Date: **November 4th, 2005**

Time: **11:00 AM**

Location: **Maryland Hall 110**

Speaker: **Dr. Peter Traykovski**
Woods Hole Oceanographic Institution
Applied Ocean Physics and Engineering Dept.

Title: **"Observations of Wave-induced gravity flows of fluid mud on Po prodelta, Italy and Eel River shelf, Northern California"**

Abstract

Observations on the prodelta of the Po River, Italy and the continental shelf offshore of the Eel River, Northern California have revealed a previously undocumented process for cross-shore sediment transport of recently delivered sediment from a riverine source. These observations have shown that wave-support gravity flows of fluid mud can be an important cross-shelf sediment transport mechanism. These flows are unlike conventional "self-supporting" turbidity currents described previously in the literature in that these flows can occur on low angle slopes where the turbulence from wave energy is required to maintain the sediment in suspension. The thickness of the flows is proportional to the wave boundary layer thickness and the concentration within the layer also appears to be related to wave stresses. The flows are typically initiated in shallow waters where wave stresses are high and where there is often a source of riverine sediment during periods of high discharge. The mud flows down-slope with a velocity determined by a frictional balance due to bottom and interfacial drag, until it reaches a depth where wave stresses are insufficient to maintain the suspension. Thus the deposition patterns due to these types of flows is well constrained by the available wave energy and sediment supply.