.leibniz-association.eu)