

Nutrient Release from Sediment in the Changjiang Estuary

Mary-Hélène Noël

*Marine Laboratory, National Institute for Environmental Studies, 16-2 Onogawa,
Tsukuba, 305-0053 Japan
Tel +81-298-50 2440 Fax +81-298-50 2584 e-mail: noel@nies.go.jp*

Abstract

Modifications in the Changjiang River supply, land use changes, and industrial development in the catchment area are expected when China's Three Gorges Dam is completed. Changes in nutrient supplies may influence primary production and the ability of the environment to biodegrade pollutants. To forecast the ecosystem's response to the new conditions, it is essential to understand the processes and exchanges of nutrients at the sediment–water interface.

The sediment appears to be in continuous interaction with the water column in the Changjiang estuary. Processes involved in nutrient transfer are reversible and quick, and differ with season and sediment type. The release of phosphorus from the sediment to the water column is highlighted by both direct sampling measurement and bottle experiments. These preliminary results can be used in the modelling of this ecosystem.