

Northwest Atlantic



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**Integrated Science Data Management  
NAFO Report 2007**

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**Abstract**

2007 has been a busy year for ISDM that saw many new developments, with expanded roles and responsibilities. While dealing with the inevitable impacts of losing career data managers to retirements and professional growth opportunities we have enjoyed a revitalization that comes with new people, ideas and perspectives. Through the CHS merger we have launched new products, services and distribution channels. DFO is in the process of Science Renewal based on a new habitat management approach that leverages some of the ISDM experience in data management. Our computer, database and programming environments are adapting to significant change driven by departmental service consolidations and internal migrations to new technologies.

ISDM, as the Regional Environmental Data Center for NAFO, is required to provide an annual inventory of environmental data collected in the NAFO area to the NAFO subcommittee for the environment (STACFEN). Inventories and maps of physical oceanographic observations such as ocean profiles, surface thermosalinographs, drifting buoys, currents, waves, tides and water level measurements for the calendar year 2007 are included. This report will also provide an update on other ISDM activities during 2007 and beyond.

It is important for STACFEN to encourage members to send data and information to the designated data center in order to get significant return for NAFO member countries.

**Introduction**

ISDM, has been recognized since 1975 as the Regional Environmental Data Center for ICNAF and subsequently for NAFO. In order for ISDM to carry out its responsibility of reporting to the Scientific Council, the Designated National Representatives selected by STACFEN are requested to provide ISDM with all marine environmental data collected in the Northwest Atlantic for the preceding years.

Provision of a meaningful report to the Council for its meeting in June 2008 required the submission to ISDM of a completed oceanographic inventory form for data collected in 2007, and oceanographic data pertinent to the NAFO area, for all stations occupied in the year prior to 2007. The data of highest priority are those from the standard sections and stations, as described in NAFO SCR DOC., No. 1, Serial N 1432, 9p.

Data that have been formatted and archived at ISDM are available to all members on request. Requests can be made by telephone (613) 990-0243, by e-mail to [isdm-gdsi@dfo-mpo.gc.ca](mailto:isdm-gdsi@dfo-mpo.gc.ca), by completing an on-line order form on the ISDM web site at [www.meds-sdmm.dfo-mpo.gc.ca/meds/Contact\\_US/Request\\_e.asp](http://www.meds-sdmm.dfo-mpo.gc.ca/meds/Contact_US/Request_e.asp) or by writing to Services, Integrated Science Data Management (ISDM), Dept. of Fisheries and Oceans, 12<sup>th</sup> Floor, 200 Kent St., Ottawa, Ont. Canada K1A 0E6.

## Data Summaries for 2007

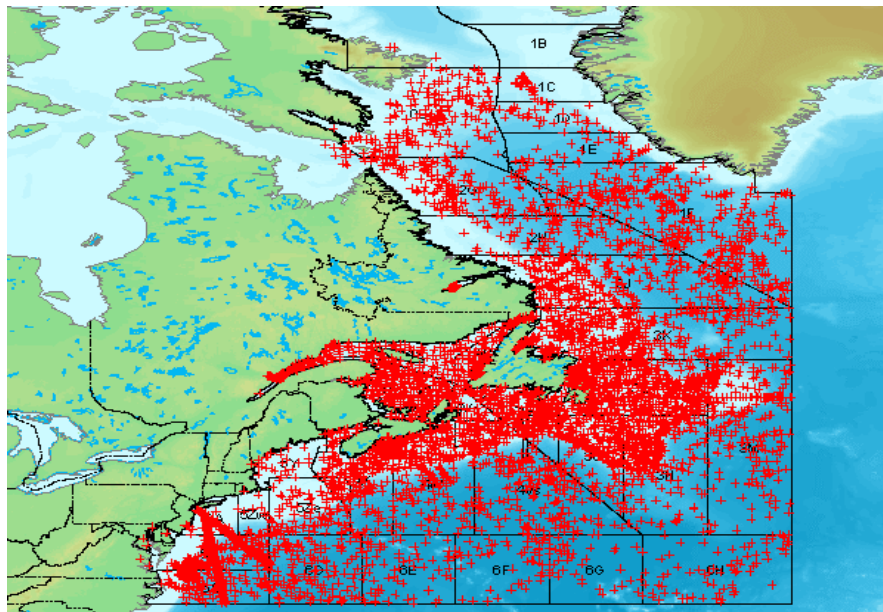
### **Subsurface profile data**

For the NAFO area, subsurface vertical profiles as well as surface observations, sample a variety of parameters such as temperature, salinity, oxygen, nutrients and other chemical and biological variables. ISDM receives these data either in real-time (within one month of observation) via the Global Telecommunications System (GTS) reporting system or in delayed-mode directly from responsible institutions, and indirectly from national Cruise Summary Reports and other reports of marine activities.

The following inventories and corresponding maps summarize the ocean subsurface and surface data processing activities in 2007 for the NAFO area:

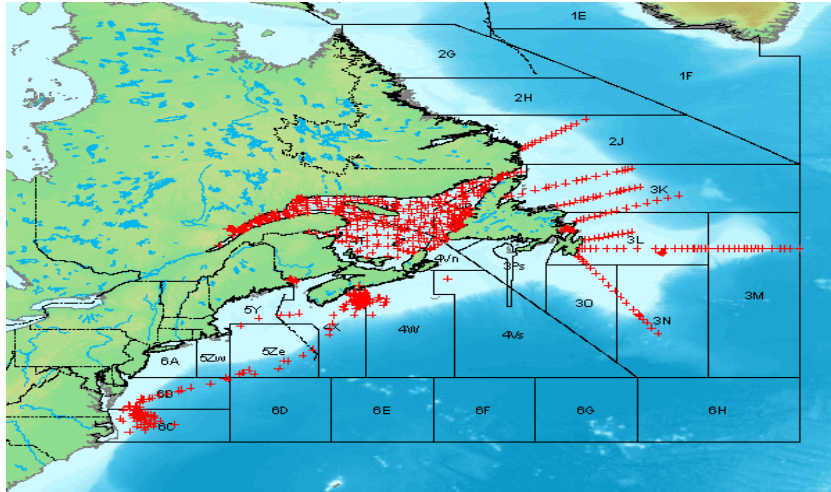
- **Table 1, Figure 1: Real-time temperature-salinity profile data collected and processed in 2007**  
TOTAL: 159207 profiles (up 84% from 2006)
- **Table 2, Figure 2: Delayed-mode profile data collected and processed in 2007**  
TOTAL: 1433 profiles (down 52% from 2006)
- **Table 3, Figure 3: Profile data collected prior to 2007 and processed in 2007**  
TOTAL: 6626 profiles (down 72% from 2006)
- **Table 4, Figure 4: Surface Thermosalinograph data collected and processed in 2007**  
TOTAL: 24598 stations (none in 2006)

Ocean subsurface data are processed at ISDM in much the same way for each of the data sets described above. Electronic files are converted from a wide range of formats, into a common format. Quality control is carried out by a combination of specially designed software and trained personnel. The quality control has four main functions. The first is to check and ensure that each data message is properly formatted, units are standardized, and parameter range checks are performed. The second is to identify any duplication, and select the best version based on data type, source of the data, and general qualities in analysis and reporting of the observations. The third check identifies and corrects date/time and geographical positioning errors using computer tests and visual inspection of the track for each cruise. The final quality control procedure uses a series of algorithms to find and flag common instrument failures found in profiles of subsurface measurements. Each subsurface profile of temperature, salinity and other subsurface variables, are also visually inspected using software to plot the data and allow a technician to set quality flags to individual points on a profile. [http://www.meds-sdmm.dfo-mpo.gc.ca/meds/Databases/OCEAN/QC\\_e.htm](http://www.meds-sdmm.dfo-mpo.gc.ca/meds/Databases/OCEAN/QC_e.htm)

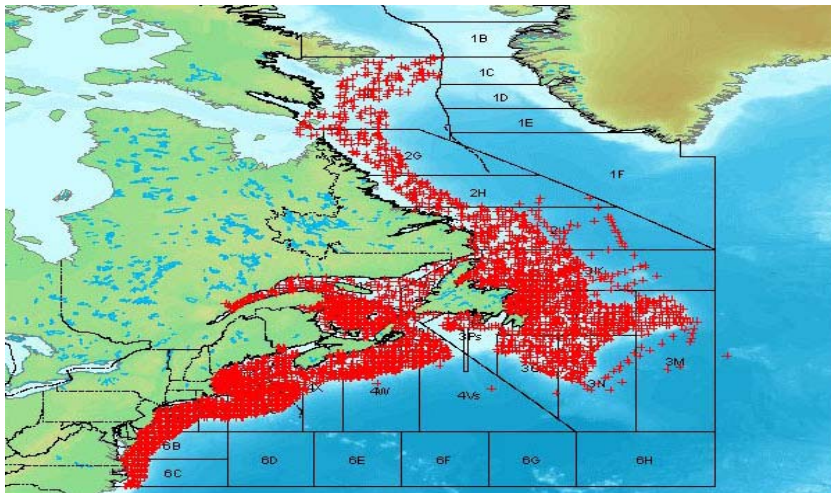


**Figure 1: Real Time Temperature-Salinity Stations 2007**

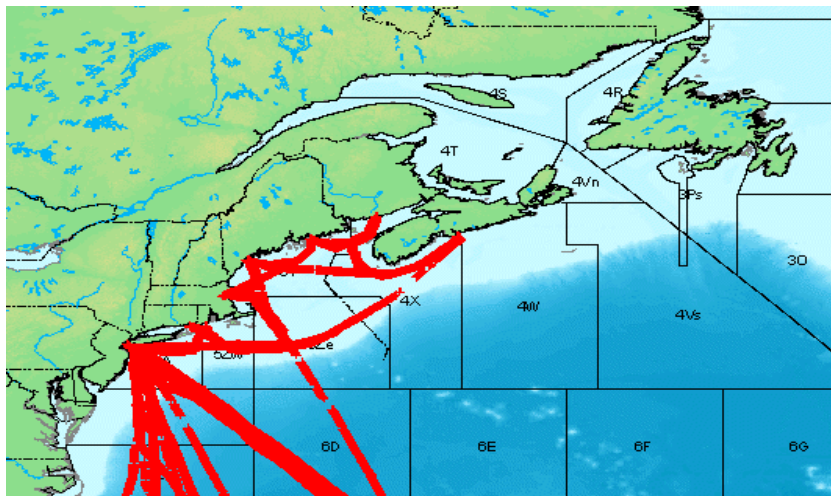
Total = 159207 Stations



**Figure 2: Delayed-mode profile data collected and processed in 2007**  
Total = 1433 stations (52% less than 2006)



**Figure 3: Delayed mode profile stations collected before 2006 and processed in 2007**



**Figure 4: Surface Thermosalinograph data collected and processed in 2007**  
Total = 24598 Stations (none in 2006)

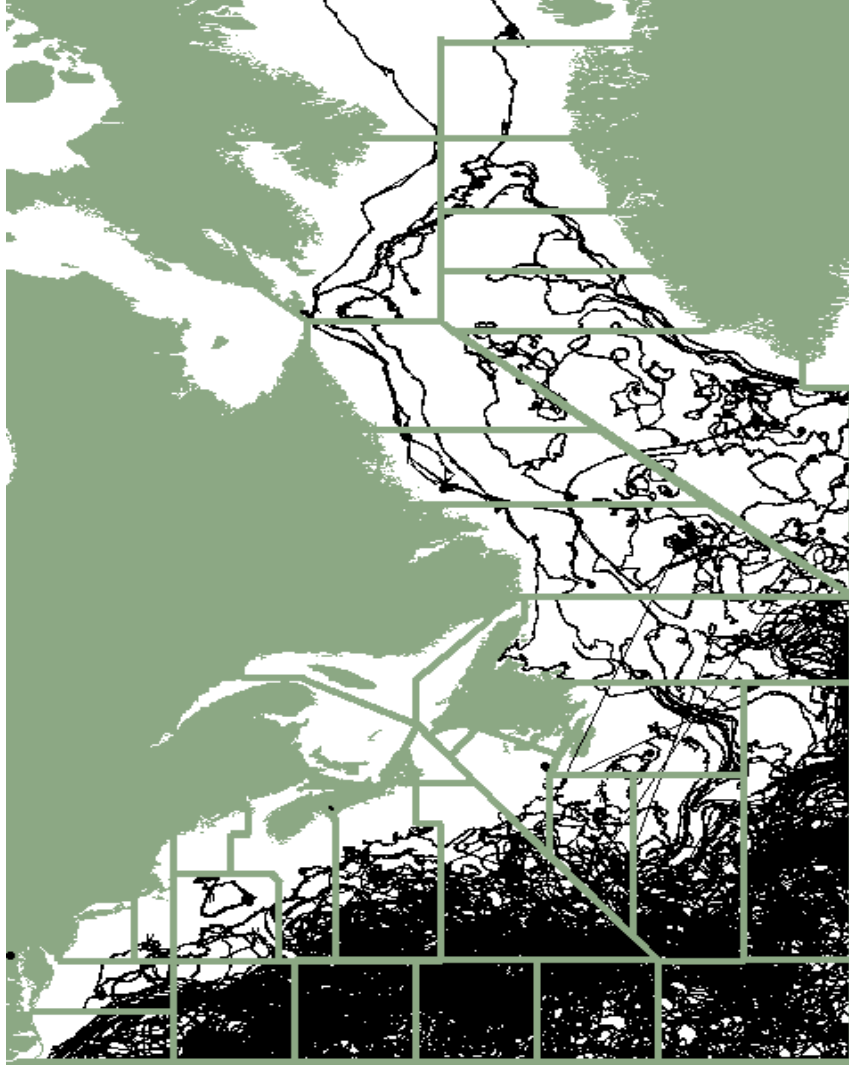
**Drifting Buoy Data**

The following inventory and map summarize ISDM drifting buoy data collected and processed in 2007 for the NAFO area:

- **Table 5, Figure 5: Drifting Buoys in the NAFO Area in 2007**  
TOTAL = 493636 messages from 208 buoys (50% increase from 2006)

Drifting buoy data are received at ISDM via the GTS. Quality control techniques are much the same as those for the ocean profile data. Drifting buoys report via satellite, at rates of up to every 15 minutes. These messages are checked for format errors, and reformatted for quality control procedures and subsequent archival. Range checks, flags and possible corrections to the data are carried out by trained personnel, using a system of ISDM software, which organize, analyze and display plots of the data. Quality checks use algorithms which check drifting speed and position, and ranges of sea surface temperatures and sea level pressure. The range checks include a comparison to NOAA's Asheville SST Climatology (2.5x2.5 degrees and monthly). Duplicates are checked, which is important for discriminating between data received directly from buoys and messages routed through other data centers. Lower quality data (which are this type of duplicate) are flagged as such.

ISDM drifting buoy archive contains over 70 million records for the world's oceans, from 1978 to present, and is currently growing at a rate of one million messages per month. A drifting buoy message is comprised of the buoy position and one or more of the following parameters: surface and subsurface water temperature, air pressure and temperature, wind speed and direction.



**Figure 5: Drifting Buoy messages 2007**  
Total = 493636 messages (50% more than 2006)

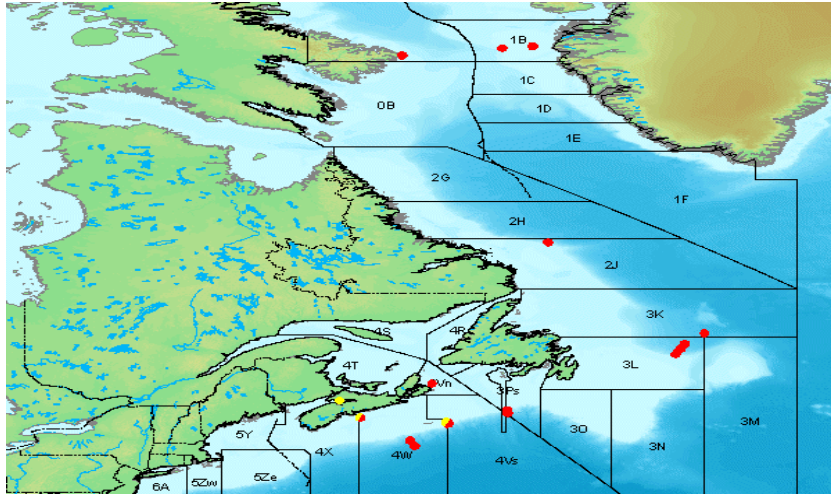
#### **Current Meter Data**

The following inventory summarizes current meter data collections in 2007 in the NAFO area:

- **Table 6a, Figure 6: Current meter data recovered and processed in 2007 (yellow dot ●)**
- **Table 6b, Figure 6: Current meter data recovered 2007 and not yet processed in 2007 (red dot ●)**
- **Table 6c: Current meters deployed and not yet recovered in 2007**

Current meters have been deployed in the NAFO area for many years. These data are processed and archived at The Bedford Institute of Oceanography (BIO), Dartmouth, Nova Scotia and are available online at: [www.mar.dfo-mpo.gc.ca/science/ocean/home.html](http://www.mar.dfo-mpo.gc.ca/science/ocean/home.html).





**Figure 6: East Coast Current Meters Recovered in 2007**

### Wave Data

The following map displays where ISDM wave data were collected in 2007:

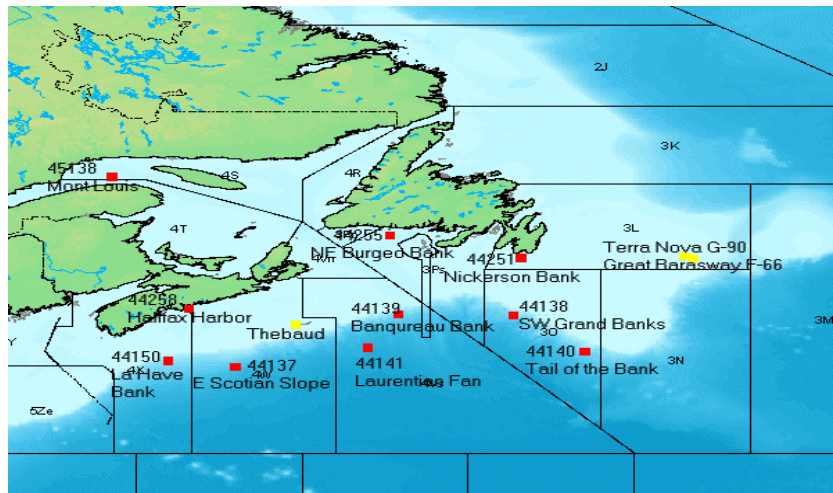
- **Figure 7: Wave Buoys in the NAFO Area in 2007**

TOTAL = 15 Buoys

Yellow blocks ■ indicate NEB Well sites, red ■ indicate Environment Canada weather buoys

ISDM continued to process and archive operational surface wave data on a daily basis around Canada. Wave spectra, calculated variables such as the significant wave height and peak period, concurrent wind observations, and raw digital time series of water surface elevations are stored. Data are quality controlled with a visual inspection and with ISDM software to set flags on data showing instrument failures. During 2007, data was collected from 13 buoys in the NAFO area. All real-time and historical wave data are made available on-line from ISDM web site:

[www.meds-sdmm.dfo-mpo.gc.ca/meds/Databases/WAVE/WAVE\\_e.htm](http://www.meds-sdmm.dfo-mpo.gc.ca/meds/Databases/WAVE/WAVE_e.htm)



**Figure 7: Wave Buoys in the NAFO Area in 2007**

Total = 13 buoys

### Tide and Water level Data

The following map displays where ISDM tide and water level data were collected from:

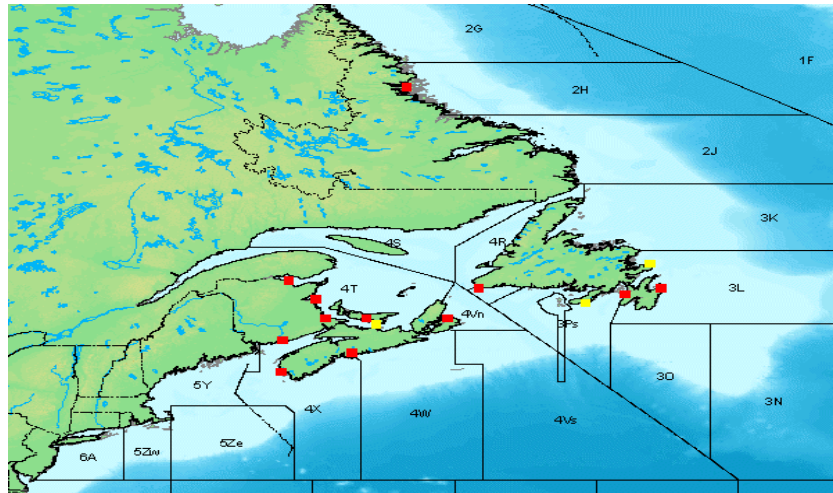
- **Figure 8: Tide and water level data in the NAFO Area in 2007**

TOTAL = 16 Gauges

Yellow blocks ■ indicate temporary gauges, red ■ indicate permanent.

ISDM continued to process and archive operational tides and water level data that were reported on a daily to monthly basis from the Canadian water level network. ISDM archived observed heights with up to a 1-minute sampling interval, hourly heights and monthly instantaneous extremes collected around Canada. Approximately 1.3 million new readings were updated every month from the network with the increase in sampling interval. The historical tides and water level data archives presently hold over 435 million records with the earliest dating back before the turn of the century. Data from 96 tide and water level gauges were processed during 2007 with 16 in the NAFO region. The data is quality controlled using ISDM software and is available for download from ISDM web site:

[www.meds-sdmm.dfo-mpo.gc.ca/meds/Databases/TWL/TWL\\_e.htm](http://www.meds-sdmm.dfo-mpo.gc.ca/meds/Databases/TWL/TWL_e.htm).



**Figure 9: Tide and water level data in the NAFO Area in 2007**

Total = 16 gauges (one less than 2006)

### Activity Updates

#### The Argo data system

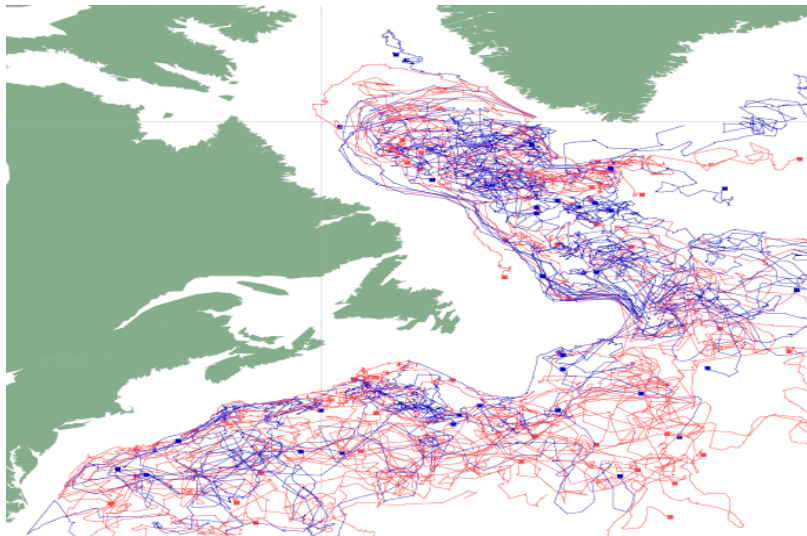
Argo is an international program to deploy profiling floats on a 3 by 3 degree grid in the oceans of the world. Each profiling float samples and reports both temperature and salinity from 2000m to the surface every 10 days. Some of the newer floats now also report oxygen. Data are distributed on the Global Telecommunications System (GTS) within 24 hours of collection and made available on two Global servers located in France and the US. ISDM role is to carry out the processing of the data received from Canadian floats, to distribute the data on the GTS and the global servers within 24 hours and to handle the delayed mode processing.

ISDM developed a Canadian web site

[www.meds-sdmm.dfo-mpo.gc.ca/meds/Prog\\_Int/argo/ArgoHome\\_e.html](http://www.meds-sdmm.dfo-mpo.gc.ca/meds/Prog_Int/argo/ArgoHome_e.html) that contains data and information about Canadian floats as well as general information and statistics about the global array. Global information is also available from the Argo Information Centre in Toulouse at [argo.jcommops.org](http://argo.jcommops.org).

During 2007, the Canadian Argo program deployed 29 Argo floats in the NAFO region, including 5 oxygen floats and produced 718 temperature and salinity profiles and 134 oxygen profiles. Currently, there are 37 active floats and

39 inactive floats in the NAFO region. Figure 9 shows the Canadian Argo floats deployed in the North Atlantic as of May 2007. The tracks in red indicate floats that are inactive and no longer reporting.



**Figure 9: Canadian Argo profiling floats May 2007**

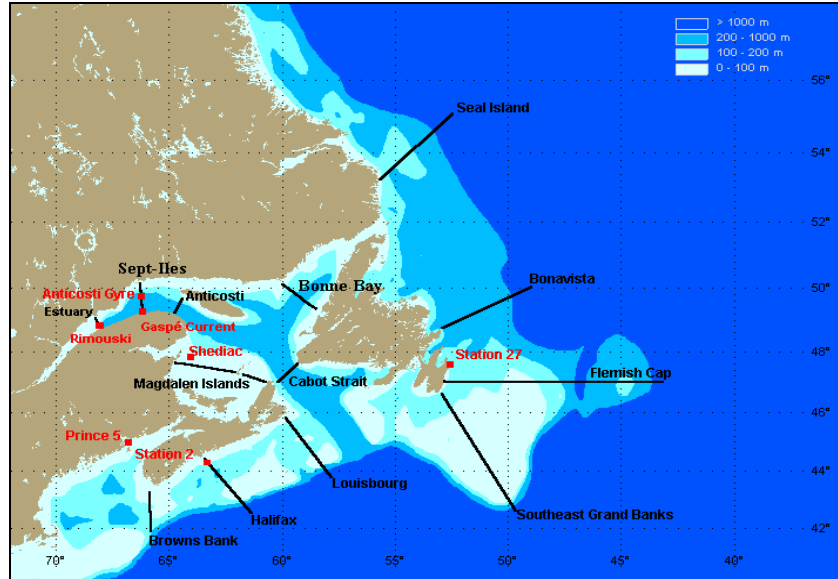
#### **Atlantic Zone Monitoring Programme (AZMP)**

The DFO Atlantic Zone Monitoring Programme activities include regular sampling for 7 fixed stations and 13 standard sections, and research cruises in the AZMP area to collect other physical, chemical and biological data. As part of ISDM' activities in data management, ISDM continues to build and maintain the AZMP web site: [www.meds-sdmm.dfo-mpo.gc.ca/zmp/main\\_zmp\\_e.html](http://www.meds-sdmm.dfo-mpo.gc.ca/zmp/main_zmp_e.html).

The wealth of data and information on the site includes:

- Physical and chemical data from 1999 to the present such as CTD, bottle and bathythermograph measurements
- Climate indices showing long term trends of physical variables in the areas of Seawater, Freshwater, Ice, Atmosphere
- Water level data for 9 gauges ranging from 1895 to present
- Graphical representations of biological data (phytoplankton, zooplankton) -Remote Sensing links for Ocean Colour, SST and Primary Productivity product





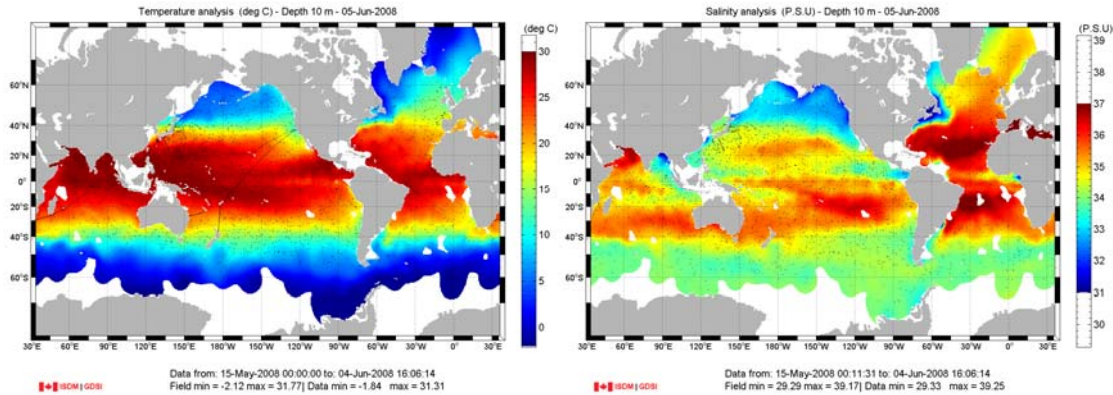
**Figure 10: Map of AZMP sections and stations**

#### **Centre for Ocean Model Development and Application (COMDA)**

DFO has created a virtual Centre for Ocean Model Development and Application (COMDA) with a mandate to provide national leadership, coordination and advice in areas of ocean model development and application that are departmental priorities. COMDA will be leading and assisting in the development and execution of different scientific projects. One of the initial and major projects includes "Ocean Modelling for Benthic Habitat Mapping" in collaboration with NRCan to provide a quantitative representation of ocean current and waves influences on the seabed surrounding Canada. Other projects are listed here: <http://www.mar.dfo-mpo.gc.ca/science/ocean/comda/comda-e.html>

ISDM's involvement with COMDA will be to provide data streams of temperature and salinity for model initialization and data assimilation. This step involves creation of three-dimensional fields of temperature and salinity that represent the real-time state of the ocean. This is done by integrating all real-time data sources that are received, controlled or processed at ISDM. The scientific method behind this integration is called objective analysis. The depth levels can be targeted according to the needs of scientists and other clients. Figure 11 illustrates the current daily analysis of temperature and salinity at 10 and 300 metres depth.

One by-product of this operation is the capability of generating very accurate fields of temperature and salinity for periods from the recent past, using all data that was available at the time and that has been coming to ISDM since (delayed mode, calibrated data).



**Figure 11: COMDA/OI Climatology analysis for June 5, 2008 at 10m depth**

### **Aquatic Invasive Species (AIS)**

Aquatic Invasive Species are a major threat to Canada's fisheries and aquaculture industry and have been entering Canadian waters for centuries but never as rapidly as today. Every decade, some 15 alien species establish themselves in our coastal or inland waters. In the absence of their natural predators, the most aggressive of them spread rapidly. They can radically alter habitat, rendering it inhospitable for native species. The zebra mussel and sea lamprey are examples of such species that have greatly affected the Great Lakes.

The most effective approach to dealing with this threat involves managing the pathways through which invasive species enter and spread through Canadian waters. For aquatic species these pathways are shipping, recreational and commercial boating, the use of live bait, the aquarium/water garden trade, live food fish, unauthorized introductions and transfers, and canals and water diversions. The shipping pathway is considered the largest single source of new aquatic invasive species. Ballast water that is taken on in foreign ports, for ship stability and safety at sea, is discharged in Canadian waters, along with undesirable "hitchhikers" - foreign species ranging from bacteria to larger organisms.

The Canadian Aquatic Invasive Species database and web application was developed in 2004-5. The main objective was to provide a geo-referenced repository for all invasive species observations gathered in Canada by DFO scientists, provincial departments, other federal or municipal departments and the general public. The second objective was to create a decision making tool that would allow the production of augmented value products that would illustrate trends and movements over time and various locations and thus allow the department to be proactive rather than reactive to observations made.

Currently there is data from the Great Lakes, the Maritimes and some from the Vancouver area. Most of the data are observations of location name, long-lat, species name, date, and any metadata provided.

### **National Science Data Management Committee (NSDMC)**

This committee continues with funding and has a well developed funding process. In 2007, 21 projects were funded with 7 targeted at improved access to data and information, 11 to upgrading archives or inserting unarchived data, 2 targeted at addressing standards, and some funding for meetings. Types of data included bathymetry, pCO<sub>2</sub> measurements, Arctic fisheries data, zooplankton, marine mammals and nutrients. Access projects addressed creation of inventory records and software, support to OBIS, a general access system to fisheries data and continuing development of a services oriented architecture.

### **References**

List of NAFO Standard Oceanographic Sections and Stations. The reprint of NAFO SCR DOC., NO. 1, Serial N1432, 9p. Printed and distributed by: NAFO, P.O. Box 638, Dartmouth, Nova Scotia, Canada B2Y 3Y9.

**Table 1: Real Time data received during 2007**

Total: 159207 stations

SHIP NAME	COUNTRY	CALL SIGN	CRUISE PERIOD	BATTERY	TES AC	NAFO Subarea
		230W 07	Jun-15 - Jun-15	1	0	3M
			May-22 - May-22	1	0	6D
PORTLAND 12NM SE OF PORTL	USA	44007 07	Aug-14 - Dec 31	0	3162	5ZW
MOORED BUOY	USA	44008 07	Mar-28 - Dec 31	0	6634	5ZE
GEORGES BANK	USA	44011 07	Jan-01 - Dec 31	0	7066	5ZE
VIRGINIA BEACH 64NM, VA	USA	44014 07	Jan-21 - Dec 31	0	7292	6C
SE CAPE COD 30NM	USA	44018 07	Jun-01 - Dec 31	0	4870	5ZE
NEW MEADOWS RIVER	USA	44021 07	Jan-01 - Sep-27	0	6335	5Y
			Oct-10 - Nov-02	0	505	5Y
			Dec 02 - Dec 31	0	685	5Y
BUOY N NORTHEAST CHANNEL	USA	44024 07	Jan-01 - Sep-19	0	5646	4X
			Oct-10 - Dec 31	0	1500	4X
BUOY	USA	44029 07	Jan-01 - Dec-31	0	6668 2	4X,5Y,5ZW
PATUXENT RIVER	USA	44044 07	Apr-19 - May-16	0	2144	6B
			May-21 - Nov-10	0	5734	6B
		44044 A07	Nov-10 - Dec 05	0	1686	6B
PROFILE FLOAT	GERMANY	69024 07	Jan-01 - DEC-31	0	37	3M,6F,6G,6H
SAFMARINE ZAMBEZI	LIBERIA	A8CE9 07	May-24 - May-24	2	0	6D
			Nov-17 - Nov-19	6	0	5ZW,6D,6E
RAILROAD, CHESAPEAKE RESE	USA	BRIM2 07	Oct-24 - Nov-16	0	848	6B
			Nov-28 - Dec 31	0	1371	6B
OPILIO	CANADA	CFD2576 07	Apr-26 - Apr-26	0	1	4T
PANDALUS	CANADA	CFD4703 07	Jan-18 - Jan-18	0	1	4X
			Feb-14 - Feb-14	0	1	4X
			Mar-16 - Mar-16	0	1	4X
			Apr-03 - Apr-03	0	1	4X
			May-17 - May-17	0	1	4X
			Jun-13 - Jun-13	0	1	4X
			Jul-16 - Jul-16	0	1	4X
			Aug-15 - Aug-15	0	1	4X
			Sep-14 - Sep-14	0	1	4X
			Oct-15 - Oct-15	0	1	4X

			Nov-15 - Nov-15	0	1	4X
			Dec 14 - Dec 14	0	1	4X
SHAMOOK	CANADA	CG2676 07	Jan-08 - Jan-23	0	31	3L
			Jan-30 - Jan-30	0	1	3L
			Feb-05 - Feb-16	13	4	3L
			Apr-03 - Apr-03	0	1	3L
			Apr-13 - Apr-17	0	15	3L
			Apr-24 - Apr-28	0	21	3L
			May-06 - May-07	0	2	3L
			May-14 - May-22	0	60	3L
			Oct-01 - Oct-14	2	17	3L
			Nov-06 - Nov-08	0	7	3L
BELUGA	CANADA	CG3161 07	Apr-12 - Apr-12	0	1	4T
			Apr-20 - Apr-20	0	1	4T
			Apr-27 - Apr-27	0	1	4T
			May-10 - May-10	0	1	4T
			May-23 - May-23	0	1	4T
			May-30 - May-30	0	1	4T
			Jun-08 - Jun-08	0	1	4T
			Jun-14 - Jun-14	0	1	4T
			Jun-19 - Jun-19	0	1	4T
			Jun-27 - Jun-27	0	1	4T
			Jul-04 - Jul-04	0	1	4T
			Jul-10 - Jul-10	0	1	4T
			Jul-18 - Jul-18	0	1	4T
			Jul-25 - Jul-25	0	1	4T
			Jul-31 - Jul-31	0	1	4T
			Aug-08 - Aug-08	0	1	4T
			Aug-14 - Aug-14	0	1	4T
			Aug-21 - Aug-21	0	1	4T
			Aug-30 - Aug-30	0	1	4T
			Sep-10 - Sep-10	0	1	4T
			Sep-18 - Sep-18	0	1	4T
			Sep-25 - Sep-25	0	1	4T
			Oct-09 - Oct-09	0	1	4T
			Oct-15 - Oct-15	0	1	4T
			Oct-24 - Oct-24	0	1	4T
			Nov-21 - Nov-21	0	1	4T
NSC CALANUS II	CANADA	CG3187 07	May-05 - May-19	0	26	4S
			Jun-29 - Jul-06	0	30	4T
J. WILLIE DERASPE	CANADA	CG3197 07	Aug-10 - Aug-10	0	1	4T
TELEOST	CANADA	CGCB 07	Mar-01 - Mar-19	0	27	2J,3K,3L
			Apr-02 - Apr-27	38	158	3K,3L,3M,3N,3O
			May-05 - Jun-30	37	196	3K,3L,3N,3O,4R,4S,4T,4VN
			Jul-07 - Sep-30	0	455	4R,4S,4T,4VN,4VS,4W,4X
			Oct-28 - Dec 21	4	260	2J,3K,3L,3M,3O
HUDSON	CANADA	CGDG 07	Apr-04 - Apr-22	0	81	3O,3PS,4R,4VN,4VS,4W,4X
			May-10 - May-27	0	59	1E,1F,2G,2H,2J,3K,3L,4W
			Aug-02 - Aug-09	0	59	4VS,4W
			Sep-28 - Sep-30	0	7	4W,4X
			Oct-06 - Oct-18	0	50	4R,4VN,4VS,4W,4X



			Oct-28 - Nov-12	0	105	4R,4S,4T,4VN
			Nov-22 - Dec 05	48	82	3K,3L,3M,3N,3O
W. TEMPLEMA N	CANADA	CGDV 07	Feb-20 - Mar-20	0	112	4VS,4W,5ZE
			Apr-04 - May-19	6	276	3L,3O,3PS,3PN
			Jun-15 - Jul-03	0	123	3L,3N,3O
			Jul-14 - Aug-28	34	143	2J,3K,3L,3N,3O,4R
			Sep-07 - Sep-18	0	12	4VS,4W
			Oct-18 - Dec 21	12	300	3K,3L,3N,3O
CCGS DES GROSELLIE RS	CANADA	CGDX 07	Jan-12 - Jan-12	0	2	4S,4T
			Jan-30 - Jan-30	0	2	4S,4T
HENRY LARSEN	CANADA	CGHL 07	Feb-12 - Feb-21	35	0	3K,4R
SWEET HALL, CHESAPEAK E BA	USA	CVQV2 07	Oct-25 - Dec 31	0	2660	6B
MARIA S. MERIAN	GERMA NY	DBBT 07	Apr-22 - Apr-30	0	24	3M,3N
LEBANON LANDING, DELAWARE	USA	DEQD1 07	Oct-25 - Dec 31	0	2237	6B
SAFMARINE GONUBIE	GERMA NY	DGVB 07	Mar-20 - Mar-21	8	0	5ZW,6A,6D
			May-14 - May-15	7	0	6B,6D
			Jul-12 - Jul-13	7	0	5ZW,6D,6E,6F
			Oct-30 - Oct-31	3	0	6A,6B,6D
			Dec 27 - Dec 27	3	0	5ZW,6D
DUCKPIER NC	USA	DUCN7 07	Feb-27 - Dec 31	0	6955	6C
OYSTER RIVER	USA	GBQN3 07	Oct-24 - Dec 05	0	2084	5ZW
GOODWIN ISLAND	USA	GDWV2 07	Oct-24 - Oct-25	0	43	6B
			Oct-31 - Dec 31	0	1955	6B
CHESNUT NECK	USA	JCQN4 07	Oct-24 - Dec 31	0	3113	6A
BUOY 126, JACQUES COUSTEA	USA	JCTN4 07	Oct-24 - Dec 31	0	3205	6A
HORIZON HAWAII	USA	KIRF 07	Jan-18 - Jan-18	3	0	6B,6C
			Feb-01 - Feb-03	4	0	6B,6C
			Feb-15 - Feb-18	5	0	6B,6C
			Mar-01 - Mar-03	5	0	6B,6C
			Mar-15 - Mar-18	36	0	6A,6B,6C
			Mar-29 - Apr-01	5	0	6B,6C
			Apr-12 - Apr-15	6	0	6B,6C
			Apr-26 - Apr-29	7	0	6B,6C
			May-10 - May-10	2	0	6B,6C
			May-19 - May-19	1	0	6B

			May-26 - May-26	1	0	6B
			Jun-07 - Jun-08	3	0	6C
			Jun-21 - Jun-23	44	0	6A,6B,6C
			Jul-05 - Jul-07	5	0	6A,6B,6C
			Jul-19 - Jul-21	4	0	6B,6C
			Aug-02 - Aug-04	5	0	6B,6C
			Aug-16 - Aug-16	1	0	6B
			Sep-27 - Sep-29	46	0	6A,6B,6C
			Oct-11 - Oct-13	3	0	6B,6C
			Dec 08 - Dec 09	37	0	6A,6B,6C
EMPIRE STATE	USA	KKFW 07	May-22 - May-25	5	0	6D,6E,6H
OTTER POINT CREEK	USA	LTQM2 07	Oct-24 - Dec 10	0	1965	6B
T - WHARF BOTTOM	USA	NAQR1 07	Oct-24 - Dec 31	0	3324	5ZW
OLEANDER	NETHER LAND	PJJU 07	Jan-05 - Jan-06	22	0	6A,6B,6D
			Feb-02 - Feb-03	15	0	6A,6B
			Aug-04 - Aug-08	15	0	6A,6B,6D
			Sep-07 - Sep-11	16	0	6A,6B,6D
			Oct-05 - Oct-11	25	0	6A,6B,6D
			Nov-07 - Nov-08	23	0	6A,6B,6D
			Dec 08 - Dec 12	18	0	6A,6B,6D
PROFILE FLOAT	USA	Q390058007	Jan-01 - Dec-31	0	1775	0B,1C,1D,1E,1F,2G,2H,2J,3K,3L,3M,3N,3O,3PS,4VS,4W,4X,5ZE,6B,6C,6D,6E,6F,6G,6H
SCOTTON LANDING	USA	SCLD1 07	Oct-24 - Dec 31	0	1700	6B
UNKNOWN/INCONNU	UNKNO WN/IN	SHIP 07	Jan-31 - Mar-28	155	81	3L,3M,3N,3O,3PS,4R,4S,4T,4VN,4VS,4W,4X,5ZE,6C
			Apr-12 - Jun-28	281	30	3K,3L,3M,3N,3O,3PS,4S,4T,4VN,4VS,4W,4X,5Y,5ZE,5ZW,6A,6B,6C
			Jul-03 - Dec 06	467	490	0A,0B,1C,1D,2G,2H,2J,3K,3L,3M,3N,3O,3PS,3PN,4R,4S,4T,4VN,4VS,4W,4X,5Y,5ZE,5ZW,6A,6B,6C,6
		TMAN 07	Jul-04 - Jul-13	0	62	3L
			Aug-07 - Aug-15	0	4	2J,3K,3L
			Feb-06 - Feb-06	1	0	4W
RICKERS GENOA	MARSHALL I	V7FS3 07	Feb-02 - Feb-02	2	0	3M
			Jun-13 - Jun-14	2	0	4VS,5ZE
			Oct-22 - Oct-22	4	0	3M
C6-4828	CANADA	VO3180 07	Jan-15 - Jan-15	0	1	4W
			May-07 - May-07	0	1	4W
			Jun-20 - Jun-20	0	1	4W
			Sep-11 - Sep-11	0	1	4X
			Nov-06 - Nov-06	0	1	4W
			Dec 11 - Dec 11	0	1	4W

SKINNER MILL	USA	WEQM1 07	Oct-24 - Nov-14	0	916	5ZW
RONALD H. BROWN	USA	WTEC 07	Jul-23 - Aug-02	0	39	5Y,5ZE,5ZW,6A,6C,6D
UNKNOWN/I NCONNU	UNKNO WN/IN	ZCDJ3 07	Nov-23 - Nov-23	4	0	6H
TMM SINALOA	BERMUD A	ZCDJ6 07	Nov-07 - Nov-07	1	0	6H

**Table 2: Delayed mode data received during 2007**

Total: 1433 stations

Country	Cruise Num	Cruise Period	BT	CTD	BOTTLE	NAFO Subarea
CANADA	181C07685	Feb-20 - Feb-20	0	1	0	4W
		Mar-04 - Mar-04	0	1	0	4W
CANADA	181C07686	Mar-12 - Mar-12	0	1	0	4W
CANADA	181C07758	Apr-23 - Apr-23	0	0	1	3L
CANADA	181C07759	Apr-25 - Apr-25	0	0	1	3L
		May-07 - May-07	0	0	1	3L
CANADA	181C07760	May-10 - May-10	0	0	1	3L
		May-19 - May-19	0	0	1	3L
CANADA	181C07761	Jun-15 - Jun-15	0	0	1	3L
		Jun-25 - Jun-25	0	0	1	3L
CANADA	181C07762	Jun-26 - Jun-26	0	0	1	3L
		Jul-03 - Jul-03	0	0	1	3L
CANADA	181C07763	Jul-17 - Jul-17	0	0	1	3L
CANADA	181C07765	Jul-22 - Jul-22	0	0	1	3L
		Jul-31 - Jul-31	0	0	1	3L
CANADA	181C07766	Aug-02 - Aug-15	0	0	81	2J,3K,3L
CANADA	181C07767	Aug-28 - Aug-28	0	0	1	3L
CANADA	181C07770	Oct-18 - Oct-22	0	0	2	3L
CANADA	181C07771	Oct-24 - Oct-24	0	0	1	3L
		Nov-06 - Nov-06	0	0	1	3L
CANADA	181C07772	Nov-09 - Nov-09	0	0	1	3L
CANADA	181C07774	Dec 16 - Dec 16	0	0	1	3L
CANADA	181C07800	Jul-04 - Jul-04	0	0	1	3L
		Jul-13 - Jul-13	0	0	1	3L
CANADA	18AH07001	Feb-27 - Mar-06	18	0	0	4W,4X
CANADA	18BG07026	Apr-12 - Apr-12	0	1	0	4T
		Apr-20 - Apr-20	0	1	0	4T

		Apr-27 - Apr-27	0	1	0	4T
		May-10 - May-10	0	1	0	4T
		May-17 - May-17	0	1	0	4T
		May-23 - May-23	0	1	0	4T
		May-30 - May-30	0	1	0	4T
		Jun-08 - Jun-08	0	1	0	4T
		Jun-14 - Jun-14	0	1	0	4T
		Jun-19 - Jun-19	0	1	0	4T
		Jun-27 - Jun-27	0	1	0	4T
		Jul-04 - Jul-04	0	1	0	4T
		Jul-10 - Jul-10	0	1	0	4T
		Jul-18 - Jul-18	0	1	0	4T
		Jul-25 - Jul-25	0	1	0	4T
		Jul-31 - Jul-31	0	1	0	4T
		Aug-08 - Aug-08	0	1	0	4T
		Aug-14 - Aug-14	0	1	0	4T
		Aug-21 - Aug-21	0	1	0	4T
		Aug-30 - Aug-30	0	1	0	4T
		Sep-10 - Sep-10	0	1	0	4T
		Sep-18 - Sep-18	0	1	0	4T
		Sep-25 - Sep-25	0	1	0	4T
		Oct-09 - Oct-09	0	1	0	4T
		Oct-15 - Oct-15	0	1	0	4T
		Oct-24 - Oct-24	0	1	0	4T
		Nov-21 - Nov-21	0	1	0	4T
CANADA	18C807001	Feb-17 - Mar-08	50	0	0	4W,4X
CANADA	18C807002	Mar-19 - Mar-27	20	0	0	4X,5ZE,6C
CANADA	18C807003	Jan-08 - Jan-18	18	0	0	4W,4X,5Y
CANADA	18CN07007	May-05 - May-19	0	26	0	4S
CANADA	18CN07010	Jun-29 - Jul-06	0	31	0	4T
CANADA	18FN07002	Apr-22 - May-08	28	0	0	4X,5ZE,6B,6C
CANADA	18GO07001	Jan-12 - Jan-12	0	2	2	4S,4T
		Jan-30 - Jan-30	0	2	2	4S,4T
CANADA	18HE07002	Mar-05 - Mar-16	0	83	80	4R,4S,4T,4VN
CANADA	18HL07002	Apr-12 - Apr-19	6	0	0	4S,4T,4VN,4VS,4W,4X
CANADA	18HU07001	Apr-04 - Apr-07	0	2	0	4W,4X
		Apr-22 - Apr-22	0	1	0	4W
CANADA	18HU07033	Aug-02 - Aug-02	0	1	0	4W
		Aug-09 - Aug-	0	1	0	4W



		09				
CANADA	18HU07045	Sep-28 - Sep-28	0	1	0	4W
		Oct-11 - Oct-11	0	1	0	4W
		Oct-18 - Oct-18	0	1	0	4X
CANADA	18HU07049	Oct-28 - Nov-12	0	106	0	4R,4S,4T,4VN
CANADA	18HU07754	Nov-22 - Dec 05	0	0	46	3K,3L,3M,3N,3O
CANADA	18IS07001	Apr-22 - May-02	30	0	0	4X,5ZE,6B,6C
		May-07 - May-08	3	0	0	4X,5ZE
CANADA	18OK07734	May-02 - May-02	0	0	1	3L
CANADA	18OK07735	Jan-30 - Jan-30	0	0	1	3L
CANADA	18OK07792	Sep-27 - Sep-27	0	0	1	3L
CANADA	18OP07668	Apr-26 - Apr-26	0	1	0	4T
CANADA	18PA07001	Apr-03 - Apr-03	0	2	0	4X
CANADA	18PA07002	Apr-02 - Apr-02	0	5	0	4X
CANADA	18PA07003	Jan-18 - Jan-18	0	2	0	4X
CANADA	18PA07004	Jan-16 - Jan-16	0	5	0	4X
CANADA	18PA07005	Feb-14 - Feb-14	0	2	0	4X
CANADA	18PA07006	Feb-12 - Feb-12	0	5	0	4X
CANADA	18PA07007	Mar-16 - Mar-20	0	2	0	4X
CANADA	18PA07008	Mar-09 - Mar-09	0	5	0	4X
CANADA	18PA07009	May-17 - May-17	0	2	0	4X
CANADA	18PA07010	May-01 - May-01	0	5	0	4X
		May-07 - May-07	0	5	0	4X
		May-14 - May-22	0	11	0	4X
		May-29 - May-29	0	5	0	4X
CANADA	18PA07011	Jun-13 - Jun-13	0	2	0	4X
CANADA	18PA07012	Jun-07 - Jun-12	0	10	0	4X
		Jun-19 - Jun-19	0	5	0	4X
		Jun-26 - Jun-26	0	5	0	4X
CANADA	18PA07013	Aug-15 - Aug-15	0	2	0	4X
CANADA	18PA07014	Jul-16 - Jul-16	0	2	0	4X
CANADA	18PA07015	Sep-14 - Sep-14	0	2	0	4X
CANADA	18PA07016	Jul-03 - Jul-03	0	5	0	4X
		Jul-10 - Jul-10	0	5	0	4X
		Jul-17 - Jul-17	0	5	0	4X
		Jul-24 - Jul-24	0	5	0	4X
		Jul-31 - Jul-31	0	5	0	4X
CANADA	18PA07017	Aug-07 - Aug-07	0	5	0	4X
		Aug-14 - Aug-14	0	5	0	4X
		Aug-21 - Aug-	0	5	0	4X

		21				
		Aug-28 - Aug-28	0	5	0	4X
CANADA	18PA07018	Sep-04 - Sep-04	0	5	0	4X
		Sep-11 - Sep-11	0	5	0	4X
		Sep-18 - Sep-18	0	5	0	4X
		Sep-25 - Sep-25	0	5	0	4X
CANADA	18PA07019	Oct-15 - Oct-15	0	2	0	4X
CANADA	18PA07020	Nov-15 - Nov-15	0	2	0	4X
CANADA	18PA07021	Oct-01 - Oct-01	0	5	0	4X
		Oct-16 - Oct-16	0	5	0	4X
		Oct-30 - Oct-30	0	5	0	4X
CANADA	18PA07022	Nov-06 - Nov-06	0	4	0	4X
CANADA	18PA07023	Dec 14 - Dec 14	0	2	0	4X
CANADA	18PA07024	Dec 06 - Dec 06	0	5	0	4X
CANADA	18PA07669	Jan-18 - Jan-18	0	1	0	4X
		Feb-14 - Feb-14	0	1	0	4X
		Mar-16 - Mar-16	0	1	0	4X
		Apr-03 - Apr-03	0	1	0	4X
		May-17 - May-17	0	1	0	4X
		Jun-13 - Jun-13	0	1	0	4X
		Jul-16 - Jul-16	0	1	0	4X
		Aug-15 - Aug-15	0	1	0	4X
		Sep-14 - Sep-14	0	1	0	4X
		Oct-15 - Oct-15	0	1	0	4X
		Nov-15 - Nov-15	0	1	0	4X
		Dec 14 - Dec 14	0	1	0	4X
CANADA	18TL07031	Jun-13 - Jun-30	0	92	89	4R,4S,4T,4VN
CANADA	18TL07040	Aug-04 - Aug-31	0	115	0	4R,4S,4T,4VN
CANADA	18TL07732	Mar-01 - Mar-01	0	0	1	3L
		Mar-13 - Mar-13	0	0	1	3L
CANADA	18TL07740	Apr-02 - Apr-02	0	0	1	3L
		Apr-10 - Apr-10	0	0	1	3L
CANADA	18TL07741	Apr-11 - Apr-27	0	0	119	3K,3L,3M,3N,3O
CANADA	18TL07742	May-05 - May-05	0	0	1	3L
		May-25 - May-25	0	0	1	3L
CANADA	18TL07743	May-26 - May-26	0	0	1	3L
		Jun-04 - Jun-04	0	0	1	3L
CANADA	18TL07745	Jul-07 - Jul-07	0	1	0	4W
		Jul-19 - Jul-19	0	1	0	4W
		Aug-02 - Aug-	0	1	0	4W

		02				
CANADA	18TL07750	Oct-05 - Oct-05	0	0	1	3L
		Oct-12 - Oct-12	0	0	1	3L
CANADA	18TL07751	Oct-14 - Oct-14	0	0	1	3L
		Oct-20 - Oct-20	0	0	1	3L
CANADA	18TL07753	Nov-20 - Nov-20	0	0	1	3L
CANADA	18TL07799	Jun-05 - Jun-09	0	0	2	3L
CANADA	18TL07802	Nov-22 - Nov-22	0	0	1	3L
CANADA	18TL07803	Dec 19 - Dec 19	0	0	1	3L
CANADA	18TR07003	Mar-05 - Mar-08	10	0	0	4W
CANADA	18TR07004	Apr-12 - Apr-19	8	0	0	4X,5ZE,6B,6C
		Apr-24 - May-03	23	0	0	6B,6C
CANADA	18VA07013	Aug-10 - Aug-10	0	1	0	4T
CANADA	18VA07032	May-14 - May-18	0	12	0	4S
CANADA	18VA07038	Jul-18 - Jul-21	0	43	0	4R
CANADA	18VA07666	Jan-15 - Jan-15	0	1	0	4W
		May-07 - May-07	0	1	0	4W
		Jun-20 - Jun-20	0	1	0	4W
		Aug-29 - Aug-29	0	1	0	4W
		Sep-11 - Sep-11	0	1	0	4X
		Nov-06 - Nov-06	0	1	0	4W
		Dec 11 - Dec 11	0	1	0	4W
CANADA	18VA07668	May-10 - May-10	0	1	0	4T
		May-23 - May-23	0	1	0	4T
		Jun-07 - Jun-07	0	1	0	4T
		Jun-20 - Jun-20	0	1	0	4T
		Aug-15 - Aug-15	0	1	0	4T
		Oct-23 - Oct-23	0	1	0	4T
		Nov-20 - Nov-20	0	1	0	4T

**Table 3: Profile data collected prior to 2007 and processed during the past year**

Total: 6626 stations

Unique ID	Year	CTD	TowedCTD	BOT	BT	NAFO Subarea
181C06660	2006	59	1	0	6	3K 3L
181C06675	2006	0	77	0	48	3L 3M 3K 2J
181C06688	2006	60	2	0	2	3L 3PS 3PN 4VN
181C06692	2006	71	1	0	4	3L 3O 3N
181C06693	2006	71	2	0	1	3L 3N 3O
181C06694	2006	0	3	0	0	3PS
181C06695	2006	59	2	0	10	3L
181C06696	2006	0	86	0	0	3L 3K
181C06697	2006	0	39	0	57	3L 3K 2J 2H
181C06703	2006	12	2	0	1	3L
181C06704	2006	73	0	0	3	3O 3N 3L
181C06705	2006	79	2	0	4	3N 3L
181C06706	2006	68	2	0	4	3L
181C06707	2006	80	2	0	2	3L 3K
181C06708	2006	56	1	0	1	3K 3L
182471007	1971	0	0	3	2	4T
182471017	1971	0	0	6	2	4T
182471031	1971	0	0	0	3	4T
182471036	1971	0	0	0	15	4T
182471044	1971	0	0	0	1	4T
182472014	1972	0	0	0	113	4T
189006001	2006	0	0	17	0	4T 4S
189906001	2006	0	0	0	13	4W
189906002	2006	0	0	0	7	4W
189906003	2006	0	0	0	3	4W
189906004	2006	0	0	0	4	4W
189906005	2006	0	0	0	4	4W
189906006	2006	0	0	0	14	4W
189906007	2006	0	0	0	5	4W
189906008	2006	0	0	0	354	4T 4VN
189906668	2006	0	2	0	0	4T
18BG06005	2006	0	0	24	0	4T
18HT02667	2002	0	1	0	0	4X
18HU06008	2006	0	2	59	0	4X 4W 4VS 4VN 4R
18HU06052	2006	0	2	0	0	4W
18HU06060	2006	0	0	64	0	4T 4S 4VN 4R
18HU06731	2006	0	72	0	49	3L 3K 2J 3O 3N 3M
18IC01905	2001	0	5	0	0	4X
18IS06008	2006	0	0	0	10	4X 4W 4VS 3N 3O 3M
18JJ71017	1971	0	0	7	0	4T
18MH06059	2006	0	1	0	0	4W
18MT71007	1971	0	0	7	0	4T
18MT71031	1971	0	0	12	0	4T
18MT71036	1971	0	0	26	0	4T
18MT71044	1971	0	0	12	0	4T
18MT72014	1972	0	0	117	0	4T
18NA01025	2001	0	5	0	0	4X
18NE05002	2005	0	26	0	0	4W 4VS
18NE06002	2006	0	11	0	0	4VS 4W



18NE06036	2006	0	105	0	0	4W 4VS 4VN
18NE06729	2006	48	0	0	2	3O 3L 3N
18OK06653	2006	0	37	0	0	3L 3PS
18OK06661	2006	0	9	0	0	3L
18OK06711	2006	0	7	0	0	3L
18OK06712	2006	0	20	0	0	3L
18OK06713	2006	0	58	0	0	3L
18OK06714	2006	0	1	0	0	3L
18OK06717	2006	0	11	0	0	2J
18OK06718	2006	0	12	0	12	3L
18OK06719	2006	0	1	0	0	3L
18OK06720	2006	0	32	0	0	3K
18OK06722	2006	0	29	0	3	3L
18OK06723	2006	0	21	0	9	3L
18OK06726	2006	0	6	0	0	3L
18OK06728	2006	0	4	0	0	3L
18OK06730	2006	0	8	0	0	3K
18OL03097	2003	0	19	19	0	4T 4S
18OL05098	2005	0	39	0	0	4T 4S
18OL06008	2006	0	0	85	0	4T 4S 4R 4VN
18PA00001	2000	0	1	0	0	4X
18PA00003	2000	0	1	0	0	4X
18PA00004	2000	0	1	0	0	4X
18PA00007	2000	0	1	0	0	4X
18PA00008	2000	0	1	0	0	4X
18PA00014	2000	0	1	0	0	4X
18PA00031	2000	0	35	0	0	4X
18PA06028	2006	0	3	0	0	4X
18PA06029	2006	0	5	0	0	4X
18PA06666	2006	0	5	0	0	4W
18TL05546	2005	0	38	0	0	4W 4VS
18TL05633	2005	0	116	0	0	4W 4VS 4VN
18TL06043	2006	0	0	131	0	4R 4VN 4T 4S
18TL06615	2006	0	83	0	0	4W 4VS
18TL06662	2006	25	2	0	1	3L 3K
18TL06663	2006	0	1	0	0	3L
18TL06670	2006	0	72	0	28	3L 3O 3N 3M 3K
18TL06671	2006	0	10	0	0	3L 3PS
18TL06673	2006	0	34	0	17	3L 3K 2J 1F
18TL06674	2006	21	16	0	8	3L 3N 3O
18TL06679	2006	49	1	0	1	3L 2H
18TL06680	2006	48	0	0	0	2H 2J
18TL06681	2006	83	0	0	4	2J 3K
18TL06682	2006	64	0	0	4	2J 3K 3L
18TL06683	2006	39	1	0	7	3L 3M
18TL06684	2006	51	1	0	3	3L 3K 2J
18TL06733	2006	11	0	0	1	3K
18VA00667	2000	0	103	0	0	4X
18VA00669	2000	0	0	21	0	4X
18VA01667	2002	0	71	0	0	4X
18VA02667	2002	0	52	0	0	4X
18VA03667	2003	0	72	0	0	4X

18VA04667	2005	0	79	0	0	4X
18VA05667	2005	0	49	0	0	4X
18VA06001	2006	0	0	0	11	4X 5Y
18VA06002	2006	0	0	0	15	4X
18VA06003	2006	0	0	0	60	4X 4W
18VA06005	2006	0	7	0	0	4W
18VA06018	2006	0	6	0	0	2J
18VA06101	2006	246	1	0	0	3L 2G 0B 1C
18VA06667	2006	0	47	0	0	4X
18VA71043	1971	0	0	2	0	4T
18VA99667	1999	0	32	0	0	4X
29VE06001	2006	0	60	0	0	3M 3L
316G06001	2006	0	4	0	0	6C 6A
316G06002	2006	0	88	0	0	5Y 5ZW 4X 5ZE
316G06004	2006	0	8	0	0	6A 5ZW 5ZE
316G06013	2006	0	10	0	0	5Y
316G06015	2006	0	153	0	0	5Y 5ZW 5ZE 4X
316G06016	2006	0	81	0	0	6A 5ZW 6B 5ZE 5Y 4X
31A406002	2006	0	132	0	0	6B 6A 6C 5ZW 5ZE
31A406003	2006	0	345	0	0	6A 6B 6C 5ZW 5ZE 4X 5Y
31A406004	2006	0	257	0	0	5ZW 5ZE
31A406005	2006	0	158	0	0	5ZW 6A 6B 6C 5ZE 4X 5Y
31A406006	2006	0	168	0	0	6A 6B 6C 5ZE
31A406007	2006	0	166	0	0	5ZW 6A 6B 6C 5ZE 4X 5Y
31A406008	2006	0	367	0	0	6B 6C 6A 5ZW 5ZE 4X 5Y



41595	Feb-13 - Feb-15	2	X	X	-	-	-	-	6D,6E
41613	Jan-01 - Jan-23	23	X	X	-	-	-	-	6B,6C,6D,6E
41617	Jan-17 - Jun-29	163	-	X	-	-	-	-	6C,6B,6D,6E,6F,4W,4X
41620	Jan-01 - Apr-23	113	X	X	-	-	-	-	6C,6B,6D,6E,4W,6F,4VS,3N,3M
41624	Jan-13 - Jul-18	187	X	X	-	-	-	-	6E,6F,6G,6H
41643	Jan-01 - Jan-06	6	X	X	X	-	-	-	6G
41675	Jan-01 - Feb-12	43	X	X	-	-	-	-	4VS,3O,3N,6H,3M
41676	Jan-01 - Feb-13	44	X	X	-	-	-	-	6H
41677	Jun-10 - Sep-09	91	X	X	-	-	-	-	6H
41684	Jan-01 - Sep-07	250	X	X	-	-	-	-	6C,6B,6D,6E,6F,4W,4VS,6G,3N,6H,3M
41686	Feb-12 - Sep-11	211	X	X	-	-	-	-	6D,6E,4W,6F,4VS
41689	DEC-21 - DEC-31	11	X	X	-	-	-	-	6C
41690	Oct-07 - DEC-31	86	X	X	-	-	-	-	6C,6B,6D,6E,4X,4W,6F,4VS,6G,3O,3N,6H
41855	Feb-12 - DEC-31	323	X	X	-	-	-	-	6D,6E,6C
41856	Feb-12 - DEC-31	323	X	X	-	-	-	-	6D,6E,6C,6B,4X,4W,6F,4VS,6G
41903	Feb-06 - Mar-20	42	X	X	-	-	-	-	6H
41911	Jan-01 - DEC-26	360	X	X	-	-	-	-	6F,4VS,3N,3M,6H,6C,6B,6D,6E
41915	Feb-11 - DEC-31	324	X	X	-	-	-	-	6D,6E,6F,4VS,6G
41916	Feb-19 - Aug-23	185	X	X	-	-	-	-	6G,6H,6F,4VS,3N
41918	Apr-06 - Nov-11	220	X	X	-	-	-	-	6D,6E,4W,6F,4VS,6G
41919	Feb-12 - Aug-10	180	X	X	-	-	-	-	6D,6E,4W,6F,4VS,6G
41923	Feb-13 - May-06	83	X	X	-	-	-	-	6D,6E
41925	Feb-13 - DEC-30	321	X	X	-	-	-	-	6D,6E,6F,4W,4VS,6G,6H
41926	Feb-13 - Aug-27	195	X	X	-	-	-	-	6E,4W,6F,4VS,6D,6G,3N,6H,3M
41940	Sep-19 - Nov-27	69	X	X	-	-	-	-	6C,6B,6D,6E
41941	Feb-13 - Jun-26	133	X	X	-	-	-	-	6D,6E,4W,4VS,3N,3M
41943	Feb-13 - Nov-17	278	X	X	-	-	-	-	6D,6E,4W,4X,5ZE,4VS,3PS,3O,3N,6H,3M
41944	Apr-12 - DEC-28	261	X	X	-	-	-	-	6C,6B,6D,6E,4W,4VS,3O,3N,6H,3M
41945	Jan-01 - Apr-27	117	-	-	-	-	-	-	6G,6H
41958	Apr-25 - Aug-28	126	X	X	X	-	-	-	6E,6F,4VS,6G,3N,6H
41959	Apr-25 - Oct-02	161	X	X	X	-	-	-	6F,4VS,6G,3N,6H,3M
41960	Apr-25 - DEC-31	251	X	X	X	-	-	-	6E,6D,6C
41961	Apr-25 - DEC-20	240	X	X	X	-	-	-	6G,4VS,3O,3N,6H,3M
41967	Feb-13 - May-25	101	X	X	-	-	-	-	6D,6E,4W,4X,4VS,6F
41968	Feb-13 - Jul-23	161	X	X	-	-	-	-	6D,6E,4W,6F,4X,4VS,6G,3N,6H
41969	Jan-01 - Sep-01	244	X	X	-	-	-	-	6D,6B,6E,6F,6G,4VS,3N,3M
41973	DEC-10 - DEC-21	12	X	X	-	-	-	-	6C
41976	Aug-26 - Sep-20	26	X	X	-	-	-	-	6E
41978	Jan-01 - Apr-03	93	X	X	-	-	-	-	6F,6G,4VS,3N,6H,3M
41979	Jan-01 - Apr-23	113	X	X	-	-	-	-	6E,6F,4VS,4W,3N,3M
41982	Mar-06 - DEC-31	301	X	X	-	-	-	-	6D,6E,6C,6B,4X,4W,4VS
41983	Mar-06 - DEC-31	301	X	X	-	-	-	-	6D,6E
41984	Mar-06 - Jun-06	92	X	X	-	-	-	-	6D,6E
41985	Mar-06 - May-10	66	X	X	-	-	-	-	6D,6E,4W,4VS,6F
41986	Mar-06 - Aug-12	159	X	X	-	-	-	-	6D,6E,4W,6F,4VS
41987	Mar-06 - Sep-05	184	X	X	-	-	-	-	6D,6E,4W,4VS,6G,3O,3N,6H
41988	Mar-06 - Oct-02	211	X	X	-	-	-	-	6D,6E,5ZE,4W,4X,4VS,3PS,3O,3N,6H,3M
41989	Mar-06 - Nov-27	267	X	X	-	-	-	-	6D,6E,4W,6F,4VS,6G,3N,6H,3M
41990	Mar-06 - DEC-31	301	X	X	-	-	-	-	6D,6E,6F,4W,4VS,6G,3O,3N,3M,6H



41991	Mar-06 - DEC-04	273	X	X	-	-	-	-	6D,6E,4W,6F,4VS,6G,6H,3N,3M
41992	Mar-06 - Sep-15	193	X	X	-	-	-	-	6D,6E,6F,4VS,6G,3N,3M
41993	Mar-06 - Sep-01	180	X	X	-	-	-	-	6D,6E
41994	Mar-06 - DEC-31	301	X	X	-	-	-	-	6D,6E,6F,4W,4VS,6G
41997	Apr-05 - Jul-24	110	X	X	-	-	-	-	6C,6B,6D,6E,6F,4W,4VS,6G,3N,6H,3M
41998	Apr-25 - Jun-14	51	X	X	X	-	-	-	3N,6H
42538	Jan-05 - Nov-25	325	X	X	-	-	-	-	6D,6F,6G,4VS,6H
42547	Jan-01 - May-30	150	X	X	-	-	-	-	6G,6H
43508	Jan-01 - Oct-08	281	X	X	-	-	-	-	6C,6B,6D,6E,4W,4X,4VS,3O,3N,3M
43518	Jan-02 - Jan-15	13	X	X	-	-	-	-	6E
44501	Jun-01 - Aug-15	75	X	X	-	-	-	-	3K,3L,3M
44502	Jan-01 - Jul-04	185	X	X	-	-	-	-	3K,2J,3O,3PS
44503	Jun-28 - DEC-31	187	X	X	-	-	-	-	3K,3L,3N,3M
44504	Aug-08 - Sep-21	44	X	X	-	-	-	-	3N,3M
44505	Jan-01 - Aug-07	219	X	X	-	-	-	-	3L,3N,3O,3PS,4VS
44507	May-01 - Jun-21	51	X	X	-	-	-	-	3N,3M,3K
44509	Mar-14 - Apr-17	35	X	X	-	-	-	-	3L,3N,3O
44510	Mar-14 - DEC-31	293	X	X	-	-	-	-	3K,3L,3N,3O,4VS,3PS,3M
44511	Apr-16 - May-20	35	X	X	-	-	-	-	3N,3M,3K
44512	May-01 - Jul-09	69	X	X	-	-	-	-	3K,3L,3M,2J,1F
44546	Feb-14 - Jul-10	146	X	X	X	-	-	-	1F
44547	Jan-24 - Mar-06	42	X	X	X	-	-	-	3K
44549	Feb-23 - DEC-31	312	-	X	X	-	-	-	3L,3N,3O
44601	Mar-07 - Apr-04	28	X	X	X	-	-	-	3M,3N
44602	Mar-07 - Apr-30	55	X	X	X	-	-	-	3K,2J
44603	Oct-14 - DEC-31	79	X	X	X	-	-	-	1F
44604	May-01 - Jun-09	39	X	X	X	-	-	-	1F
44605	May-01 - Aug-02	93	X	X	X	-	-	-	3K
44606	May-29 - Jul-14	46	X	X	X	-	-	-	3O,3N,3M
44608	May-29 - DEC-31	217	X	X	X	-	-	-	4VS,4W,4X
44609	May-29 - Jun-02	5	X	X	X	-	-	-	3M
44610	May-29 - Jul-04	37	X	X	X	-	-	-	3N,3M
44611	Jun-23 - Jul-04	12	X	X	X	-	-	-	3M,3K
44616	Nov-19 - DEC-31	43	X	X	X	-	-	-	2J
44617	Feb-05 - Feb-22	17	X	X	X	-	-	-	6H
44621	Jan-01 - Jul-05	186	X	X	X	-	-	-	3K,2J,1F
44622	Jan-01 - Feb-27	58	X	X	X	-	-	-	3M,3K
44623	Jan-01 - May-19	139	X	X	X	-	-	-	2J,3K,3L,3N,3M
44624	Jan-01 - Apr-13	103	X	X	X	-	-	-	3L,3M,3K
44625	Jan-01 - Jan-22	22	X	X	X	-	-	-	3M
44626	Jan-01 - Sep-19	262	X	X	X	-	-	-	3O,3PS,4VS,3N,3M,6H
44627	Nov-19 - DEC-31	43	X	X	X	-	-	-	2J
44629	DEC-26 - DEC-31	6	X	X	X	-	-	-	3K
44655	Mar-09 - Mar-12	3	-	-	-	-	-	-	4X
44704	Aug-17 - DEC-03	108	X	X	X	X	X	-	4VS,3PS,3O,3N,3M,6H
44705	Aug-17 - DEC-31	137	X	X	X	X	X	-	3N,3M,3K,2J
44706	Aug-17 - DEC-31	137	X	X	X	X	X	-	3O,3PS
44723	Jan-01 - Jan-15	15	X	X	X	-	-	-	3K,2J,1F
44746	Jun-21 - Sep-28	99	X	X	X	-	-	-	4W,6E,6F,4VS,3O,3N,6H

44747	Jun-21 - DEC-31	194	X	X	X	-	-	-	4W,4VS,4X,5ZE,5ZW,6B,6D
44769	Jan-01 - Jan-06	6	X	X	X	-	-	-	3O
44771	Jan-01 - Jan-20	20	X	X	X	-	-	-	3M,3K
44831	Jul-05 - Jul-09	4	X	X	-	-	-	-	3M
44832	Mar-06 - Oct-03	211	X	X	-	-	-	-	6E,6F,4VS,6G,3N,3O,6H,3M
44833	Jun-19 - DEC-31	196	X	X	X	-	-	-	1F,1E
44834	Feb-13 - DEC-17	308	X	X	-	-	-	-	6D,4X,5ZE,6E,4W,4VS,6F,3PS,3O,3N,6G,6H,3M
44836	May-29 - Sep-23	118	-	X	X	-	-	-	4VS,6F,6G,3O,3N,3M,6H
44838	May-29 - Nov-18	173	-	X	X	-	-	-	6G,3K
44839	May-29 - Aug-20	83	X	X	X	-	-	-	6H
44841	Feb-13 - Jul-01	138	X	X	-	-	-	-	6D,4X,5ZE,6E,4W,4VS,6G,3O,3N,3M
44842	Feb-13 - Sep-20	220	X	X	-	-	-	-	6D,4X,6E,4W,4VS,3O,3N,3M
44843	Jun-19 - Oct-17	120	X	X	X	-	-	-	3K,3L,3M
44844	Mar-06 - Sep-25	203	X	X	-	-	-	-	6E,6F,4VS,6G,3N,6H,3M
44845	Jun-19 - Oct-21	125	X	X	X	-	-	-	3K,3L,3M,3N
44846	Aug-27 - DEC-31	127	X	X	-	-	-	-	5ZE,5Y
44848	Jun-25 - Aug-16	52	X	X	X	-	-	-	6H,6G
44849	Jun-19 - Sep-08	82	X	X	X	-	-	-	2J,3K,1F
44876	Feb-16 - Nov-08	265	X	X	-	-	-	-	6F,6G,6E
44877	Feb-16 - DEC-31	319	X	X	-	-	-	-	6E,6F,6G,4VS,6D,6C,6B
44878	Feb-16 - Mar-19	31	X	X	-	-	-	-	6E,6F,4VS,6G,3N
44879	Feb-16 - Jul-15	149	X	X	-	-	-	-	6F,4VS,6G,6E,4W,3O,3N,3M
44880	Feb-16 - Nov-29	286	X	X	-	-	-	-	6F,4VS,6G,3O,3N,3M,6H
44881	Feb-20 - DEC-23	306	X	X	-	-	-	-	6G,6F,4VS,3N,6H,6E,4W
44882	Feb-20 - DEC-31	315	X	X	-	-	-	-	6G,6F,4VS,6H,3M
44883	Feb-20 - DEC-31	315	X	X	-	-	-	-	6G,6F,4VS,3N,6H,3M
44884	Feb-20 - Aug-01	163	X	X	-	-	-	-	6G,6F,4VS,3N,3M
44885	Feb-26 - DEC-13	290	X	X	X	-	-	-	6F,1F
44886	Feb-26 - Jun-05	100	X	X	-	-	-	-	6F,6G,4VS
44887	Feb-26 - DEC-31	309	X	X	X	-	-	-	6F,6E,2J
44888	Feb-26 - DEC-23	300	X	X	-	-	-	-	6F,6E,6D,6C
44889	Apr-14 - Nov-16	217	X	X	-	-	-	-	6E,6D,6C,6B,4X,4W,6F
44890	Apr-05 - Jun-10	66	X	X	-	-	-	-	6E,6F
44891	Nov-28 - DEC-31	34	X	X	-	-	-	-	4VS,6G
44892	Nov-28 - DEC-31	34	X	X	-	-	-	-	4W,4VS,3O,3N,3M
44893	DEC-11 - DEC-31	21	X	X	-	-	-	-	4VS,6G,3O,3N,3M
44902	Mar-06 - Aug-09	157	X	X	-	-	-	-	6E,6F,4VS,6G,3N,6H
44905	Jun-25 - Nov-02	131	X	X	X	-	-	-	4VS,3PS,3O,3N,6H,3M
44906	Mar-06 - Jun-19	105	X	X	-	-	-	-	6E,4W,4X,4VS,6G,3N,6H
44907	Mar-06 - Apr-11	36	X	X	-	-	-	-	6E,6F,4VS,6G,3O,3N,3M
44908	Nov-21 - DEC-31	41	X	X	X	-	-	-	1F,2J
44909	Jan-01 - Jan-12	12	X	X	X	-	-	-	3N,3M
44912	Jun-25 - DEC-31	190	X	X	X	-	-	-	4W,4VS,3O,3N,3M
44913	Jun-25 - Sep-14	81	X	X	X	-	-	-	3N,3O,3M,3K
44915	Oct-22 - DEC-31	71	-	X	X	-	-	-	2J,3K,3L,3N
44916	Mar-06 - DEC-16	286	X	X	-	-	-	-	6E,6F,4VS,6G,3O,3N,6H,3M
44917	Oct-22 - DEC-31	71	X	X	X	-	-	-	2H,1F
44918	Jan-10 - Oct-23	286	X	X	X	-	-	-	6E,6F,6H,6G
44923	Jan-01 - Feb-06	37	X	X	X	-	-	-	6H

44926	Oct-30 - Nov-28	30	X	X	X	-	-	-	1F
44927	Mar-06 - Oct-16	225	X	X	-	-	-	-	6E,4W,4VS,3O,3N,6H,3M,3K,2J
44929	Nov-28 - DEC-31	34	X	X	-	-	-	-	4W,4X
44930	Jan-01 - Jan-06	6	X	X	X	-	-	-	3K
44931	Jan-01 - Jan-16	16	X	X	-	-	-	-	6E
44932	Jan-01 - Jan-04	4	X	X	X	-	-	-	3L
44934	Aug-12 - Aug-31	19	X	X	X	-	-	-	1F
44935	Jan-01 - May-08	128	X	X	-	-	-	-	6G,4VS,3N,6H
44936	Jan-01 - May-05	125	X	X	-	-	-	-	6G,6H,3M
44937	Jan-01 - Jan-17	17	X	X	-	-	-	-	3N,3M
44939	Jan-01 - DEC-31	365	X	X	-	-	-	-	6H,3N,3M,4VS
44940	Mar-06 - DEC-31	301	X	X	-	-	-	-	6E,6F,4VS,6G,6H
44941	Mar-06 - Jun-30	116	X	X	-	-	-	-	6E,4W,4VS,6G,3O,3N,3M
44942	Mar-06 - Sep-01	180	X	X	-	-	-	-	6D,6E,4W,4VS,3O,3N,3M
44943	Mar-06 - Jun-27	113	X	X	-	-	-	-	6E,6F,4VS,6G,3N,6H
44944	Mar-06 - Oct-22	231	X	X	-	-	-	-	6E,6F,4VS,6G,3N,3M,6H
44945	Mar-06 - DEC-31	301	X	X	-	-	-	-	6E,6F,4VS,6G,3N,6H
46552	Apr-13 - Apr-17	4	-	-	-	-	-	-	6B
47552	Sep-10 - Oct-11	31	-	X	-	-	-	-	0A
47553	Sep-06 - DEC-31	117	-	-	-	-	-	-	0A
47557	Jan-01 - May-31	151	-	-	-	-	-	-	0A,0B,2G,2H,2J,3K
47558	Jan-01 - Aug-20	232	-	-	-	-	-	-	0A
47559	Jan-01 - May-30	150	-	X	-	-	-	-	1A,1B,1C,1D,0B,2G
48621	Jul-19 - Jul-26	7	-	X	-	-	-	-	4X
48623	Feb-01 - Mar-10	38	-	-	-	-	-	-	4X
62510	Jul-20 - Sep-25	67	X	X	X	-	-	-	6H
62556	Jul-22 - Oct-19	89	X	X	X	-	-	-	6F,6E,4VS,6G
62569	Jan-01 - Nov-16	320	X	X	X	-	-	-	1F,2G,1E,2H,2J
62579	Aug-07 - DEC-11	126	X	X	X	-	-	-	1F,1E,1D,1C,0B
62597	Feb-22 - Apr-23	60	-	X	X	-	-	-	3K,2J
64615	Jan-01 - Jan-30	30	-	X	X	-	-	-	1F,2G
64616	Jan-31 - Jan-31	1	X	X	X	-	-	-	1F
64617	Mar-01 - Apr-12	43	X	X	X	-	-	-	1F
64618	Feb-20 - DEC-12	296	X	X	X	-	-	-	1F
64619	Jun-12 - DEC-31	203	X	X	X	-	-	-	1F,1E,1D,1C,0B,2G,2H
64620	Sep-12 - DEC-31	111	X	X	X	-	-	-	1F,1E,2G
64930	Feb-11 - Apr-11	59	X	X	X	-	-	-	1F,2H,2J
64931	May-17 - May-18	2	X	X	X	-	-	-	1F
64933	Jul-11 - DEC-31	174	X	X	X	-	-	-	1F,1E,1D,1C,0B,2G,2H,2J
65581	Jan-01 - Feb-25	56	X	X	X	-	-	-	3K,3L,3M,3N

**Table 3a: Current data recovered and processed in 2007.**

Latitude	Longitude	Sounding Depth (meters)	Instrument Depth (meters)	Start Date	End Date	Serial Number	Mooring Number
44.0424	59.0381	930	230 430 630 880	April 24/06 April 24/06 April 24/06 April 24/06	June 26/07 Aug. 3/07 June 26/07 June 26/07	Aanderaa #5574 #5002 #5567 #7013	1588
43.9127	58.9846	1538	128 328 522 828 1128 1428	April 23/06 April 23/06 April 23/06 April 23/06 April 23/06 April 23/06	June 26/07 June 27/07 Aug. 3/07 June 26/07 June 26/07 June 26/07	Aanderaa #7650 #3299 #4602 #3300 #3584 #4406	1589
43.9033	59.0205	642	192 392 592	April 24/06 April 24/06 April 24/06	Aug. 3/07 June 26/07 June 26/07	Aanderaa #4349 #9607 #6409	1590
43.9281	58.9408	450	200 300 400	April 23/06 April 23/07 April 23/07	June 26/07 Aug. 3/07 Aug. 3/07	Aanderaa #1607 #1039 #0786	1591
45.3565	64.4038	58	55	Aug. 17/07	Sept. 14/07	ADCP RDI #0512	1658
44.2875	63.2538	162	7981	Aug. 2/07	Sept. 28/07	Aanderaa #464 #2663	1657

**Table 3b: Current data recovered and not yet processed in 2007.**

Latitude	Longitude	Sounding Depth (meters)	Instrument Depth (meters)	Start Date	End Date	Serial Number	Mooring Number
46.3790	59.7537	68	65	Feb. 22/07	April 21/07	ADCP RDI #8599	1631
44.7498	56.0934	1104	1079	May 15/06	April 30/07	Aanderaa #566	1593
44.5487	56.0555	2009	1984	May 15/06	April 30/07	Aanderaa #563	1594
48.2033	47.8842	1509	1509	May 17/06	May 2/07	Aanderaa #397	1595
48.3276	47.8075	1926	1926	May 18/06	May 2/07	Aanderaa #464	1596
48.8318	47.4546	2498	2473	May 18/06	May 2/07	Aanderaa #476	1597
49.4991	46.4998	3006	2981	May 19/06	May 5/07	Aanderaa #453	1598
						Aanderaa	

48.5460	47.6573	2262	2237	May 18/06	May 3/07	#456	1599
55.1198	54.0888	1030	1024	May 27/06	May 13/07	Aanderaa #4154	1601
74.1958	90.8490	273	259	Aug. 4/06	July 29/07	ADCP RDI #3380	1606
74.0839	91.0537	150	78	Aug. 5/06	July 29/07	ADCP RDI #0511	1605
74.1990	90.8458	271	79	Aug. 4/06	July 29/07	ADCP RDI #1269	1607
43.9281	58.9408	450	75	April 23/06	Aug. 3/07	ADCP RDI #2456	1591
43.9033	59.0205	642	67	April 24/06	Aug. 3/07	ADCP RDI #0493	1590
44.0424	59.0381	930	105	April 24/06	Aug. 3/07	ADCP RDI # 0039	1588
43.9127	58.9846	1538	91	April 23/06	Aug. 28/07	ADCP RDI #0104	1589
42.8761	60.8206	2383	2350	Oct. 10/06	Oct. 7/07	Aanderaa #376	1623
42.5259	60.5940	3298	3248	Oct. 11/06	Oct. 7/07	Aanderaa #6411	1624
44.2875	63.2538	162	77	Aug. 2/07	Aug. 28/07	ADCP RDI #8928	1657
66.6581	61.2021	99	98	Oct. 10/06	Oct. 5/07	ADCP RDI #3376	1616
67.2296	54.8595	56	54	Oct. 17/06	Oct. 7/07	ADCP RDI #3750	1611
67.1050	56.3284	142.9	140	Oct. 17/06	Oct. 7/07	ADCP RDI #4019	1609
66.7608	60.0728	662.4	202 502	= Oct. 16/06	Oct. 4/07	Aanderaa #5359 #6405	C2
66.9797	57.6848	869	199 499	Oct. 18/06	Oct. 6/07	Aanderaa #7525 #5573	C4
67.0352	57.0354	702	202 502	Oct. 18/06	Oct. 6/07	Aanderaa #4271 #4998	C5
67.0698	56.6812	391	248	Oct. 17/06	Oct. 6/07	Aanderaa #7127	C6
42.6878	61.5242	1979	1874 1877 1880 1889	April 29/07	Dec. 9/07	Aanderaa #4208 #265 #0019 #8697	1647

**Table 3c: Deployed 2007 and not yet recovered**

<b>Deployment Date/Location</b>	<b>Instrument Type</b>	<b>Number of Instruments</b>	<b>Projected Recovery Date</b>
May 2007 Orphan Basin	Aanderaa RCM11 Aanderaa RCM8 LR ADCP	8 5 1	May 2008
May 2007 Labrador Sea	Aanderaa RCM8	1	May 2008
August 2007 Davis Strait	Aanderaa RCM8	10	August 2008
August 2007 Barrow Strait	WH ADCP LR ADCP	2 1	August 2008
September 2007 Halifax Stn.2 SARNIF	WH ADCP Q MADCP LR ADCP	2 1 1	Returned April 2008