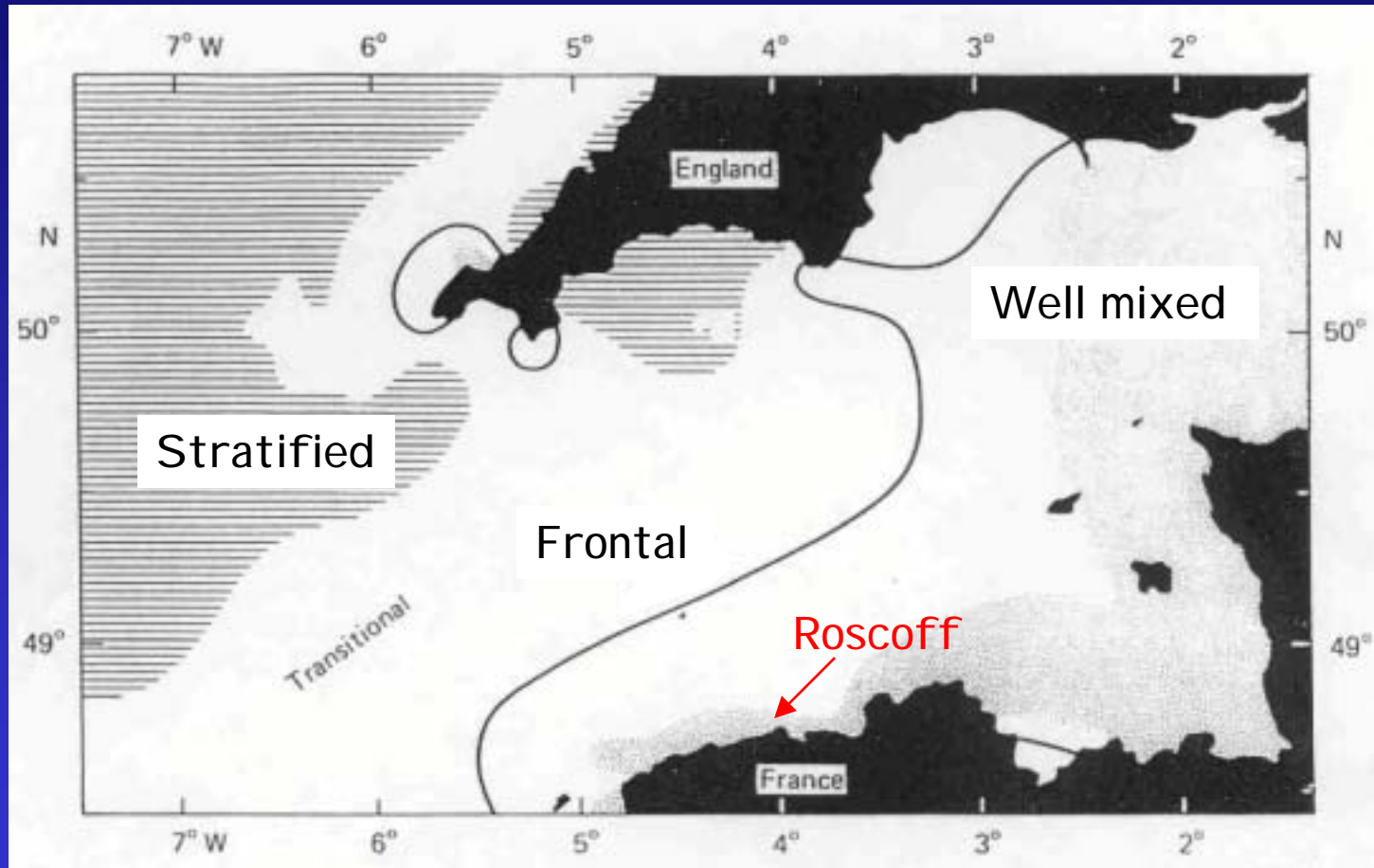


# General characteristics of the annual cycle at Roscoff



# The Western English Channel

- Off Roscoff, well mixed + shallow water column = homogeneous regions

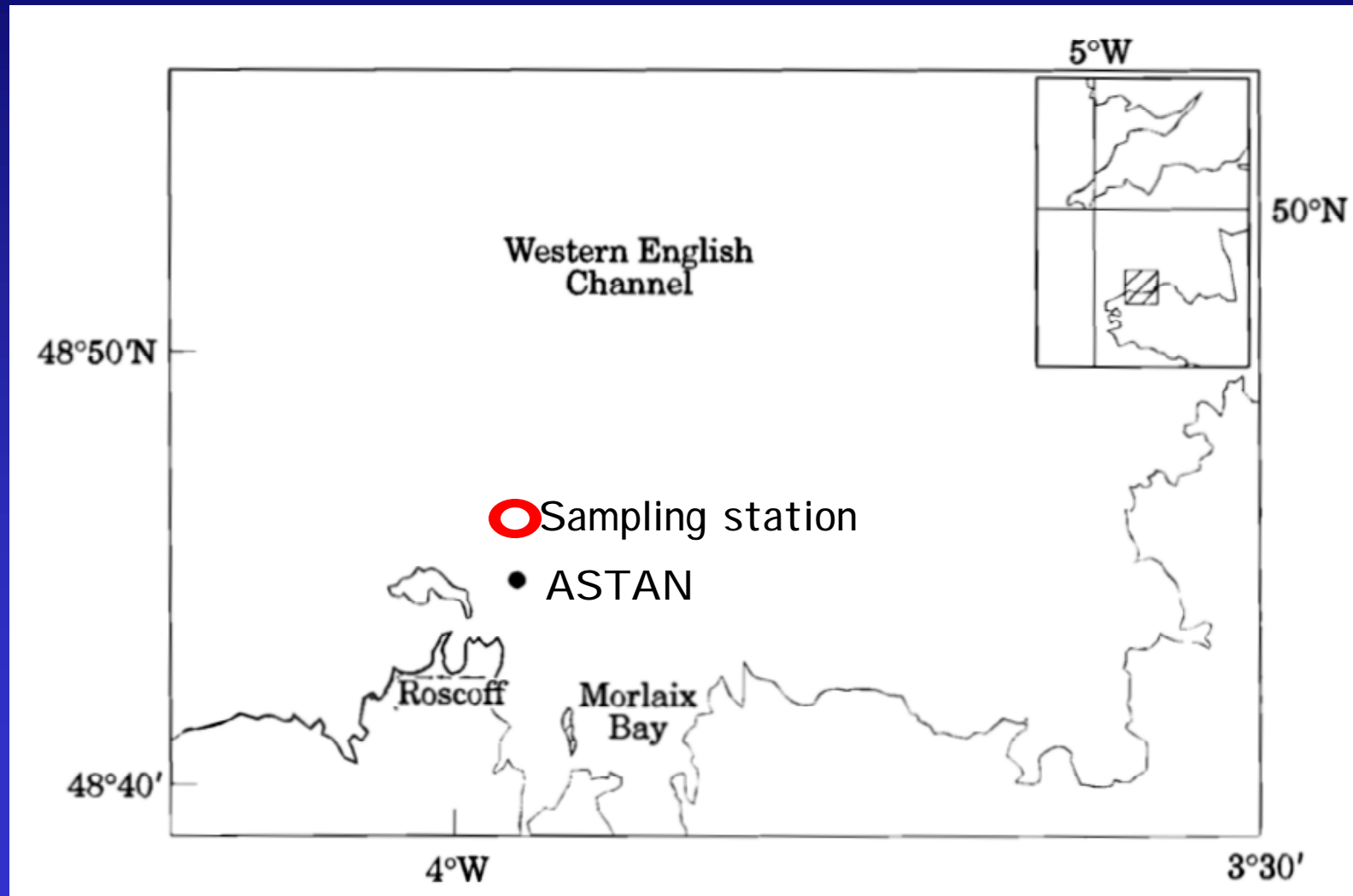


# Homogeneous regions : Very original seasonal cycle

*Tidal currents and winds are major processes*

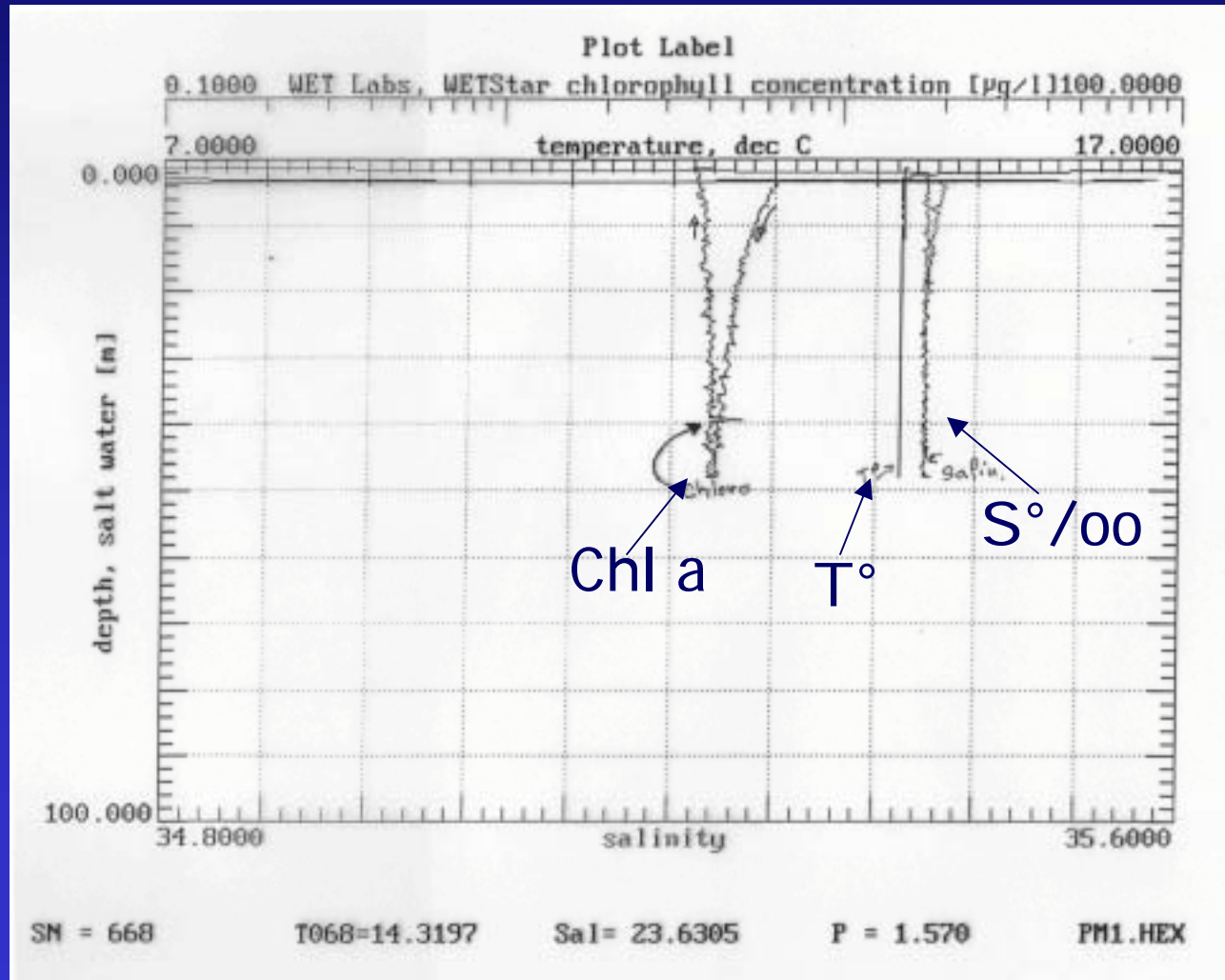
- Late spring/summer Diatom bloom (temperate seas)
- Production controlled by light all year round
- Phytoplankton grows essentially on regenerated N  
(in summer)

# The Sampling Station

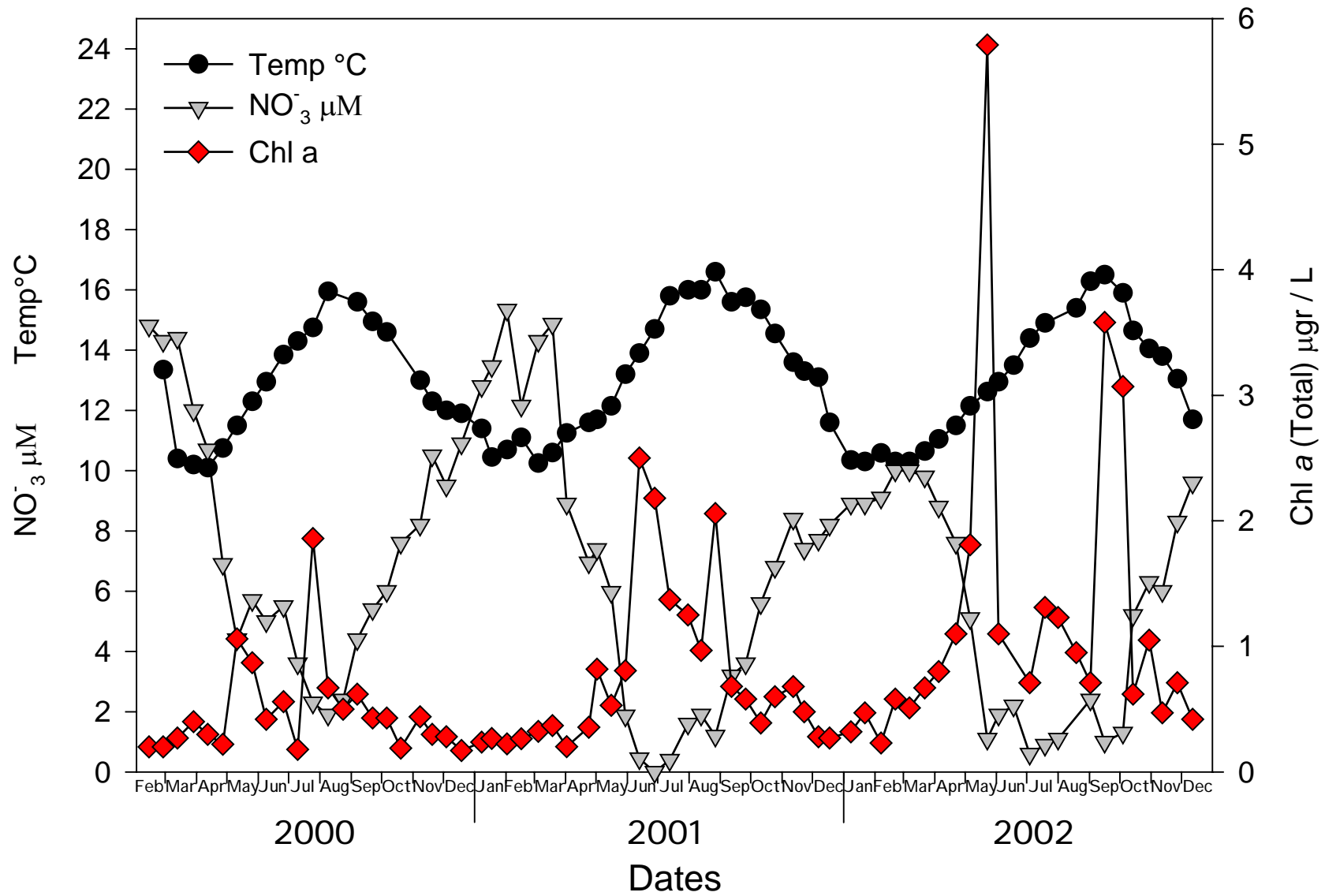


# Hydrology and Nutrients

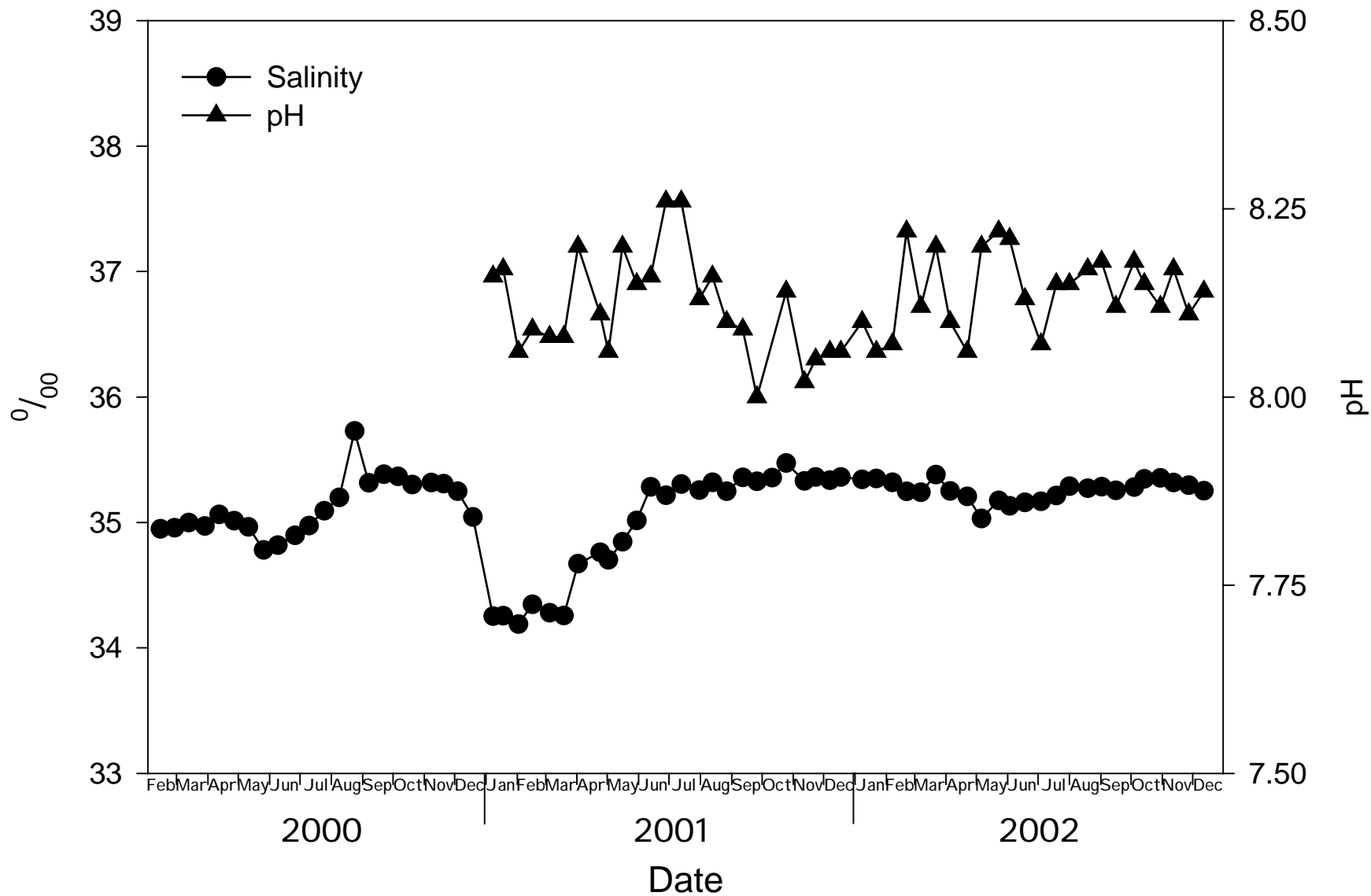
- Long term study (salinity, temperature) since 1952
- ASTAN : Depth profile (Chl a, T°, Salinity)



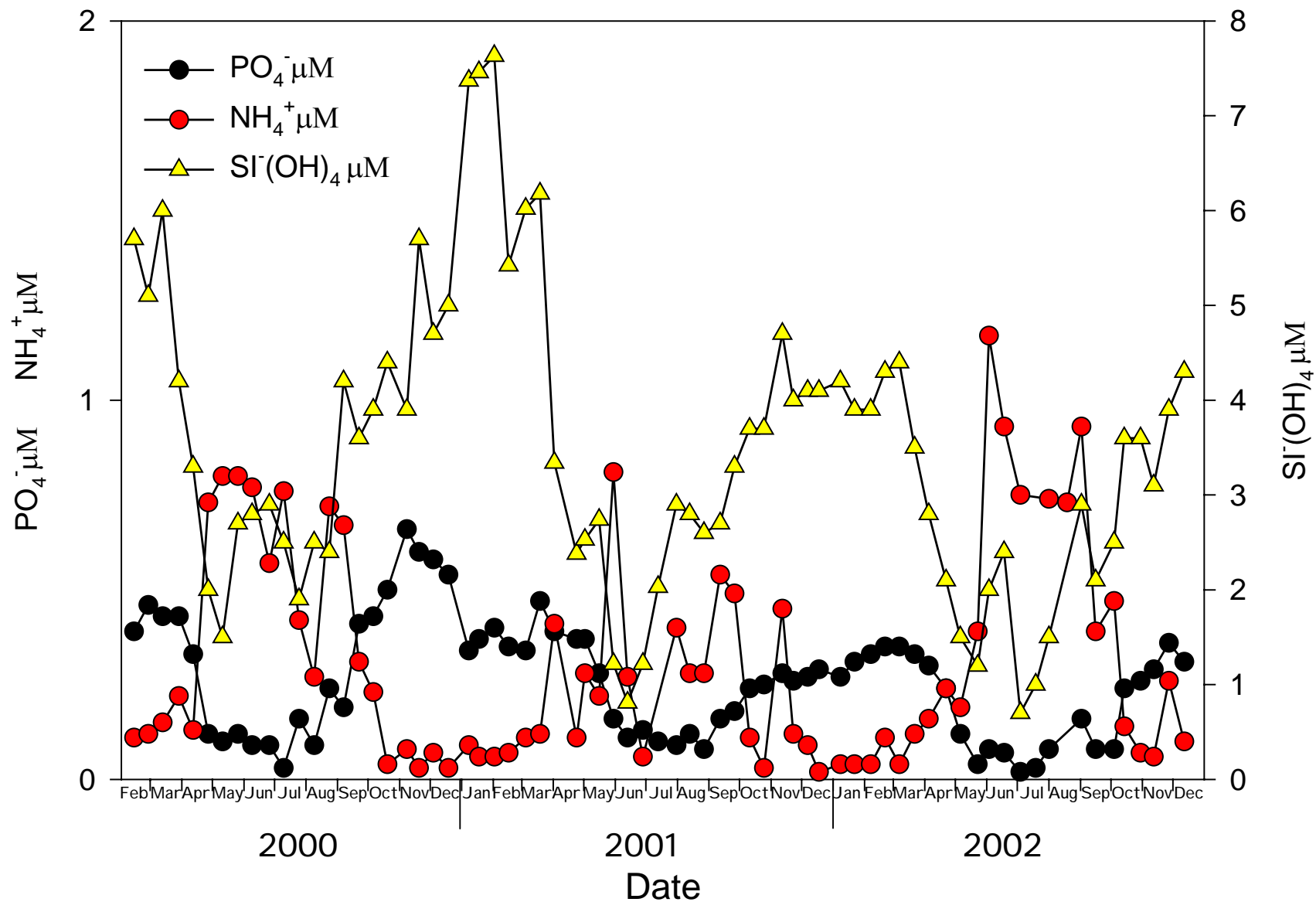
# Chlorophyll, Temperature and Nitrate



# Salinity and pH



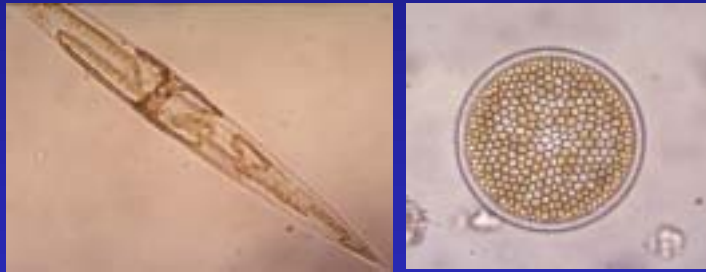
# Phosphate, Ammonium and Silicium



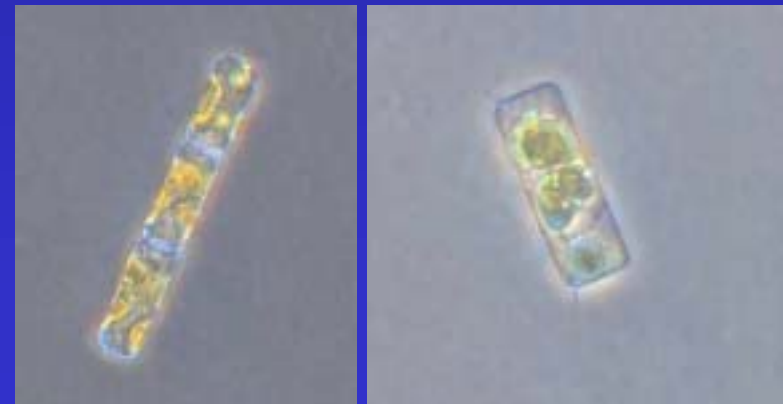
# Phytoplankton Diversity

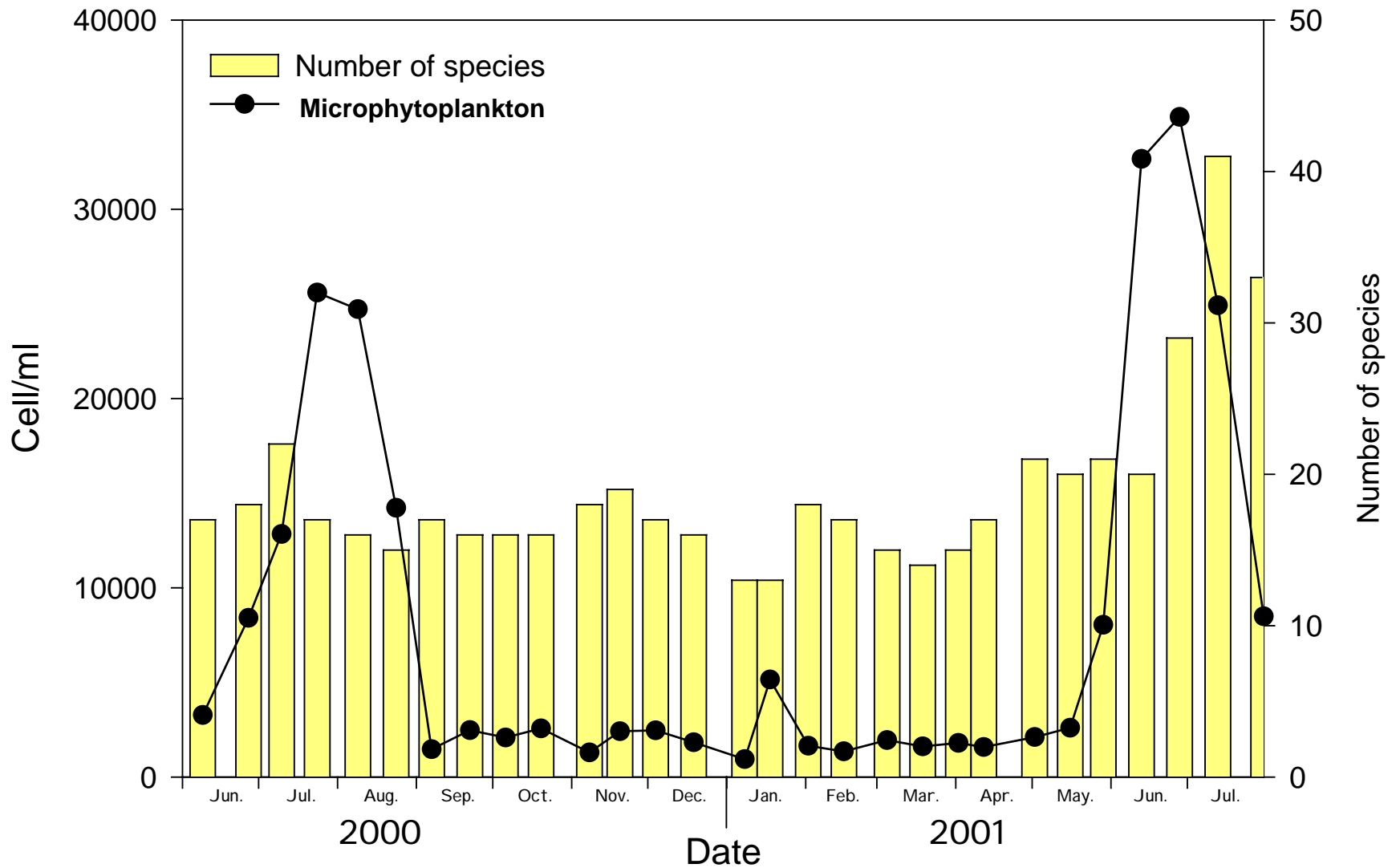
# Microphytoplankton

- Winter : high diversity, lot of benthic species in plankton



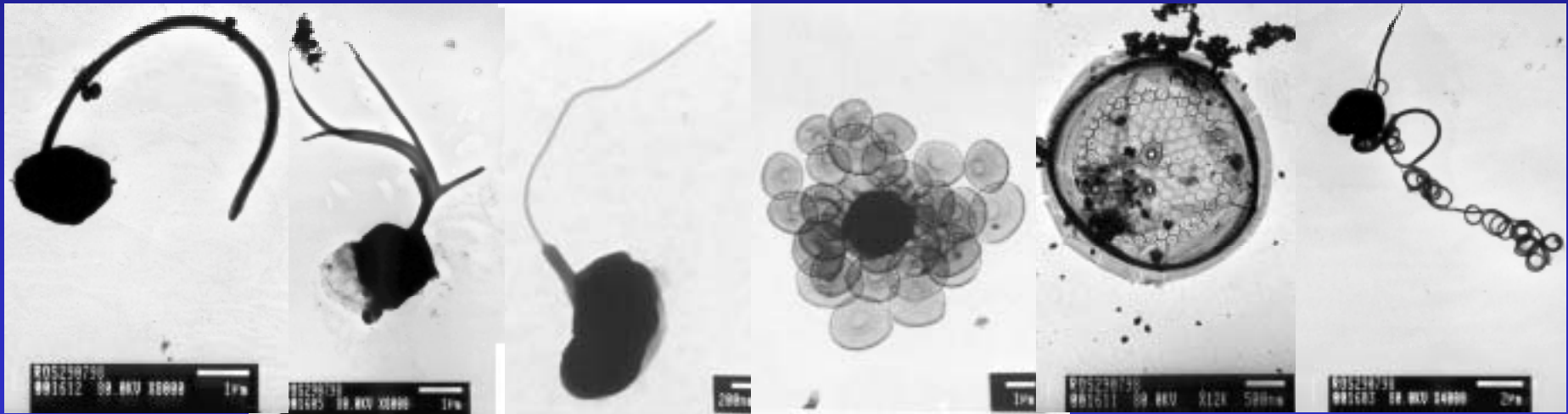
- Spring and summer : low diversity, small species with long chains





# Picophytoplankton

- Synechococcus
- Picoeukaryotes : few data come from observations with TEM



*Micromonas pusilla*    *Petasaria* sp.

*Chrysochromulina* sp.

Pedinophyceae?

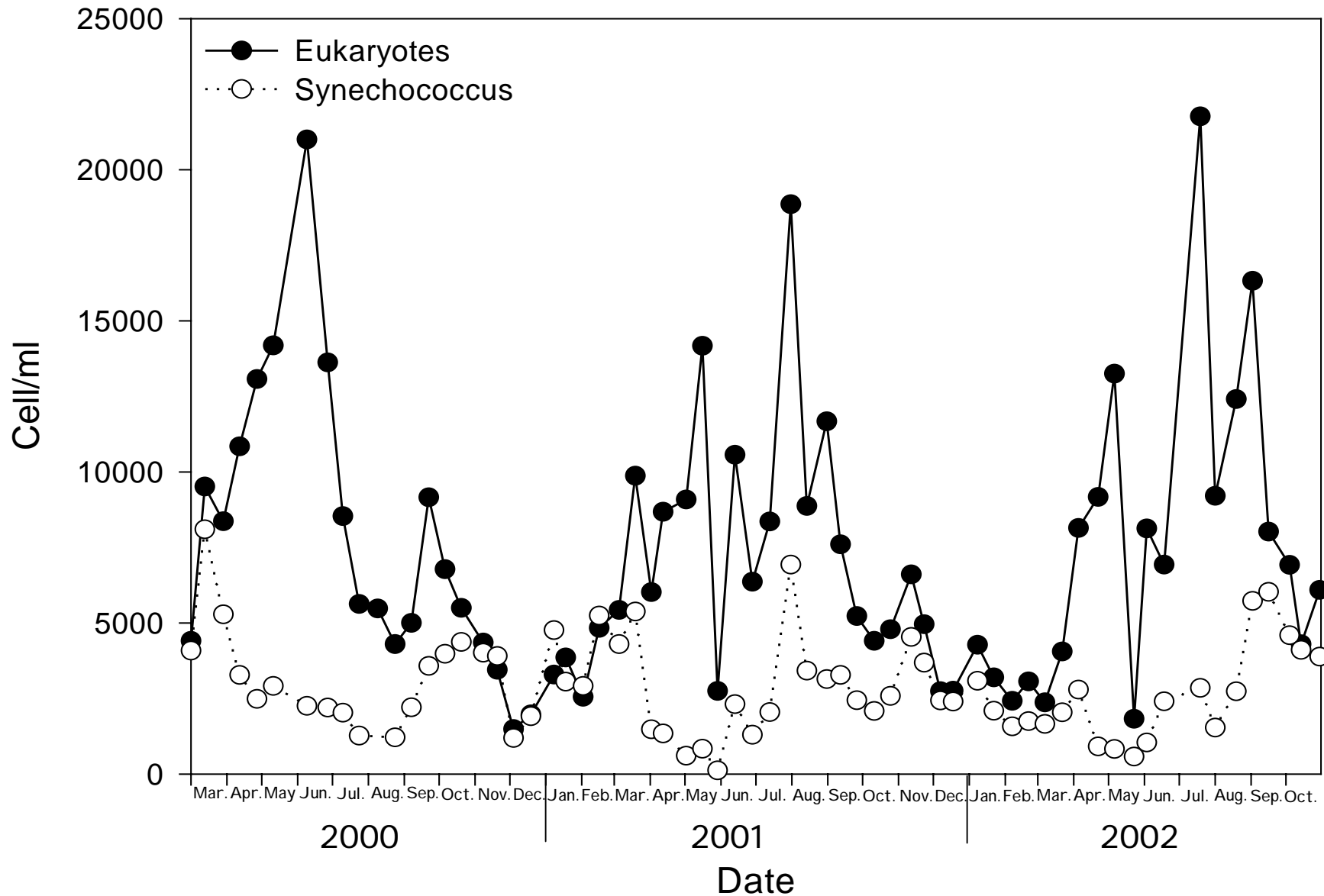
Prasinophyceae

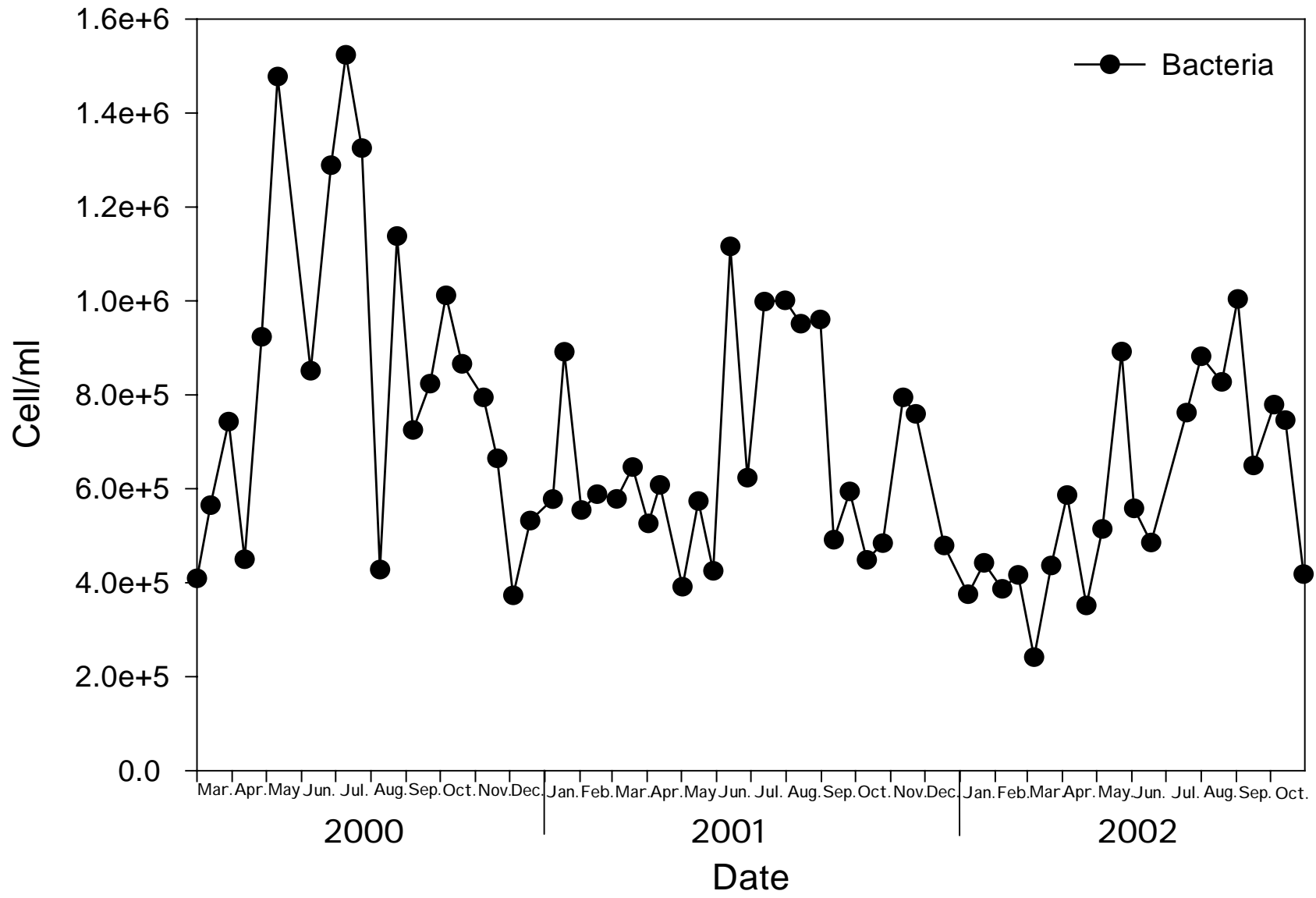
Chrysophyceae

Prymnesiophyceae

Bacillariophyceae

# Flow cytometry





# samples available from Roscoff

HPLC Total,  $<3\mu\text{m}$  ,  $>3\mu\text{m}$

DNA

FISH Euk, Cyano

TEM

Cyto Total, pico

Taxonomy Lugol, Plankton net

Cultures

<http://www.sb-roscoff.fr/Somlit/>

Sournia, A., J.-L. Birrien, J.-L. Douville, B. Klein, and M. Viollier. 1987. A daily study of the diatom spring bloom at Roscoff (France) in 1985. I. The spring bloom within the annual cycle. *Estuarine, Coastal and Shelf Science* 25:355-367.

Klein, B., and A. Sournia. 1987. A daily study of the diatom spring bloom at Roscoff (France) in 1985. II. Phytoplankton pigment composition studied by HPLC analysis. *Marine Ecology-Progress Series* 37:265-275.

