Halifax Harbour Water Quality Monitoring Project
Weekly Summary #33

Survey Date: 31 Jan 05
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report033_050131.doc
Data File: HHWQMP_data033_050131.xls

Data Return:

Profile:	94%
Bacteria:	89%
Chemical:	100%
Overall:	**95%**

Sample Notes:

Stations HC, BYC and DYC were not sampled due to ice.

Station RNSYS moved slightly due to ice: Coordinates 44.6207N, 63.5761W

A CTD profile was taken at alternate site BYC-Alt at ice edge. Coordinates: 44.7180N, 63.6656 W

At Station C2 the dissolved oxygen sensor did not reach equilibrium before cast was started, leading to probable flow problems and unreliable data.

At Station G2 the dissolved oxygen sensor did not reach equilibrium before cast was started, causing flow problems. Flow appears to have become reestablished at about 27 m. Data above that depth is unreliable, the data below that depth should be used with caution.

QA/QC samples:

Chemical Analysis		**EE2 – 1m**	
Detectable Parameter	**units**	**reference sample**	**QA/QC**
Total Suspended Solids	mg/L	4.2	6.9
Boron	ug/L	4000	3500
Lithium	ug/L	170	160
Strontium	ug/L	6200	6800
Titanium	ug/L	50	74
Uranium	ug/L	2.9	2.9

QA/QC (continued):

Fecal Coliform (CFU/100ml)

Site	D1-1m	E3-10m	E2-1m	E2-10m	D2-1m	EE2-1m
Reference	>10000	93	8	280	250	470
QA/QC	1500	51	12	240	270	430

Regulated parameters with all samples below detection (<EQL):

Parameter	**EQL(µg/L)**	**Parameter**	**EQL(µg/L)**	**Parameter**	**EQL(mg/L)**
Cadmium	3	Lead	5	Oil and Grease	5
Chromium	20	Nickel	20	$CBOD_5$	5
Copper	20				

Detectable non regulated metals:

Metal	**EQL (µg/L)**	**Number >EQL**	**Mean (µg/L)**	**Range (µg/L)**
Boron	500	15	3873	3500-4300
Lithium	20	15	169	160-180
Strontium	50	15	6400	6100-6800
Titanium	20	15	58	50-74
Uranium	1	15	2.9	2.7-3.3

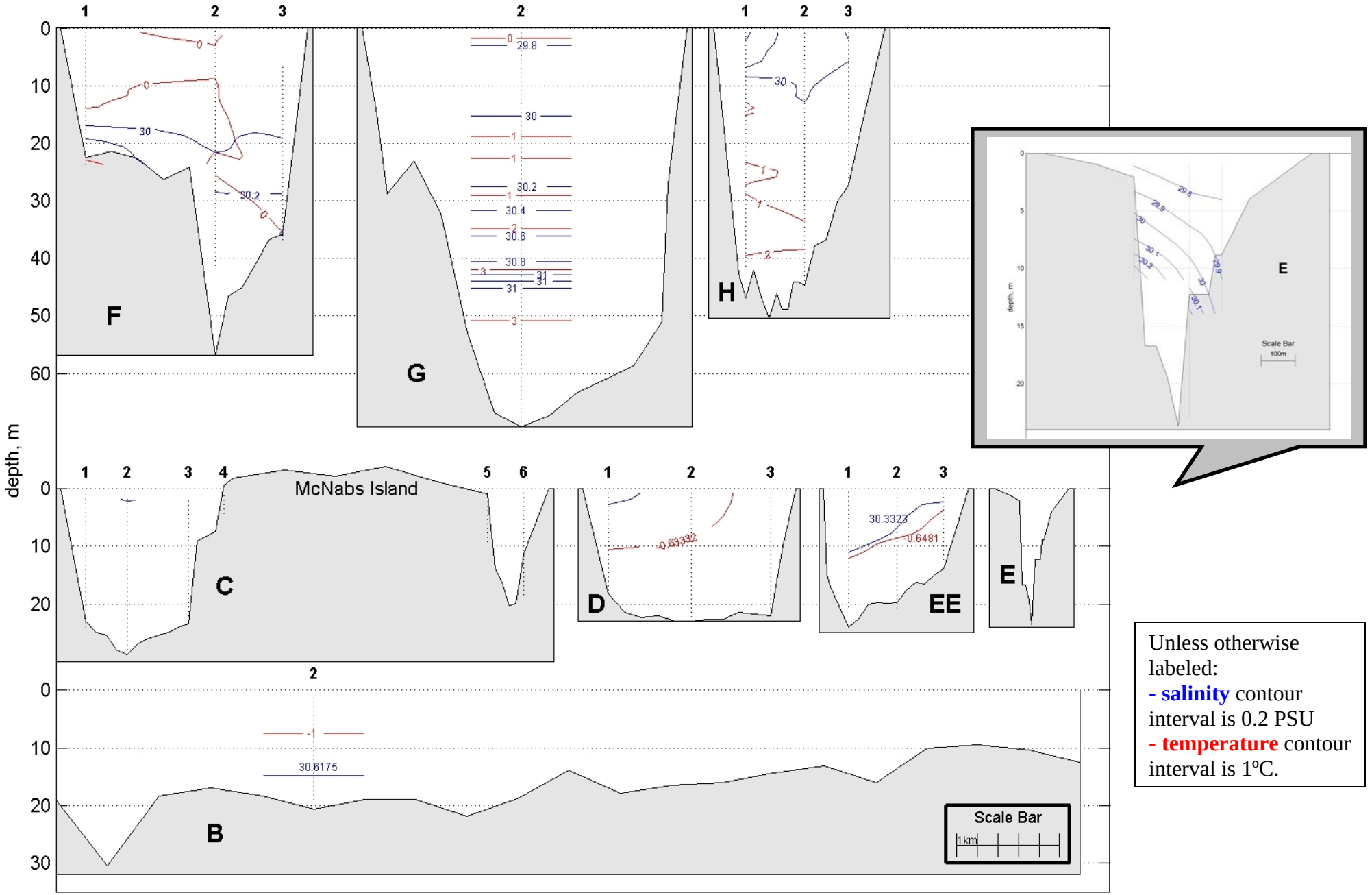
Comments:

Manganese: One sample (G2-1m, 21µg/L) had detectable levels of manganese. This does not exceed the guideline of 100 µg/L.

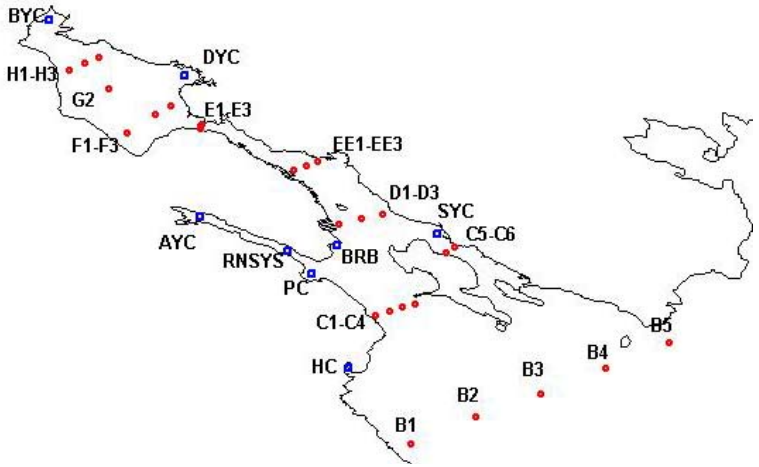
Zinc: One sample (B2-10m, 60 µg/L) had detectable levels of zinc. This does not exceed the guideline of 86 µg/L.

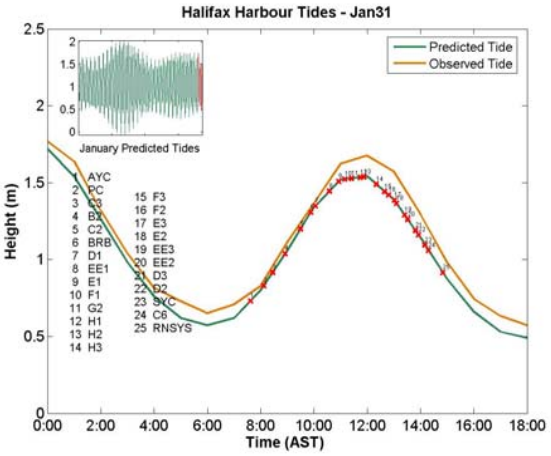
Dissolved Oxygen: Surface water (<20 m) ranges from 8.5- 9.0 mg/L throughout the Harbour with the lower values occurring in the Basin. No guidelines are exceeded except in the bottom water of Bedford Basin where the minimum DO is now less than 1 mg/L.

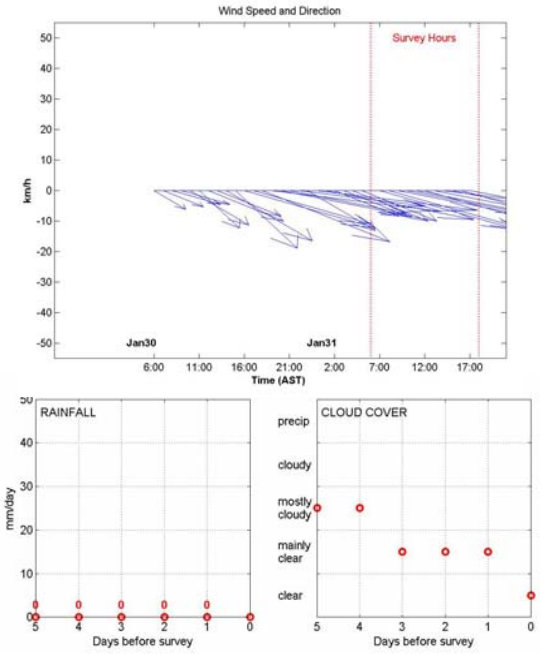
Overall the Harbour is relatively uniform from top to bottom in all parameters with a slight gradient down harbour. The elevated coliform levels are quite concentrated in the Inner Harbour, though the distribution is not as restricted and the values not as high as last week.



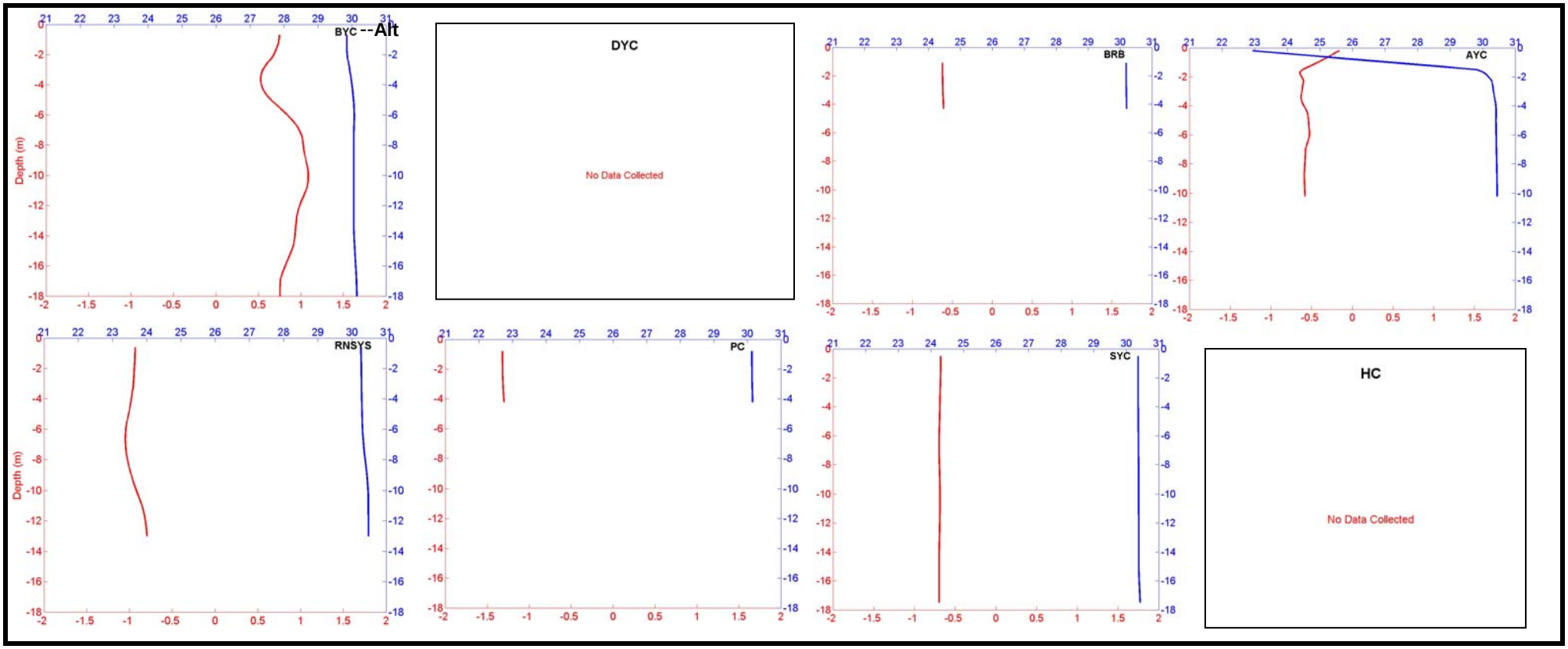
Unless otherwise labeled:
- **salinity** contour interval is 0.2 PSU
- **temperature** contour interval is 1ºC.



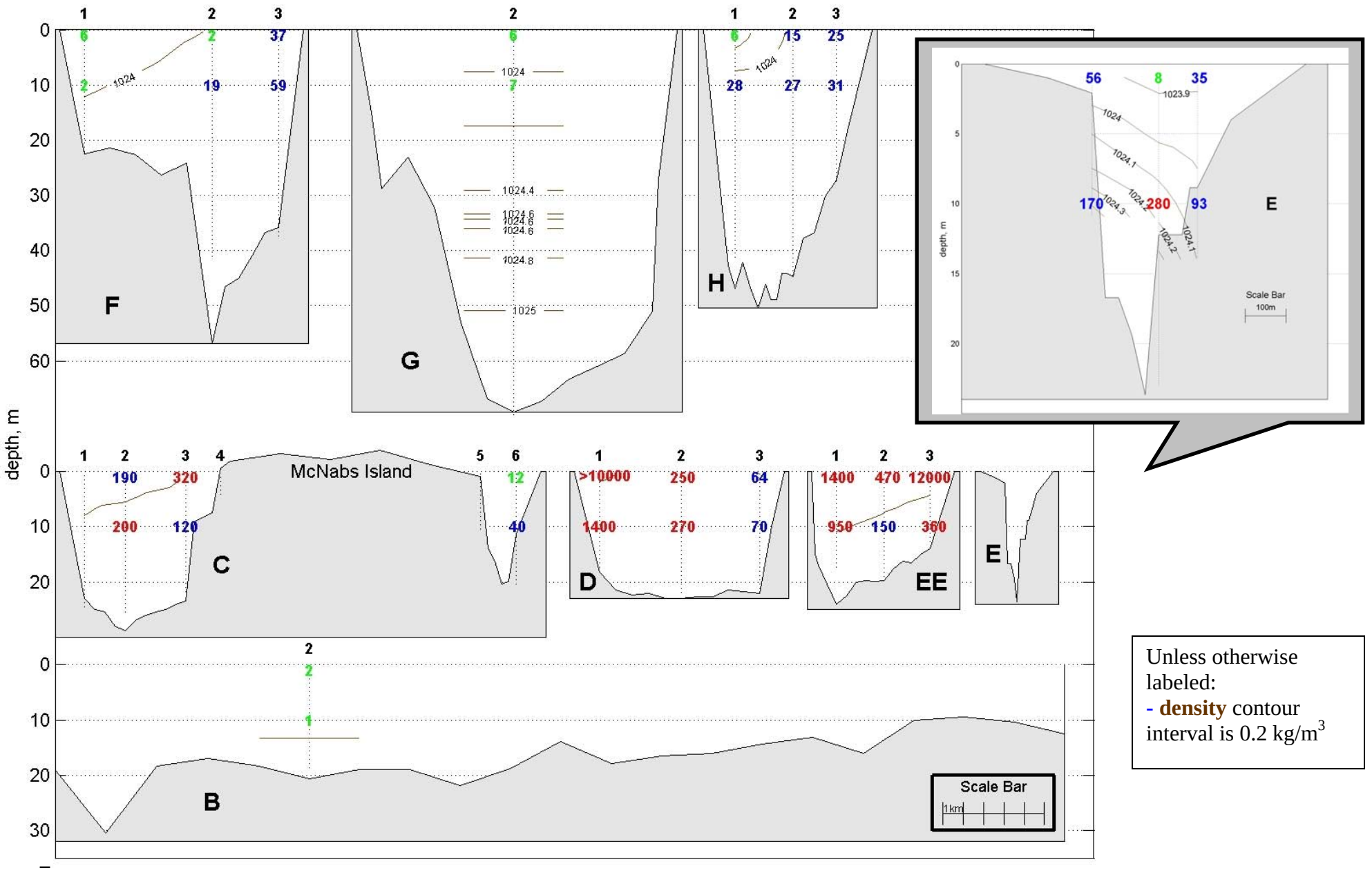




Yacht Clubs

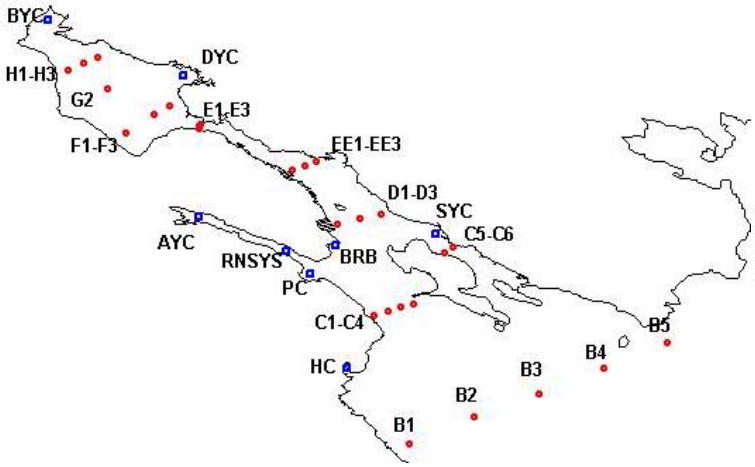


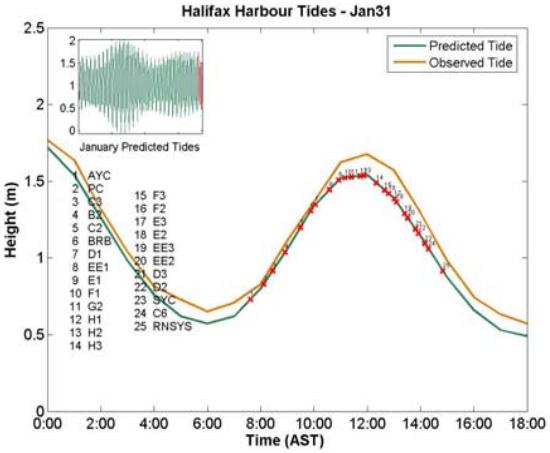
Salinity in PSU **Temperature in ^{o}C**

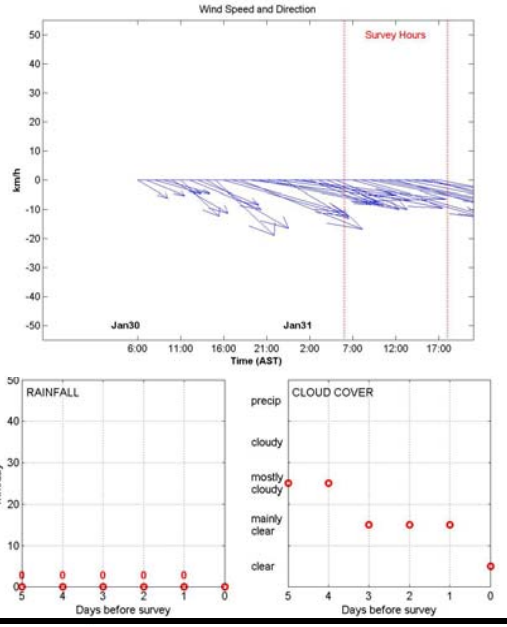


Unless otherwise labeled:
- **density** contour interval is 0.2 kg/m^3

Density in kg/m^3 **Fecal coliform:** below limits
above shellfish limit (14 cfu/100mL)
above swimming limit (200 cfu/100mL)







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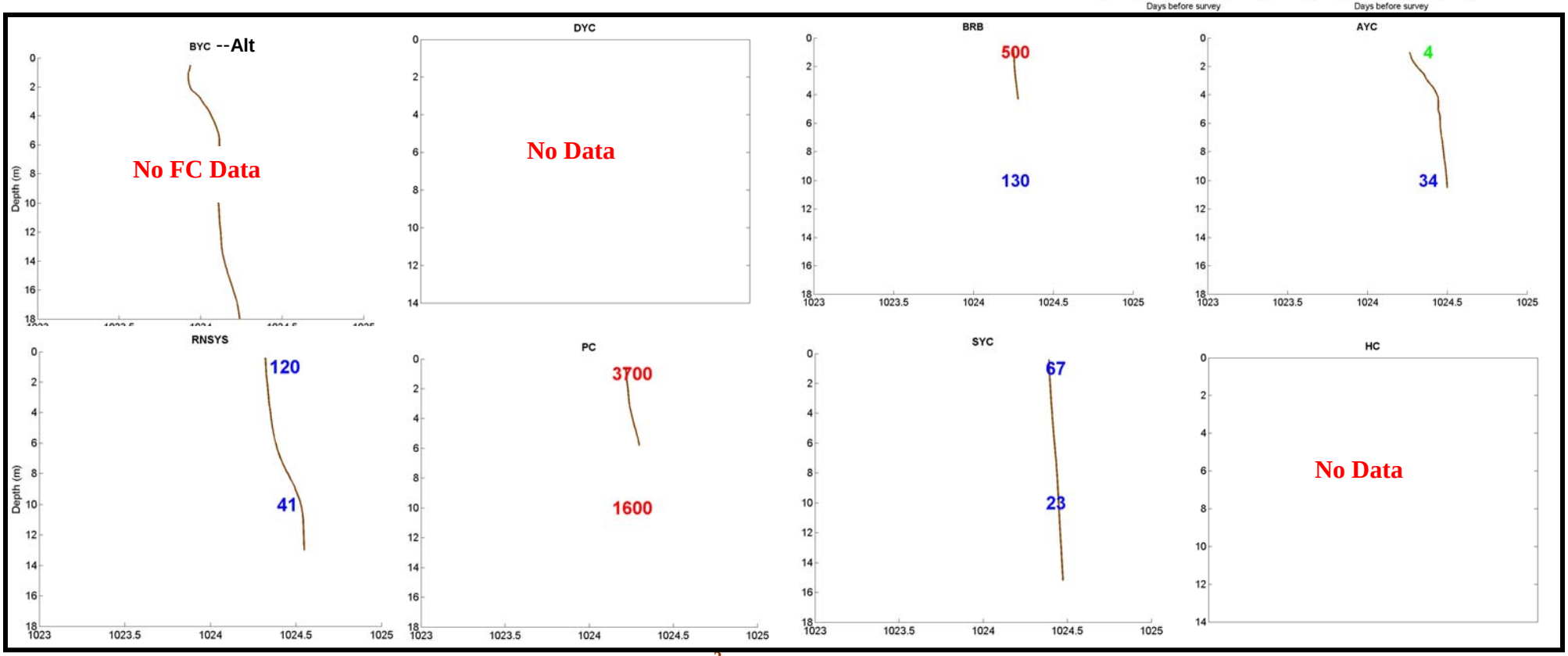

Density in kg/m^3 **Fecal coliform:** below limits
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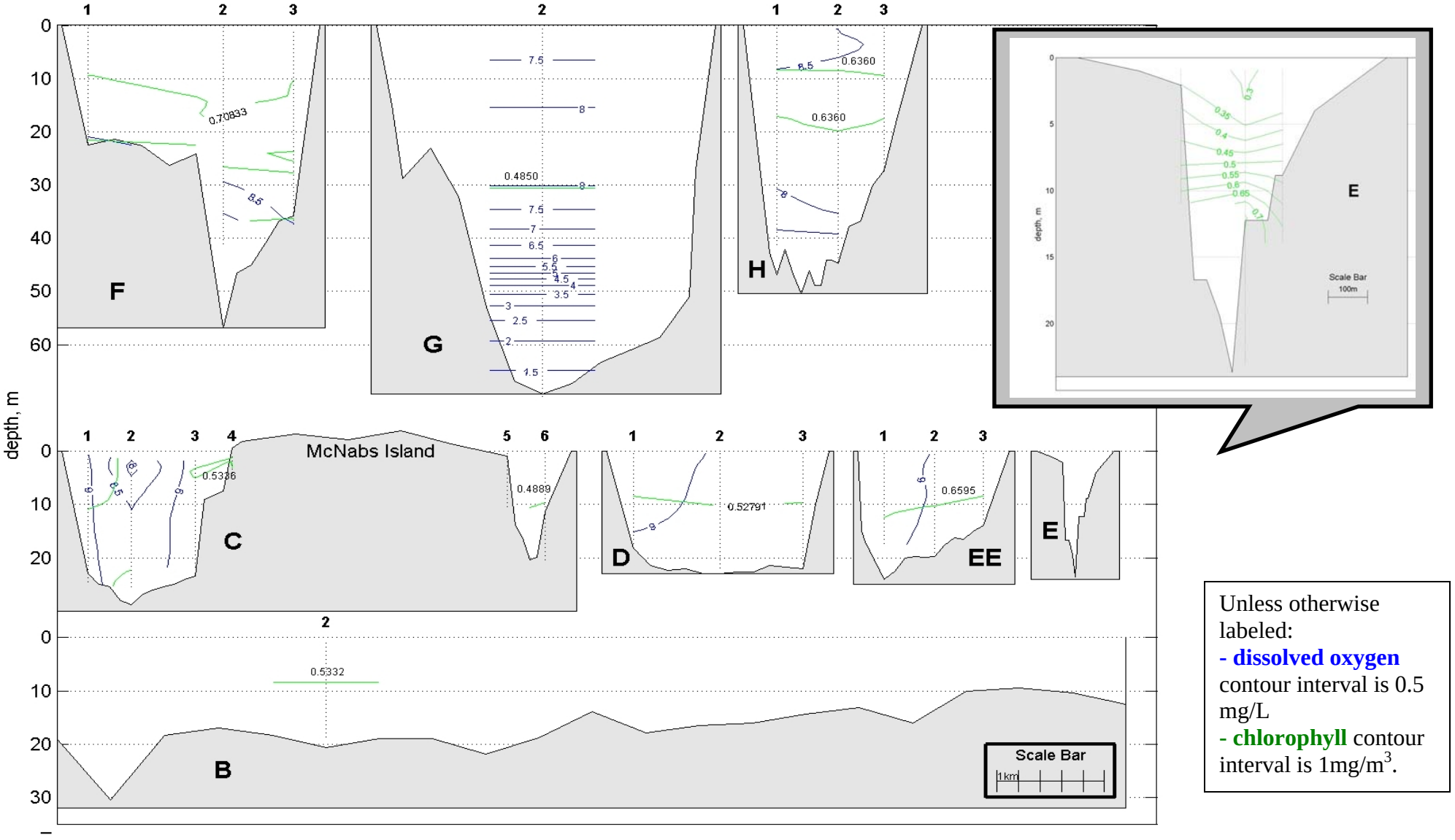
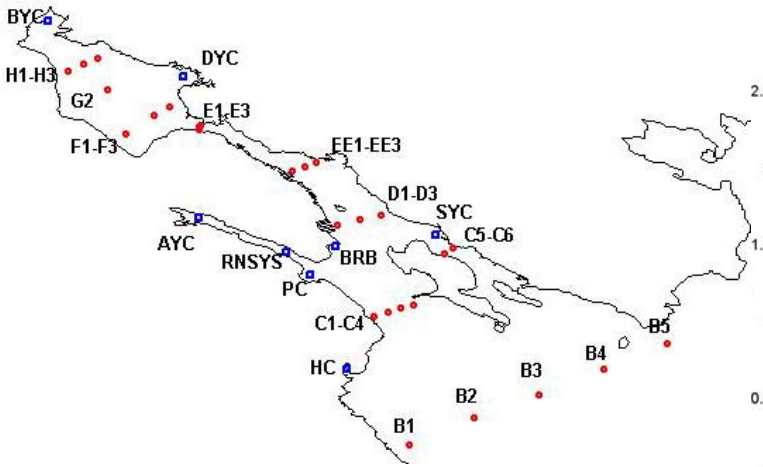
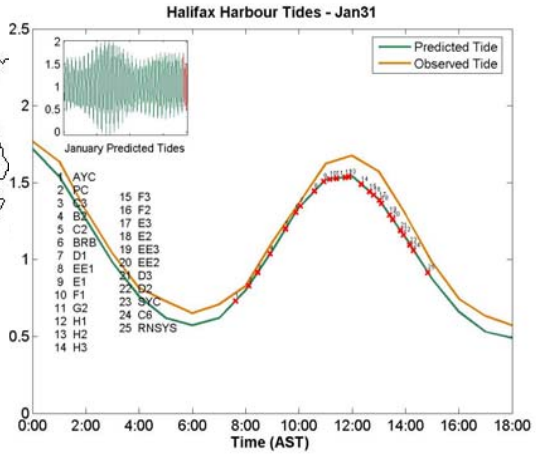
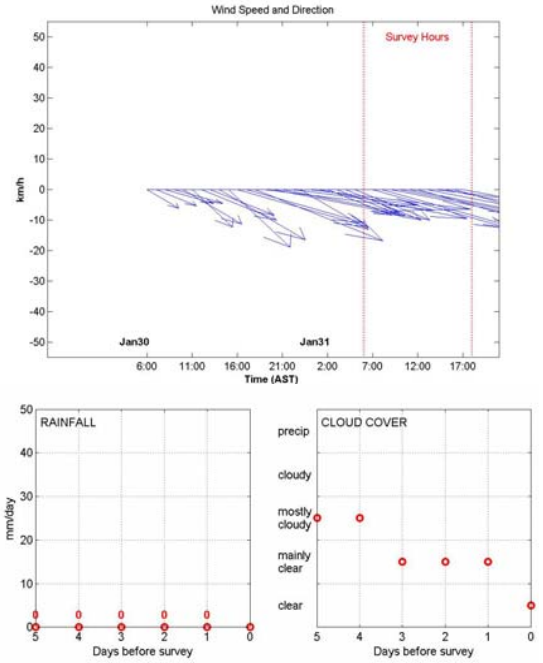


Unless otherwise labeled:
- **dissolved oxygen** contour interval is 0.5 mg/L
- **chlorophyll** contour interval is 1mg/m^3.







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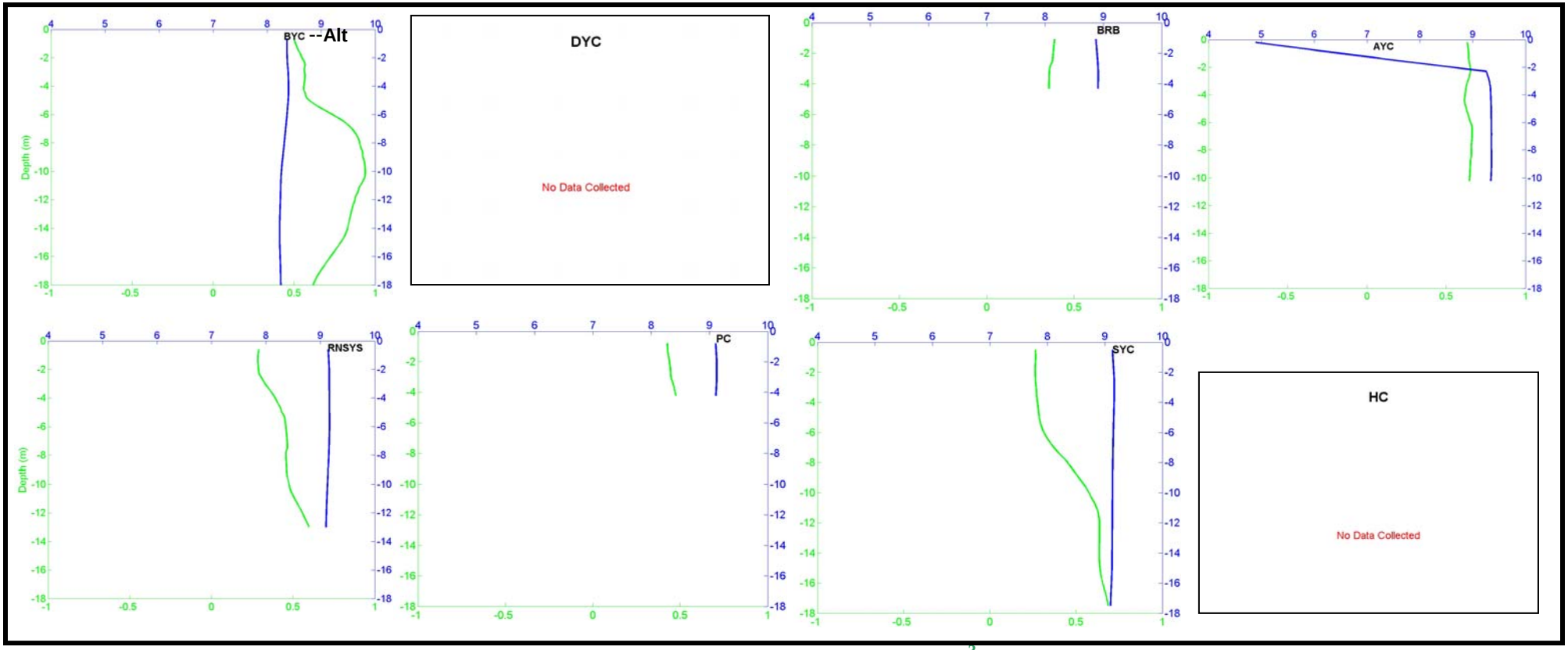
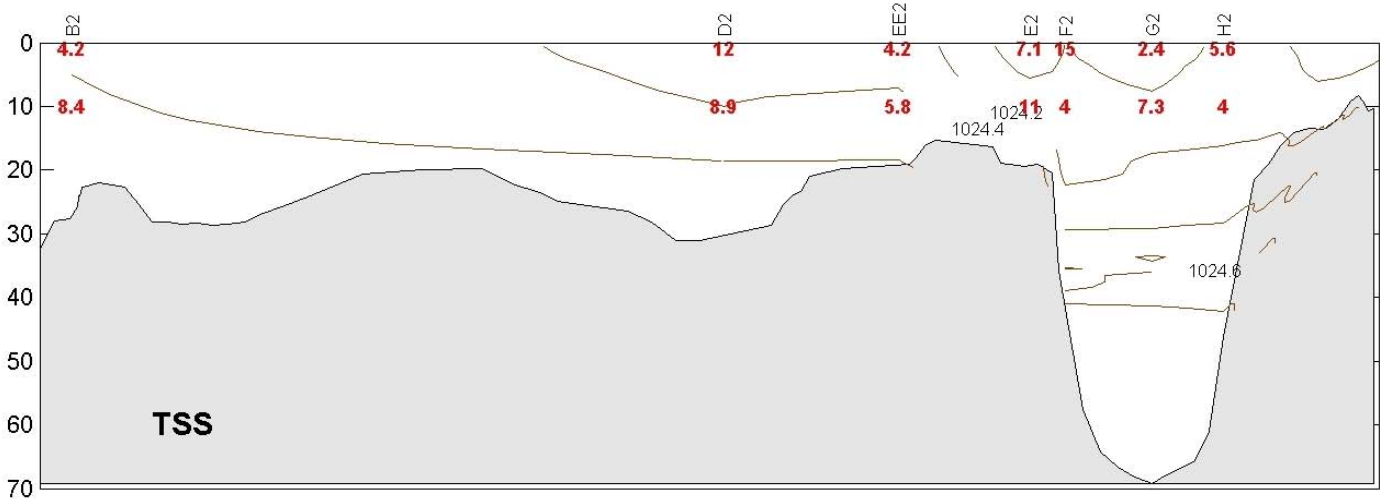
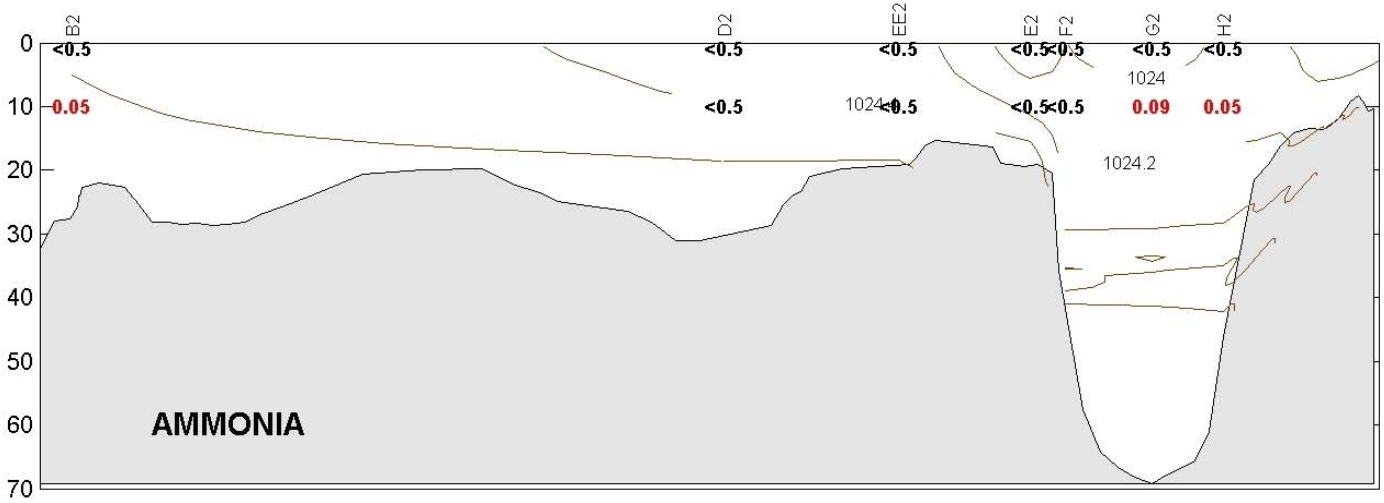
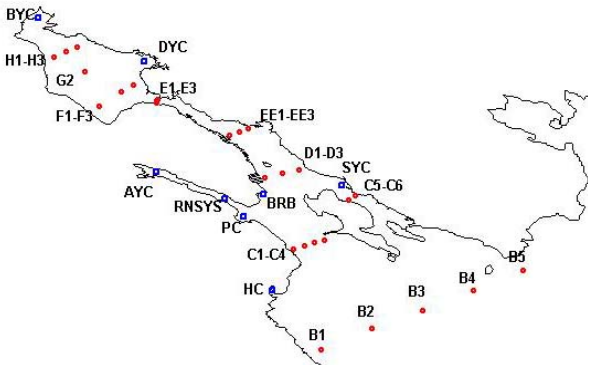
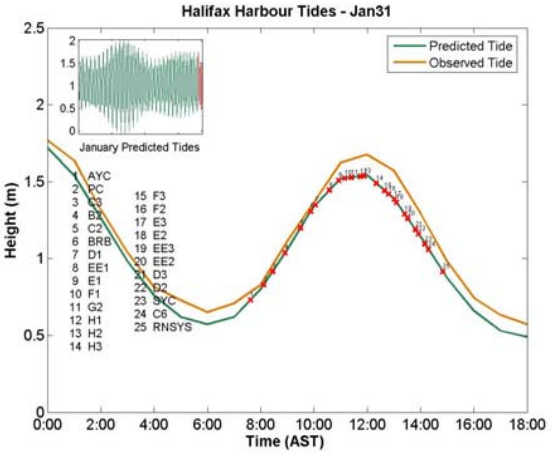


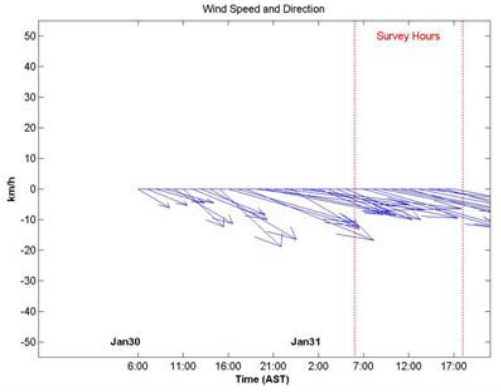
DO in mg/L **Chlorophyll in mg/m^3**

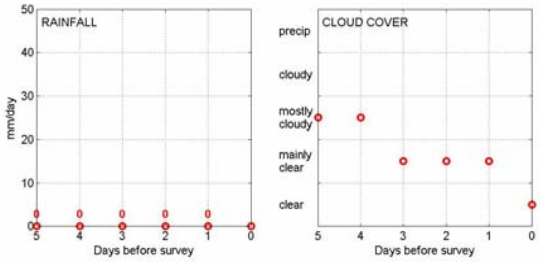












Density in kg/m^3 **Ammonia in mg/L** **TSS in mg/L**