

## **ELEMENTAL AND ISOTOPIC CONSTRAINS OF STRONTIUM (SR) AND NEODYMIUM (ND) FROM CONTINENT TO OCEAN: A COMPILATION REVIEW**

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### **Abstract**

The concentrations and isotopic compositions of Strontium (Sr) and Neodymium (Nd) in rock, river water (dissolved as well as suspended particulates) and bed sediment are compiled across various regions of the World. The study reveals that the isotopic compositions of Sr and Nd remains inversely correlated with each other in bed sediments as well as river water, and reflects the geochemical relationship with their source crustal rocks. Nd having oceanic residence time in the similar order of average global circulation and Sr with several million years of residence time, proves these isotope's importance as source and global circulation tracers. Nd is more radiogenic than Sr in Pacific continental margin, whereas the scenario is just opposite i.e. across the continental margins of Atlantic and Indian Oceans Sr is more radiogenic than Nd. Heterogeneous results are observed for European and Australian continental margins. The results enable to understand the important role played by these isotopic tracers in the study of source and global circulation, making them important materials for mass balance of the oceans by shedding light on its source and evolution.

*Keywords:* Sr and Nd isotopes, weathering, rocks, sediments, suspended matter.