The Delta Science Program, Ecosystem Restoration Program & Surface Water Ambient Monitoring Program Jointly Present a Brown Bag Seminar Series

The Delta Carbon Cycle – Quantify, Manage, & Trade

Exploring Methane and Carbon Dioxide Exchange from Agricultural and Wetland Land Uses in the Sacramento-San Joaquin Delta

Dennis Baldocchi
Professor of Biometeorology
UC Berkeley

Tuesday April 29, 2014
12:00 – 1:00 p.m.

Location: Pagoda Building
429 'J' Street
Sacramento, CA 95814

Do varying Delta land uses emit carbon differently?

Draining Delta land for agricultural purposes over the last 150 years has resulted in the oxidation of peat soils, causing subsidence of Delta islands and the emission of stored carbon primarily in the form of carbon dioxide (CO_2). Changing land use from current agricultural practices to the production of rice (a crop grown under submerged conditions) and/or restoring wetland habitats provides a potential solution that could arrest or reverse subsidence by limiting oxidization and accumulating carbon. Interest in implementing these land uses widely across the Delta is increasing. Questions remain, however, about the effects of different land uses on carbon emission rates: Is carbon stored and/or emitted at different rates? Do the type (CO_2, methane [CH_4], etc.) and quantity of greenhouse gas emissions change?

Since 2007, CO_2 and CH_4 fluxes, greenhouse gases of varying global warming potentials, have been measured over managed and restored lands (pasture, rice, corn, alfalfa, restored wetlands) in the Delta by the Berkeley Biometeorology Lab, with the goal of understanding the processes that control carbon sequestration and loss. This presentation will discuss the role of different land uses on site carbon balance and explore potential tradeoffs associated with land use change in the Delta.

Contact: Garrett Liles at (916) 445 – 5694 or garrett.liles@deltacouncil.ca.gov
for WebEx access information or other questions.