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(Seattle, Wash.)

May 1st, 3:30 PM - 5:00 PM

Zooplankton Monitoring in the Eelgrass Dominated Padilla Bay: A baseline for Examining Future Changes.

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Zooplankton Monitoring in the Eelgrass Dominated Padilla Bay: A Baseline for Examining Future Changes

Nicole Burnett

Padilla Bay National Estuarine Research Reserve



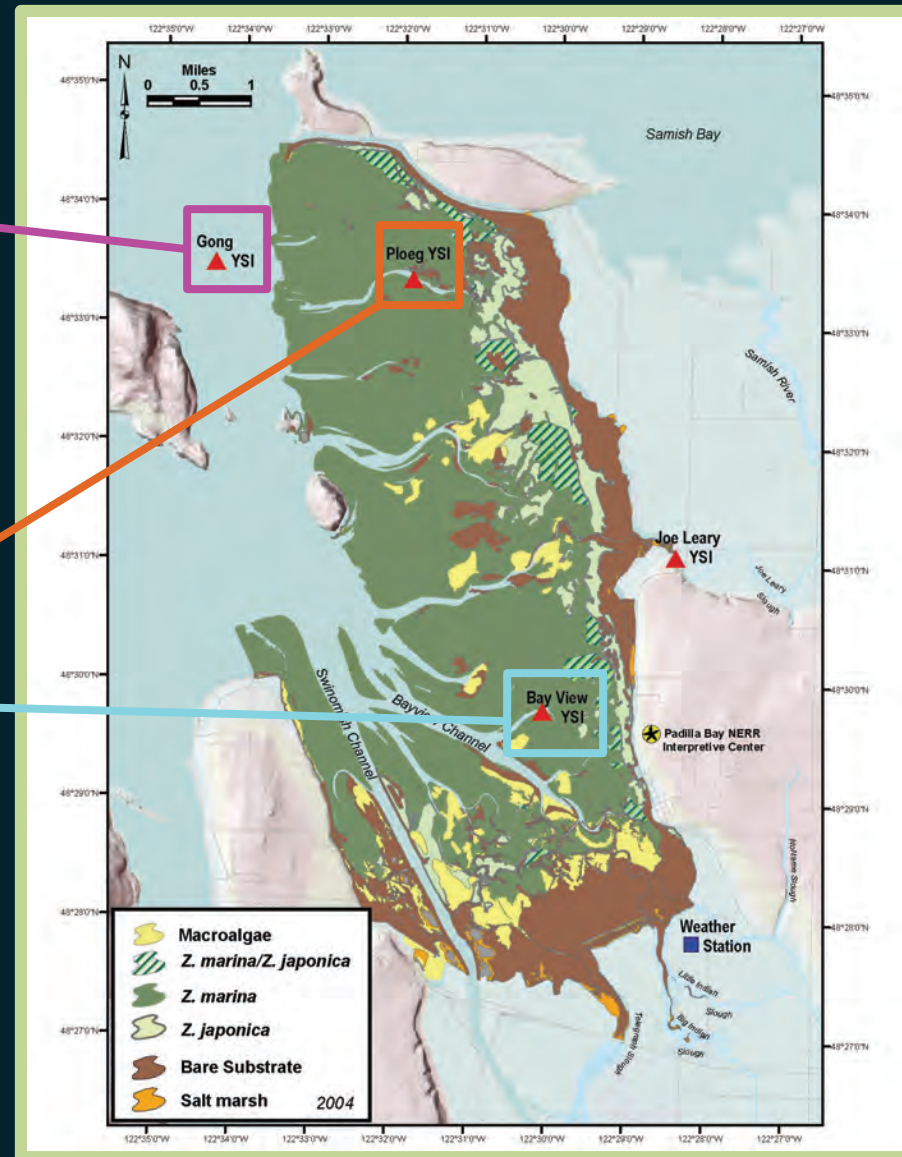
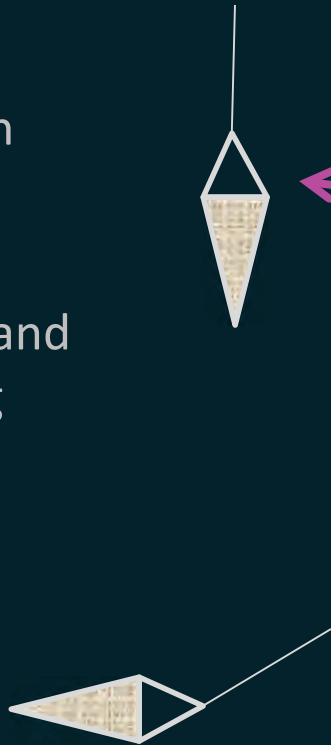
Padilla Bay

- Approx. 8000 acre eelgrass bed
 - 1 of the largest contiguous eelgrass beds in North America
 - *Zostera marina* and *japonica*
- Shallow bay
 - 12 ft tidal range
 - Most of the bay is exposed at low tide



Zooplankton Monitoring

- Limited previous zooplankton work in Padilla Bay
- Compliments long term water quality and nutrient monitoring
- Serve as baseline
- Started mid 2007
- Once a month at 3 sites
- 153 μm mesh
- Identified to broad categories

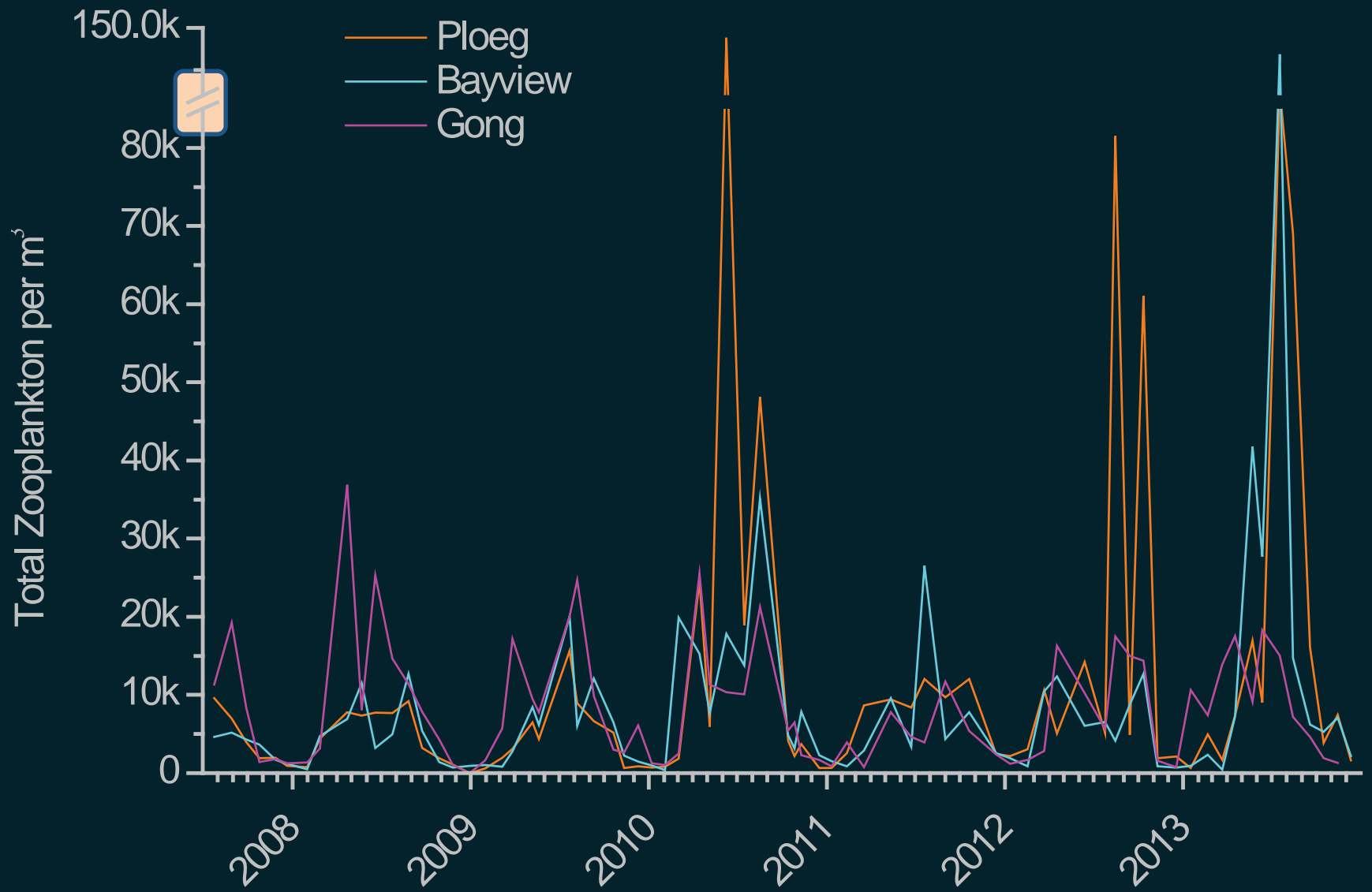


Data Analysis

- COPEPODite
 - Interactive Time-series Explorer module of the COPEPOD global plankton database project
- Online plankton time-series visualization toolkit
- Plankton, water quality and nutrient data

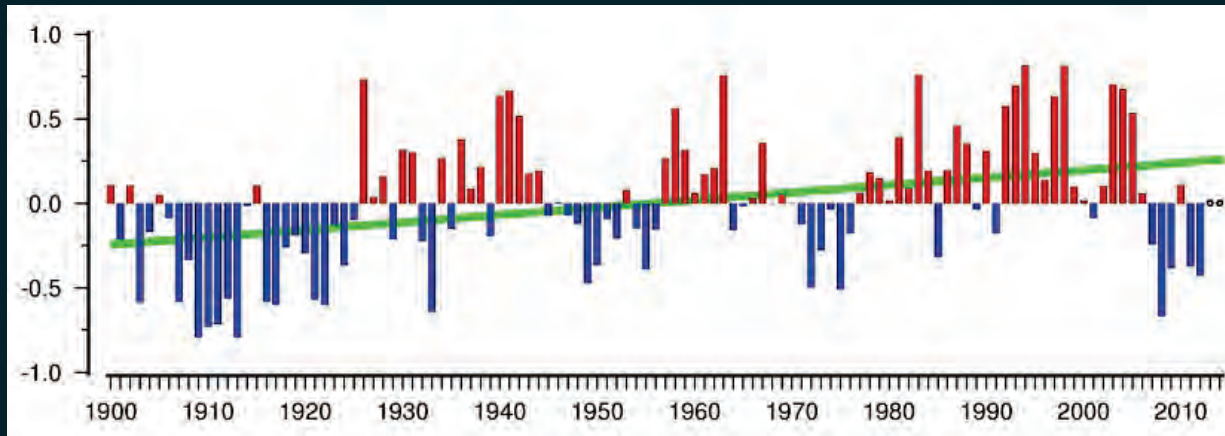


Total Zooplankton

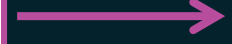
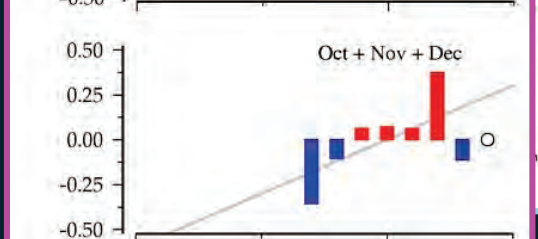
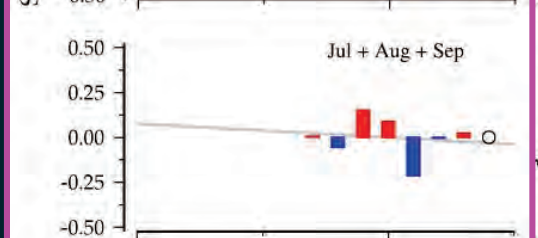
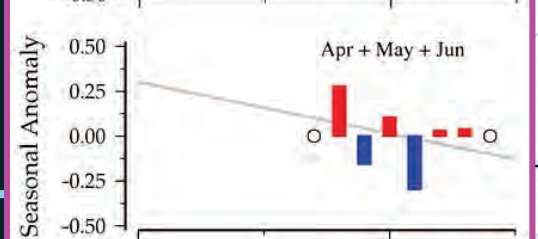
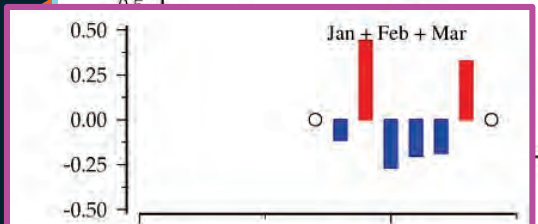
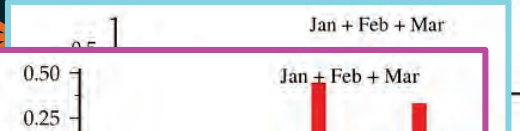
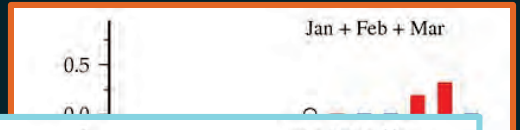
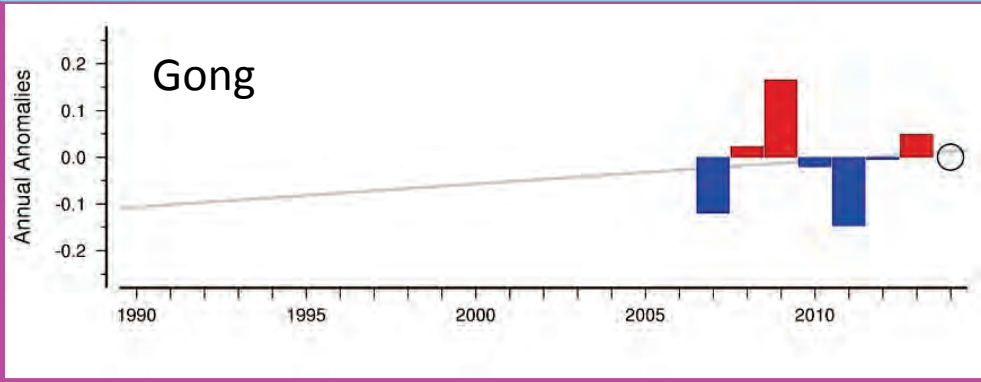
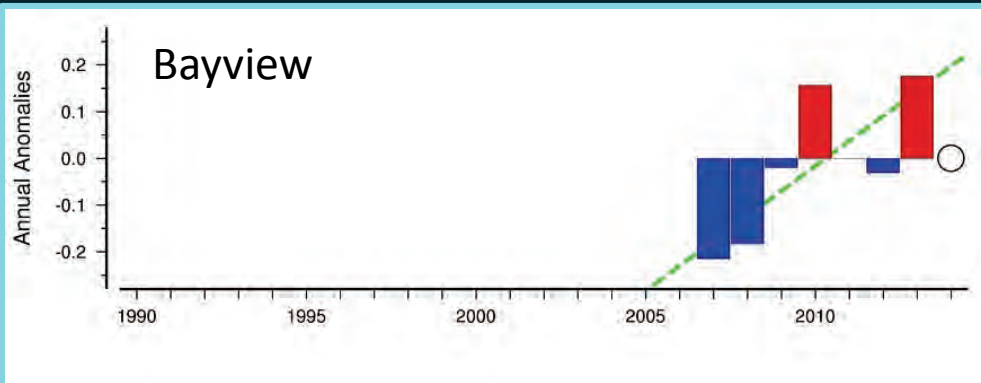
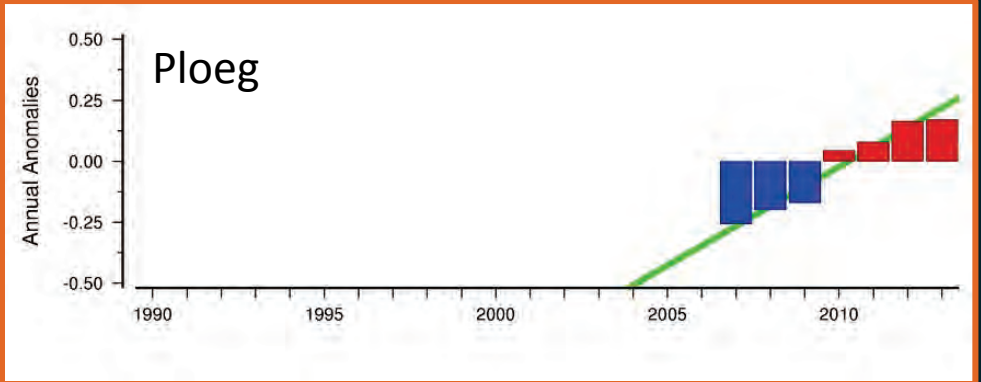


Data Analysis

- COPEPODite



Total Zooplankton



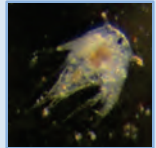
Plankton ID Categories



- Copepods



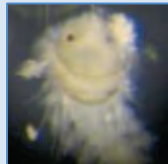
- Crabs



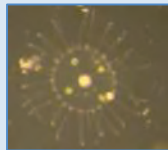
- Barnacles



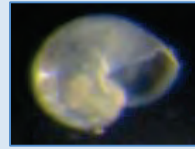
- Other Arthropods



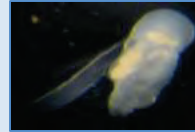
- Annelids



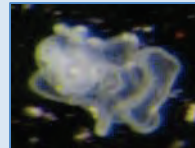
- Gelatinous



- Mollusks



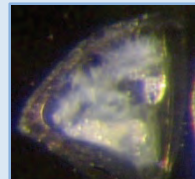
- Larvaceans



- Echinoderms

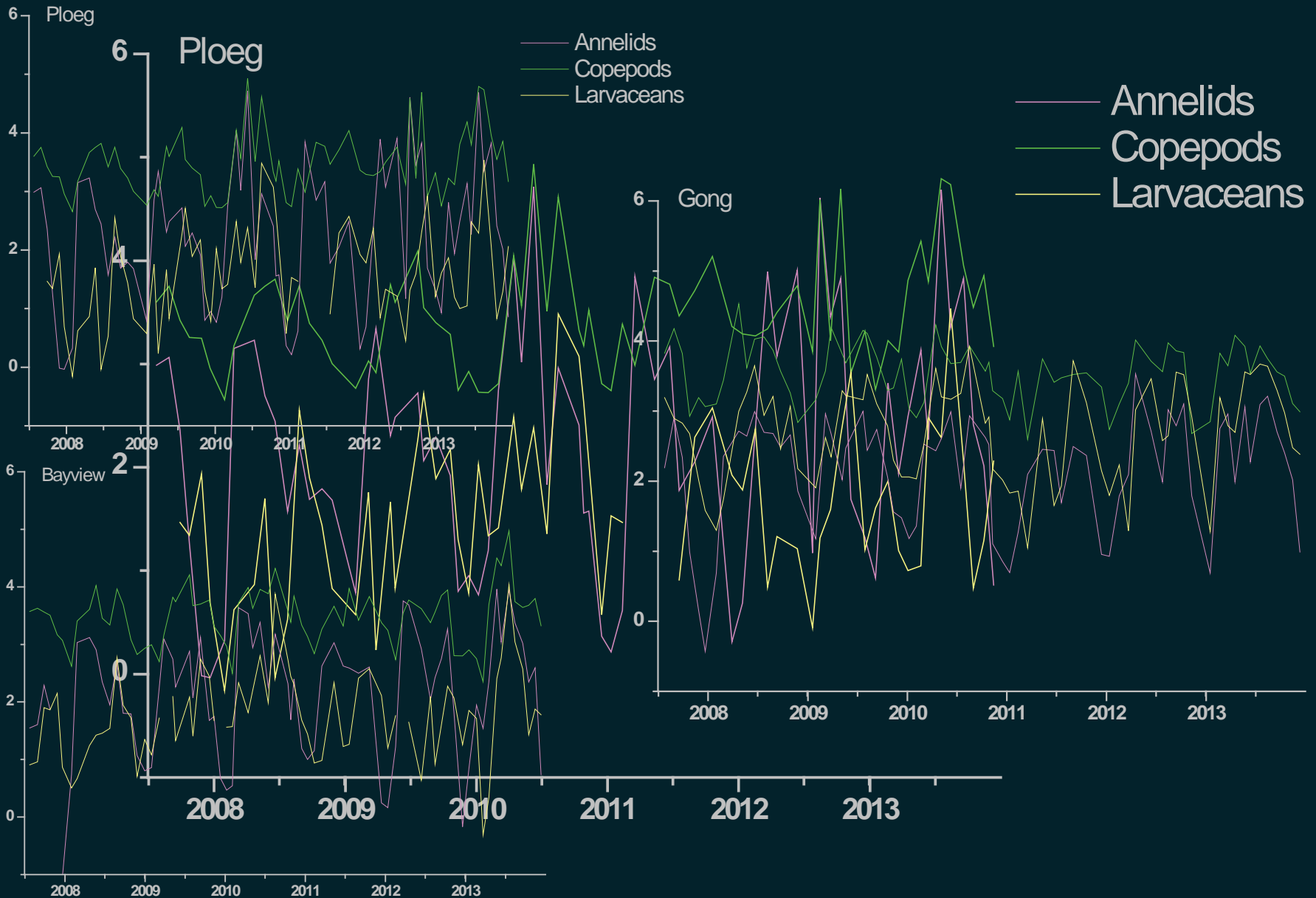


- Chaetognaths

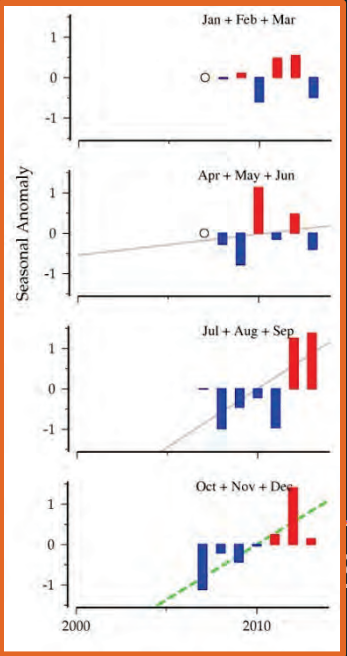
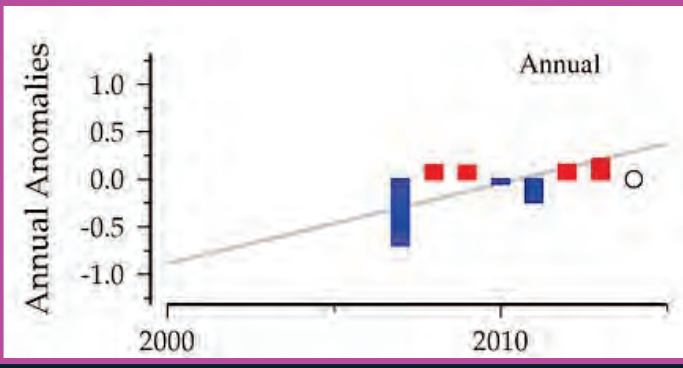
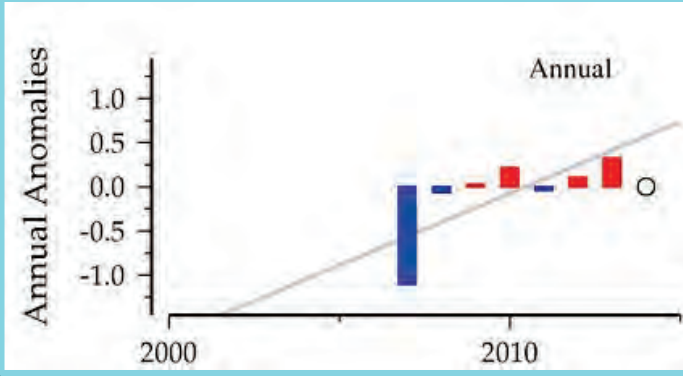
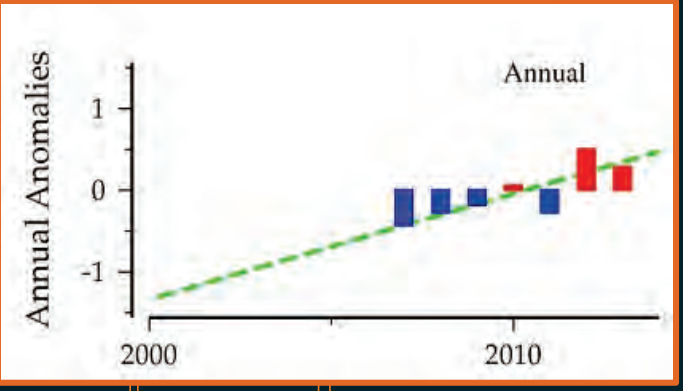
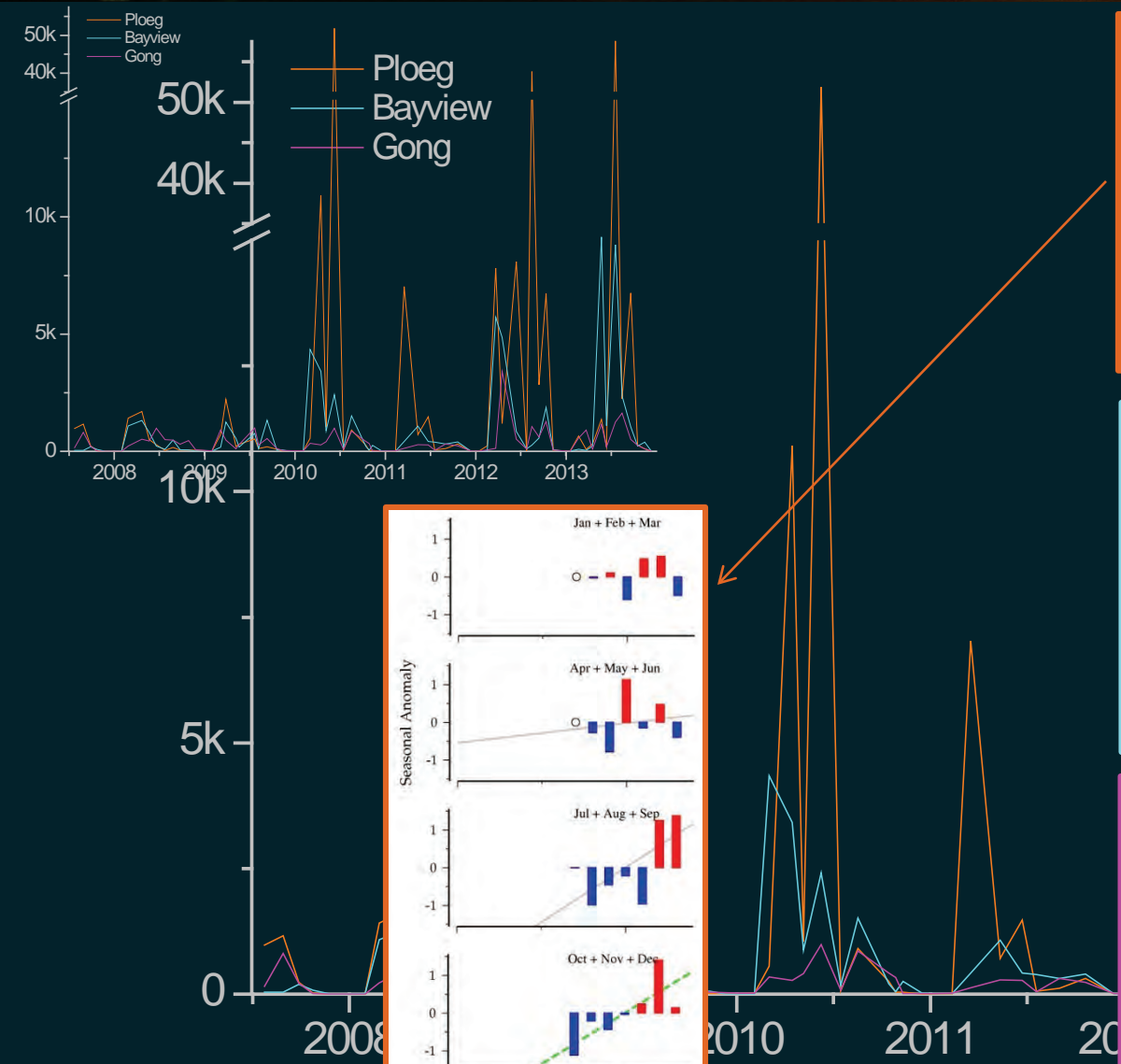


- Unknown

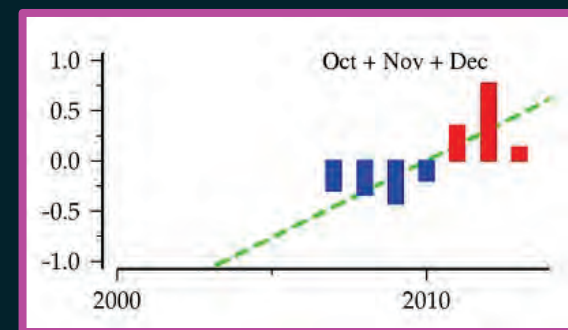
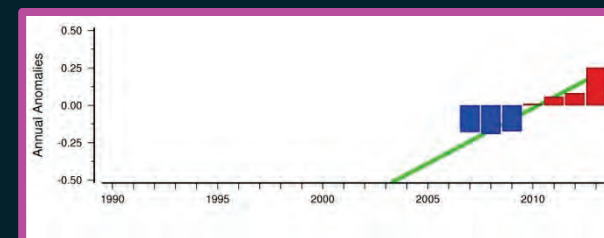
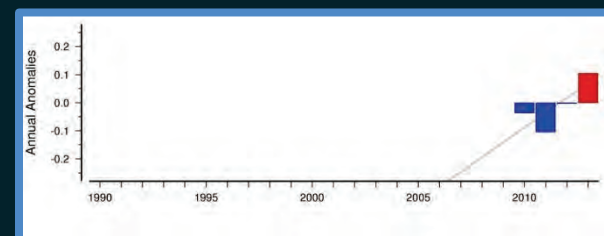
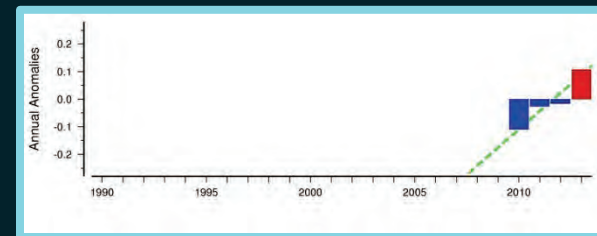
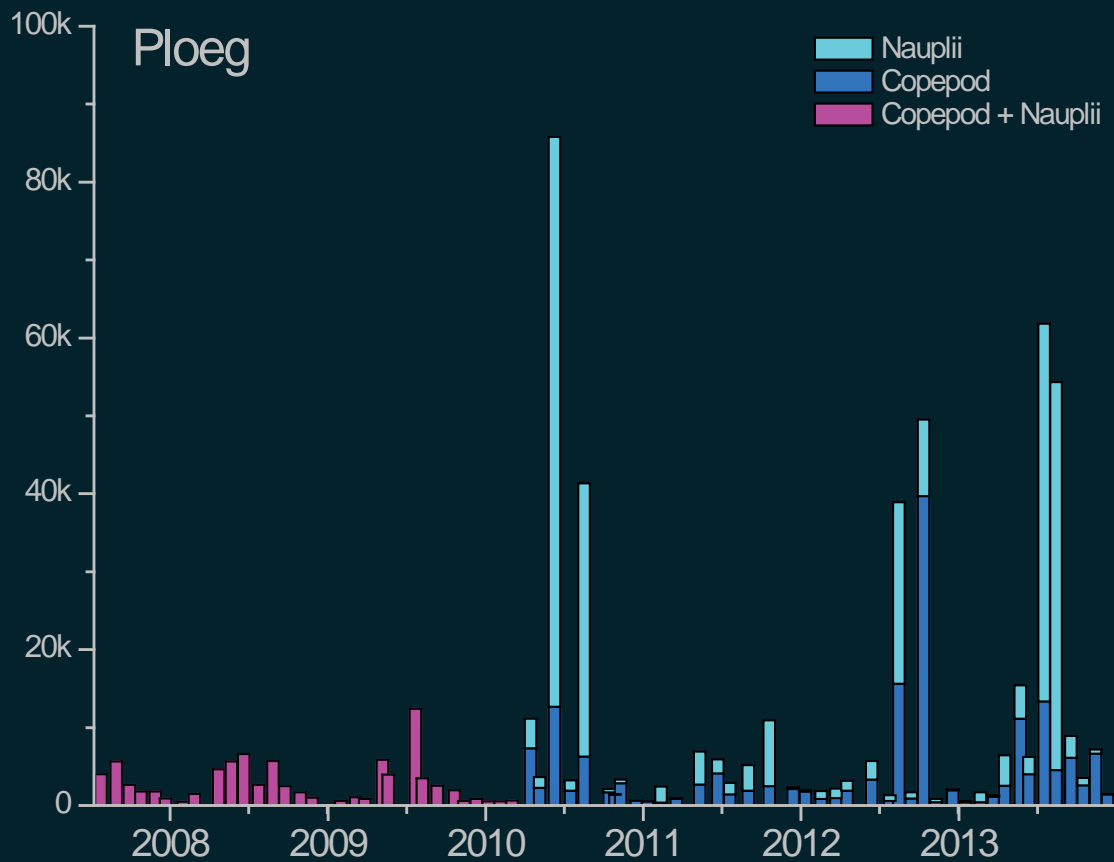
Dominant Plankton Categories



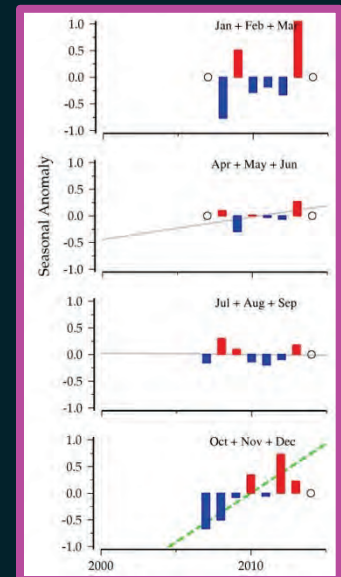
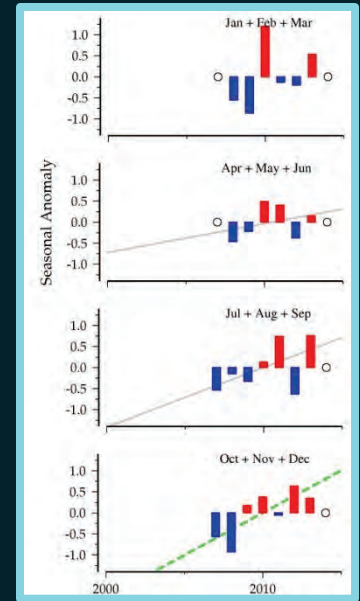
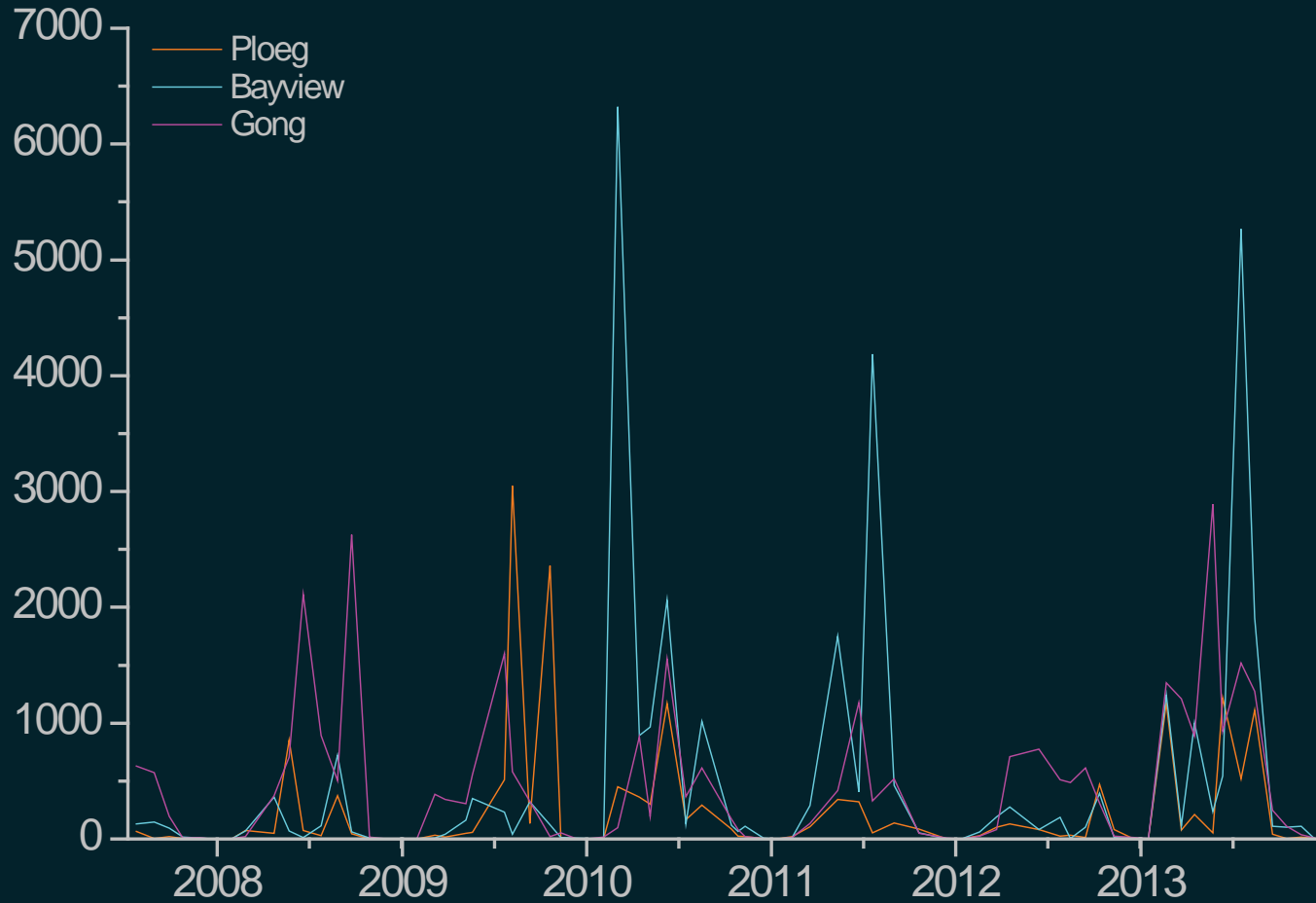
Annelid



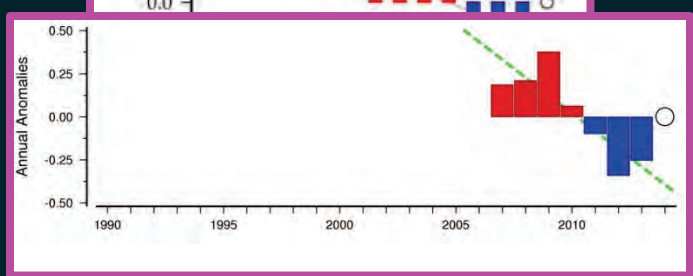
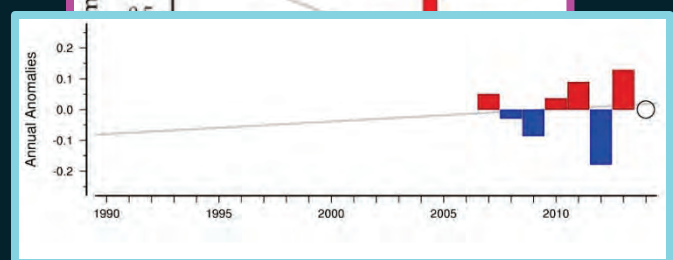
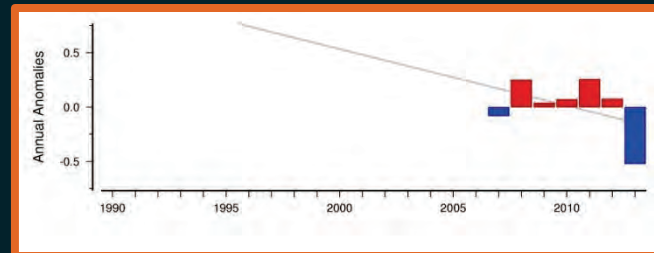
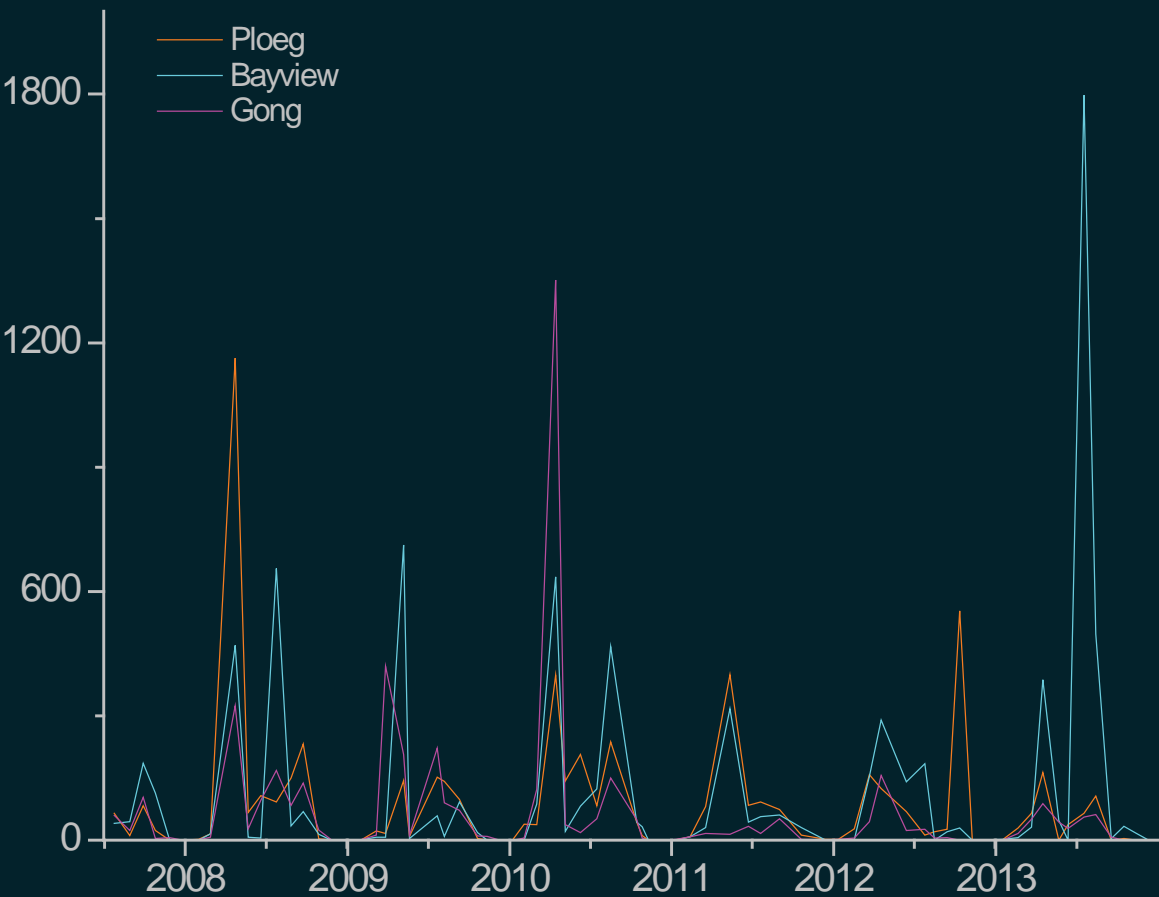
Copepods



Barnacles

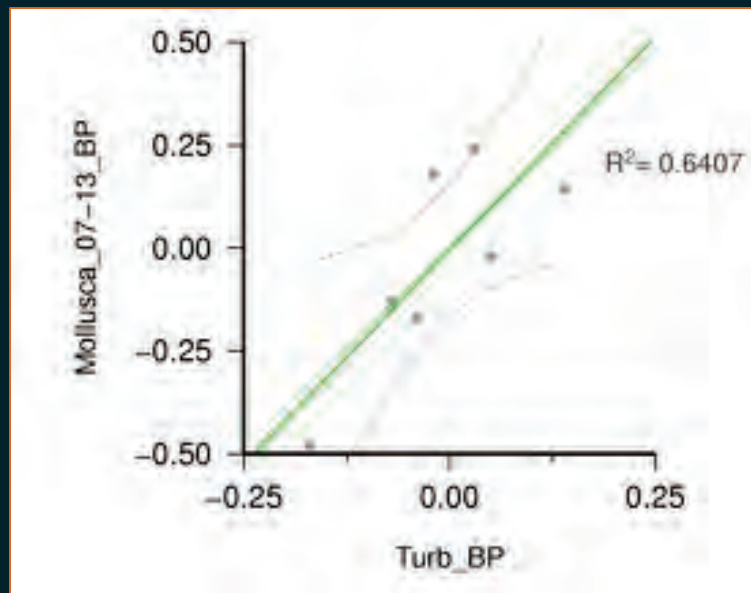


Crab Larvae

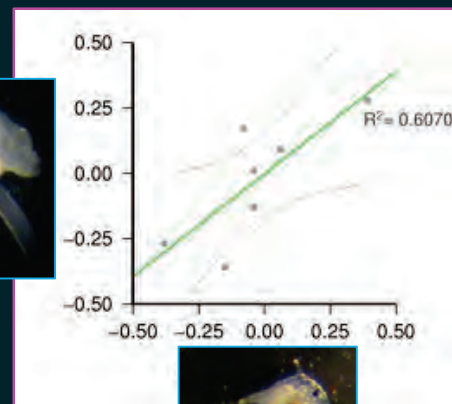
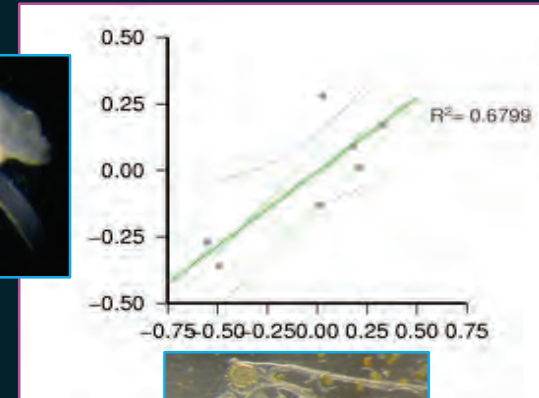
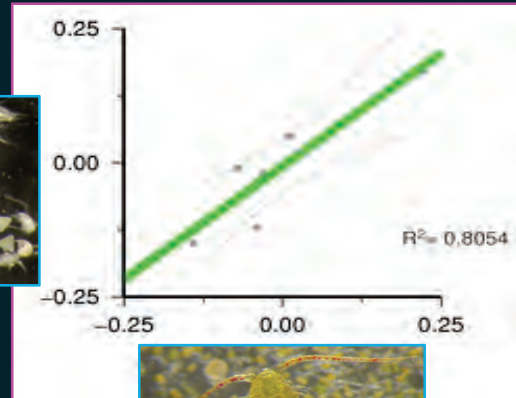


Data Analysis

- COPEPODite



Zooplankton Relationships



Shallow Eelgrass Sites

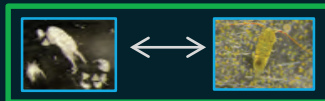
- Total zooplankton has significantly increased since 2007
- Copepods and annelids are the dominant groups
 - vary year to year in which groups blooms and intensity of the bloom

Deep Water Site

- Increasing trend of zooplankton but not significant
- Copepods and Larvaceans are the dominant groups
 - Little variation in annual pattern

Comparison

- Few consistencies or among sites

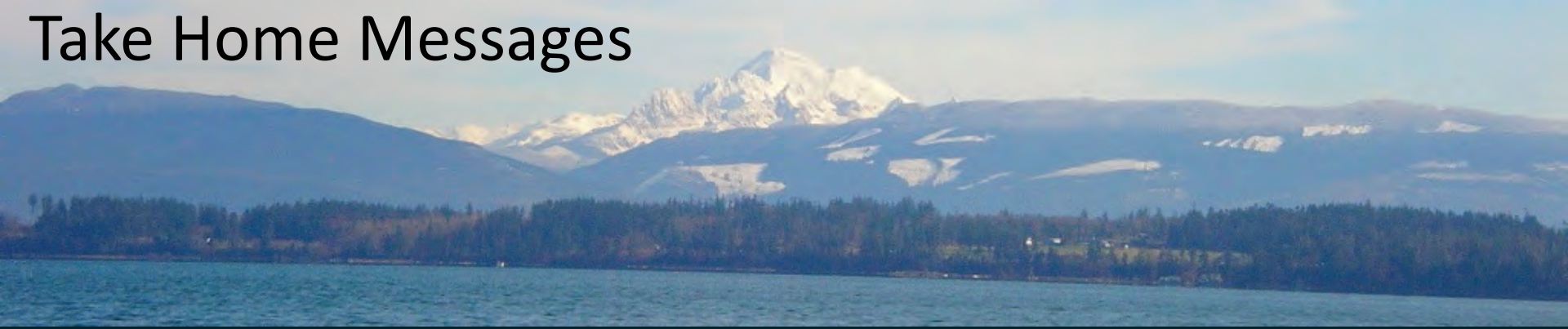


- Inconclusive results



- Limited availability and nutrient data

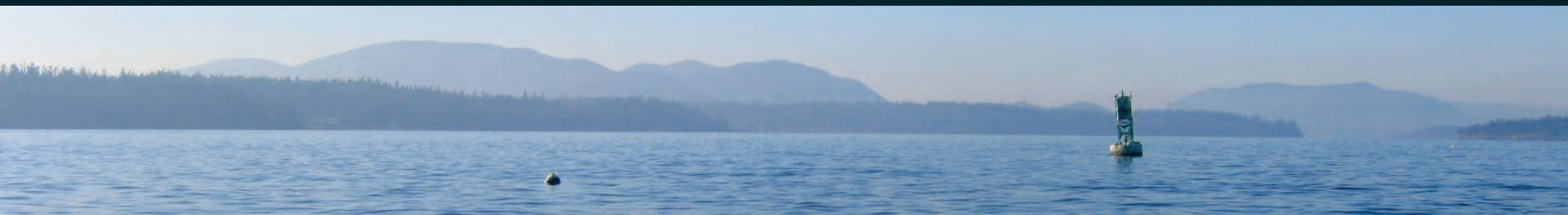
Take Home Messages



-COPEPOdite is a great tool for analysis

-Longer time-scale to pick up trends with abiotic factors

-Even with broad categories and limited resources community trends can be detected



NATIONAL ESTUARINE RESEARCH RESERVE SYSTEM

Centralized Data Management Office <http://cdmo.baruch.sc.edu/>



<http://www.st.nmfs.noaa.gov/copepodite/>

<http://copepodite.org/>

Thank You!

