

Halifax Harbour Water Quality Monitoring Project

Weekly Summary #63

Survey Date: 30 August 2005
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report063_050830.doc
Data File: HHWQMP_data063_050830.xls

Data Return:
 Profile: 97%
 Bacteria: 100%
 Chemical: 100%
Overall: 99%

Sample Notes:

Station C3 CTD data was not recorded, likely due to operator error.

At Stations BYC and DYC, the CTD data exhibited anomalous behaviour during the equilibration portion of the cast. The reason is uncertain, but the CTD data from these stations is questionable.

Dartmouth Cove (DC-1m) was sampled and the sample analyzed for all parameters.

Three (B2, EE2, and G2) 1 m samples were taken for more detailed copper analysis.

QA/QC samples:

Chemical Analysis		E2-1m	
		reference sample	QA/QC
Detectible Parameter	units		
Ammonia (as N)	mg/L	0.11	0.11
Total Suspended Solids	mg/L	10	9.9
Boron	µg/L	3100	2900
Lithium	µg/L	150	150
Strontium	µg/L	6700	6900
Titanium	µg/L	57	56
Uranium	µg/L	3.3	3.6

Fecal Coliform (CFU/100ml)

Site	H1-1m	F3-10m	RNSYS-10m	E2-1m
Reference	38	2400	460	>10000
QA/QC	38	120	450	>10000

Regulated parameters with all samples below detection (<EQL)

Parameter	EQL(µg/L)	Parameter	EQL(µg/L)	Parameter	EQL(mg/L)
Cadmium	3	Manganese	20	Oil and Grease	5
Chromium	20	Nickel	20		
Copper	20	Zinc	50		
Lead	5				

Detectable non regulated metals

Metal	EQL (µg/L)	Number >EQL	Mean (µg/L)	Range (µg/L)
Boron	500	17	3124	2900-3500
Lithium	20	17	149	140-160
Strontium	50	17	6676	6400-6900
Thallium	1	1	1	1
Titanium	20	17	55	47-61
Uranium	1	17	3.4	3.1-3.9

Comments:

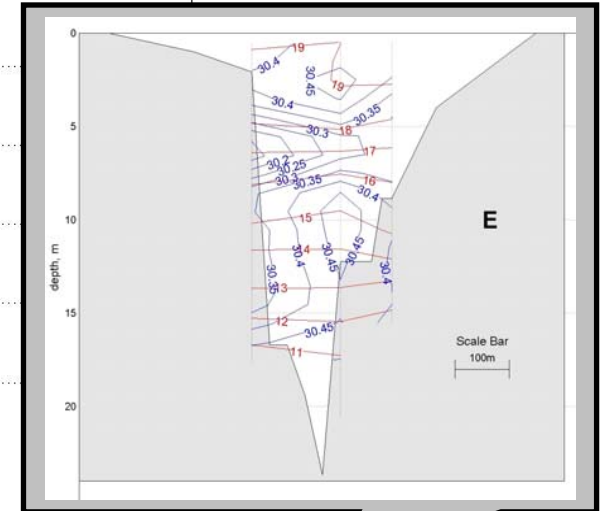
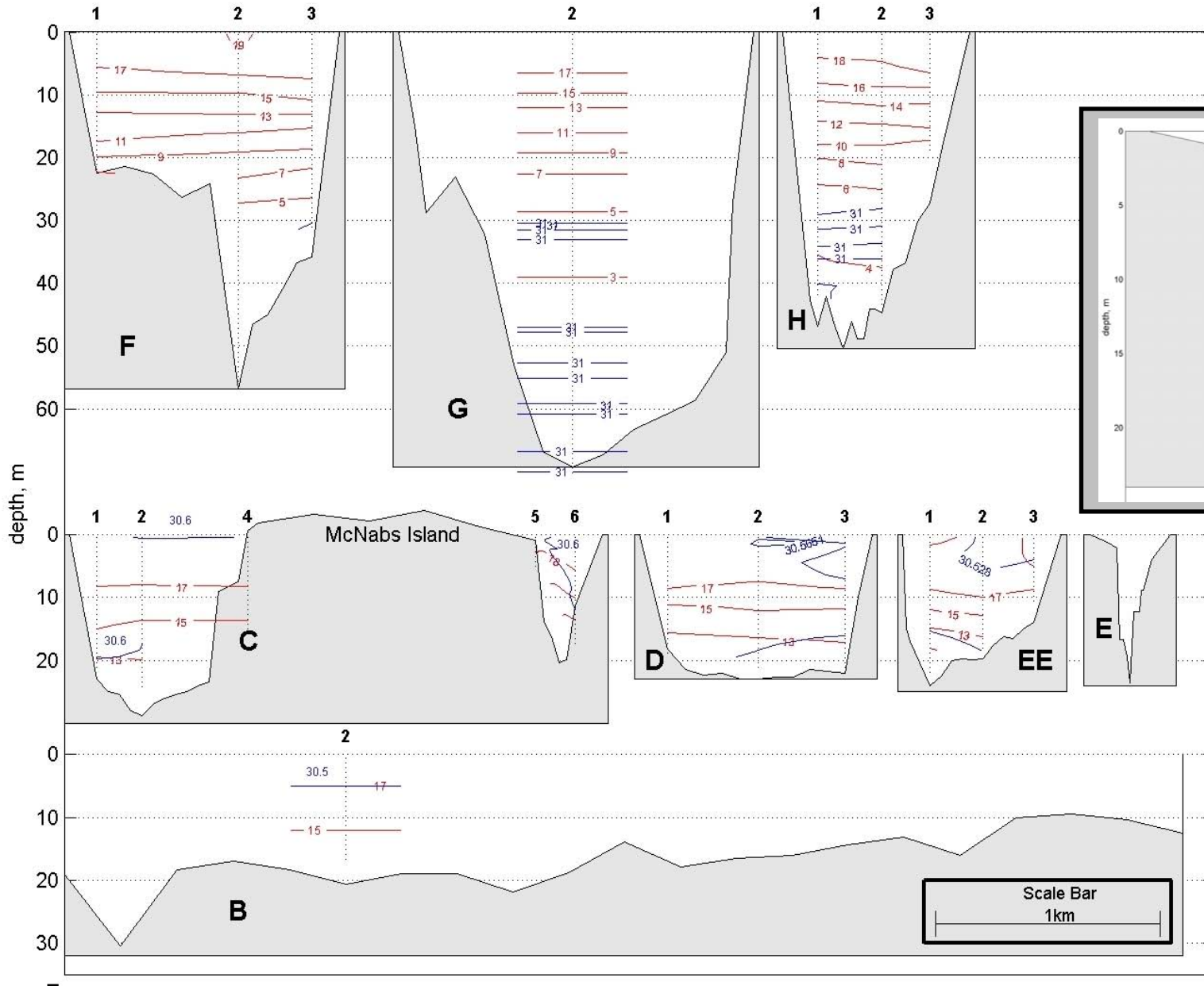
Dartmouth Cove Detectible Values: Fecal coliform: 2500 cfu/100 mL,
 TSS: 14.0 mg/L.

High Resolution Copper Analysis (detection limit 1 µg /L): B2-1m (<1 µg/L), EE2-1m (<1 µg/L) and G2-1m (1.3 µg/L)

Dissolved Oxygen: The data suggests that Harbour bottom water (>12 -14 m) has DO levels of <7 mg/L. This is below the guidelines in class SB areas, i.e. Bedford Basin, the NW Arm, Eastern Passage and Section C. At Station B2, which has an SA classification, the entire water column appears to be below the 8 mg/L guideline.

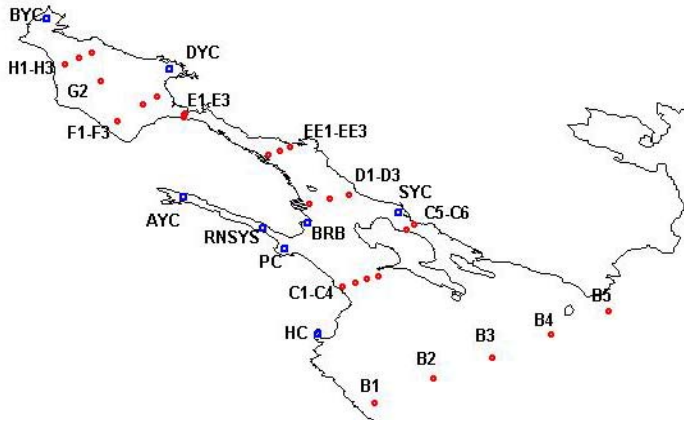
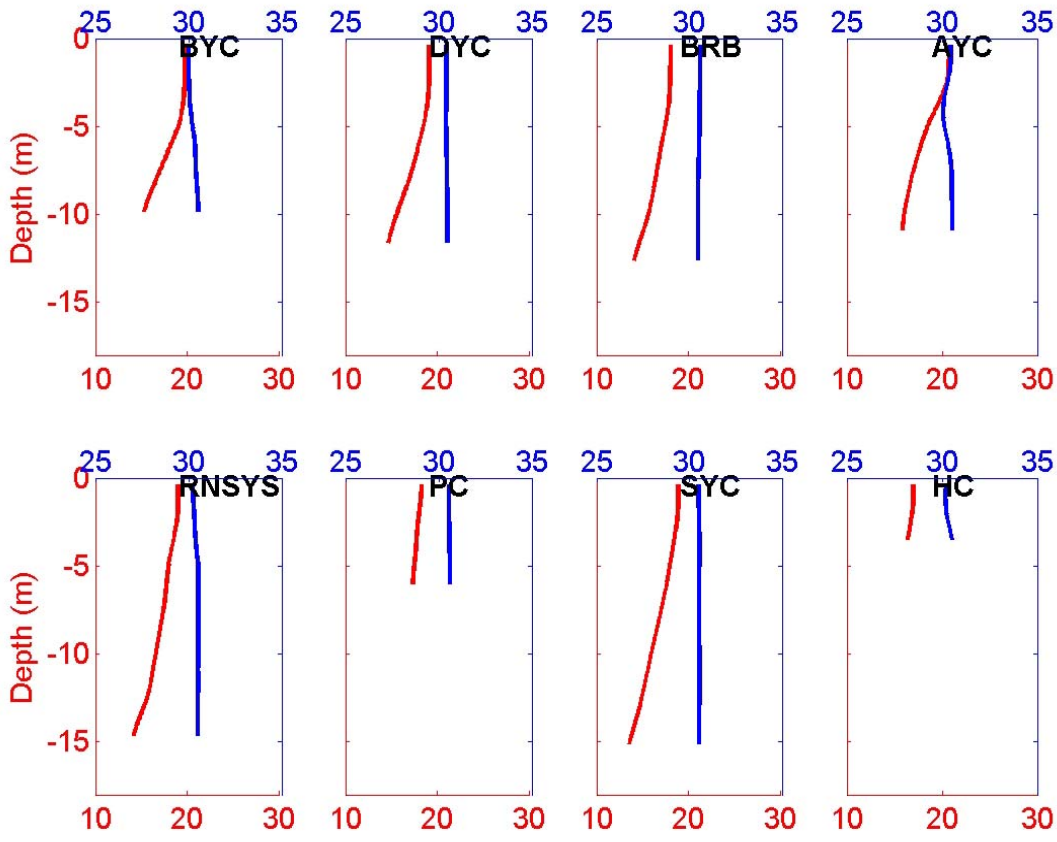
Chlorophyll: The fluorescence data has a maximum of between 20 and 26 mg/m³ at a depth of 5-7 m in the Basin. This value decreases in magnitude and occurs lower in the water column further out of the Harbour, decreasing to about 7 mg/m³ at 15 m at section C. At Station B2 the maximum is approximately 2.7 mg/m³ at 14 m.

General: The continued dry weather has resulted in a very uniform salinity distribution with salinities ranging from 30.4 – 30.6 PSU in the upper 20m throughout the Harbour. The surface temperature has continued to rise and is also very uniform at 18-19°C and is 7-10°C colder at 20 m. The surface water at BYC is slightly less saline (0.4 psu) and warmer (0.8 °C) than the rest of the Harbour. FC values in the Inner Harbour are typically high, perhaps exacerbated by overcast conditions on sampling day, with the distribution displaced somewhat up-harbour likely due to a combination of rising tide and moderate up-harbour winds



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

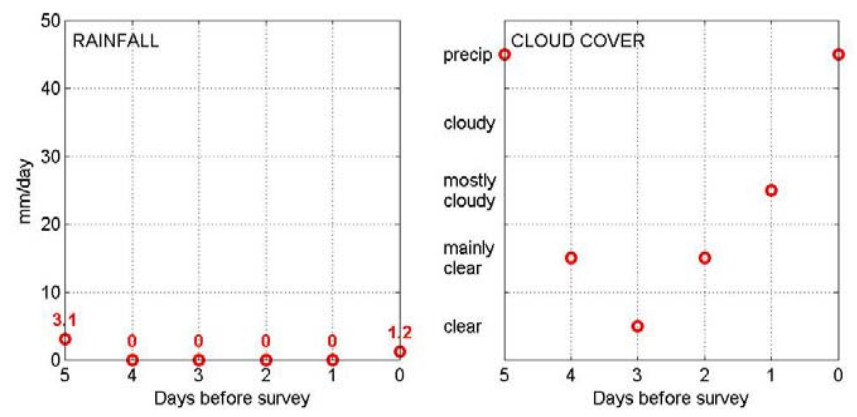
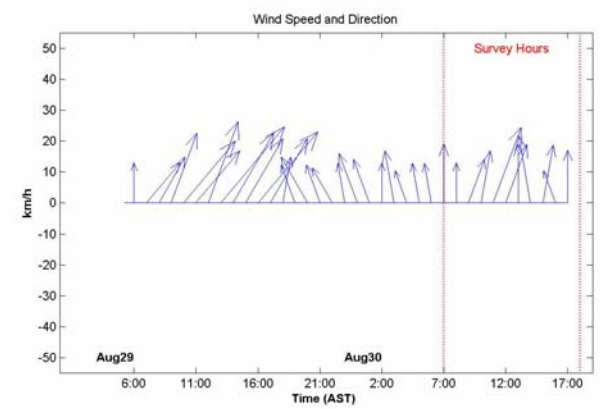
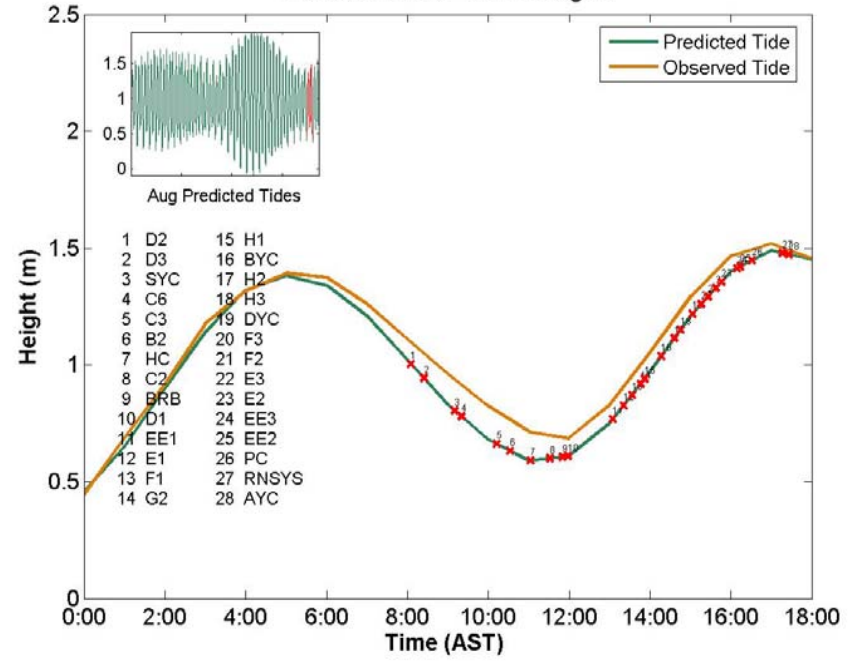
Yacht Clubs

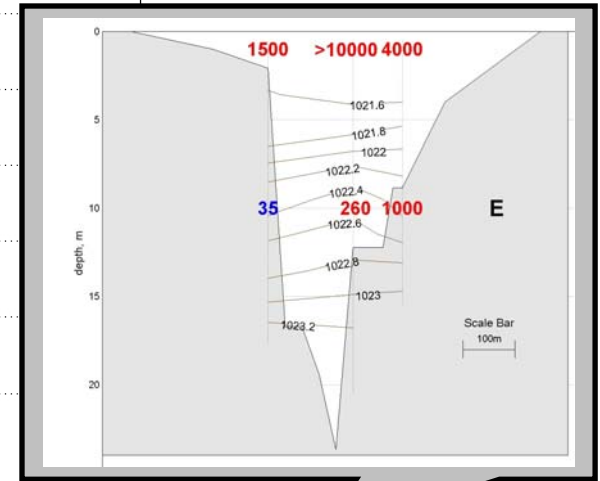
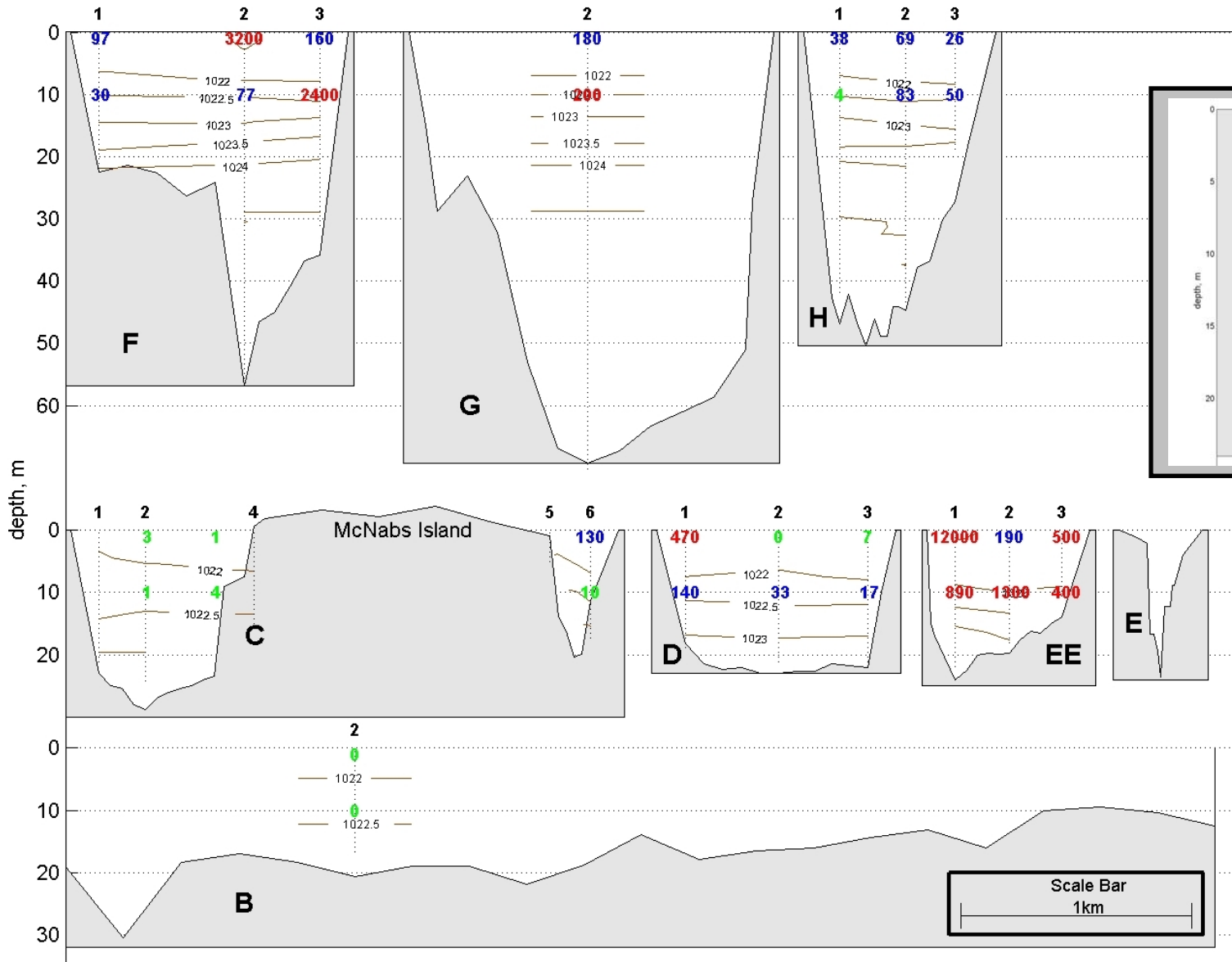


Salinity in PSU Temperature in °C

Weather data collected at the Halifax International Airport

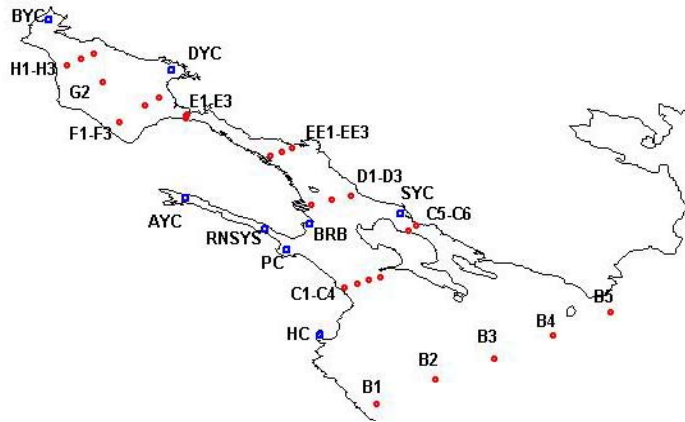
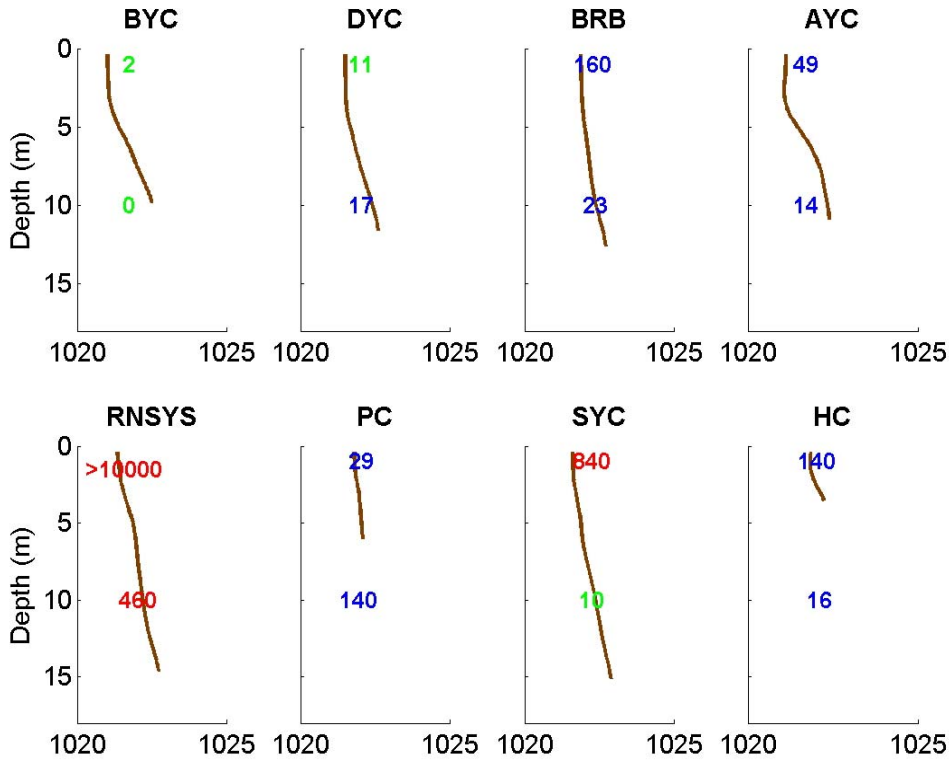
Halifax Harbour Tides - Aug30





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

Yacht Clubs

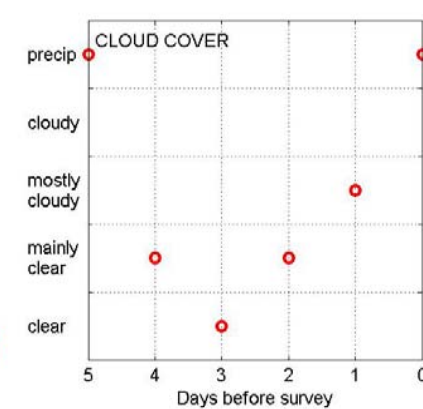
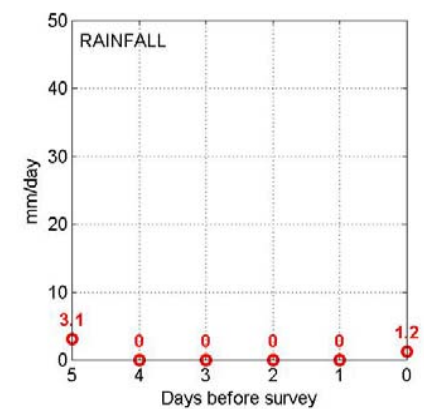
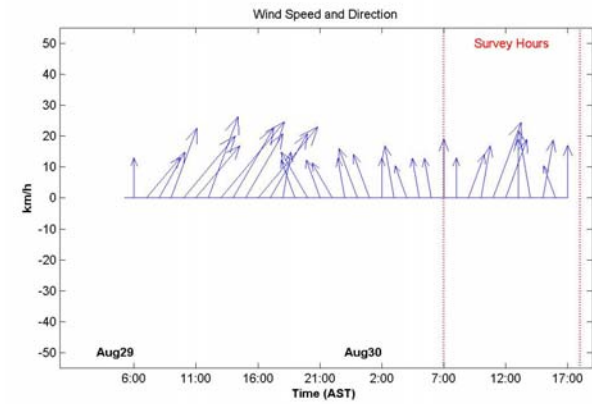
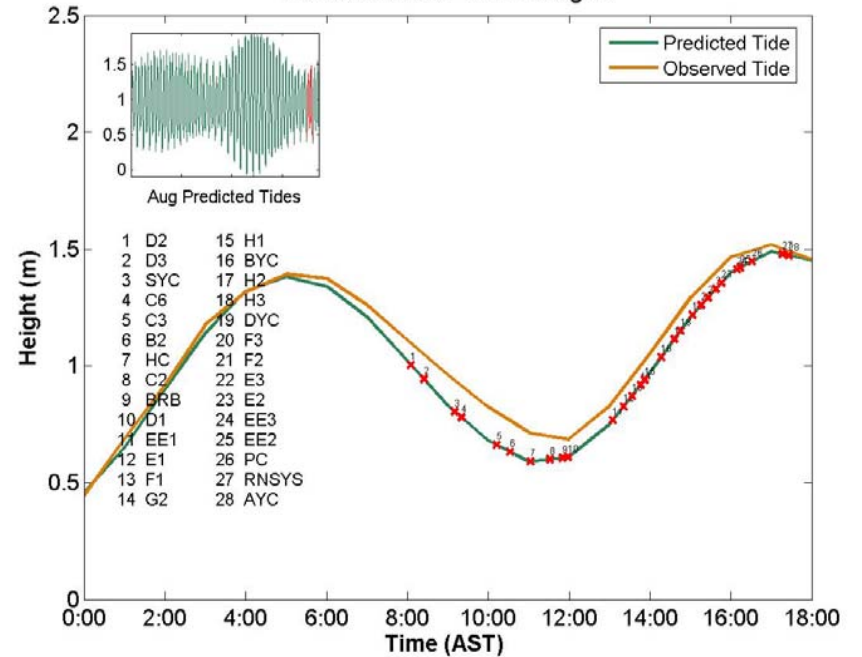


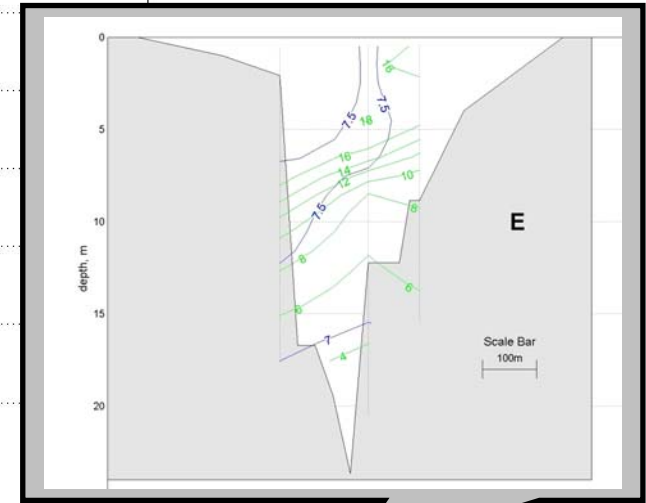
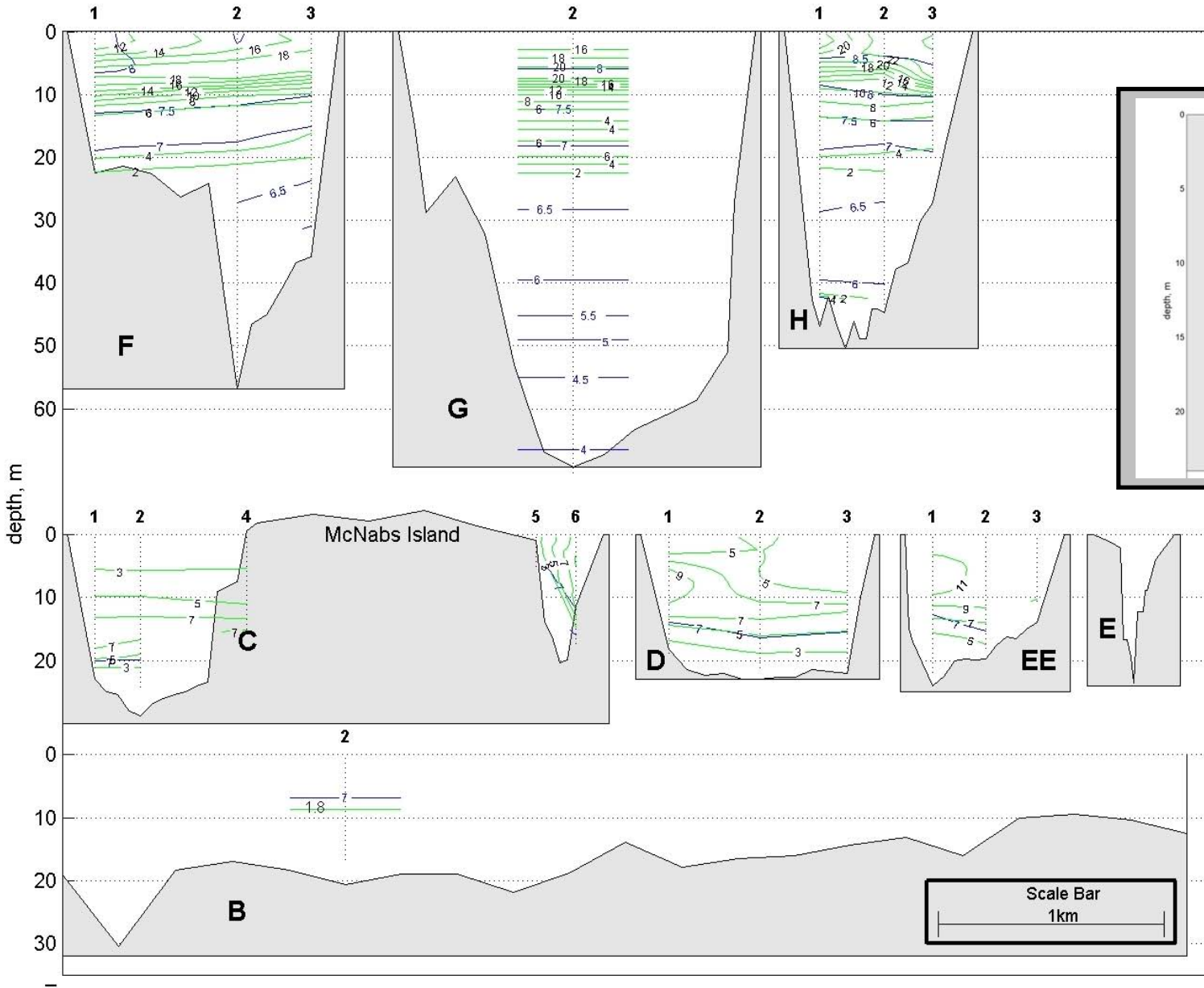
Potential Density in kg/m^3

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

Weather data collected at the Halifax International Airport

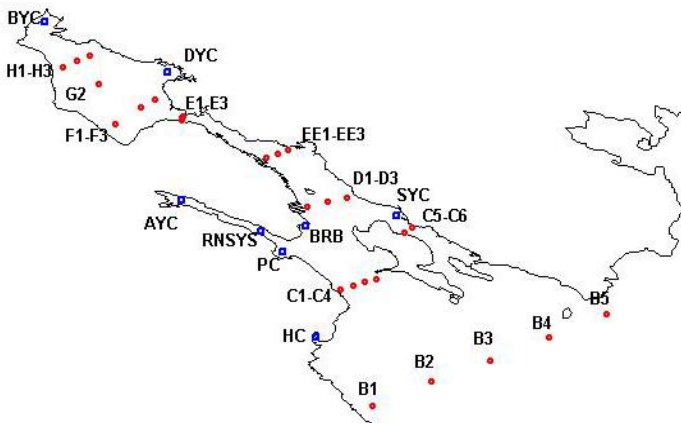
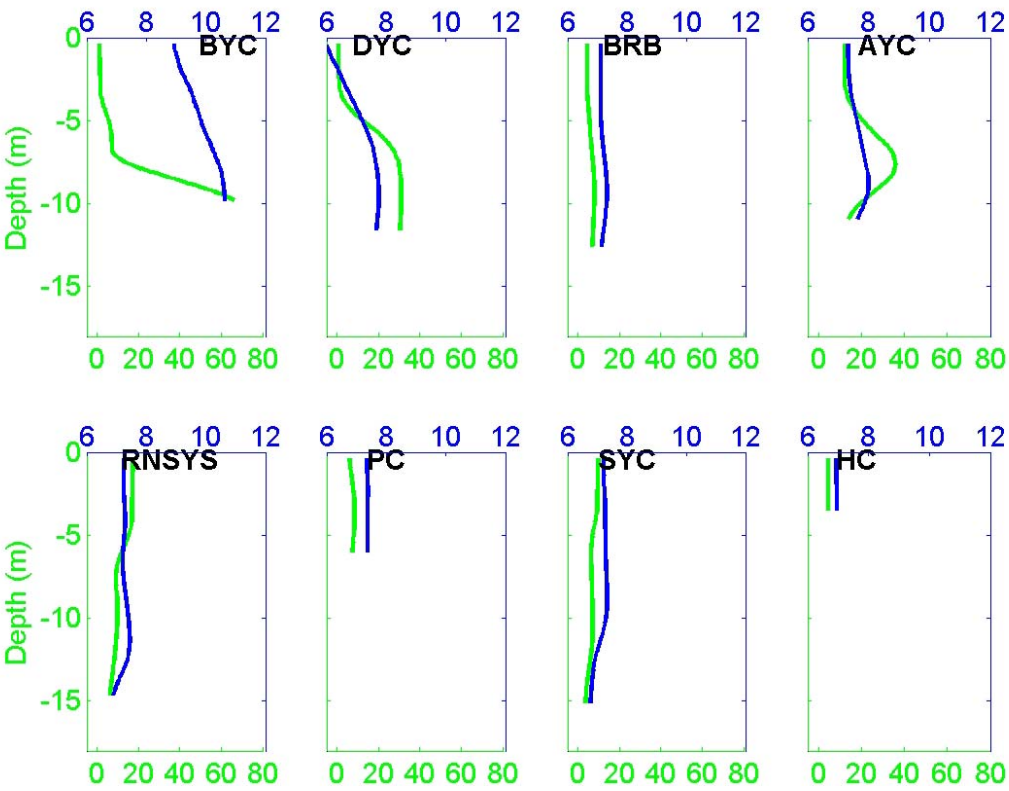
Halifax Harbour Tides - Aug30





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

Yacht Clubs

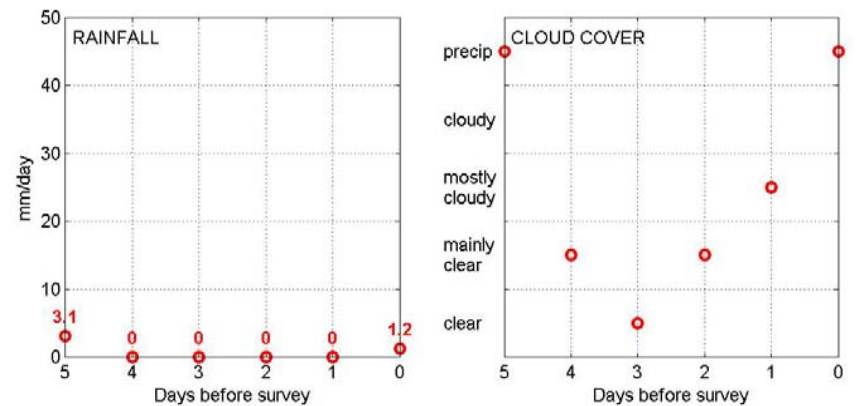
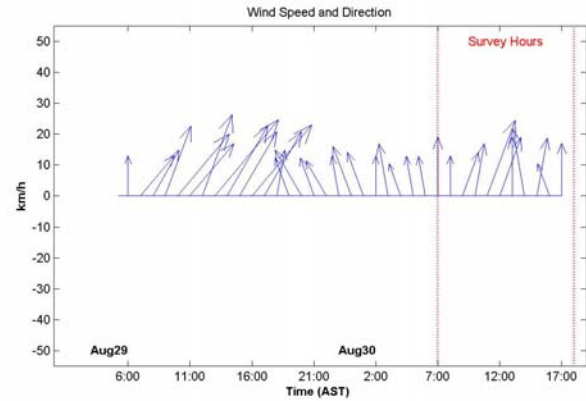
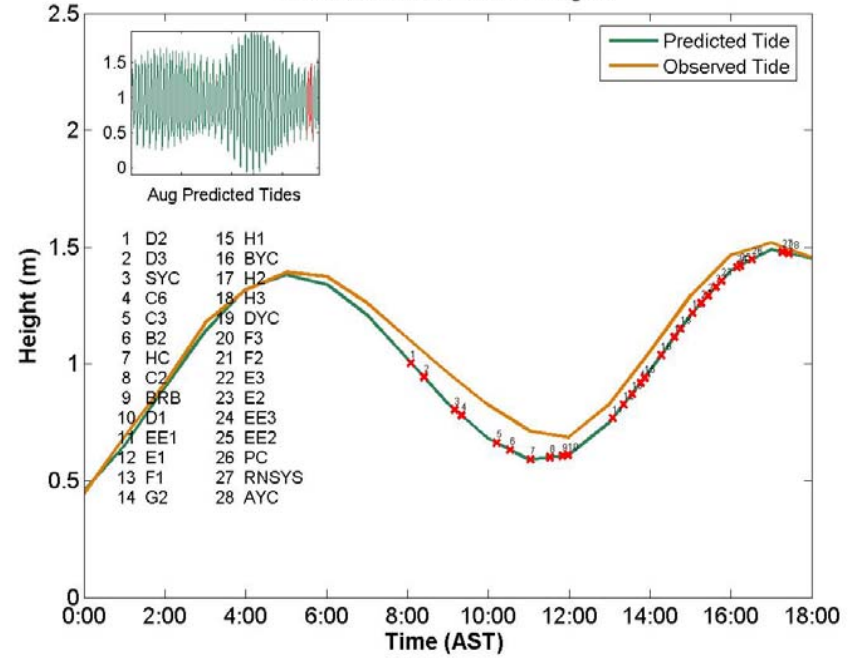


DO in mg/L

Chlorophyll in mg/m³

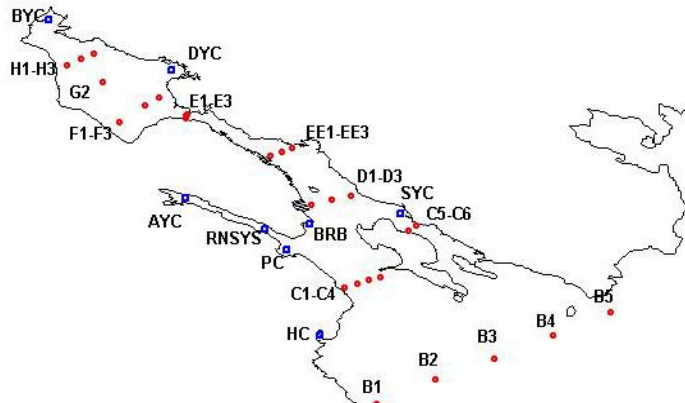
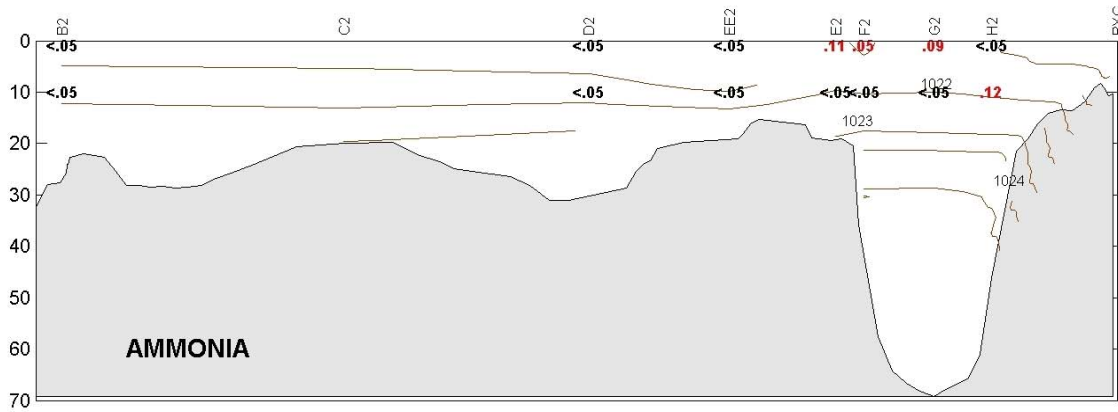
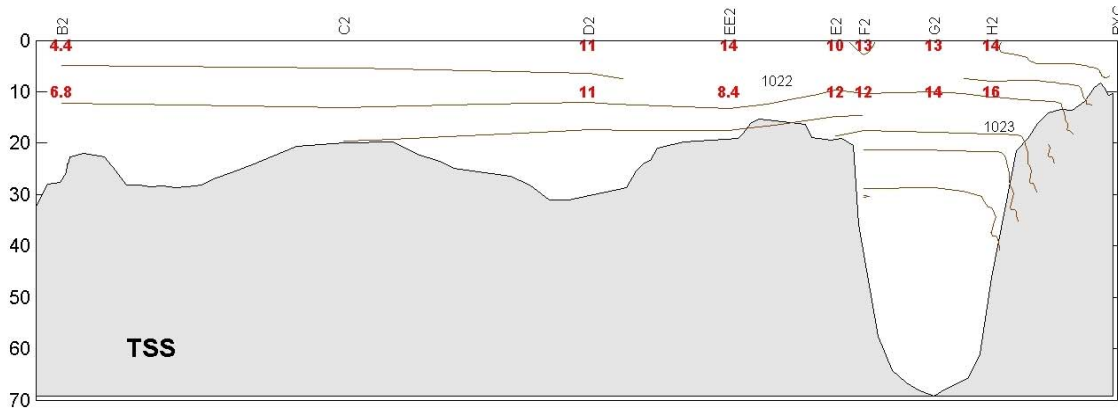
Weather data collected at the Halifax International Airport

Halifax Harbour Tides - Aug30



Harbour Water Quality Monitoring Program

CHEMISTRY



Potential Density in kg/m^3

Ammonia in mg/L

TSS in mg/L

Weather data collected at the Halifax International Airport

Halifax Harbour Tides - Aug30

