

Halifax Harbour Water Quality Monitoring Project

Weekly Summary #70

Survey Date: 18 October 2005
Nature of Survey: Coliform Survey
Report File (this document): HHWQMP_report070_051018.doc
Data File: HHWQMP_data070_051018.xls

Data Return:

Profile: 97%
 Bacteria: 100%
 Chemical: na
Overall: 98%

Sample Notes:

Herring Cove (HC) profile data was missed due to CTD operator error.

QA/QC samples:

Fecal Coliform (CFU/100ml)

Site	H1-1m	D2-10m	C2-1m	PC-1m
Reference	71	9	280	380
QA/QC	44	18	240	490

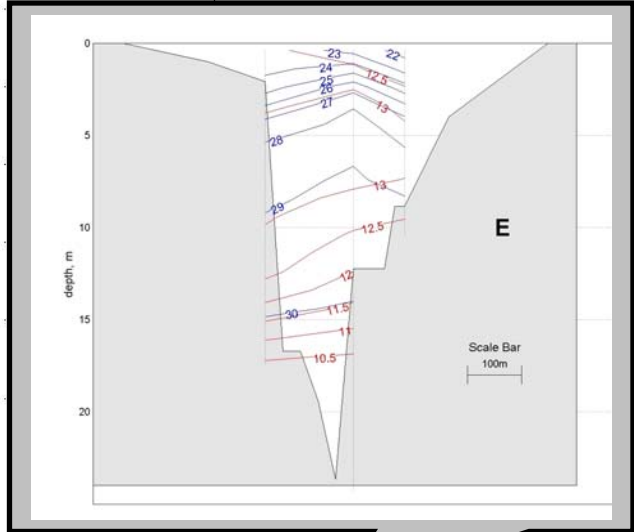
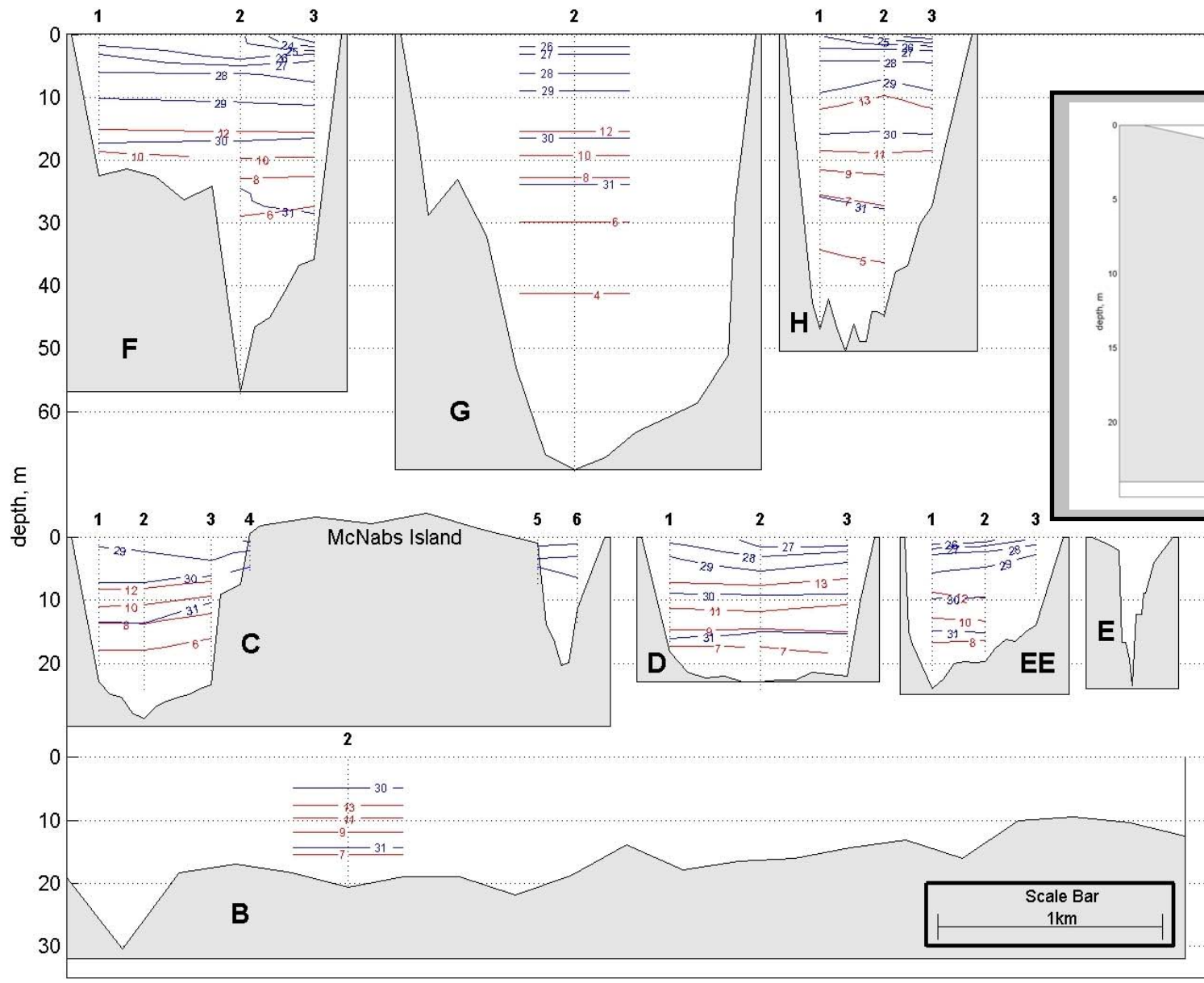
Comments:

General: The effect of last weeks' large freshwater input, augmented by a further 40 mm of rain in the days prior to this survey, is still evident in the Harbour. However, the situation is much less unusual than last week. Overall, the salinity is slightly higher than last week (i.e. fresh water content of the Harbour is less), as the freshwater pulse is being flushed from the Harbour. The freshest water in the Harbour continues to be in the Narrows, an apparent effect of the Tufts Cove and Duffus Street outfalls, and appears to spread both up and down the Harbour. Enigmatically, the highest bacteria counts are not associated with the freshest water in the Narrows. The coliform values remain quite high everywhere, particularly in the Inner Harbour, but extend to the Outer Harbour (B2 – 1m, 110 CFU/100mL). Almost everywhere the coliform values are higher in the 1 m sample than in the 10 m sample. In the southern Basin, this observation reinforces the idea of surface water spreading up-harbour. Stratification has reestablished in the Outer Harbour, under the influence of the large freshwater influx. Overall, the water temperature is slightly

lower than last week. The biggest temperature change is in the Outer Harbour. Here, a well mixed water column, with a temperature of 14-15° C top to bottom, has been replaced by an inflow of bottom water with a temperature of about 5° C.

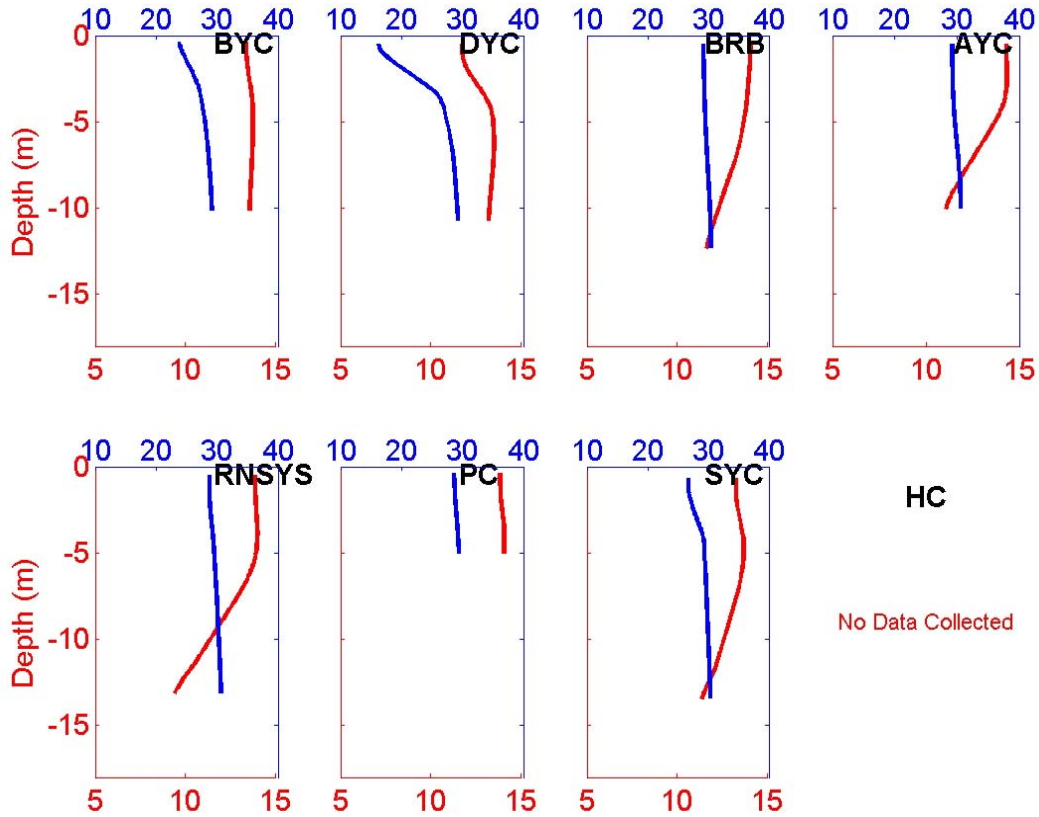
Chlorophyll: Overall values are slightly lower this week than last, on the order of 1-2 mg/m³ throughout most of the Harbour, except around 4 mg/m³ in the Narrows. The maximum values are at the head of the Basin (H section) with profile maximums around 9 mg/m³, similar to last week.

Dissolved Oxygen: Generally, the dissolved oxygen is quite uniform throughout the Harbour and slightly lower than last week. The highest values are associated with the cold bottom water at B2. The Basin deep water has dropped slightly from last week. The absolute values are comparatively very low, with values below applicable guidelines virtually everywhere in the Harbour . The DO data is not ground-truthed and absolute values are questionable (see DO discussion in QR#1).



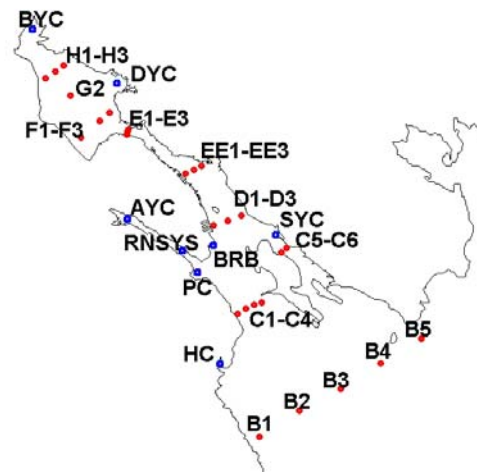
Unless otherwise labeled:
 - salinity contour interval is 1 PSU
 - temperature contour interval is 2°C.

Yacht Clubs



HC

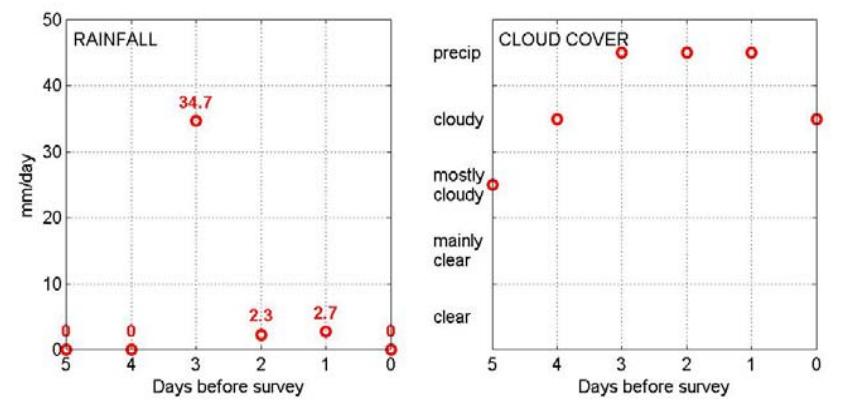
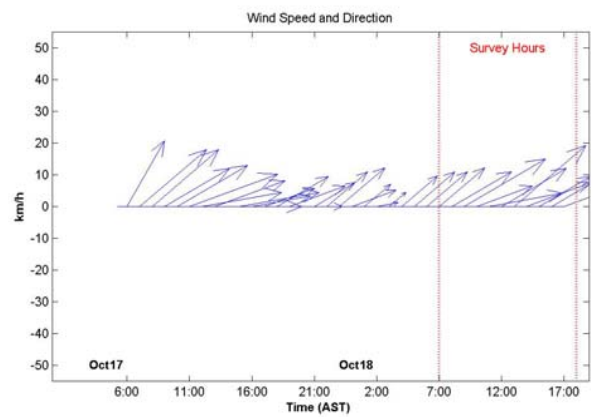
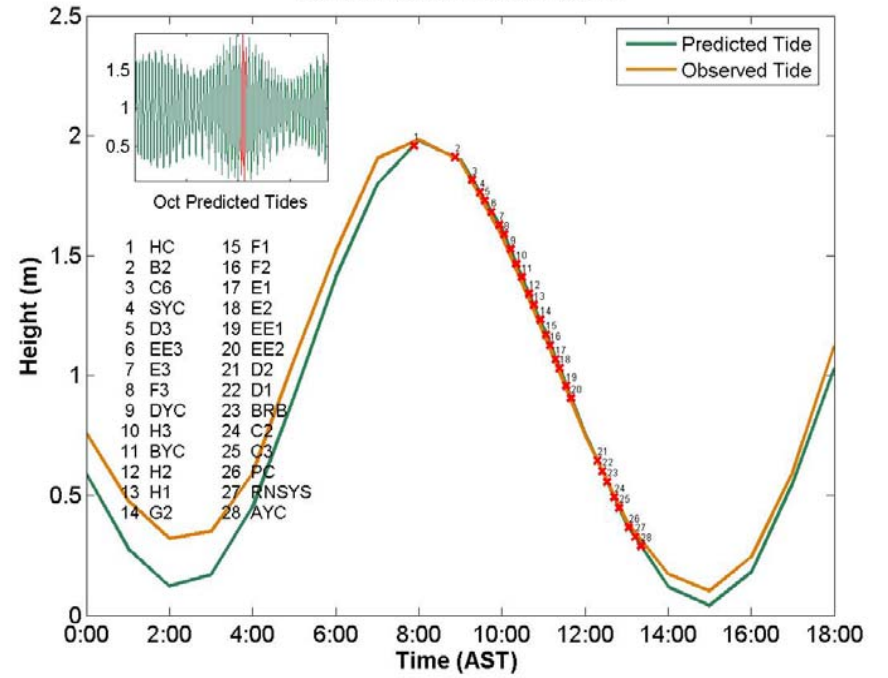
No Data Collected

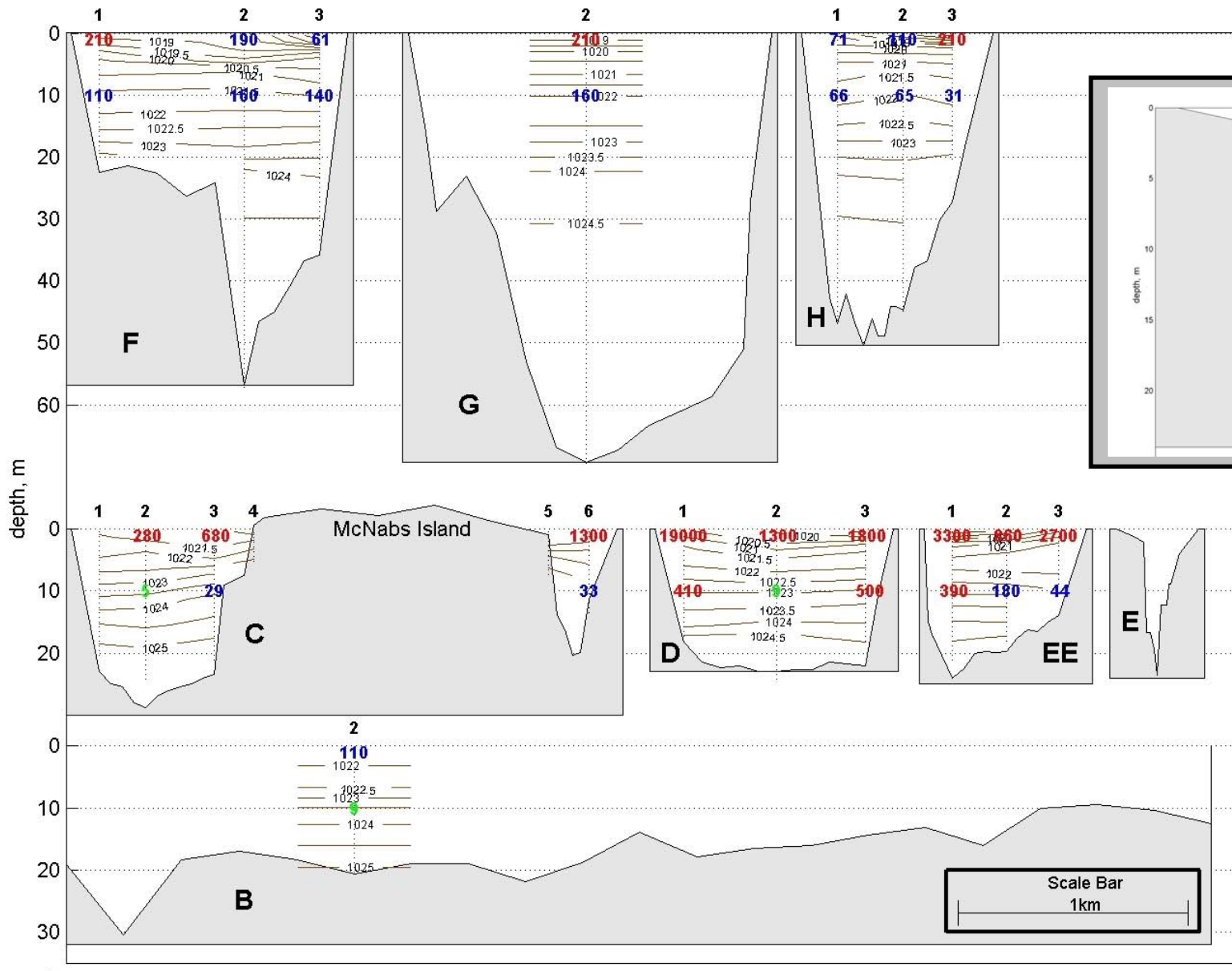


Salinity in PSU Temperature in °C

Weather data collected at the Halifax International Airport

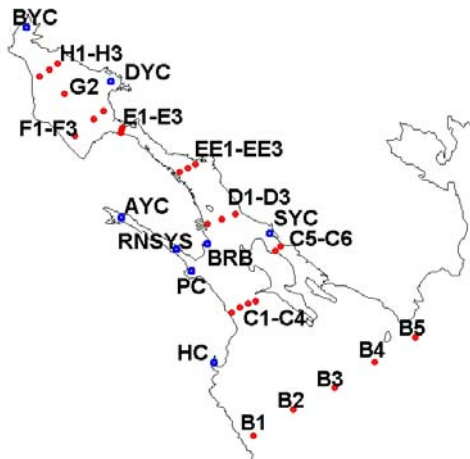
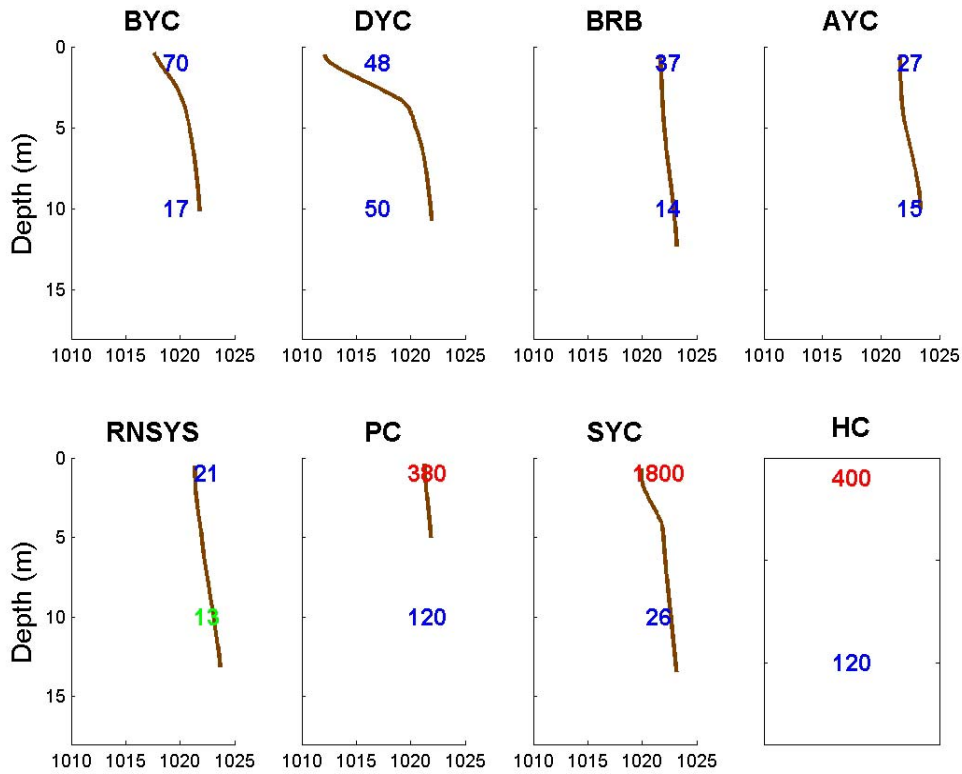
Halifax Harbour Tides - Oct18





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

Yacht Clubs

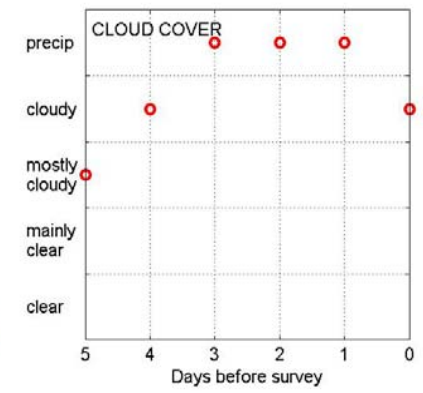
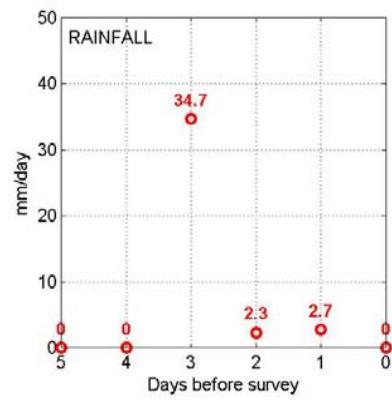
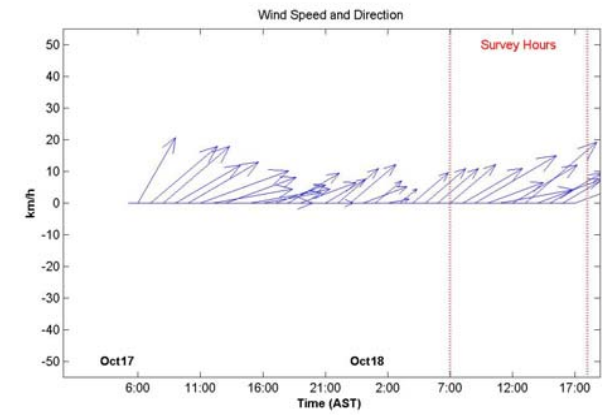
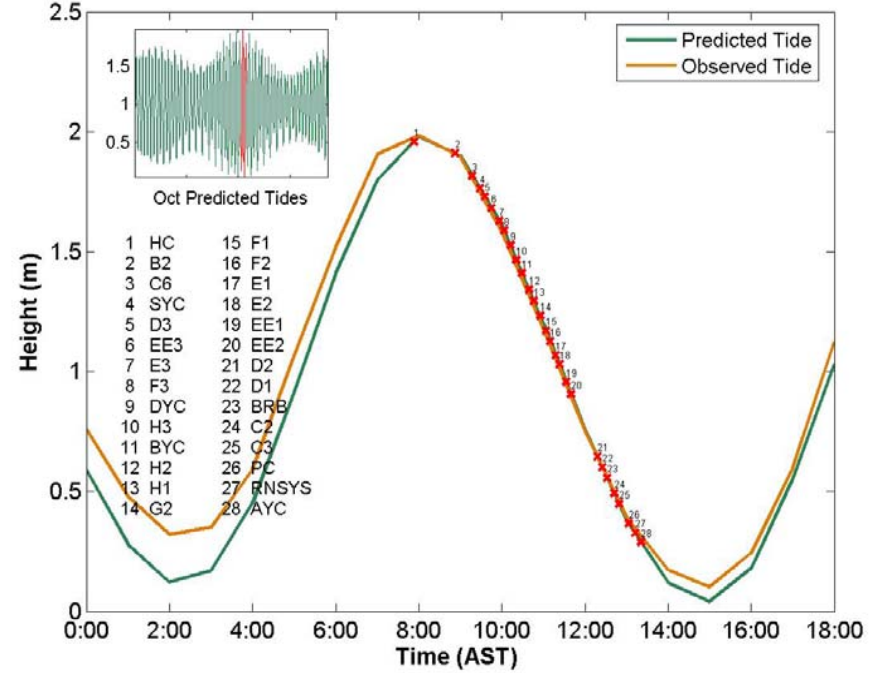


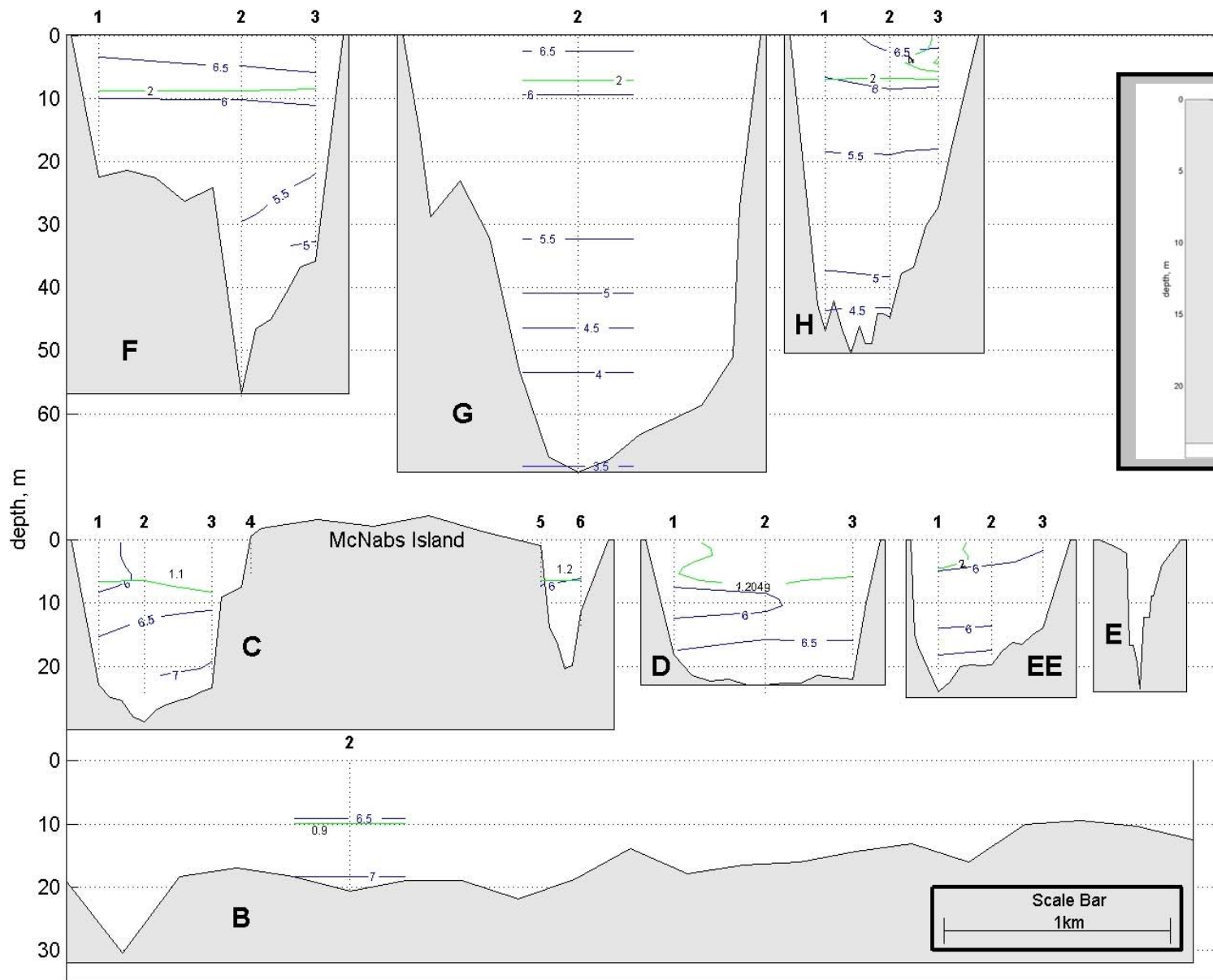
Weather data collected at the Halifax International Airport

Potential Density in kg/m^3

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

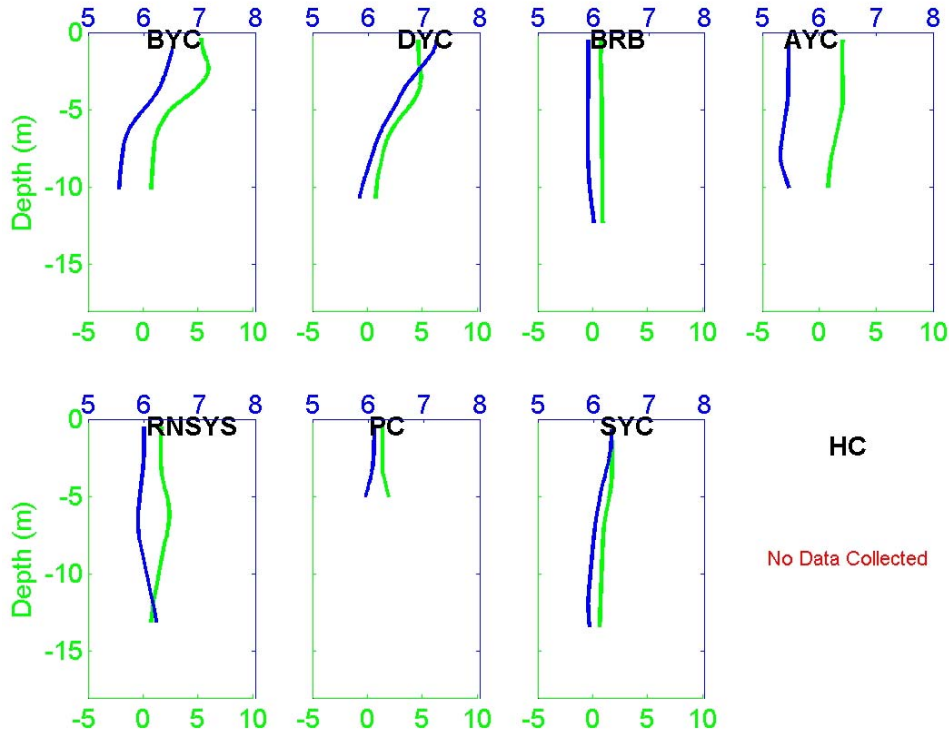
Halifax Harbour Tides - Oct18





Unless otherwise labeled:
 - **dissolved oxygen** contour interval is 0.5 mg/L
 - **chlorophyll** contour interval is 2 mg/m³.

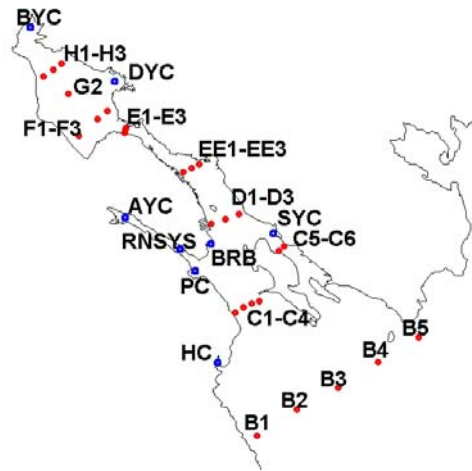
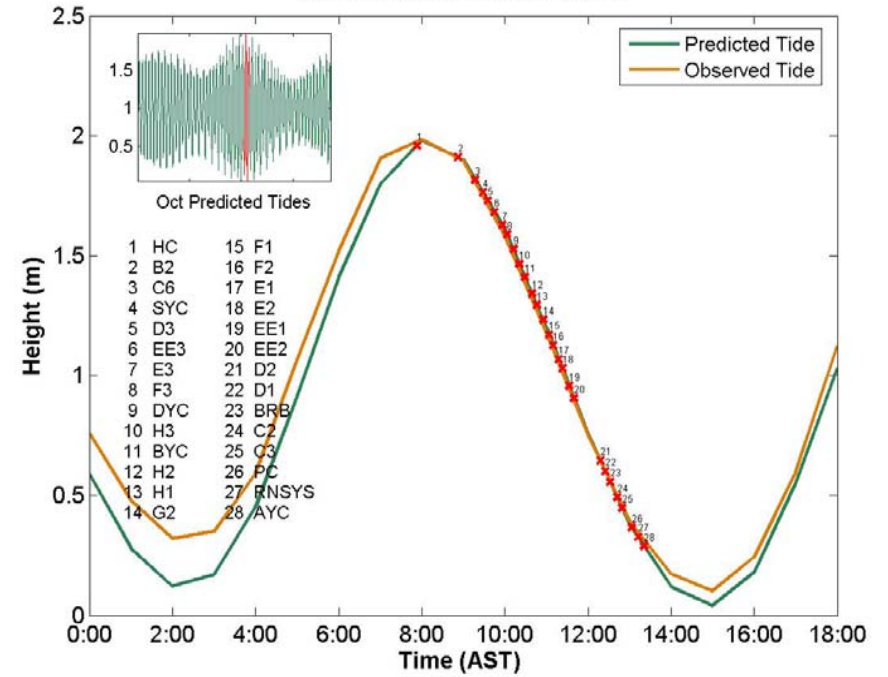
Yacht Clubs



HC

No Data Collected

Halifax Harbour Tides - Oct18



DO in mg/L

Chlorophyll in mg/m³

Weather data collected at the Halifax International Airport

