

Halifax Harbour Water Quality Monitoring Project

Survey Summary #127

Survey Date: 10 April 2007
Nature of Survey: Complete Survey
Report File (this document): HHWQMP_report127_070410.doc
Data File: HHWQMP_data127_070410.xls

Data Return:

Profile:	94%
Bacteria:	100%
Chemical:	100%
Overall:	97%

Sample Notes:

The profile data for sites E3 and HP2 did not pass QA. The data from these sites have been plotted in this report but have been deleted from the data file.

QA/QC samples:

Chemical Analysis		F2 - 10m	
Detectable Parameter	Units	reference sample	QA/QC
Ammonia (as N)	mg/L	<0.05	<0.05
Total Suspended Solids	mg/L	3.5	3.1
Copper	ug/L	0.4	0.4
Iron	ug/L	9	9
Manganese	ug/L	3	4
Zinc	ug/L	2	2

Fecal Coliform (CFU/100ml)

Site	SYC-10m	HP1-10m	RNSYS-10m	F2-10m
Reference	11	4	33	13
QA/QC	14	2	33	28

Comments:

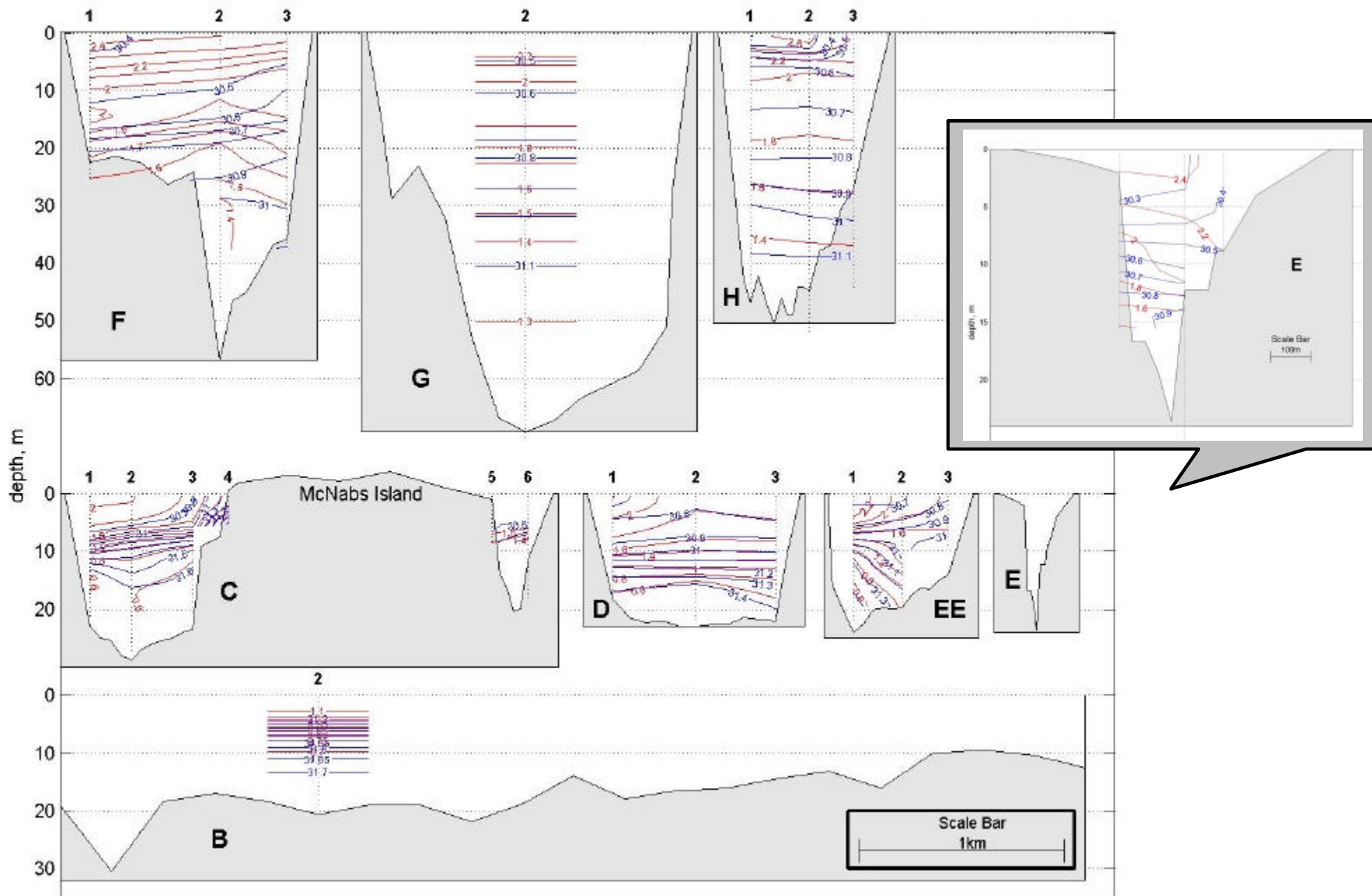
General: Overall the Harbour is less stratified than last survey, mostly because the surface water has become more saline. The somewhat confused vertical temperature distribution evident in the Basin in the previous survey has settled into a monotonic decreasing temperature with depth. The total range is only about 1 °C. The coliform values are generally quite low, with the surface distribution generally displaced down Harbour. There are no high values in the Basin, while there are elevated values in the surface at section C. The highest values in the Narrows and the southern Basin are in the 10m samples. This distribution is consistent with estuarine circulation and a brisk NW wind during the survey.

Fluorescence: The Spring phytoplankton bloom is subsiding. In the Basin profile maximums are about 14 mg/m³ at about 10 m. Profile maximums in the low teens occur throughout Inner Harbour at about 10 m, decreasing to about 5.5 mg/m³ at the bottom (20m) in Outer Harbour (site B2).

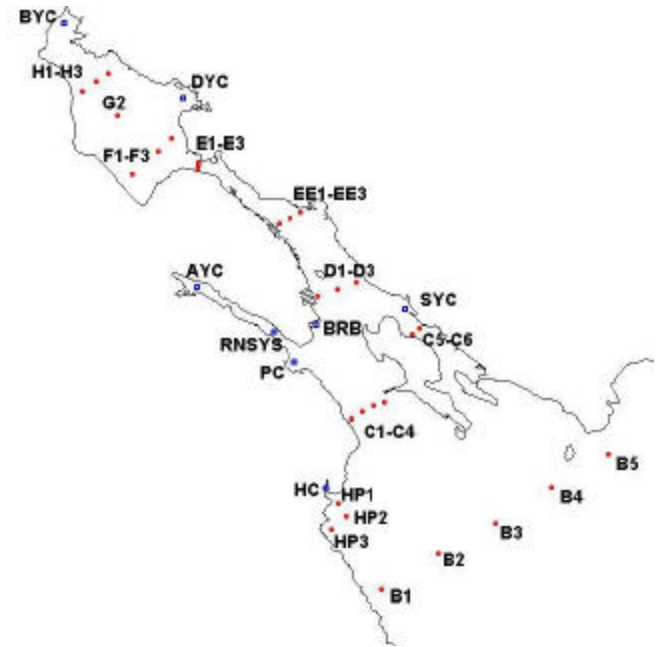
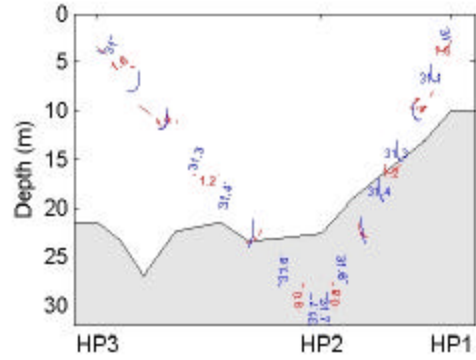
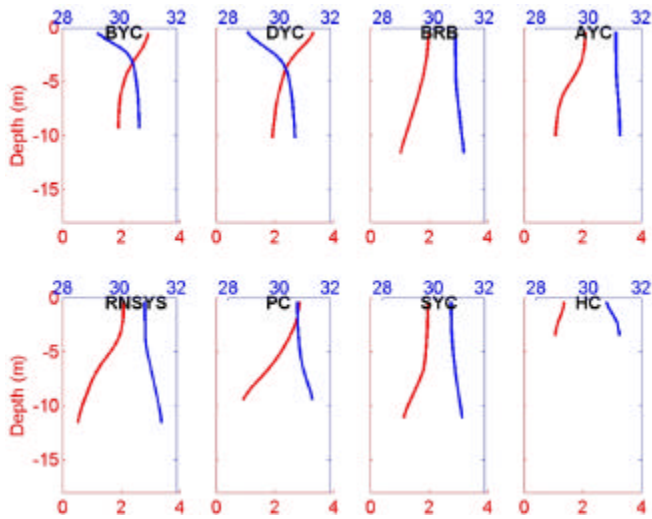
Ammonia: Unusually, there are no detectable levels (> 0.05 mg/L) of ammonia in any of the fourteen samples.

TSS: The TSS values are lower than last survey (1.5-5.2 mg/L) and are relatively uniform, except they are slightly lower in the Outer Harbour.

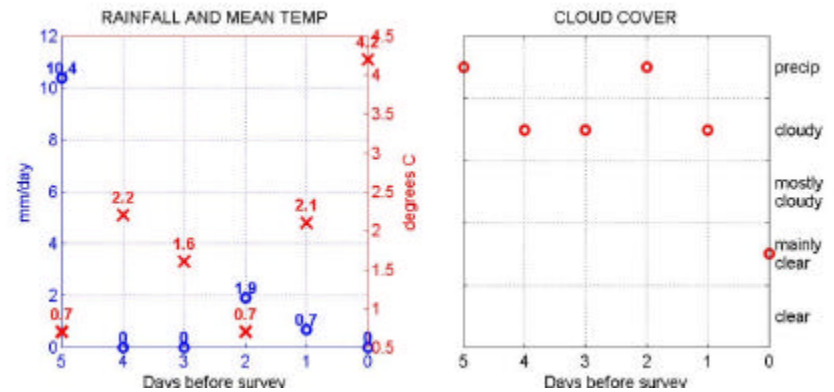
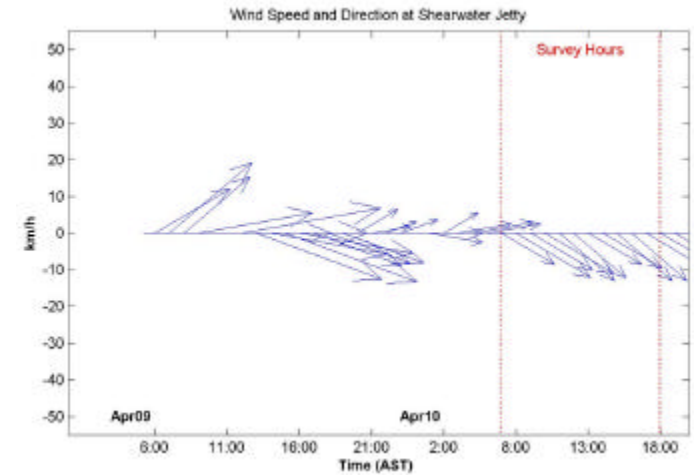
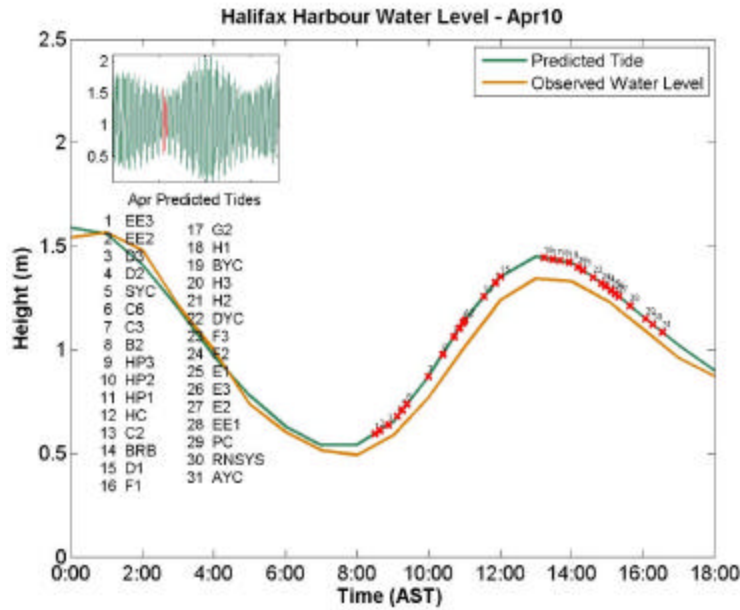
Dissolved Oxygen: The dissolved oxygen (DO) data indicate that the DO levels are generally between 8.0 and 8.5 mg/L in the top 10m of the Basin and throughout the remainder of the Harbour. Deeper in the Basin, the levels drop somewhat, but remain high, above the 7.0 mg/L guideline, a result of the recent renewal. Unusually, the values in the Outer Harbour are slightly lower than the values in the Inner Harbour. The only values below applicable guidelines are in the bottom few metres in the centre of the Basin (site G2) and the very bottom in the outer Harbour that are just lower than the 8.0 mg/L guideline. The DO data is not ground-truthed and absolute values are questionable (see DO discussion in QR#1).



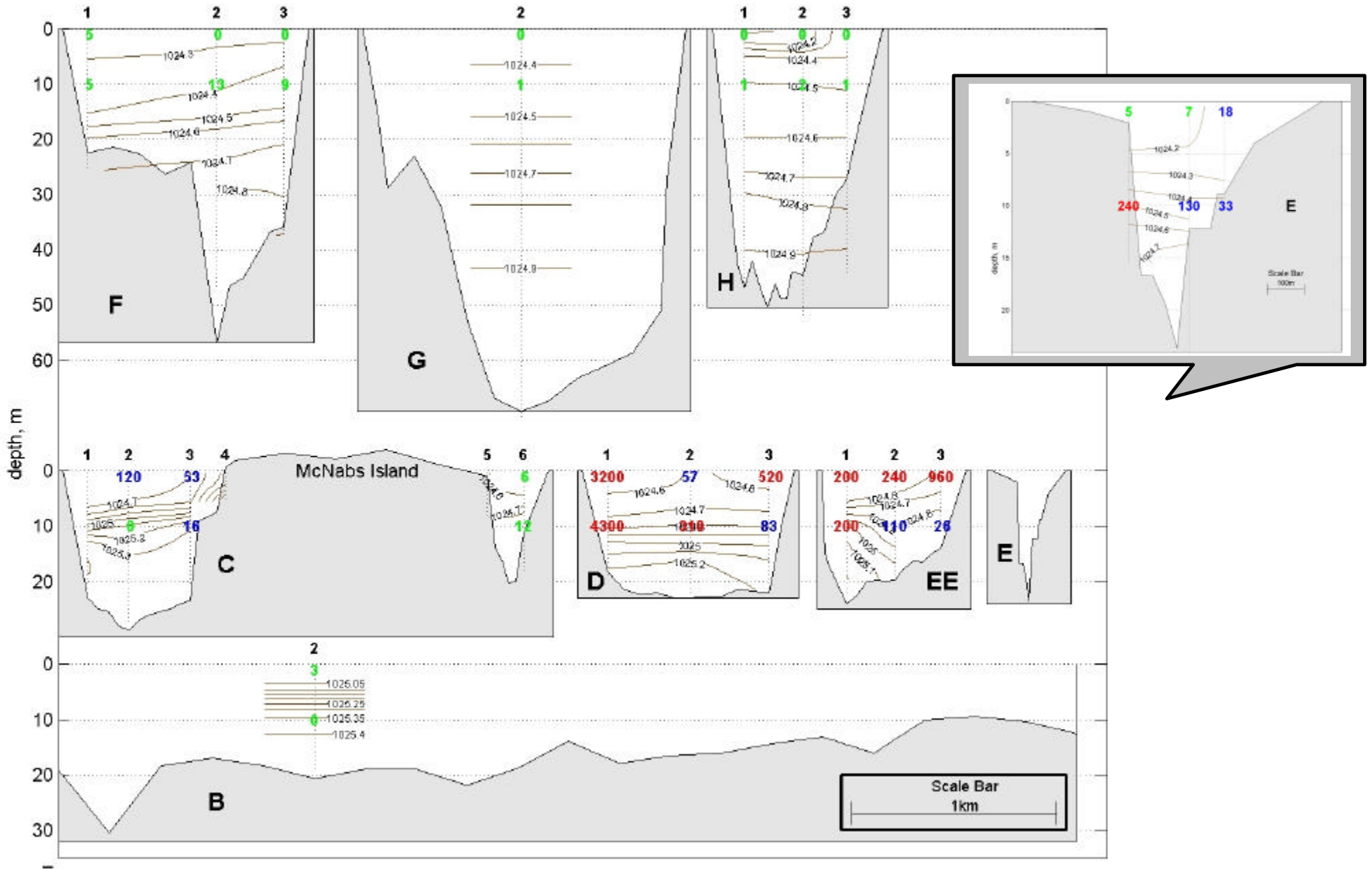
Yacht Clubs



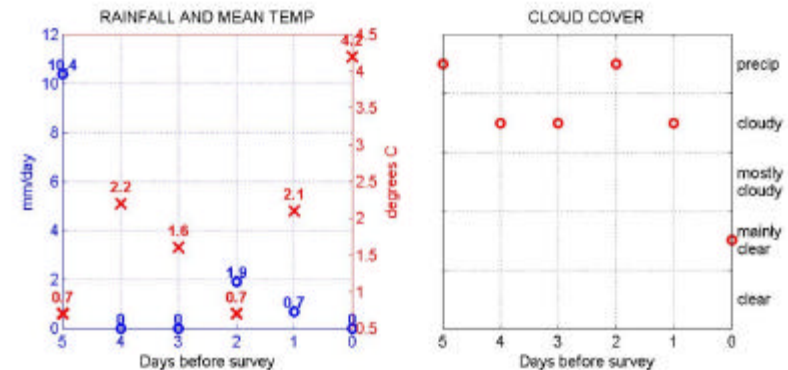
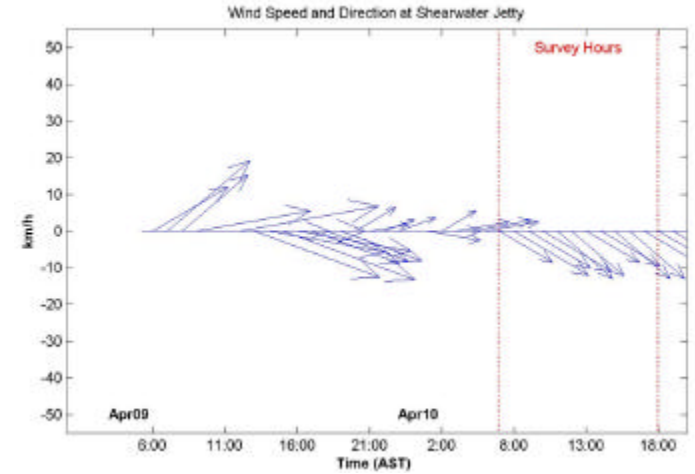
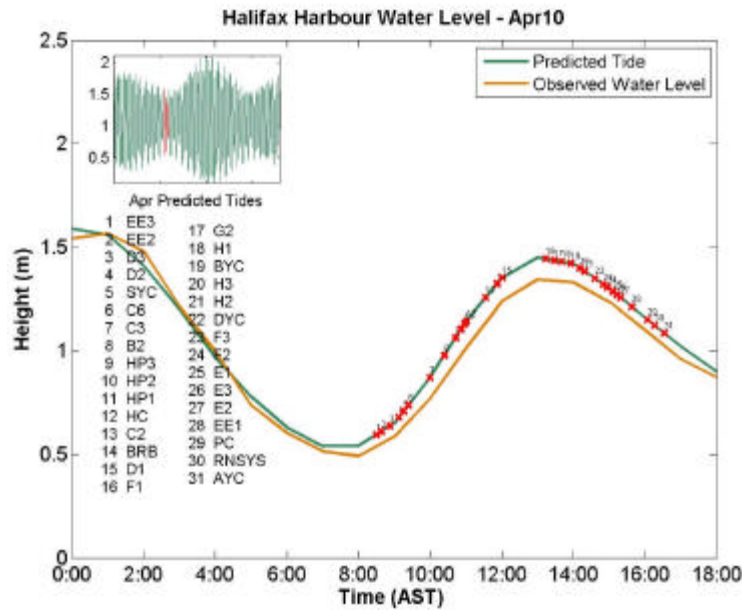
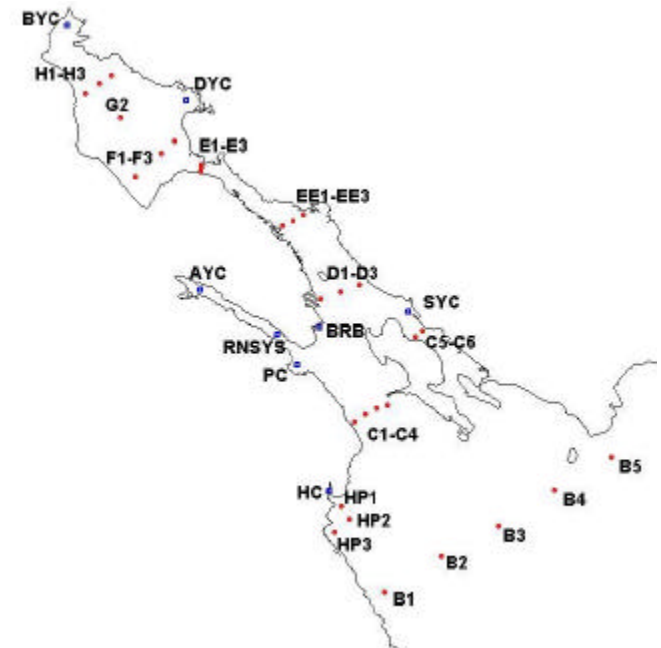
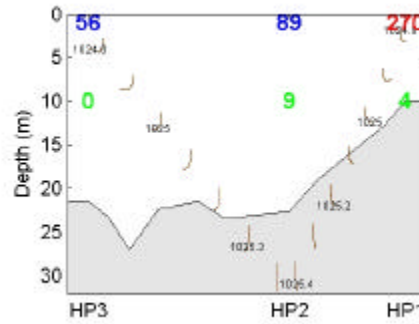
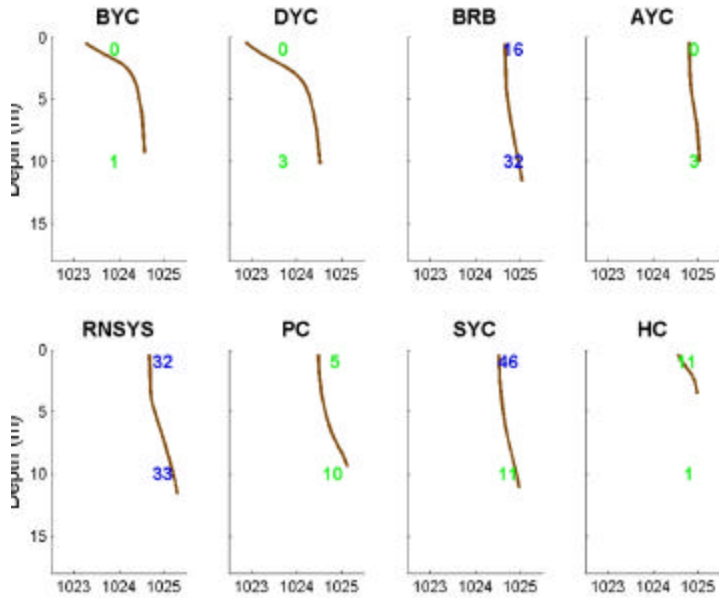
Rainfall and temperature data collected at Shearwater Autoport.
Cloud cover data collected at Shearwater Airport



Salinity in PSU Temperature in °C



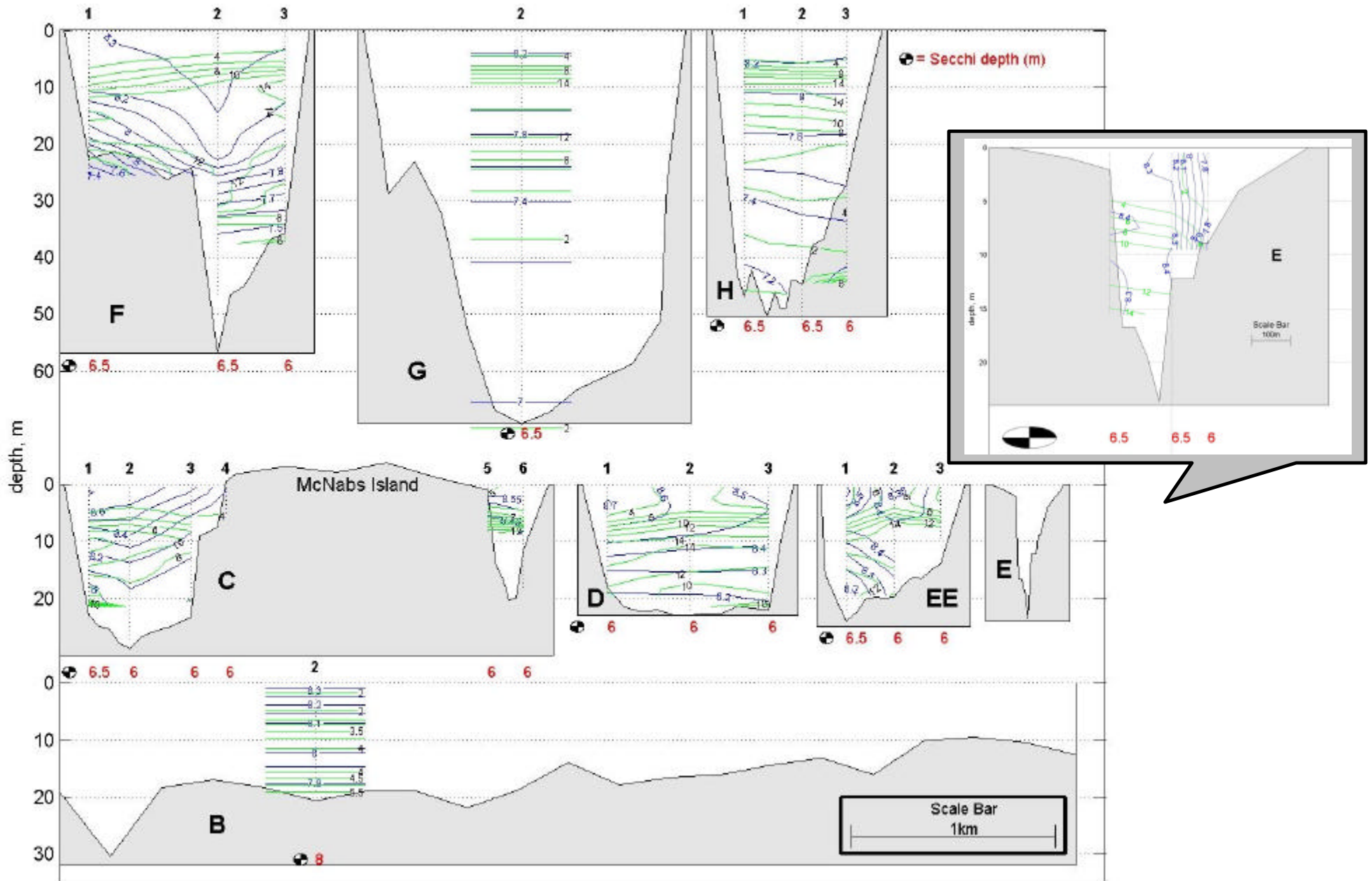
Yacht Clubs



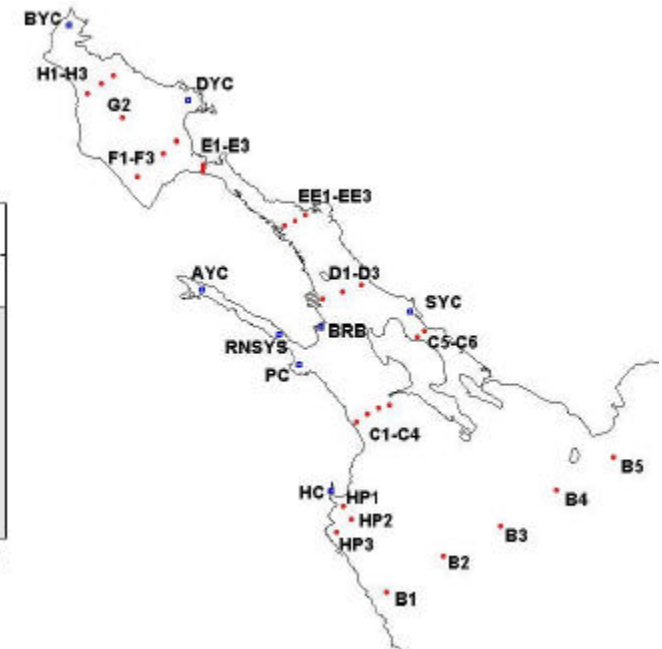
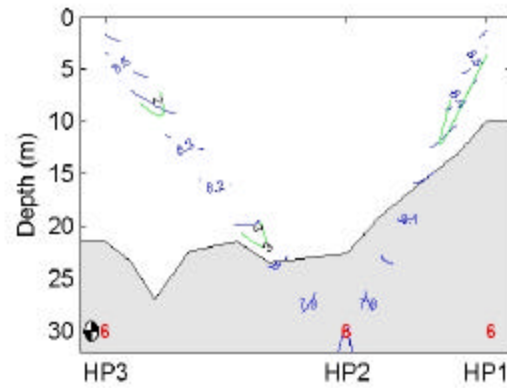
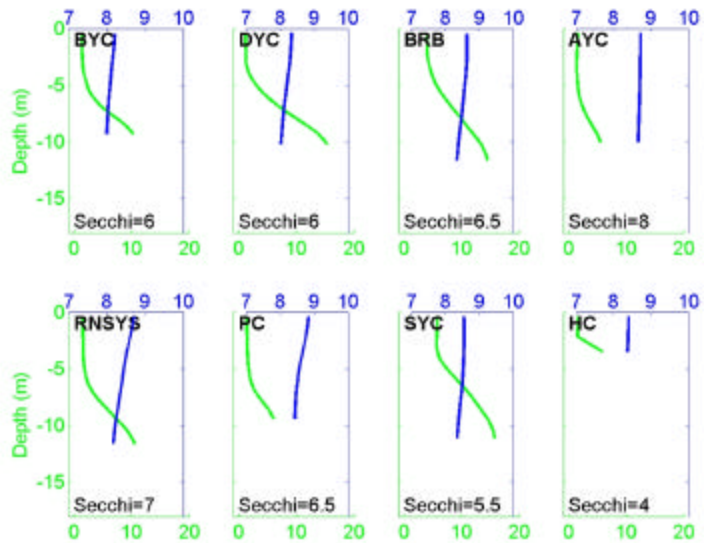
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Potential Density in kg/m³

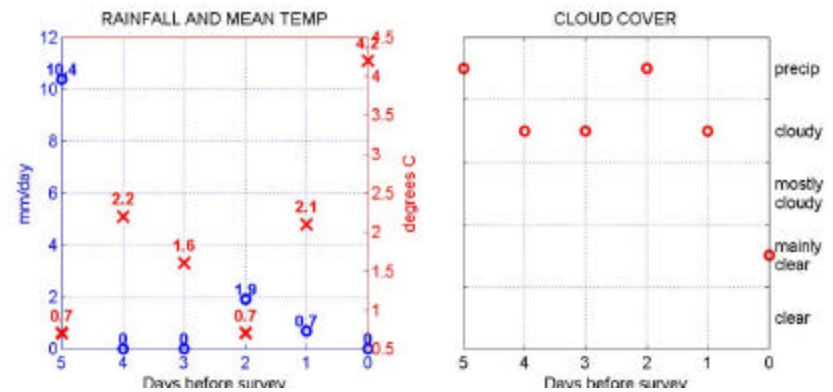
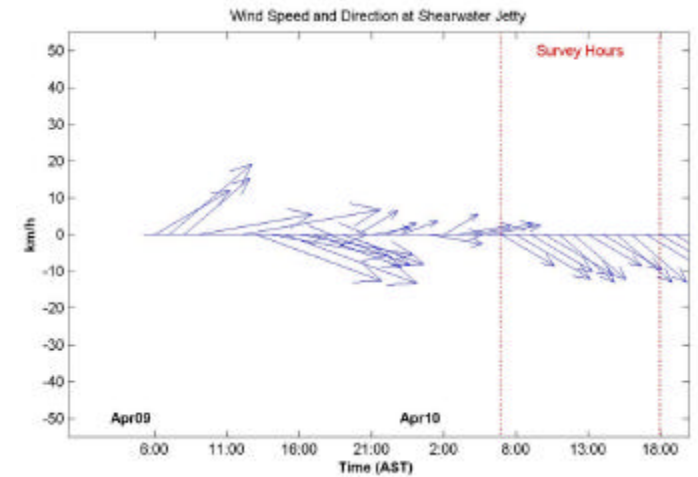
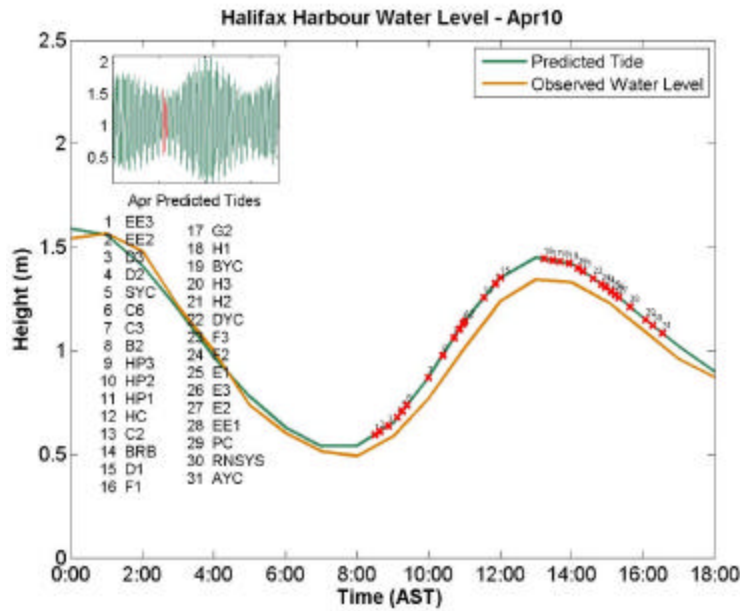
Fecal coliform: **above swimming limit (200 cfu/100mL)**
above shellfish limit (14 cfu/100mL)
below limits



Yacht Clubs



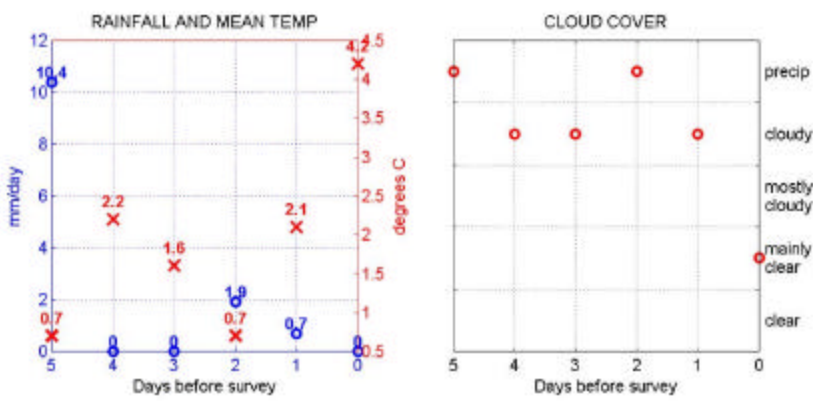
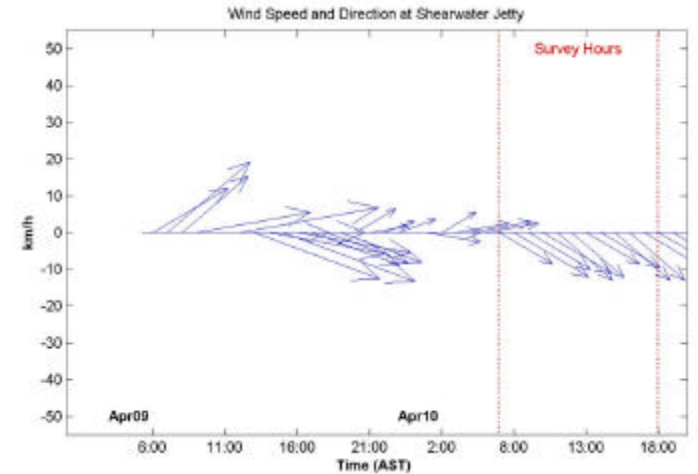
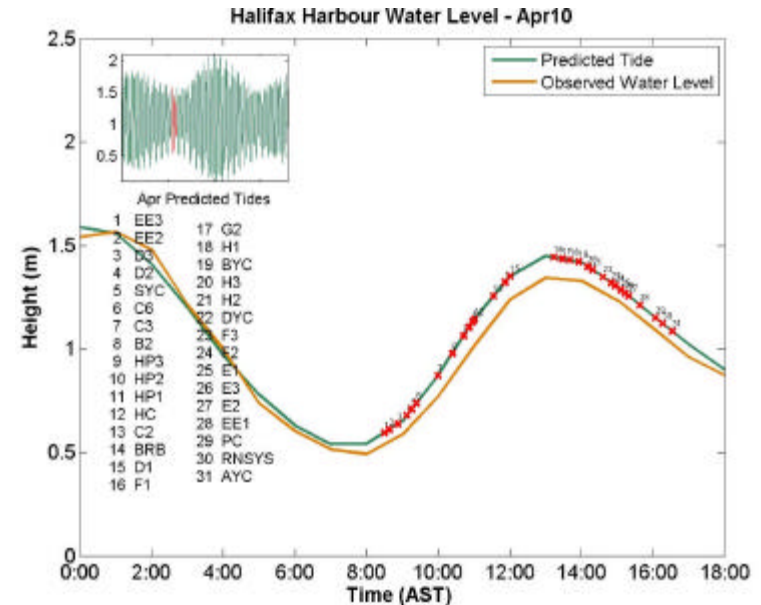
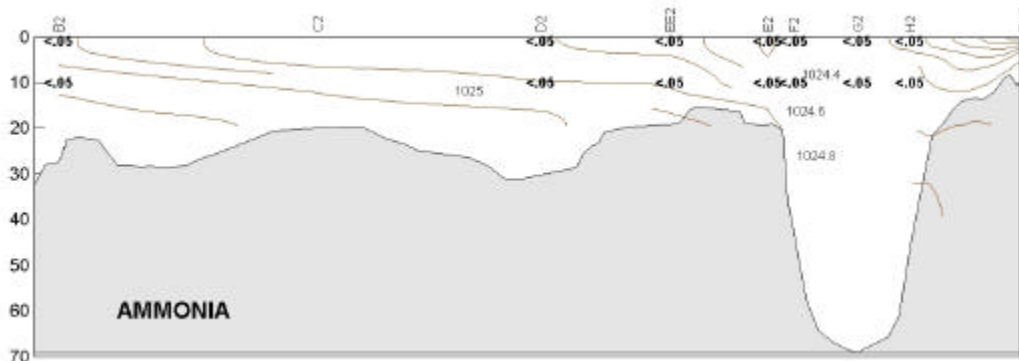
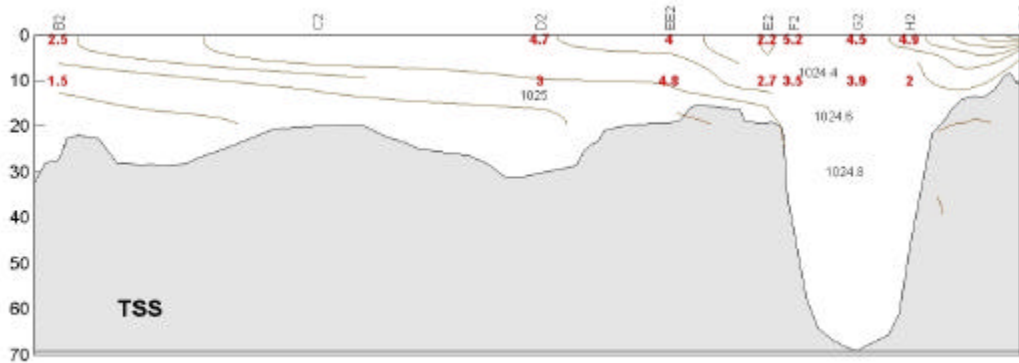
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DO in mg/L

Chlorophyll in mg/m³

CHEMISTRY



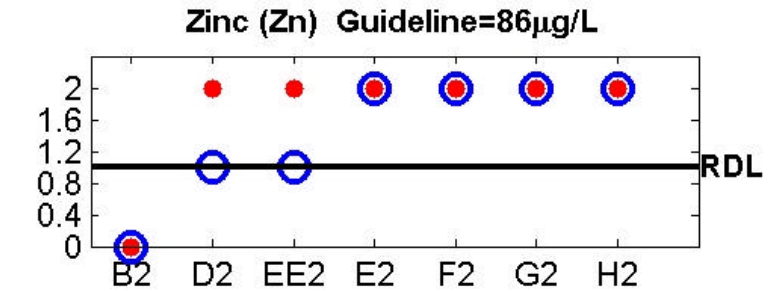
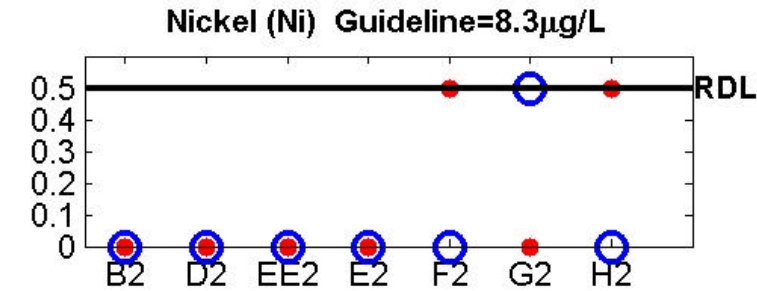
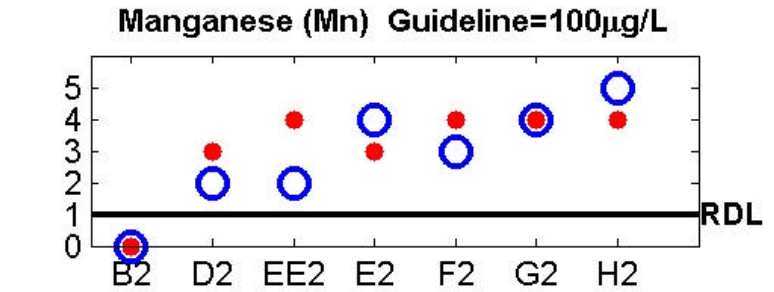
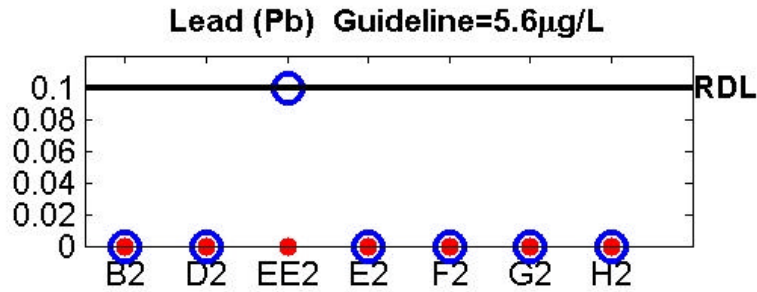
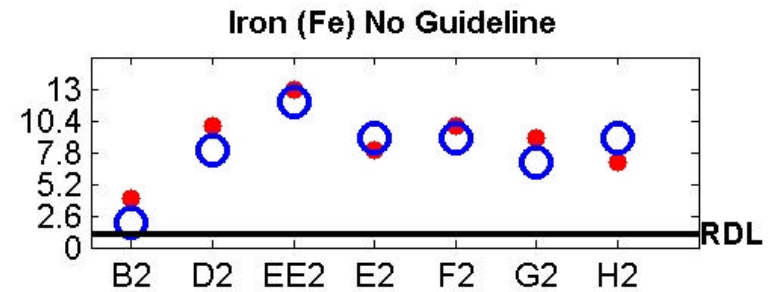
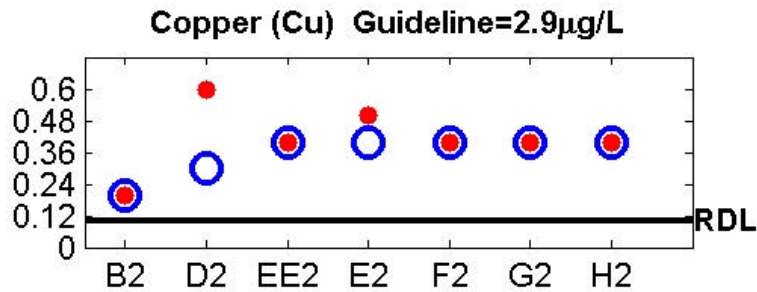
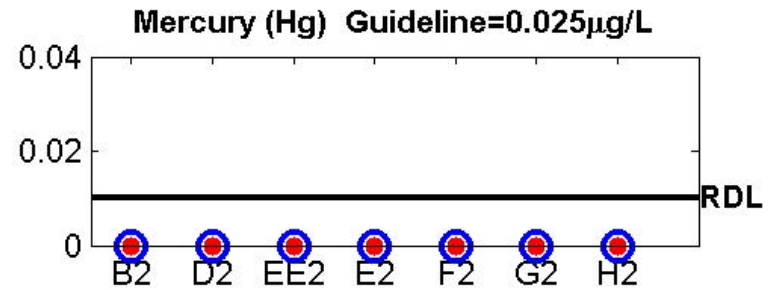
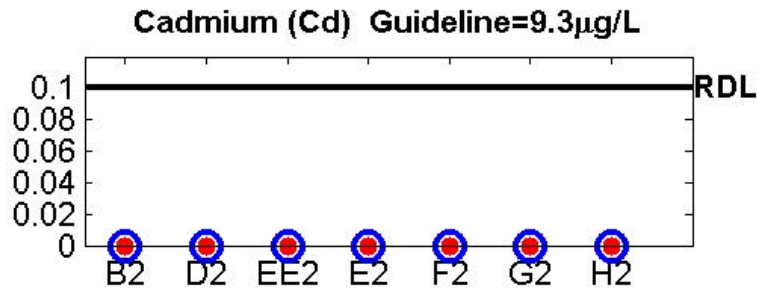
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Potential Density in kg/m^3

Ammonia in mg/L

TSS in mg/L





LEGEND

- = Ten Metre Sample
- = One Metre Sample
- RDL = Reportable Detection Limit