

## Oxygen isotopes and climatic control of Oxfordian coral reefs (Jurassic, Tethys)

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### ABSTRACT

Stable isotope studies were carried out on shells of reef-dwelling brachiopods and oysters to evaluate the impact of climate changes on coral communities during the Oxfordian (Late Jurassic) in western Europe and northwestern Africa. Low to medium diversities observed in coral associations in the pioneering and terminal reef phases correlate well with average seawater paleotemperatures of <20.3 °C. The reef climax coincides with optimum environmental conditions, reflected by a high coral diversity and an average seawater temperature between 22 and 30 °C. The results of this study show that water temperatures set the physiological limits for the distribution of corals and coral reefs in Oxfordian time.