Nitrate Dynamics in an Estuary
Case study: Elkhorn slough


Polluted runoff is thought to be a primary threat to the health of the delicate ecosystem of Elkhorn Slough (Monterey Bay, California). Growing population and agricultural areas are potentially a large source of that runoff. You were hired by the Elkhorn Slough Foundation to evaluate nitrate concentrations and identify sources, pathways, and processes that are likely to affect nitrogen concentrations in the estuary. Your report will help the Elkhorn Slough Foundation to develop a management program to address nitrogen source pollution, and to determine the allocation of funds for the maintenance (and possible expansion) of the current real time sensor system.

To your aid are background literature and data collected by an array of moorings located throughout the slough (see attached map; data will be provided to you in class).

Prior to next class (April, 1) you are asked to:
1. Read the article assigned to you and write a short summary of the key points presented in the article (including a description of the methods).
2. Make yourself familiar with the area by visiting: http://www.nerrs.noaa.gov/ElkhornSlough/welcome.html
   (Please read the introduction and the cultural history page)
3. Make yourself familiar with the map of the area and the location of moorings (two maps): http://www.mbari.org/lobo/network.htm

In preparation for your investigation, use the reading material and your general knowledge in Oceanography to address the followings:
- Define a problem to be investigated
- Describe the study area
- Hypothesis what processes may affect nitrate concentrations and transport in the estuary