Reconstructing seawater oxygen concentrations using novel foraminiferal proxies

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Dissolved oxygen levels in the oceans have declined by 2% since 1960, a trend perceived to continue into the future, driven by anthopogenic climate change[1]. However, a lack of understanding of long-term changes in ocean oxygenation and its driving forces limit predictions of future change[2]. The recent development of two novel proxies, including a quantitative bottom water [3] and a semi-quantitative upper water oxygen [4] proxy, offer exciting new routes to examine the link between climate and ocean oxygenation. Here we will discuss the results of the application of a dual proxy approach to constrain changes in the upper and lower boundaries of oxygen depleted waters in the eastern tropical Pacific since the last glacial period.

[1] Schmidtko, S., et al. *Nature* **542**, 335-229 (2017).

[2] Long, M., et al. *Glob. Biogeochem. Cycles* **30**, 318-397 (2016).

[3] Hoogakker, B.A.A., et al., *Nat. Geosci.* **8**, 40-43 (2015).

[4] Lu, Z., et al. *Nat. Comm.* **7**, 11146 (2016).