



## **The Sr and Nd isotopic variations of the southern Japan Sea sediments over the past 48 ka: Implications for terrigenous sediment provenance and East Asian Monsoon**

Jianjun Zou, XueFa Shi, and Aimei Zhu

Key Laboratory of State Oceanic Administration for Marine Sedimentology and Environmental Geology, First Institute of Oceanography, Qingdao, China (zoujianjun@fio.org.cn)

$^{143}\text{Nd}/^{144}\text{Nd}$  and  $^{87}\text{Sr}/^{86}\text{Sr}$  ratios of the acid-insoluble residues of the fine-grained sediments ( $<63\mu\text{m}$ ) of core KCES1 collected from the Ulleung Basin (southern Japan Sea) were investigated. The Sr isotopic compositions of the sediments range between 0.718-0.723 with an average value of 0.72.  $\epsilon\text{Nd}$  values vary from -10.12 to -12.03 with an average value of -11.02. Temporal distributions of the Sr and Nd isotopes of the sediments showed higher Sr isotope ratios and lower Nd isotope ratios during the Holocene, increasing trends of Sr and Nd isotope ratios during the last deglaciation and relatively stable Sr and Nd isotope ratios during the last glacial periods. The downcore variations in Sr and Nd isotopic compositions indicate climatically induced changes in sediment provenance from two isotopically distinct end-members: Yangtze River and Chinese Loess Plateau. Sediments deposited after 8 ka were supplied mainly from the Yang River, while before 8 ka the eolian input contributed much to the sediments. The rapid change in sediment source is closely related to the evolution of East Asian Monsoon and sea level.

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