

Halifax Harbour Water Quality Monitoring Project

Weekly Summary #57

Survey Date: 19 July 2005
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report057_050719.doc
Data File: HHWQMP_data057_050719.xls

Data Return:
 Profile: 94%
 Bacteria: 93%
 Chemical: 87%
Overall: 92%

Sample Notes:

Sites B2 and HC not sampled due to heavy fog.

Dartmouth Cove (DC-1m) site sampled for the first time. A 1m sample was collected and analyzed for all parameters.

QA/QC samples:

Chemical Analysis		EE2-1m	
Detectable Parameter	units	reference sample	QA/QC
Ammonia (as N)	mg/L	<0.05	<0.05
Total Suspended Solids	mg/L	14	11
Boron	ug/L	3000	3900
Lithium	ug/L	140	180
Strontium	ug/L	6200	6400
Titanium	ug/L	55	56
Uranium	ug/L	3.1	2.9
Vanadium	ug/L	<20	26

Fecal Coliform (CFU/100ml)

Site	F1-1m	F3-10m	BRB-1m	EE2-1m
Reference	13	39	49	4200
QA/QC	11	47	38	4300

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
Copper	20	Nickel	20		
Lead	5	Zinc	50		

Detectable non regulated metals

Metal	EQL (µg/L)	Number >EQL	Mean (µg/L)	Range (µg/L)
Boron	500	14	3443	3000-3900
Lithium	20	14	161	140-180
Strontium	50	14	6400	6100-6800
Titanium	20	14	53	40-61
Uranium	1	14	3.2	2.7-3.6
Vanadium	20	3	26	23-28

Comments:

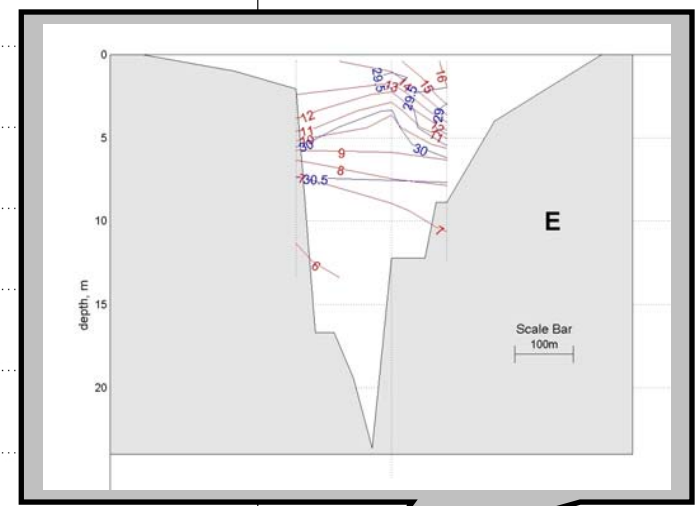
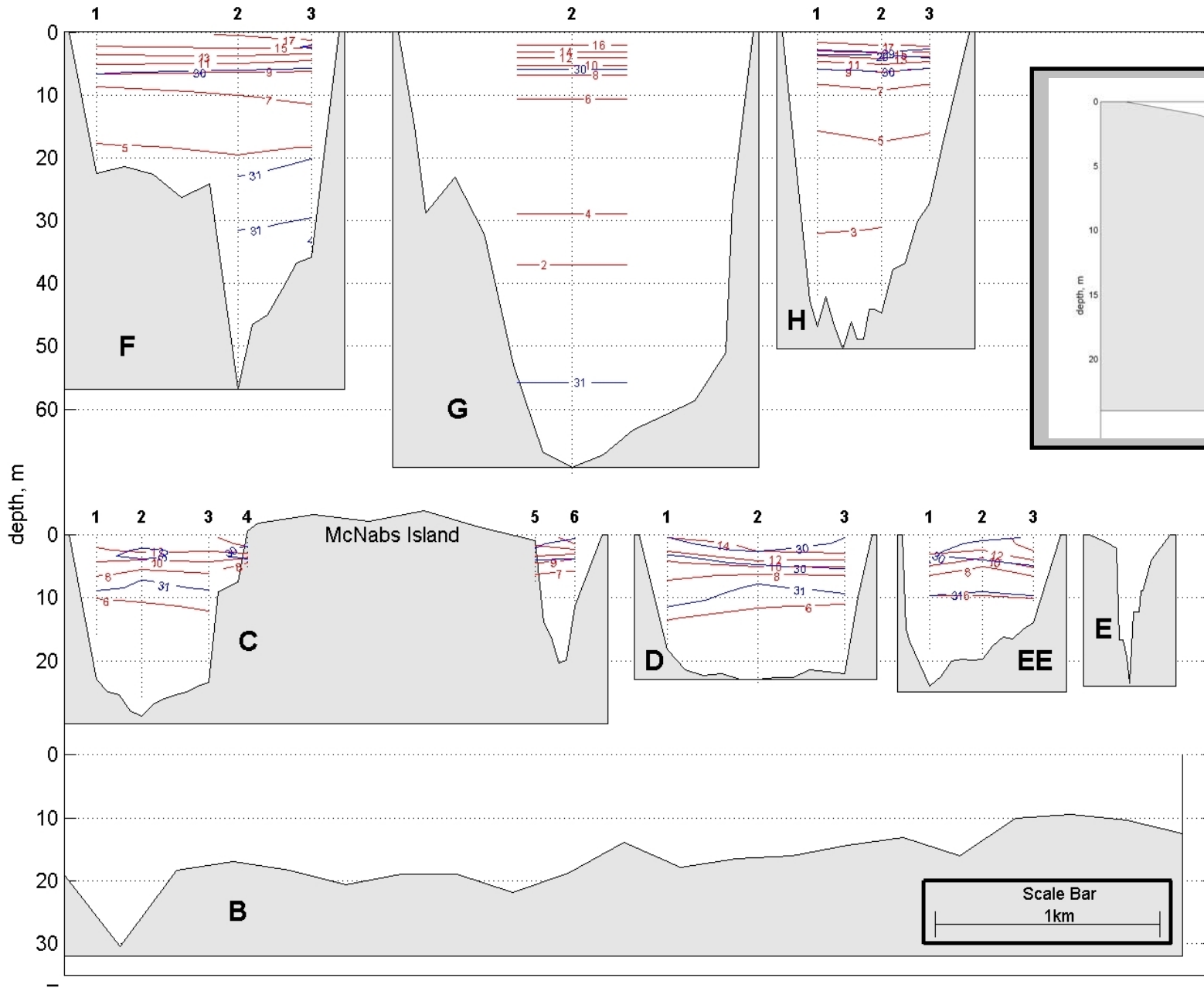
Chromium: One site (D2-1m, 21ug/L) had a detectable level of chromium. This value does not exceed the guideline limit of 50 ug/L.

Dartmouth Cove: Fecal coliform: 590 cfu/100 mL, TSS: 8.8 mg/L, NH₃: 0.06 mg/L.

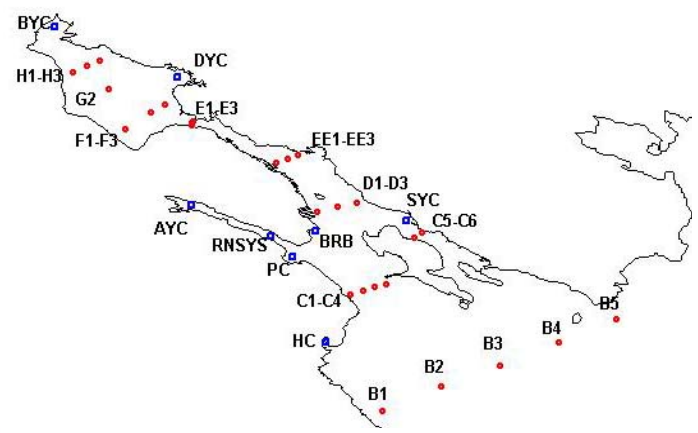
Dissolved Oxygen: The deeper water of Bedford Basin (>40m) has DO values below the applicable class SB guideline of 7.0 mg/L. The deep water minimum is 4.9 mg/L. Throughout the Harbour the surface waters are slightly depressed compared to the underlying water with maximum values (8-9 mg/L) occurring at approximately 5-10 m in the Basin and closer to 15 m elsewhere. Below the maximum the values are relatively uniform, except in the Basin.

Chlorophyll: The fluorescence values have dropped to less than half the values observed last week. In the Basin, a maximum of about 4-5 mg/m³ occurs coincident with the DO maximum (5-10m). Elsewhere the vertical structure is less defined with maximum values of 2-4 mg/m³.

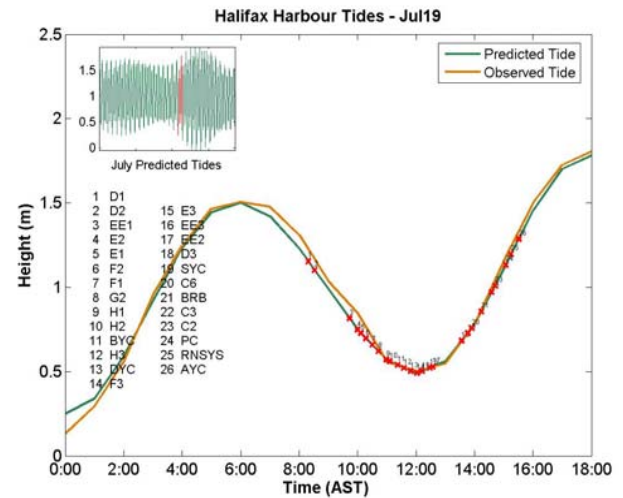
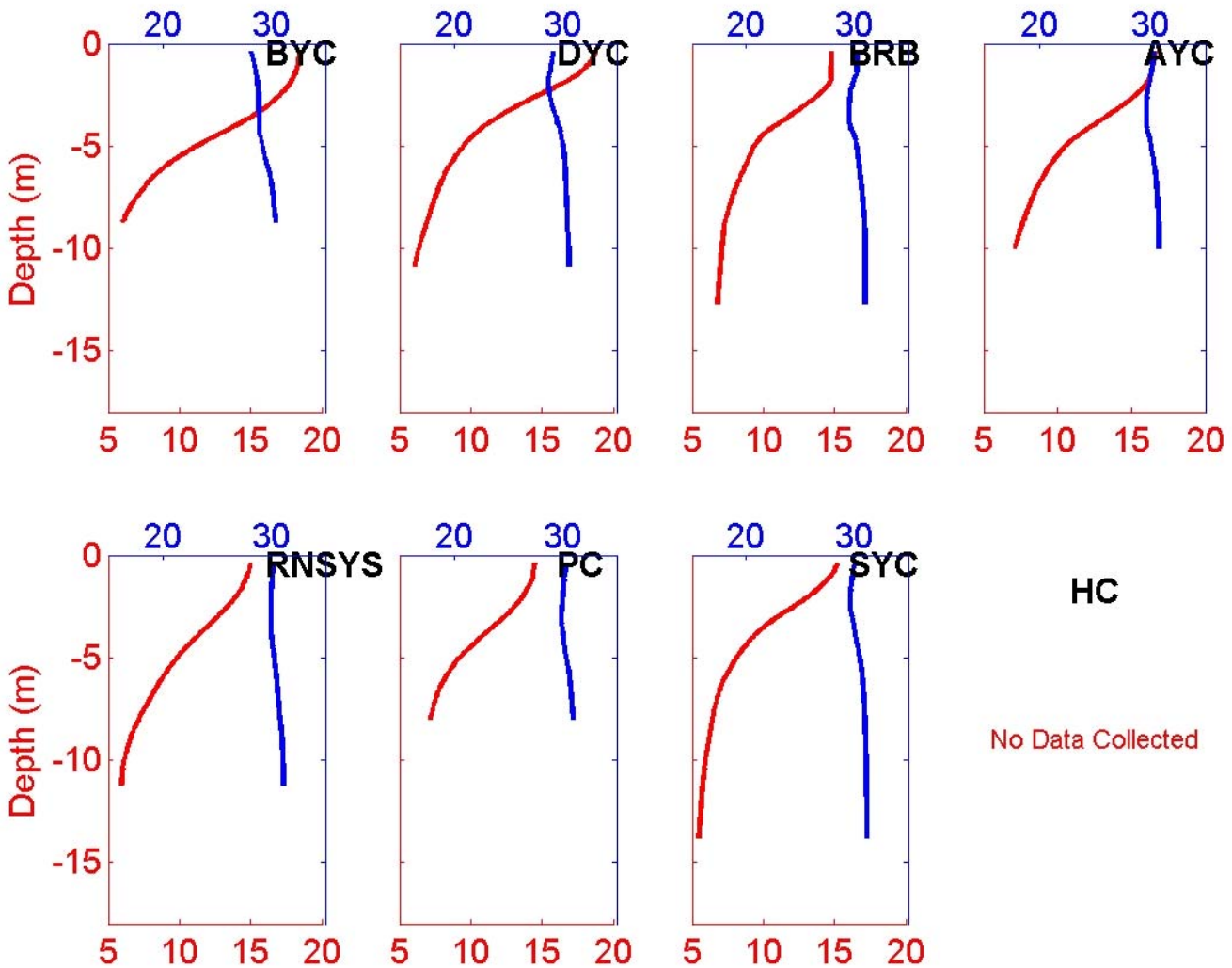
General: Surface water temperature has increased 2-3 degrees in the north of the Basin. The bacteria concentrations are quite high, but concentrated in a distribution skewed up-Harbour and along the western side of the Basin. This is consistent with the persistent up-Harbour (S – SW) wind. Interestingly there is a layer of more saline, warmer water 2 –3 m thick over the entire Harbour. This may also be consistent with the up-harbour winds.



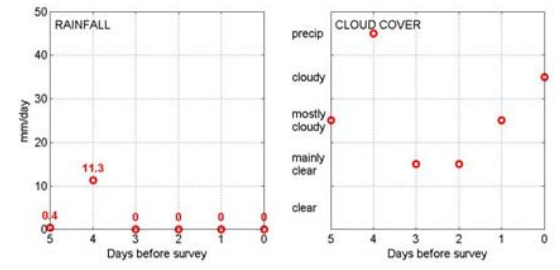
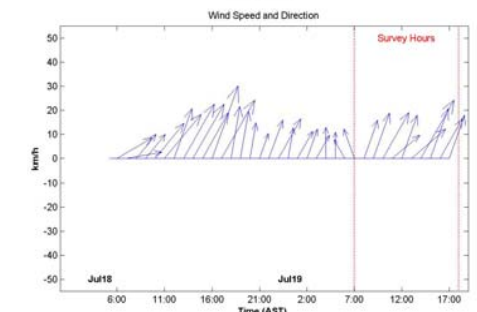
Unless otherwise labeled:
- salinity contour interval is 1 PSU
- temperature contour interval is 2°C.



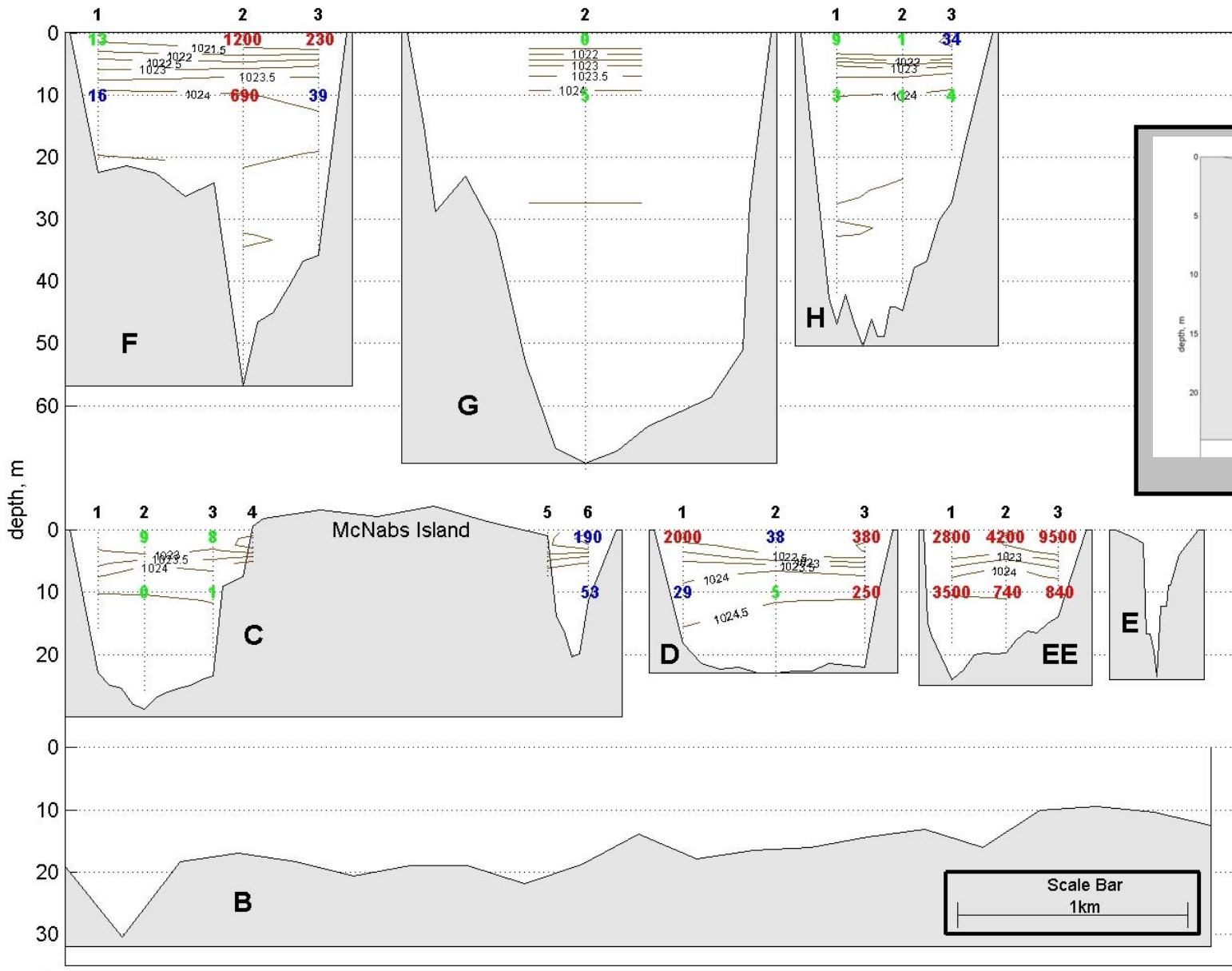
Yacht Clubs



HC
No Data Collected

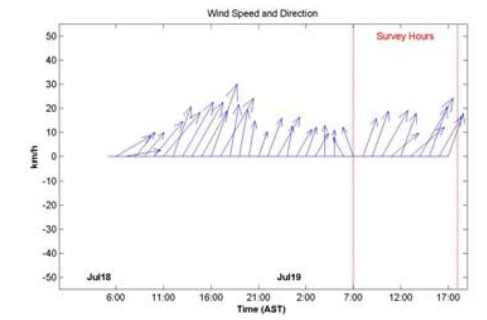
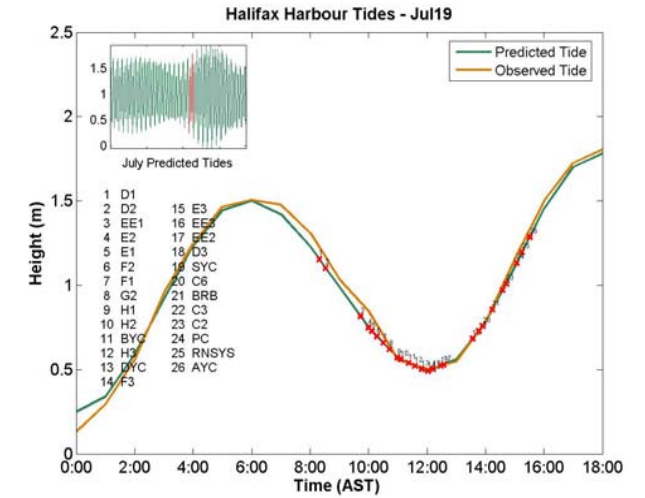
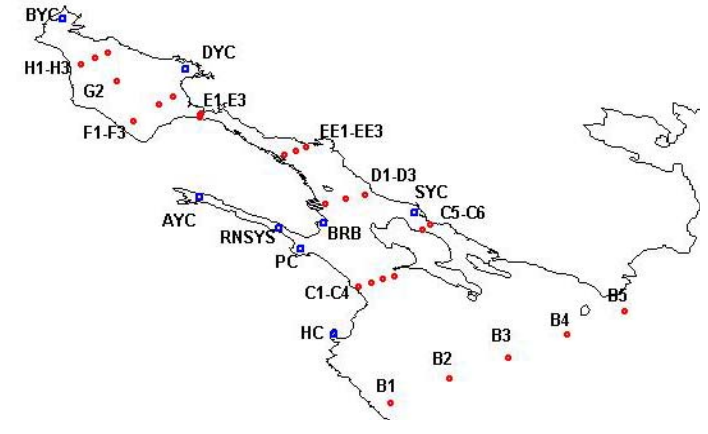
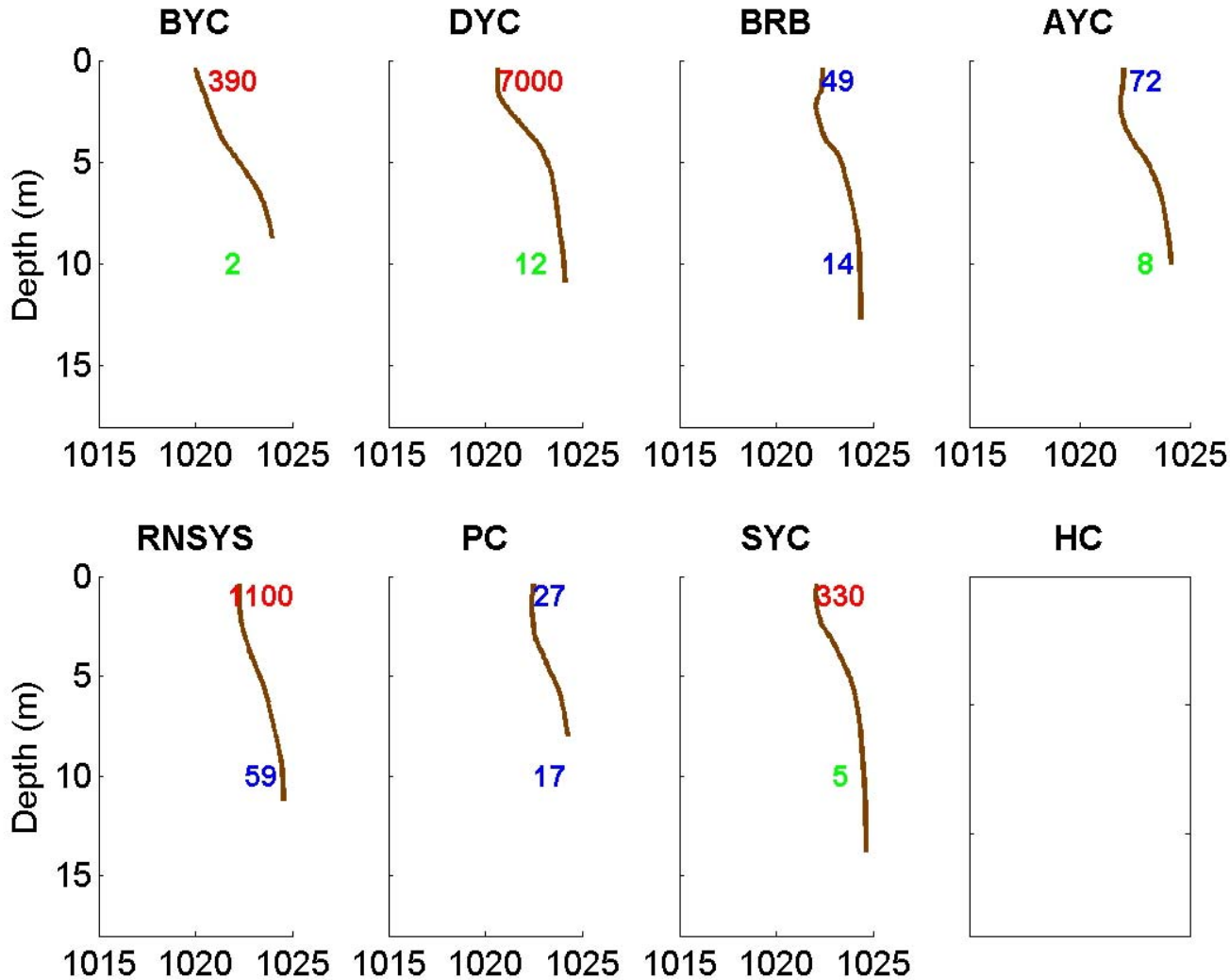


Salinity in PSU Temperature in °C

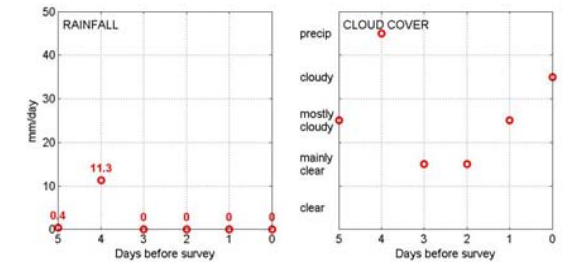


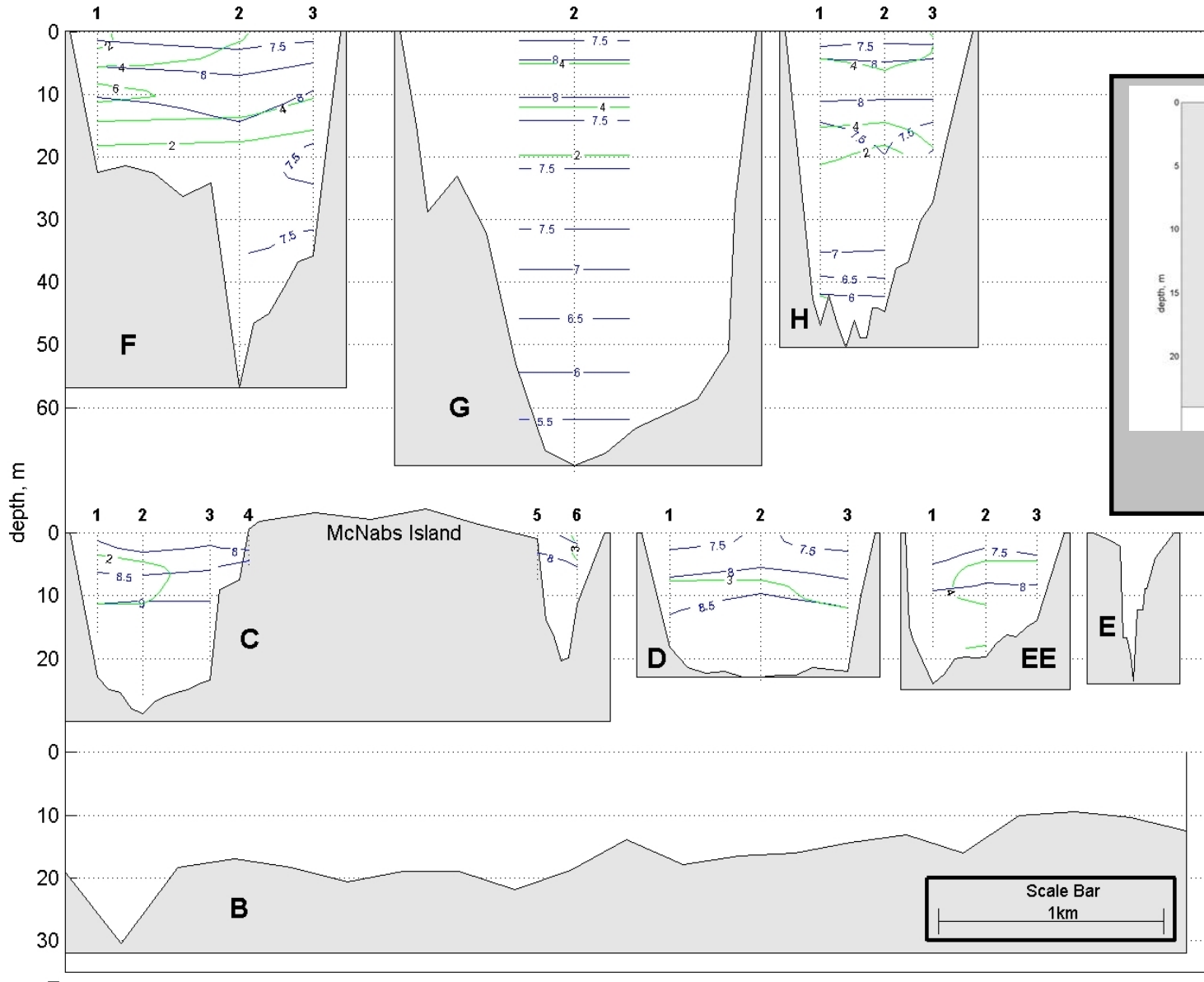
Unless otherwise labeled:
 - **density** contour interval is 0.5 kg/m³

Yacht Clubs



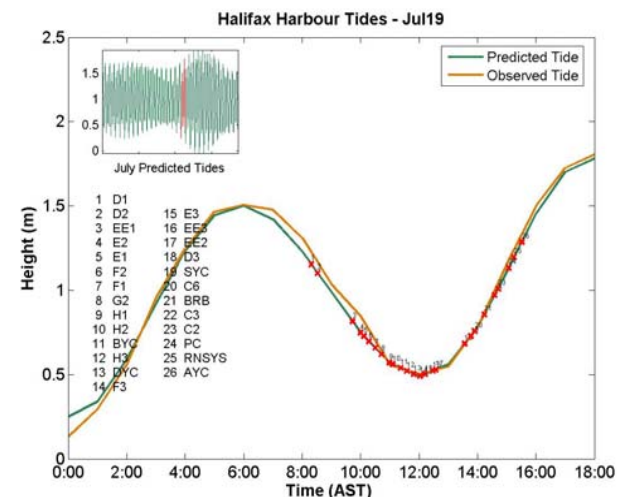
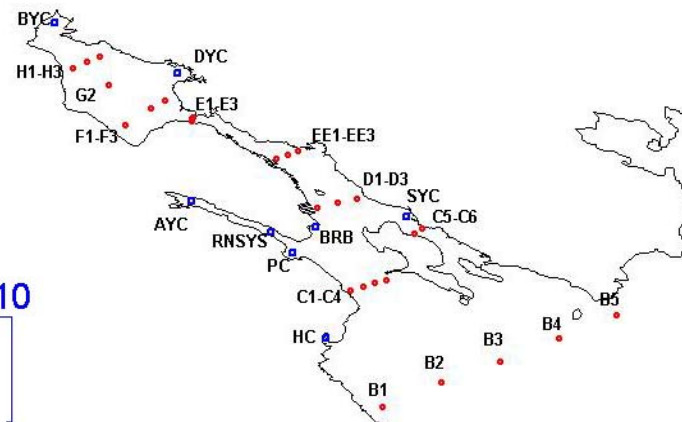
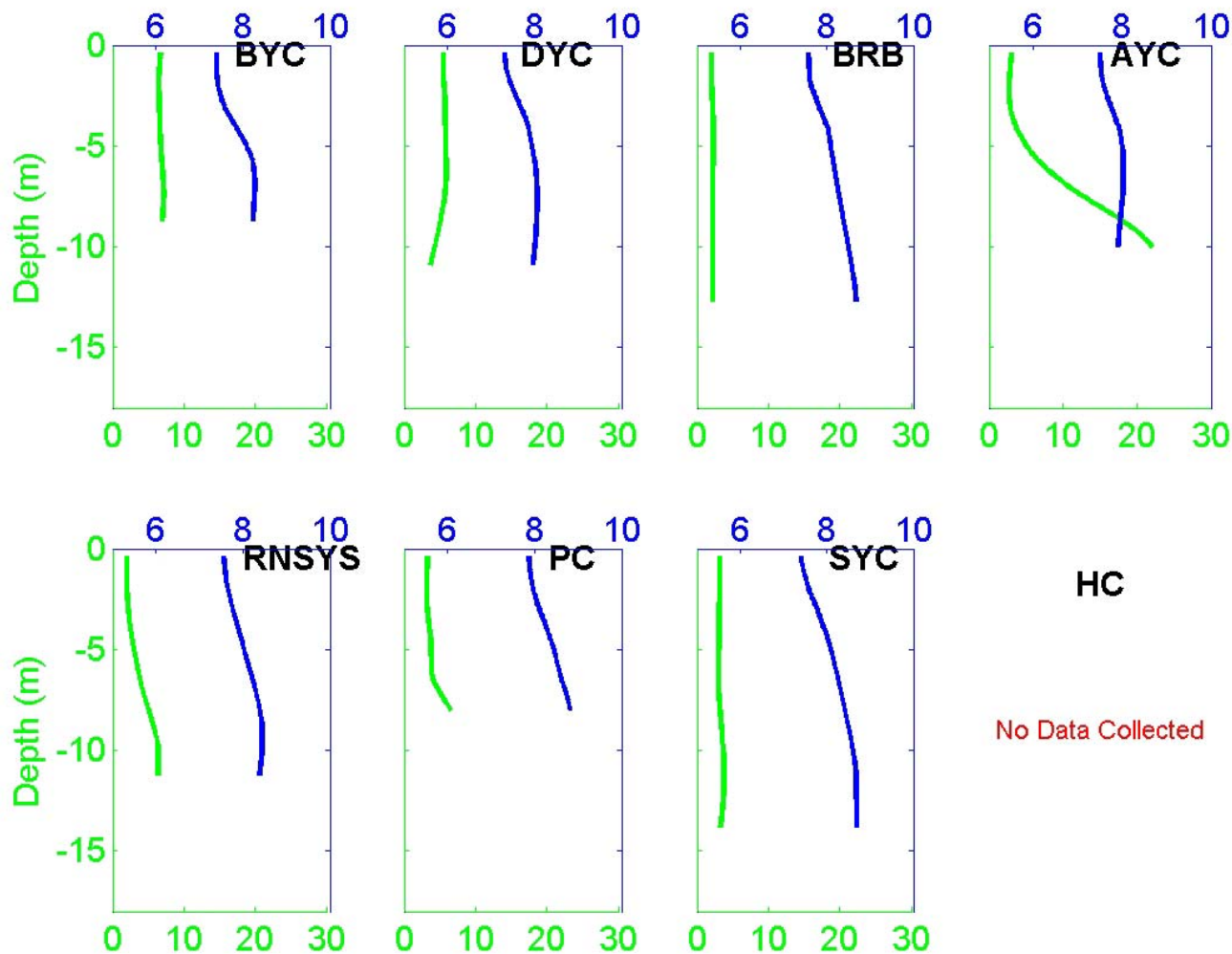
Potential Density in kg/m³ **Fecal coliform: above swimming limit (200 cfu/100mL)**
above shellfish limit (14 cfu/100mL)
below limits





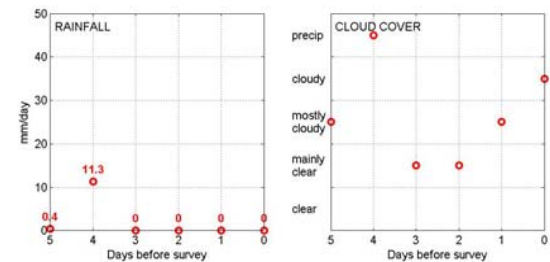
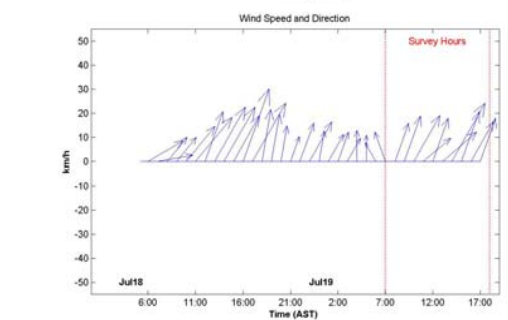
Unless otherwise labeled:
 - **dissolved oxygen** contour interval is 0.5 mg/L
 - **chlorophyll** contour interval is 2 mg/m³.

Yacht Clubs

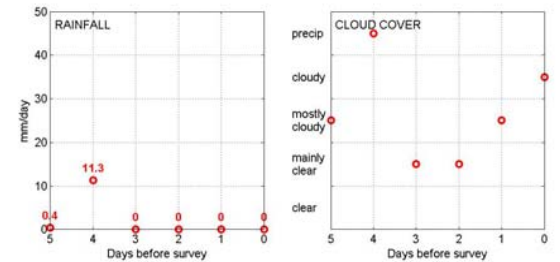
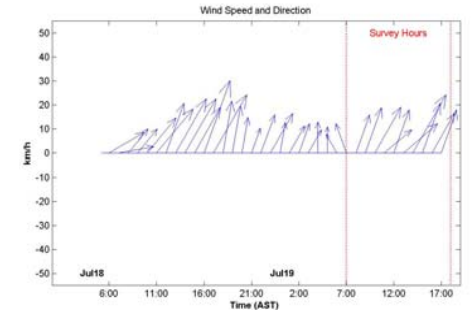
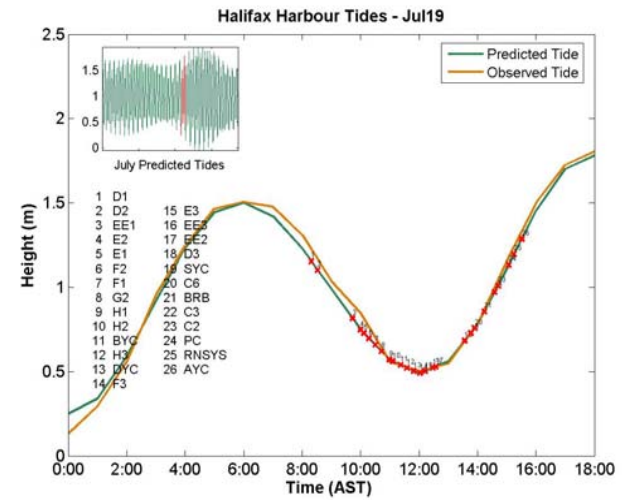
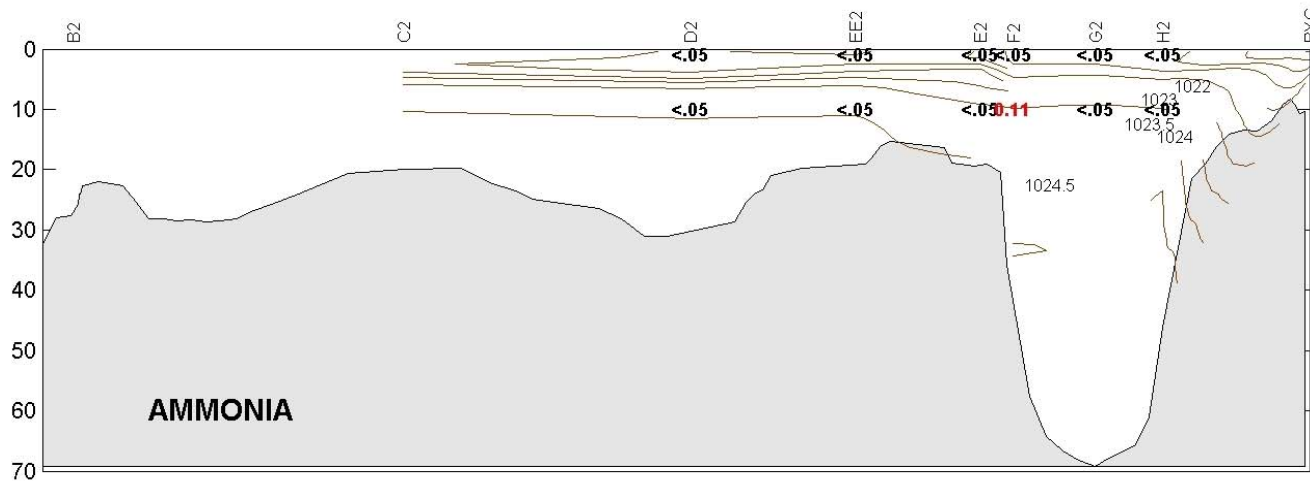
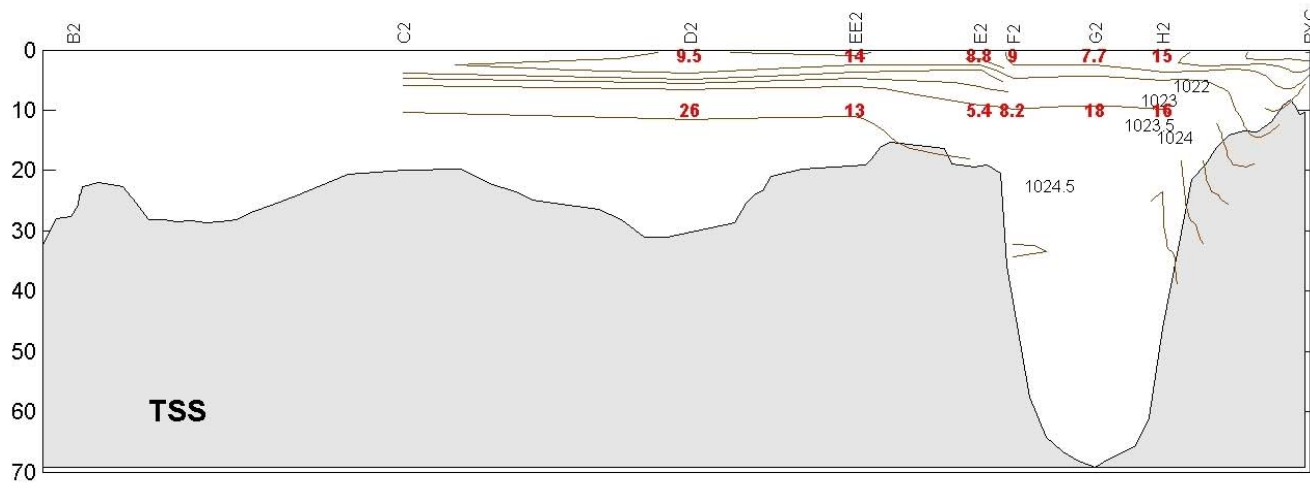
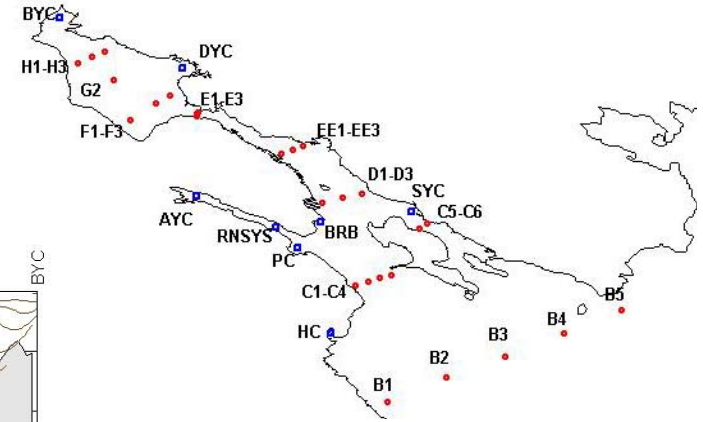


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No Data Collected



CHEMISTRY



Potential Density in kg/m³

Ammonia in mg/L

TSS in mg/L