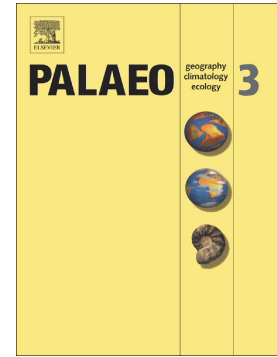


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## Holocene paleoenvironment changes in the northern Yellow Sea: evidence from alkenone-derived sea surface temperature

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### Abstract

A well-dated, high-resolution sea surface temperature (SST) record based on long chain unsaturated alkenones from a northern Yellow Sea (NYS) sediment core is present in this study. Variations in linear sedimentation rate, alkenone content and SST clearly reveal five distinct stages, consistent with changes in local sea level as well as the evolution of the Yellow Sea Warm Current (YSWC). Before 8.9 cal. kyr BP, the marine transgression might not reach to the northern part of the NYS. A shallow coastal environment was formed from 8.9 to 8.5 cal. kyr BP, with a subsequent fast transgression during 7.8 to 6.5 cal. kyr BP. After 5.8 cal. kyr BP, the NYS was dominated by a relatively constant marine environment. SST records reveal that the YSWC was likely to have started since 7.0 cal. kyr and strengthened progressively in period of 7.0-5.5 cal. kyr BP. After 5.5 cal. kyr BP, the SST elevated about 1.5°C, which correlated well to salinity changes

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