

Halifax Harbour Water Quality Monitoring Project

Weekly Summary #83

Survey Date: 17 January 2006
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report083_060117.doc
Data File: HHWQMP_data083_060117.xls

Data Return:
 Profile: 94%
 Bacteria: 93%
 Chemical: 86%
Overall: 91%

Sample Notes:

Sites B2 and HC were not sampled due to weather.

Chemical Analysis QA/QC		F2-10m		E2-10m		
Detectable Parameter	units	Ref Sample	Dup	Ref sample	QA/QC	Dup
Ammonia (as N)	mg/L	0.09	0.11	0.08	0.08	
Total Suspended Solids	mg/L	9		6	9	10

Fecal Coliform QA/QC (CFU/100ml)

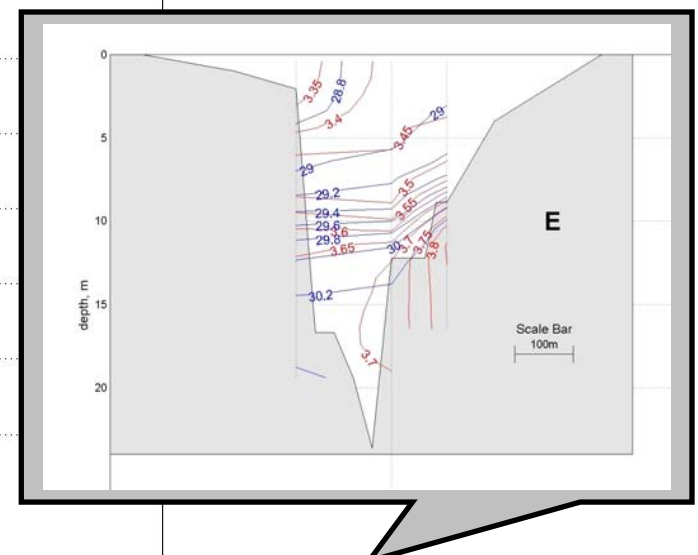
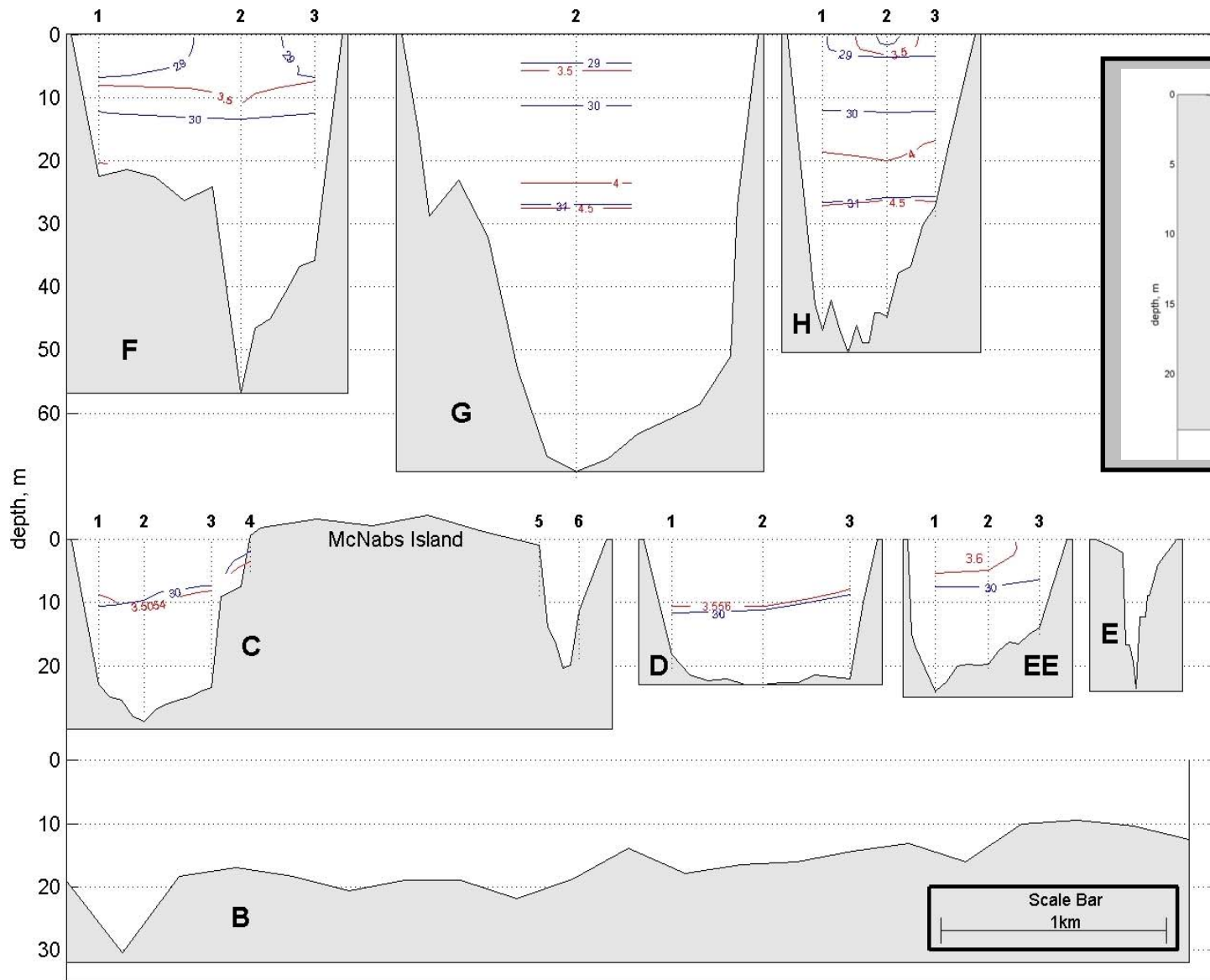
Site	E1-1m	H3-1m	C3-1m	E2-10m
Reference	87	130	510	310
QA/QC	110	2	430	250

Comments:

General: There has been moderate precipitation in the previous week, resulting in a small influx of freshwater to the Harbour. The surface water of the Basin contains slightly more freshwater, while south of the Narrows the salinity is slightly higher, than last week. The temperature distribution is very uniform, with small variations around a mean temperature of about 3.7 °C. This is about 0.4 °C warmer than last week. The exception is the bottom water in the Basin which remains unchanged at 4.8° C. There is a lens of slightly warmer, more saline water at station E3 in the Narrows. This water, which may be associated with cooling water from the Tuft's Cove generating station, also appears to have slightly reduced DO and fecal coliform levels. Overall, the fecal coliform levels remain high, similar to last week. The coliform distribution in the Basin is consistent with estuarine circulation with generally higher values in the 10 m samples. The exception is at F2, where the concentration is higher in the 1m sample. There were strong west winds during sampling and there may be some local upwelling or enhanced vertical mixing at section F. There is a hint of this in the salinity data. South of the Narrows the fecal coliform values are high and seem to be less stratified than typical. There are some values in the 10m samples that are similar or even higher than at 1m. This is consistent with the generally well mixed conditions. The higher coliform values in the surface water in the Inner Harbour, near the major sources, are likely more a function of being discharged in the surface water than because of association with a less dense water mass. The vertical differences are less pronounced in the central and down harbour sites, generally away from the shoreline outfalls.

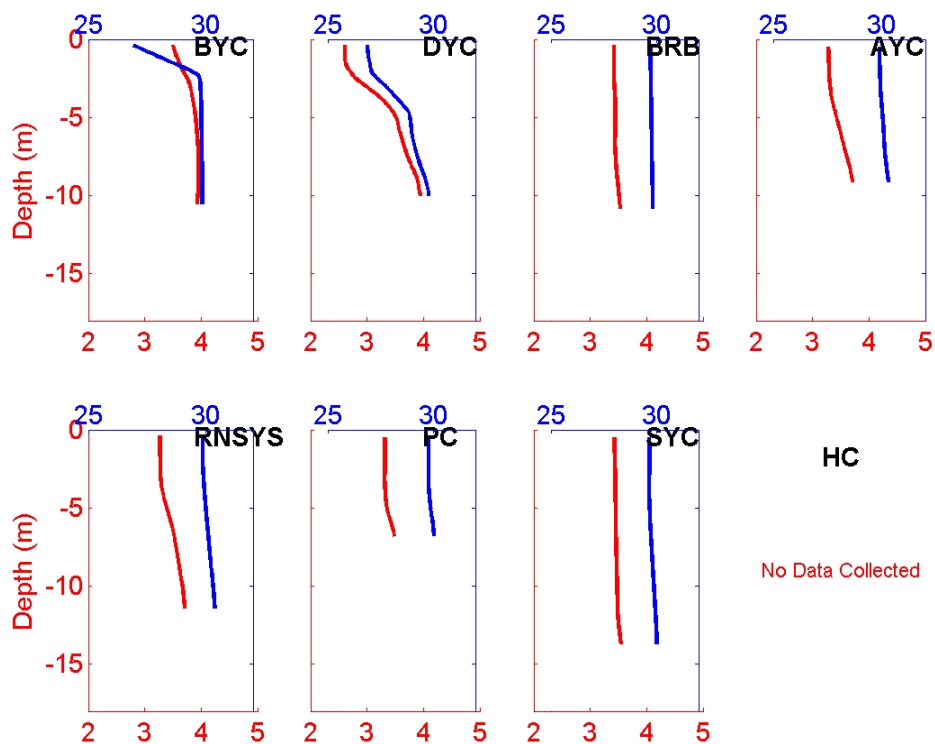
Chlorophyll: The profile maximum fluorescence levels vary only between 1–2 mg/m³, throughout the Harbour. This is similar to last week and is near typical winter “background” levels in the Harbour.

Dissolved Oxygen: The dissolved oxygen levels are similar to those of last week. The data indicate that the surface values in the southern Basin have increased slightly, and are just over 8.0 mg/L. The deep water continues to drop, and is at about 4.0 mg/L. South of the Narrows, the DO profiles are very uniform and everywhere above 8.0 mg/L. The Basin deep water represents the only values below the applicable use-specific guidelines this week. The DO data is not ground-truthed and absolute values are questionable (see DO discussion in QR#1).



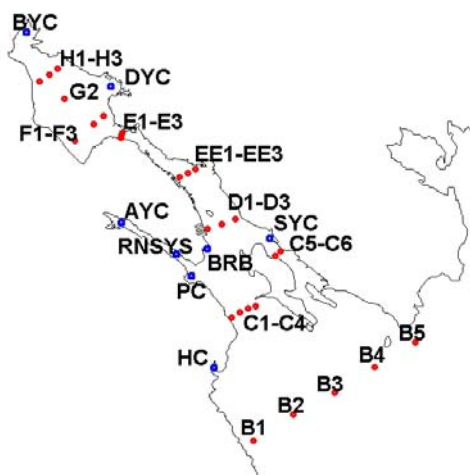
Unless otherwise labeled:
 - salinity contour interval is 1 PSU
 - temperature contour interval is 1°C.

Yacht Clubs



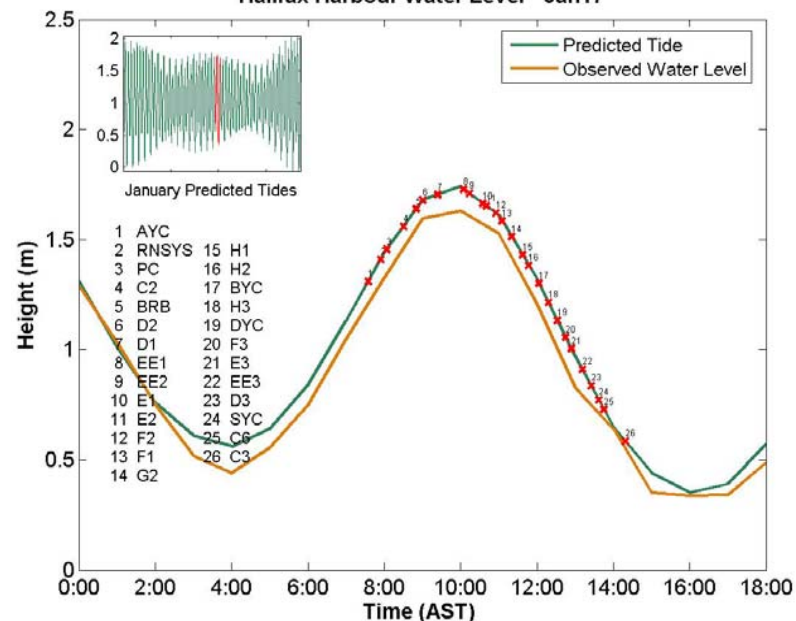
HC

No Data Collected

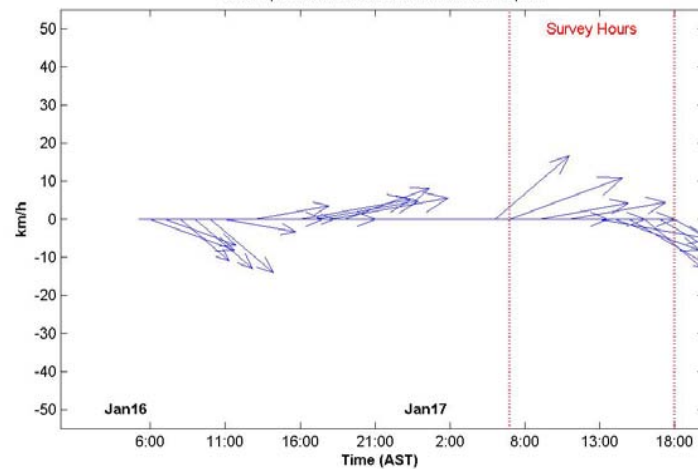


Salinity in PSU Temperature in °C

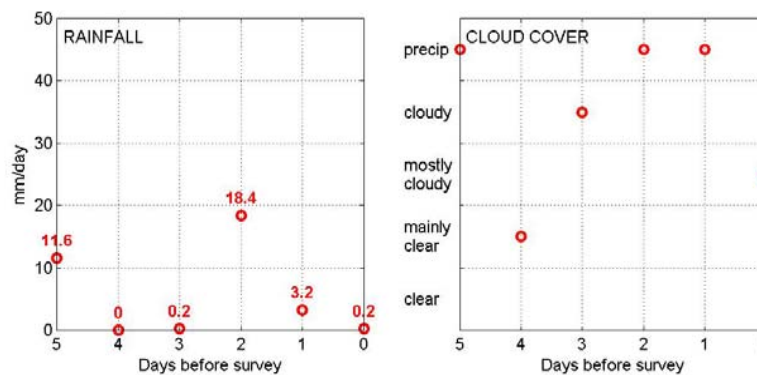
Halifax Harbour Water Level - Jan17

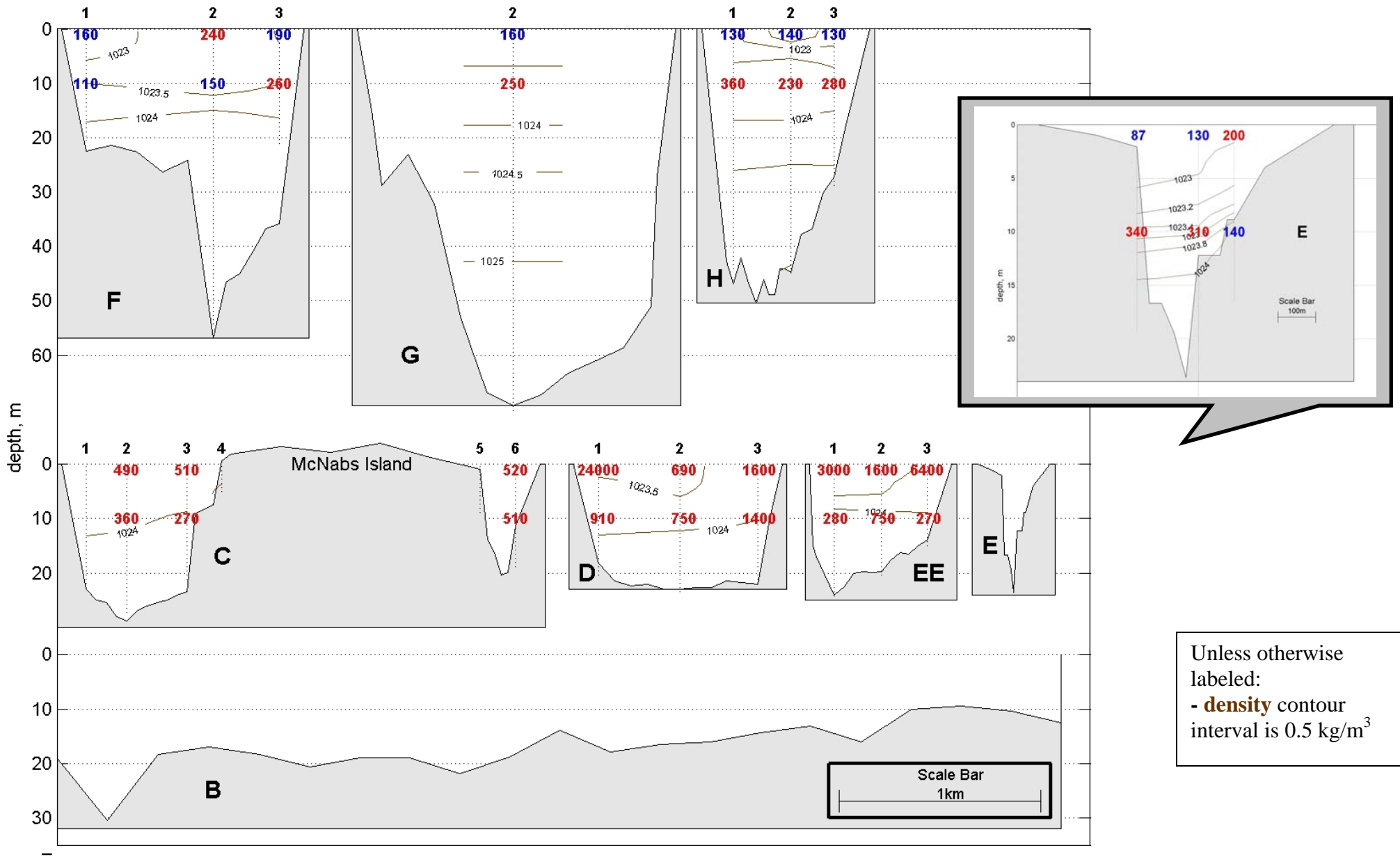


Wind Speed and Direction at Shearwater Airport



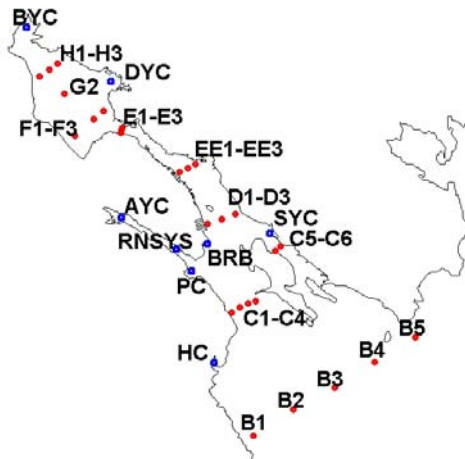
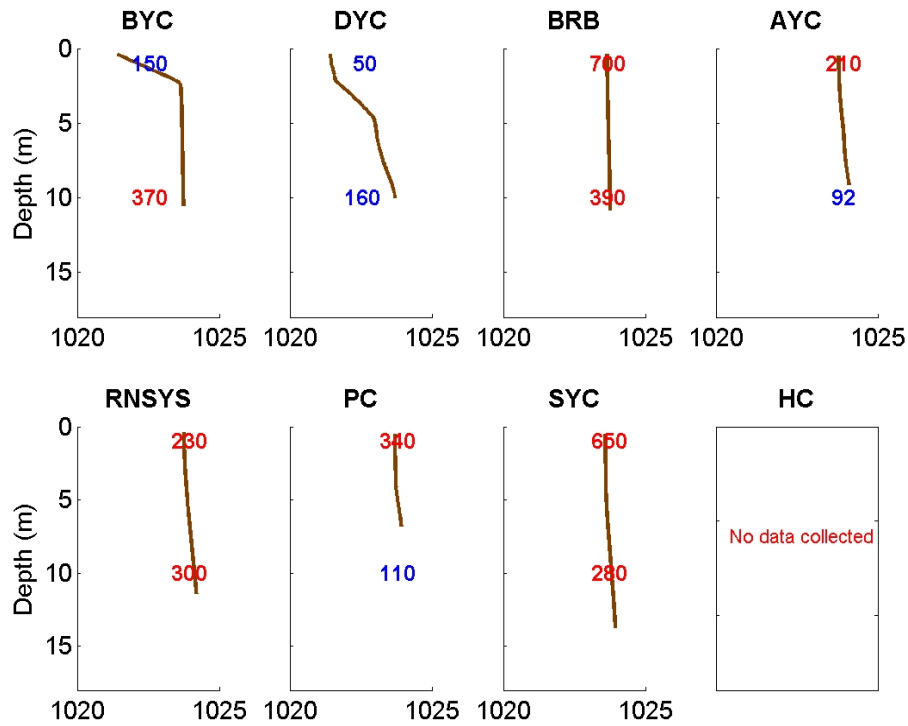
Weather data collected at the Shearwater Airport





Unless otherwise labeled:
 - **density** contour interval is 0.5 kg/m³

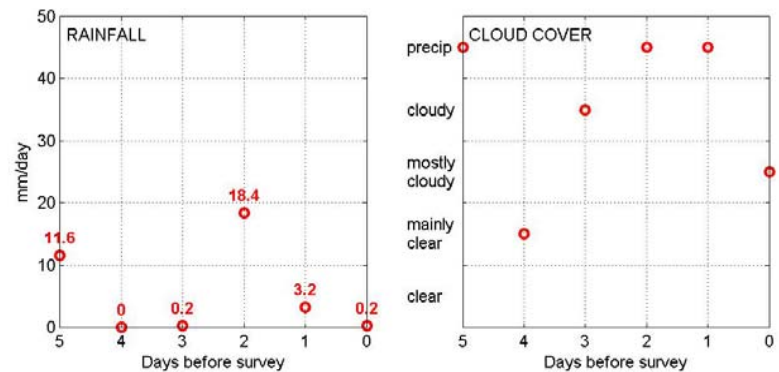
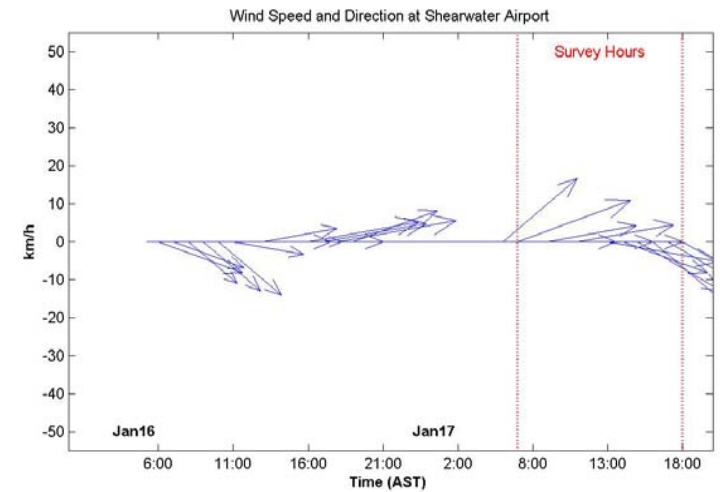
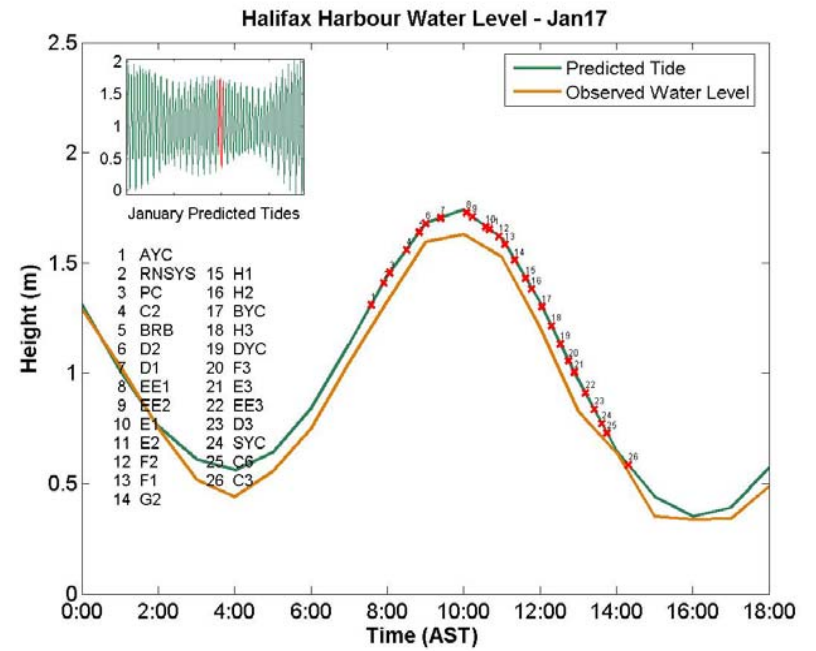
Yacht Clubs

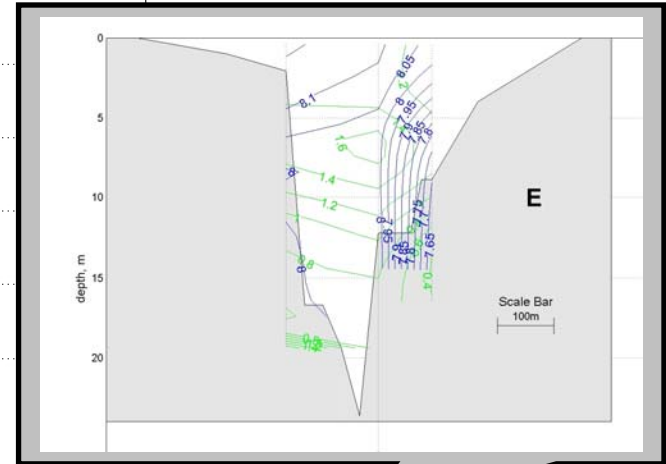
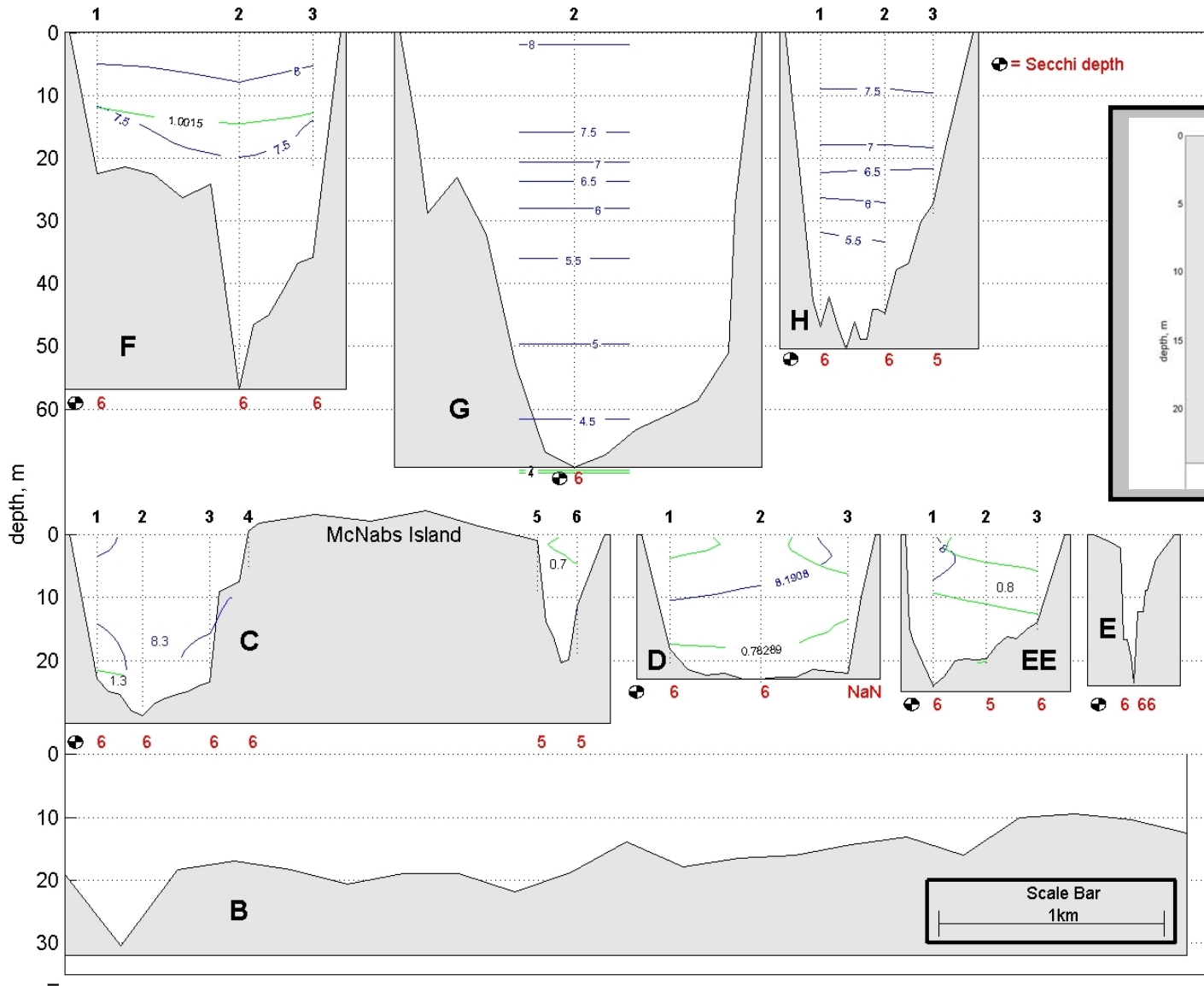


Weather data collected at the Shearwater Airport

Potential Density in kg/m^3

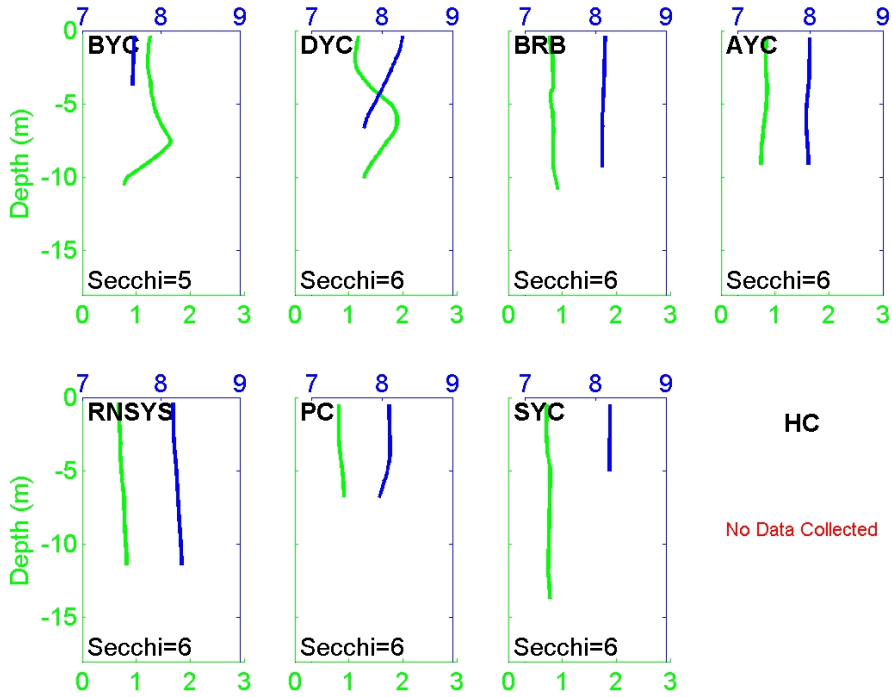
Fecal coliform: above swimming limit (200 cfu/100mL)
 above shellfish limit (14 cfu/100mL)
 below limits





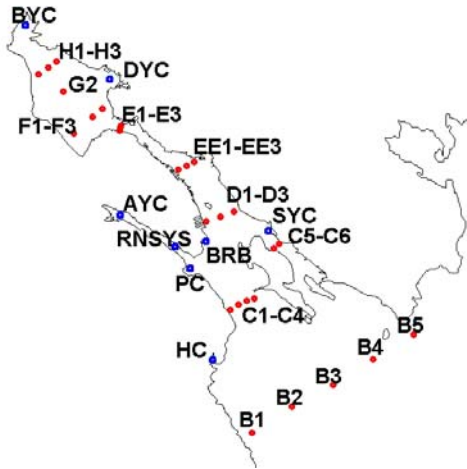
Unless otherwise labeled:
- **dissolved oxygen** contour interval is 1 mg/L
- **chlorophyll** contour interval is 2 mg/m³.

Yacht Clubs



HC

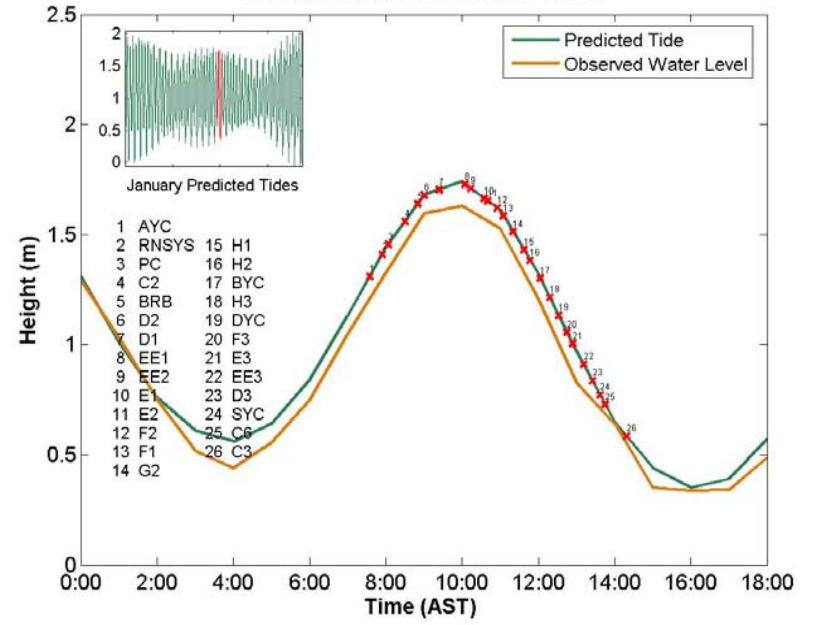
No Data Collected



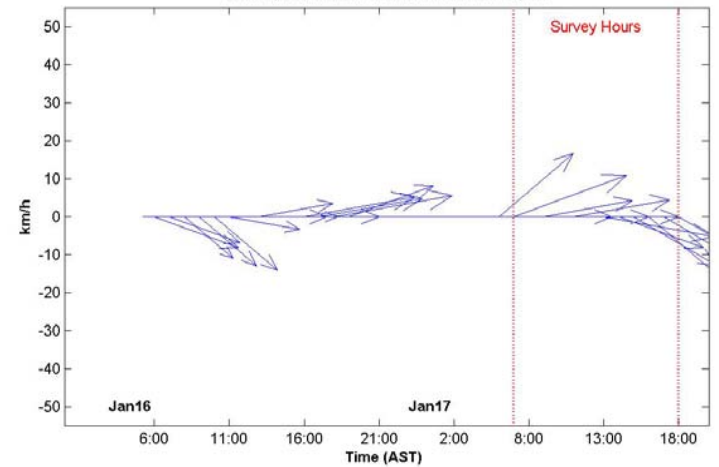
DO in mg/L

Chlorophyll in mg/m³

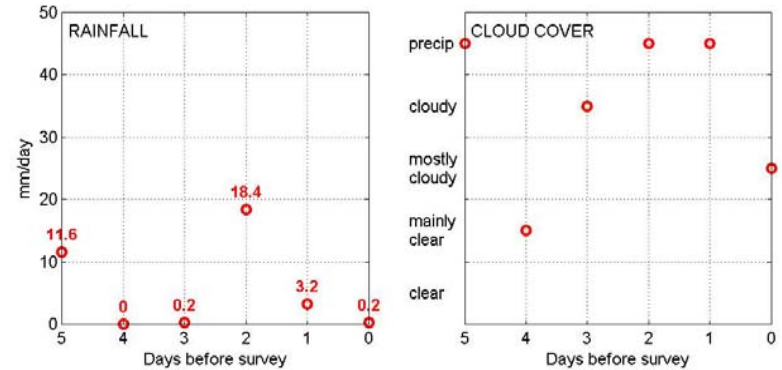
Halifax Harbour Water Level - Jan17

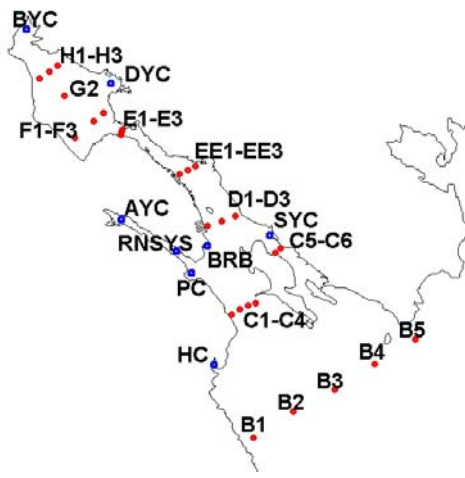
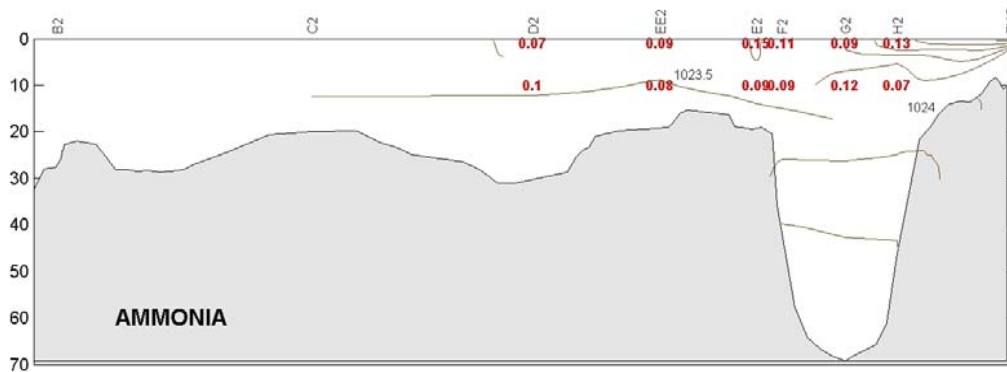
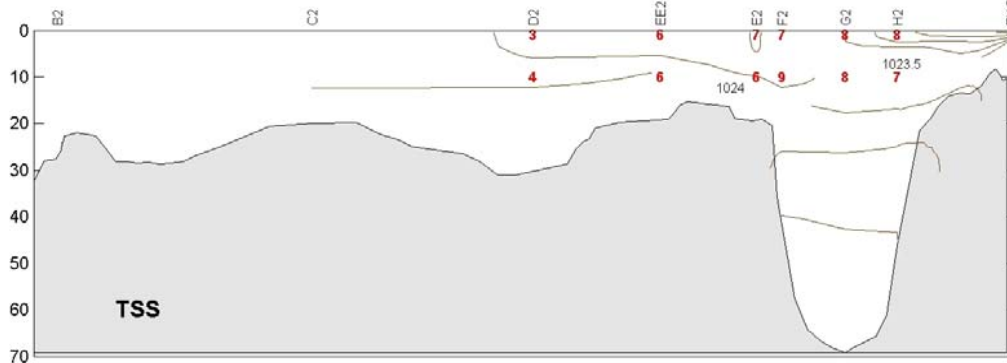


Wind Speed and Direction at Shearwater Airport



Weather data collected at the Shearwater Airport





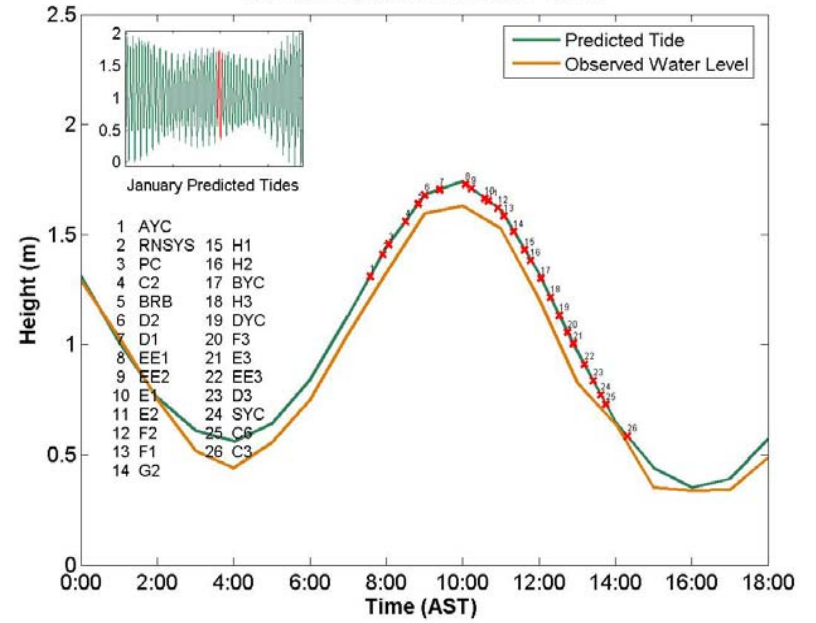
Weather data collected at the Shearwater Airport

Potential Density in kg/m^3

Ammonia in mg/L

TSS in mg/L

Halifax Harbour Water Level - Jan17



Wind Speed and Direction at Shearwater Airport

