CALFED Science Program Brown Bag

The REPEAT Project: Using the Peat Archive to Determine Accretion, Subsidence, and Anthropogenic Change in the Delta

12:00 p.m., March 5, 2008
CALFED Delta Room
650 Capitol Mall, 5th floor
Sacramento, CA 95814

Dr. Judy Drexler, Dr. Charles Alpers (USGS), and Dr. Steven Deverel (Hydrofocus Inc.)

In the REPEAT Project, we are using the peat archive to understand marsh formation in the Sacramento-San Joaquin Delta and the changes that have occurred in the peat throughout the Delta's ~7000-year history. The main objectives of the project are to: (1) quantify historic rates and estimate future rates of peat accretion, (2) determine how climate and geomorphological processes have controlled peat formation, and (3) assess how peat soils have changed subsequent to reclamation of the Delta for agriculture. In order to address these goals, we are using age determination methods (^{14}C, ^{137}Cs, and ^{210}Pb), analysis of physical characteristics of peat, the pollen record, magnetic properties of peat, analysis of major and trace elements, and predictive modeling. In this presentation, we will focus on subsidence and other anthropogenic impacts on Delta peat soils, peat geochemistry, and the historic rates and future estimates of peat accretion in Delta marshes.

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