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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

Nitrogen Cycling and Fixed Nitrogen Loss in Oxygen Minimum Zones



Nitrogen limits primary production over vast areas of the global ocean, but its availability is largely controlled by loss processes that occur only under relatively unusual conditions – in water and sediments in the absence of oxygen.

The main factors that control nitrogen loss, such as oxygen concentration and organic matter supply, are well known. But how these factors regulate microbial nitrogen transformations, leading to the observed loss rates and distributions of dissolved inorganic nitrogen and nitrous oxide, is complex. I will discuss our work on nitrogen cycle processes in oxygen minimum zones of the world ocean, focusing on what we can (and cannot) learn about environmental regulation of microbial processes from nitrogen isotope tracer experiments.