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Marine Environmental Data Service Report for 1998

by

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Summary

An inventory of environmental data collected in the NAFO area is contributed annually by MEDS to the NAFO subcommittee for the environment (STACFEN). This year's report (June 1998) is for the calendar year of 1997. The report includes physical oceanographic inventories of profiles, drifting buoys, waves, tides and water levels. The inventory shows that real-time data traditionally reported in this series, have been collected in quantities comparable with that of past years. Delayed-mode data quantities are higher for 1997.

Recent activities at MEDS of interest to NAFO include the participation in the:
- Development of a biological oceanographic database;
- World Ocean climate Experiment (WOCE);
- Ship of Opportunity Program (SOOP);
- Atlantic Zone Monitoring Program;
- International Council for the Exploration of the Seas (ICES) Working Group.
- National Data Management Working Group;

Background

MEDS has been recognized since 1975 as the Regional Environmental Data Center for ICNAF and subsequently for NAFO. As the regional center, MEDS is required to report on these data annually at the June Meeting of the Scientific Council. In order for MEDS to carry out its responsibility of reporting to the Scientific Council, the Designated National Representatives selected by the Environmental Subcommittee are requested to provide MEDS 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 1998 required the submission to MEDS of a completed oceanographic inventory form for data collected in 1997, and oceanographic data pertinent to the NAFO area, for all stations occupied in the year prior to 1997. The data of highest priority are those from the standard sections and stations, as described in ICNAF Selected Papers, No. 3, 1978, (pages 109-117).

Contacting MEDS

Data that have been formatted and archived at MEDS are available to all interested scientists on request. Requests can be made by telephone (613) 990-0243; by internet e-mail to services@ottmed.meds.dfo.ca, by completing an on-line order form on the MEDS WWW: www.meds.dfo.ca, or by writing to Services, Marine Environmental Data Service (MEDS), Dept. of Fisheries and Oceans, 12th floor, 200 Kent St., Ottawa, Ont. Canada K1A 0E6.

References

List of NAFO Standard Oceanographic Sections and Stations. The reprint of ICNAF Selected Papers, No. 3, 1978, (pages 109-117). Printed and distributed by: NAFO, P.O. Box 638, Dartmouth, Nova Scotia,
Canada B2Y 3Y9.

Recent Activities:

1. Development of a Biological Oceanographic database

The Ocean Climate Committee of DFO, recognizing the need for a national biological oceanographic database, held a workshop to provide the scientific expertise and directions for the development of such a database. The workshop also assisted in identifying some of the existing data sets in each region for future incorporation into a data archive.

Subsequent to the workshop, funding was allocated to develop such a database, and steps have been taken to identify, acquire, quality control, and archive data that are presently stored on a variety of medium.

For further information please contact Dr. Savi Narayanan: narayanans@dfo-mpo.gc.ca

2. World Ocean Circulation Experiment (WOCE)

MEDS has been deeply involved in the WOCE, particularly in the Upper Ocean Thermal Program (UOT) and Surface Velocity Program (SVP). The Data Products Committee of WOCE initiated a project where all of the Data Assembly Centres or DACs would produce CD-Roms of their data holdings in time for the WOCE Conference, held in Halifax, May 1998. MEDS took the lead in the production of the CD-Roms for both of the DACs in which it was involved. The CD-Roms contain not only all of the available data up to the end of 1997, but also as complete as set of documentation about the programmes as could be assembled.

The Upper Ocean Thermal DAC has a number of cooperating centres of which MEDS is one. MEDS participates through its activities in the Global Temperature Salinity Profile Project (GTSPP). MEDS acquires, quality controls and forwards to the US NODC the real-time data on the GTS. It also reviews and reports to operators those ships that consistently report data with errors. A WOCE Ship Performance Report is now available from our web site.

The Surface Velocity Program (SVP) of WOCE has been designed with two data centres being part of the DAC. The NOAA/Atlantic Oceanographic and Meteorological Laboratory of Miami and MEDS have been given the data management task for the Drifting Buoys Data. MEDS plays the archival and distribution role while AOML assembles, process and quality control the data received from Service ARGOS. The following information have been added to our web site:

Data and Data Products
SVP Krig Data by year and ocean basin
SVP P & S Data by year and ocean basin

For further information please contact Bob Keeley: keeley@ottmed.meds.dfo.ca

3. Ship of Opportunity Programme

MEDS has become involved in the joint IOC/WMO Ship Of Opportunity Programme. Its aim is to promote and coordinate the collection of oceanographic data at sea and the transmission of these data within 30 days to users. MEDS' involvement has come through its work in the Global Temperature and Salinity Profile Programme, GTSPP, in managing the real-time data sent from platforms. Each day, data received from the Global Telecommunications System, GTS, of the WMO are processed by MEDS and three times each week, the data are passed through quality control and duplicates assessments, then updated to archives. Users around the world can request updates from areas of interest by contacting MEDS.

MEDS, through its involvement with GTSPP, is also now supporting activities of the Ship of Opportunity Programme Implementation Panel (SOOPIP) in striving to operationalize global upper ocean measurements. One task is to monitor the performance of the system in covering the oceans in both space and time. Presented on our web site

is a new display that was agreed to by the chairman of SOOPIP to present the state of the observation program.

For further information please contact Bob Keeley: keeley@ottmed.meds.dfo.ca

4. Atlantic Zone Monitoring Program

The Atlantic zone monitoring Program described last year in this report was approved. The Program proposal details were published in the Canadian Technical Report of Hydrography and Ocean Sciences report 194.

For further information please contact Jean Gagnon: gagnon@ottmed.meds.dfo.ca

5. International Council for the Exploration of the Seas (ICES)

MEDS is a member of the ICES Working Group on Marine Data Management and participated in a meeting held 20-23 April 1998 in Brest, France. This group provides a forum for collaboration on common data management topics on physical, chemical and biological data collected in the entire North Atlantic. Efforts to create common biological databases, standardization of parameter code tables and data dictionaries, and cruise summary inventories were some of the major topics discussed at this year's meeting. Summary reports of activities of this group are available on its web site (www.nbi.ac.uk/bodc/mdmwg.html).

For further information please contact Jean Gagnon: gagnon@ottmed.meds.dfo.ca

6. National Data Management Working Group

A National Data Management Working Group was formed in 1997 composed of data managers and marine scientist representing Regional Institutes and MEDS to coordinate physical, biological and fisheries data within DFO Science. The mandate of the committee is to:

1. Provide advice on data management issues and funding support required;
2. Develop short term and long term strategies for the management of scientific data and information;
3. Promote and coordinate archiving and distribution of scientific data;
4. Provide assistance and consultation to project leaders on data management issues;
5. Identify data sets that are at risk of loss and facilitate transfer of these to DFO data archives.

A draft scientific data management policy was developed. Short-term goals, tightly coupled to the objectives of the data management policy, were identified. These goals include:

1. Establish a national inventory of scientific data holdings;
2. Identify existing and potential Data Centres;
3. Review commercialization policies relevant to data of use to DFO staff;
4. Begin work on a biological/climate database;
5. Provide funding support to data rescue projects;
6. Promote and support third-party access to data and data products.

For further information please contact Dr. Savi Narayanan: narayanans@dfo-mpo.gc.ca

Data Inventories:

Ocean Subsurface Data

Vertical profiles are collected worldwide with water sampling bottles and electronic instruments. These subsurface measurements include temperature, salinity, oxygen and a wide variety of nutrients and chemicals. Derived parameters, such as sigma-t and geopotential anomaly can be computed upon request.

MEDS becomes aware of surveys of the physics and chemistry of the water column, directly, by delivery of these data to MEDS from responsible institutions and the IGOSS reporting system, and, indirectly, from Cruise Summary Reports and other reports of ocean cruise activity. Table 1 lists data collected in the NAFO area in 1997, received

at MEDS but not yet archived. Table 2 gives a summary of the MEDS IGOSS archive for data received during 1997. Table 3 gives a summary of the data received from its originator for 1997, which has been processed and archived. Table 4a lists data processed and archived, in the past year, which was in the NAFO area, but for years prior to 1997. Table 4b lists those datasets that were received in the past year for years prior to 1997 but have not yet been processed.

Ocean subsurface data is processed at MEDS in much the same way for each of the data sets described in tables 2 and 3. Electronic files are converted from a wide range of formats, into a common Ocean's 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. The second is to identify duplication, and select the best version of a message, based on data type, source of the data, and general qualities in analysis and reporting of the observations. The third check identifies and, if possible, corrects the date/time and geographical positioning information of each message 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 constituents, is also visually inspected using software to plot the data and allow a technician to set quality flags to individual points on a profile.

The tables show summaries of data for the NAFO area. Much of the data MEDS has been aware of, for 1997, has been processed and made available to scientists conducting environmental assessments of the NAFO area. Table 3 includes data from net mounted CTDs.

Table 1: Data collected in the NAFO area in 1997, received at MEDS but not yet archived.

Country: CANADA (NAFC) Total Profiles/Stations = 3503

Ship Name	Accession	BT	Bottle	CTD	MEDS ID
Teleost	9812502	1		16	18TL97001
Teleost	9812502			10	18TL97002
Teleost	9812502			9	18TL97003
Teleost	9812502			9	18TL97004
Teleost	9812502			28	18TL97005
Teleost	9812502	13		126	18TL97006
Teleost	9812502			74	18TL97007
Teleost	9812502			19	18TL97008
Teleost	9812502			9	18TL97009
Teleost	9812502	5		70	18TL97010
Teleost	9812502	5		108	18TL97011
Teleost	9812502	7		104	18TL97012
Teleost	9812502	13		103	18TL97013
Teleost	9812502	4		61	18TL97014
Teleost	9812502	4		57	18TL97015
Shamook	9812502	16			18OK97001
Shamook	9812502			25	18OK97002
Shamook	9812502			28	18OK97003
Shamook	9812502			11	18OK97004
Shamook	9812502			11	18OK97005
Shamook	9812502			22	18OK97006
Shamook	9812502	2		5	18OK97007
Shamook	9812502	1		29	18OK97008
Shamook	9812502			7	18OK97009
Shamook	9812502			36	18OK97010
Wilfred Templeman	9812502	14		90	18IC97001
Wilfred Templeman	9812502	5		70	18IC97002
Wilfred Templeman	9812502	2		62	18IC97003
Wilfred Templeman	9812502	3		49	18IC97004
Wilfred Templeman	9812502	6		47	18IC97005
Wilfred Templeman	9812502	7		120	18IC97006
Wilfred Templeman	9812502	1		34	18IC97007
Wilfred Templeman	9812502			80	18IC97008
Wilfred Templeman	9812502			78	18IC97009
Wilfred Templeman	9812502			16	18IC97010

Wilfred Templeman	9812502	7		69	18IC97011
Wilfred Templeman	9812502	3		48	18IC97012
Wilfred Templeman	9812502	9		80	18IC97013
Wilfred Templeman	9812502	9		52	18IC97014
Wilfred Templeman	9812502	3		40	18IC97015
Wilfred Templeman	9812502	4		36	18IC97016
Hood	9812502			1	18HB97001
Hood	9812502			21	18HB97002
Hood	9812502			30	18HB97003
Hood	9812502			33	18HB97004
Henry Larsen	9812502	18		18	18HS97001
Parizeau	9812502	32		65	18PZ97014
Parizeau	9812502	50		132	18PZ97015
Various small vessels	9812502			46	18VA97001
Boston Whaler	9812502			51	18BW97001
	9812502	22			18HO97005
Atlantic Lindsay	9812502	39			18A197001
Atlantic Lindsay	9812502	44			18A197002
Atlantic Lindsay	9812502	49			18A197003
Atlantic Lindsay	9812502	30			18A197004
Louis Lauzier 9812502		23			18LL97001
HMCS Charlottetown	9812101	17			18C897004
HMCS Iroquois	9812101	14			18IS97011
HMCS Iroquois	9812101	6			18IS97010
HMCS Nipigon	9811001	16			18NN97010
HMCS Ville de Quebec	9811001	28			18VQ97005
Henry Larsen	9811001	226			18HL97004
Henry Larsen	9811001		227 XSV		18HL97004
Endeavour	9811001	5			18EN97001
HMCS Fredericton	9811001	30	26 XSV		18FN97004
Delaware II	9805701			31	316G97005
Delaware II 9805701				18	316G97006
Delaware II 9805701				31	316G97007
Delaware II 9805701				12	316G97008
Various small vessels	9805701			20	310297001
Walther Herwig III				X	

Table 2: IGOSS Stations Archived at MEDS for 1997

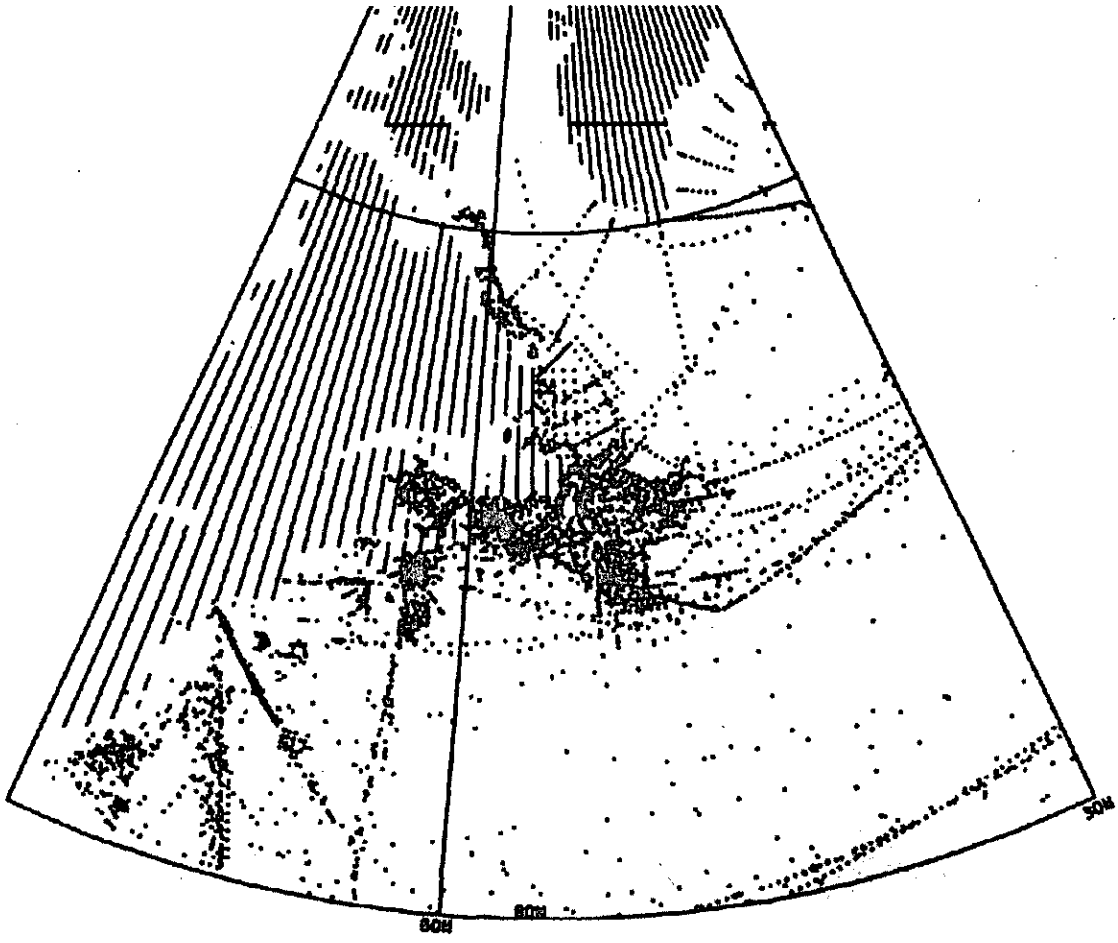

Table 2: IGOSS data received during 1997, and archived. **Total = 5253 stations**

Ship Name	Country	Call Sign	Cruise Period	BATHY	TESAC	NAFO Subarea
CHARLES LYKES	PANAMA	3EJT9 97	Sep-14 - Sep-14	1	0	6C
OLIVEBANK	PANAMA	3ETQ5 97	Jan-17 - Jan-18	4	0	6D,6E
			Apr-10 - Apr-10	1	0	6C
			Nov-22 - Nov-22	1	0	6C
NEPTUNE OLIVINE	SINGAPORE	9VBL 97	Mar-09 - Mar-09	7	0	3M
			Mar-23 - Mar-24	5	0	3N,4VS
			Mar-31 - Apr-02	30	0	3M,3N,3O,4VS, 4W,4X,5ZE
			Apr-14 - Apr-17	21	0	3M,3N,3O,4VS, 4W,4X,5ZE
			Jun-21 - Jun-23	12	0	3M,3N,3O,4VS,4W
			Jul-07 - Jul-09	22	0	3M,3N,3O,4VS,4W
			Sep-22 - Sep-22	4	0	3M
			Oct-06 - Oct-07	5	0	3L,3M
			Dec 24 - Dec 25	4	0	3L,3M
SHAMOOK	CANADA	CG2676 97	Jan-12 - Jan-13	2	0	3PS
			Jan-19 - Feb-05	14	0	3PS
			Feb-15 - Feb-27	0	31	3L
			Mar-05 - Mar-09	0	2	3L
			Mar-18 - Mar-18	0	2	3L
			Mar-23 - Mar-23	0	1	3L
			Apr-06 - Apr-06	0	1	3PS
			Apr-12 - May-05	0	51	3L,3PS
			Jun-16 - Jun-29	0	11	3L
			Jul-08 - Jul-13	0	5	3L
			Jul-20 - Jul-24	0	4	3L
			Jul-30 - Jul-31	0	2	3L
			Aug-06 - Aug-22	3	26	3L
			Sep-22 - Oct-10	0	31	3L
			Oct-16 - Oct-17	0	2	3L
ALFRED NEEDLER	CANADA	CG2683 97	Sep-04 - Sep-27	0	208	4T,4VN
HOOD	CANADA	CG2845 97	Apr-24 - Apr-24	0	1	3L
			Jun-17 - Jun-20	0	16	3L
			Jun-25 - Jun-26	0	20	3PS
			Oct-01 - Oct-04	0	19	3PS
			Oct-18 - Oct-19	4	2	3L,3PS
UNKNOWN	CANADA	CGAG 97	Apr-28 - Apr-29	4	0	4X
			May-07 - May-11	2	0	4X
			May-29 - May-29	1	0	3N
FREDERICTON	CANADA	CGAN 97	Jun-18 - Jun-24	8	0	4VN,4W,4X
PARIZEAU	CANADA	CGBS 97	May-08 - May-19	32	62	3K,3L,3M,3N,3O
			Jul-10 - Jul-26	50	132	2J,3K,3L,3M,4R
			Aug-29 - Sep-15	0	64	4VN,4VS,4W,4X, 5Y,5ZE
			Sep-27 - Sep-27	0	1	4X
			Oct-04 - Oct-15	0	15	3L,4VS,4W
TELEOST	CANADA	CGCB 97	Jan-07 - Jan-30	1	26	2J,3K,3L,3O,3PS
			May-06 - May-13	0	9	3L,3PS
			Jul-02 - Sep-11	13	256	2J,3K,3L,3N, 3O,3PS,3PN,4VN, 4VS,4W
			Sep-28 - Oct-23	10	178	2G,2H,2J,3L
			Nov-26 - Dec 20	8	117	3K,3L,3M,3N
HUDSON	CANADA	CGDG 97	May-08 - Jun-09	0	114	1D,1E,1F,2G, 2H,2J,3K,3L, 4VS,4W,4X
			Jun-28 - Jul-04	0	1	4W,4X,5Y,5ZE
W. TEMPLEMAN	CANADA	CGDV 97	Apr-01 - Apr-24	19	160	3L,3O,3PS,3PN
			May-01 - May-09	2	40	3L,3O,3PS
			May-15 - May-22	3	49	3L,3N,3O
			May-30 - Jun-27	12	201	3L,3N,3O
			Aug-12 - Aug-29	0	61	3L,3N,3O
			Sep-05 - Sep-12	0	16	3L,4R
			Sep-25 - Oct-09	7	68	3L,3N,3O
			Oct-14 - Oct-24	3	24	3L,3N,3O
			Nov-26 - Dec 04	3	40	3L

				Dec 13 - Dec 20	5	36	3K,3L
HENRY LARSEN	CANADA	CGHL	97	Mar-19 - Mar-24	18	18	2H,2J,3K,3L
NIPIGON	CANADA	CGZP	97	Apr-06 - Apr-06	1	0	4X
				Sep-16 - Sep-16	2	0	5ZW
HALIFAX	CANADA	CHAA	97	Feb-25 - Mar-04	19	0	4W,4X,6E
				May-05 - May-15	32	0	4W,4X
				Aug-20 - Aug-21	3	0	4VS,6H
VILLE DE QUEBEC	CANADA	CHAC	97	Nov-20 - Nov-20	2	0	4X
TORONTO	CANADA	CHAD	97	Apr-14 - Apr-15	5	0	4X
				Apr-28 - May-01	5	0	4W,4X
				May-06 - May-15	23	0	4W,4X
				Jun-22 - Jun-22	1	0	3PS
				Aug-20 - Aug-21	6	0	5ZE,6B,6C
ENDEAVOUR	CANADA	CYWK	97	Sep-25 - Sep-25	1	0	4W
ATHABASKAN	CANADA	CYWM	97	Feb-03 - Feb-04	4	0	4W,4X
				Mar-02 - Mar-03	2	0	4X
				May-11 - May-14	2	0	4W,4X
				Jun-16 - Jun-23	5	0	4VN,4W,4X
IROQUOIS	CANADA	CZGD	97	Jun-13 - Jun-22	24	0	4VN,4W,4X
				Aug-18 - Aug-21	8	0	4X,5ZE,6B,6C
				Sep-16 - Sep-19	3	0	5ZW,6B,6C
				Nov-18 - Nov-19	4	0	4W,4X
METEOR	FRG	DBBH	97	Jun-27 - Jun-30	43	0	3M,3N
ANTON DOHRN	FRG	DBFR	97	Nov-07 - Nov-08	6	0	1F
OLIVIA	LIBERIA	ELRY4	97	Dec 11 - Dec 11	1	0	6H
AMERICAN MICHIGAN	USA	KJLV	97	Mar-03 - Mar-03	1	0	6C
EMPIRE STATE	USA	KKFW	97	Jun-03 - Jun-07	5	0	6C,6H
				Aug-13 - Aug-13	1	0	6C
SEA WOLF	USA	KNFG	97	Aug-02 - Aug-02	1	0	6C
UNKNOWN	USA	KWAL	97	Jan-27 - Jan-28	2	0	3K,3L
				Feb-08 - Feb-08	1	0	6B
				May-06 - May-06	0	1	3O
				May-11 - May-13	0	2	3M,3N
				Jun-14 - Jun-15	2	0	6G
				Aug-01 - Aug-01	1	0	6A
				Sep-16 - Sep-16	2	0	4W,6E
				Oct-03 - Oct-04	2	0	6A,6D
				Nov-01 - Nov-01	0	1	3PS
				Nov-14 - Nov-15	2	0	6A
				Dec 06 - Dec 06	1	0	6B
				Dec 28 - Dec 28	2	0	5ZW
POLARFRONT	NORWAY	LDWR	97	Jun-06 - Jun-06	1	0	6A
NOLIZWE	UK	MQLN7	97	Nov-17 - Nov-18	3	0	6D,6E
NOMZI	UK	MTQU3	97	Jun-30 - Jul-01	2	0	6D
				Aug-18 - Aug-18	1	0	6D
				Oct-06 - Oct-06	2	0	6B,6D
UNKNOWN	USA	NDDG	97	Aug-14 - Aug-15	7	0	6B,6C
				Nov-24 - Nov-24	1	0	6C
				Apr-16 - Apr-17	4	0	6C
				Jul-24 - Jul-24	1	0	6C
ICEPAT GROTON CT	USA	NIDK	97	Mar-02 - Mar-02	7	0	3K,3L,3M
				Mar-15 - Mar-15	7	0	3L,3M,3N
				Mar-29 - Apr-02	13	0	3M,3O
				Apr-11 - Apr-17	17	0	3L,3N,3O
				Apr-24 - Apr-24	8	0	3N
				May-08 - May-12	44	0	3M,3N,3O
				May-23 - May-23	8	0	3N
				Jun-08 - Jun-08	1	0	3L
				Jul-10 - Jul-13	12	0	3N,3PS
				Jul-26 - Jul-30	16	0	3L,3M,3N,3O,3PS
JOHN F. KENNEDY	USA	NJFK	97	Mar-10 - Mar-11	5	0	6C
HAYLER	USA	NRWH	97	Oct-30 - Oct-30	1	0	6C
E. KANE	USA	NZSK	97	Jul-03 - Jul-03	2	0	4VS
HONTE	NETHERLAND	PAGE	97	Jun-05 - Jun-05	1	0	4X
MORELOS	NETHERLAND	PGBB	97	Sep-03 - Sep-05	12	0	3M,3N,3O,4VS, 6D,6E,6F
OLEANDER	NETHERLAND	PJJU	97	Jan-03 - Jan-09	23	0	6A,6B,6D
				Feb-07 - Feb-08	9	0	6A,6B
				Mar-07 - Mar-12	13	0	6A,6B,6D
				Apr-05 - Apr-10	6	0	6A,6D
				May-02 - May-07	22	0	6A,6B,6D
				Jun-06 - Jun-11	23	0	6A,6B,6D

				Jul-11 - Jul-16	31	0	6A,6B,6D
				Aug-01 - Aug-02	15	0	6A,6B,6D
				Sep-05 - Sep-07	20	0	6A,6B,6D
				Oct-04 - Oct-08	21	0	6A,6B,6D
				Nov-15 - Nov-20	26	0	6A,6B,6D
				Dec 06 - Dec 10	17	0	6A,6B,6D
UNKNOWN	UNKNOWN	SHIP	97	Jan-06 - Jan-09	7	0	4W,5ZE,6D
				Jan-28 - Jan-29	2	0	1F,3K
				Feb-04 - Feb-05	3	0	4W,4X
				Feb-19 - Mar-05	48	0	4W,4X,6E
				Mar-14 - Mar-19	8	0	3M,3N,4W,4X
				Mar-25 - Mar-26	21	0	3M,3N,4X,6E
				Apr-05 - Apr-07	6	0	4X,5ZW
				Apr-14 - May-15	69	1	3K,3L,3O,3PS, 4VN,4VS,4W,4X, 6B,6C,6D
				May-20 - Jun-25	367	0	3L,3M,3N,3O, 3PS,3PN,4VN, 4VS,4W,4X,5ZE, 6B
				Jul-07 - Jul-13	11	0	3L,4W,4X,6B,6C
				Jul-23 - Jul-23	3	0	4VN,4W
				Aug-02 - Aug-02	1	0	6B
				Aug-14 - Sep-19	118	23	3L,3M,3O,4T, 4W,4X,5ZE,5ZW, 6B,6C,6D,6H
				Sep-30 - Oct-14	55	8	3L,3M,3N,3O, 3PS,4T,4VN,4VS, 4W,4X,6B
				Oct-21 - Oct-28	8	0	3O,4X,6C,6D
				Nov-03 - Nov-06	10	0	4X,6D
				Nov-11 - Dec 06	103	0	3L,3M,3O,3PS, 4W,4X,5Y,6A,6D
ORIOLUS	ANTIGUA AN	V2EZ	97	Feb-19 - Feb-19	1	0	2J
				Mar-04 - Mar-04	1	0	3PS
				Mar-18 - Mar-25	8	0	2J,3K,3M,4X,5Y
				Jun-06 - Jun-16	5	0	4X,5ZW
				Jul-05 - Jul-13	8	0	4X,5Y,5ZW
				Sep-01 - Sep-07	17	0	1F,2J,3K,4X, 5Y,5ZW
				Sep-30 - Oct-06	11	0	1F,3K,3L,4X,5Y
ATLANTIC LINSEY	CANADA	VC4959	97	Mar-02 - Mar-13	39	0	3N,3O
				May-28 - Jun-06	44	0	3N,3O
				Jul-22 - Jul-31	46	0	3N,3O
				Nov-11 - Nov-20	13	0	3N,3O
C.G. BERNIER	CANADA	VCQR	97	Jan-18 - Jan-25	0	7	3L,3PS
STRONG ICELANDER	USA	WBD9290	97	Mar-17 - Mar-18	3	0	3M
TILLIE LYKES	USA	WMLH	97	Sep-17 - Sep-17	1	0	3O
				Oct-06 - Oct-07	3	0	4X,5ZE,6B
				Oct-27 - Oct-30	10	0	3M,3N,4VS,6B, 6D,6E,6F
				Nov-15 - Nov-18	6	0	3M,3N,3O,4W,5ZE
JEAN LYKES	USA	WUBV	97	Jun-14 - Jun-16	12	0	5ZE,5ZW,6E, 6F,6H
SEALAND CRUSADER	USA	WZJF	97	Feb-04 - Feb-08	2	0	6A,6C
				Feb-15 - Feb-15	1	0	6C
				Mar-01 - Mar-01	1	0	6B
				Mar-08 - Mar-08	1	0	6B
				Mar-22 - Mar-23	2	0	6B,6C
				Apr-20 - Apr-21	2	0	6A,6C
				May-04 - May-04	1	0	6B
				May-23 - May-24	2	0	6C
				May-30 - May-30	1	0	6B
				Jun-06 - Jun-06	1	0	6B
				Jun-13 - Jun-13	1	0	6B
				Jun-27 - Jun-27	1	0	6C
				Jul-13 - Jul-27	10	0	6B,6C
				Aug-22 - Aug-30	4	0	6B,6C
				Sep-05 - Sep-06	2	0	6B,6C
				Sep-12 - Sep-12	1	0	6C
				Sep-19 - Oct-03	6	0	6B,6C
				Oct-10 - Oct-11	3	0	6B,6C

Oct-17 - Oct-19	3	0	6B,6C
Oct-25 - Oct-26	2	0	6B,6C
Oct-31 - Nov-09	4	0	6B,6C
Nov-21 - Nov-23	2	0	6C
Nov-28 - Nov-28	1	0	6C
Dec 06 - Dec 06	2	0	6A
Dec 19 - Dec 19	1	0	6C

Table 3: Delayed mode Oceanographic Stations Archived at MEDS for 1997

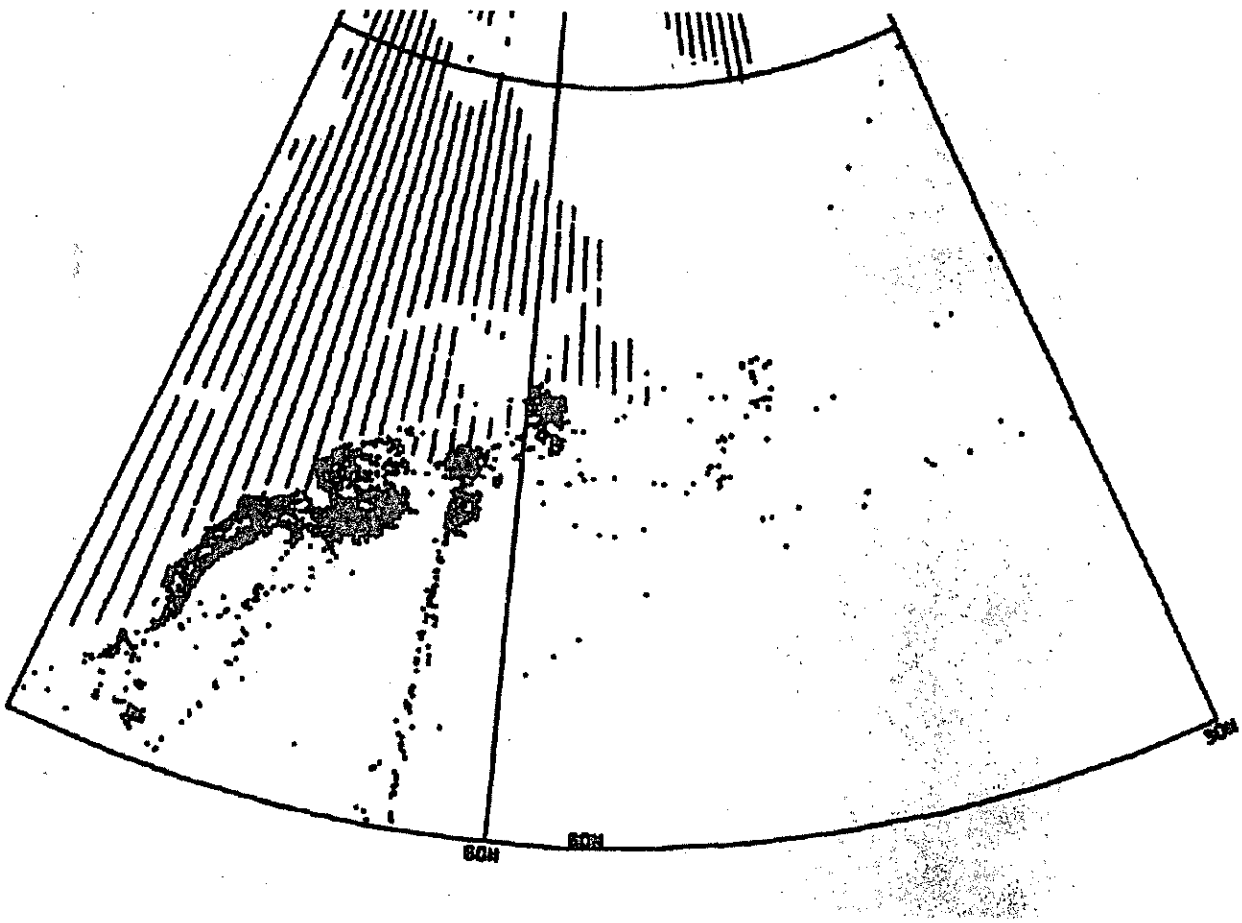

Table 3: Delayed Mode data received during 1997.
Total = 3348 stations

Country	Cruise Num	Cruise Period	BT	CTD	BOTTLE	NAFO Subarea
CANADA	181097100	Jan-27 - Jan-27	10	0	0	4X,5Y,5ZW
CANADA	18AH97001	Feb-03 - Feb-06	8	0	0	4W,4X
CANADA	18AH97002	Mar-02 - Mar-04	8	0	0	4X,6E
		Mar-25 - Mar-27	9	0	0	4X,6E
CANADA	18AH97003	May-05 - May-15	10	0	0	3L,3PS,4VS,4W,4X
CANADA	18AH97004	Jun-12 - Jun-25	37	0	0	3PS,4VN,4VS,4W,4X
CANADA	18C897001	Mar-02 - Mar-04	9	0	0	4X,6E
		Mar-26 - Mar-26	2	0	0	4X
CANADA	18C897002	Jun-13 - Jun-25	108	0	0	3PS,4VN,4VS,4W,4X
CANADA	18C897003	Aug-18 - Aug-21	11	0	0	4W,4X,5ZE,6B,6C,6D
		Sep-16 - Sep-19	14	0	0	5ZW,6B,6C
CANADA	18FN97001	Jan-06 - Jan-08	6	0	0	3M,3N,4W
		Apr-12 - Apr-12	2	0	0	3N
CANADA	18FN97002	Jun-05 - Jun-08	5	0	0	4X
CANADA	18FN97003	Jun-12 - Jun-25	52	0	0	4VN,4VS,4W,4X
CANADA	18HL97001	Feb-23 - Feb-27	12	0	0	4W,4X
CANADA	18HL97002	Mar-02 - Mar-04	10	0	0	4X,6E
CANADA	18HL97003	May-05 - May-15	40	0	0	4W,4X
CANADA	18IS97001	Jan-29 - Jan-31	7	0	0	4W,4X
CANADA	18IS97002	Apr-14 - Apr-24	16	0	0	4W,4X
CANADA	18IS97003	May-22 - May-23	4	0	0	4W,4X
CANADA	18IS97004	Feb-17 - Feb-20	3	0	0	4W,4X
CANADA	18IS97005	Jun-04 - Jun-08	14	0	0	4X
CANADA	18IS97006	Jun-12 - Jun-25	58	0	0	3PS,3PN,4VN,4VS,4W,4X
CANADA	18IS97007	Aug-12 - Aug-12	1	0	0	4X
CANADA	18IS97008	Aug-18 - Aug-21	12	0	0	4X,5ZE,6B,6C,6D
		Aug-27 - Aug-29	5	0	0	6B,6C
		Sep-16 - Sep-19	42	0	0	5ZE,5ZW,6B,6C
CANADA	18IS97009	Feb-24 - Feb-24	1	0	0	4W
CANADA	18MP97001	Jan-13 - Jan-15	6	0	0	4W,4X
CANADA	18NN97001	Jan-06 - Jan-09	14	0	0	4X,5ZE
		Jan-15 - Jan-15	1	0	0	4X
CANADA	18NN97006	Jun-12 - Jun-25	76	0	0	3PS,4VN,4VS,4W,4X
CANADA	18NN97007	Sep-16 - Sep-22	24	0	0	5ZE,5ZW,6A
CANADA	18NN97008	Oct-20 - Oct-21	2	0	0	5ZE,6D
CANADA	18NN97009	Aug-28 - Aug-29	2	0	0	4X
		Sep-15 - Sep-15	1	0	0	4X
CANADA	18QU97001	Jun-03 - Jun-18	65	0	0	4W
CANADA	18TN97001	Jan-13 - Jan-16	12	0	0	4W,4X
CANADA	18TN97002	Mar-17 - Mar-26	16	0	0	4W,4X,6E
CANADA	18TN97003	Apr-07 - Apr-09	4	0	0	4VS,4W
		Apr-15 - Apr-23	5	0	0	3L,3M,3N
		Apr-28 - Apr-28	1	0	0	3M
CANADA	18TN97004	Jan-27 - Feb-05	10	0	0	3L,3N,3O,4VS,4W
		Feb-11 - Feb-12	3	0	0	3L,3M
		Feb-17 - Feb-19	3	0	0	3L,4VS
CANADA	18TR97001	Apr-14 - Apr-16	7	0	0	4X
CANADA	18TR97002	Apr-25 - May-16	54	0	0	4W,4X
CANADA	18TR97003	Jun-12 - Jun-25	91	0	0	3PS,3PN,4VN,4W,4X
CANADA	18TR97004	Aug-12 - Aug-13	4	0	0	4W,4X
CANADA	18TR97005	Aug-18 - Aug-21	17	0	0	4X,5ZE,6B,6C,6D
		Sep-16 - Sep-19	38	0	0	5ZW,6B,6C
CANADA	18VQ97001	Mar-02 - Mar-04	10	0	0	4X,6E
		Mar-25 - Mar-26	9	0	0	4X,6E
CANADA	18VQ97002	Jun-11 - Jun-25	43	0	0	3PS,3PN,4T,4VN,4W,4X
CANADA	18VQ97003	Oct-06 - Oct-14	28	0	0	3L,3M,3N,3O, 3PS,4VS,4W
		Oct-20 - Oct-22	2	0	0	3N,4VS
CANADA	18VQ97004	Nov-03 - Nov-07	13	0	0	4X
CANADA	18WN97002	Mar-20 - Mar-22	5	0	0	3M,4VS,6F
		May-26 - May-28	6	0	0	3M,4VS
		Jun-12 - Jun-26	57	0	0	3L,3PS,3PN,4VN, 4VS,4W,4X
	31A497001	Jan-14 - Jan-20	0	0	0	4X,5ZE
	31A497003	Feb-04 - Feb-26	0	0	0	5ZE,5ZW,6A,6B,6C
	31A497004	Mar-04 - Mar-27	0	0	0	5ZE,5ZW,6A,6B,6C
		Apr-03 - Apr-23	0	0	0	4X,5Y,5ZE,5ZW

31A497005	May-20 - May-28	0	0	0	4X,5ZE
31A497007	Jun-19 - Jun-27	0	0	0	4X,5ZE
31A497008	Jul-08 - Jul-14	0	0	0	5Y,5ZE
31A497009	Jul-22 - Jul-31	0	0	0	5ZW,6A,6B,6C
	Aug-06 - Aug-17	0	0	0	5ZE
31A497011	Sep-09 - Sep-21	0	0	0	5ZW,6A,6B,6C
	Oct-03 - Oct-30	0	0	0	4X,5Y,5ZE,5ZW,6A
32OC97001	Apr-05 - Apr-16	0	0	0	5ZE
32OC97002	Apr-22 - May-02	0	0	0	4X,5ZE
32OC97003	May-08 - May-22	0	0	0	5ZE
32OC97030	Mar-17 - Mar-28	0	0	0	4X,5ZE
32OC97098	Feb-12 - Feb-22	0	0	0	4X,5ZE
33GL97014	Jul-28 - Aug-08	0	0	0	5Y,5ZE,5ZW

Table 4: Historical data (from years prior to 1997), received at MEDS since last NAFO report.

Table 4a: HISTORICAL DATA PROCESSED AND ARCHIVED.
Total = 30174 stations

Cruise No	Year	BT	Bottle	CTD	NAFO Subarea
06WH89001	1990	0	148	0	1F,1D,1E,1C,1B
06WH90001	1991	0	30	0	1E,1C,1B,1F,1D
06WH91001	1992	0	119	0	1F,1C,1E,1D,1B
06WH92001	1993	0	41	0	1E,1D,1C,1F
06WH93001	1983	0	84	0	1E,1F,1D,1C,XX,1B
180583025	1984	0	53	74	3N,3K,3M,3L,2J
180584025	1984	1	1	0	3L
180584030	1984	0	82	89	3M,3L,3K,2J
180584038	1985	0	4	6	3L
180585009	1985	9	9	0	3L
180585031	1985	65	1	0	3L
180585039	1986	0	58	72	3L,3K,2J
180586016	1986	0	27	35	3L
180586034	1987	1	92	140	3O,3K,3L,3N,3M,2J
180587022	1987	116	2	0	3O,3N,3L
180587026	1988	1	48	60	2J,3L,3K
180588010	1988	0	0	23	2J,3L
180588029	1991	1	89	95	3K,3L,2J,3M
180591010	1991	0	0	0	3K,3L
180591020	1991	0	0	0	2J,3K,3L
180591026	1991	0	0	0	3L
180591028	1991	0	0	0	3L
180591045	1991	0	0	0	3L,3O,3N
180591049	1992	0	0	0	3L
180592011	1992	0	0	64	3K,3L,2J
180592015	1992	0	0	0	3L
180592019	1992	0	0	0	3L
180592021	1992	0	0	105	3K,3L
180592023	1992	0	0	0	3L,3K
180592024	1992	0	0	0	3L
180592026	1992	0	0	134	3L,3K,3M
180592030	1992	0	0	0	3O,3N
180592032	1992	0	0	145	3K,2J,3L,4R,3M
180592033	1992	0	0	0	3L
180592034	1992	0	0	0	2J,3L
180592036	1992	0	0	0	3L
180592038	1992	0	0	0	3N,3O,3L
180592039	1992	0	0	0	3P,4V,3L
180592041	1992	0	0	0	3O,3N,3L
180592043	1992	0	0	112	3K,3L
180592044	1992	0	0	0	3L
180592045	1992	0	0	0	3P
180592046	1992	0	0	0	2J,3L
180592048	1992	0	0	0	3L
180592049	1992	0	0	77	2J,3K,3L,4R
180592050	1992	0	0	0	3O,3L
180592052	1992	0	0	0	2J
180592053	1992	0	0	0	3L,3N,3O,3P
180592055	1992	0	0	0	3L,3K

180592056	1992	0	0	0	3K,2J,3L
180592058	1992	0	0	0	3K,3L
180592059	1993	0	0	75	3K,3L
180593002	1993	0	0	0	3K,3L,2J
180593003	1993	0	0	0	3P,3L,3O
180593012	1993	0	0	0	3N,3L
180593013	1993	0	0	0	3L
180593014	1993	0	0	0	3L
180593015	1993	0	0	0	3L,3N
180593016	1993	0	0	0	3L,3N
180593018	1993	0	0	0	3K,3L
180593041	1974	0	0	0	3K,3L
181074035	1975	0	9	1	4X,4W
181075006	1975	0	7	0	4W,4X
181075021	1976	0	13	0	4W,4X
181076003	1976	0	11	2	4X,4W
181076005	1976	0	32	2	4X,4W
181076017	1976	0	24	18	4W,4V,4X
181076020	1976	0	0	18	4X,4W
181076024	1977	0	7	6	4W,4X
181077001	1977	0	27	21	4W
181077013	1977	0	32	10	4W,4X
181077017	1981	0	0	7	4X
181081011	1983	0	41	28	4S,4R
181083036	1983	0	0	204	3K,3M,XX
181083038	1984	0	35	19	4V,4S,4R,4T
181084001	1984	0	48	32	4S,4V,4R,4T
181084026	1984	0	0	223	2J,2H
181084048	1985	0	25	46	4R,4T,4S,4V
181085018	1985	0	0	151	2J
181085024	1985	0	0	2	3L
181085039	1986	0	35	10	4S,4R,4T,4V
181086005	1986	0	0	487	3L,3N,3O
181086006	1986	0	0	271	3M,3N
181086021	1986	0	0	83	2J,2H
181086031	1986	0	0	72	3N,3L
181086037	1987	0	25	0	4S,4R,4V,4T
181087002	1987	0	0	42	3L,3O
181087026	1987	0	0	449	2H,2J
181087037	1988	0	0	324	3M,3N,XX
181088023	1988	0	0	118	5Z
181088025	1988	0	0	33	2J,2H
181088042	1990	0	34	22	4V,4S,4R,4T
181089036	1990	0	29	29	4S,4R,4V,4T
181090030	1991	0	55	53	4S,4T,4R,4V
181091058	1992	0	67	66	4V,4S,4T,4R,3P
181092050	1993	0	77	0	4T,4S,4R,3P,4V
181093040	1996	0	68	0	4S,4T,4V,4R,3P
181096103	1996	21	0	0	5Z,3K,4X,5Y,1F,XX,2J
181096104	1996	16	0	0	2J,XX,5Y,4X,3K,3L
181096105	1996	19	0	0	3K,5Y,5Z,3L,XX,2J,4X,1F
181096106	1996	42	0	0	XX,3K,1F,2J,4X,5Y,3L,5Z
181096107	1996	19	0	0	5Y,4X,3K,5Z,3L,2J,XX
181096108	1996	23	0	0	5Y,6B,1F,4X,6C,XX,2J
181096109	1994	21	0	0	4X,5Y,XX,5Z,3K,2J,1F,3L
181C94001	1994	0	0	33	3K,3L
181C94002	1994	7	0	1	3L,3O
181C94003	1994	6	0	1	3P,3L,3O
181C94004	1994	5	0	0	3P
181C94005	1994	8	0	0	3O
181C94006	1994	10	0	0	3N,3L
181C94007	1994	3	0	0	3L
181C94008	1994	0	0	100	3L,3K
181C94009	1994	0	0	2	3L
181C94010	1994	0	0	46	3K,2J,3L
181C94011	1994	4	0	3	3N,3O,3L
181C94012	1994	7	0	3	3L,3O,3N
181C94013	1994	14	0	3	3O,3N,3L
181C94014	1994	3	0	3	3N,3L,3O
181C94015	1994	9	0	2	3L
181C94016	1995	0	0	35	3L,3K
181C95001	1995	1	0	43	3K,3P,3L

181C95002	1995	28	0	0	3L,3K
181C95003	1995	7	0	1	3P,3O,3L
181C95004	1995	6	0	0	3P,4V,3L,4R
181C95005	1995	5	0	2	3N,3O,3L
181C95006	1995	12	0	1	3L,3N,3O
181C95007	1995	10	0	2	3L
181C95008	1995	0	0	3	3L
181C95009	1995	0	0	2	3L
181C95010	1995	0	0	4	3L,4R
181C95011	1995	0	0	74	3K,2J,3L
181C95012	1995	2	0	2	3L,3O,3N,3P
181C95013	1995	2	0	2	3O,3N,3L,3P
181C95014	1995	4	0	2	3L,3O
181C95015	1995	4	0	1	3L
181C95016	1995	3	0	2	3K,3L
181C95017	1996	6	0	6	3L,3K,2J
181C96001	1996	0	0	1	3N,3O,3L
181C96002	1996	0	0	2	3P,3O,3L
181C96003	1996	0	0	1	3N,3O,3L
181C96004	1996	2	0	2	3P,3L
181C96005	1996	1	0	2	3O,3L,3N
181C96006	1996	15	0	0	3P,3O,3L
181C96007	1996	3	0	2	3N,3L,3O
181C96008	1996	2	0	1	3L,3P,3O
181C96009	1996	0	0	1	3L
181C96010	1996	4	0	2	3L
181C96011	1996	0	0	78	3O,3N,3L
181C96012	1996	0	0	7	3L
181C96013	1996	2	0	1	3M,3L
181C96014	1996	1	0	2	3L,3M,3N
181C96015	1996	8	0	3	3L,3O,3P
181C96016	1996	17	0	3	3K,3L
181C96017	1996	3	0	1	3N,3L,3O
181C96018	1996	1	0	2	3O,3L
181C96019	1994	0	0	136	3P,4T,4V,4R
188894001	1995	0	0	0	3L
188895001	1980	0	0	10	3P
189980101	1980	0	0	99	2J,2G,2H
189980102	1980	0	0	64	2J,2H,2G
189980103	1980	0	0	95	2J,2H,2G
189980104	1992	0	0	38	2H,2J
189992001	1996	0	0	15	3L
18A196001	1996	54	0	0	3O,3N,3P,3L
18AH96001	1996	1	0	0	4W
18AH96002	1994	9	0	0	4W,4X
18AV94001	1995	17	0	0	3L,3K,2J
18BB95001	1996	6	0	0	3L
18BB96002	1994	0	0	6	3O,3P,3L
18BW94001	1996	0	0	22	3P
18C896002	1996	13	0	0	4W,3L,3M,3P,3K,4V,3O,XX
18C896003	1974	15	0	0	4X,6B,5Z
18DA74017	1977	0	16	0	4W,4X
18DA77020	1977	0	47	0	4X,5Y
18DA77025	1978	0	19	0	4W,4X
18DA78003	1978	0	24	0	4W,4X
18DA78014	1978	0	26	0	4W
18DA78024	1978	0	43	0	4X
18DA78036	1979	0	39	0	4X
18DA79005	1979	0	19	0	4X,4W
18DA79021	1979	0	50	0	3P,4V,4W
18DA79029	1980	0	50	0	4X,5Y
18DA80001	1980	0	1	0	4W
18DA80020	1980	0	35	0	4W
18DA80032	1981	0	49	0	4V,3P
18DA81005	1981	0	14	0	4W
18DA81026	1982	0	30	0	4X
18DA82016	1993	0	76	0	4X,4W
18FL93016	1995	0	0	60	4R,4S
18FN96001	1996	11	0	0	3N,4W,4V,3M,XX,3O
18FN96002	1994	16	0	0	3K,3L,3O,2J,XX,1F,4V,4W
18GA94001	1994	0	0	6	3P,3L
18GA94002	1994	52	0	11	3L,2J,3N,3M,3K

18GA94003	1994	3	0	1	3O,3N,3L
18GA94004	1994	0	0	39	3L,3N
18GA94005	1994	10	0	6	3L,4V,3P,4R,3O,4W
18GA94006	1994	0	0	53	3L,3O,3N
18GA94007	1994	85	0	2	3L,3K,2J
18GA94008	1994	4	0	2	2J,3L
18GA94009	1994	2	0	1	3K,2J,3L
18GA94010	1995	6	0	2	3K,3L
18GA95001	1995	0	0	4	3L,3K
18GA95002	1995	0	0	1	3P,4V,3L
18GA95003	1996	0	0	4	3L,3N,3O,3P,3K
18GN96001	1996	2	0	0	2H,3L
18HL96003	1996	44	0	0	4W,4X
18HL96004	1992	2	0	0	3N,XX
18HU92014	1994	0	0	51	3K,2J,1F,XX,3M,2H
18HU94001	1994	0	0	59	3L,3N,4V,3P,4W,3O
18HU94002	1994	0	0	83	3L,3K,3P,2J,4V
18HU94008	1995	0	0	54	1F,3K,2H,2J,3L,4V
18HU95003	1996	0	0	99	3M,6H,3N,XX,4V,3L,4W,6G,3O
18IS96001	1996	12	0	0	4X
18IS96002	1996	42	0	0	4X,6C,6B,4W,6E,6D
18IS96003	1996	11	0	0	3P,4X,3L,4W,3O,4V
18IS96004	1996	37	0	0	4X,4W,5Y
18IS96005	1990	12	0	0	4X
18LH90001	1991	0	0	106	4X,5Z
18LH91001	1996	0	0	95	5Z
18MN96001	1996	9	0	0	3P,3L
18MP96003	1996	15	0	0	6D,4X,6C,6B,5Z
18MP96004	1996	8	0	0	4X,4W
18MP96005	1996	22	0	0	4X,6E,6D,6C,6B,4W
18MP96006	1996	5	0	0	4X
18MP96007	1996	2	0	0	4X,4W
18MP96008	1996	6	0	0	4X,4W
18NA96001	1996	0	0	8	4V
18NA96002	1987	0	0	8	4V
18NE87003	1988	0	89	0	4X,4V,4W,3P
18NE88005	1994	0	72	0	4V,4W,4X,3P
18NE94005	1994	0	164	163	4X,5Y
18NE94006	1993	0	106	105	5Z,4X,4W
18NE94007	1994	0	72	69	5Z
18NE94024	1995	0	0	145	4T,4S
18NE95007	1995	0	0	135	4V,4S,3P,4R,4T
18NE95008	1996	0	0	157	4V,4T
18NE96001	1996	0	83	0	4X,4W,5Y
18NE96005	1996	0	0	1	3O,3N
18NE96006	1996	0	0	0	3P,3L,3O
18NE96007	1996	0	0	0	3O,3N
18NE96008	1996	7	0	0	3N,3O
18NE96010	1996	0	0	59	4W,4X
18NN96004	1996	3	0	0	6D
18NN96005	1996	4	0	0	4X,4W
18NN96006	1996	43	0	0	6D,5Z,3O
18NN96007	1996	45	0	0	4X,4W,5Z
18NN96008	1996	22	0	0	5Z
18NN96009	1996	14	0	0	6B,5Z
18NN96010	1996	33	0	0	5Z,6B,4X
18NN96011	1996	14	0	0	4W,4X
18NN96012	1996	8	0	0	4X,4W
18NN96013	1995	62	0	0	4X,5Z,4W,5Y
18OD95001	1994	1	0	0	4W
18OK94001	1994	4	0	2	3L
18OK94002	1994	0	0	6	3L
18OK94003	1994	19	0	0	3L
18OK94004	1994	3	0	10	3L
18OK94006	1994	19	0	0	3L
18OK94007	1994	21	0	0	3L
18OK94008	1995	1	0	0	3L
18OK95001	1995	2	0	0	3P
18OK95002	1995	0	0	14	3L
18OK95003	1995	0	0	7	3L
18OK95004	1995	12	0	0	3L
18OK95005	1995	11	0	0	3L

18OK95006	1995	0	0	236	3L
18OK95007	1995	0	0	4	3L
18OK95008	1995	1	0	15	3L
18OK95009	1995	0	0	4	3L
18OK95010	1995	10	0	0	3L
18OK95011	1996	1	0	11	3L
18OK96001	1996	0	0	19	3L
18OK96002	1996	0	0	12	3L
18OK96003	1996	0	0	17	3P
18OK96004	1996	6	0	5	3L
18OK96005	1996	0	0	3	3L
18OK96006	1996	0	0	13	3L
18OK96007	1996	11	0	1	3L
18OK96008	1996	1	0	16	3L
18OK96009	1996	0	0	6	3L
18OK96010	1987	21	0	0	3L
18PE87001	1988	0	188	0	4X,5Y
18PE88001	1989	0	206	0	4X,5Y
18PE89001	1990	0	223	184	5Y,4X,5Z
18PE90001	1991	0	152	144	4X,5Y
18PE91001	1992	0	138	137	4X,5Y
18PE92001	1993	0	0	130	4X,5Y
18PE94001	1992	0	124	124	4X,5Y
18PZ92001	1994	0	0	86	5Z
18PZ94001	1994	0	0	16	3L
18PZ94033	1995	0	85	55	4T,4X,3P,4R,4S,4V,5Z,4W
18PZ95001	1995	39	0	162	2J,3L,3K,3M
18PZ95003	1995	0	0	339	4V,3P,4W,4X
18PZ95007	1996	0	0	10	4W,4X
18PZ96004	1996	0	0	60	3L,3N,3K,3M,3O
18PZ96017	1996	40	0	144	2J,3L,4R,3K,3M
18QU96001	1996	14	0	0	3M,6H,3N,4V
18QU96003	1996	56	0	0	4W,4X
18S696002	1995	5	0	0	5Z,4X
18TL95001	1995	1	0	0	3O,3L
18TL95002	1995	0	0	0	3L
18TL95003	1995	11	0	2	3O,3L,3P,3N,3K
18TL95005	1995	0	0	0	3L,3M,3N
18TL95006	1995	0	0	1	3P,4V,4R
18TL95007	1995	0	0	1	3K,3L
18TL95008	1995	0	0	9	3L
18TL95009	1995	0	0	6	3N,3L
18TL95010	1995	0	0	2	3L
18TL95011	1995	21	0	23	3L,2J,3K
18TL95012	1995	0	0	2	3L
18TL95013	1995	4	0	2	3P,4V,3L,3O,4R
18TL95014	1995	0	0	67	3L,3N,3O
18TL95015	1995	0	0	31	3K,3L
18TL95016	1995	5	0	2	2J,3K,3L
18TL95017	1996	1	0	4	2J,3K
18TL96001	1996	2	0	19	2J,3L,3K
18TL96002	1996	5	0	4	2J,3K,3L
18TL96003	1996	0	0	3	3L
18TL96004	1996	6	0	13	3K,3L,2J
18TL96005	1996	0	0	3	3L,3P
18TL96006	1996	0	0	4	3N,3L
18TL96007	1996	0	0	23	3L,3K
18TL96008	1996	2	0	44	3L,3P,2J,3O
18TL96009	1996	0	0	9	4X
18TL96010	1996	0	0	12	3O,3L
18TL96011	1996	2	0	3	4V,3O,3P,4W,3L,4R
18TL96012	1996	0	0	73	3K,2J,3L
18TL96013	1996	0	0	8	3L,3P
18TL96014	1996	3	0	1	2H,3L
18TL96015	1996	3	0	0	2H,2G
18TL96016	1996	8	0	1	2J,3K,3L
18TL96017	1996	8	0	1	3K,3L
18TL96018	1996	5	0	3	3L,3K,3N,3M
18TL96019	1996	7	0	0	3N,3O
18TL96020	1996	0	0	2	3L
18TN96003	1996	22	0	0	4V,3N,3L,3M,3O,3P
18TN96004	1996	25	0	0	4W,4X

18TN96005	1996	4	0	0	4X,4W
18TN96006	1996	8	0	0	4X,4W
18TN96007	1996	22	0	0	4X,4W
18TR96001	1996	1	0	0	4W
18TR96002	1991	4	0	0	4W
18VA91001	1991	0	0	0	3K
18VA91002	1991	0	0	0	3K
18VA91003	1991	0	0	0	3L
18VA91004	1991	0	0	0	3L
18VA91005	1991	0	0	0	3L
18VA91006	1992	0	0	0	3P
18VA92001	1992	0	0	0	3K
18VA92002	1992	0	0	0	3K
18VA92003	1992	0	0	0	3L
18VA92004	1992	0	0	0	3L
18VA92005	1992	0	0	0	3L
18VA92006	1993	0	0	0	3P
18VA93001	1993	0	0	0	3K
18VA93002	1993	0	0	0	3K
18VA93003	1993	0	0	1	3L
18VA93004	1993	0	0	0	3L
18VA93005	1993	0	0	0	3L
18VA93006	1994	0	0	0	3P
18VA94001	1994	0	0	0	3K
18VA94002	1994	0	0	0	3K
18VA94003	1994	0	0	0	3L
18VA94004	1994	0	0	1	3L
18VA94005	1994	0	0	0	3L
18VA94006	1995	0	0	0	3P
18VA95004	1996	0	0	0	3L
18VA96004	1996	0	0	54	3L
18VQ96001	1996	1	0	0	4W
18VQ96002	1996	2	0	0	1F,3K
18VQ96003	1996	1	0	0	4X
18VQ96004	1996	43	0	0	4X,4W
18VQ96005	1996	3	0	0	4T
18VQ96006	1989	6	0	0	5Z,4X
26AJ89001	1990	0	0	51	1A,1D,1C,1B
26AJ90001	1992	0	0	45	1E,1A,1B,1D,1F,1C
26TU92001	1993	0	0	30	1C,1D,1E,1F,1B
26TU93001	1994	0	0	25	1F,1E,1D,1C,1B
26TU94001	1914	0	0	30	1D,1C,1F,1B,1E
310014001	1915	0	75	0	3O,3L,3N,3M,3K,4W,3P,4V,2J
310015001	1919	0	27	0	3N,3O,4W,4V,3P
310019001	1920	0	72	0	3N,3L,4W,3O,4X,5Z,4V,3P,3M,5Y
310020001	1921	0	62	0	3N,3M,4V,3O,4W,4X,5Z
310021001	1922	0	32	0	3N,4V,3O,3M,4W
310022001	1923	0	81	0	3N,3O,4V,4W,3M,3L
310023001	1924	0	130	0	3O,3N,3M,3L,4V
310024001	1927	0	121	0	3O,3N,3L,3P,3K
310027001	1928	0	209	0	3N,3L,3M,3O
310028001	1929	0	96	0	3M,3N
310029001	1930	0	69	0	3N,3O
310030001	1931	0	63	0	3N,3M,3O,3L
310031001	1934	0	13	0	3L,3K
310034001	1938	0	1	0	1F
310038001	1941	0	39	0	1C,1F,1E,2J,1D,1B,2H
310041001	1948	0	37	0	1F,2J,2H,XX,3M
310048001	1993	0	35	0	1E,1D,1F,1C,0B,0A,1B
31A493005	1993	0	0	54	6B,5Z,6C,6A
31A493006	1994	0	0	47	5Z
31A494003	1994	0	0	65	5Z
31A494004	1994	0	0	48	5Z
31A494005	1994	0	0	154	5Z,6A,6B,6C
31A494006	1994	0	0	71	5Y,5Z,4X
31A494007	1994	0	0	99	5Z
31A494009	1994	0	0	329	5Y,6C,5Z,6A,4X,6B,XX
31A494010	1995	0	0	25	5Z
31A495002	1995	0	0	43	5Z
31A495003	1995	0	0	75	5Z,6B,6A,6C
31A495004	1995	0	0	127	5Z,6C,6B,6A,5Y,4X
31A495005	1995	0	0	61	5Z,4X

31A495006	1995	0	0	48	5Z,4X
31A495007	1995	0	0	55	6A,6C,6B,5Z
31A495008	1995	0	0	37	5Z,4X
31A495009	1995	0	0	50	5Z,6A
31A495010	1995	0	0	73	5Z,5Y,4X
31A495012	1996	0	0	237	5Z,6B,6A,5Y,4X,6C
31A496001	1996	0	0	16	5Z,6A
31A496002	1996	0	0	21	5Z,6A
31A496003	1996	0	0	136	6C,6B,5Z,6A
31A496004	1996	0	0	345	5Z,6A,6C,5Y,6B,4X
31A496005	1996	0	0	136	5Z,4X
31A496006	1996	0	0	80	5Z
31A496007	1996	0	0	47	5Z,4X
31A496008	1996	0	0	64	5Z
31A496009	1996	0	0	417	6B,6A,5Z,6C
31A496010	1996	0	0	49	5Z
31A496011	1996	0	0	359	6B,5Z,5Y,6A,4X,6C
31A496012	1948	0	0	56	5Y,5Z,4X
31EV01370	1995	0	6	0	1E,0B
31EV95061	1995	0	0	37	5Z
31EV95063	1995	0	0	56	5Z,4X
31EV95065	1996	0	0	70	5Z,4X
31EV96076	1996	0	0	73	5Z,4X
31EV96078	1996	0	0	78	5Z,4X
31EV96082	1938	0	0	103	5Z
31GG01220	1941	0	8	0	1F,2H,2J
31GG02080	1995	0	7	0	1F,2H,2J,3M
32JO95003	1995	0	0	18	5Z
32JO95005	1995	0	0	69	5Z
32JO95007	1996	0	0	96	5Z
32OC96075	1991	0	0	78	5Z,4X
32YN91003	1991	54	0	48	6B,6A,6C,5Z,4X
33AM91003	1992	0	0	52	5Z
33GL92019	1993	45	0	0	5Y,5Z
33GL93020	1994	51	0	0	5Y,5Z
33GL94012	1996	44	0	0	5Y,5Z
33GL96011	1925	46	0	0	5Y,5Z
350025001	1926	0	146	0	4V,3N,4W,3P,3L,3O,3M
350026001	1927	0	172	0	3N,3O,3L,3P,4V,4W,4X,3M,5Z,XX
350027001	1928	0	15	0	3O,3N,3P
350028001	1928	0	34	0	3O,4V,3N
350028002	1929	0	228	0	3N,3O,3P,4W,3L,4V,3M
350029001	1930	0	82	1	3O,4V,3N,4W,3P,3L,3M
350030001	1931	0	158	0	3N,4V,3P,3O,3M,4W,3L
350031001	1932	0	85	0	4V,4W,3O,3L,3N,3P

TABLE 4b HISTORICAL DATA RECEIVED BUT NOT ARCHIVED.

Accession#	Agency	BT	Bottle	CTD	MEDS ID
9811801	IML			X	18PE87002
9811801	IML			X	18PT87029
9811801	IML			X	18PE88002
9811801	IML			X	18LL88027
9811801	IML			X	18VA88037
9811801	IML			X	18VA88040
9811801	IML			X	18VA88042
9811801	IML			X	18GA89001
9811801	IML			X	18GE89015
9811801	IML			X	18LH89018
9811801	IML			X	18NE89020
9811801	IML			X	18LH89047
9811801	IML			X	18VA89049
9811801	IML			X	18VA89056
9811801	IML			X	18GE90006
9811801	IML			X	18VA90009
9811801	IML			X	18GE90010
9811801	IML			X	18LL90012
9811801	IML			X	18PE90024
9811801	IML			X	18LL90033

9811801	IML			X	18LL90034
9811801	IML			X	18LL90058
9811801	IML			X	18LL90067
9811801	IML			X	18GE90068
9811801	IML			X	18DA90073
9811801	IML			X	18GA91002
9811801	IML			X	18LL91014
9811801	IML			X	18PE91020
9811801	IML			X	18LL91021
9811801	IML			X	18CN91044
9811801	IML			X	18FL91063
9811801	IML			X	18LL91064
9811801	IML			X	18CN91068
9811801	IML			X	18NE92009
9811801	IML			X	18FL92016
9811801	IML			X	18FC92020
9811801	IML			X	18CN92038
9811801	IML			X	18FL92046
9811801	IML			X	18FC92047
9811801	IML			X	18FL92057
9811801	IML			X	18CN92060
9811801	IML			X	18CN93007
9811801	IML			X	18CN93010
9811801	IML			X	18BG93012
9811801	IML			X	18FC93015
9811801	IML			X	18C793022
9811801	IML			X	18FL93039
9811801	IML			X	18CN93044
9811801	IML			X	18CN95003
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9811801	IML			X	18BG95017
9811801	IML			X	18NE95026
9811801	IML			X	18CN95035
9811801	IML			X	18CN95036
9811801	IML			X	18FC95042
9811801	IML			X	18VA95048
9811801	IML			X	18PZ96013
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9811801	IML			X	18CN96037
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9812001	BIO		X		18LH83002
9812001	BIO		X		18LH83003
9812001	BIO		X		18LH83004
9812001	BIO		X		18PE83001
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9812001	BIO			X	18LH84003
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9812001	BIO			X	18LH84005
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9812001	BIO			X	18LH85003
9812001	BIO			X	18LH85004
9812001	BIO			X	18LH85004
9811001	METOC/EAST	42			18AH86003
9806501	BIO			X	18PW95040
9806501	BIO			X	18PW95042
9806501	BIO			X	18HE95911
9806501	BIO			X	18OR95912
9806501	BIO			X	18HE95914
9806501	BIO			X	18NA96013
9806501	BIO			X	18HU96014
9806501	BIO			X	18NA96022
9806501	BIO			X	18PZ96024
9806501	BIO			X	18PZ96032
9805701	WHOI			176	316G90001
9805701	WHOI			90	316G90003
9805701	WHOI			96	316G90005
9805701	WHOI			100	316G90006
9805701	WHOI			74	316G90011
9805701	WHOI			123	316G90012
9805701	WHOI			128	316G90014

9805701	WHOI			128	316G91001
9805701	WHOI			149	316G91003
9805701	WHOI			323	316G91005
9805701	WHOI			82	316G91008
9805701	WHOI			111	316O91005
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9805701	WHOI			85	316G92001
9805701	WHOI			123	316G92002
9805701	WHOI			297	31A492003
9805701	WHOI			29	316G92005
9805701	WHOI			14	31O292001
9805701	WHOI			51	31A492004
9805701	WHOI			33	31A492005
9805701	WHOI			14	310292002
9805701	WHOI			108	316G92006
9805701	WHOI			16	310292003
9805701	WHOI			112	316G92007
9805701	WHOI			56	310292004
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9805701	WHOI			306	31A492011
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9805701	WHOI			117	316G92014
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9805701	WHOI			117	31A493003
9805701	WHOI			326	31A493004
9805701	WHOI			134	316G93006
9805701	WHOI			104	316G93008
9805701	WHOI			35	310293001
9805701	WHOI			334	316G93011
9805701	WHOI			39	319993001
9805701	WHOI			147	316G93012
9805701	WHOI			150	316G93014
9805701	WHOI			95	316G94001
9805701	WHOI			156	316G94002
9805701	WHOI			311	316G94003
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9805701	WHOI			136	316G94007
9805701	WHOI			26	316G94008
9805701	WHOI			58	316G94009
9805701	WHOI			12	310294001
9805701	WHOI			4	316G94012
9805701	WHOI			43	310295006
9805701	WHOI			69	32JO85005
9805701	WHOI			120	310295007
9805701	WHOI			54	310295004
9805701	WHOI			86	310295005
9805701	WHOI			25	310296003
9735301	METOCE	15			18QU96002
9730701	BIO			9	18HE91905
9730701	BIO			163	18HU92053
9730701	BIO			12	18HE92911
9730701	BIO			107	18HU93039
9730701	BIO			66	18PZ94029
9718801	METOC/EAST	5			18MP96002
9705901	METOC/EAST	24			18S696001
9705901	METOC/EAST	16			18TR96003
9705901	METOC/EAST	44			18TR96004
9704201	METOC/EAST	3			18NN96003
9704201	METOC/EAST	5			18HL96001
9704201	METOC/EAST	3			18HL96002
9704201	METOC/EAST		3 XSV		18HL96002
9704201	METOC/EAST		5 XSV		18HL96001
9700301	STABS		X	X	18NE96003

Drifting Buoy (Dribu) Data

Drifting buoy (or DRIBU) data are received at MEDS over the GTS. Measures taken to assure its quality are much the same as those for the ocean subsurface data described previously. DRIBUs report via satellite, at rates of up to every 15 minutes. These messages are for format errors, and reformatted for quality control procedures and subsequent archival. Checks, flags and possible corrections to the data are carried out by trained personnel, using a system of MEDS 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 Ashville 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.

MEDS as the RNODC for drifting buoy data, has holdings of over 10 million (as of 1997) DRIBU records for the world's oceans, beginning in 1978, and growing at a rate of more than one million messages per year. The message is comprised of the buoy position and some of the following parameters: surface and subsurface water temperature, air pressure and temperature, wind speed and direction.

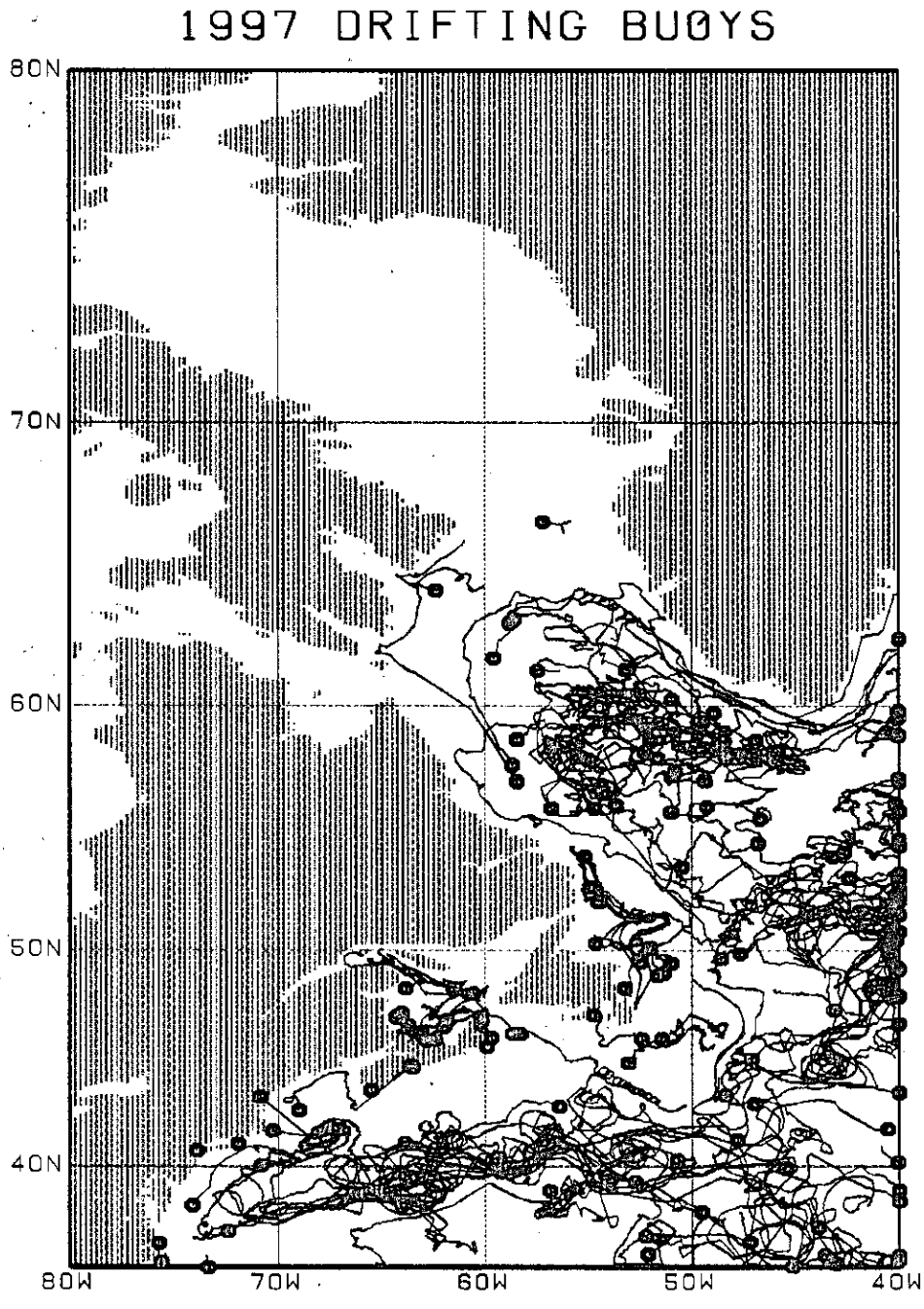
Table 5 lists data collected by Drifting Buoys in the NAFO Area in 1997. A map of DRIBU tracks for 1997, processed and archived by MEDS, is shown in the figure.

Table 5: Data Collected by Drifting Buoys in the NAFO Area in 1997
Number of Buoys = 158 and Buoy Days = 11961

BUOY	DATE RANGE	DAYS	SST	AP	AT	WS	WD	TC	NAFO Subarea
12521	Jan-15 - Mar-03	48	X	X	-	-	-	X	4X
13922	Feb-02 - Feb-24	22	X	X	-	-	-	-	6H
23066	Oct-24 - Oct-27	4	-	-	-	-	-	-	4X
23911	Mar-01 - Mar-03	3	X	X	-	-	-	-	4X
23926	Feb-28 - Mar-03	3	X	X	-	-	-	-	4X
23927	Mar-04 - Mar-06	3	X	X	-	-	-	-	4X
23946	Jun-03 - Jul-25	52	X	X	-	-	-	-	6A
41501	Mar-12 - May-23	72	X	X	-	-	-	-	6C,6B
41502	Mar-12 - May-10	60	X	X	-	-	-	-	6C
41503	Mar-12 - Mar-24	13	X	X	-	-	-	-	6C
41529	Jan-01 - Feb-28	59	-	X	-	X	X	-	3M,3N,6H
41530	Jan-01 - Feb-15	46	X	X	-	X	X	-	6H
41618	Jul-16 - Dec 31	169	X	X	-	-	-	-	6E,4X,4W,4VS,3PS,3O,3N,6H,3M
41619	Jul-16 - Aug-12	28	X	X	-	-	-	-	4VS,6G,3N
41919	Jan-02 - Jun-25	175	X	X	-	-	-	-	6D,6E,4W,6F,4VS,6G,6H,3N,3M
41923	Jan-01 - Mar-06	65	X	X	-	-	-	-	4VS,3N,3M
41934	Apr-04 - Apr-07	4	X	X	-	-	-	-	6C
42534	Aug-31 - Oct-07	38	X	X	-	X	X	-	6C
42624	Jan-01 - Jan-09	9	X	X	X	X	X	-	1F
44501	Mar-19 - May-22	64	X	X	-	-	-	-	3O,3PS,4VS,3N,3M
44504	Mar-19 - Jun-05	79	X	X	-	-	-	-	3PS,4VS,3O,3N,3M
44505	Mar-19 - Jun-14	87	X	X	-	-	-	-	3M,3K,2J
44506	Apr-28 - Aug-29	123	X	X	-	-	-	-	3L,3N,3M
44507	May-27 - Sep-04	101	X	X	-	-	-	-	3L,3N,3O
44508	May-27 - Dec 31	219	X	X	-	-	-	-	3L,3N,3O
44509	May-27 - Jul-01	36	X	X	-	-	-	-	3L,3O,3PS
44510	May-27 - Nov-09	166	X	X	-	-	-	-	3N,3L,3O
44511	Jun-19 - Nov-14	149	X	X	-	-	-	-	3N,3L,3M
44512	Aug-07 - Nov-25	111	X	X	-	-	-	-	3N,3O,3PS,4VN
44513	Jan-01 - Jan-11	10	X	X	-	X	X	-	3N,3M
44552	Jan-02 - Mar-31	88	X	X	-	-	-	-	3K,4S,3M
44555	Jan-02 - Apr-14	102	X	X	-	-	-	-	4X
44601	Jan-25 - Jun-05	131	X	X	-	-	-	-	3M,3K
44602	Jan-16 - Jan-17	1	-	X	-	-	-	-	3M
44603	Jan-18 - Feb-03	16	-	X	-	-	-	-	3M,3K
44609	Dec 08 - Dec 14	7	-	X	-	X	X	-	1F
44610	Dec 09 - Dec 31	23	-	X	-	X	X	-	3K,3L,3N
44616	Oct-17 - Dec 22	67	X	X	X	-	-	-	3K,2J
44617	Nov-19 - Dec 31	43	X	X	X	-	-	-	2J,3K
44621	Jun-12 - Jul-29	47	X	X	X	X	X	-	2J,1F
44624	Jan-09 - Jan-17	9	X	X	X	X	X	-	1F,2J
44651	Mar-04 - Apr-23	51	-	-	-	-	-	-	4S,4T,4VN

44652	Mar-04	-	Apr-01	28	-	-	-	-	-	-	4S,4T
44653	Mar-05	-	Apr-03	29	-	-	-	-	-	-	4S,4T
44654	Mar-05	-	Apr-01	27	-	-	-	-	-	-	4S,4T
44677	Feb-23	-	Apr-24	61	X	X	X	-	-	-	4T
44678	Feb-26	-	Mar-07	10	-	-	-	-	-	-	4T
44679	Jan-15	-	Mar-13	58	-	-	-	-	-	-	4X,4T
44680	Jan-15	-	Mar-07	51	-	-	-	-	-	-	4X,4T
44681	Jan-14	-	Mar-12	58	-	-	-	-	-	-	4X,4T
44682	Jan-14	-	Mar-12	58	-	-	-	-	-	-	4X,4T
44683	Jan-15	-	Mar-05	50	-	-	-	-	-	-	4X,4T
44684	Feb-26	-	Mar-13	16	-	-	-	-	-	-	4T,4VN
44685	Jan-14	-	Apr-29	106	-	-	-	-	-	-	4X,4T
44686	Jan-14	-	Mar-22	68	-	-	-	-	-	-	4X,2J,4T,4VN
44687	Jan-15	-	Mar-16	61	-	-	-	-	-	-	4X,4T,4VN,4VS
44688	Mar-04	-	Mar-06	3	-	-	-	-	-	-	4T
44689	Mar-04	-	Mar-13	9	-	-	-	-	-	-	4T
44690	Mar-06	-	Apr-15	41	-	-	-	-	-	-	2J,3K
44691	Jan-14	-	Apr-07	84	-	-	-	-	-	-	4X,2J,3K,3L
44692	Mar-06	-	Apr-10	35	-	-	-	-	-	-	2J,3K
44693	Jan-16	-	May-10	115	-	-	-	-	-	-	4X,2J,3K,3L
44694	Mar-06	-	Mar-16	11	-	-	-	-	-	-	2J,3K
44695	Mar-06	-	Mar-14	8	-	-	-	-	-	-	2J
44696	Mar-06	-	Apr-21	46	-	-	-	-	-	-	2J,3K,3L
44697	Mar-06	-	Apr-27	52	-	-	-	-	-	-	2J,3K
44698	Mar-06	-	Apr-30	56	-	-	-	-	-	-	2J,3K,3L
44699	Mar-06	-	Mar-08	2	-	-	-	-	-	-	2J
44700	Mar-20	-	Apr-30	41	-	-	-	-	-	-	4T
44701	Mar-20	-	Apr-01	13	-	-	-	-	-	-	4T,4S,4R
44702	Mar-20	-	Apr-15	26	-	-	-	-	-	-	4T
44703	Mar-20	-	Apr-21	33	-	-	-	-	-	-	4T,4VN
44727	Apr-24	-	May-31	38	-	X	X	-	-	-	1F
44760	Nov-20	-	Dec 06	16	X	X	X	-	-	-	6H
44763	Oct-17	-	Dec 31	76	X	X	X	-	-	-	3K,3L,3N,3M
44764	Jan-10	-	Jan-21	11	X	X	X	-	-	-	1F
44766	Dec 23	-	Dec 31	9	X	X	X	-	-	-	2J,1F
44769	Apr-17	-	Jul-23	97	X	X	X	-	-	-	2J,3K
44771	Sep-03	-	Sep-07	5	X	X	X	-	-	-	2J,1F
44772	Dec 15	-	Dec 16	2	X	X	X	-	-	-	3K
44775	Dec 24	-	Dec 25	2	X	X	X	-	-	-	1F
44832	Aug-18	-	Oct-06	49	X	X	-	-	-	-	6H,6G
44833	Jul-10	-	Dec 31	174	X	X	-	-	-	-	4X,6D,6E,4W,5ZE,4VS
44834	Mar-17	-	Dec 31	290	X	X	X	-	-	-	1F,2G,1E,2H,2J,3K
44835	Mar-26	-	May-28	64	X	X	-	-	-	-	1F,1E
44836	Mar-26	-	May-13	49	X	X	-	-	-	-	2G,2H
44837	Mar-26	-	May-20	56	X	X	-	-	-	-	1F
44838	Mar-26	-	May-15	50	X	X	-	-	-	-	1F
44839	Mar-26	-	Jun-01	67	X	X	-	-	-	-	2H,2G
44840	Mar-26	-	May-25	60	X	X	-	-	-	-	1F,2G,2H
44842	Jul-10	-	Oct-06	88	X	X	-	-	-	-	4VS,3O,6G,6F
44843	Jul-10	-	Dec 31	175	X	X	-	-	-	-	6D,6E,4W,4X,5ZE,6B,4VS
44844	Jul-10	-	Aug-11	32	X	X	-	-	-	-	3M,3K
44845	Jul-10	-	Jul-16	6	X	X	-	-	-	-	6C
44846	Jul-12	-	Oct-11	92	X	X	-	-	-	-	4X,5Y
44847	Jul-10	-	Nov-17	130	X	X	-	-	-	-	6E,4X,4W,4VS,3O,3N,6H,3M
44848	Jul-10	-	Aug-10	31	X	X	-	-	-	-	3M
44849	Jan-01	-	Oct-15	288	-	X	-	-	-	-	2G,2H,5ZE,5ZW,6A,6B,6D,6E,4X,4W
44850	Jan-01	-	Jan-30	30	-	X	-	-	-	-	1F,2J
44901	Jul-02	-	Dec 31	182	X	X	X	-	-	-	2G,2H,2J,3K
44902	Jul-11	-	Jul-15	4	X	X	-	-	-	-	6D,6E
44904	Jul-11	-	Aug-29	49	X	X	-	-	-	-	4W,4VS,6G,3N,3M,6H
44905	Jul-10	-	Oct-18	100	X	X	-	-	-	-	6C,6B,6D,6E,4W,4X,5ZE,4VS,6G, 3N,3M,6H
44906	Jul-11	-	Oct-15	97	X	X	-	-	-	-	5ZE,5ZW
44907	Jan-03	-	Jul-31	209	X	X	-	-	-	-	2H,2G,1F,4X,4W,4VS
44909	Jan-03	-	Feb-05	34	X	X	-	-	-	-	3K,3M
44910	Jan-01	-	Feb-16	47	-	X	-	-	-	-	1F,2H
44912	Mar-17	-	Sep-01	168	X	X	-	-	-	-	2J,3K,1F
44913	Jan-03	-	May-06	124	X	X	-	-	-	-	1E,1D
44915	Jan-01	-	Dec 31	364	X	X	-	-	-	-	3M,3K,5ZE,5ZW,6A,6B,6C,6D,4X
44917	Mar-17	-	Apr-30	44	X	X	-	-	-	-	2G,2H
44918	Jan-01	-	Feb-07	38	-	X	-	-	-	-	1F
44919	Jan-01	-	Feb-05	36	-	X	-	-	-	-	1F,2H

44921	Jan-24	- Dec 30	340	X	X	-	-	-	-	2J,4X,6D,6E,4W,4VS,6G,6F,6H
44923	Jan-01	- Mar-04	63	-	X	-	-	-	-	1F
44924	Jan-01	- Aug-02	214	-	X	-	-	-	-	1F,1E
44925	Mar-18	- Dec 30	288	X	X	X	-	-	-	1F,2G,1E
44926	Jul-16	- Nov-12	120	X	X	-	-	-	-	6A
44927	Jul-16	- Dec 31	168	X	X	-	-	-	-	5ZE,5ZW
44928	Jul-16	- Dec 28	166	X	X	-	-	-	-	4W,4VS,6G,3N,6H
44929	Jul-16	- Dec 31	169	X	X	-	-	-	-	5ZE,4X,6D,6E,4W,4VS,3O,3N,6H,3M
44930	Jul-16	- Dec 30	168	X	X	-	-	-	-	5ZE,4X,6D,6E,4W,4VS
44931	Jul-16	- Nov-22	130	X	X	-	-	-	-	5ZE,5ZW,6B,6D,4X,4W,4VS,3O,3N,3M
44932	Jul-16	- Oct-20	97	X	X	-	-	-	-	5ZE,5Y,5ZW
44933	Jul-16	- Dec 29	167	X	X	-	-	-	-	5ZE,5ZW,6A,6B
44934	Jul-16	- Dec 30	168	X	X	-	-	-	-	5ZW,6A,6B,6D,6E,4W,4VS,6G,3O
44935	Jul-23	- Oct-25	95	X	X	-	-	-	-	6H,3M
46764	Jan-01	- Jan-30	30	-	X	-	-	-	-	1F
47541	Jan-01	- Feb-28	59	-	X	-	-	-	-	0B,2G,2H
47551	Aug-18	- Oct-03	47	X	X	-	-	-	-	0B
51632	Oct-24	- Oct-31	7	-	X	-	-	-	-	4X
51633	Oct-23	- Oct-24	2	-	X	-	-	-	-	4X
51634	Oct-22	- Nov-21	30	-	X	-	-	-	-	4X
51635	Oct-07	- Oct-16	9	X	X	-	-	-	-	4X
51636	Jul-08	- Jul-14	7	X	X	-	-	-	-	4X
51637	Jul-29	- Jul-30	2	X	X	-	-	-	-	4X
55588	Aug-04	- Aug-04	1	X	X	-	-	-	-	4S
61551	Oct-08	- Oct-16	9	X	X	-	-	-	-	4X
61552	Oct-08	- Oct-16	9	X	X	-	-	-	-	4X
61555	May-14	- May-16	2	X	X	-	-	-	X	4X
61556	Jul-10	- Jul-14	4	X	X	-	-	-	X	4X
61557	Jul-25	- Jul-28	3	X	X	-	-	-	X	4X
62697	Jul-08	- Aug-01	25	X	X	X	X	X	-	1F,2J,3K
62906	Jan-01	- May-10	130	X	X	-	-	-	-	1F,2G,2H
62910	Jan-08	- Jul-26	200	X	X	-	-	-	-	1F
64561	Mar-24	- Nov-06	228	X	X	X	X	X	-	1F,2H,2G,2J
64563	Jun-20	- Dec 31	195	X	X	X	-	-	-	1F,1E,2G,2H
64938	Jan-14	- May-12	118	X	X	-	-	-	-	1F,1E,1D,1C,2G
64943	Jan-11	- Dec 31	355	X	X	-	-	-	-	1F,2H
64944	Jan-02	- Feb-26	55	X	X	-	-	-	-	1D,1E,0B
64946	Oct-15	- Dec 30	76	X	X	-	-	-	-	1F,1E,1D,1C,0B,2G
64949	Jan-02	- Jan-12	10	X	X	-	-	-	-	1B
65596	Jan-24	- Nov-06	287	-	X	X	-	-	-	1F,1E,1D,2G,2H,2J,3K
65597	May-20	- Dec 31	226	X	X	X	-	-	-	1F,2H,2J
65598	May-04	- Aug-20	108	X	X	X	-	-	-	1F,1E,2G,2H,2J,3K,3L
65599	Jan-01	- Jan-07	7	-	X	X	-	-	-	3M,3K
65901	Jan-01	- Jan-23	22	X	X	-	-	-	-	1D,0B
88888	Aug-11	- Aug-13	3	X	X	-	-	-	-	4X


1997 DRIFTING BUOYS
80N
70N
60N
50N
40N
80W
70W
60W
50W
40W

Current Meter Data

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 via the WWW: www.maritimes.dfo.ca/science/ocean/welcome.html

Table 6: Current Meter data archived at BIO for 1997

CRUISE	EVENT_SPEC	INSTRUMENT MODEL	LAT	LON	START	END	DEP	SOUNDING	SAMPL_INT
96024	MCM_96024_1238_4600_3600	AANDERAA RCM-8	41.3227	-66.4722	09/25/96	06/29/97	23.0	92.00	3600.00
96024	MCM_96024_1239_2664_3600	AANDERAA RCM-8	41.3227	-66.4748	09/25/96	06/29/97	82.0	92.0	3600.00
96024	MCM_96024_1239_7592_3600	AANDERAA RCM-8	41.3227	-66.4748	09/25/96	06/29/97	47.0	92.0	3600.00
96024	MCM_96024_1240_7122_3600	AANDERAA RCM-8	42.1297	-66.0152	09/28/96	06/28/97	26.0	215.0	3600.00
96024	MCM_96024_1241_6400_3600	AANDERAA RCM-8	42.1273	-66.0125	09/28/96	06/28/97	104.0	214.0	3600.00
96024	MCM_96024_1241_6411_3600	AANDERAA RCM-8	42.1273	-66.0125	09/28/96	06/28/97	154.0	214.0	3600.00
96024	MCM_96024_1241_7525_3600	AANDERAA RCM	42.1273	-66.0125	09/28/96	06/28/97	54.0	214.0	3600.00
96024	MCM_96024_1242_9355_3600	AANDERAA RCM-8	42.2953	-65.8405	09/27/96	05/26/97	24.0	213.0	3600.00
96024	MCM_96024_1243_4195_3600	AANDERAA RCM-8	42.2978	-65.8465	09/27/96	06/28/97	104.0	214.0	3600.00
96024	MCM_96024_1243_4355_3600	AANDERAA RCM-8	42.2978	-65.8465	09/27/96	06/28/97	154.0	214.0	3600.00
96024	MCM_96024_1243_5577_3600	AANDERAA RCM-8	42.2978	-65.8465	09/27/96	06/28/97	194.0	214.0	3600.00
96024	MCM_96024_1243_7131_3600	AANDERAA RCM-8	42.2978	-65.8465	09/27/96	06/28/97	54.0	214.0	3600.00
96026	MCM_96026_1226_3196_7200	AANDERAA RCM-8	56.7437	-52.4435	10/24/96	05/24/97	763.0	3513.0	7200.00
96026	MCM_96026_1226_6403_7200	AANDERAA RCM-8	56.7437	-52.4435	10/24/96	05/24/97	1263.0	3513.0	7200.00
96026	MCM_96026_1226_8695_7200	AANDERAA RCM-8	56.7437	-52.4435	10/24/96	05/24/97	2513.0	3513.0	7200.00
96026	MCM_96026_1226_8696_7200	AANDERAA RCM-8	56.7437	-52.4435	10/24/96	05/24/97	3479.0	3513.0	7200.00
96026	MCM_96026_1227_6404_3600	AANDERAA RCM-8	55.1202	-54.0850	05/19/96	05/27/97	980.0	1000.0	3600.00
96027	MCM_96027_1250_7127_1800	AANDERAA RCM-8	47.0009	-60.1245	11/02/96	05/01/97	25.0	150.0	1800.00
96027	MCM_96027_1250_8697_1800	AANDERAA RCM-8	47.0009	-60.1245	11/02/96	05/01/97	75.0	150.0	1800.00
96027	MCM_96027_1250_9607_1800	AANDERAA RCM-8	47.0009	-60.1245	11/02/96	05/01/97	140.0	150.0	1800.00
96027	MCM_96027_1251_3569_1800	AANDERAA RCM-8	44.8394	-55.8324	11/07/96	05/02/97	50.0	703.0	1800.00
96027	MCM_96027_1251_4208_1800	AANDERAA RCM-8	44.8394	-55.8324	11/07/96	05/02/97	150.0	703.0	1800.00
96027	MCM_96027_1251_6407_1800	AANDERAA RCM-8	44.8394	-55.8324	11/07/96	05/02/97	400.0	703.0	1800.00
96027	MCM_96027_1251_7124_1800	AANDERAA RCM-8	44.8394	-55.8324	11/07/96	05/02/97	680.0	703.0	1800.00
97013	MCM_97013_1260_4590854_1800	INTER OCEAN S4	43.8468	-60.6407	05/24/97	06/04/97	39.0	40.0	1800.00
97053	MCM_97053_1268_4590906_1800	INTER OCEAN S4	46.7288	-48.7980	10/11/97	10/16/97	79.0	81.0	1800.00
97901	MCM_97901_1265_4590906_3600	INTER OCEAN S4	44.4553	-64.3145	06/25/97	09/23/97	5.0	19.0	3600.00
97905	MCM_97905_1271_4590854_3600	INTER OCEAN S4	44.4567	-64.3058	07/10/97	10/09/97	12.8	15.0	3600.00

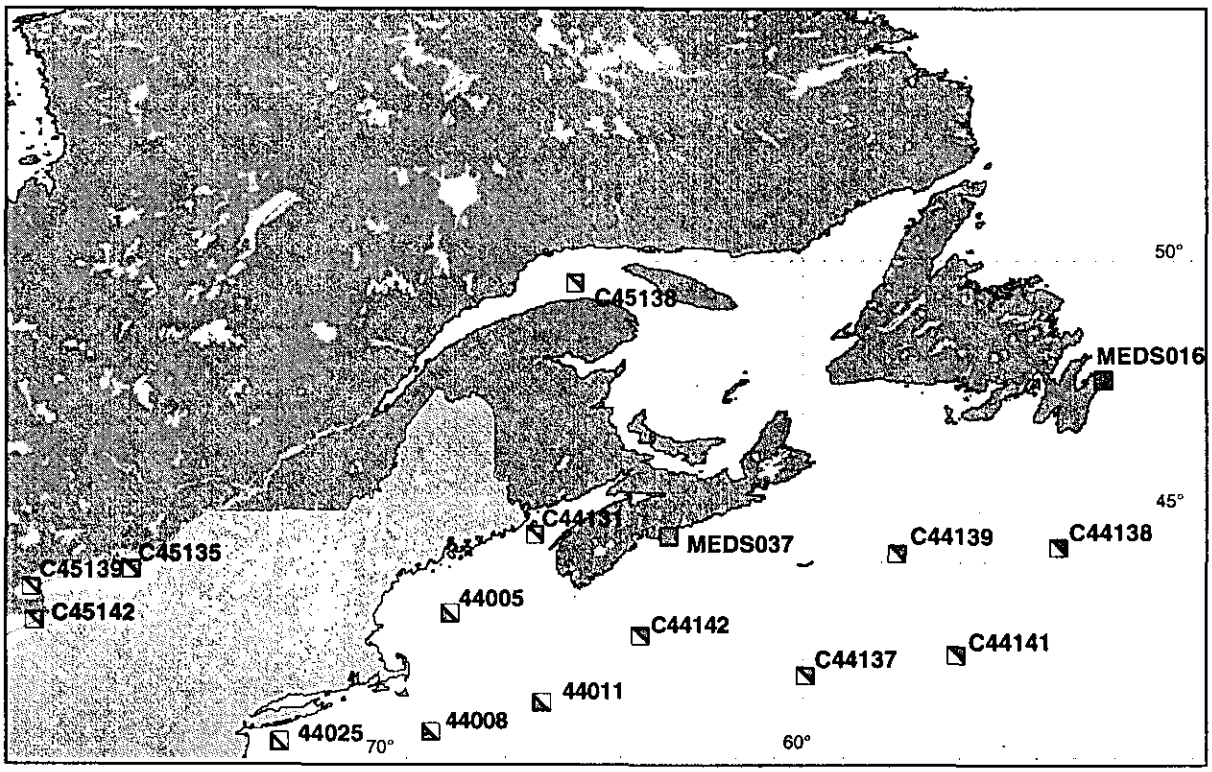
Wave Data

Table 7 lists wave measurement data in the NAFO area for 1997. These data are quality controlled with a visual inspection and with MEDS software to set flags on data showing instrument failures. An inventory of wave data, in the NAFO area, will show many locations with a time series of data spanning many years. Historical wave data are available on a CD-Rom.

Table 7: Wave spectra in the NAFO area for 1997Total Spectra = 75379

STATION	STATION NAME	LATITUDE	LONGITUDE	INST TYPE	WATER DEPTH (M)	NUMBER OF GOOD SPECTRA	NAFO SUBAREA
41001	E Hatteras	34.7000	72.6000	US	4389.0	7028	
44004	Hotel	38.5000	70.7000	US	3231.0	1038	6B
44005	Gulf of Maine	42.9000	68.9000	US	25.0	3166	5Y
44008	Nantucket	40.5000	69.4000	US	55.0	5923	5ZE
44009	Delaware Bay	38.5000	74.7000	US	28.0	8379	6B
44011	Georges Bank	41.1000	66.6000	US	88.0	7960	5ZE
44025	Long Island	40.3000	73.2000	US	40.0	8191	6A
C44131	Gannet Rock	44.5050	66.7830	AE	34.0	1037	4X
C44137	East Scotia Slope	41.6480	59.9530	AE	4500.0	3153	4W
C44138	SW Grand Banks	44.2580	53.6230	AE	1500.0	1467	3O
C44139	Banqureau	44.1270	57.6380	AE	2000.0	1532	4VS
C44141	Laurentian Fan	42.0670	56.1520	AE	4500.0	7489	4VS
C44142	La Have Bank	42.4450	64.1000	AE	1500.0	4817	4X
C44153	Hibernia	46.7350	48.8020	AE	81.0	0	
C45135	Prince Edward Pt.	43.7900	76.8730	AE	72.0	217	5Y
C45138	Mont Louis	49.5550	65.7450	AE	335.0	2125	4S
C45139	West Lake Ontario	43.4270	79.3820	AE	126.0	366	5Y
C45142	Point Colborne	42.7370	79.2900	AE	27.0	253	5Y
MEDS016	Torbay	47.6320	52.5000	WR	165.0	2541	3L
MEDS037	Osborne Head	44.4903	63.4042	WR	57.0	8697	4W

WAVE STATIONS IN THE NAFO AREA FOR 1997



Tide and Water level Data

MEDS processes and archives operational tides and water level data reported on a daily to monthly basis from the Canadian Hydrographic Service (CHS) active permanent water level network. CHS regional offices are located in Halifax NS, Ste. Flavie QC, Burlington ON, and Sidney BC. Approximately 70,000 new readings are updated every month from the network.

MEDS archives observed 15-minute heights, hourly heights and monthly instantaneous extremes collected from the Atlantic, Pacific, and Arctic coasts, the Great Lakes and the St.Lawrence River. The historical tides and water level data archives presently hold over 30 million records with the earliest dating back before the turn of the century. Harmonic analyses and supplementary tidal predictions are also available on request.

Table 8 lists tide and water level data in the NAFO area for 1997. These data are quality controlled using MEDS software. An inventory of tide and water level data, in the NAFO area, will show many locations with a time series of data spanning many years.

Table 8: Tide and Water level data in the NAFO area for 1997
Total Stations = 57

STATION NUMBER	STATION NAME	LATITUDE	LONGITUDE	15-MINUTE HEIGHTS # OF DAYS	HOURLY HEIGHTS # OF DAYS
00065	SAINT JOHN	45.27	66.06	352	360
00365	YARMOUTH	43.84	66.12	362	362
00440	LIVERPOOL	44.05	64.72	109	109
00490	HALIFAX	44.66	63.59	365	365
00612	NORTH SYDNEY	46.22	60.25	362	362
00665	PORT AUX BASQUES	47.57	59.14	268	268
00835	ARGENTIA	47.30	53.98	327	327

00905	ST. JOHN'S	47.56	52.71	361	361
01700	CHARLOTTETOWN	46.23	63.12	362	362
02000	LOWER ESCUMINAC	47.08	64.89	71	74
02330	RIVIERE-AU-RENARD	48.98	64.37		302
02780	SEPT-ILES	50.18	66.37	298	298
02935	SAINTE-ANNE-DES-MONTS	49.12	66.48		238
02985	RIMOUSKI	48.48	68.52	357	357
03057	SAINT-JOSEPH-DE-LA-RIVE	47.45	70.37	246	365
03100	SAINT-FRANCOIS	47.00	70.81	365	365
03246	ST. CHARLES RIVER BASIN	46.82	71.20	365	365
03250	QUEBEC (LAUZON)	46.83	71.17	362	365
03280	NEUVILLE	46.70	71.57	360	360
03300	PORTNEUF	46.68	71.88	363	363
03335	CAP A LA ROCHE	46.56	72.11	364	365
03345	BATISCAN	46.50	72.25	364	364
03353	BECANCOUR	46.40	72.38	365	365
03360	TROIS-RIVIERES	46.34	72.54	360	360
03460	PORT-ALFRED	48.33	70.87		249
12865	PORT COLBORNE	42.87	79.25	365	365
13030	PORT WELLER	43.24	79.22	365	365
13150	BURLINGTON	43.34	79.77	365	365
13320	TORONTO	43.64	79.38	365	365
13590	COBOURG	43.96	78.17	365	365
13988	KINGSTON (PORTSMOUTH)	44.22	76.52	365	365
14400	BROCKVILLE	44.59	75.68	365	365
14600	IROQUOIS ABOVE/AMONT	44.82	75.32	365	365
14602	IROQUOIS BELOW/AVAL	44.84	75.31	365	365
14660	MORRISBURG	44.90	75.18	365	365
14870	CORNWALL	45.02	74.71	365	365
14940	SUMMERSTOWN	45.06	74.55	365	365
15110	COTEAU-LANDING	45.25	74.21		306
15140	COTEAU-DU-LAC	45.30	74.17		189
15220	POINTE-DES-CASCADES	45.34	73.95		307
15260	BEAUHARNOIS ABOVE/AMONT	45.30	73.93		241
15262	BEAUHARNOIS BELOW/AVAL	45.32	73.92		179
15330	POINTE-CLAIRE	45.43	73.82		305
15390	LACHINE	45.43	73.67		157
15450	COTE-STE-CATHERINE ABOV	45.41	73.57		240
15505	SAINT-LAMBERT ABOVE	45.49	73.52		240
15507	SAINT-LAMBERT BELOW	45.50	73.52		240
15520	MONTREAL JETTY NO 1	45.50	73.55	365	365
15540	MONTREAL FRONTENAC ST.	45.53	73.54	361	365
15630	POINTE AUX TREMBLES	45.63	73.49		216
15660	VARENNES	45.68	73.44	365	365
15720	VERCHERES	45.78	73.36		199
15780	CONTRECOEUR IRON ORE	45.83	72.28	365	365
15793	LAVALTRIE	45.88	73.27		196
15930	SOREL	46.05	73.12	365	365
15975	LAKE/LAC SAINT-PIERRE	46.19	72.90	363	363
16005	SAINTE-ANNE-DE-BELLEVUE	45.41	73.96		307

TIDE AND WATER LEVEL STATIONS IN THE NAFO AREA FOR 1997