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“IT WAS VERY EXCITING IN THOSE DAYS.
WE WERE EXPLORERS.”

Marie-Tharp [1920-2006], Oceanographer

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GEOMAR Lecture Hall West [R.54] | Düsternbrooker Weg 20, 24105 Kiel

The Societal Needs for Observing and Understanding Ocean Processes at Different Scales under Global Warming



The ocean covers 71 percent of the Earth’s surface and it is perhaps the most important element for our climate system. Because of the continuous rising of GHGs, the ocean undergoes to very important changes: it is heating up by ingesting more than 90 percent of the heat surplus due to human activities, acidifying and losing oxygen as human induced pressures continue to increase. However, where these changes happen, what are their pathways in the ocean interior and how they precisely impact weather, climate and marine ecosystems are still completely open questions.

My research focuses on improving our understanding of these processes by augmenting the ocean observing and by implementing numerical simulations. Using examples of recent studies I will discuss how these two approaches are complementary in tackling a so vast, turbulent and difficult to observe element. I will also argue why augmenting ocean observations is not only key for science but also society and illustrate the way forward for ocean observations the international community is considering.