BITMAP

THE ROLE OF TRACE METALS IN THE MARINE ECOSYSTEM DURING THEIR PARTICULATE PHASE

For some forty years, oceanographers have been studying trace metals. In some regions insufficient concentrations of trace metals inhibit primary production in marine ecosystems and control their features. Until very recently, studies mainly focused on these trace metals in their dissolved phase, as it was argued that this was when they were most accessible to phytoplankton. It is only in the past decade or so that studies have turned to the role of trace metals in their particulate phase.

Given the climate change currently occurring, many researchers are refining methods which seek to improve the biological pump, thus increasing carbon absorption by the oceans and slowing global warming. One highly controversial solution would be to seed iron into the ocean to stimulate phytoplankton production. Studying the biogeochemical cycles of trace metals in detail is essential to help confirm the validity of such ambitious methods.

The BITMAP project proposes to assess the bioavailability of trace metals in marine particulates. It will focus on key elements, including aluminium, manganese, iron, cobalt, copper, zinc, cadmium, phosphorous and barium.

BITMAP will study the origin, size and distribution of these particulate trace metals.

This project will provide a better understanding of the link between trace metals and the productivity of marine ecosystems. The research will therefore be very useful to the international scientific community, environmental and public bodies.

Partner

Research center

Laboratoire des sciences de l'Environnement MARin (CNRS-LEMAR) IUEM, Brest [Project Developer]

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