



## **BIOAVAILABLE NITROGEN INPUTS IN THE NORTHERN INDIAN OCEAN**

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Bioavailable nitrogen enters into the surface ocean through river inputs, atmospheric deposition and biological nitrogen fixation. In general, river and atmospheric inputs dominate over the coastal regions, whereas nitrogen fixation has been recently recognised to be the most important source of nitrogen in the open ocean. Somewhat contrary to this general understanding, our results indicate that the coastal Arabian Sea is a hotspot of N<sub>2</sub> fixation with some of the highest rates ever recorded in the world ocean. Contribution of atmospheric deposition to new nitrogen is 3% in the open northern Indian Ocean, while riverine inputs are mostly consumed within the estuarine ecosystems before entering into the Bay of Bengal. However, low atmospheric deposition contributes significantly to N<sub>2</sub>O emissions in this region and has the potential to affect the biogeochemical cycling of the Arabian Sea and the Bay of Bengal.