

## **Determining the Sediment Budget of the Lower Hudson River**

*Frank Nitsche and Tim Kenna (Lamont Doherty Earth Observatory)  
Rodrigo Prugue (Florida State University)*

Sediment is a major component of the Hudson River, constantly being resuspended and deposited. Unfortunately, determining a sediment budget has never been done before because of its extreme difficulty and degree of practicality. Research about the river bottom first began with the Hudson River Benthic Mapping Project (HRBMP) that was funded by the New York State Department of Environmental Conservation (NYSDEC) and worked in conjunction with researchers at Lamont Doherty Earth Observatory, State University of New York-Stony Brook, and Queens College.

Acoustic data and sediment sampling were done to identify depositional patterns. Previous interns who used this data were assigned quadrants, which broke up the Lower Hudson River to make it more feasible to determine sediment distribution. This study attempts to compile all previously obtained data and determine the sediment budget for the Lower Hudson River that begins at the Troy Dam and ends in the Manhattan Harbor. Obtaining a sediment budget is of significant importance for management, preservation, and restoration of the river. After thorough analysis and scrutiny, we determined the sediment budget (including water content) to be ~35,000,000 cubic meters. Even though there were several constraints involved in this project, it is still a useful outcome that planners can use to make better decisions when working on the Hudson River.