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Sedimentary and palynological records of mid-Holocene in Yeongsan Estuary, Southwestern Korea

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The objective of this study is to understand paleo-environmental changes during the Holocene in MW-1 and IL-2 undisturbed sediment cores from the YeongsanEstuary, using a multi-proxy approach comprising sedimentological and paleontological studies.

In middle to late Holocene palynomorph zones (MW-1 P-4 and IL-2 P-3), the palynomorph assemblages are represented by sudden increase in *Pinus* pollen and abrupt decrease in *Quercus* pollen in comparison with the earlier zones. There is also a notable rise in the amount of Gramineae and *Artemisia*. These assemblages record the onset of more unstable forest condition, and the climatic degradation and forest regression at that time can be presumed. During the deposition of MW-1 P-4 and IL-2 P-3, the climate was probably cooler and drier. Radiocarbon dates in the lower part of IL-2 P-3 (-6.543 m) indicate the deposition initiated from 4,470 ^{14}C yrBP. The increase in spores from Pteridophyta (*Laevigatosporites*, *Polypodiisporites*) and the first appearance of spores from Bryophyta (*Sphagnum*) are another features of MW-1 P-4 and IL-2 P-3. These variations are probably related to increased fluvial activities. The high freshwater input to the coring sites could have also caused the stronger water stratification, favoring the development of fine lamination with very low degree of bioturbation in the upper parts of MW-1 unit-5 and IL-2 unit-3.