

**TRACE METAL DISTRIBUTION IN CORE SEDIMENTS AND PORE WATER  
FROM KALLONI BAY, LESVOS, GREECE.**

**M.O. ANGELIDIS<sup>1</sup>, A. GAVRIIL<sup>1</sup>, and M. ALOUPI<sup>2</sup>**

Department of Environmental Studies, University of the Aegean, Karantoni 17, 81100,  
GREECE

Department of Marine Science, University of the Aegean, Sappous 5, 81100, GREECE

**ABSTRACT**

In this paper the preliminary results of trace metals analyses in sediment and pore water in cores from Kalloni bay in Lesvos are presented. The results of the determinations reveal that total metal concentrations differ among the sampling stations, especially for Fe, Mn and Ni. These differences are attributed to the terrigenous origin of sediment constituents transported to the northeastern part of the bay by streams that drain areas with different geological background. Vertical distributions of Cu, Pb and Zn, metals related to human activities, don't show any anthropogenic disturbance. The main feature of metal concentrations in pore water is high values of Mn in the first topmost centimeter and of Fe further below, indicating the absence of oxic layer in the sediments near the streams mouths, whereas a thin (< 2 cm) oxic layer is recorded in the core collected from the central part of the bay. Profiles of Cu, Ni, and Zn concentrations in pore water show that diagenetic processes causing metal mobilization of metals from the sediment toward the dissolved phase differ among the sampling stations.