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Palynological and sedimentological records since 8.5 ka BP on the southern Brittany platform (NW Europe): complex responses to sea-level, rapid climate and anthropogenic changes

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New results acquired in the south-Brittany shelf (core MD08-3204 CQ: Bay of Quiberon and core VK03-58bis: south-Glénan) allow depicting Holocene paleoenvironmental changes from 8.5 ka BP to present through a multi-proxy dataset including sedimentological and palynological data.

First, grain-size analyses and AMS-^{14}C dates depict a common sedimentary history for both study cores. After the post-glacial sea-level (RSL) rise and related high sedimentation rates, the parallel slowdown of the RSL rise and the drop of sedimentation rates occurred between 8.3 and 5.7 ka BP. This interval leads to the establishment of a shell-condensed level, identified in the VK03-58bis core by the "*Turritella layer*" and interpreted as a marker for the establishment of the maximum flooding surface. Palynological data (pollen grains and dinocyst assemblages) acquired in the core MD08-3204 CQ argue for an amplification of the fluvial influence since 5.9 ka BP; the establishment of the highstand system tract (i.e. estuarine-type sedimentation on the platform) then accompanying the slowdown of the RSL rise. On the shelf, the Anthropogenic Pollen Indicators (API) amplification, is detected since 4.2 ka BP, due to the fluvial influence becoming predominant in the context of the Late Holocene.

In addition, the comparison of fluvial palynological tracers, including API, over the last 7 kyrs, with coastal-marines sites subjected to northern vs. southern Loire catchment areas, allowed to discuss a major hydro-climatic effect on the reconstructed palynological signals. Strengthened subpolar gyre dynamics (SPG), combined with recurrent positive North Atlantic Oscillation (NAO) configurations, are well-known to favour increased winter precipitation and fluvial discharge in northern Europe, such as Brittany, and conversely during weakened SPG the winter fluvial

discharge is intensified over southern Europe. Interestingly, we record, at an infra-orbital timescale, major peaks of API during periods of strengthened (/weakened) SPG dynamics in sites whose catchment areas are located north (/south) of the Loire.