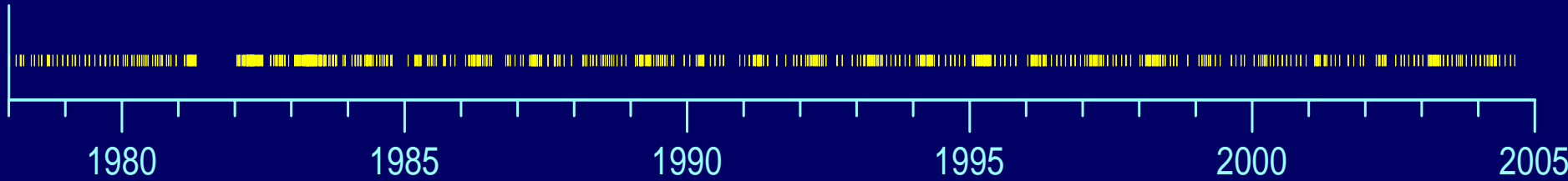




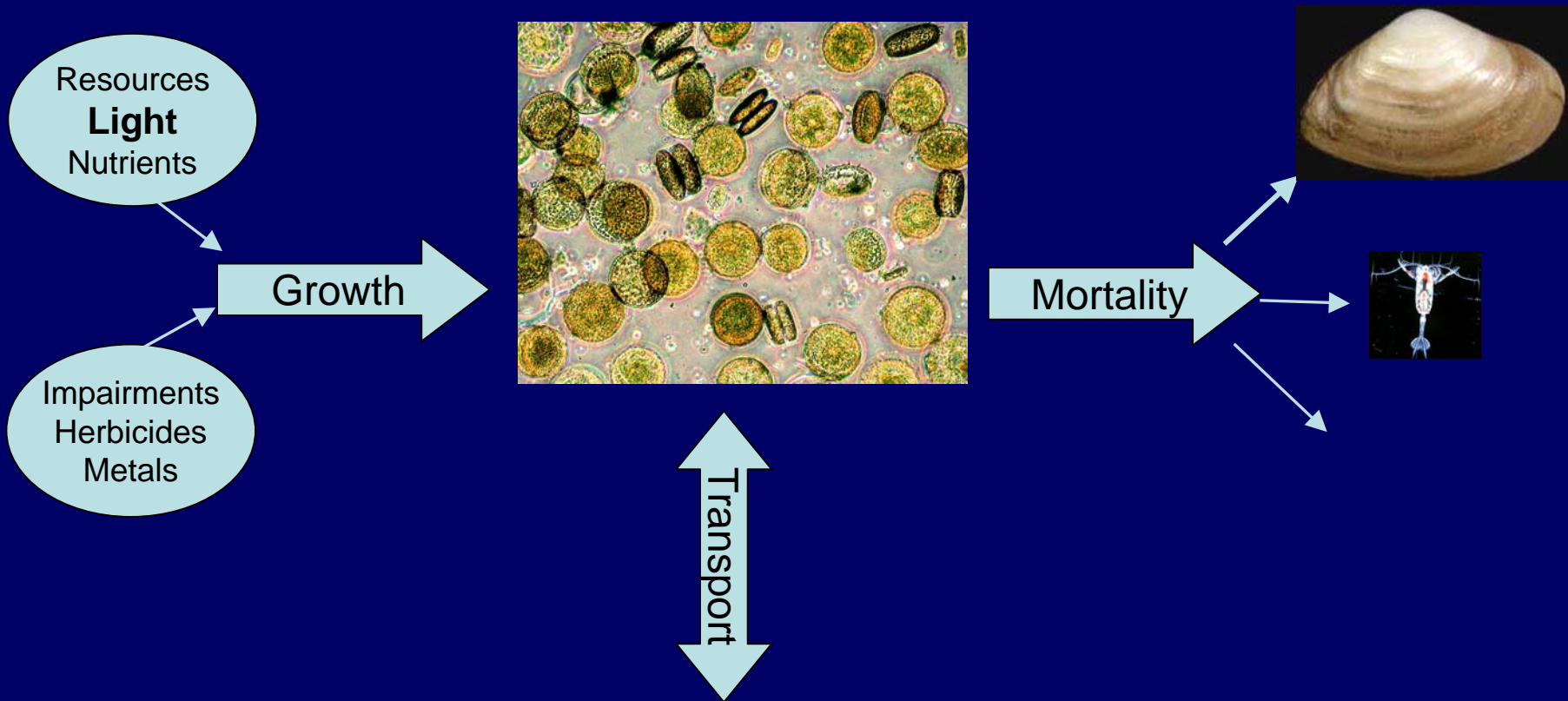
Salinity
Temperature
Turbidity
Dissolved Oxygen
Chlorophyll



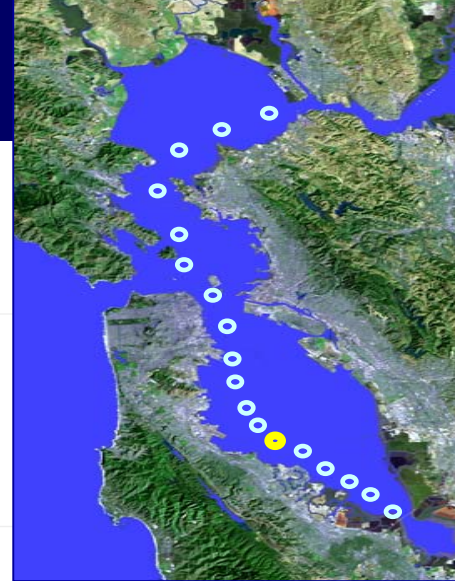
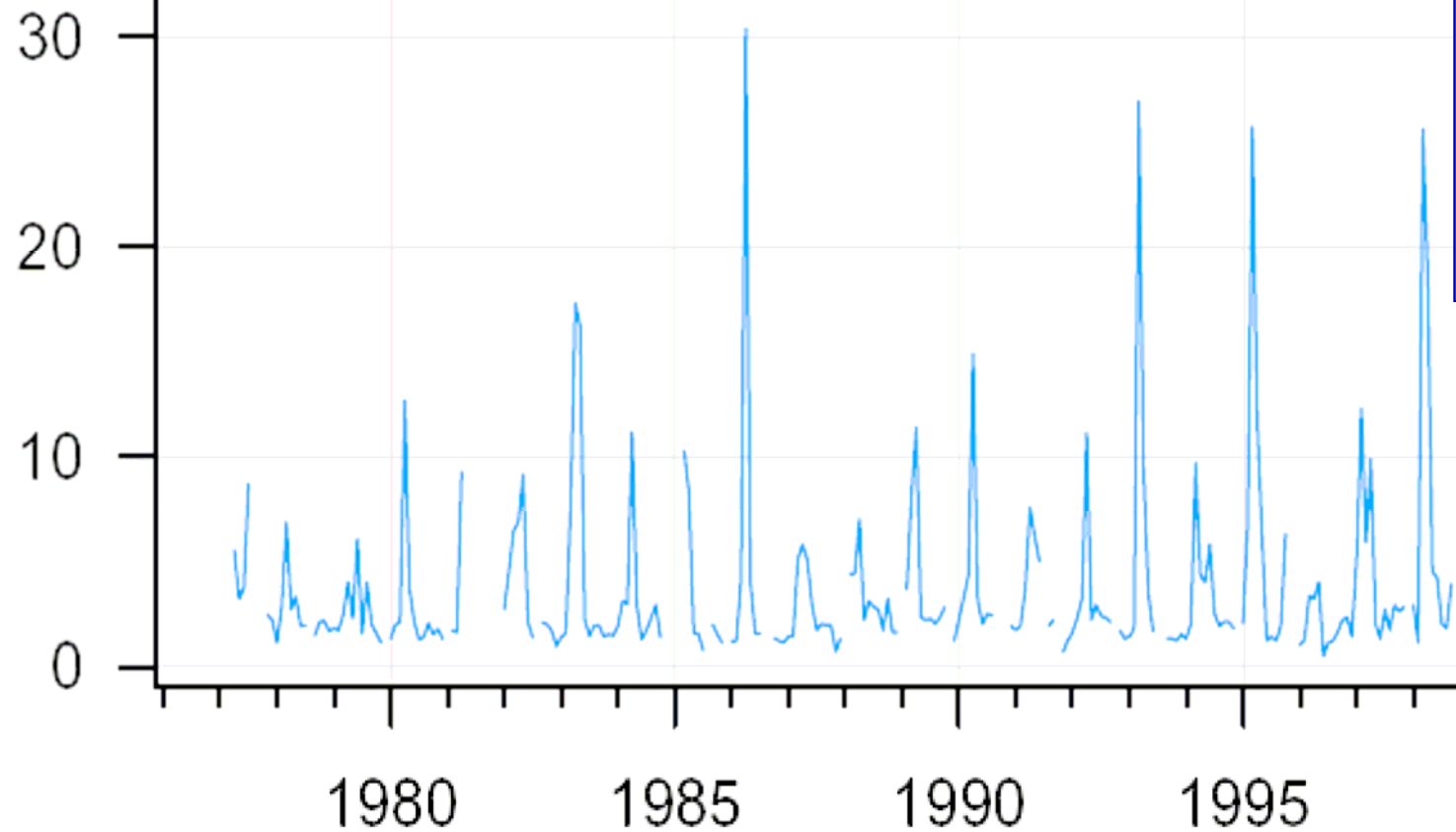
www.sfbay.wr.usgs.gov/access/wqdata



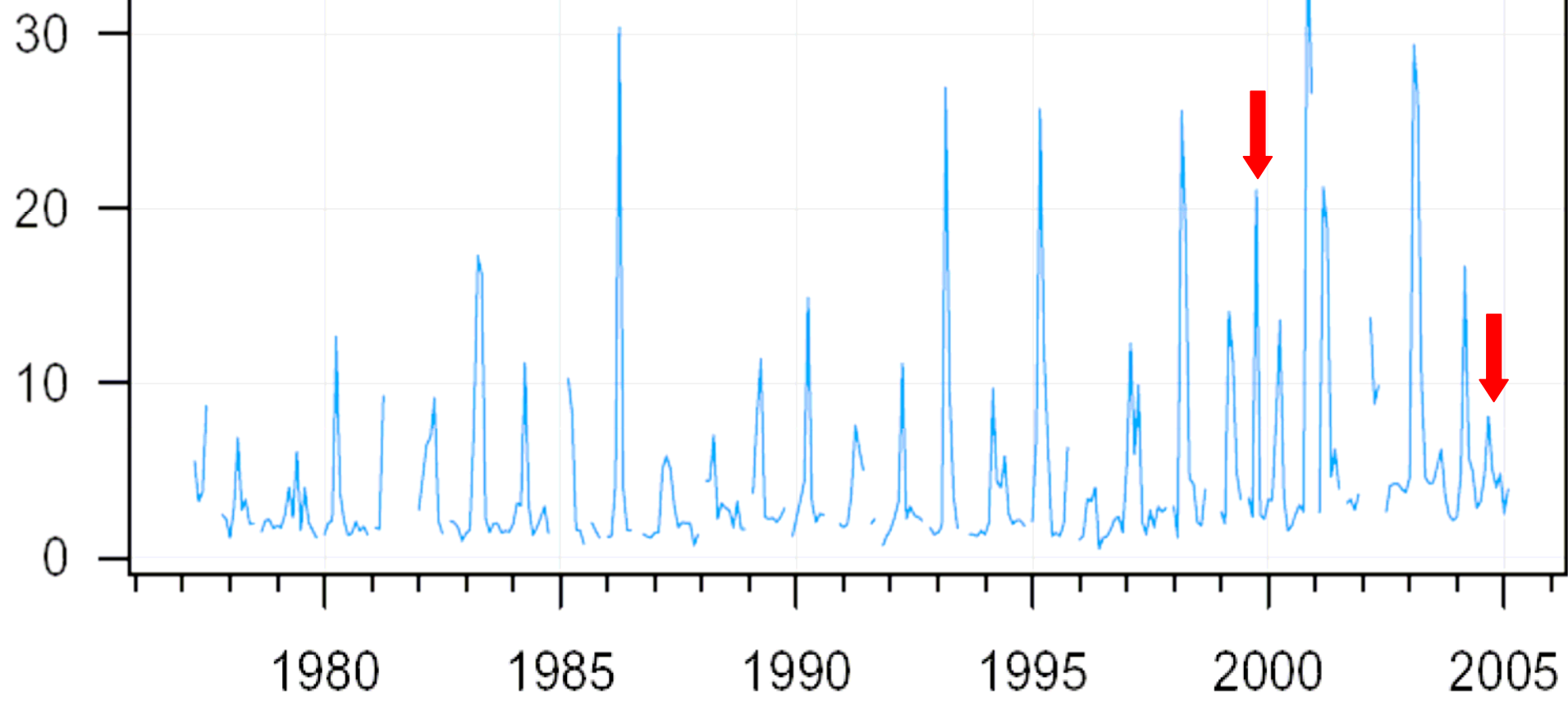
Conceptual Model

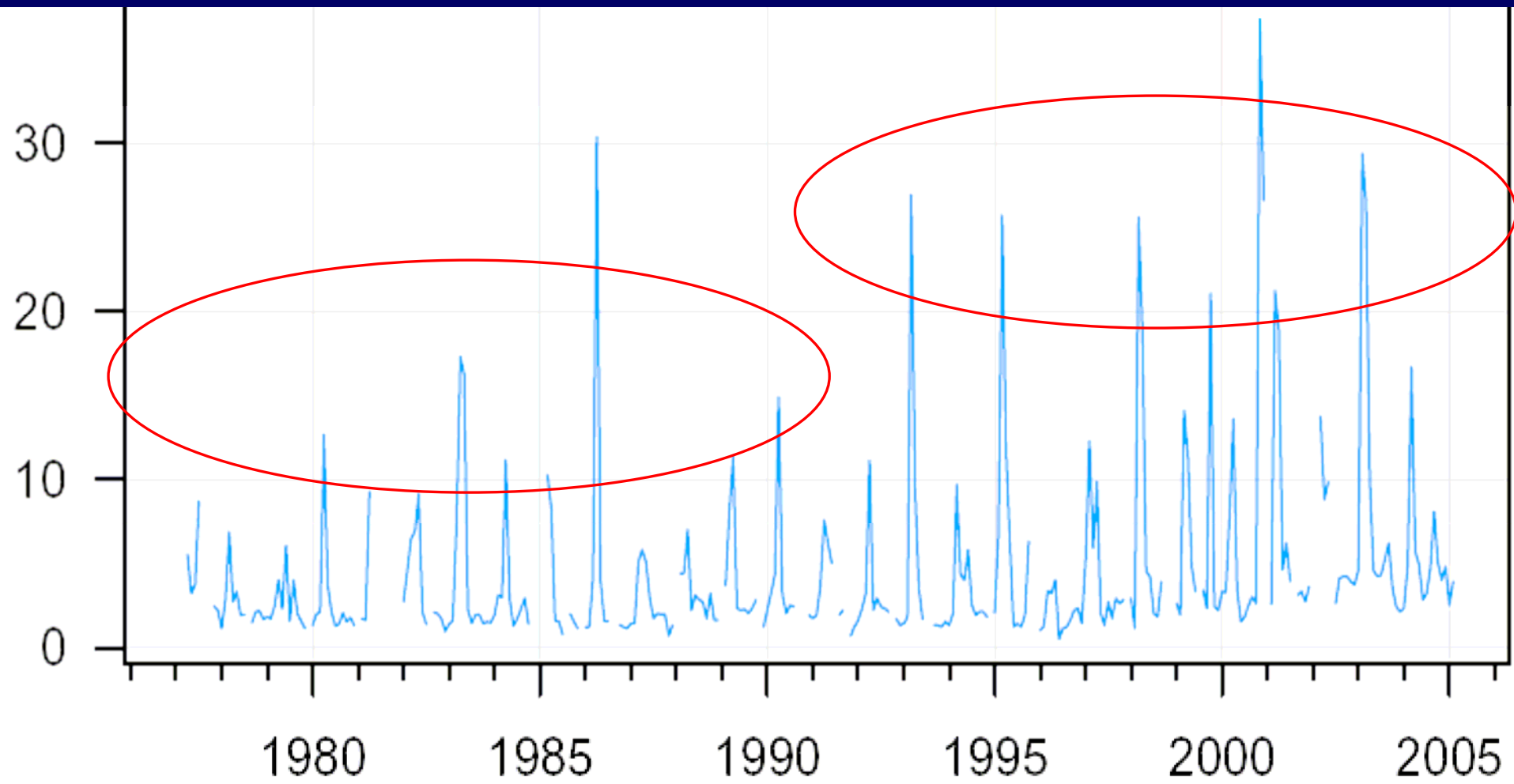


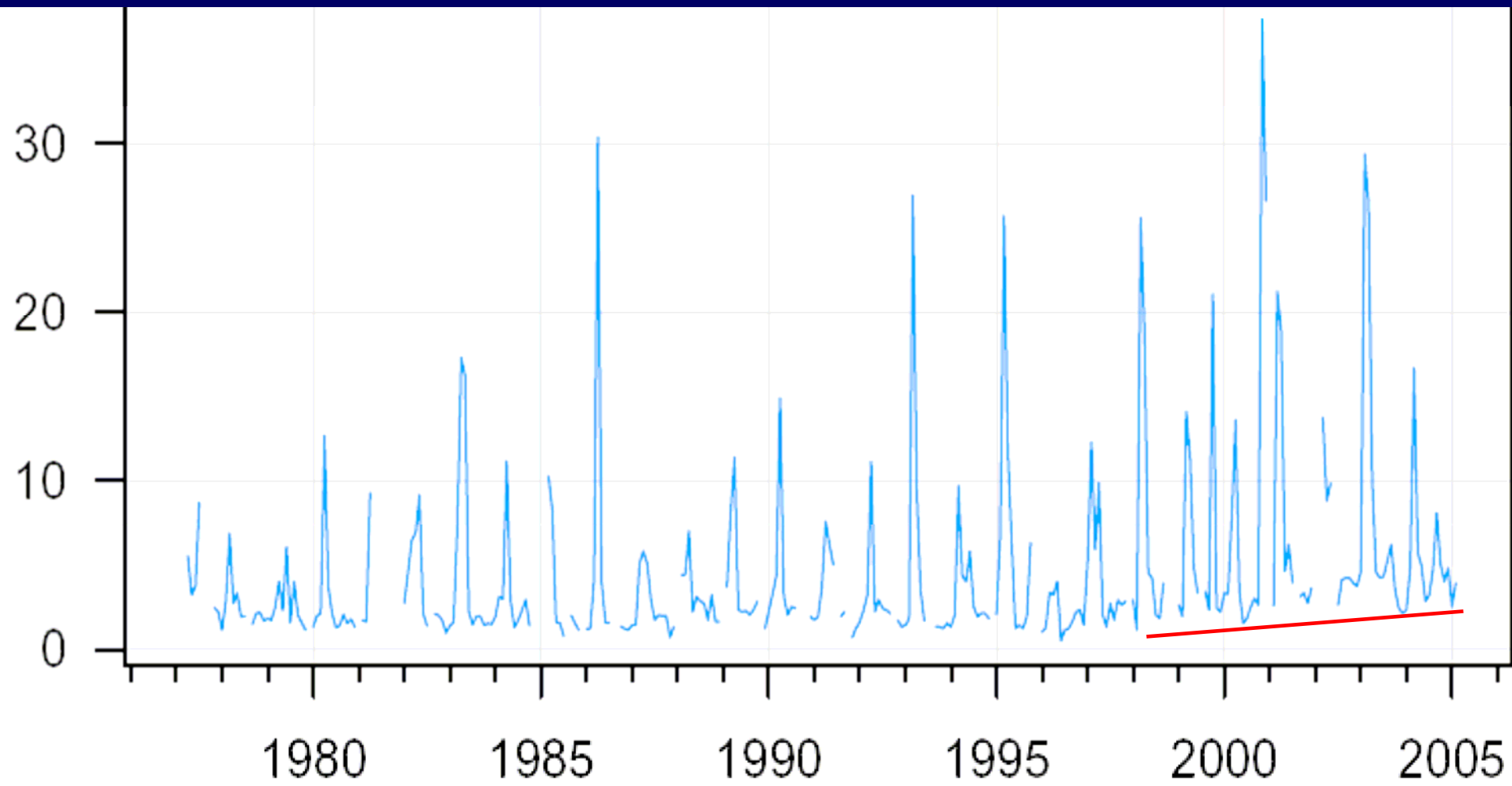
Chlorophyll a ($\mu\text{g/L}$) 1977-1998



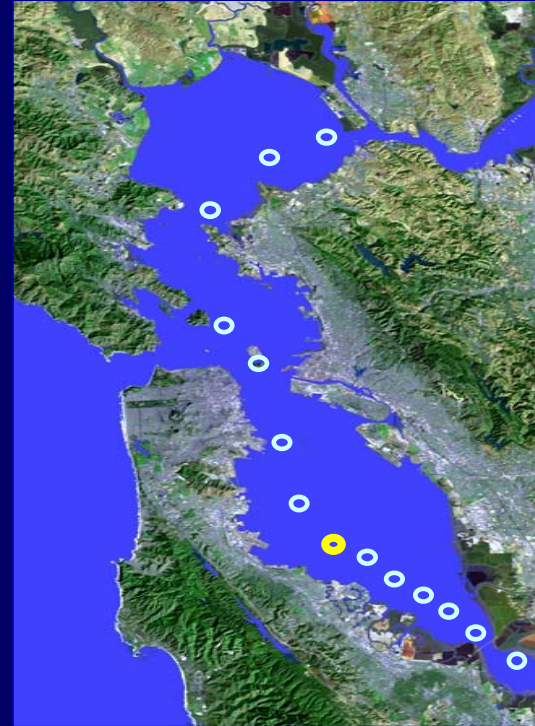
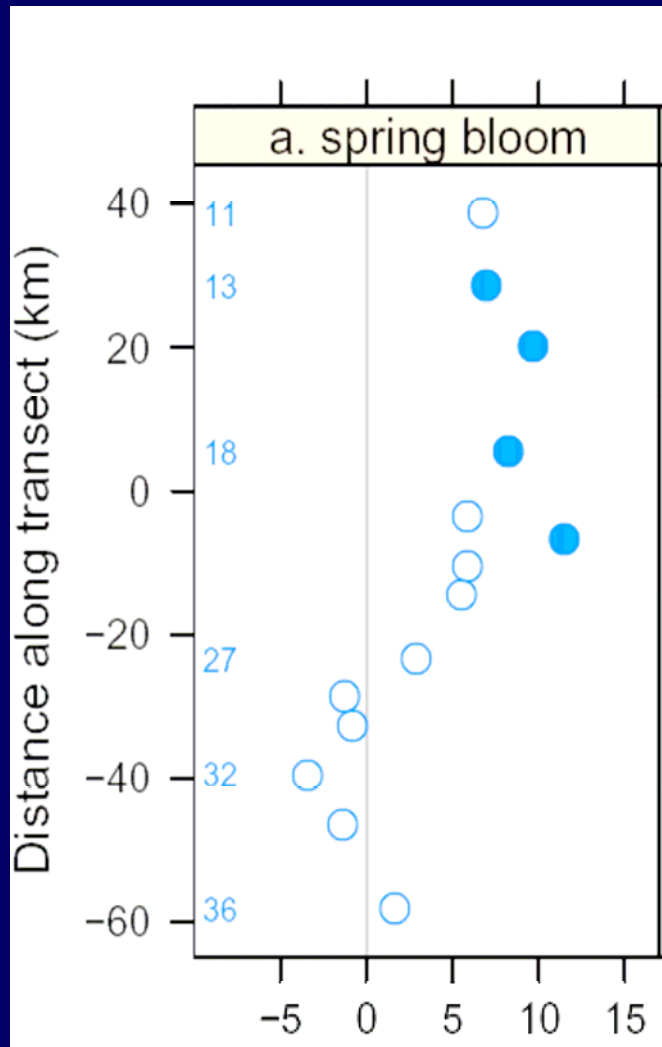
Chlorophyll a ($\mu\text{g/L}$) 1977-2004



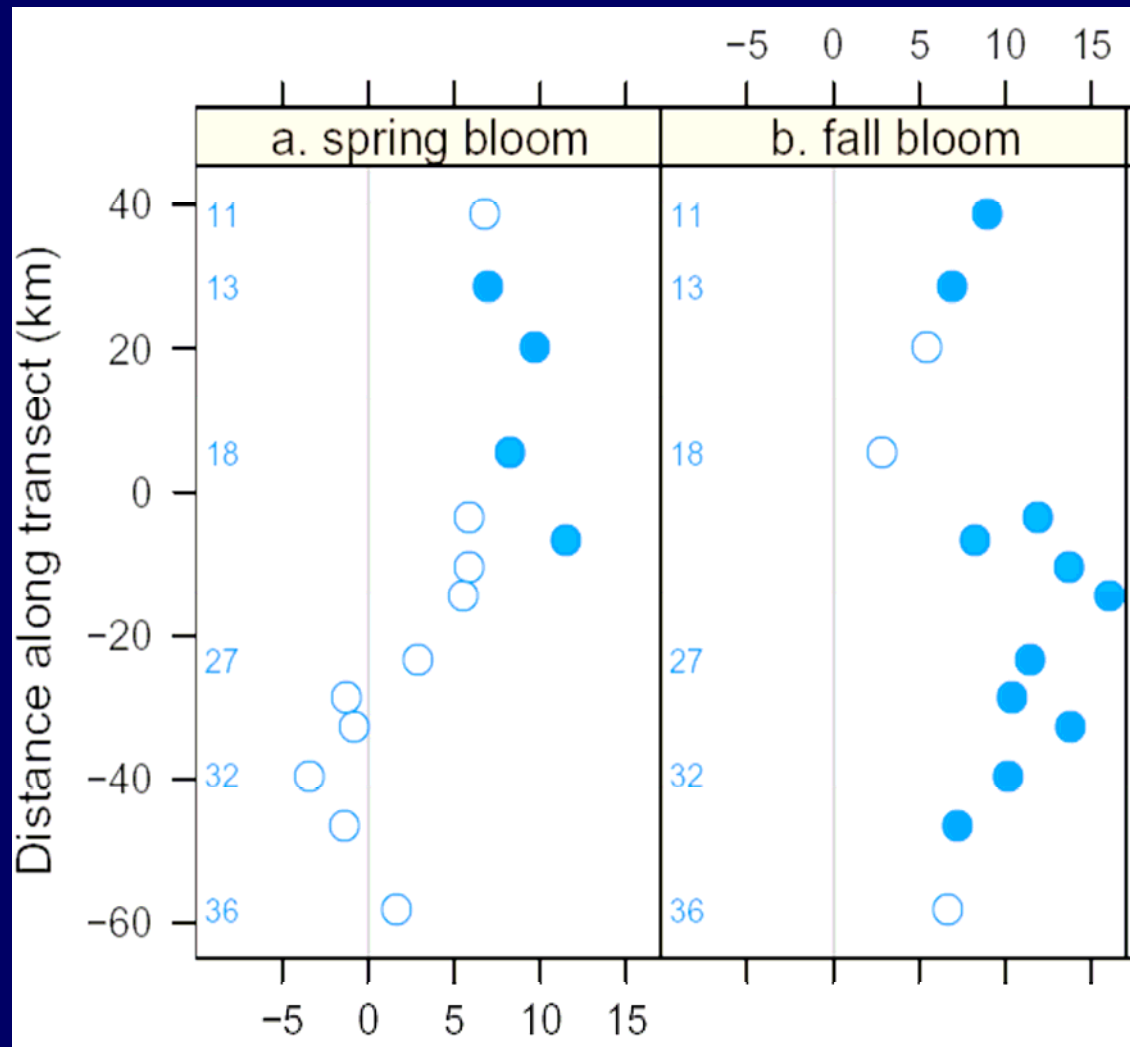




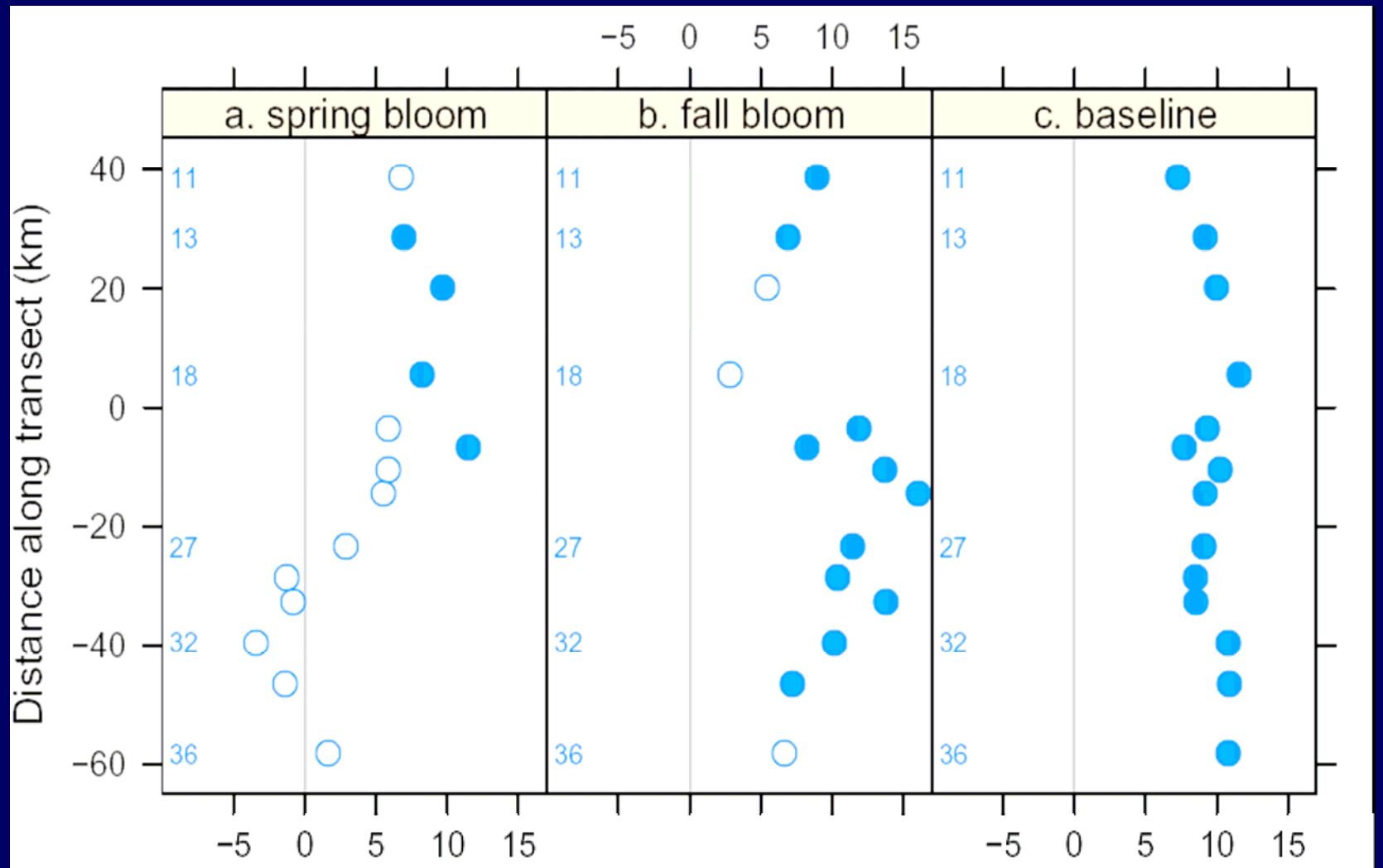
Seasonal Kendall Test for Trends



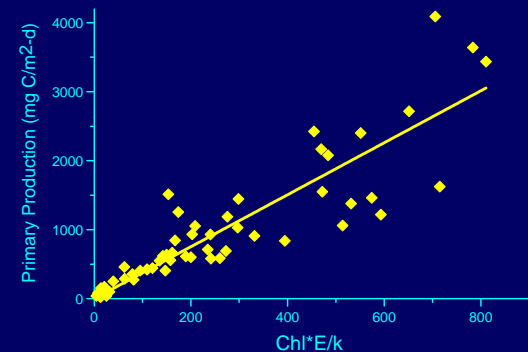
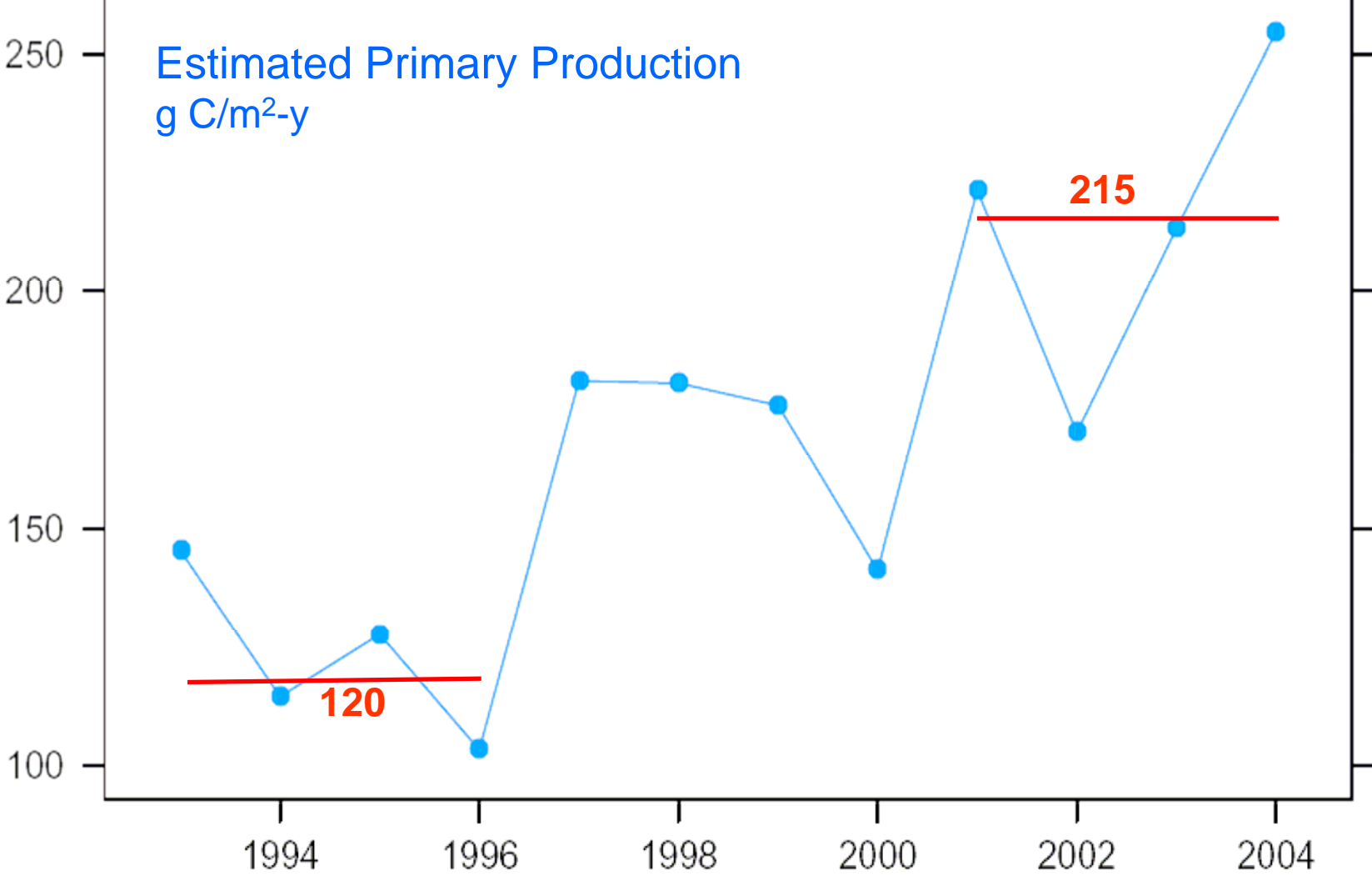
% per year



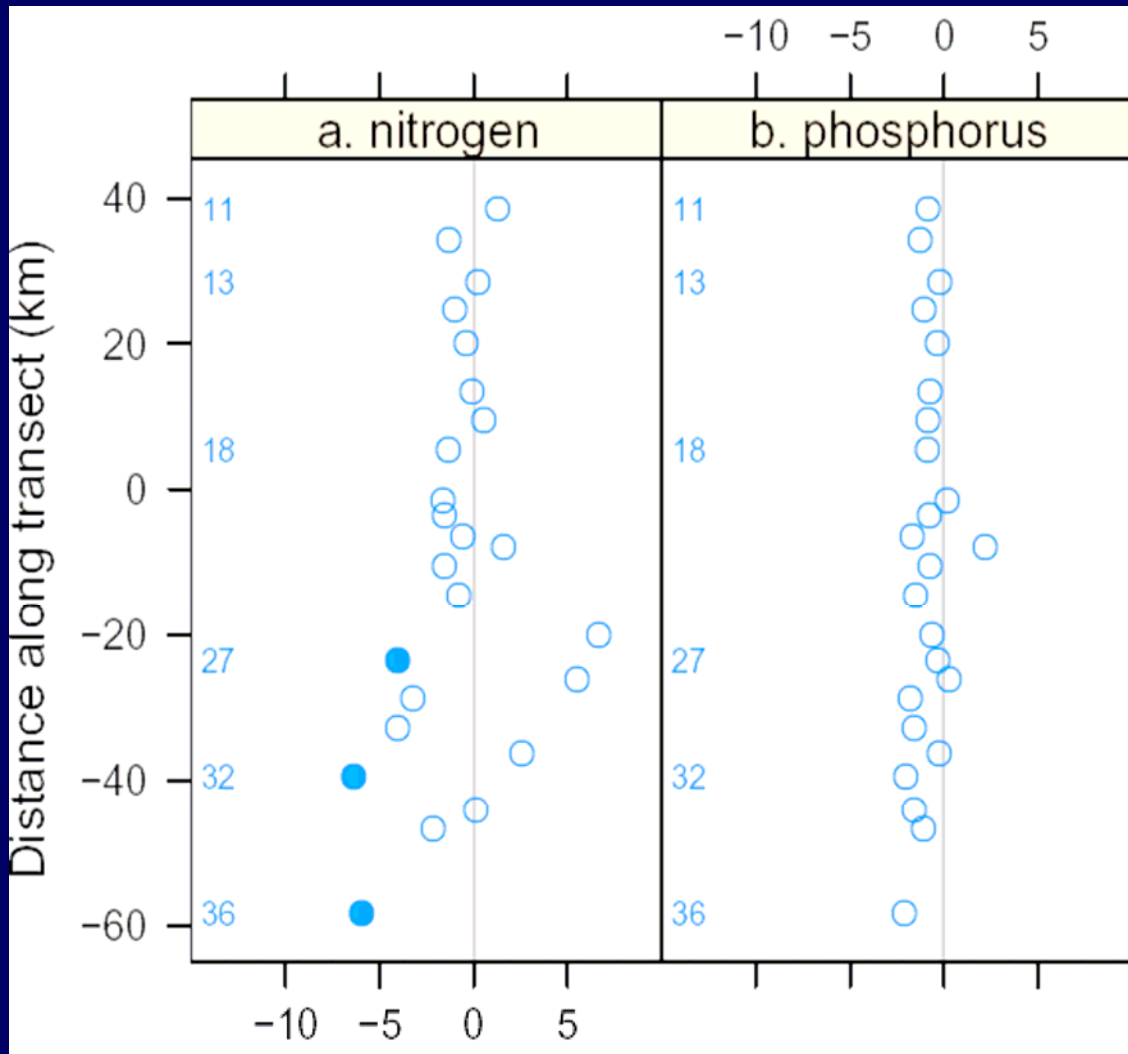
% per year



% per year



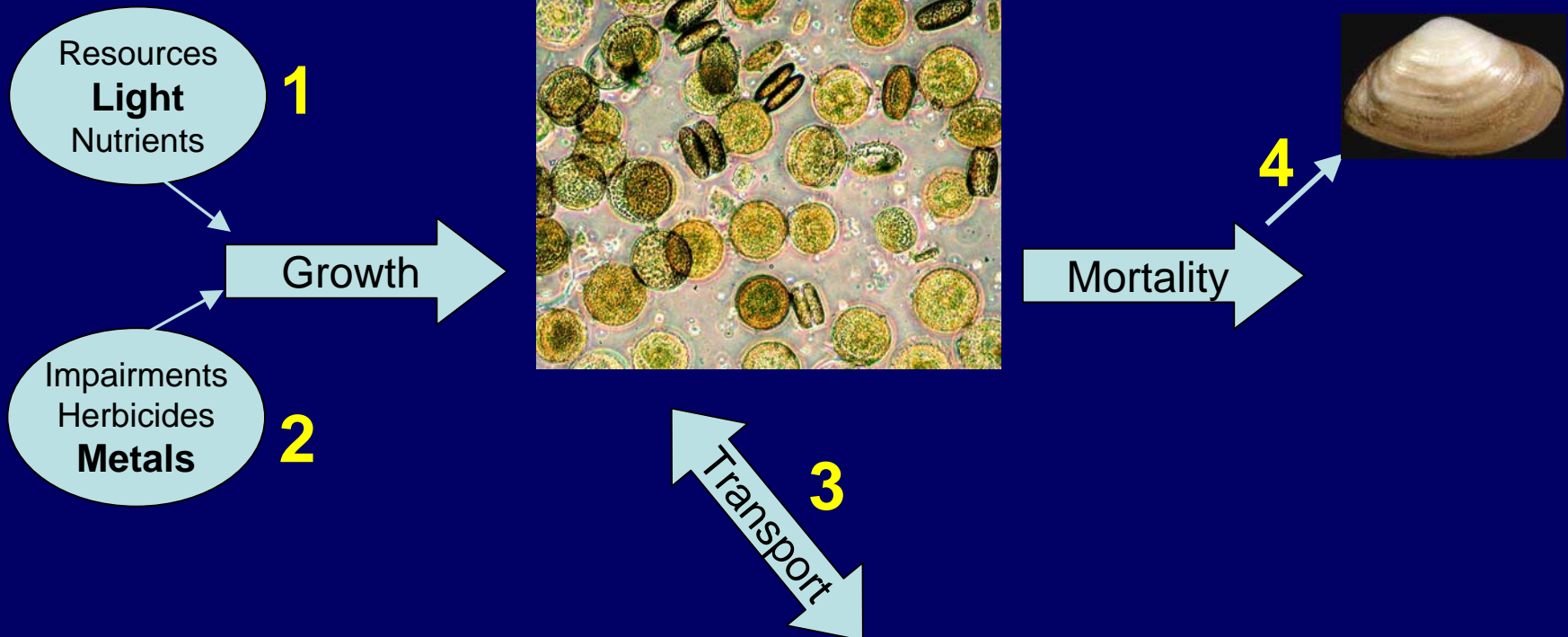
Not associated with nutrient increases



% per year

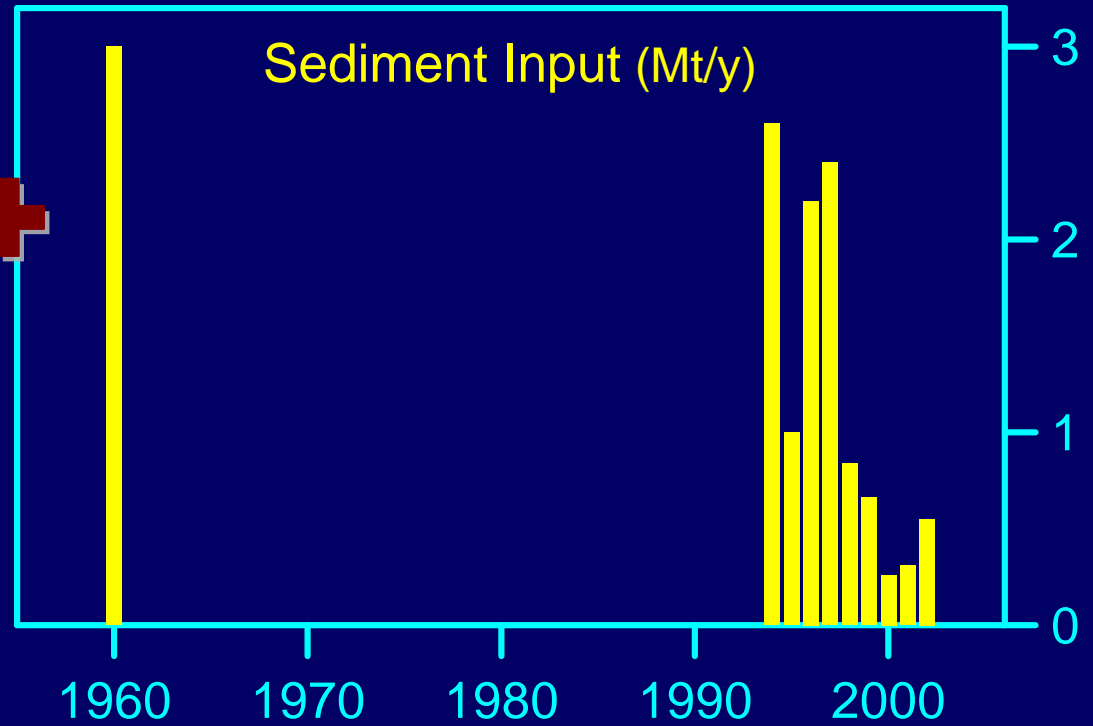
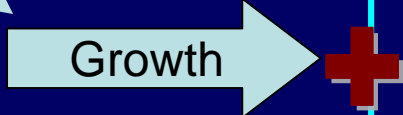
Why is phytoplankton increasing in San Francisco Bay?

Four Hypotheses

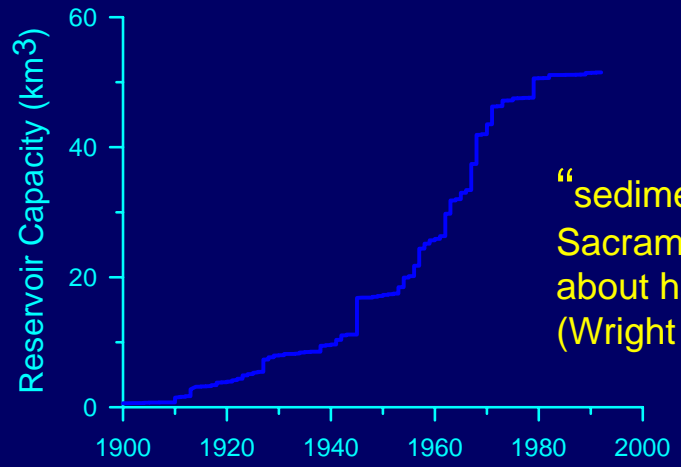


Resources
Light

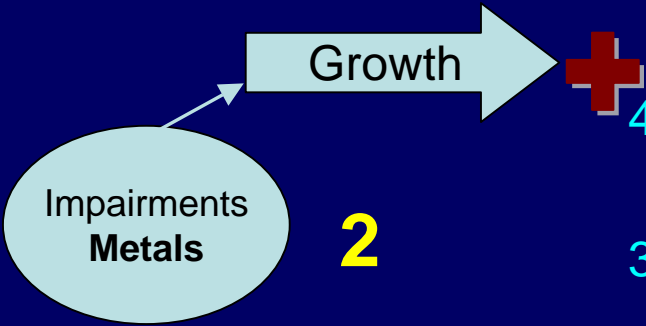
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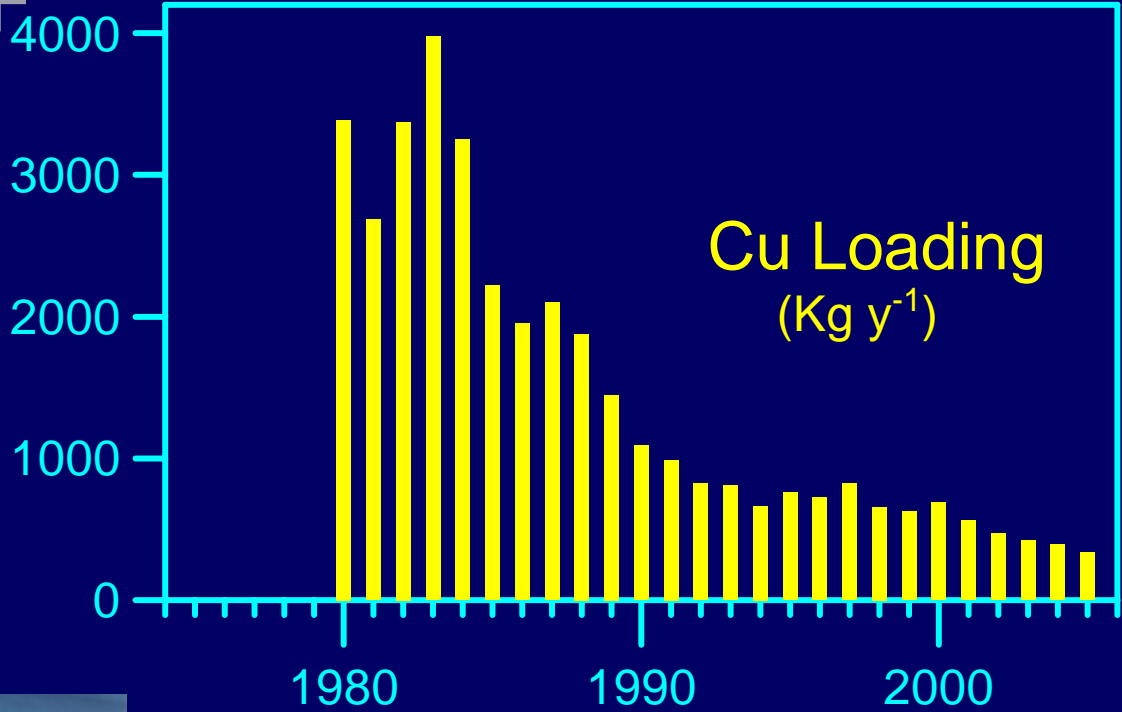
McKee et al. (2006)



“sediment yield of the Sacramento River decreased by about half from 1957-2001”
(Wright & Schoellhamer 2004)

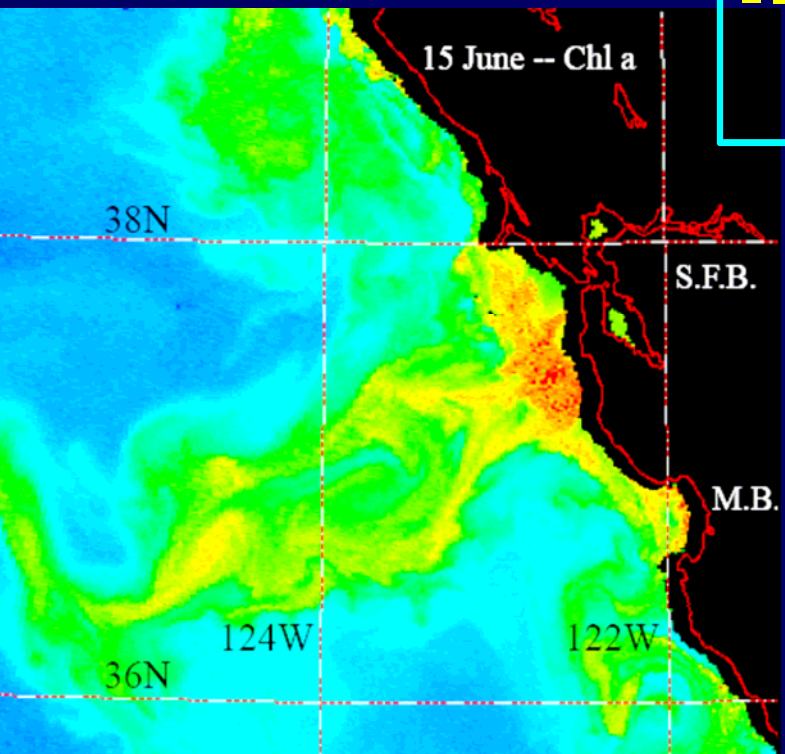
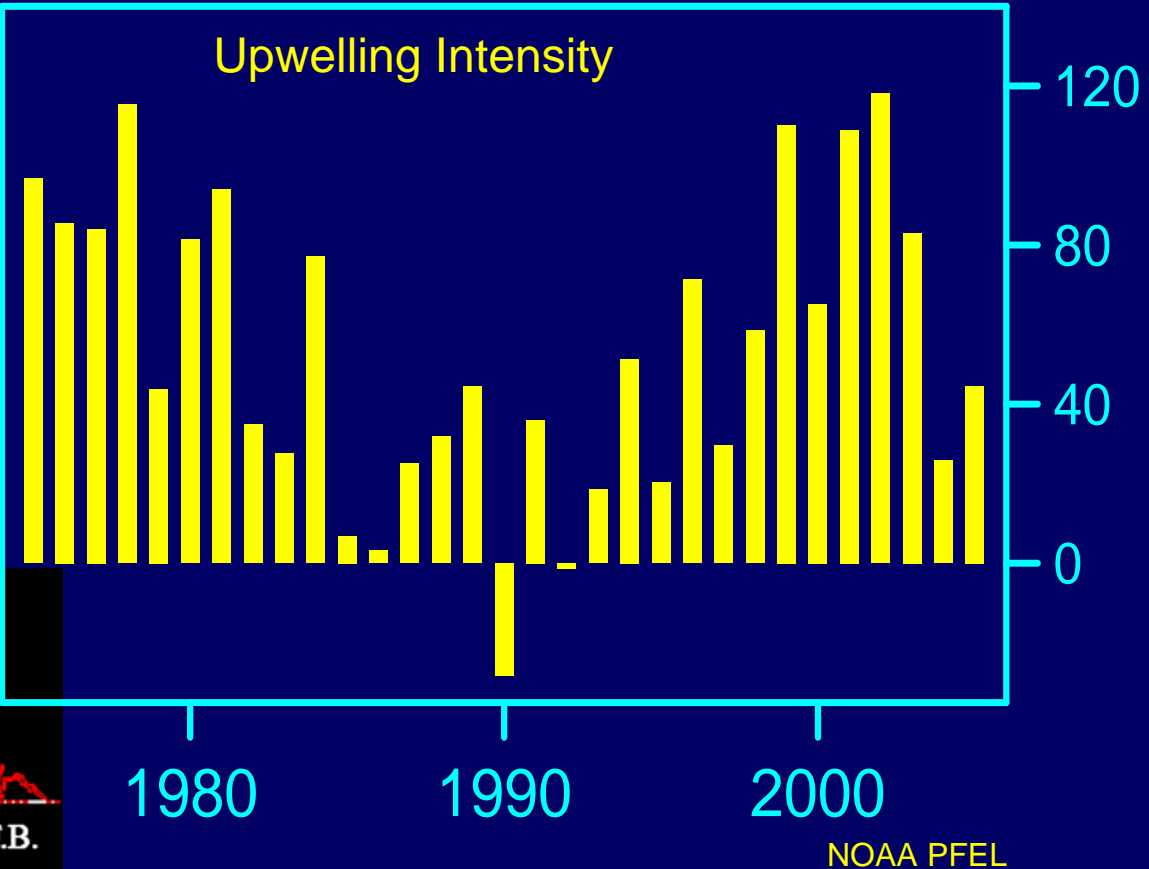
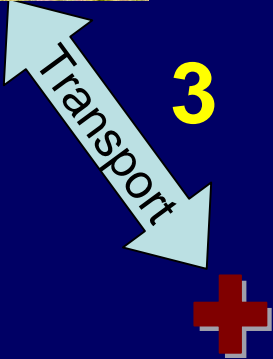
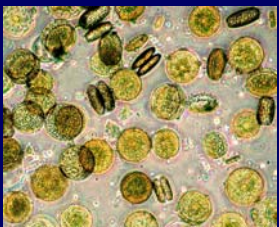


2



City of San Jose, Environmental Services (2006)





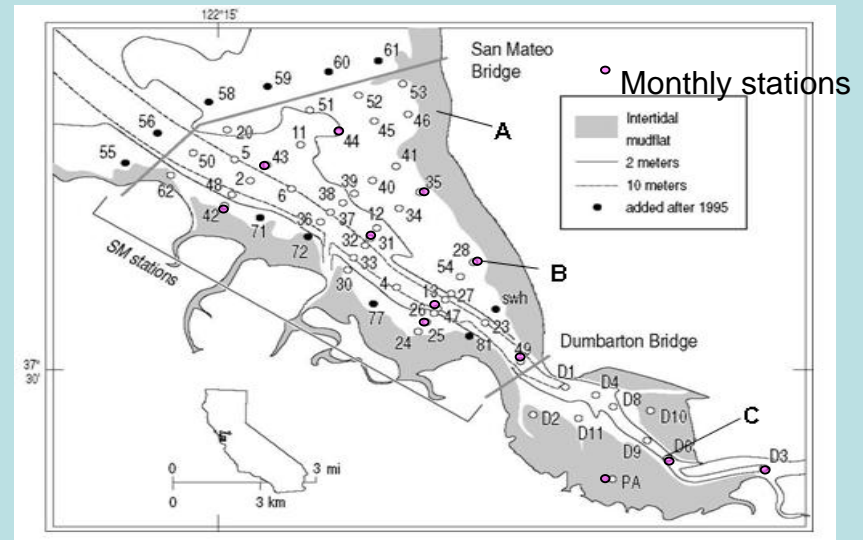
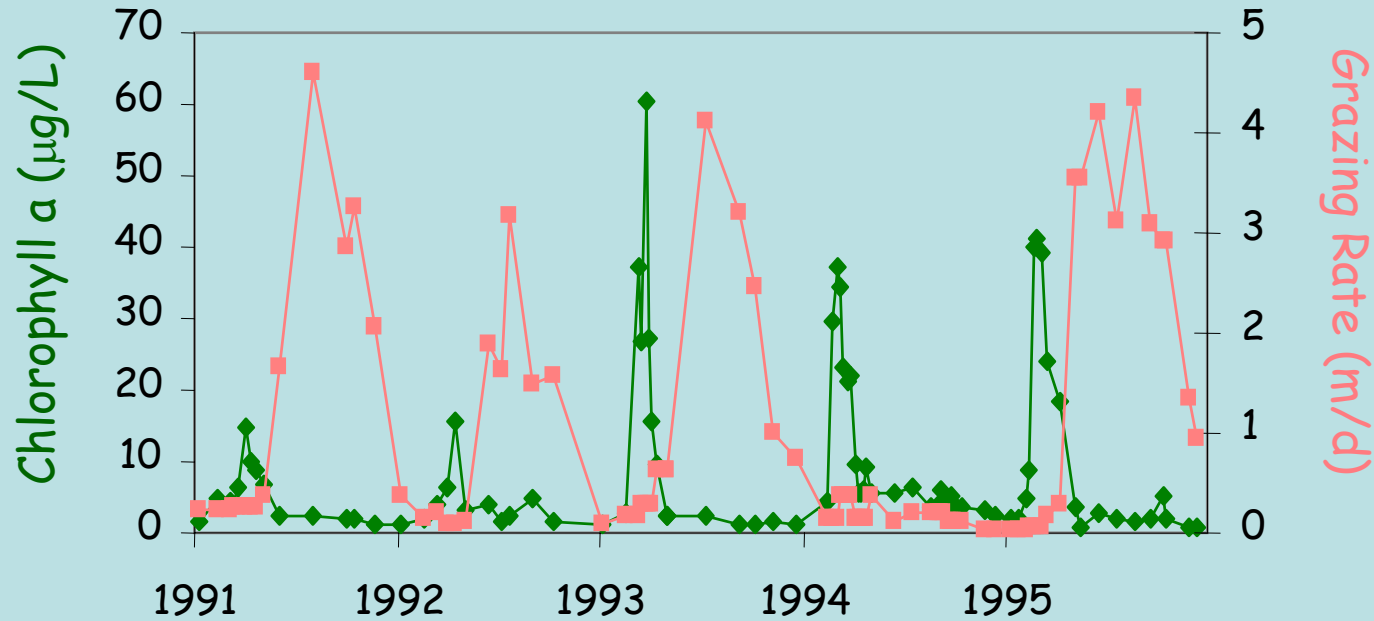
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Mortality

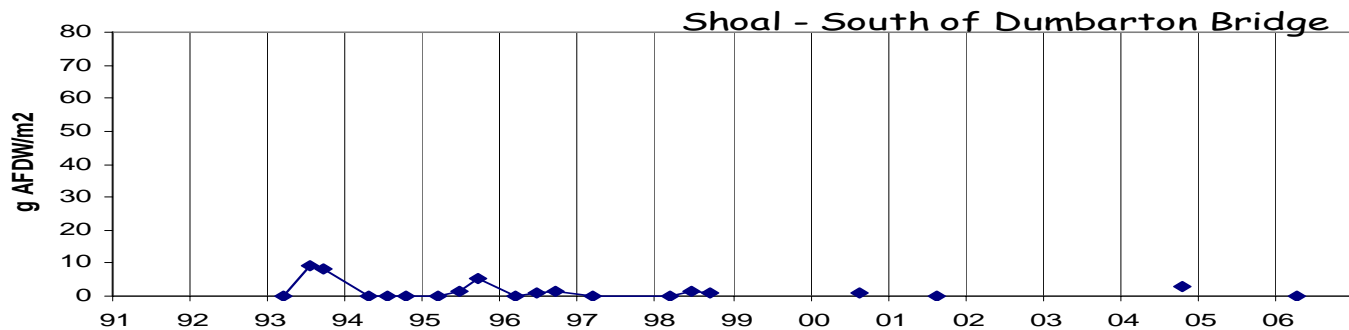
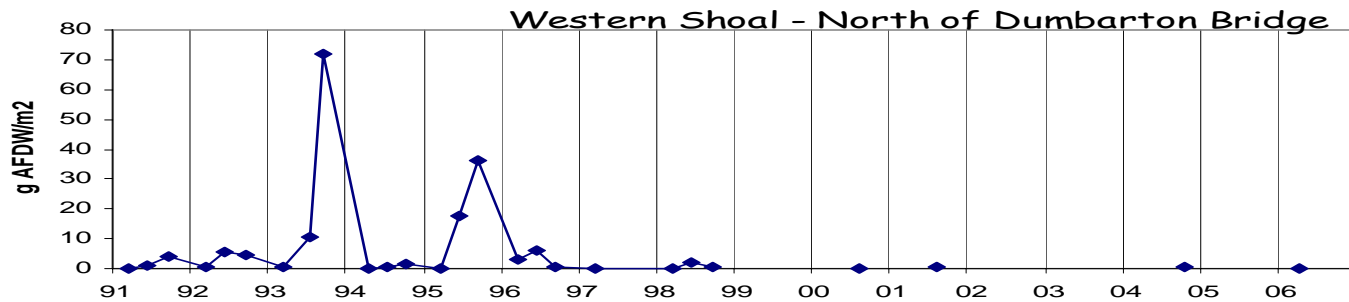
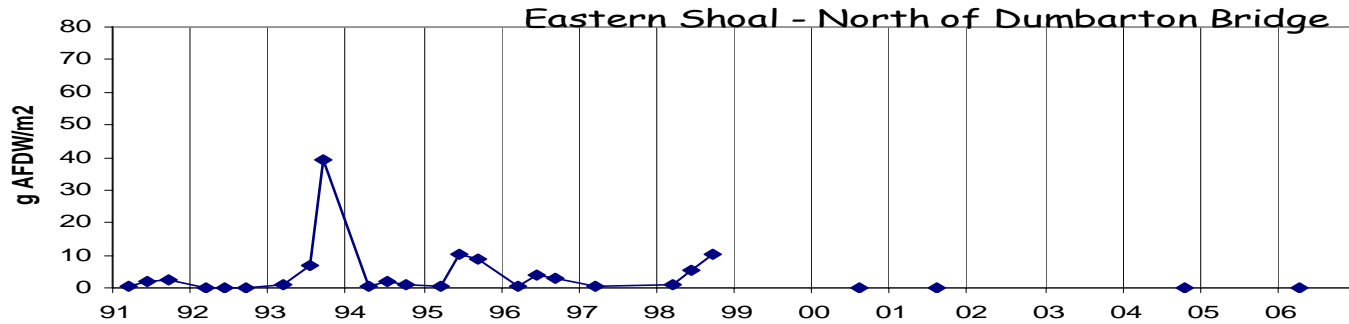


Brand New Results from
Jan Thompson and Francis Parchaso

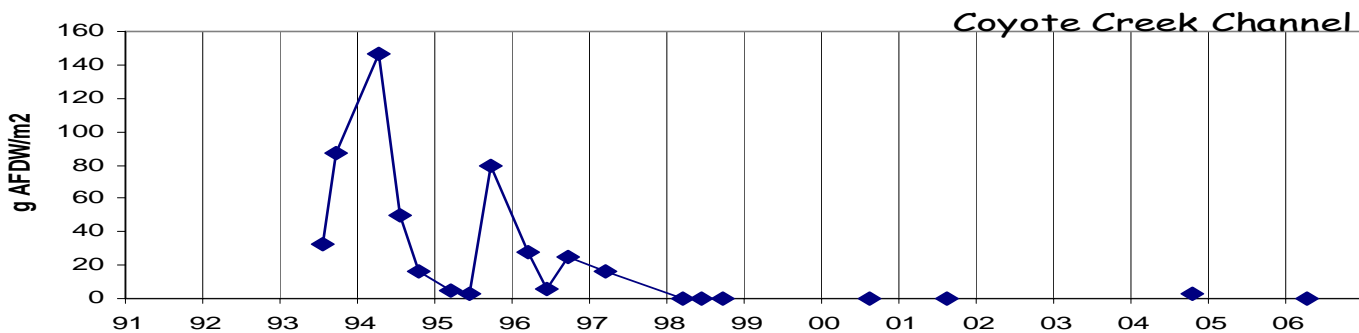
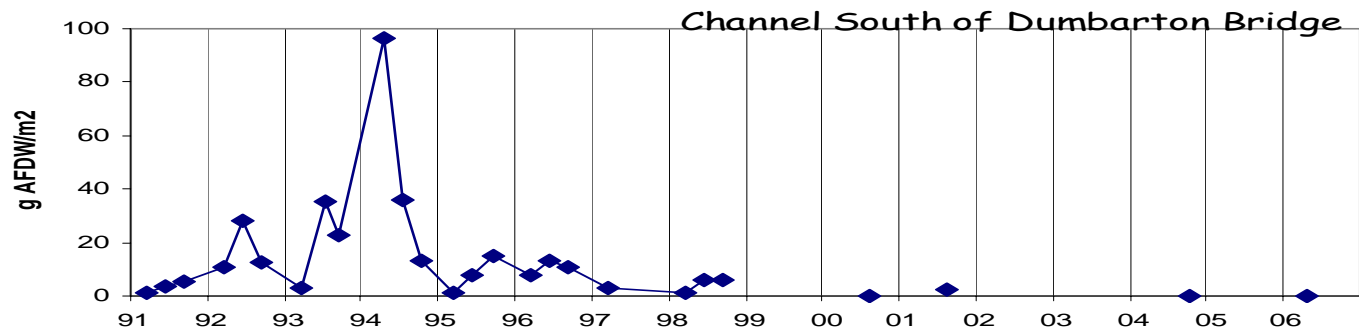
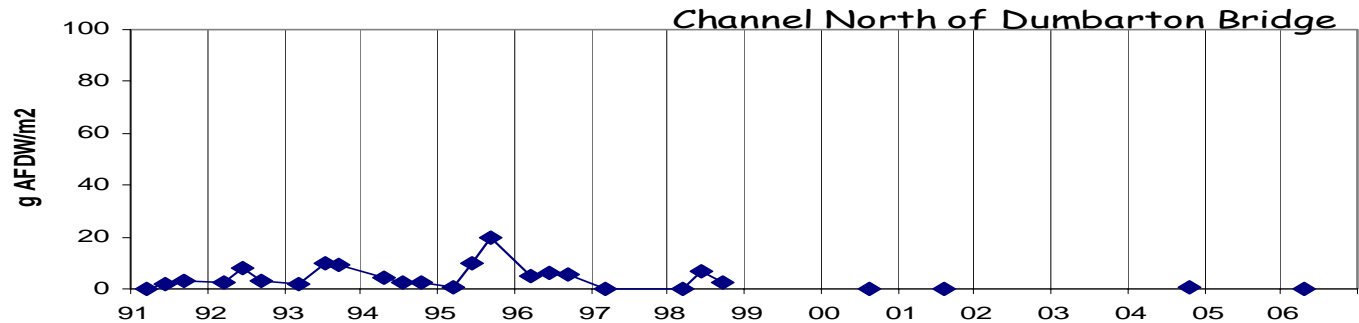
Shallow Water Bivalve Grazing Rates and Phytoplankton Biomass



Shallow Water Filter Feeding Bivalve Biomass

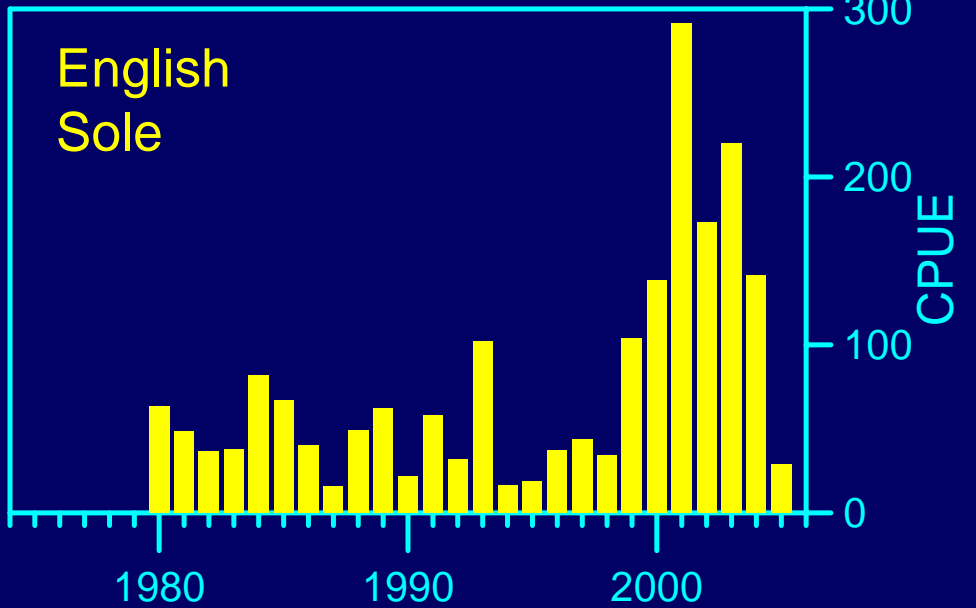
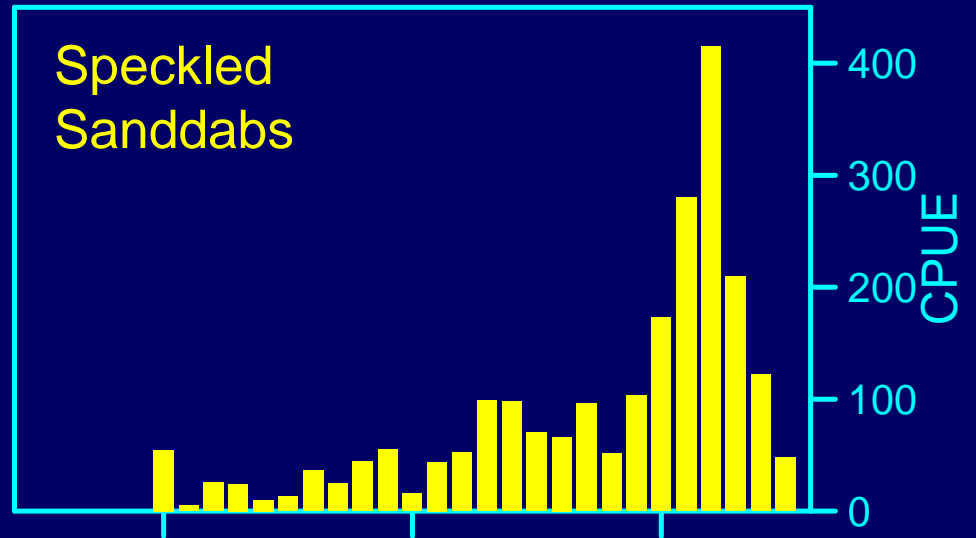
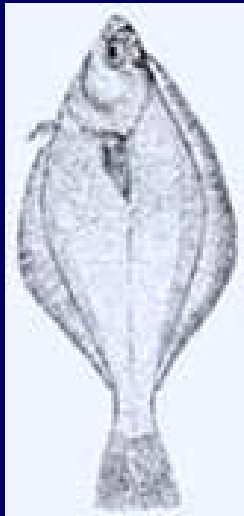


Filter Feeding Bivalve Biomass in Channels



4

Mortality



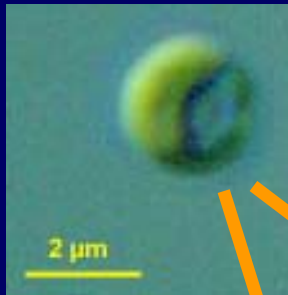


The South Bay is an OPEN system, connected to the Pacific Ocean, Sacramento-San Joaquin Rivers, and local urban watershed

SBSRP will establish new connections



How will this new connectivity change the South Bay?



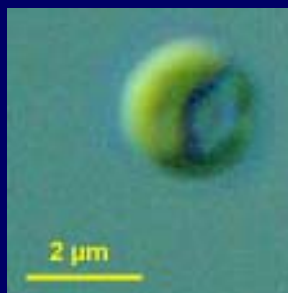
Aureococcus



Aureococcus anophagefferens: Causes and ecological consequences of brown tides in U.S. mid-Atlantic coastal waters

V. Monica Bricelj¹ and Darcy J. Lonsdale

Marine Sciences Research Center, SUNY at Stony Brook, Stony Brook, New York 11794-5000



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Assessment of brown tide blooms, caused by *Aureococcus anophagefferens*, and contributing factors in New Jersey coastal bays: 2000–2002

Mary Downes Gastrich^{a,*}, Richard Lathrop^b, Scott Haag^c, Michael P. Weinstein^d,
Michael Danko^d, David A. Caron^e, Rebecca Schaffner^e

Disruption of grazer populations as a contributing factor to the initiation of the Texas brown tide algal bloom

Edward J. Buskey, Paul A. Montagna, Anthony F. Amos, and Terry E. Whitedge

Marine Science Institute, 750 Channelview Dr., University of Texas at Austin, Port Aransas, Texas 78373-5015



Lesson:

New habitat connections will change the South Bay, probably in surprising ways

Careful monitoring and data analyses are essential to document and understand these future changes

Thanks to Tara Schraga, Kate Dallas, Alan Jassby, Jan Thompson, Francis Parchaso, Dave Schoellhamer, Kathy Hieb, Neal Van Keuren, Bob Wandro, Alo Kauravlla