

# Halifax Harbour Water Quality Monitoring Project

## Weekly Summary #74

**Survey Date:** 15 November 2005  
**Nature of Survey:** Coliform Survey  
**Report File (this document):** HHWQMP\_report074\_051115.doc  
**Data File:** HHWQMP\_data074\_051115.xls

**Data Return:**  
 Profile: 100%  
 Bacteria: 100%  
 Chemical: n/a  
**Overall: 100%**

**Sample Notes:**

n/a

**Fecal Coliform QA/QC (CFU/100ml)**

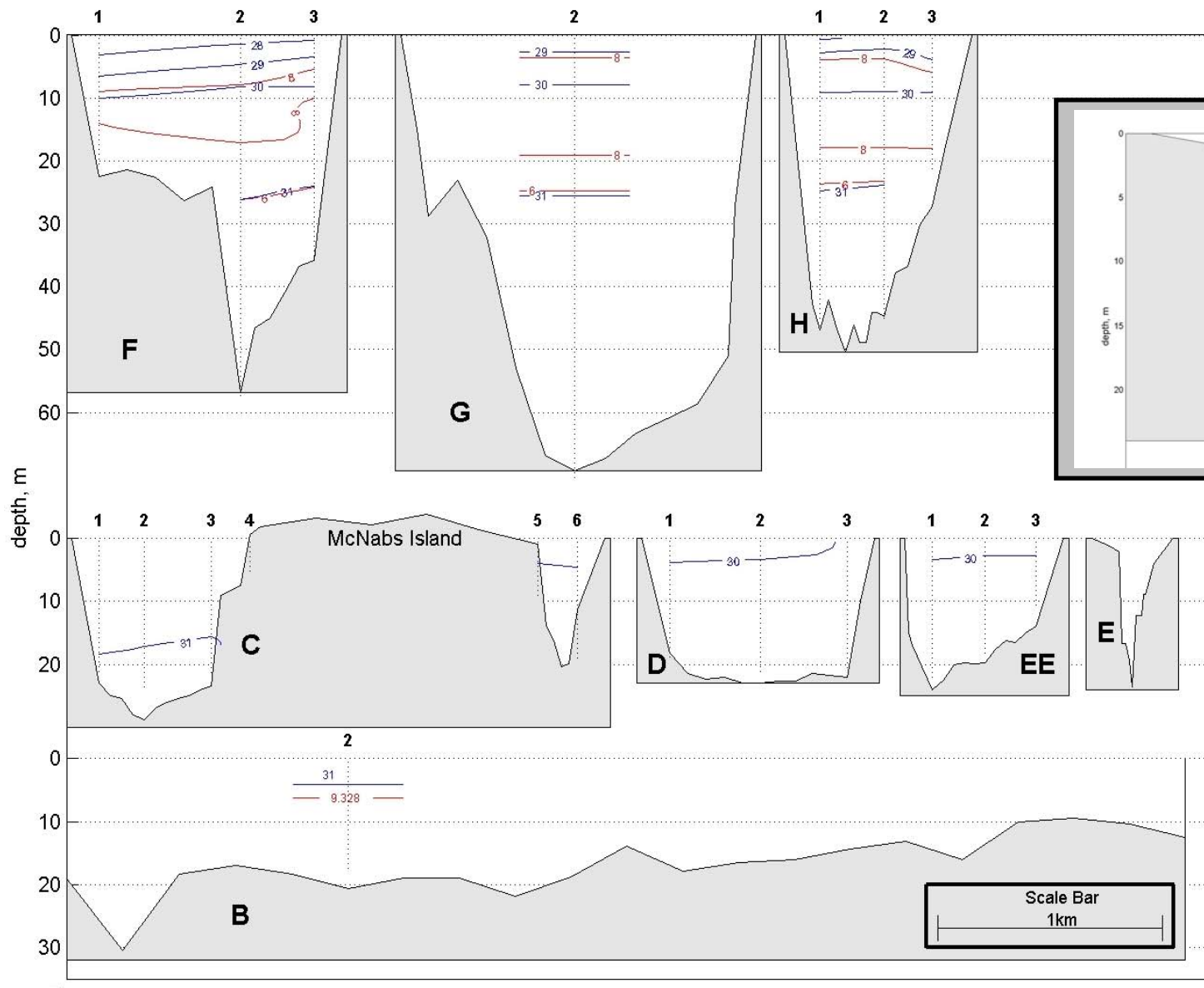
Site	H2-1m	E3-10m	B2-1m	HC-1m
Reference	40	590	11	140
QA/QC	38	330	12	220

**Comments:**

**General:** The 51 mm of rain received five days before the survey has resulted in a freshening of the top 10m of the Basin and the Narrows. Below 10m and south of the Narrows, the salinity and temperature have changed little since last week, except the temperature has dropped overall a few tenths of a degree. High fecal coliform counts extend over the entire Harbour, with values >200 CFU/100mL occurring at every site except B2 and four of the yacht club sites. The high counts are consistent with high source strength, light winds (low mixing/flushing), and cloudy conditions (low decay rates). In the Inner Harbour, the bacteria counts are all higher in the 1m samples. The density of the surface water in the Inner Harbour (EE section) is 1023 kg/m<sup>3</sup>, which corresponds to the density of the water below 5-7 m in the Narrows and Basin. This denser water is associated with high bacteria counts in the 10 m samples in the Basin, while the overlying fresher water has lower bacteria counts.

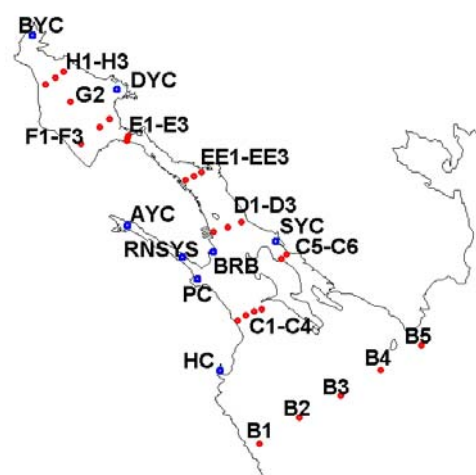
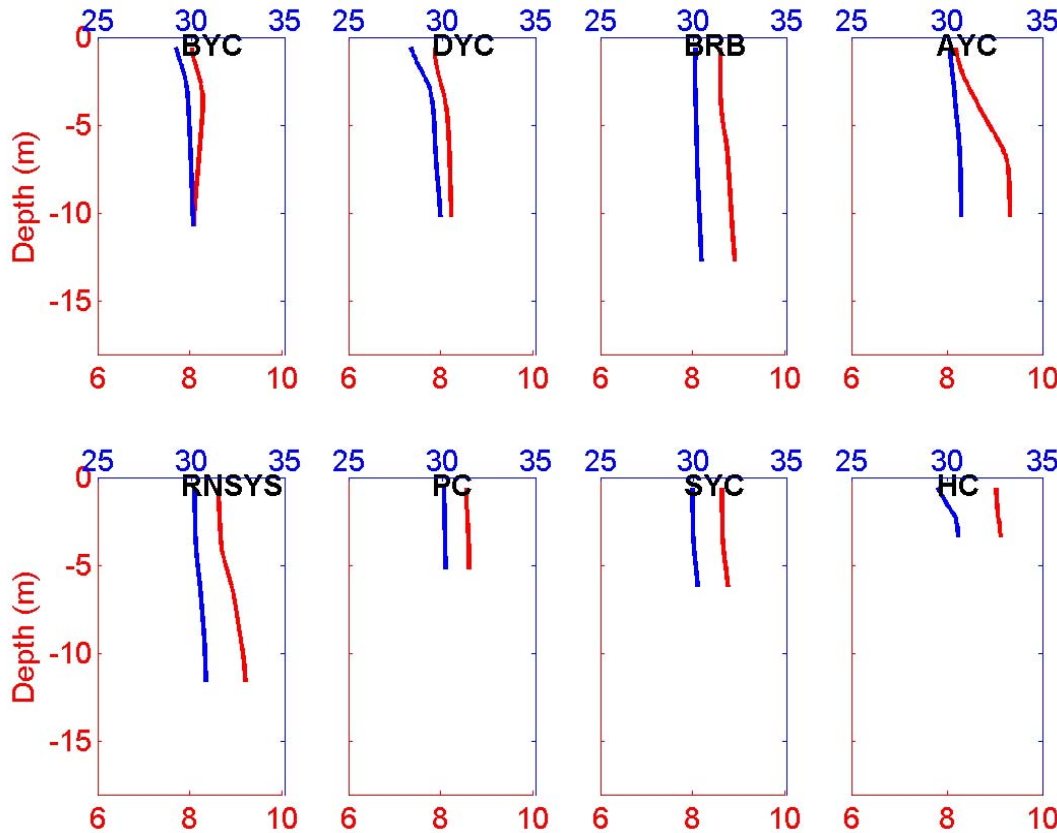
**Chlorophyll:** There are fluorescence levels of 8-10 mg/m<sup>3</sup> at the surface in the Narrows and Basin, associated with the layer of fresher water. Elsewhere the levels are 2-3 mg/m<sup>3</sup>, which are relatively low but marginally higher than last week.

**Dissolved Oxygen:** The fresher surface layer in the Basin has maximum DO concentrations of 7.5-8.0 mg/L. Below 30 m the Basin waters are relatively uniform at about 5.5 mg/L, a remnant of the recent shelf water intrusion (week 71). Elsewhere the concentrations are very similar to last week. The DO is relatively uniform vertically and increases slightly from 6.6-6.9 mg/L in the Inner Harbour to 7.2 mg/L in the Outer Harbour (B2). These values are below the applicable guidelines in the Basin bottom water and the class SA waters of the Outer Harbour (B2) and are marginal in the class SB waters of the Outer Harbour (section C). 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.

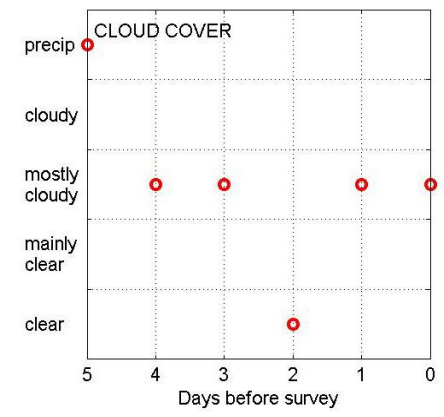
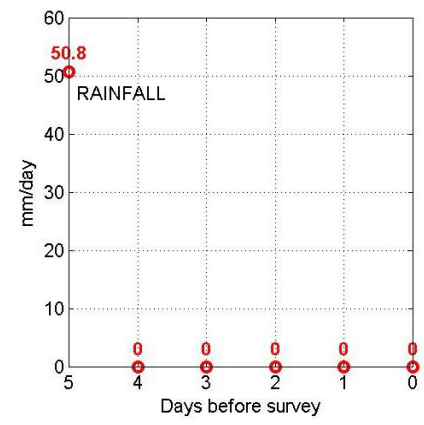
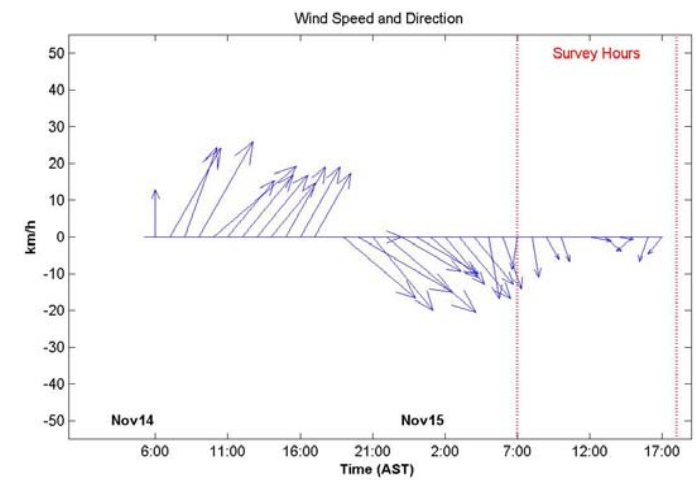
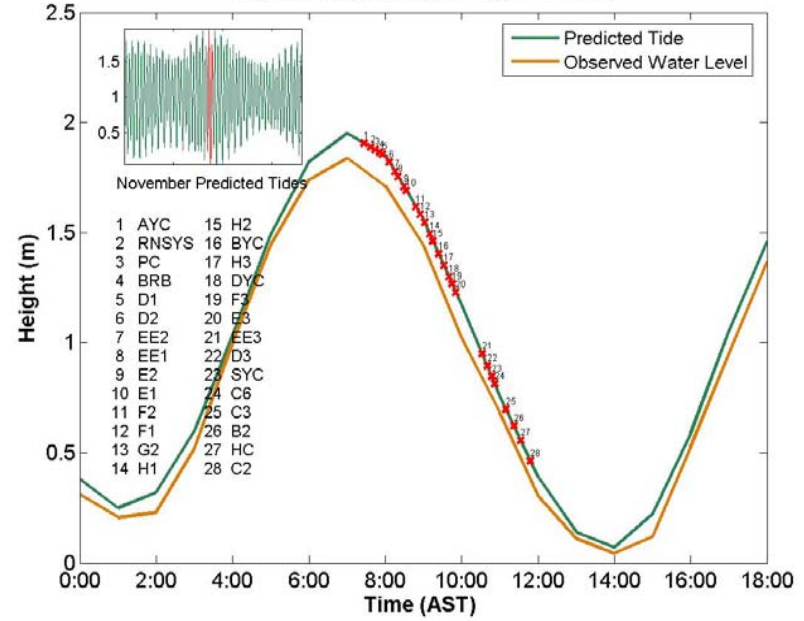
# Yacht Clubs

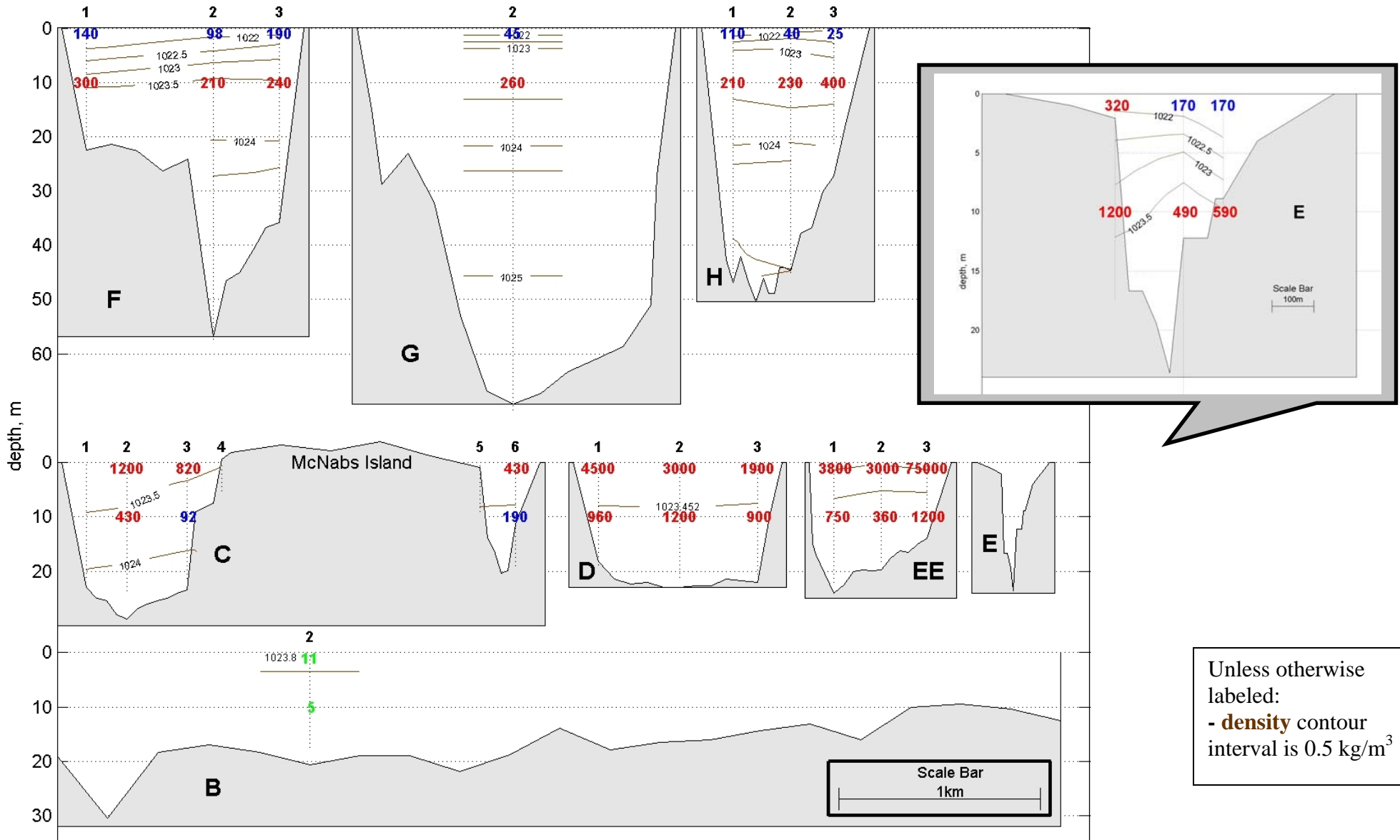


Salinity in PSU      Temperature in °C

Weather data collected at the Halifax International Airport

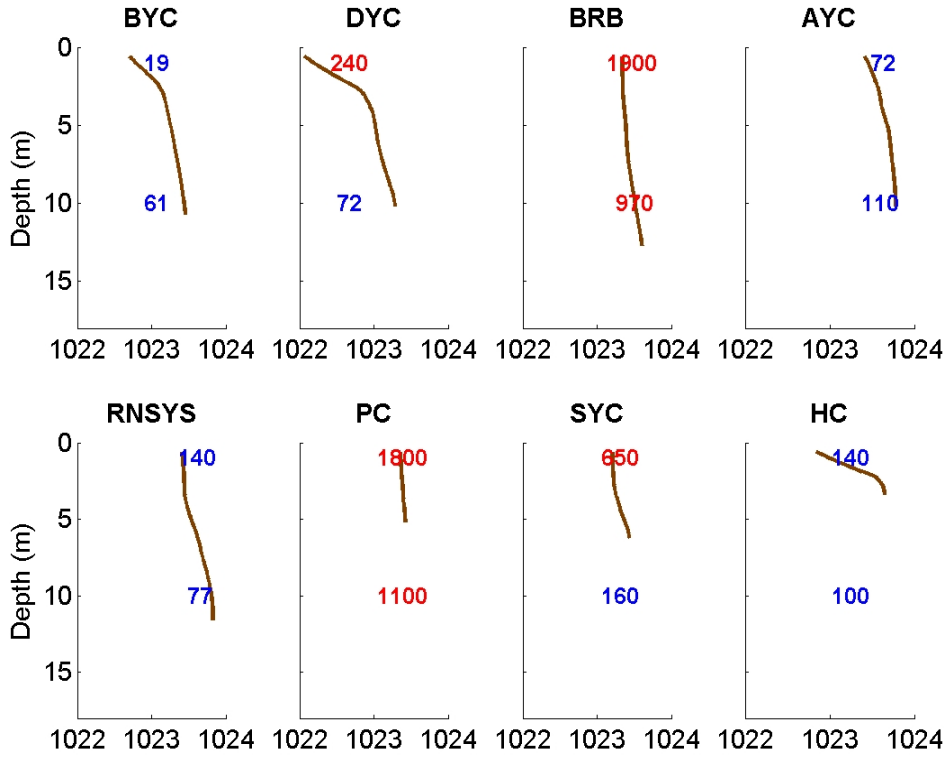
## Halifax Harbour Water Level - Nov15



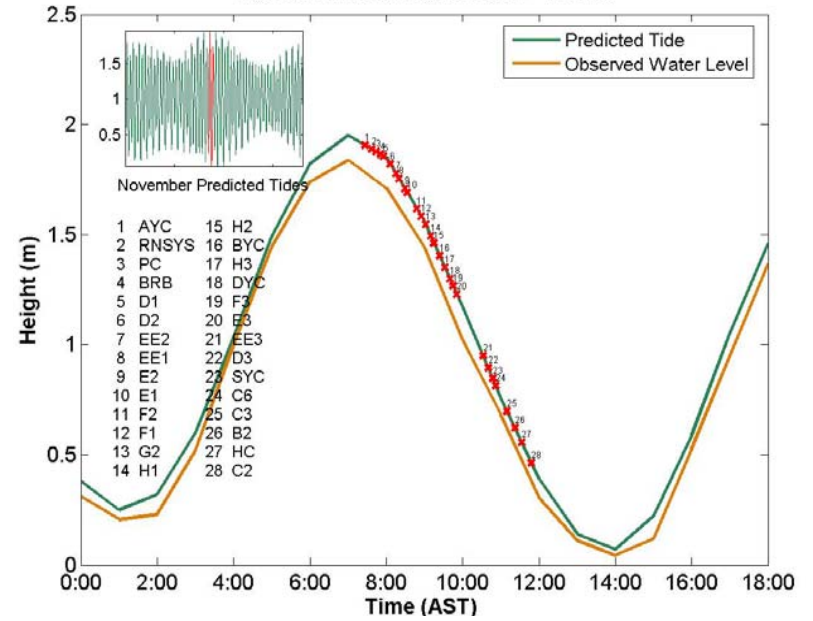


Unless otherwise labeled:  
 - **density** contour interval is 0.5 kg/m<sup>3</sup>

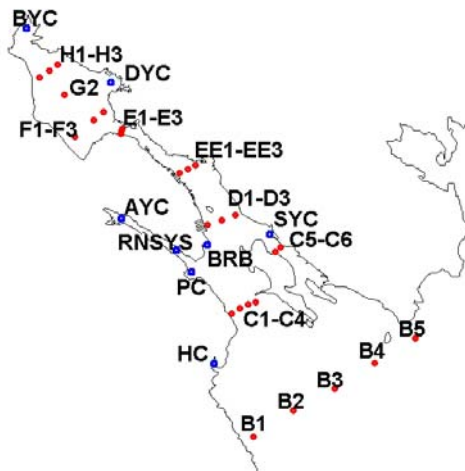
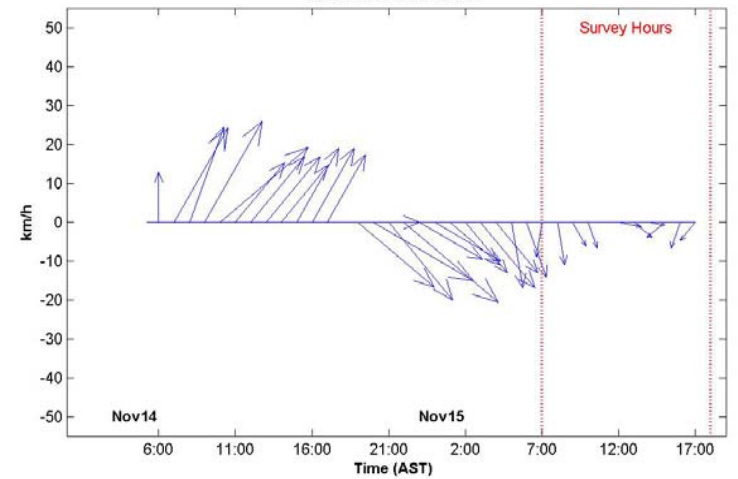
# Yacht Clubs



# Halifax Harbour Water Level - Nov15



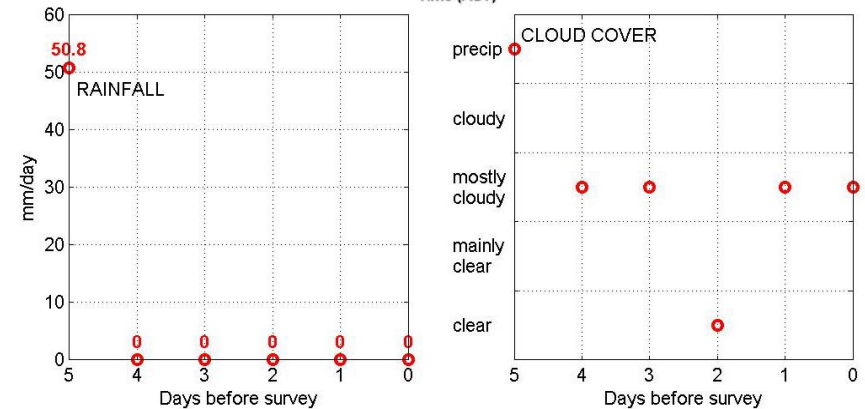
# Wind Speed and Direction

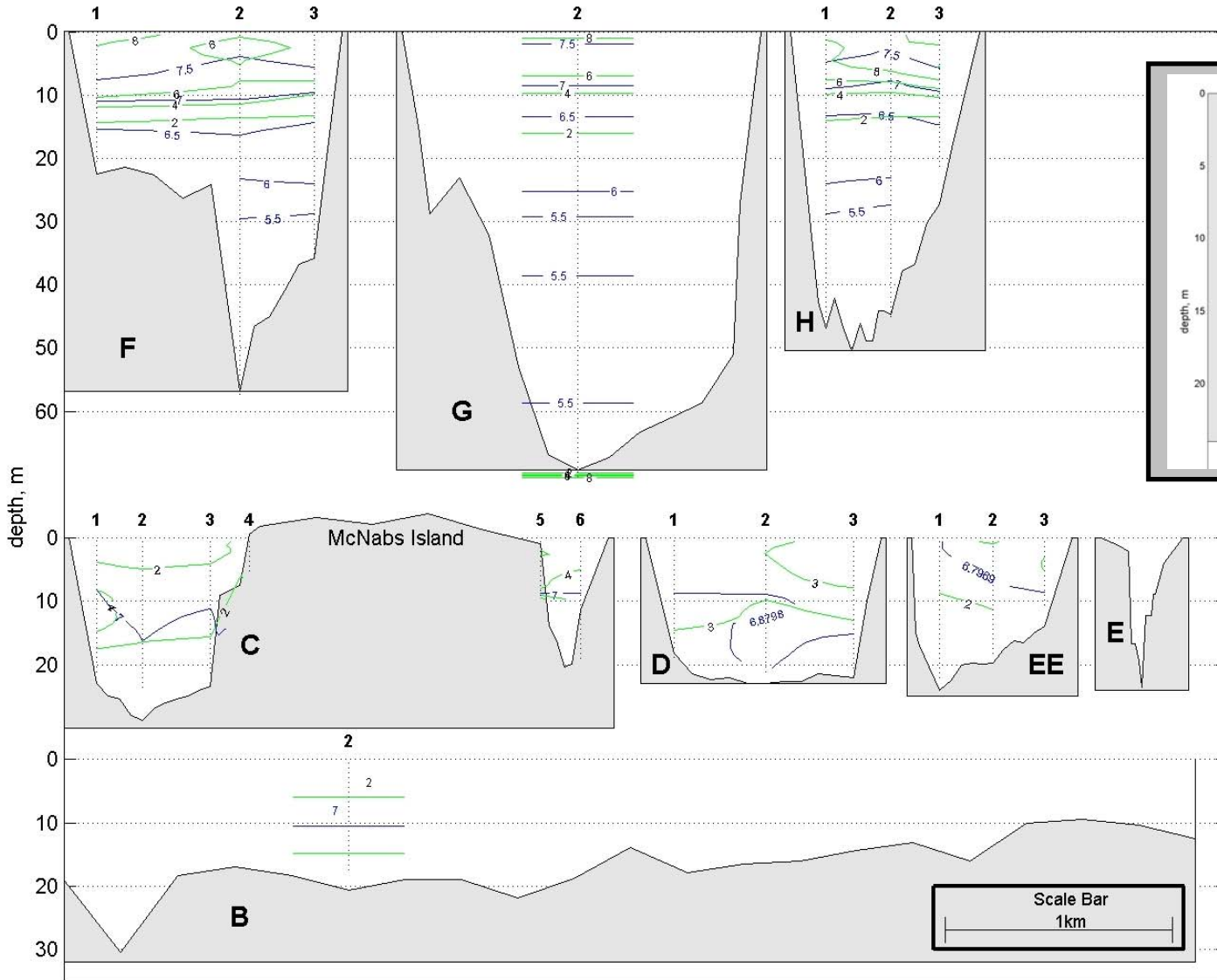


Weather data collected at the Halifax International Airport

Potential Density in  $\text{kg/m}^3$

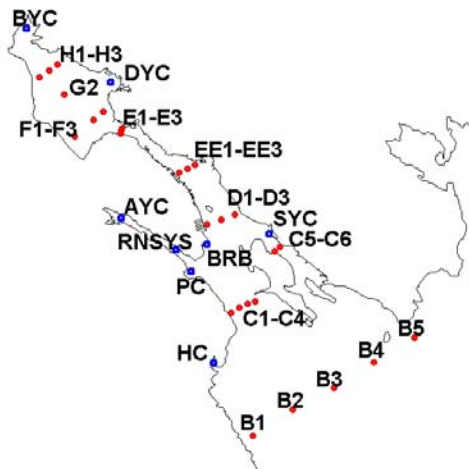
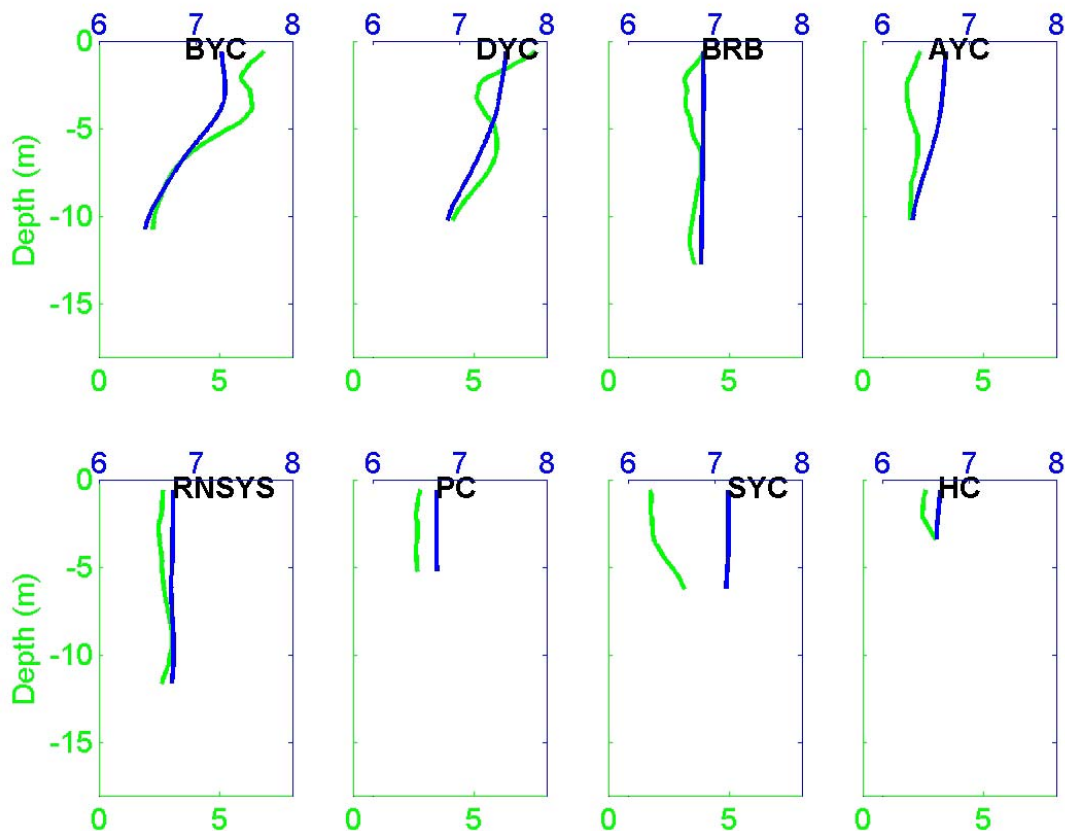
Fecal coliform: above swimming limit (200 cfu/100mL)  
 above shellfish limit (14 cfu/100mL)  
 below limits





Unless otherwise labeled:  
 - **dissolved oxygen** contour interval is 0.5 mg/L  
 - **chlorophyll** contour interval is 2 mg/m<sup>3</sup>.

# Yacht Clubs



DO in mg/L

Chlorophyll in mg/m<sup>3</sup>

Weather data collected at the Halifax International Airport

