

CRUISE 85-039

CSS DAWSON

November 12-18, 1985

G.L. Bugden

## Cruise Report 85-039

<u>Local Cruise Designation</u>	85-039 Ice Forecast 1985
<u>Vessel</u>	CSS Dawson
<u>Dates</u>	November 12-18, 1985
<u>Area</u>	Gulf of St. Lawrence
<u>Responsible Agency</u>	Coastal Oceanography Div. Atlantic Oceanographic Lab. Bedford Institute of Oceanography
<u>Ship's Master</u>	Capt. R. Dickinson
<u>Senior Scientist</u>	G.L. Bugden
<u>Scientific Personnel</u>	B. Carson, Ocean Circ. R.R. Lively, Coastal Oc. M. Smith, Coastal Oc. B. Wile, Ocean Circ. Y. Seung, Dalhousie Univ.

### Purpose

a) Obtain temperature-salinity soundings from 35 locations in the Gulf of St. Lawrence for preparation of seasonal ice outlook by the Ice Climatology Branch of the Atmospheric Environment Service and acquire dissolved oxygen and nutrient data from these stations for comparison with previous years.

b) Deploy satellite transmitting thermistor buoys to monitor the cooling of the water column as freeze-up approaches.

c) Evaluate problems arising from CTD operation in cold weather.

d) Field test and evaluate new salinometer.

### Operations and Nature of Data Gathered

All 35 ice forecast stations were occupied using a guildline digital CTD fitted with a dissolved oxygen sensor. Data was logged on magnetic tape using an HP 2100 computer system. A rosette sampler was used to collect water samples for dissolved oxygen, nutrient

and salinity analysis. No satellite buoys were deployed as the units were not operational at cruise departure time. The buoys were deployed later using a chartered vessel. A large number of duplicate salinity samples were drawn and processed both on a Guildline Autosal and an AGE salinometer. The AGE salinometer was found to be accurate, however it was awkward to operate and several improvements were suggested as a result. Several ideas relating to the correction of problems resulting from storage of the CTD on the open deck of the Dawson during winter conditions were tested with some success.

<u>Station</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Time (GMT)</u>	<u>Operation</u>
1	46° 55.1'N	60°10.5'W	1440 13-11-85	CTD-Rosette
2	47° 5.2'N	60° 1.6'W	1605 13-11-85	CTD-Rosette
3	47° 15.0'N	59°51.0'W	1744 13-11-84	CTD-Rosette
4	47° 25.5'N	59°36.0'W	2014 13-11-84	CTD-Rosette
5	47° 34.9'N	59°20.5'W	2249 13-11-85	CTD-Rosette
6	48° 0.9'N	59°30.0'W	0140 14-11-85	CTD-Rosette
7	48° 9.1'N	60° 6.4'W	0445 14-11-85	CTD-Rosette
8	48° 21.5'N	60°38.9'W	0739 14-11-85	CTD-Rosette
9	48° 35.8'N	61°10.9'W	1045 14-11-85	CTD-Rosette
10	48° 55.1'N	61°40.0'W	1416 14-11-85	CTD-Rosette
11	49° 7.0'N	60° 0.8'W	2013 14-11-85	CTD-Rosette
12	49° 19.5'N	58°31.2'W	0128 15-11-85	CTD-Rosette
13	49° 34.5'N	58°51.0'W	0329 15-11-85	CTD-Rosette
14	49° 50.1'N	59°25.0'W	0620 15-11-85	CTD-Rosette
15	50° 5.3'N	59°54.8'W	0913 15-11-85	CTD-Rosette
16	49° 45.0'N	61°49.0'W	1538 15-11-85	CTD-Rosette
17	50° 2.6'N	64° 4.0'W	2325 16-11-85	CTD-Rosette
18	50° 0.6'N	66°18.2'W	0725 16-11-85	CTD-Rosette
19	49° 48.1'N	66°18.3'W	0-908 16-11-85	CTD-Rosette
20	49° 33.9'N	66°18.2'W	1105 16-11-85	CTD-Rosette
21	49° 24.5'N	66°18.2'W	1105 16-11-85	CTD-Rosette
22	49° 14.6'N	66°18.4'W	1415 16-11-85	CTD-Rosette
23	49° 25.1'N	65°36.4'W	1650 16-11-85	CTD-Rosette
24	49° 12.0'N	64°49.0'W	1949 16-11-85	CTD-Rosette
25	49° 17.9'N	64°43.5'W	2103 16-11-85	CTD-Rosette
26	49° 24.0'N	64°40.0'W	2226 16-11-85	CTD-Rosette
27	49° 31.0'N	64°30.1'W	2348 16-11-85	CTD-Rosette
28	49° 38.9'N	64°24.5'W	0120 17-11-85	CTD-Rosette
29	49° 9.4'N	63°52.0'W	0448 17-11-85	CTD-Rosette
30	48° 56.6'N	63° 4.1'W	0805 16-11-85	CTD-Rosette
31	48° 42.3'N	62°18.8'W	1110 17-11-85	CTD-Rosette
32	48° 19.5'N	63° 9.5'W	1520 17-11-85	CTD-Rosette
33	47° 49.5'N	62°49.1'W	1838 17-11-85	CTD-Rosette
34	47° 9.3'N	63° 9.2'W	2214 17-11-85	CTD-Rosette
35	46° 46.4'N	62° 3.2'W	0320 18-12-85	CTD-Rosette

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Nov 12 → Nov 18  
1985

• CTD, ROSETTE

