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Climate-driven changes in sedimentation rate influence phosphorus burial along continental margins of the northwestern Mediterranean

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Abstract

The burial of phosphorus (P) in continental margin sediments is a critical component of the marine reactive P budget, and thus an important factor in marine biological productivity.

We determined downcore records of P from a site drilled on the upper slope of the Gulf of Lions (PRGL 1), northwestern Mediterranean Sea. Changes in total P content were monitored from Marine Isotope Stage (MIS) 6 to MIS 11. In addition, in two selected intervals (248-277 ka and 306-342 ka) the total P record was expanded by adding detailed geochemical analyses of the various P fractions, including oxyhydroxide-associated P, authigenic P, detrital P and organic P.

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