



## **Linking marine and terrestrial records in the Portuguese margin and comparisons with Antarctic records 170-420 ka**

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The Portuguese margin, where the combined effects of major river systems and a narrow continental shelf lead to the rapid delivery of terrestrial material, including pollen, to the deep-sea environment, has emerged as a critical area for linking marine and terrestrial records. In the south Portuguese margin, SW of Lisbon, pollen is mainly transported to abyssal sites by the outflow of the Tagus river, while aeolian transport is limited as the dominant winds come from the northwest. We present results of foraminiferal oxygen isotope and pollen analyses from core MD01-2443 (37°52.85'N, 10°10.57'W, water depth 2925m) for the interval 170-420 thousand years ago (ka). The record reveals a close overall correspondence between temperate tree pollen percentages and planktonic isotope values, on both millennial and orbital time scales. A chronological framework is developed by aligning the benthic  $\delta^{18}\text{O}$  record to the Antarctic D/H record. This provides a detailed chronology of vegetation events and an opportunity to compare their phasing to those in greenhouse gas concentrations. The comparison draws attention to a remarkable similarity between the temperate tree pollen curve and the record of atmospheric methane.