Consiglio Nazionale delle Ricerche

ISMAR

ISTITUTO DI SCIENZE MARINE
Sede Territoriale (U.O.S.) di Bologna
Via Gobetti, 101
40129 Bologna

CICLO DI SEMINARI

Lunedi' 21 Gennaio 2019

Sala riunioni terzo piano - ore 15:00
Via Gobetti 101, Bologna

Novel applications of fossil-bound δ15N, from the Cenozoic to the Anthropocene

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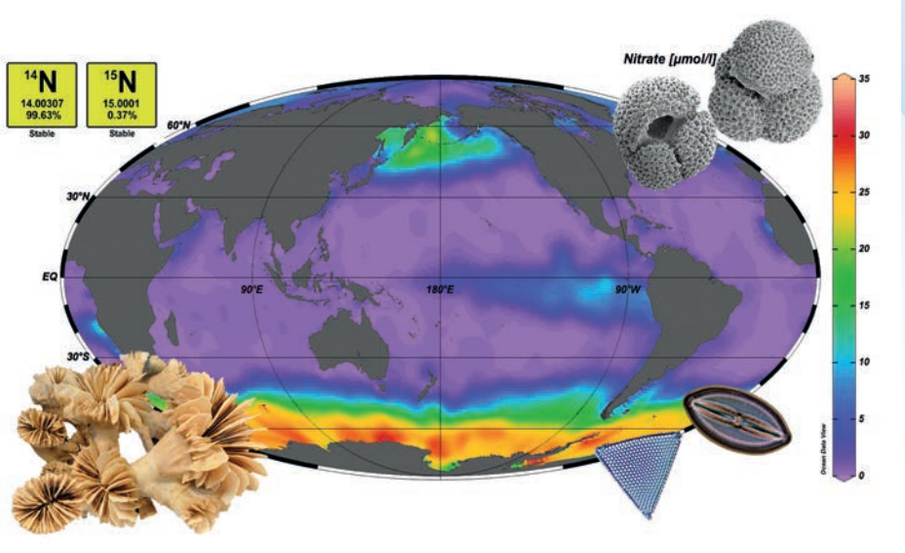

Nitrogen (N) isotope ratios (15N/14N, δ15N) of the organic matter encased in the skeletal organic matrix of different fossil types such as foraminifera, diatoms and corals (i.e., fossil-bound δ15N) are free of diagenetic effects and contamination by allochthonous N. Therefore, they represent a robust tracer of past changes in the N cycle, including variations in the sources and sinks of marine N as well as its cycling within the ocean. Here, we present novel applications of this proxy with three case studies from different oceanic settings, fossil types and time scales: (I) the mechanisms driving atmospheric pCO2 changes during Pleistocene ice ages, (II) the development of the Antarctic Circumpolar Current and associated changes in ocean biogeochemical dynamics around the Eocene-Oligocene transition, (III) the Paleocene-Eocene Thermal Maximum and (IV) and the vast acceleration of the nitrogen cycle by human activities during the Anthropocene.