

## Press Release

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### **Oceanic oxygen levels are declining** **Collaborative Research Centre 754 presents results on oxygen minimum zones**

**September 3, 2018 / Kiel.** For more than 10 years, scientists from Kiel University and the GEOMAR Helmholtz Centre for Ocean Research Kiel have been working on physical, biological and chemical processes in the tropical ocean. The Collaborative Research Centre 754 "Climate Biogeochemical Interactions in the Tropical Ocean" focuses in particular on the study of oxygen-depleted regions in the world's oceans. As part of a major international conference with more than 300 scientists from 33 countries coming to Kiel from September 3 to 7, new results will be presented and discussed.

Over the past 50 years, oxygen has decreased by two percent in the global ocean. The volume of oxygen-depleted waters, has grown more than fourfold. What are the reasons for this? What changes are to be expected in the future? What are the consequences for the marine ecosystems and the climate system? These questions, among others, will be discussed at an international conference in Kiel this week, organized by the Collaborative Research Centre 754.

"About 10 years ago, when we began to focus more intensively on the complex physical-biogeochemical relationships in the ocean, we had only very fragmentary knowledge about the oxygen minimum zones which were regarded as `boring` by many scientists," says Prof. Dr. Andreas Oschlies, spokesperson of the SFB754 from the GEOMAR Helmholtz Centre for Ocean Research Kiel. "Nevertheless, the supply of nutrients and oxygen is of vital importance, especially for the very productive areas of the world's ocean off Peru and West Africa," Oschlies continues. Due to climate change low-oxygen zones are spreading, nutrient cycles and living conditions are changing, with potentially long-range effects on the state of the ocean, the Kiel scientist states.

Not only results of the Kiel Collaborative Research Centre will be discussed at the conference. Experts from all over the world and various scientific disciplines will come together to present and discuss their latest research. "It is a challenge, comparable to putting together a big puzzle jointly with many other players," says Prof. Oschlies. He as well as his colleagues from the Kiel SFB hope that the intensive exchange with world-leading experts will provide important impulses for the final synthesis phase of the project, which ends next year.

"I am impressed by what the scientists have achieved in this major project," says Karin Prien, Minister of Education, Science and Cultural Affairs of the state of Schleswig-Holstein at the opening of the conference. "Particularly noteworthy is the interdisciplinary collaboration of researchers from various disciplines at Kiel University and GEOMAR", Prien continues. "Their results impressively show how closely interlinked the physical, chemical and biological processes in the oceans are and how they are changing," says the Minister of Science.

"There are not many places in the world where such research is possible," says GEOMAR director Prof. Dr. Peter Herzig. "Here in Kiel, we have both the technical expertise and the necessary infrastructure to deal comprehensively with such a complex topic," continues Herzig. The

Collaborative Research Centre 754, which has been funded by the German Research Foundation for more than 10 years, provides a unique opportunity to substantially advance knowledge on this topic, he emphasizes. "I congratulate the colleagues on this extremely successful project and wish the conference every success".

**Note:**

The Collaborative Research Centre 754 (SFB 754) "Climate and Biogeochemical Interactions in the Tropical Ocean" was established in January 2008 as cooperation between Kiel University and the GEOMAR Helmholtz Centre for Ocean Research Kiel. The SFB 754 investigates changes in ocean oxygen content, their potential impact on oxygen minimum zones and the consequences for the global interaction of the climate and biogeochemistry of the tropical ocean. The SFB 754 is funded by the German Research Foundation (DFG) and is in its third phase (2016-2019).

**Links:**

<https://www.sfb754.de> Collaborative Research Centre 754

<http://www.uni-kiel.de> Kiel University

<https://www.geomar.de> GEOMAR Helmholtz Centre for Ocean Research Kiel

**Images:**

At [www.geomar.de/n6062](http://www.geomar.de/n6062) images are available for download.

**Contact:**

Dr. Andreas Villwock (GEOMAR, Communication and Media), Tel.: 0431/600-2802,  
[presse@geomar.de](mailto:presse@geomar.de)