



Results from the final year of PoB operations in the Bay of Biscay and English Channel

Denise Smythe-Wright Stephen Boswell, Diane Purcell, Aaron Daniel,
Nefeli Tsaloglou, Mark Hartmann, David Hydes & Ferrybox team

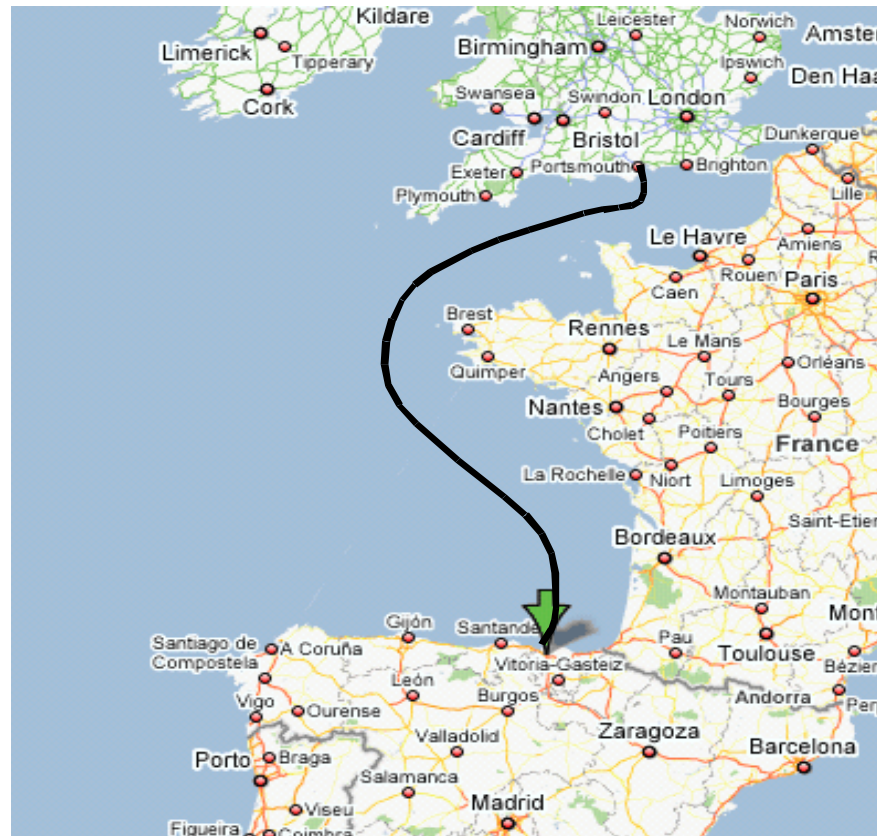


**National
Oceanography Centre**

NATURAL ENVIRONMENT RESEARCH COUNCIL



Pride of Bilbao Route



Objectives



Plant Pigments
Phytoplankton species
Temperature
Salinity
Oxygen
Fluorescence
Light
Nutrients

In support of EU project PROTOOL



National
Oceanography Centre

NATURAL ENVIRONMENT RESEARCH COUNCIL

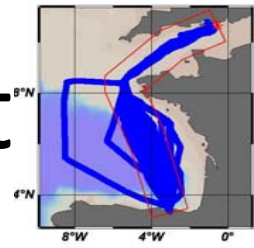


Data Set

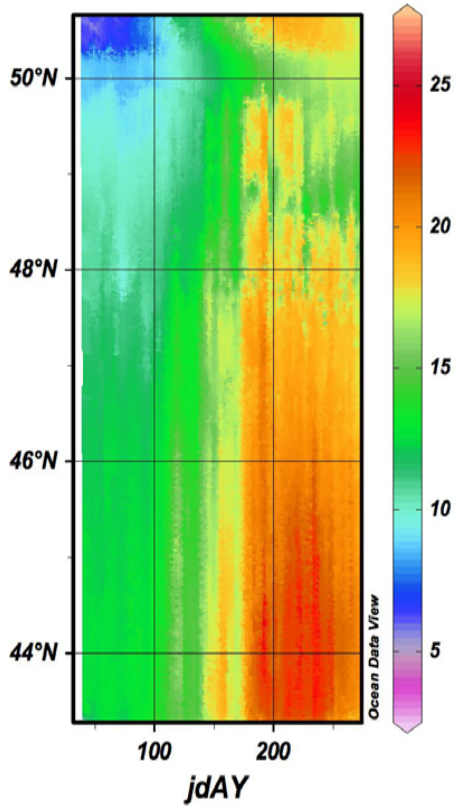
- monthly or 2-weekly pigment concentrations for 24 individual pigments.
- monthly or 2-weekly microscope algal counts.
- 3-day repeat light measurements from sensors on the ship's mast.
- 3-day repeat standard CTD, oxygen and fluorescence measurements.
- Monthly nutrients.



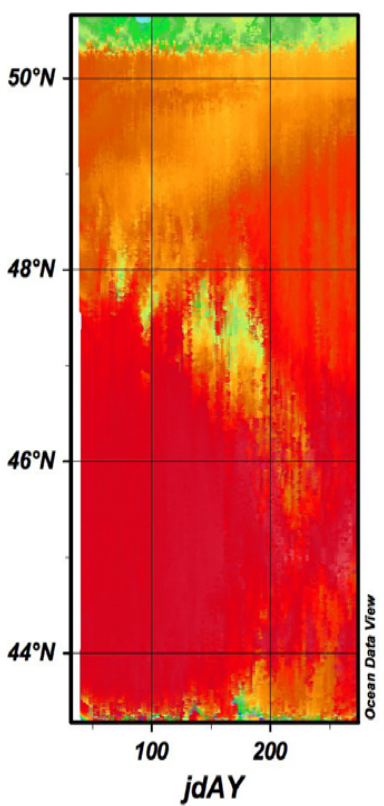
Ferrybox 5 minute data Feb-Sept



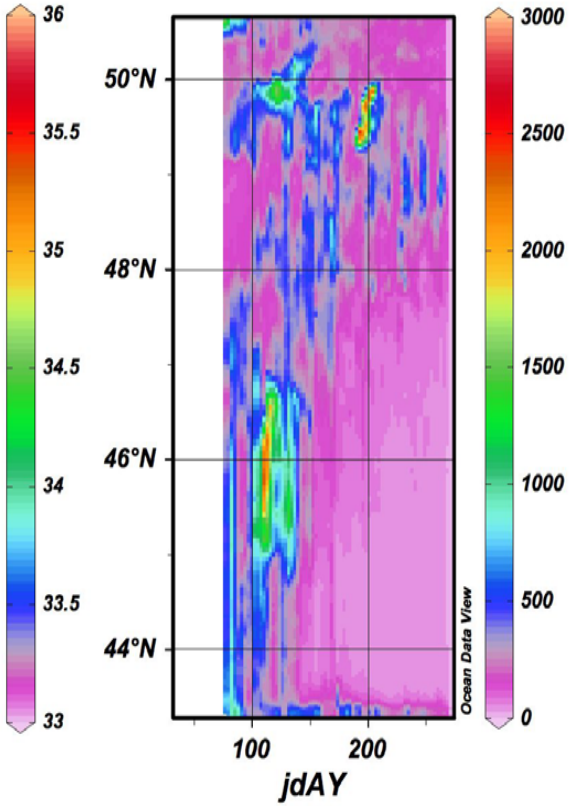
Temperature



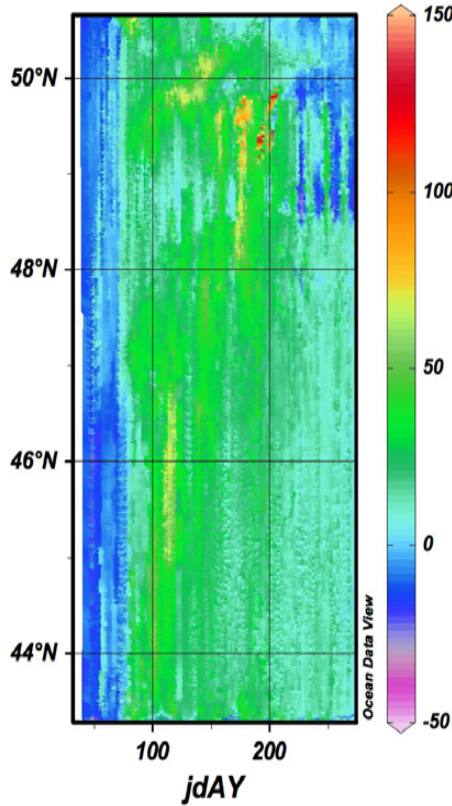
Salinity



Fluorescence

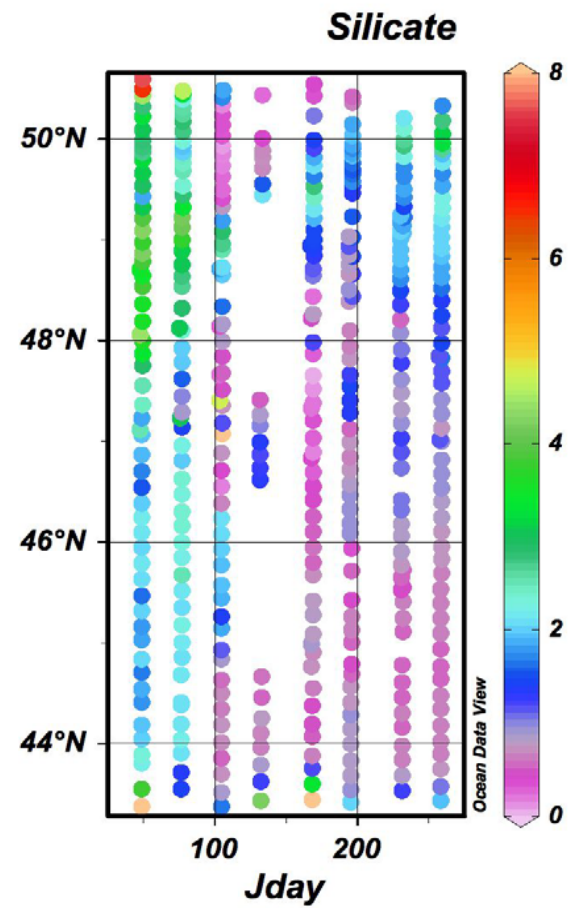
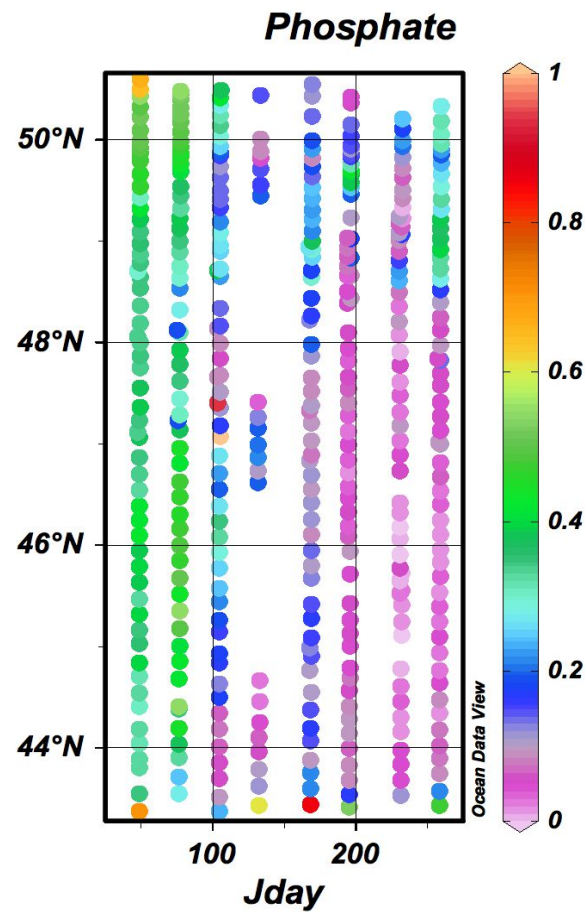
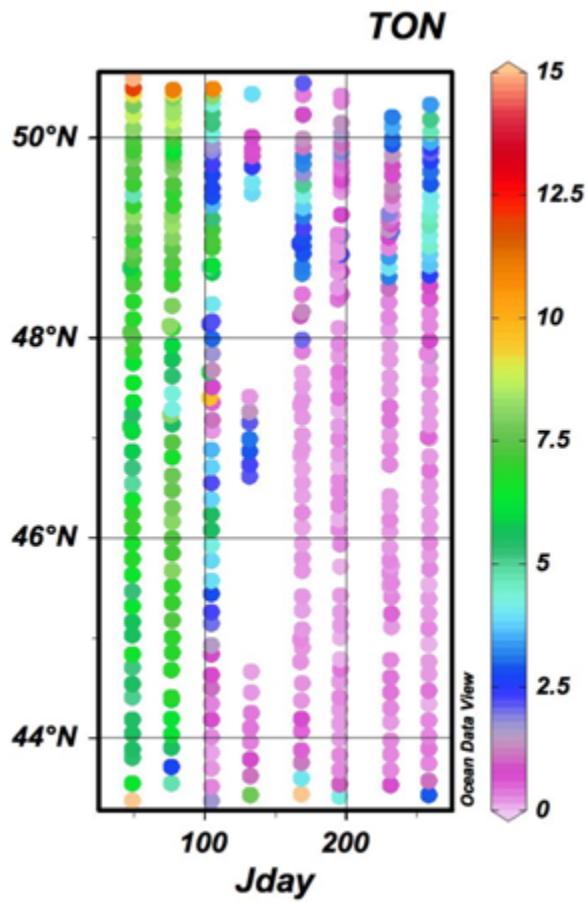
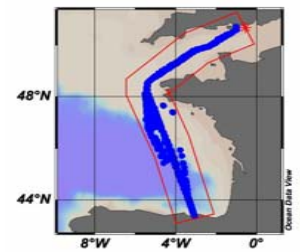


O2_Anom



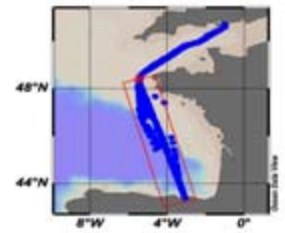
Total Nutrients

$\mu\text{mol l}^{-1}$

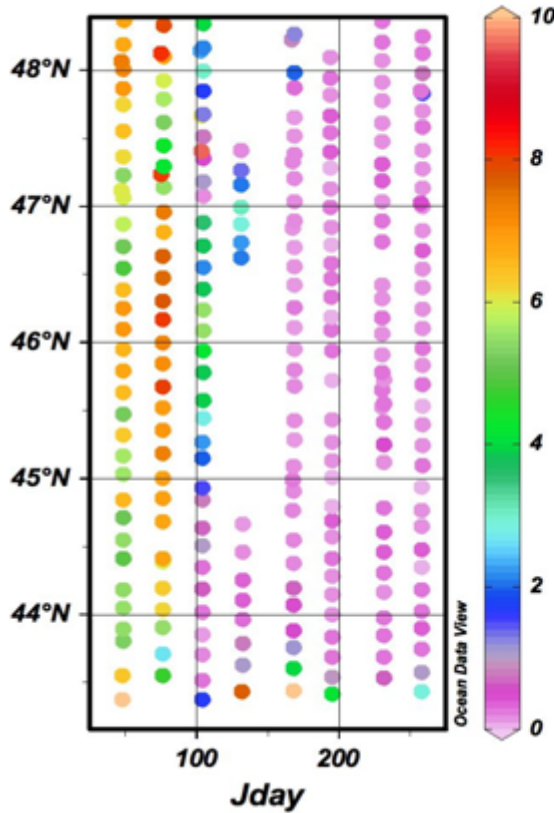


Biscay nutrients

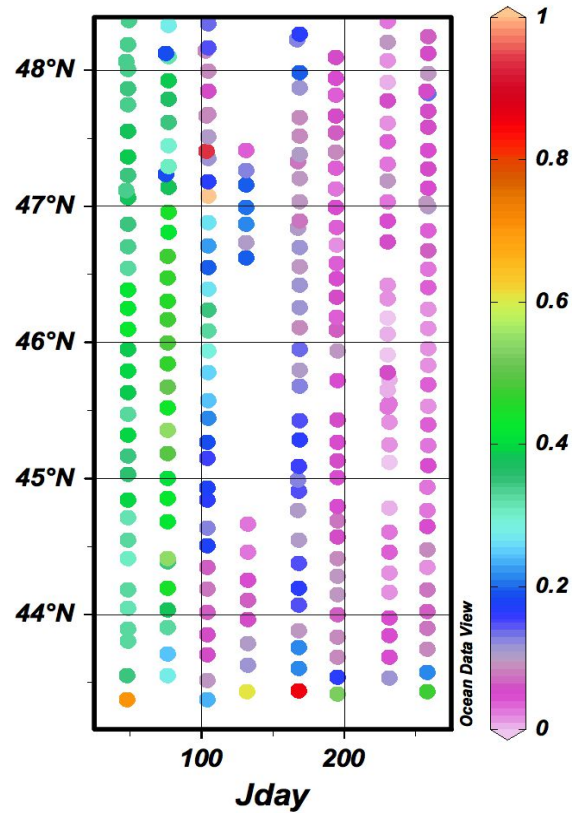
umol l⁻¹



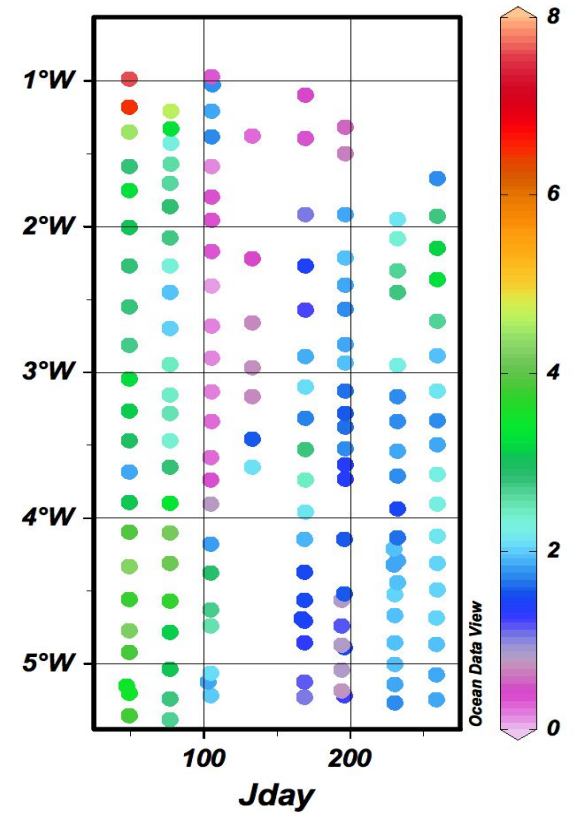
TON



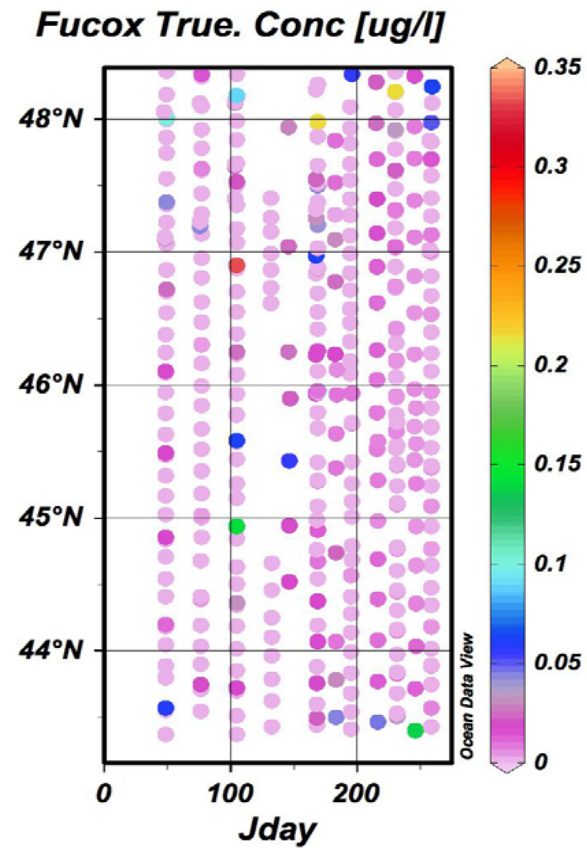
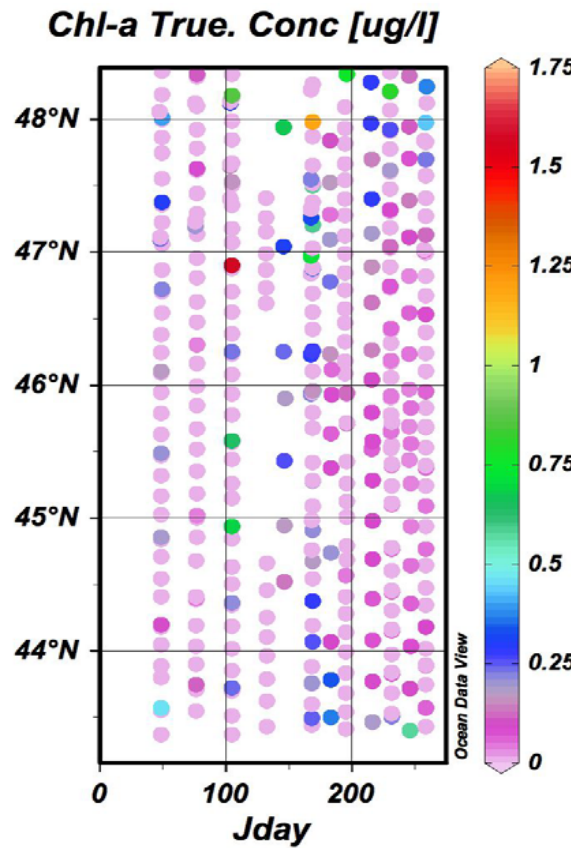
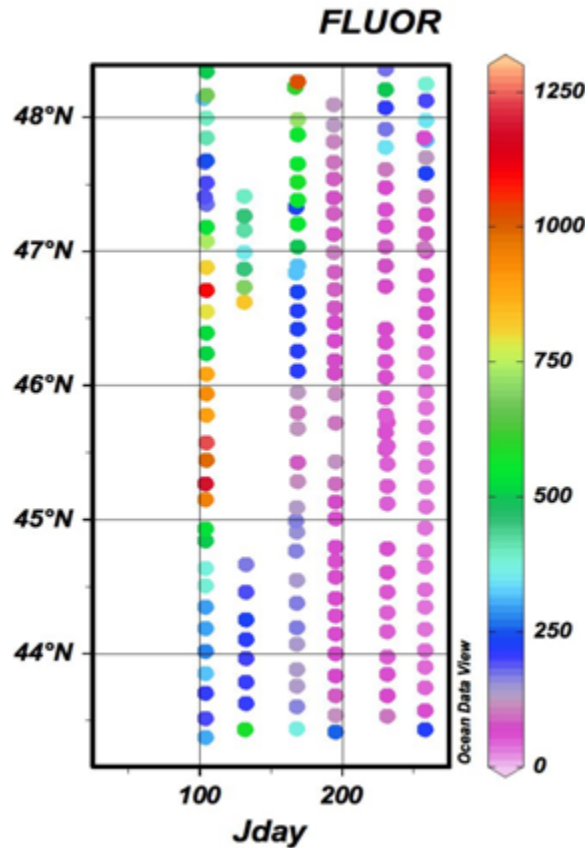
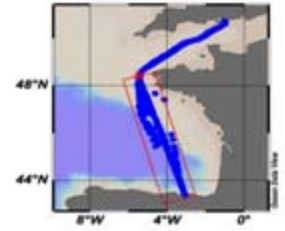
Phosphate



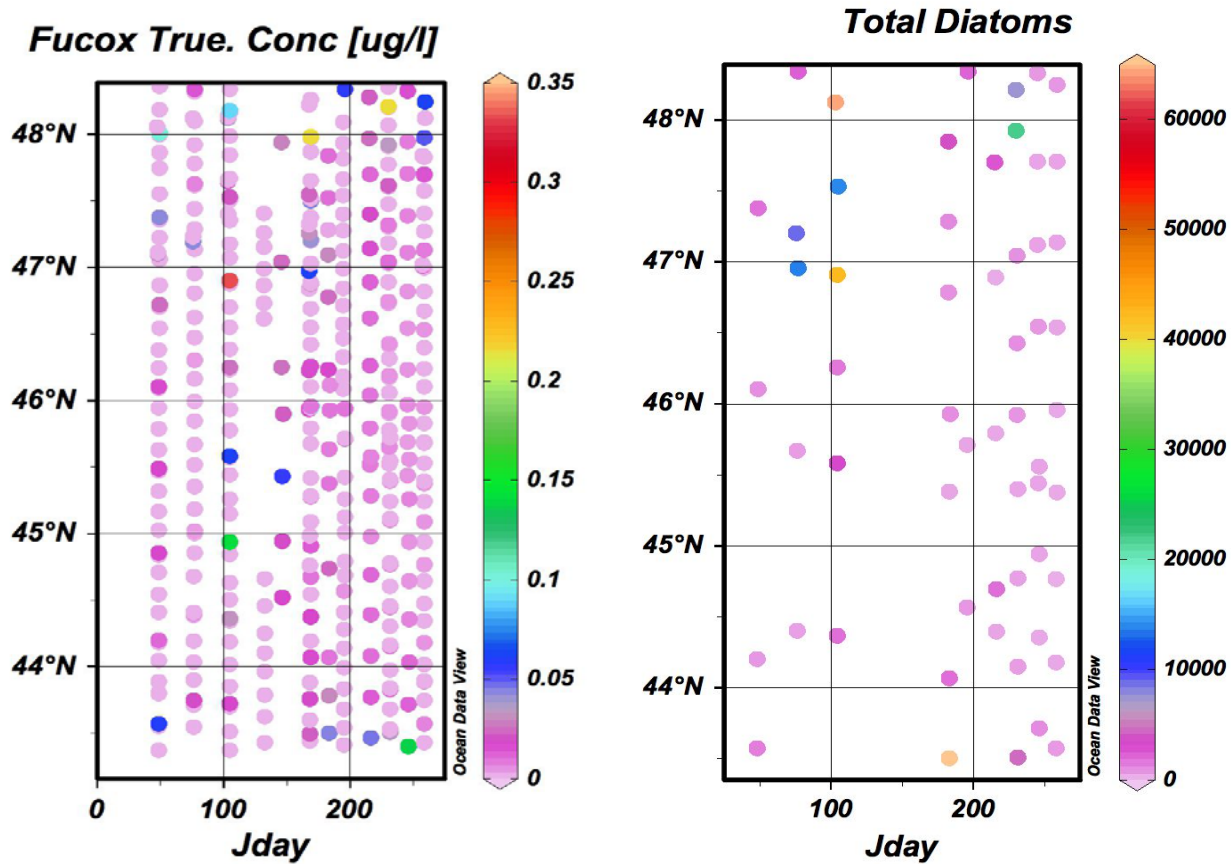
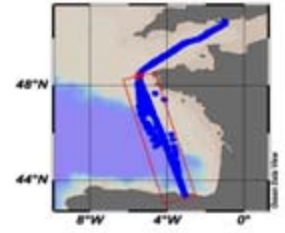
Silicate



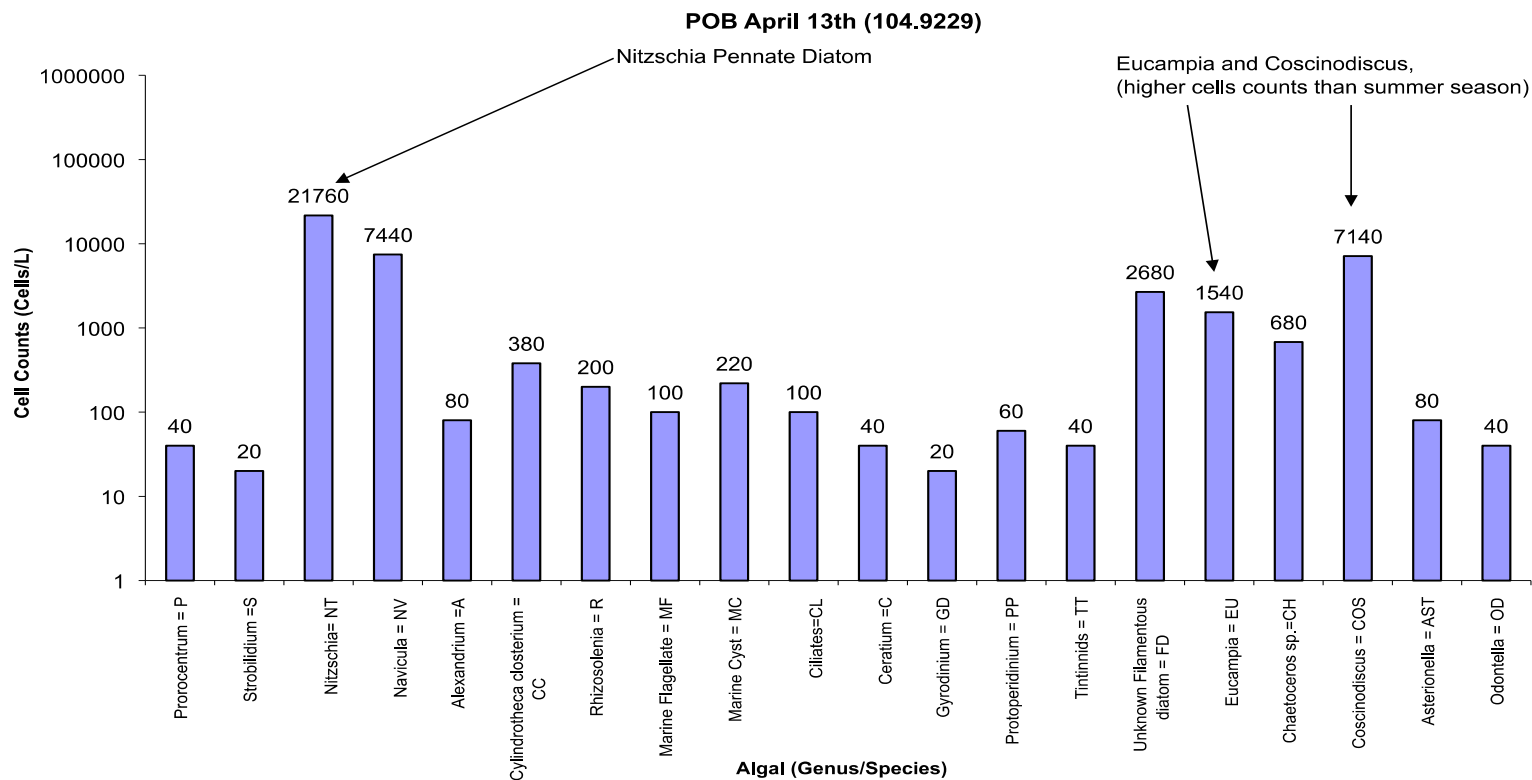
Biscay Pigments



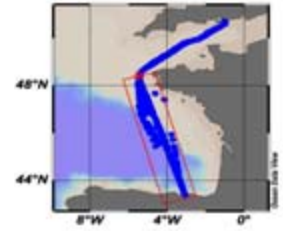
Diatoms



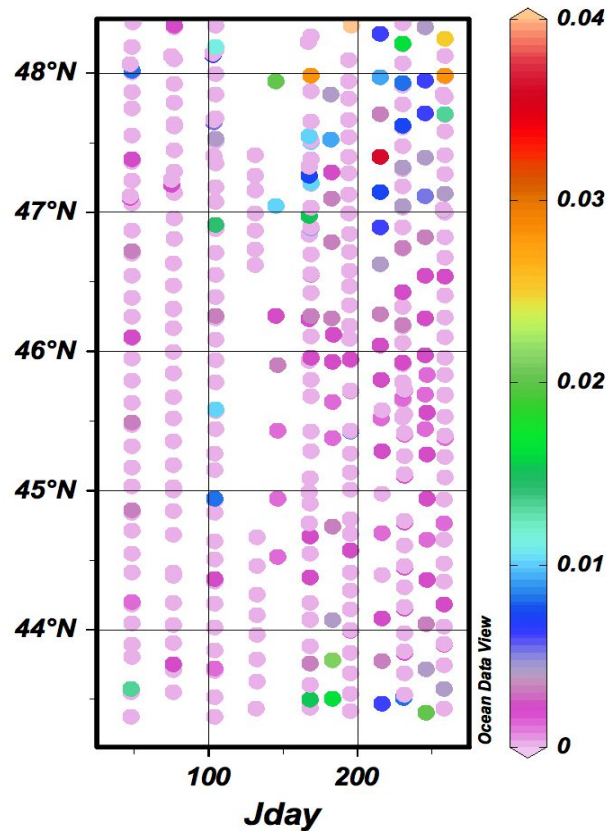
April Bloom



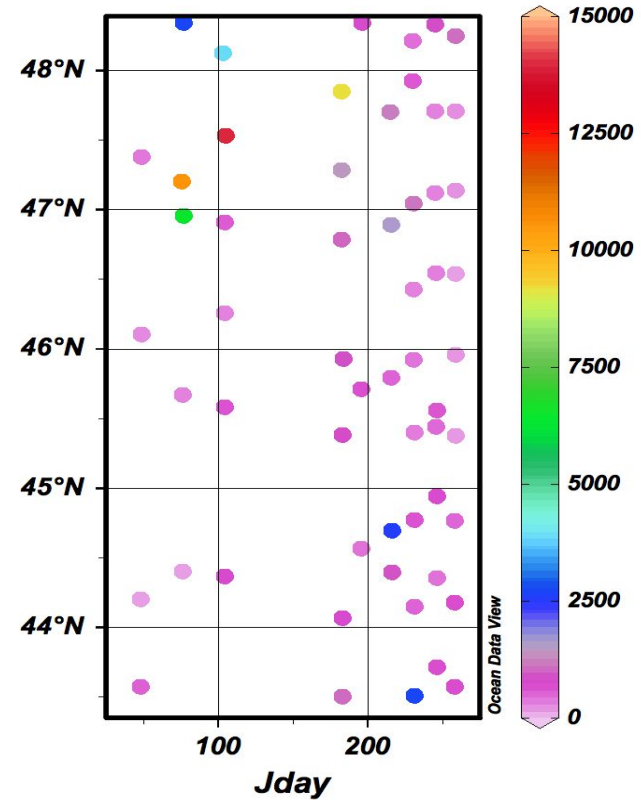
Dinoflagellates



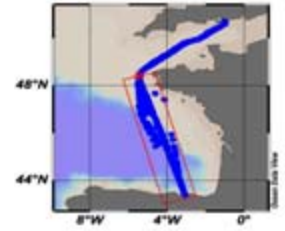
Peridinin True. Conc [ug/l]



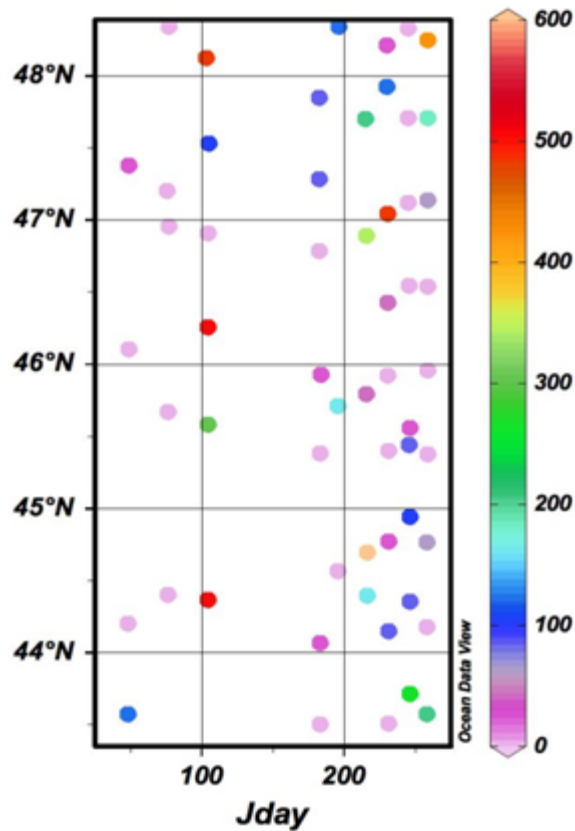
Total Dinoflagellates



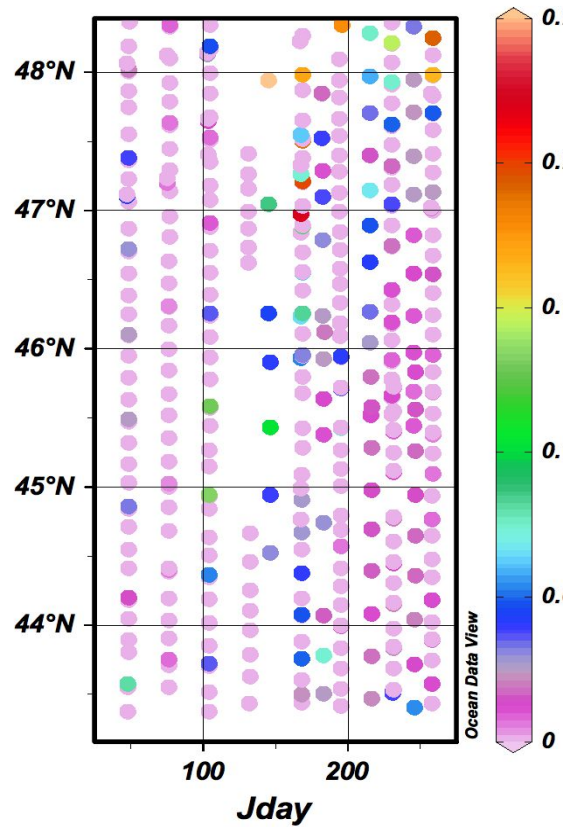
Coccolithophores



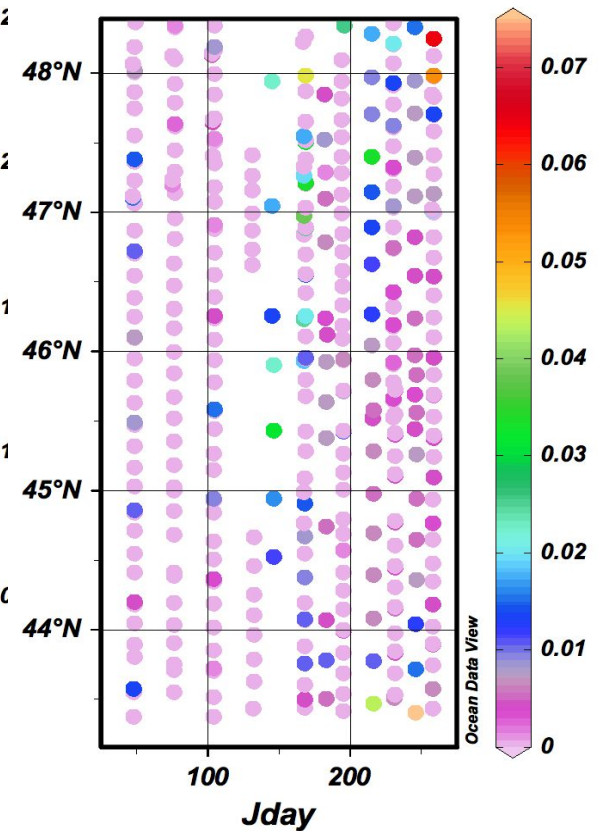
Total coccolithophores = COC



19-Hex True. Conc [$\mu\text{g/l}$]

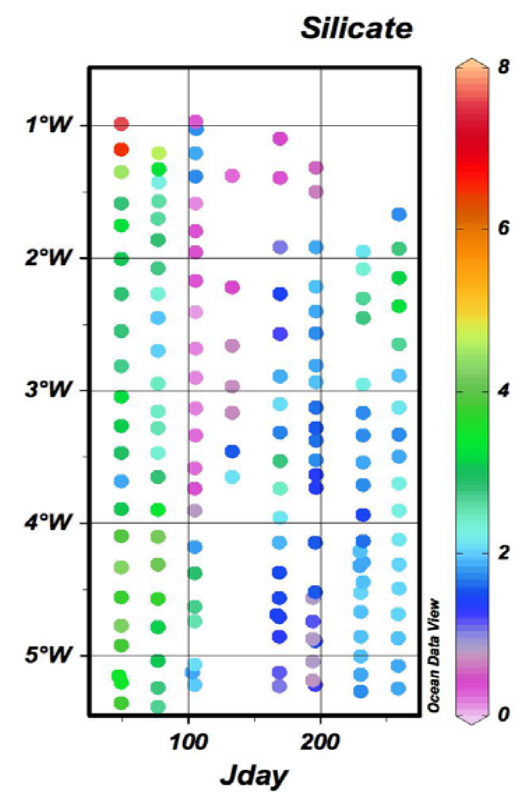
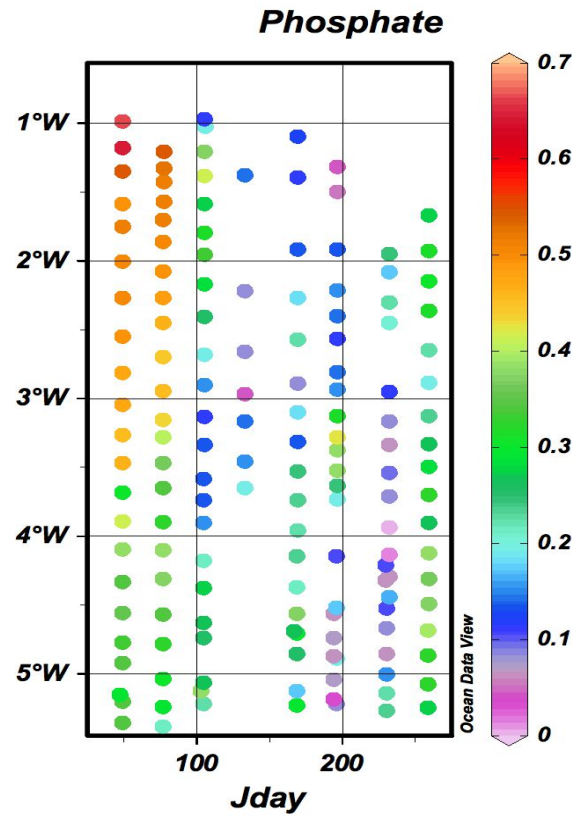
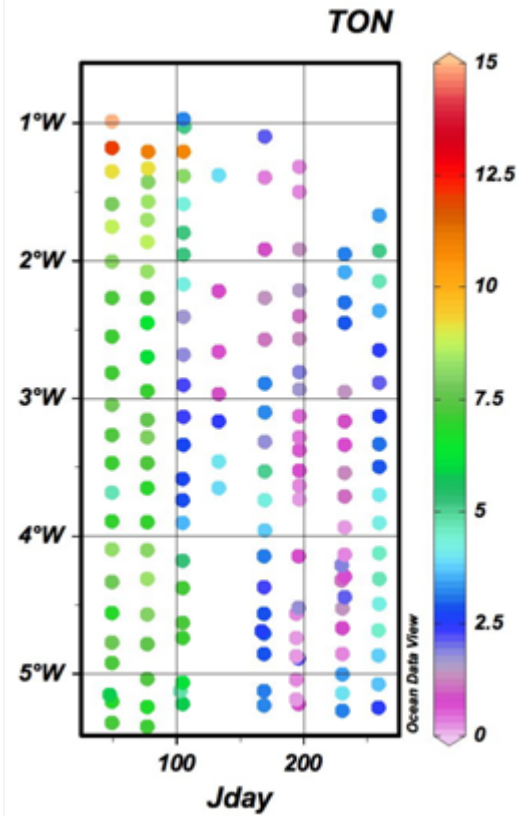
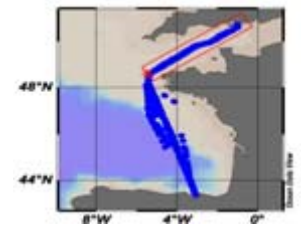


19-But True. Conc [$\mu\text{g/l}$]

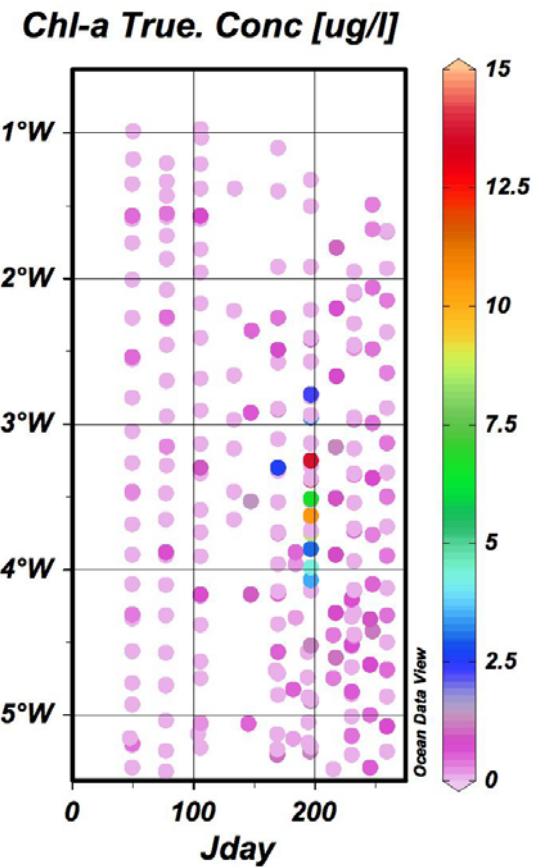
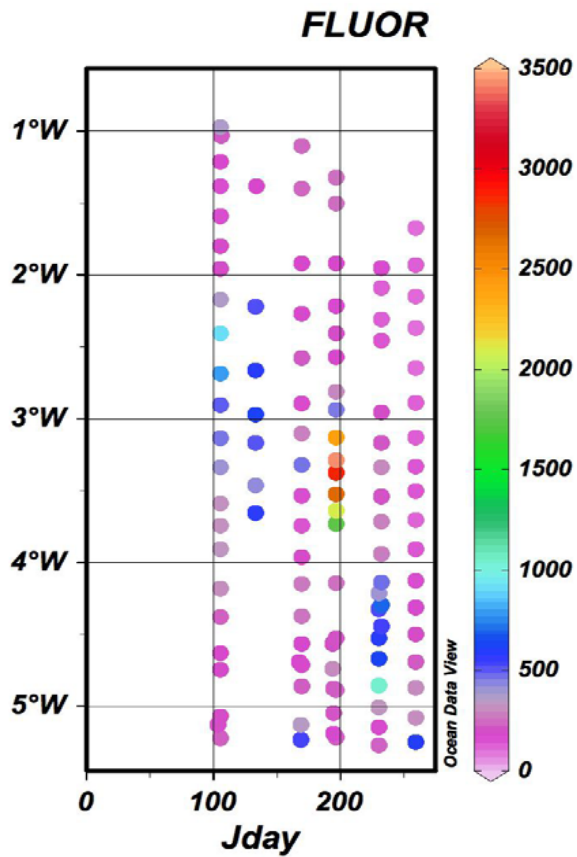
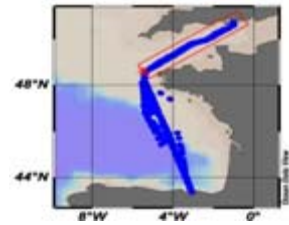


Channel nutrients

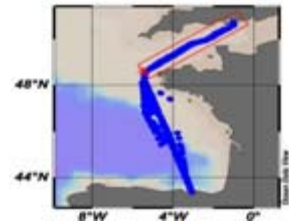
umol l⁻¹



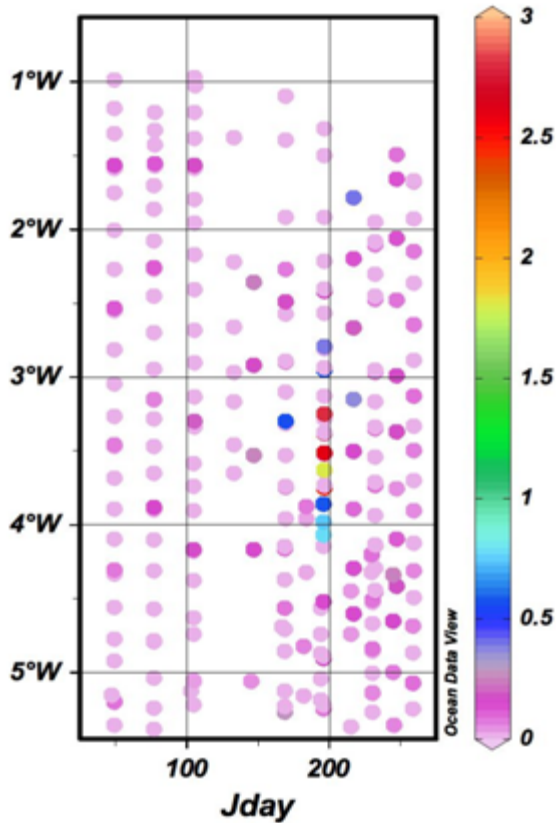
Channel Chlorophyll



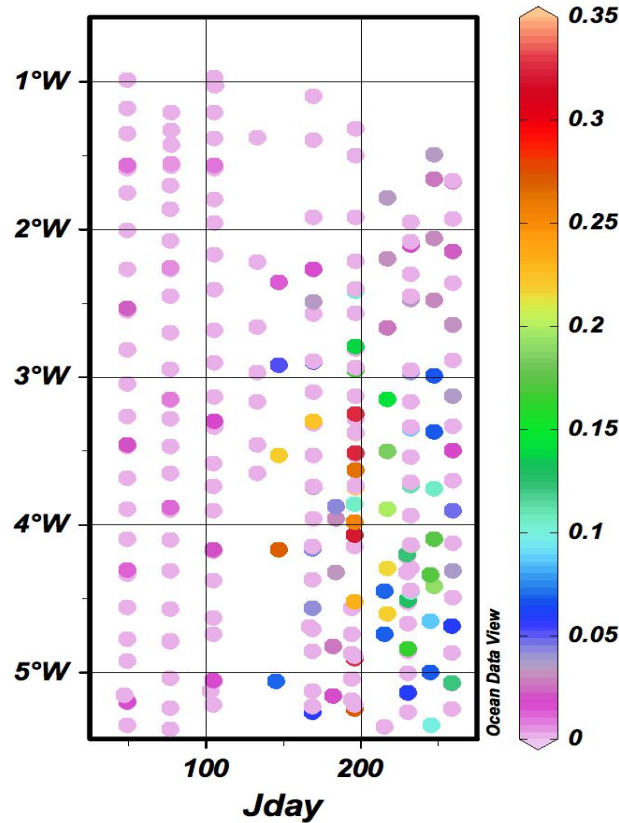
Channel pigments



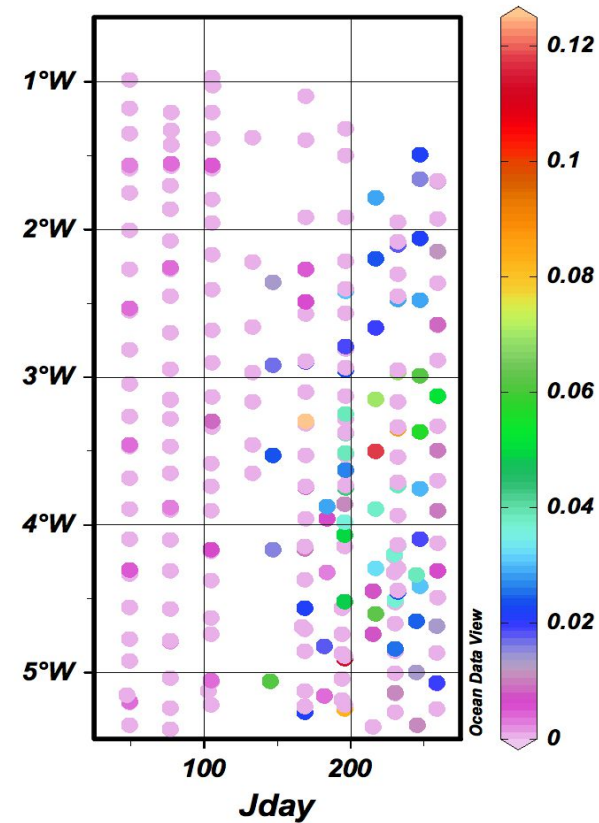
Fucox True. Conc [ug/l]



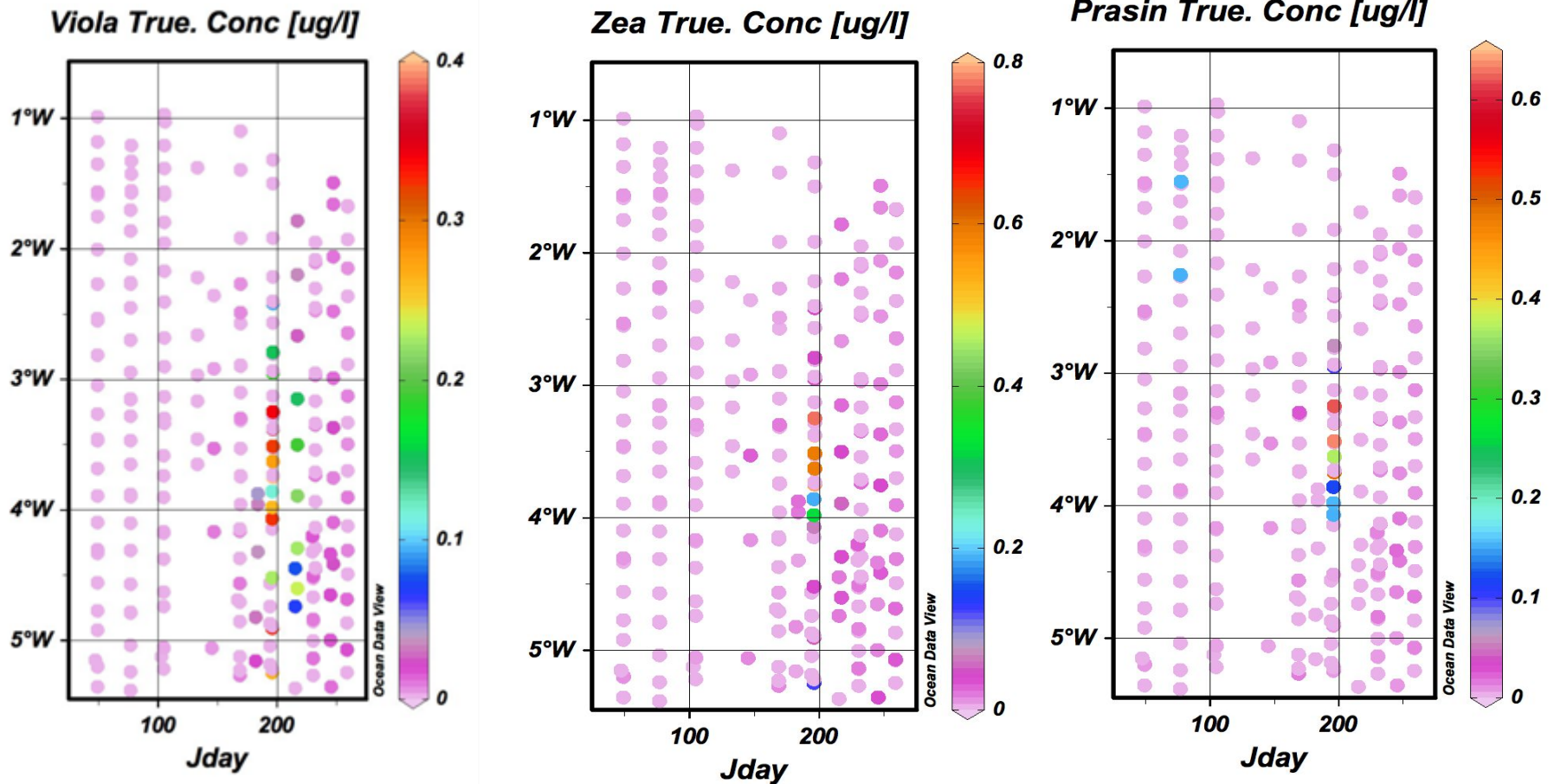
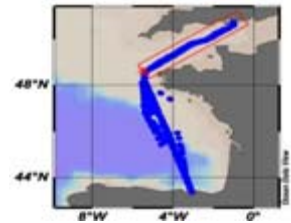
19-Hex True. Conc [ug/l]



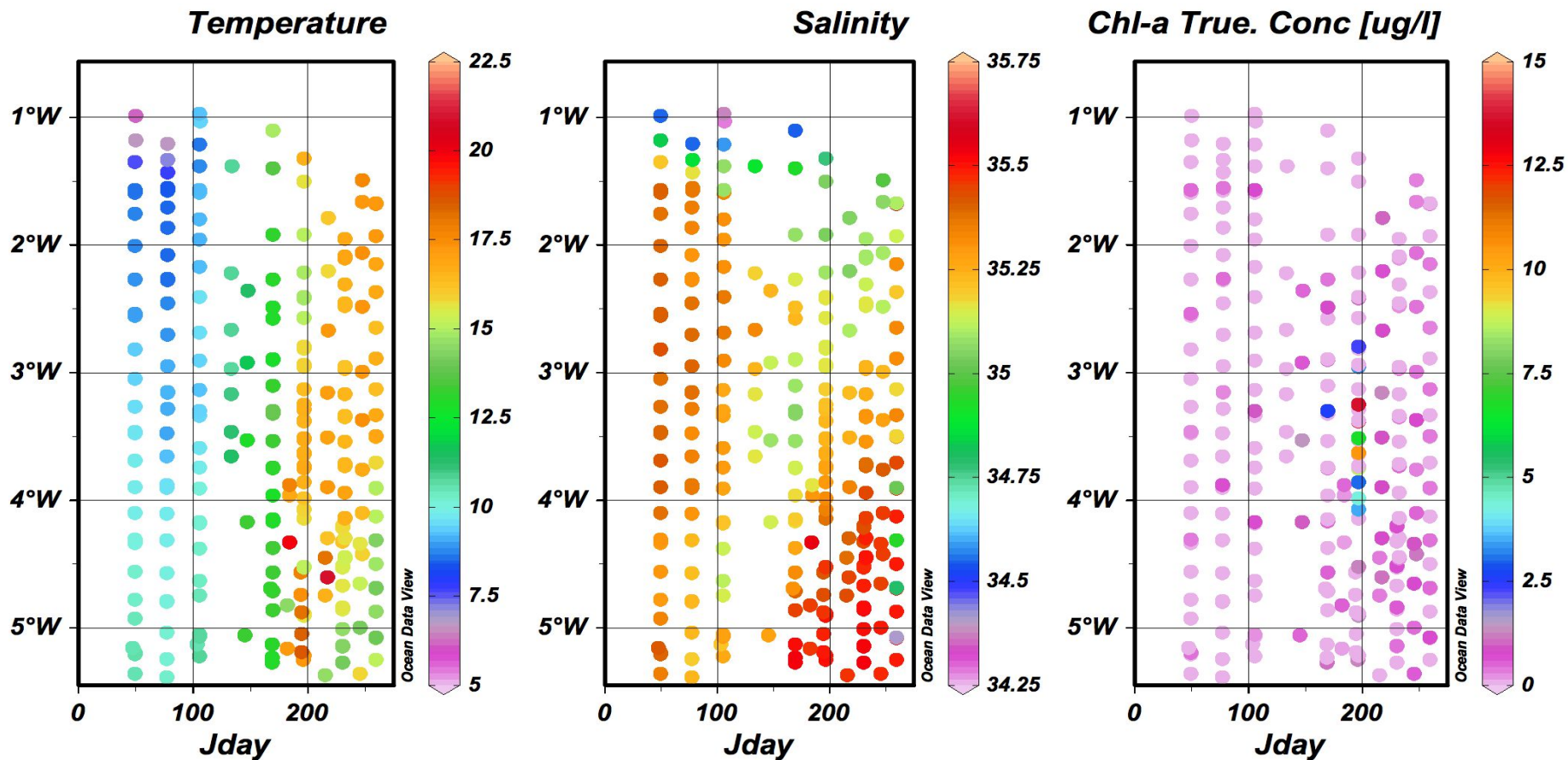
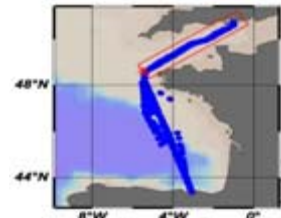
Peridinin True. Conc [ug/l]



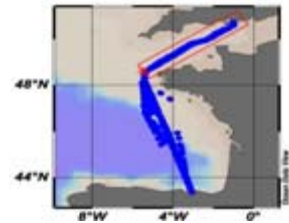
Channel Pigments



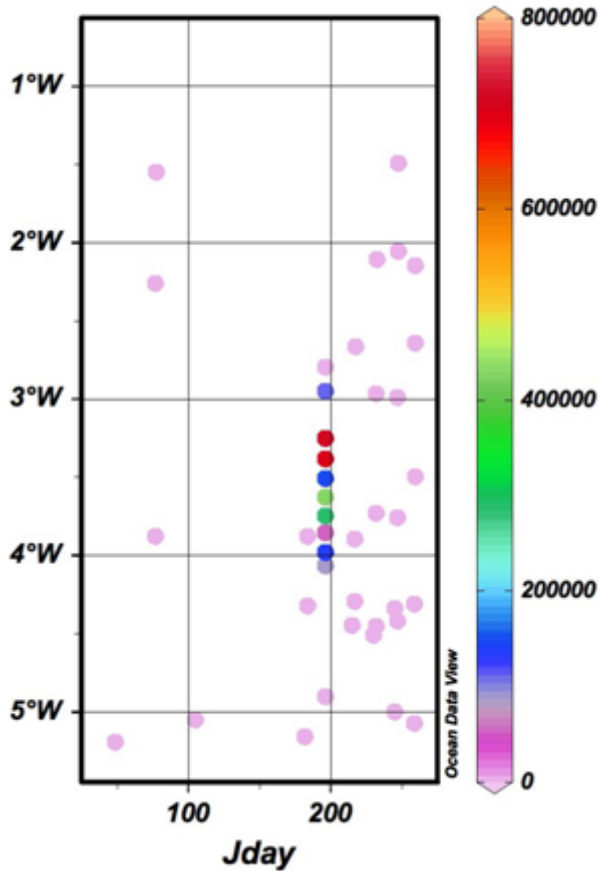
Channel hydrography



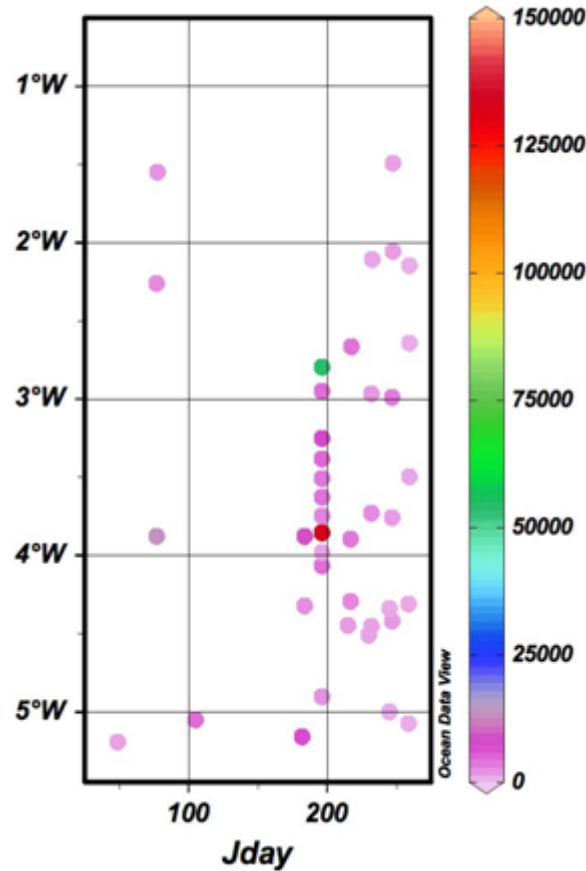
Channel species



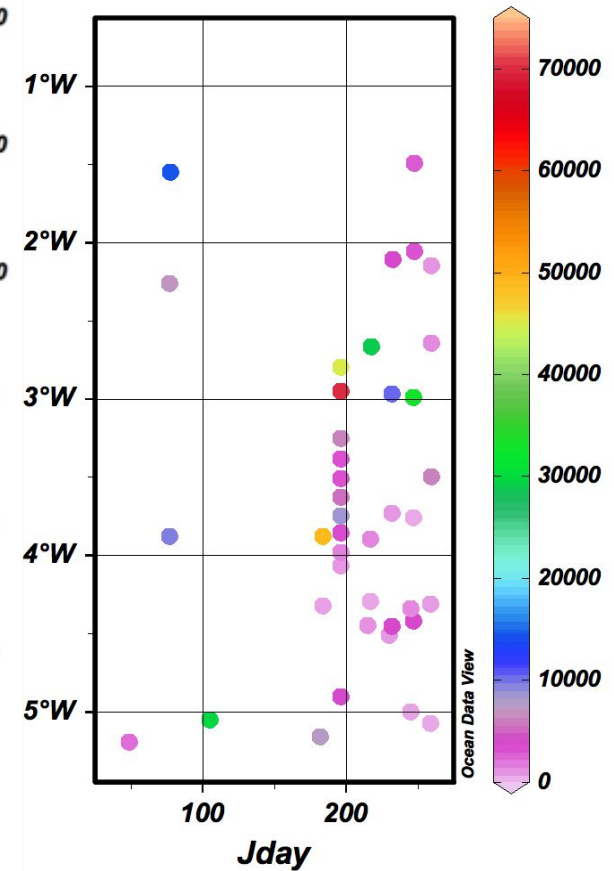
Karenia Miki



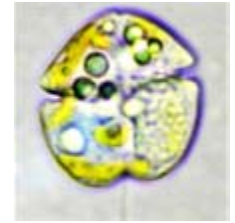
Dinoflagellates [ex *Karenia*]



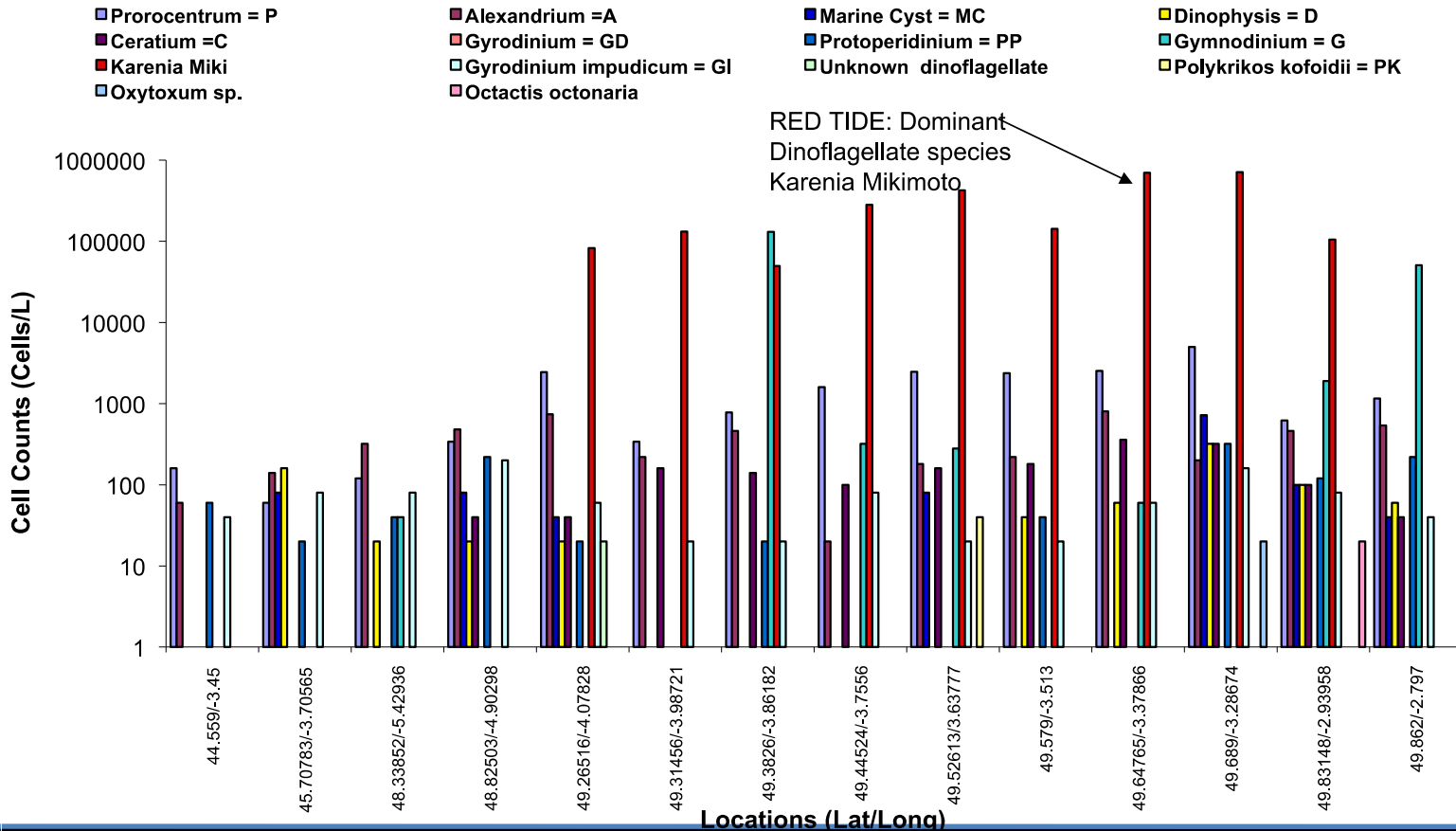
Total Diatoms



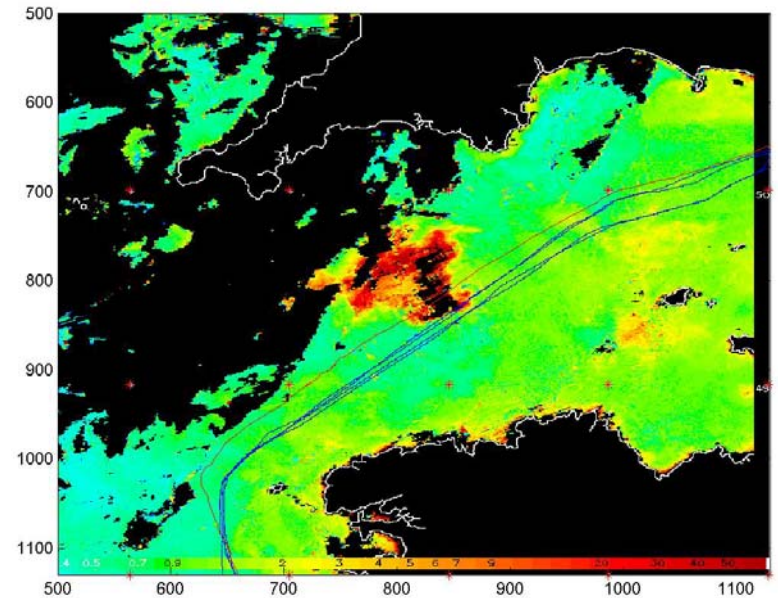
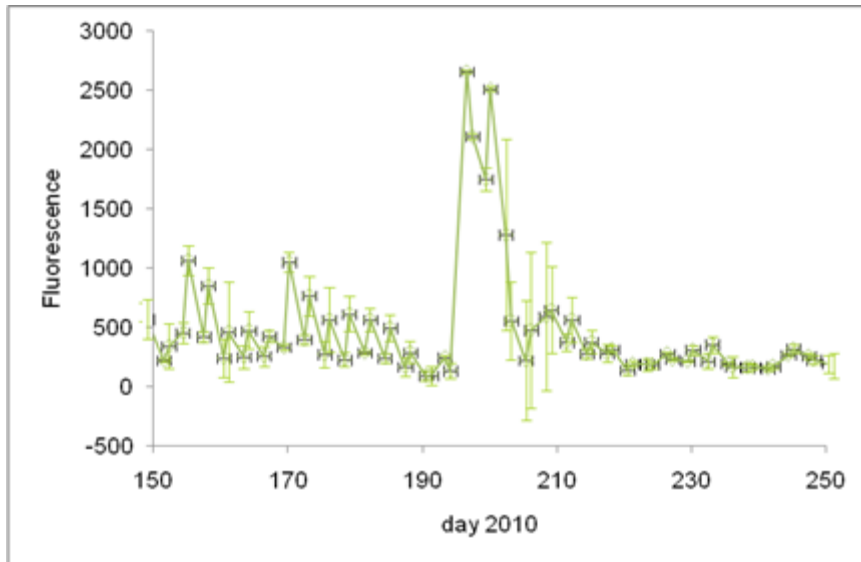
July bloom



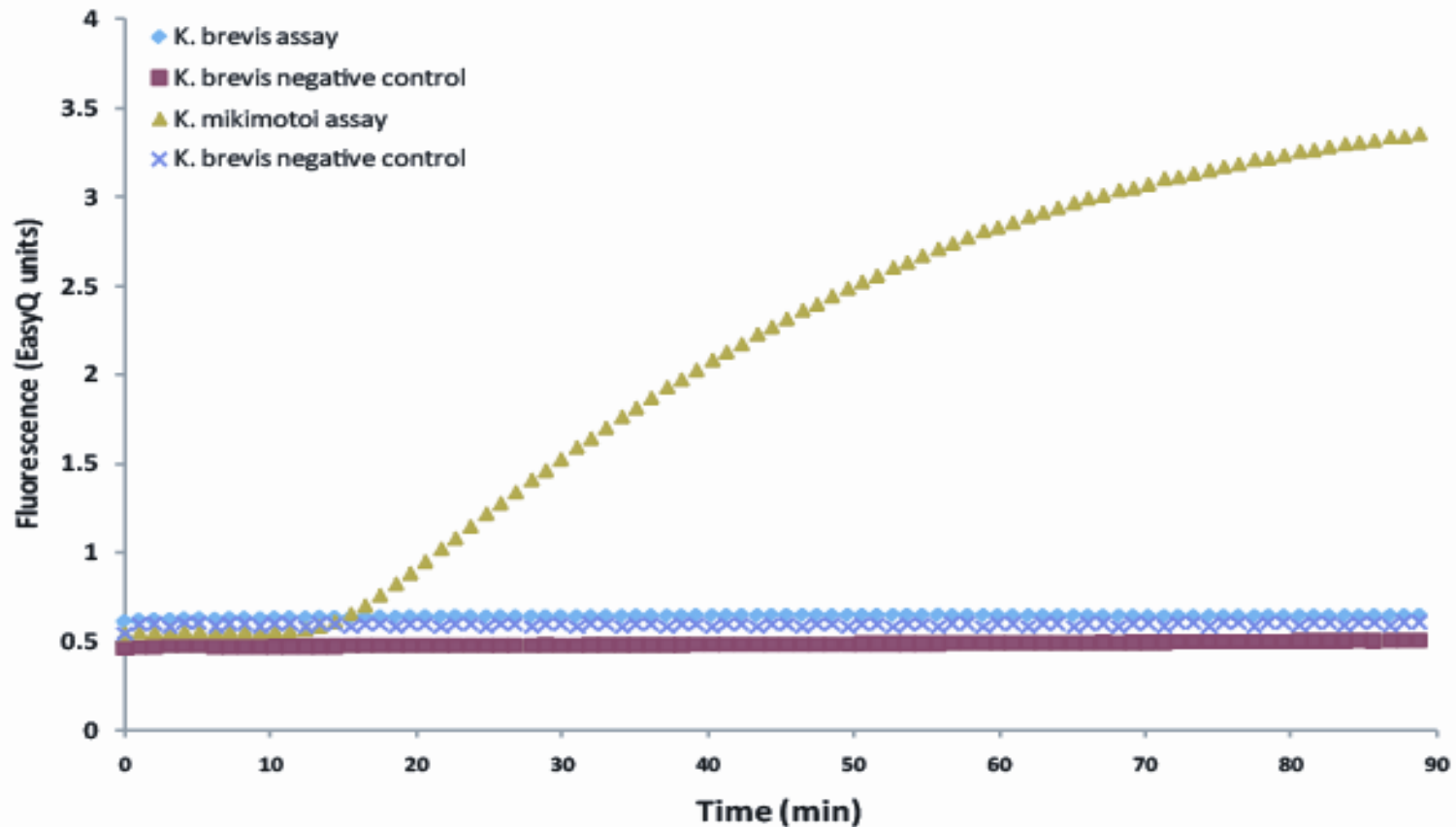
Dominant Algal Division (Dinoflagellates) 12-15 July 2010



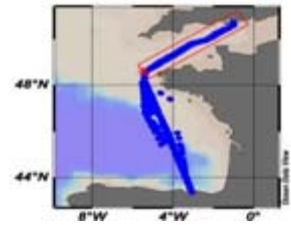
Karenia Bloom



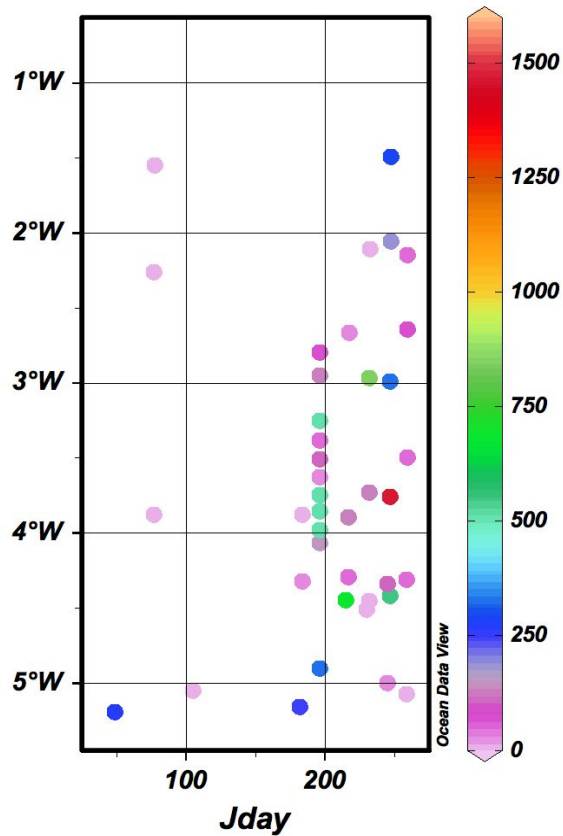
Nucleic Acid Sequence Based Assessment



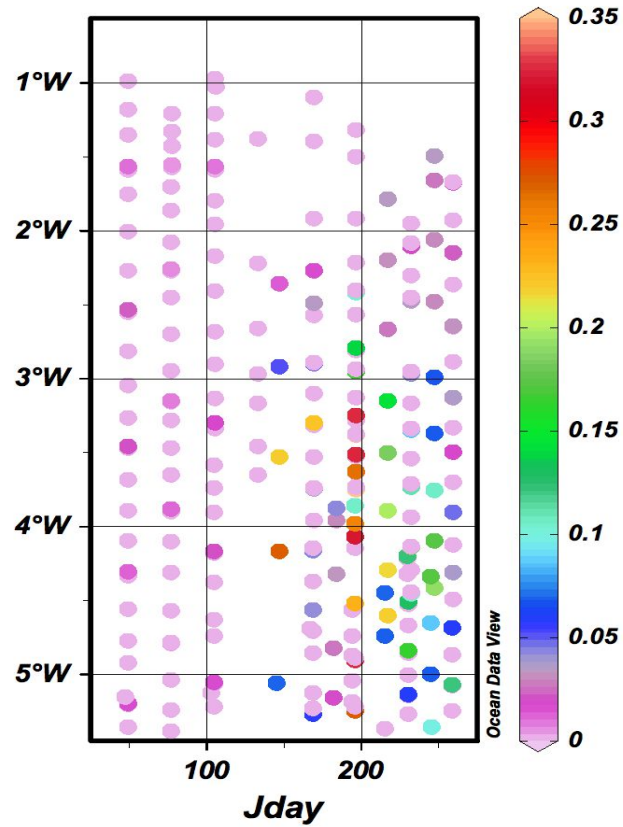
Coccolithophores



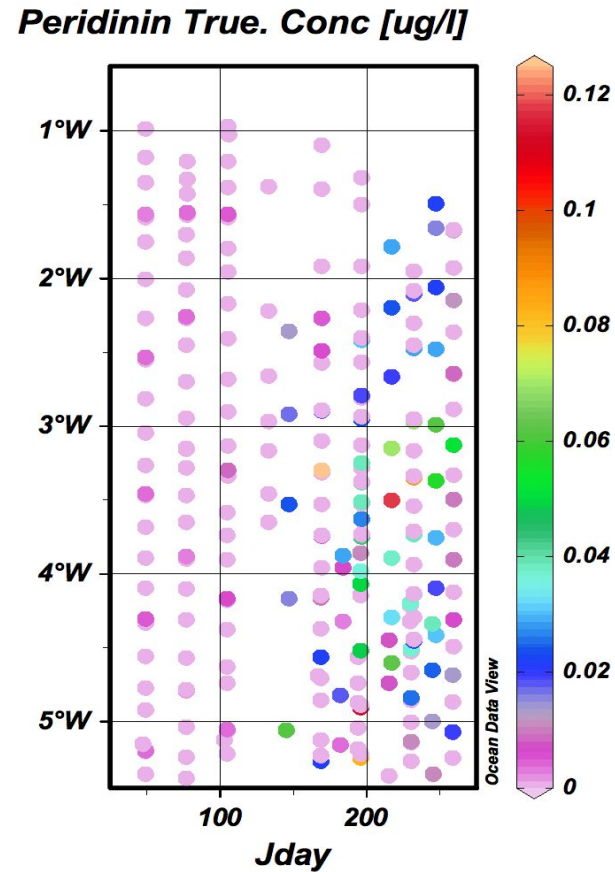
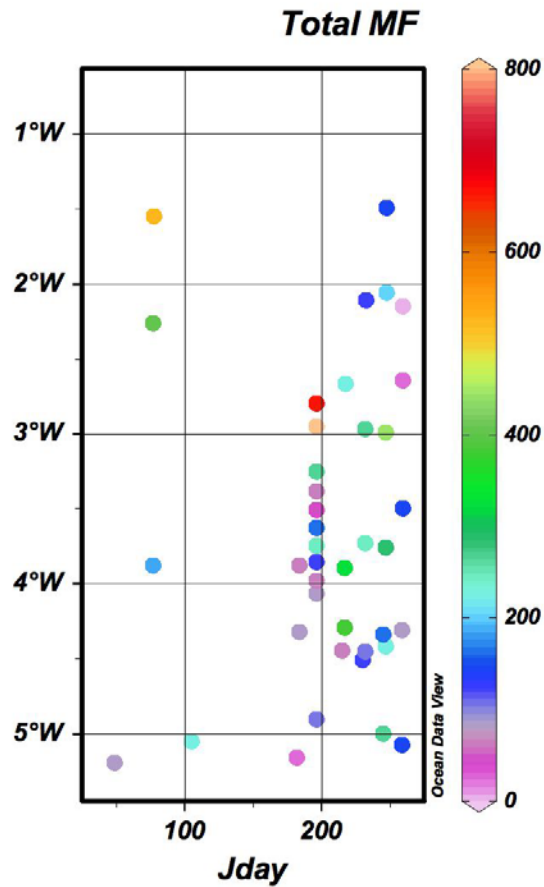
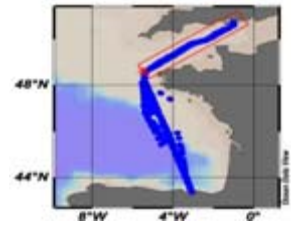
Total coccolithophores = COC



19-Hex True. Conc [ug/l]

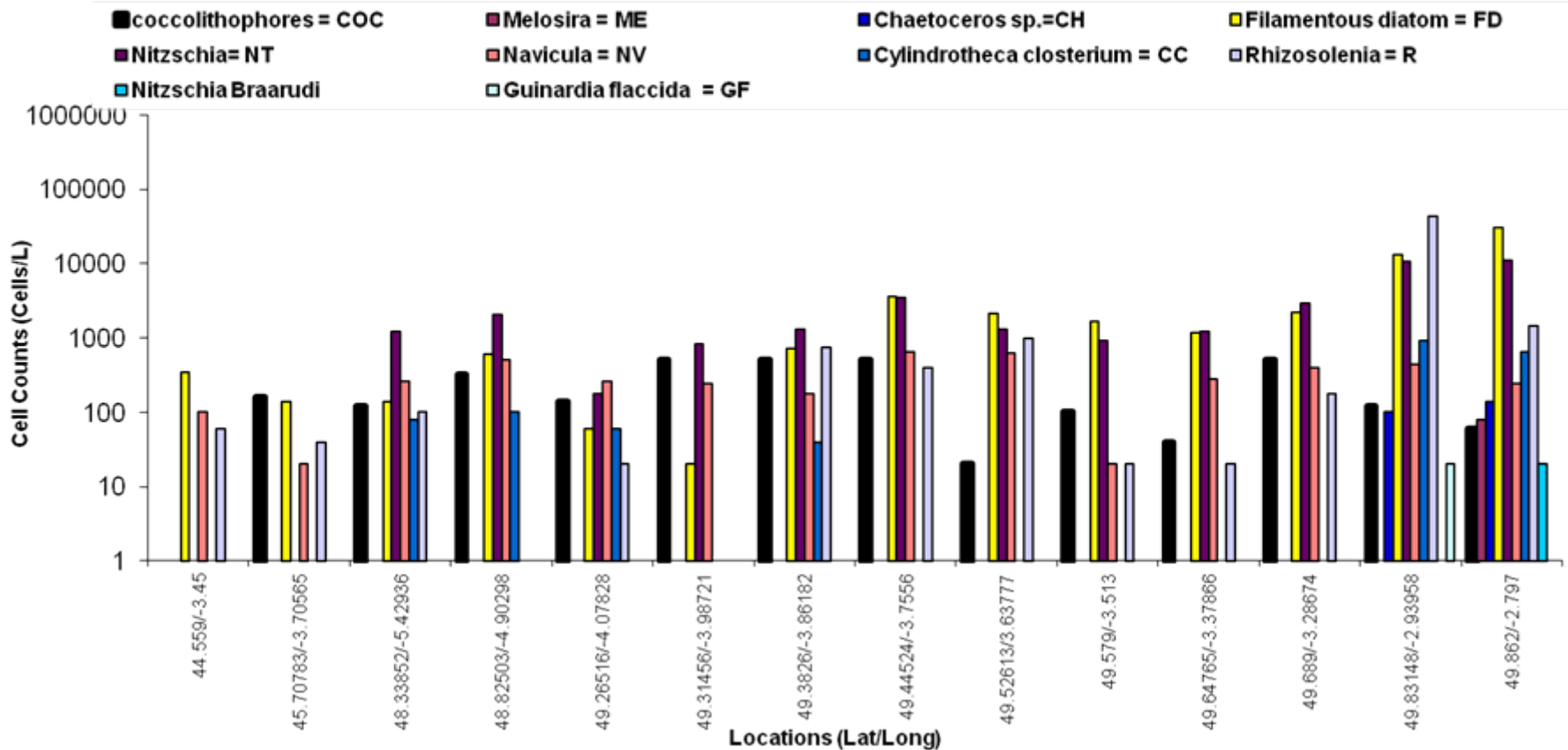


Flagellates



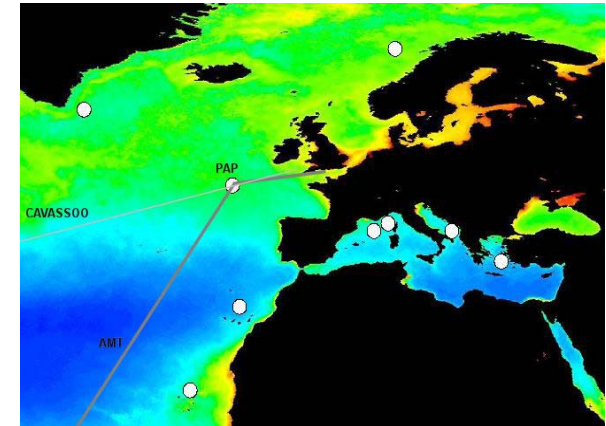
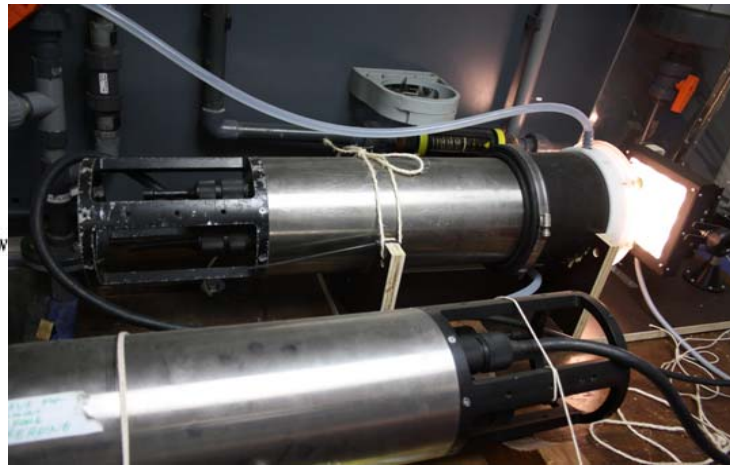
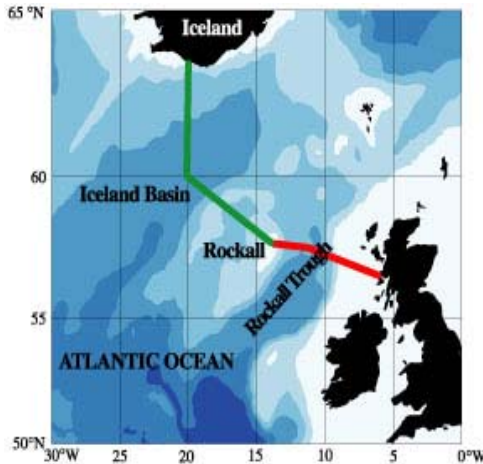
Diatoms and Coccolithophores

Diatoms and Coccolithophores 12-15 July 2010



Since then

- Cruise Scotland - Iceland: May - June
- Cruise to PAP: July – August



Thank you

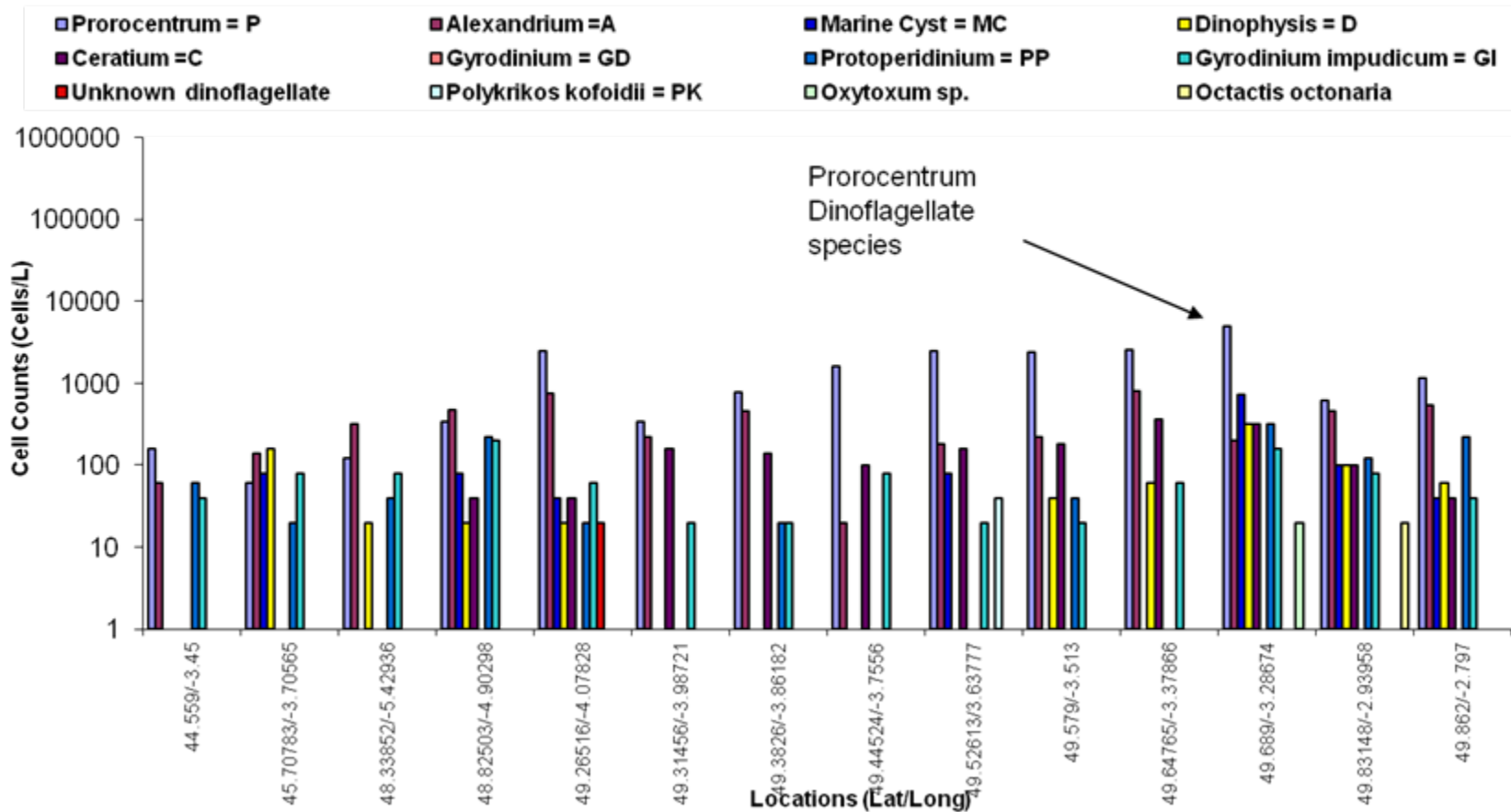


**National
Oceanography Centre**
NATURAL ENVIRONMENT RESEARCH COUNCIL

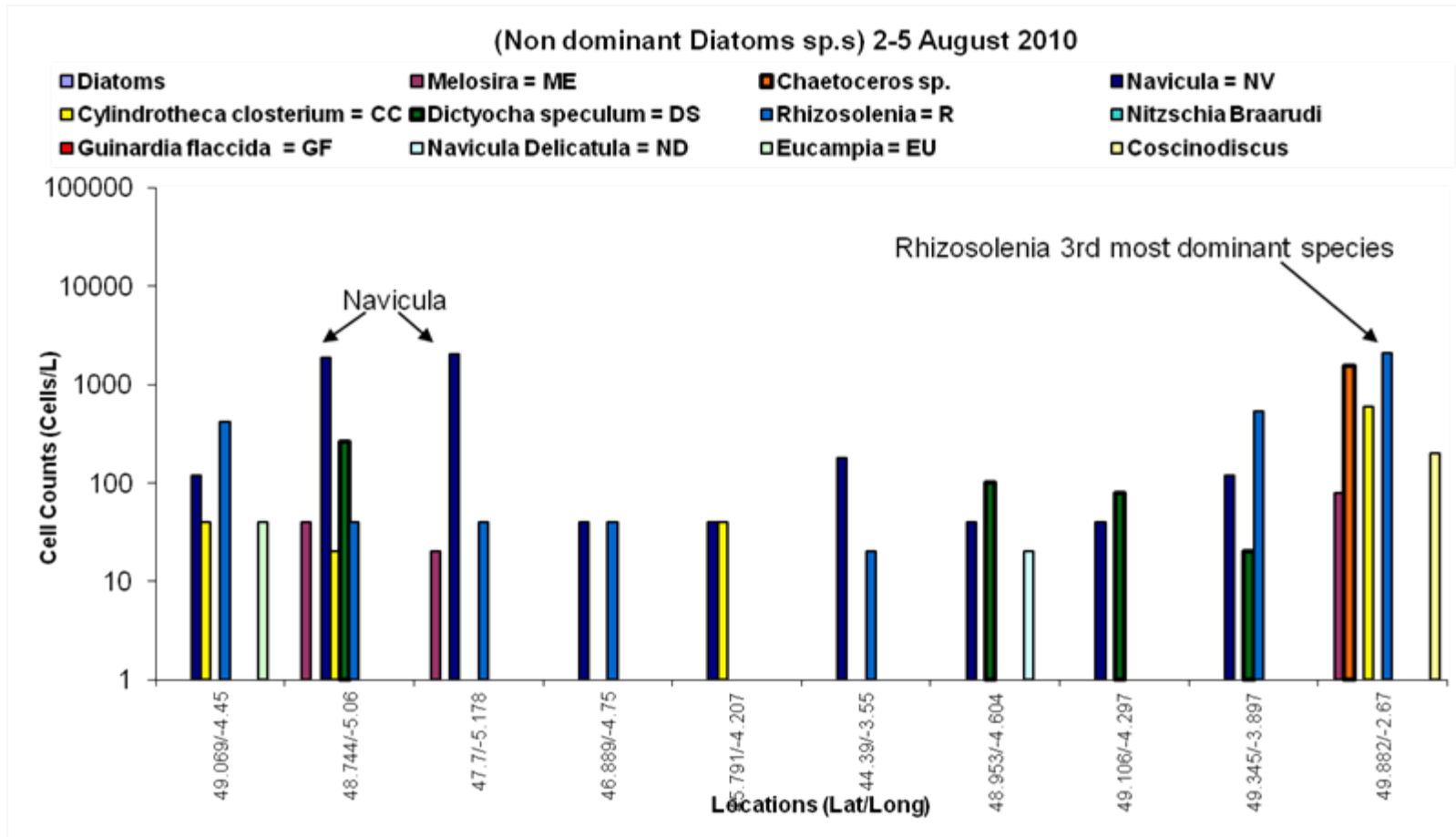
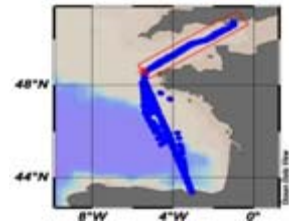


Early July

Non Dominant (Dinoflagellates) 12-15 July 2010

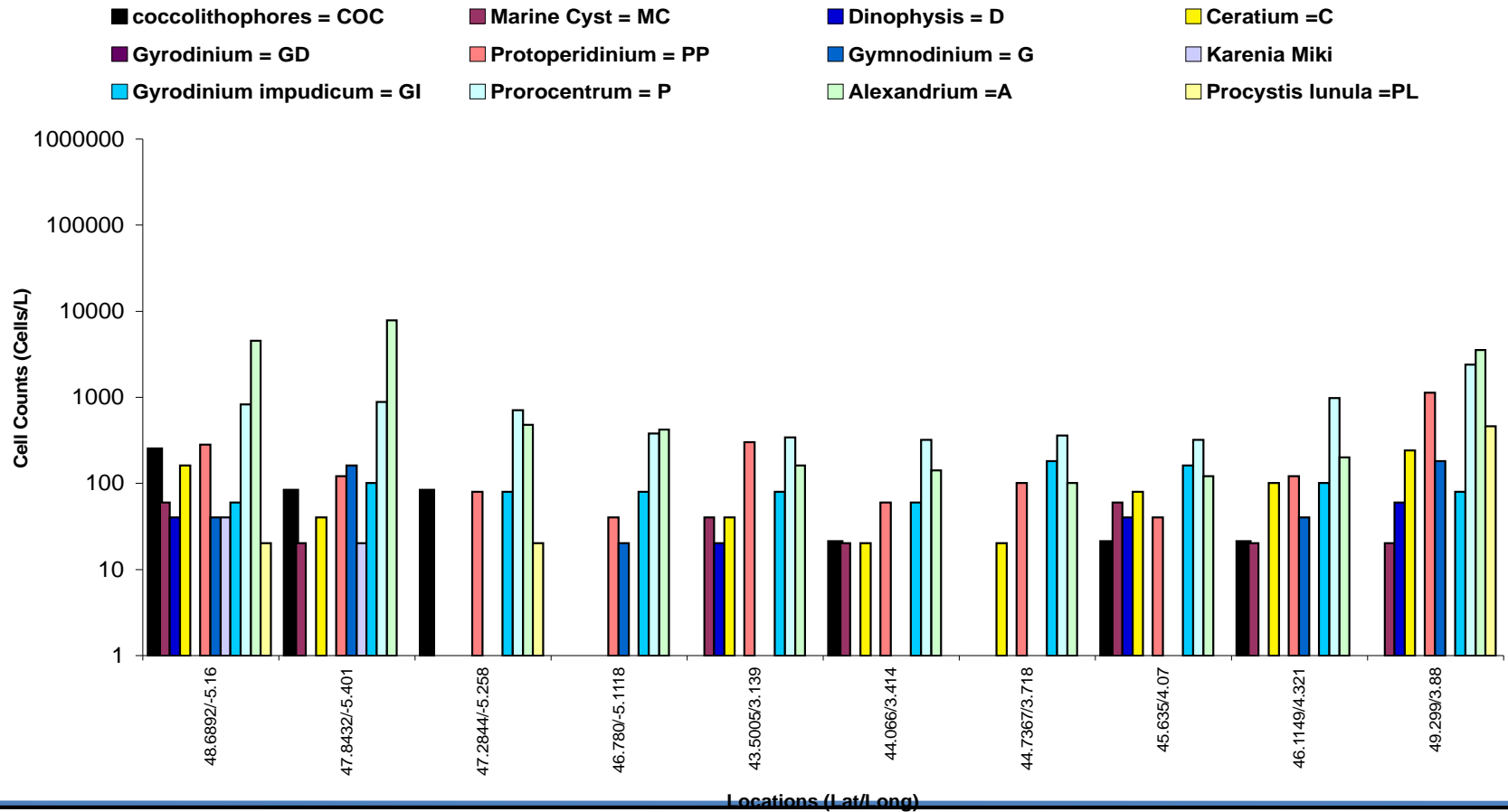


After bloom



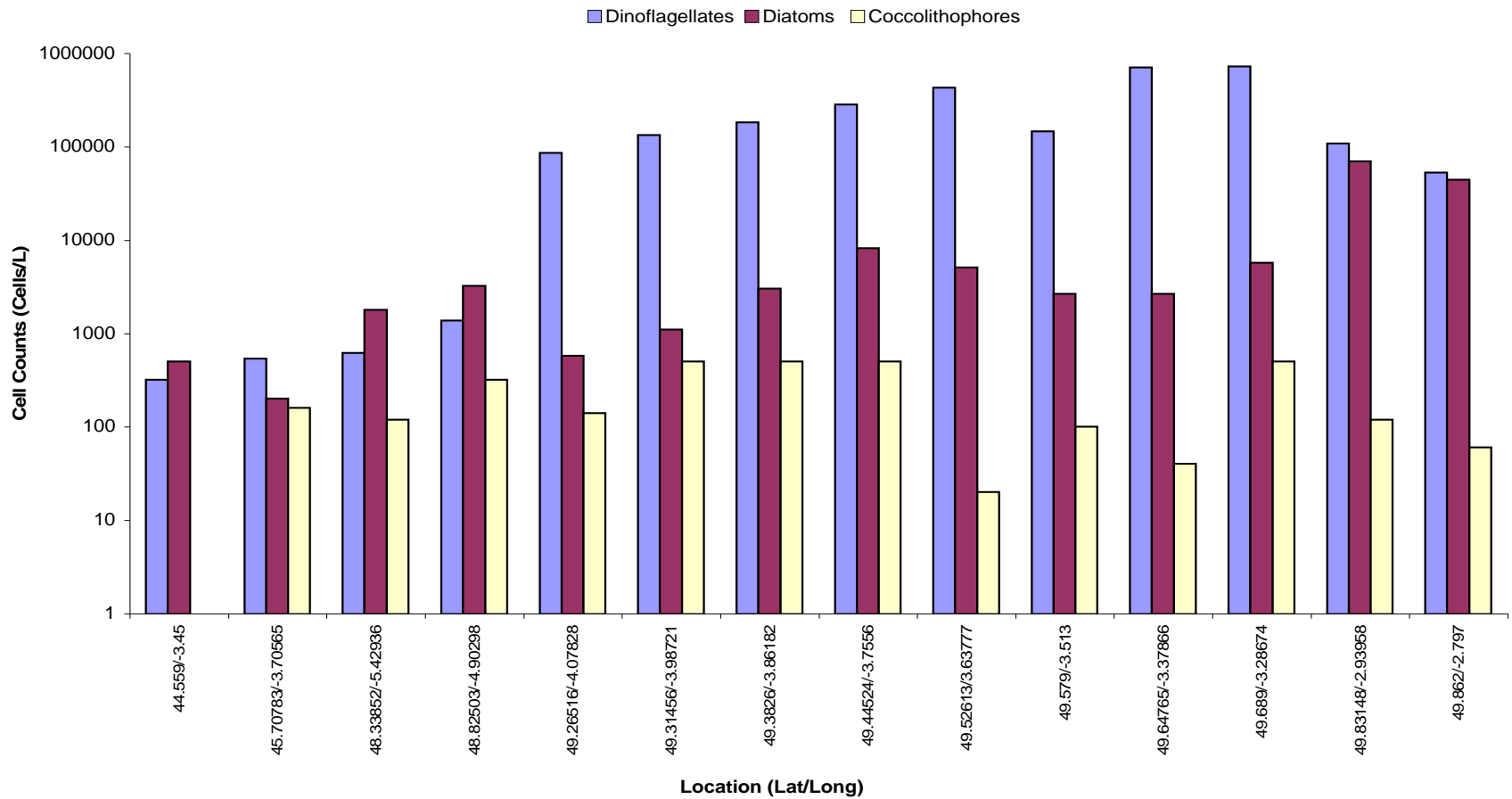
Dinoflagellates and Coccolithophores

Dinoflagellates and Coccolithophores 30June- 3July 2010



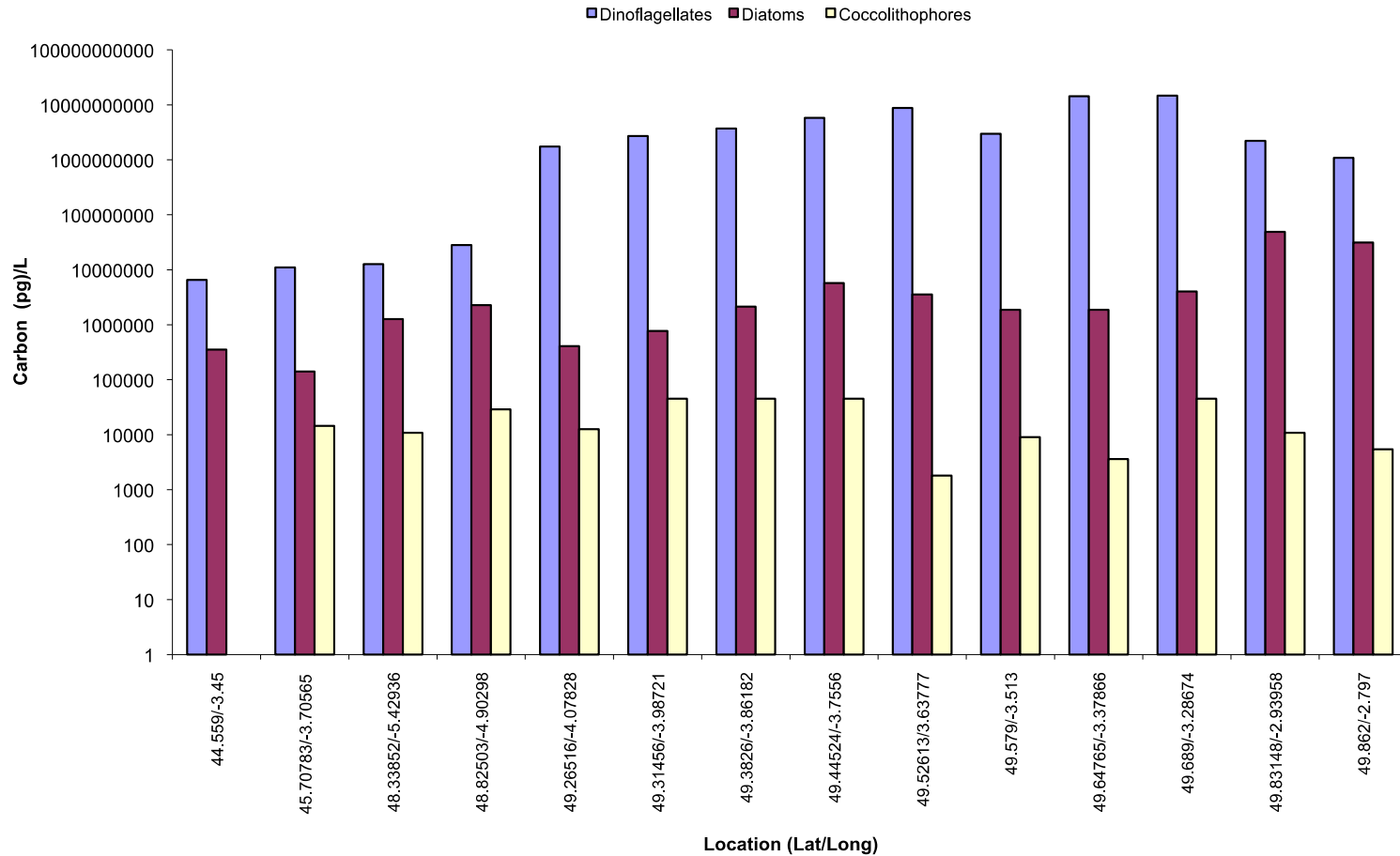
Counts July bloom

Cell Counts July 12-15th 2010

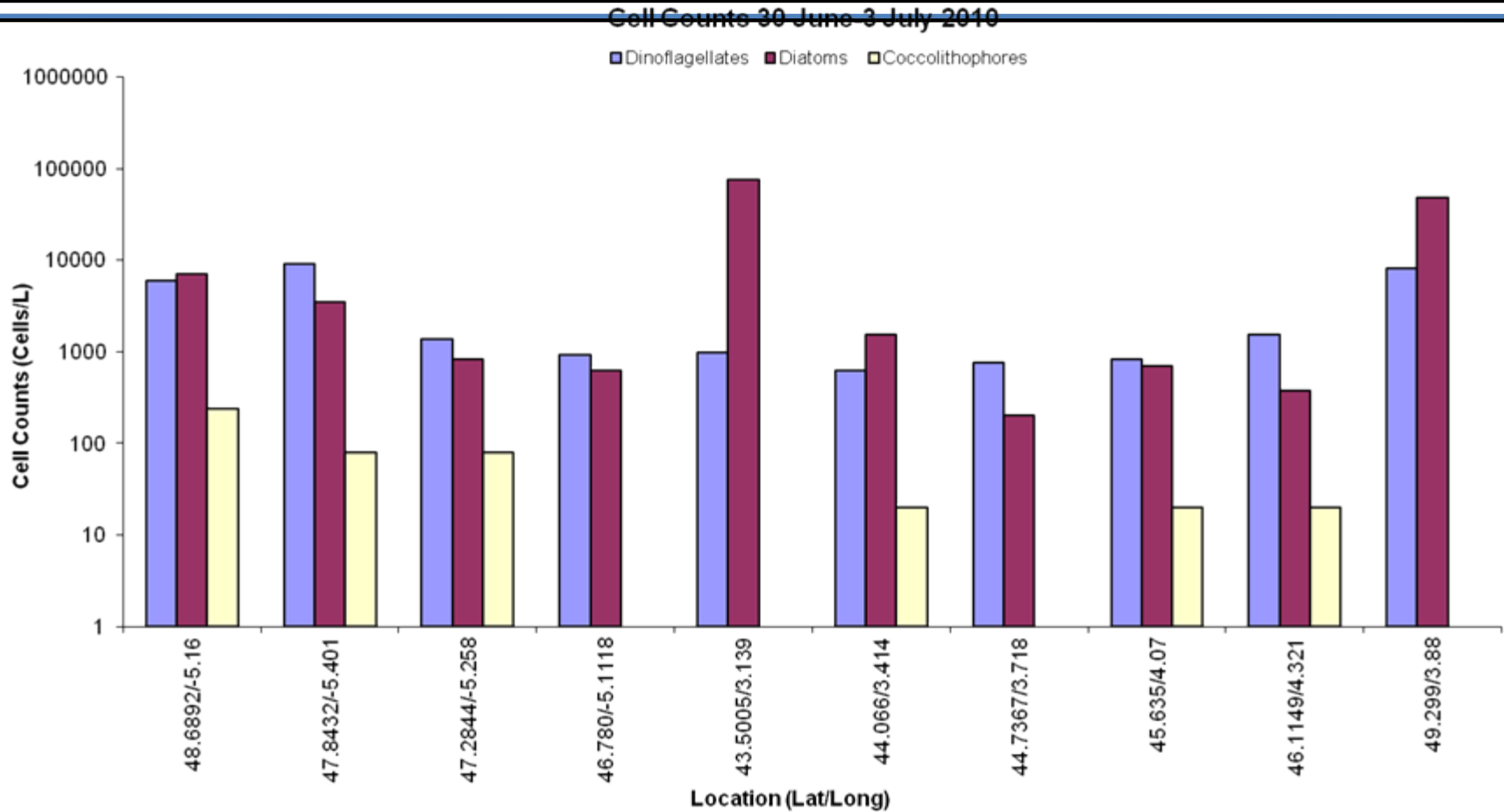


Total carbon

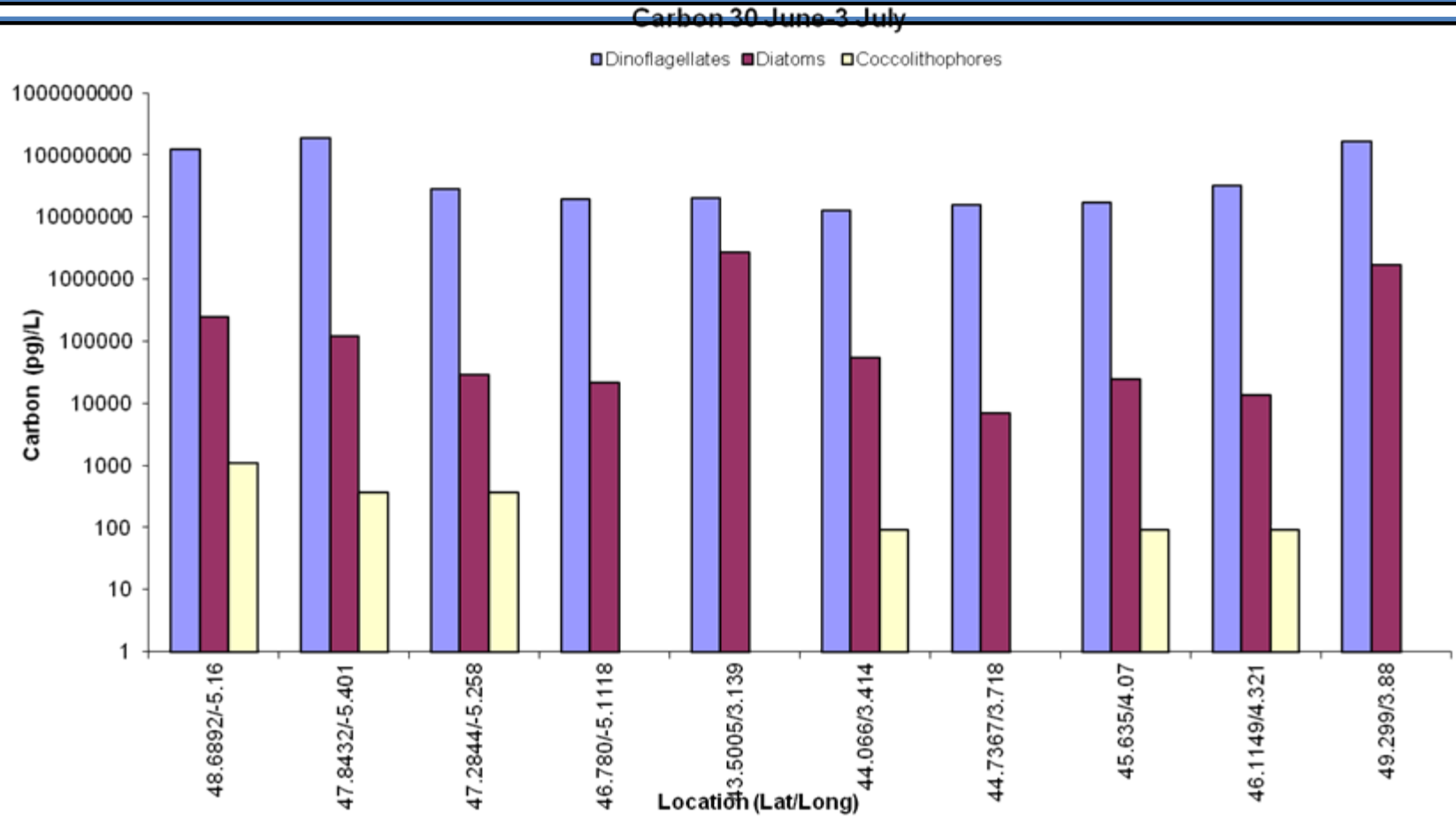
Carbon July 12-15th 2010



Counts before July bloom

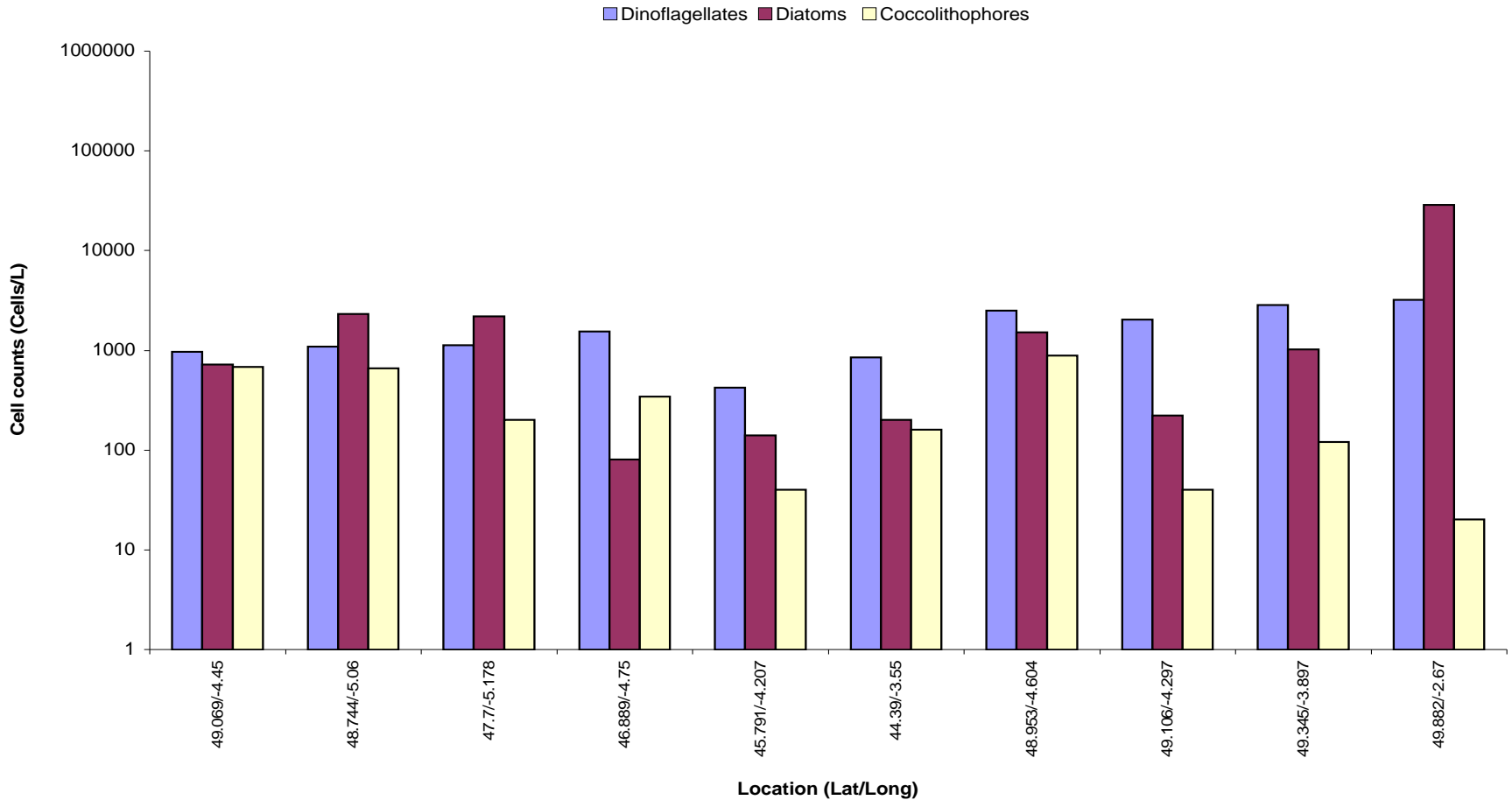


Carbon before July bloom



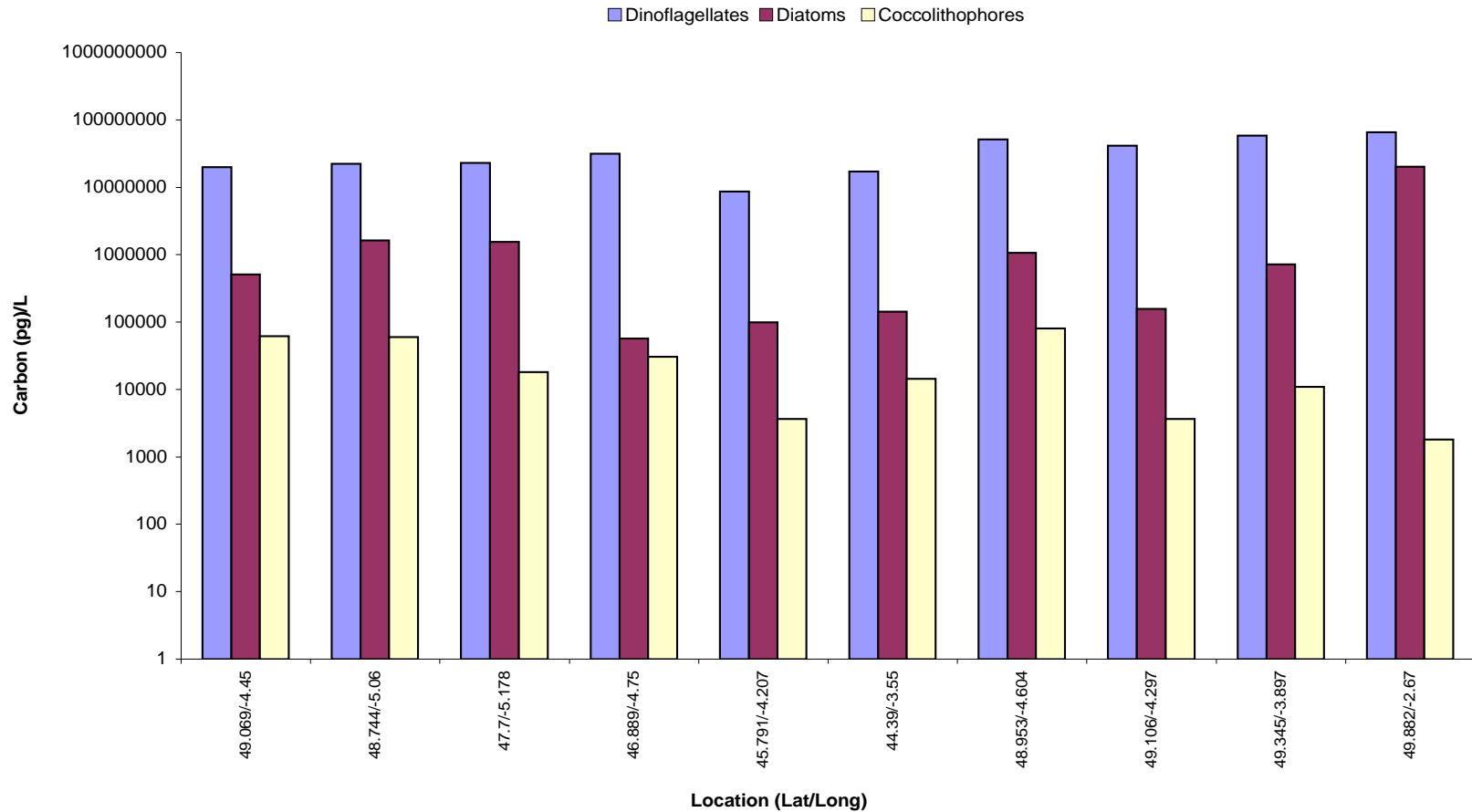
Counts after July bloom - mixed

Cell Counts Aug 2-5th 2010



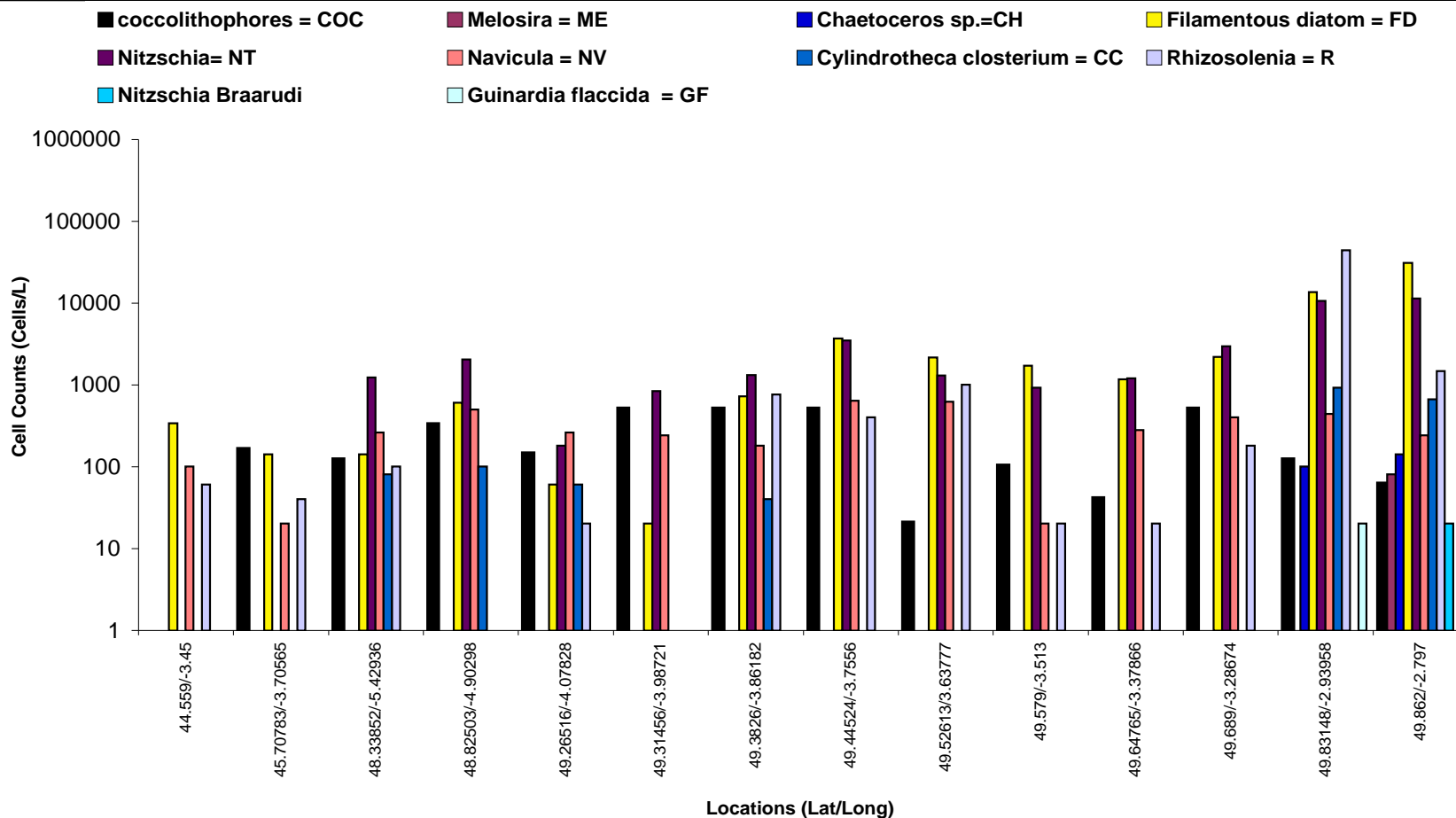
Carbon after July bloom

Carbon Aug 2-5th 2010



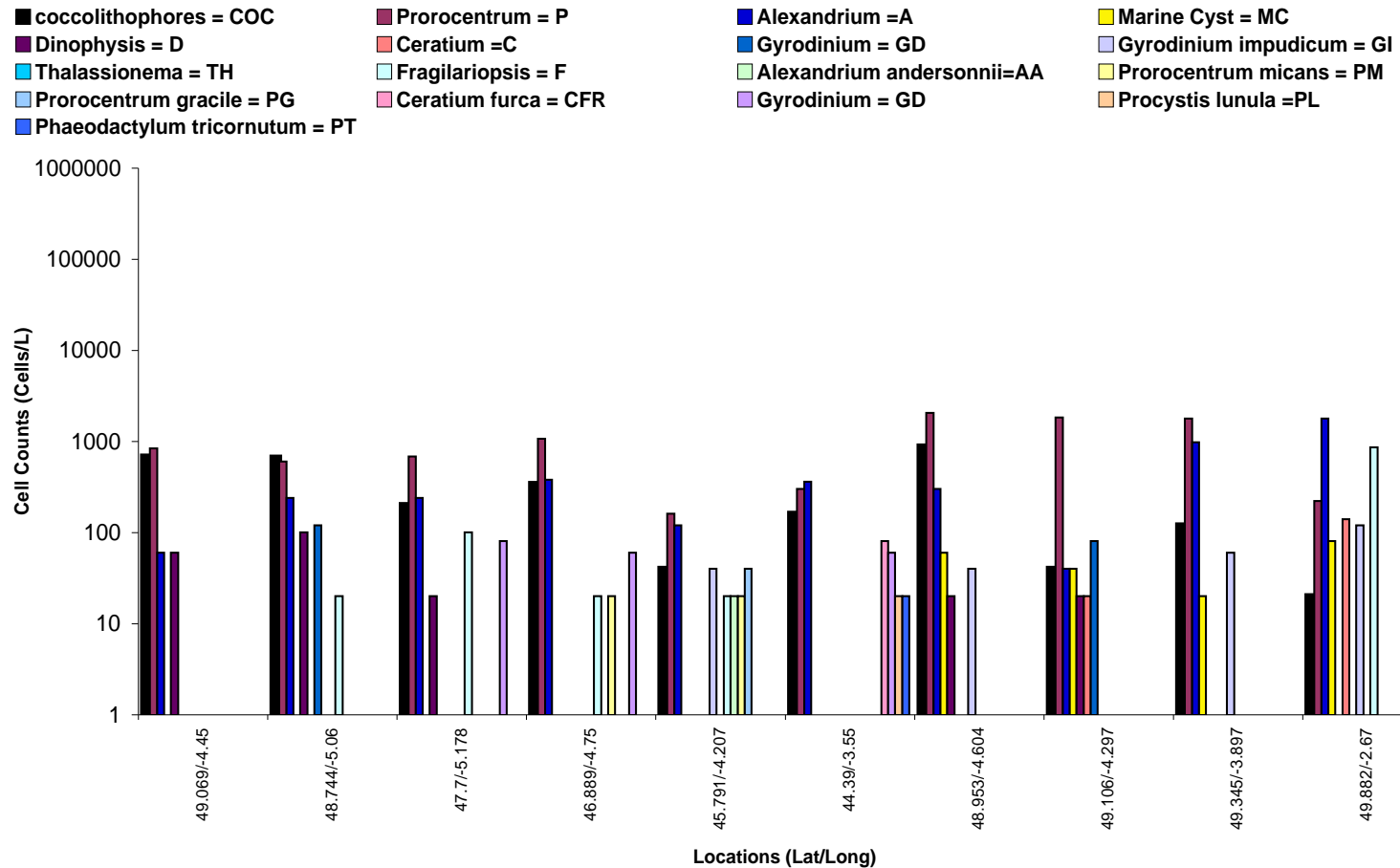
Early July

Diatoms and Coccolithophores 12-15 July 2010



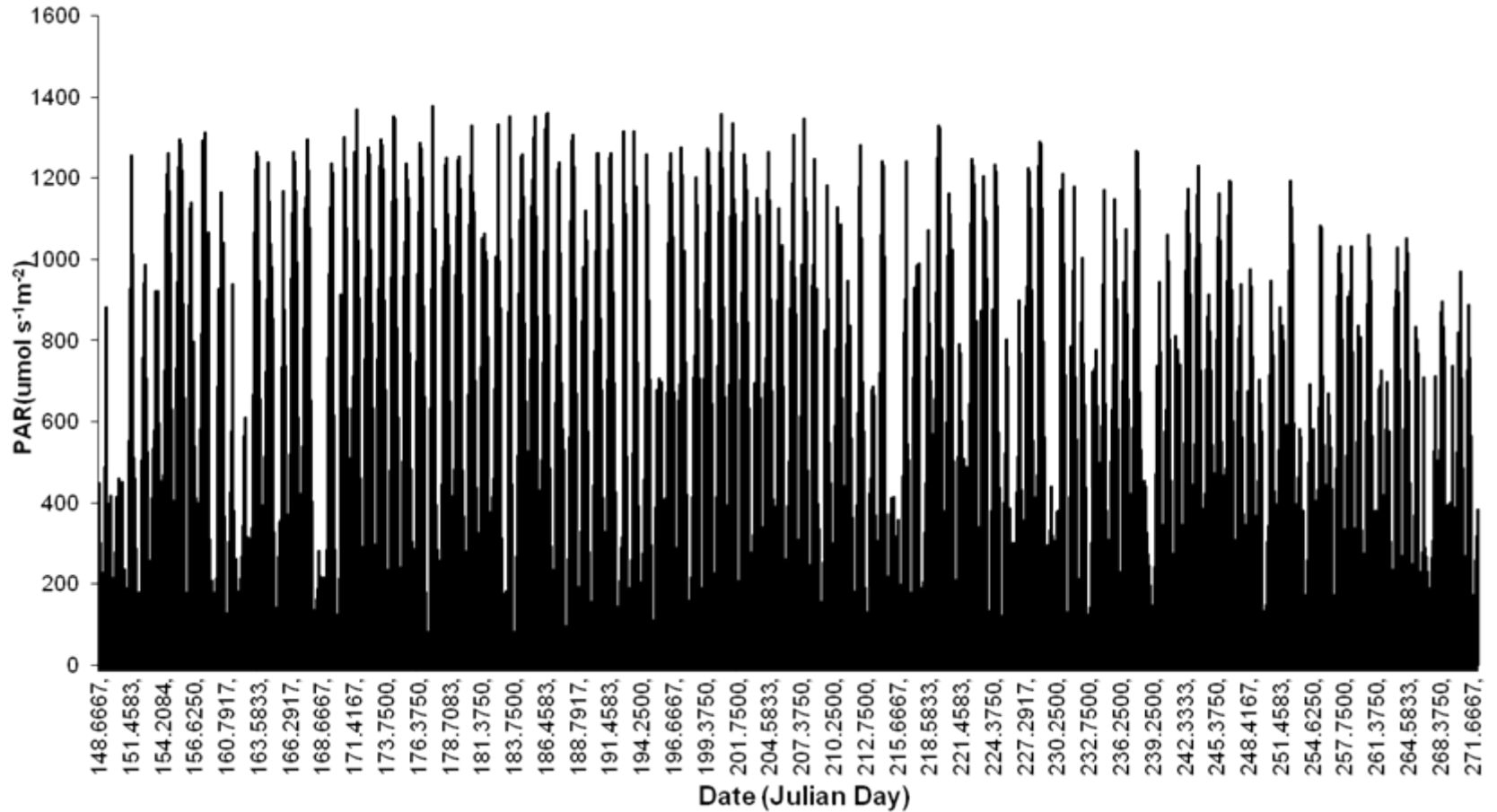
Dinoflagellates and Coccolithophores

Dinoflagellates and Coccolithophores 2-5th August 2010



Light

PAR Counts 28th May - 20 September



National
Oceanography Centre

NATURAL ENVIRONMENT RESEARCH COUNCIL

