

Middle Holocene organic matter sources in the central South Yellow Sea and their relationship to the East Asian Monsoon

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Revolutionary New Method

Organic carbon isotope ($\delta^{13}\text{C}$) and organic carbon (OC) values were determined in Core YSC-1 from the central South Yellow Sea (SYS). The relative contributions of terrestrial versus marine organic matter in core sediments were estimated using a two-end-member mixing model of $\delta^{13}\text{C}$.

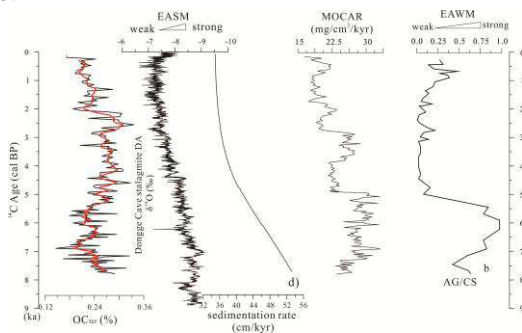


Figure: Organic matter records relation with EAM

Discussion of Results

Results show that marine organic matter has been the main sediment constituent. The variation of terrestrial organic carbon concentration is similar with the East Asian Summer Monsoon (EASM) history, suggesting terrestrial input has been mainly controlled by EASM. Generally, marine productivity is influenced by concentrations of surface nutrients in seawater. Nutrient input into SYS surface waters is controlled by the East Asian Monsoon (EAM) systems. The variability in marine productivity reflected in the marine organic carbon records in core YSC-1 is consistent with recorded variations in the East Asian Winter Monsoon (EAWM), as inferred from AG/CS ratios in HML sediments, suggesting EAWM, relative to EASM, may play a more important role to influence the marine productivity in the SYS.