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The coastal zone of the Baltic Sea in the year 2100

European project AMBER started to focus on a future perspective by applying a new approach

The influence global change has on the oceans is increasingly infiltrating the public awareness. But in parallel, changes in the land use impact the marine environment. Up to now, a simultaneous consideration of both influences and their interaction is still lacking. With the new European cooperative project AMBER (Assessment and Modelling Baltic Ecosystem Response) this gap will be closed. The project will be coordinated by the Leibniz Institute for Baltic Sea Research.

Nine research institutions from Sweden, Finland, Lithuania, Poland and Germany gathered under the umbrella of AMBER to investigate the effect the coupling of climate change and changes in land use will have on the nutrient balance within the coastal zone of the Baltic Sea.

"Over-fertilization is one of the biggest problems of the Baltic Sea," reports the oceanographer Dr. Joachim Dippner, who is the scientific coordinator of AMBER. "Its ecosystem is influenced by both, climate change and modified land use in the catchment area. The basic question is, whether these effects can be identified as separated signals. If we succeed in this, we can, under the assumption of specific scenarios of climate and land use change, take a chance to look into the year 2100."

But some open questions still have to be answered first: Long-term data sets have to be analysed and selected biogeochemical transformation processes in rivers, coastal waters and groundwater still have to be measured and integrated into a coupled modelling of future projections of climate change and changes in land use. The results will be used to derive recommendations for political advice and improvement of management strategies. AMBER is financed by the BONUS programme established by the so called BONUS EEIG which joins 10 research funding organisations around the Baltic Sea. The German part of AMBER will be granted by the Federal Ministry of Education and Research.

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