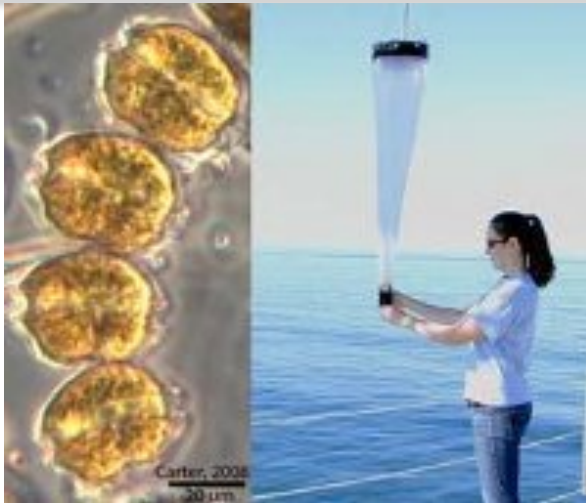


# SCCOOS Harmful Algal Blooms

- Pier Sampling
- Glider Mapping
- Modeling
- Remote sensing
- Online data

# Pier Sampling



- **CalPoly Pier (CP-SLO)**
- **Goleta Pier (UCSB)**
- **Stearns Wharf (UCSB)**
- **Santa Monica Pier (UCLA)**
- **Newport Pier (USC)**
- **Scripps Pier (SIO)**

## Harmful Algae & Red Tide Regional Map

[Map View](#) [About](#) [HAB News](#) [What Are HABs?](#) [HAB Species](#)

Follow the links above to learn more about harmful algal blooms (HABs), HAB species, and collection procedures. Click a station on the map below to view data on potential harmful algal species and water conditions at regional stations.

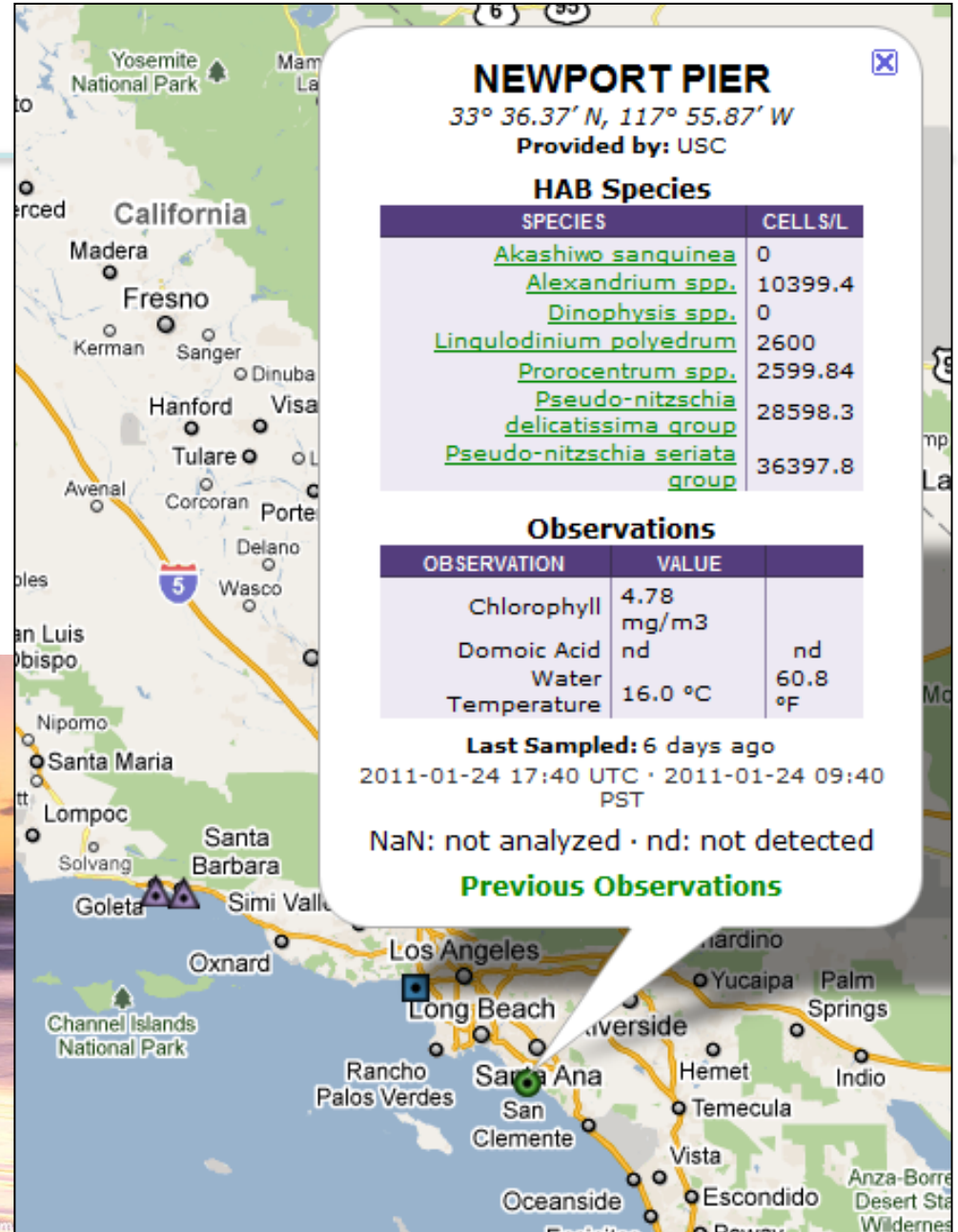
[click for Full Page View](#)



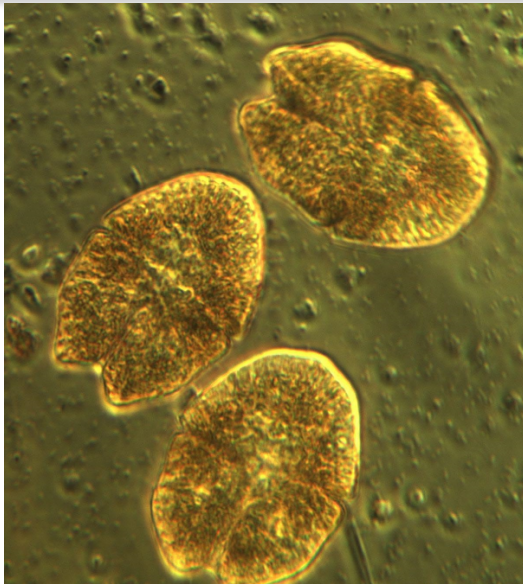


# Measurements

- HAB Species
- Chlorophyll
- Domoic Acid
- Water Temperature

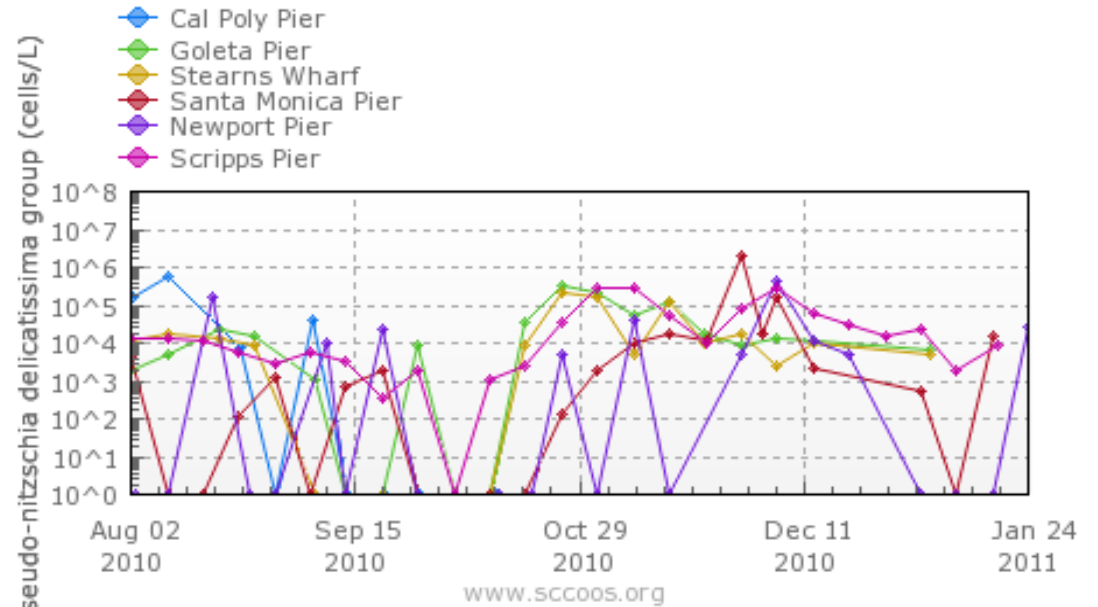


# Plotting Variables



*Akashiwo sanguinea* Mazzillo, 2006

## Harmful Algal Blooms Pseudo-nitzschia delicatissima group Dat



Select variable to plot:

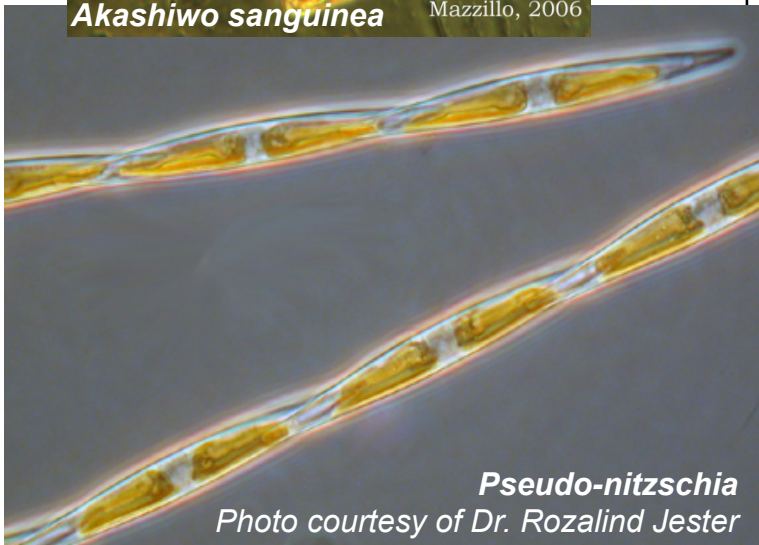
Plot starts at:

Plot ends at:

PDT - Pacific Daylight Time (UTC-7) Summer (Apr-Oct)

PST - Pacific Standard Time (UTC-8) Winter (Nov-Mar)

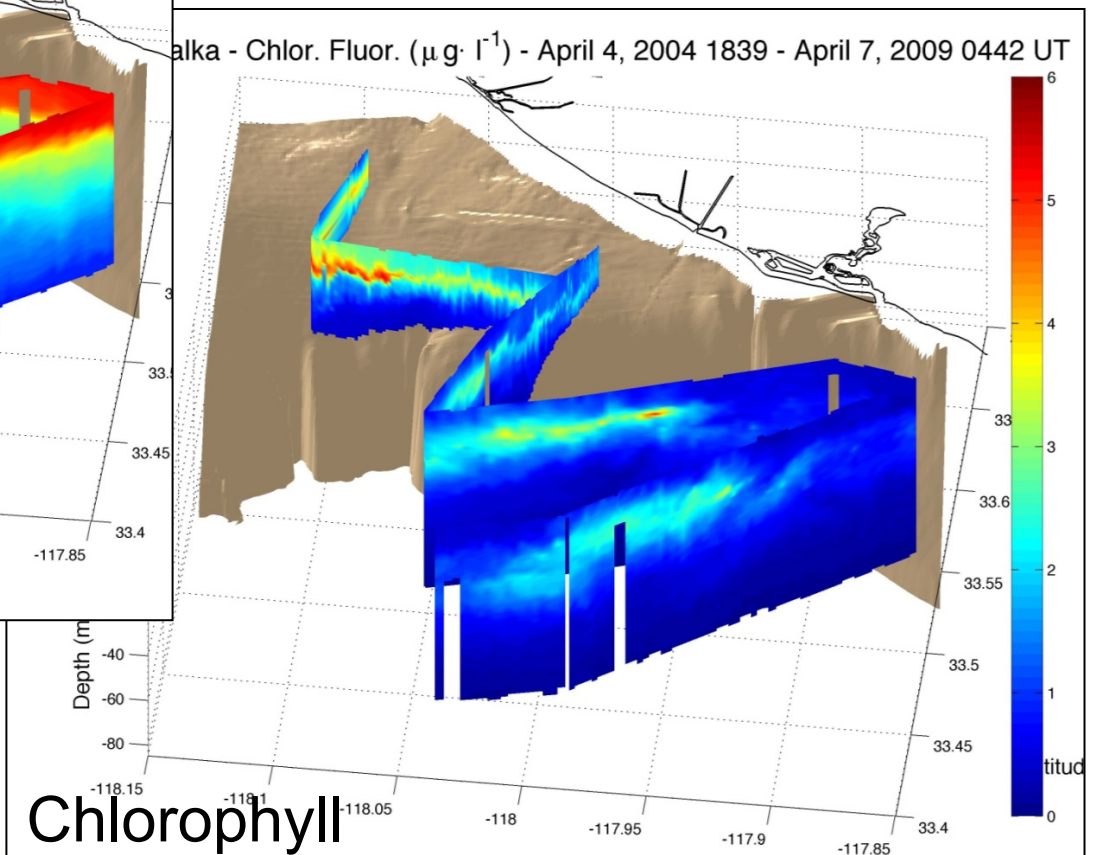
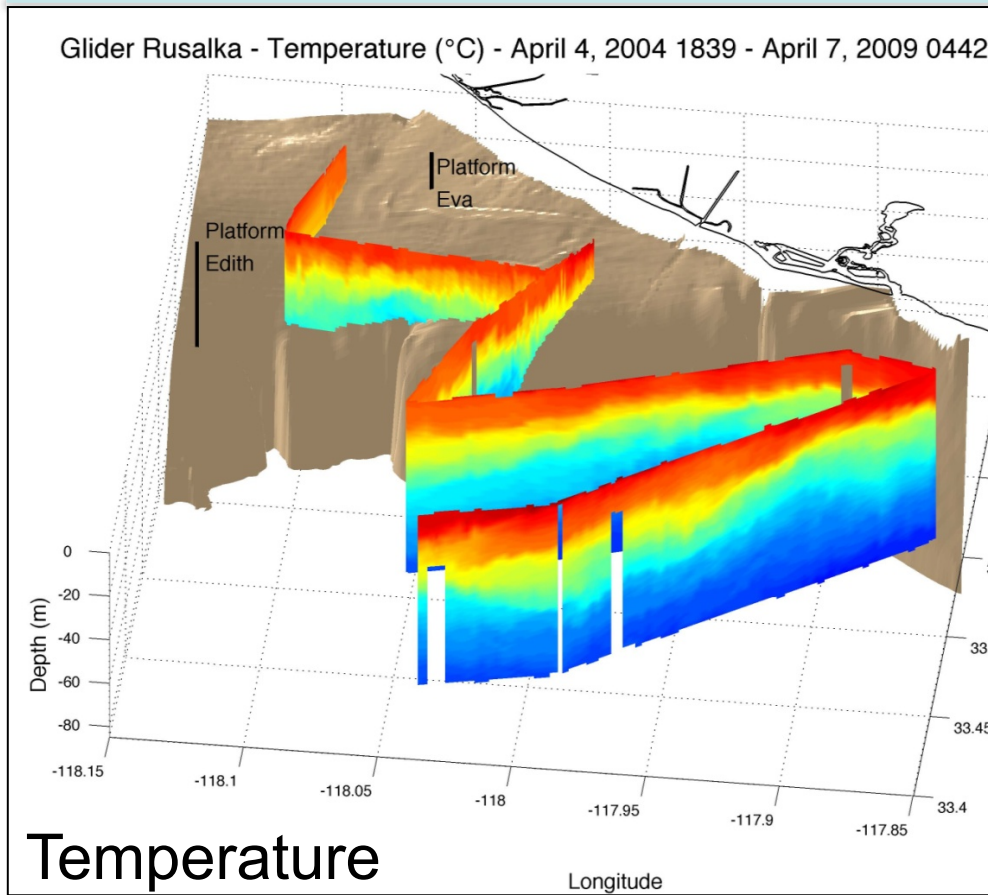
[more information](#)



*Pseudo-nitzschia*  
Photo courtesy of Dr. Rozalind Jester



# Glider Mapping



# Hitch-hiking barnacles



Analysis of barnacle tissue showed extremely high levels of domoic acid – the glider had flown through a toxic bloom



# Summary

- Completed more than two years of sampling (July 2008)
- Glider supplemented during Spring 2009 & 2010
- SCCOOS HABs online since June 2009
  - Additional pier sites can be added to provide regional, statewide, or west coast coverage
- Early detection and reporting of domoic acid event in spring 2009 & 2010 (California HABMAP)
- Collaboration with CeNCOOS
- SCCOOS supporting regional study of HABs and nutrient fluxes – Bight '08 (2010) Water Quality project