

Dissolved Rare Earth Elements Along Oxygen Gradient

Graduate Student-Faculty Collaborative Initiative in
Research and Scholarship

By

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Description:

Oxygen Minimum Zones (OMZs) are large volumes of water within the ocean that have low dissolved oxygen and typically with concentrations lower than five micromoles. Oxygen levels are essential to the w oceans as they sustain many biological as well as geochemical processes. Based on many conservative climate model outputs, it is clear that global temperature will rise in the near future, which will lead to more oxygen-deficient environments in the oceans (Breitburg et al., 2018; and references therein). Intensification of OMZs is already being observed in the Gulf of Mexico and off the coast of California. These OMZs negatively affect seafloor environments and the availability of economically important species. Dissolved oxygen can ultimately determine the accumulation of organic matter on the seafloor and therefore is of interest to those assessing paleoenvironment, carbon cycling, and oil and gas industry. In this project I will be studying the behavior of Rare Earth Elements (REEs) under different dissolved oxygen environments in the ocean. REEs represent a series of 14 elements with similar chemical behavior. All have valences

Faculty Input:

1.