

Mineral Dust deposition to the Western Arabian Sea: Marine sediment records

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The seasonal reversal of the Southwest(SW) and Northeast (NE) monsoon winds influences the Arabian sea(AS). The monsoon systems in this region play a significant role in transporting the aeolian dust to the AS. The western AS is characterised by high dust deposition by prevailing winds, and riverine input is negligible. During the SW monsoon, a large amount of dust from the Arabian peninsula is deposited in the AS. In contrast, SW Asia (Iran, Afghanistan, Pakistan, and Western India) is the primary source during the NE monsoon. The marine sediments in the western AS can be used to reconstruct the varying dust sources, paleo monsoon pattern and intensity. Clay mineral assemblages, major element, and isotopic (Sr/Nd) ratios of terrigenous fraction from the core SK-324/08 collected from west of Owen ridge located in the continental margin of Oman have been analysed to understand the influence of sediment sources in paleo-monsoon conditions for the last 35K years. Here we will discuss the downcore variation of clay mineralogy and elemental and isotopic(Sr/Nd) ratios to decipher the sediment sources and make an attempt to reconstruct the paleo monsoon pattern and intensity.