



V e r m o n t

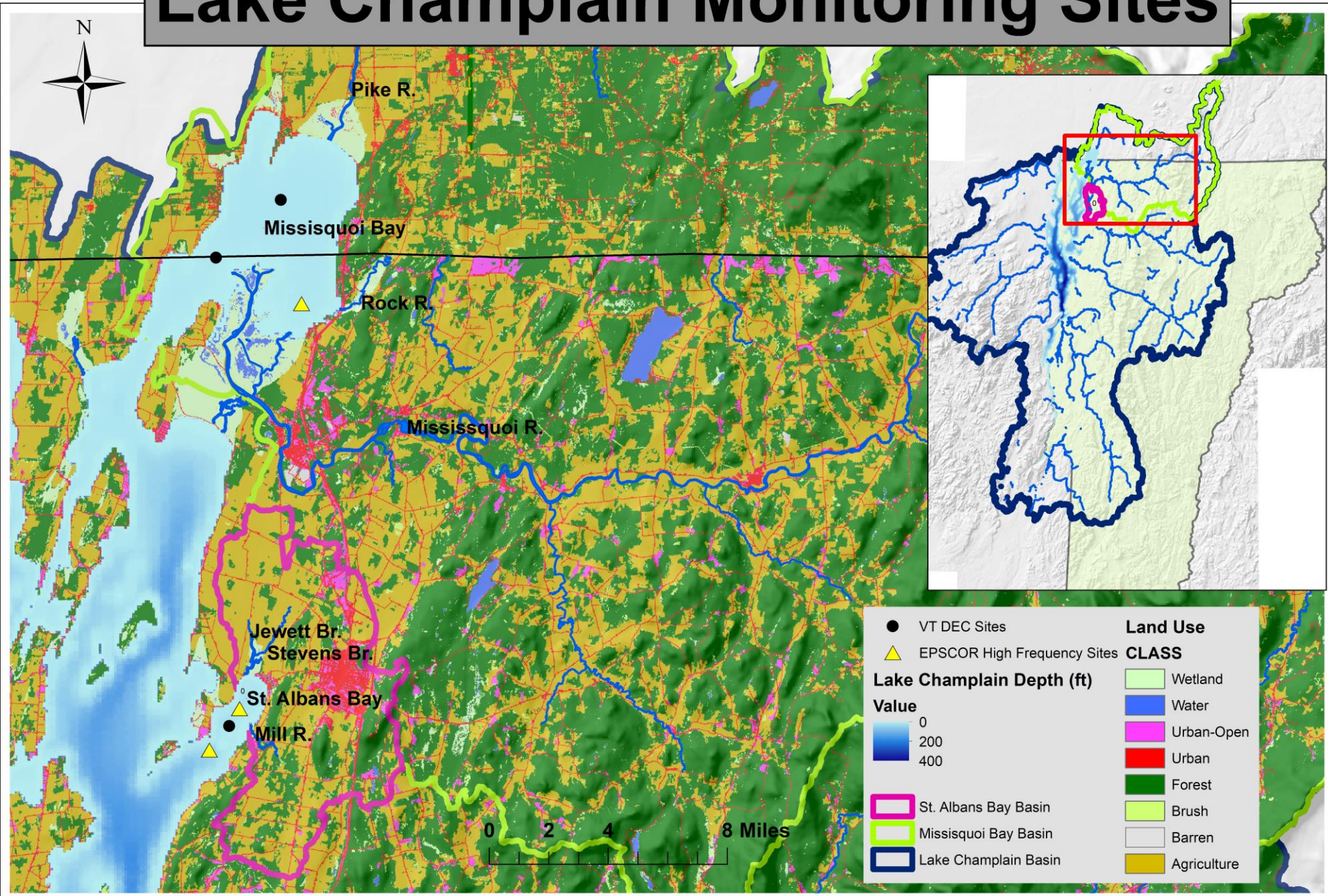
EPSCoR

Experimental Program to Stimulate Competitive Research

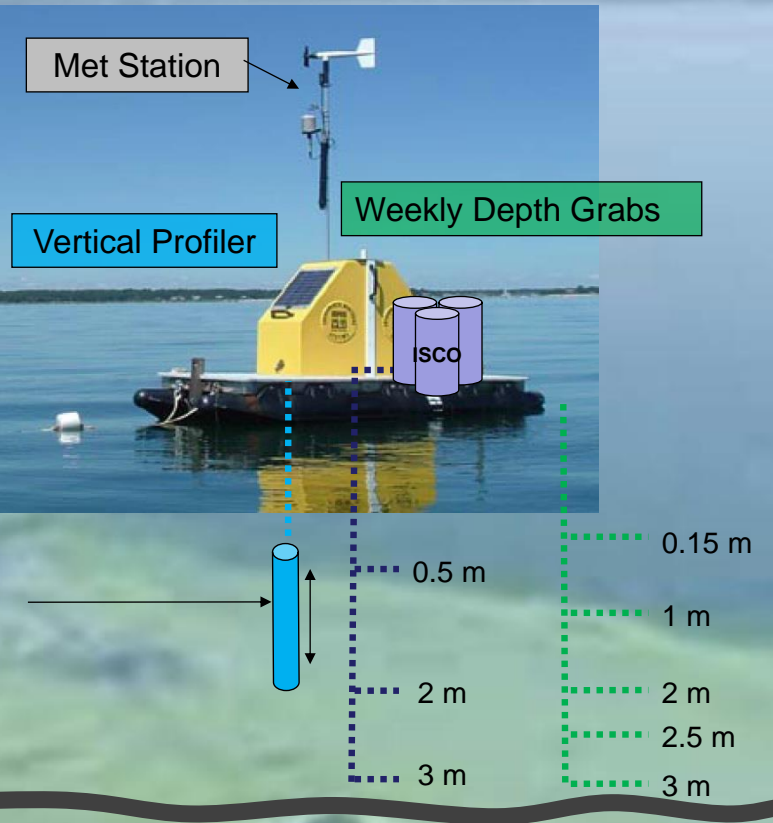
BREE 2017 Algal Bloom Updates Missisquoi and St. Albans Bays

Andrew Schroth/Ecological Team

Lake Champlain Monitoring Sites



Saint Albans/Missiquoi Bay Advanced Biogeochemical and Hydrodynamic Observatory



**Measure-ChlA/PC, T, Cond, pH, DO, FDOM,
Turbidity every hr. at 0.5 meter depth intervals at 3 Sites**

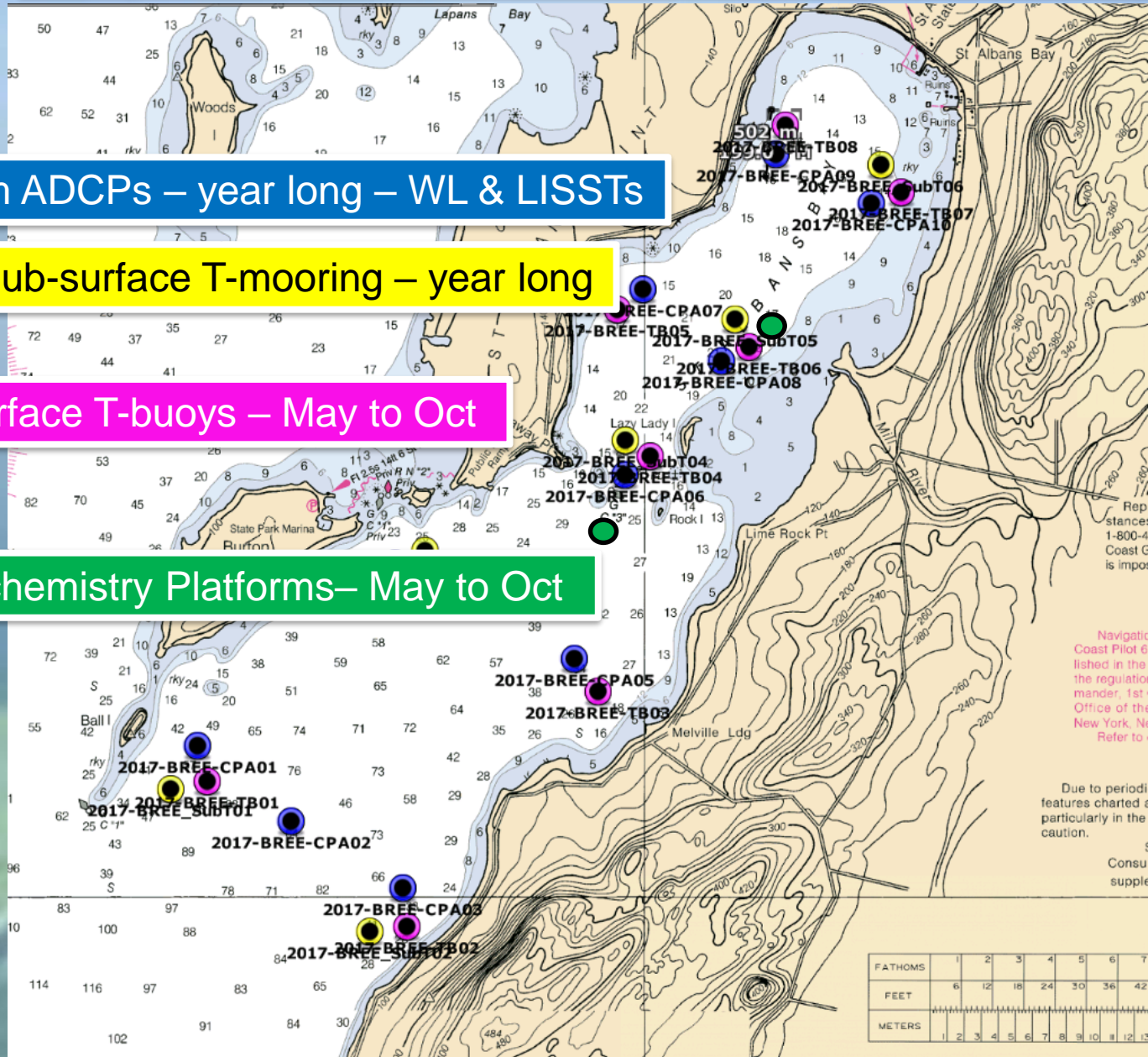
St. Albans Bay Advanced Monitoring Array

10 platform ADCPs – year long – WL & LISSTs

6 Sub-surface T-mooring – year long

8 Surface T-buoys – May to Oct

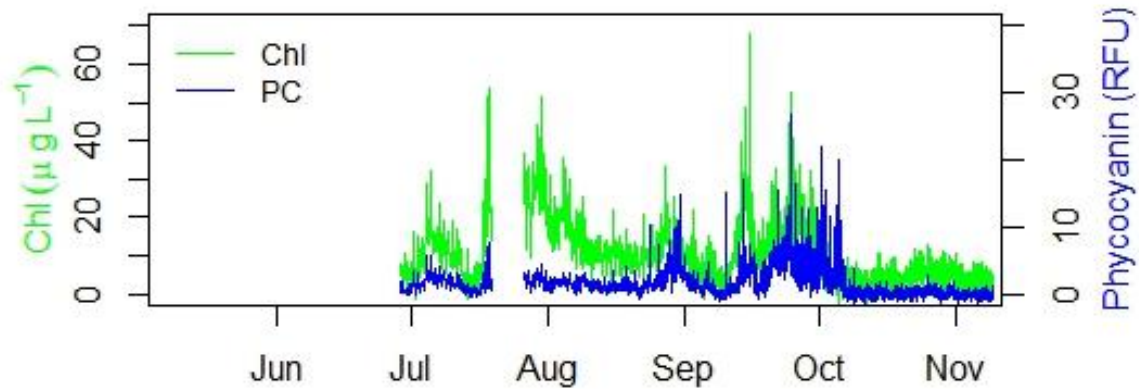
2 Biogeochemistry Platforms – May to Oct



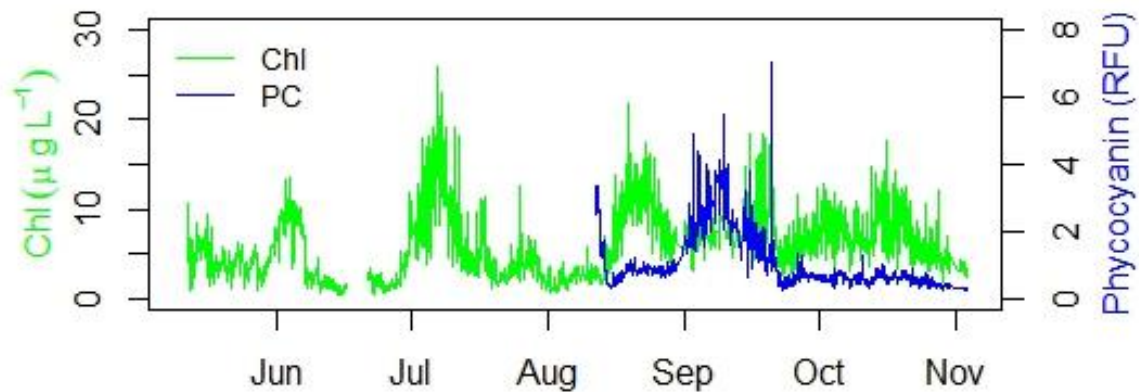
FATHOMS	1	2	3	4	5	6	7
FEET	6	12	18	24	30	36	42
METERS	1	2	3	4	5	6	7

Late Blooms!

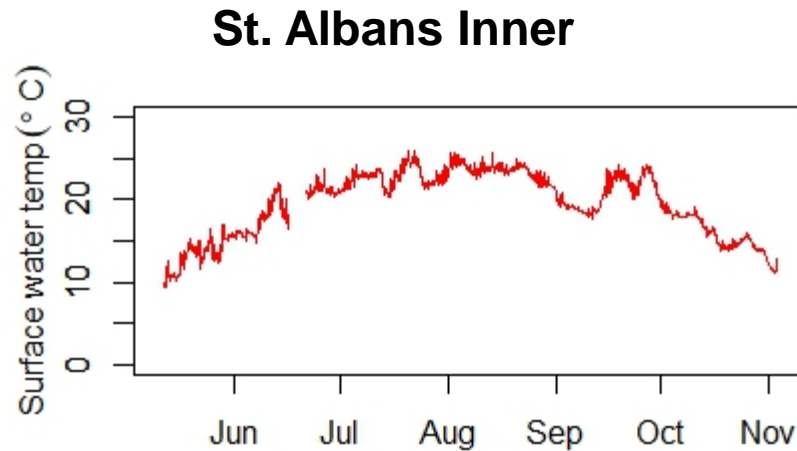
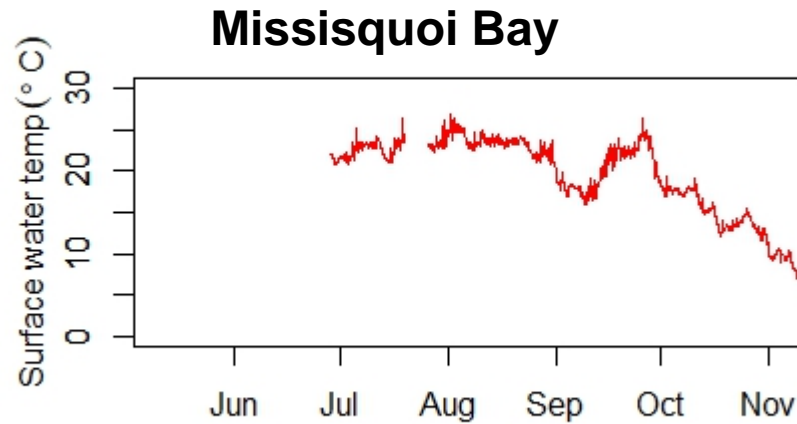
Missisquoi Bay



St. Albans Inner



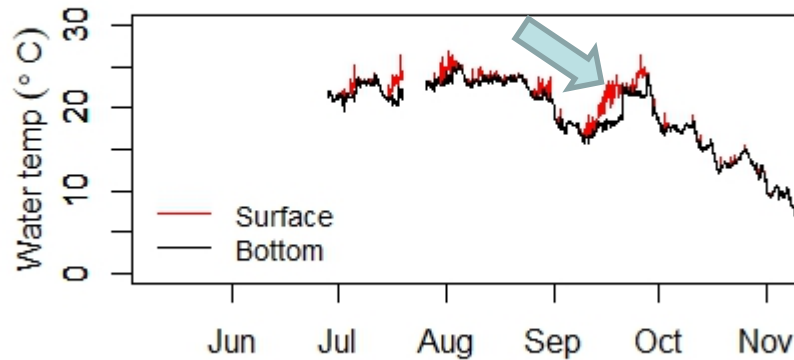
Why Were They Late? Cool Water Temperatures?



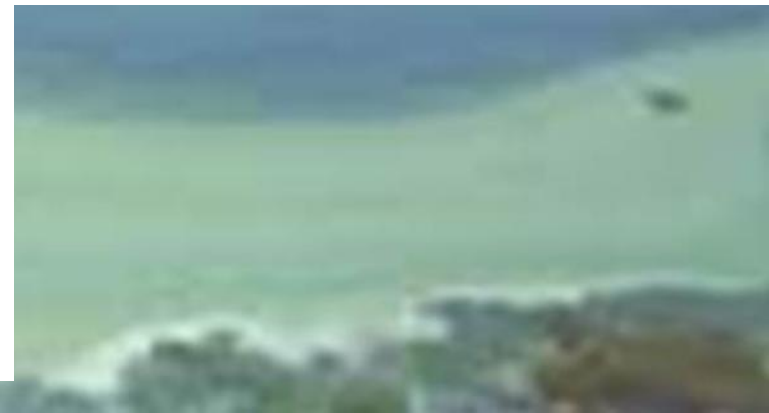
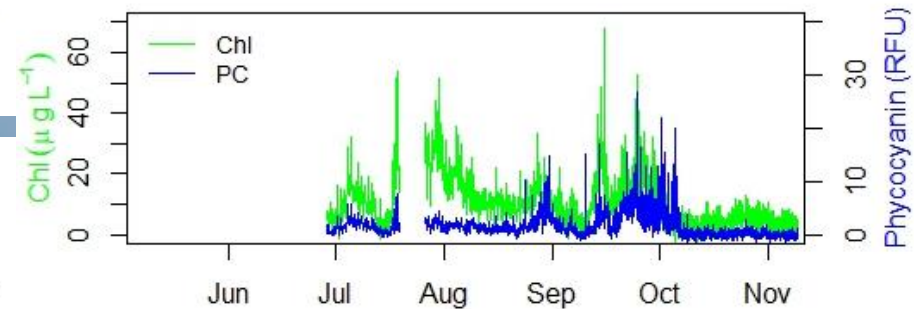
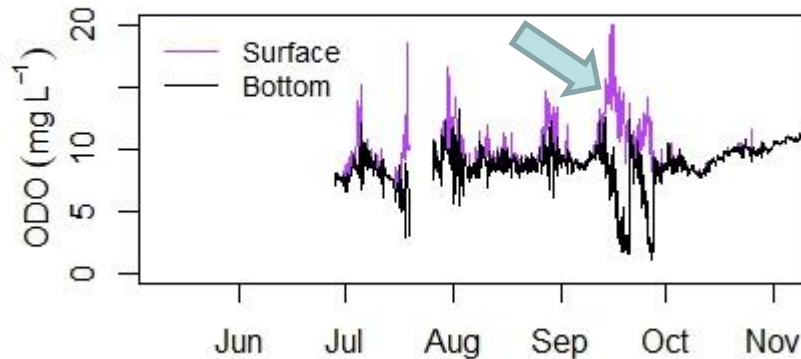
Why Were They Late?

Stormy Summer and Delayed Stratification?

Missisquoi Bay
Thermal Stratification



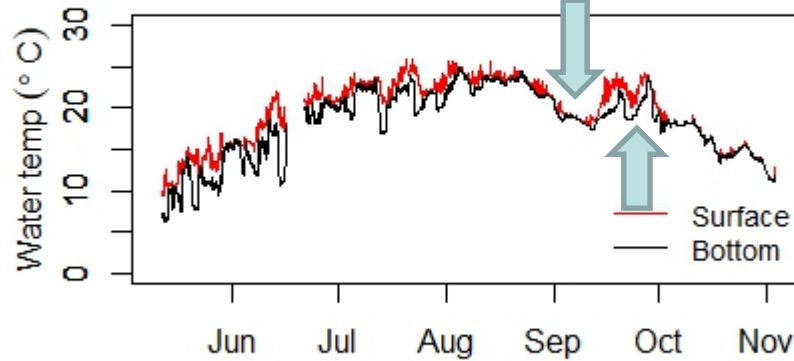
Missisquoi Bay
DO Stratification



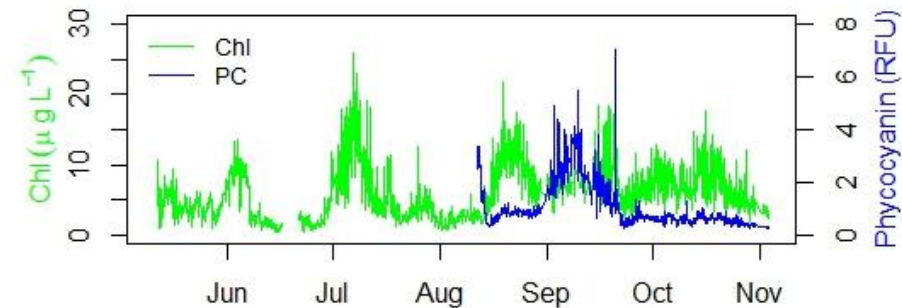
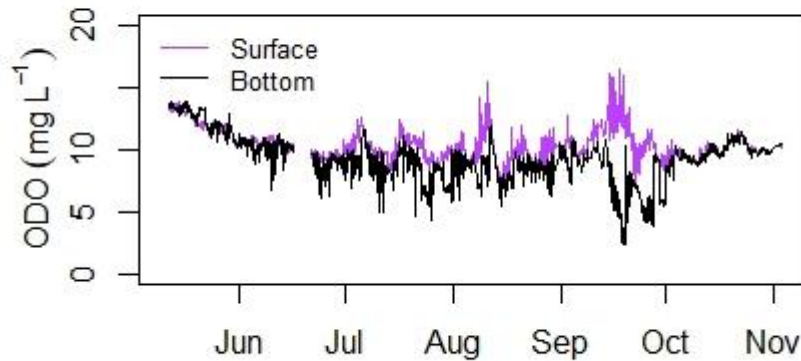
Why Were They Late?

Stormy Summer and Delayed Stratification?

**St Albans Bay
Thermal Stratification**



**St Albans Bay
DO Stratification**



Outstanding Analyses

- Comparisons across sites are incomplete and semi quantitative (PC)-biovolumes
- **How was water moving?**
- Hydrodynamics
- Analysis of wind speed and orientation
- **What was there?**
- ISCO nutrient time series
- Weekly dissolved nutrients and metals
- **Who was there?**
- Bloom species composition