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Marine Environment Data Service Report for 1995

by

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Abstract

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 1996), is for the calendar year of 1995. The inventory shows that the data traditionally reported in this series, has been collected in quantities comparable with that of the past years. Also three developments relevant to NAFO environmental/ecosystem studies have come about. The United States has begun a survey in the Georges Bank. JGOFS has produced data for the Gulf and coastal areas. And, MEDS has quality assured and archived the historical set of CTD data delivered by BIO.

Introduction

MEDS (Marine Environmental Data Service of Canada) has been recognized since about 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 1996 required the submission to MEDS of a completed oceanographic inventory form for data collected in 1995, and oceanographic data pertinent to the NAFO area, for all stations occupied in the year prior to 1995. The data of highest priority are those which occupied standard sections and stations, as described in ICNAF Selected Papers, No. 3, 1978, (pages 109-117).

MEDS contributes to the knowledge of the environmental conditions of the Northwest Atlantic Fisheries, by collecting, processing, and distributing to scientists, oceanographic observation data. In this past year, data has been received by MEDS, for the NAFO area, from NAFC, BIO, the IGOSS system, the DRIBU system and the operating network of wave measurement buoys. As well as recent cruises of these measurements, the entire BIO temperature and salinity data set has been reprocessed and archive at MEDS in the past year. Also new data sets are becoming available which contain measurements of other ecosystem parameters, such as nutrients and biomass. These are being collected under the Canadian Joint Global Ocean Flux Study (JGOFS), and the U.S. GLOBEC Georges Bank Project.

The sections of this report, describe what data MEDS has been aware of, and to what extent these data have been made available to scientists in 1995/96 for 1995 and past years.

Data Management

Data which has been formatted and archived at MEDS is available to all interested scientists, within Canada and through international data exchange agreements. Arrangements can be made for data retrieval and delivery at MEDS, by telephone (613) 990-0243; by internet e-mail to services@ottmed.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.

Some data, and explanatory documentation about NAFO data, and other related programmes, is being put on the Internet through World Wide Web (WWW) servers. The WWW locations given in the references section of this report, are new in 1995-96.

Environmental Analysis of the 1995 NAFO Area

Methods of regional water climatological analysis, for the NAFO area, have evolved substantially over the past several years. In this past year, MEDS has concentrated its effort to providing complete and timely access to high quality data, for Ken Drinkwater's group at BIO, for their analysis of the region.

Conclusion

As sparse as oceanographic observations are, environmental analysis of the NAFO region is still based on the ability of an oceanographer to assimilate billions of measurements into a meaningful model of the ocean. Broad range and classical statistical methods have little value when trying to interpret these sparse observations in a prolific ecosystem. Each measurement must be scrutinised for accuracy. MEDS has been using methods developed by its computer and scientific staff to ensure that the data used in analyses, by oceanographers, is accurate and, as far as possible, complete. These procedures and software analyses have implemented much expertise under several national and international programmes, and have been accepted widely as viable methods of creating large sets of useful data.

References

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

Canadian JGOFS Data Management.

A world wide web (internet) site at http://www.meds.dfo.ca/oisd/jgofs_web

NAFO Ecosystem Data Inventory.

A world wide web (internet) site at <http://www.meds.dfo.ca/oisd/NAFO>

U.S. GLOBEC Georges Bank Data Server.

A world wide web (internet) site at <http://globec.whoi.edu/>

MEDS Delayed Mode Data Processing Technician, Don Spear. For lists of accessioned data, and overview of processing progress.

MEDS Data Archives and Inventory Systems, with notable custom software produced by Graham Glenn for the purpose of the inventory of the NAFO area.

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 1995, but not yet received at MEDS. Table 2 lists data collected in the NAFO area in 1995, received at MEDS but not yet archived. Table 3(a) gives a summary of the MEDS IGOSS archive for data received during 1995. Table 3(b) gives a summary of the data received from its originator for 1995, which has been processed and archived. Table 4 lists data processed and archived, in the past year, which was in the NAFO area, but for years prior to 1995. A description of JGOPS data collected in the NAFO area follows.

Ocean subsurface data is processed at MEDS in much the same way for each of the data sets described in tables 3(a), and 3(b). 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 showing summaries of data, list over 30,000 stations for the NAFO area. Much of the data MEDS has been aware of, for 1995, has been processed and made available to scientists conducting environmental assessments of the NAFO area. These show station locations, as found in MEDS archives, for each of the four seasons.

Table 1: Data collected in the NAFO area in 1995, not yet received at MEDS.

Inventory of Oceanographic Stations in the Northwest Atlantic

Year: 1995

Country: Denmark

NAFO STANDARD SECTION

Ship Name	Sub-area	Date	Span	Name	Stations	Type	Parameters
Tuluguq1	020795	Holstein	5	STD	T,S		
1	030795	Sukkeit5	STD	T,S			
1	040795	Fylla 5	STD	T,S			
1	060795	Frederikshab	5	STD	T,S		
1	070795	Cape Deso	5	STD	T,S		
1	090795	Cape Farewell	5	STD	T,S		

OTHER STATIONS

Ship Name	Seasons	JFM	AMJ	JAS	OND	Type	Stations	Parameters
Paamiul		X		STD	146			

Year: 1995

Country: USA

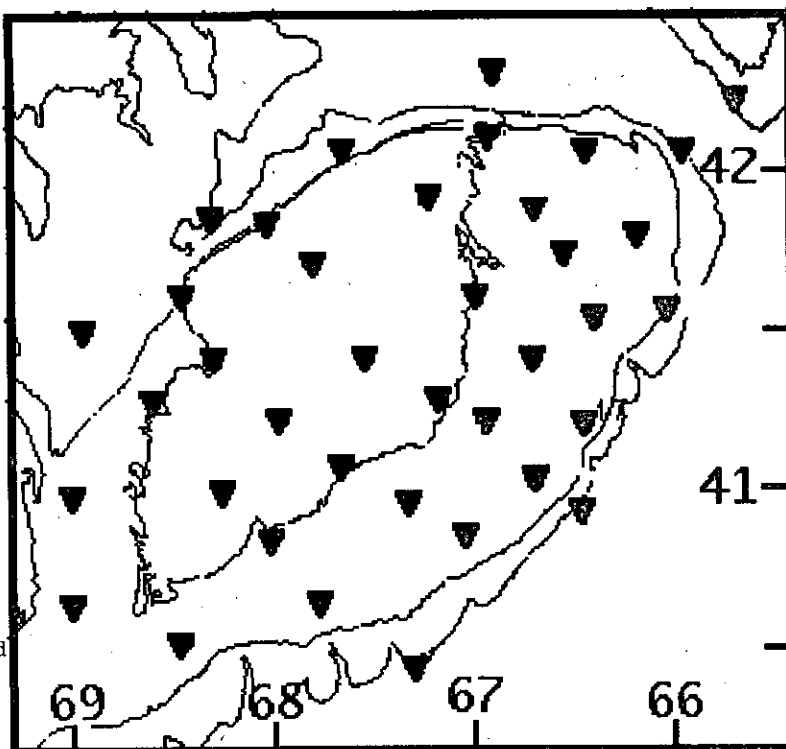
NAFO Area 5Ze

Georges Bank GLOBEDC Cruises

The Broad-scale cruises carried out CTD, zooplankton, fish larval and acoustic surveys of Georges Bank and adjacent waters in addition to the ship's suite of meteorological measurements. On each survey cruise 50-60 stations were occupied, with thirty eight (38) of these located to provide a uniform, bank-wide coverage, and the rest of the stations located to provide a more intensive coverage in the region of the bank where larval cod and haddock are found during the cruise. The thirty eight stations are referred to as the Broad-scale core stations.

There are two types of stations defined for these cruises:

- full stations where MOCNESS1, MOCNESS10, CTD, Pump, and Bongo data are collected;
- partial stations where Bongo, MOCNESS1 and CTD data are collected.



U.S. Globec Georges Bank 1995 Ship Schedule by type and date

Cruise types : Broad Scale Surveys (BSS); Mooring Cruises (MC); Process Ship 1 (R/V ENDEAVOR) Cruises (PS1); Process Ship 2 (R/V SEWARD JOHNSON) Cruises (PS2)

10-22 Jan 1995 (PS1)	..29 Jan - 6 Feb 1995 (MC)	..10-20 Feb 1995 (BSS)	..23 Feb - 10 Mar 1995 (PS1)
13-23 Mar 1995 (BSS)	..14-24 Mar 1995 (PS2)	..27 Mar - 4 Apr (MC)	..27 Mar - 8 Apr (PS1)
6-21 Apr (PS2)	..11-23 Apr (BSS)	..25 Apr - 3 May (MC)	..26 Apr - 9 May 1995 (PS1)
8-19 May (BSS)	..8 May - 26 May (PS2)	..22 May - 21 Jun(PS1)	..5-17 Jun(BSS)
6-16 Jun(MC)	..25 June - 7 Jul (PS1)	..10-15 Jul (MC)	..10-21 Jul (BSS)
19-27 Aug (MC)	..29 Sep - 5 Oct (MC)	..30 Oct - 11 Nov(MC)	

Table 2: Data collected in the NAFO area in 1995, recieved at MEDS but not yet archived.

Country: CANADA (St. Andrew's) Total Profiles/Stations =200 est

Ship Name	Cruise Period	BT	Bottle	CTD	MEDS ID	NAFO Subarea
"NE"	Nov-01 - Nov-19			200	18NE95005	4X

Country: CANADA (NAFC) Total Profiles/Stations = 2825

Ship Name	Cruise Period	BT	Bottle	CTD	MEDS ID	NAFO Subarea
Teleost	Jan-23 - Jan-27	1		8	18TL95001	
Wilfred Templeman	Jan-03 - Jan-16	1		87	18IC95001	
Teleost	Jan-31 - Feb-09			54	18TL95002	
Wilfred Templeman	Feb-02 - Feb-15	28			18IC95002	
Gadus Atlantica	Jan-31 - Feb-09			46	18GA95001	
Lady Kenda	Feb-03 - Feb-23			10	188895001	

Teleost	Feb-11 - Feb-26	11	102	18TL95003
Gadus Atlantica	Mar-01 - Mar-13		106	18GA95002
Gadus Atlantica	Feb-10 - Feb-27		126	18GA95003
Teleost	Mar-16 - Apr-03	21	71	18TL95005
Teleost	Mar-01 - Mar-13	1	110	18TL95006
Shamook	Feb-24 - Mar-10	2		18OK95001
Teleost	Apr-08 - Apr-21		65	18TL95007
Wilfred Templeman	Apr-03 - Apr-13	7	78	18IC95003
Wilfred Templeman	Apr-18 - Apr-29	6	99	18IC95004
C.C.G. Bernier	Apr-29 - May-10	6		18BB95001
Shamook	Apr-18 - May-04		14	18OK95002
Wilfred Templeman	May-02 - May-19	•5	142	18IC95005
Teleost	May-15 - May-19		9	18TL95008
Wilfred Templeman	May-23 - Jun-02	12	89	18IC95006
Wilfred Templeman	Jun-05 - Jun-15	10	93	18IC95007
Wilfred Templeman	Jun-22 - Jun-22		3	18IC95008
Teleost	Jun-06 - Jun-17		6	18TL95009
Wilfred Templeman	Jun-27 - Jul-07		2	18IC95009
CSS Parizeau	Jul-15 - Aug-01	39	162	18PZ95001
Above cruise also observed Dissolved Oxygen and Chlorophyll (NAFO SCR Doc 95/102)				
Teleost	May-29 - Jun-05		2	18TL95010
Shamook	May-29 - Jun-09	12	2	18OK95004
Teleost	Jun-19 - Jul-08	21	23	18TL95001
Shamook	Aug-07 - Aug-18	11	1	18OK95005
Teleost	Jul-07 - Jul-28		2	18TL95012
Wilfred Templeman	Aug-18 - Sep-01		4	18IC95010
Teleost	Jul-31 - Aug-18	4	108	18TL95013
Shamook	Jul-12 - Aug-04		237	18OK95006
Shamook	Aug-28 - Aug-28		4	18OK95007
Teleost	Sep-05 - Sep-22		67	18TL95014
Wilfred Templeman	Sep-05 - Sep-22		74	18IC95011
Wilfred Templeman	Sep-25 - Oct-06	2	87	18IC95012
Wilfred Templeman	Oct-10 - Oct-27	2	120	18IC95013
Teleost	Sep-25 - Oct-21		31	18TL95015
Shamook	Sep-25 - Oct-06	1	15	18OK95008
Wilfred Templeman	Oct-30 - Nov-10	4	85	18IC95014
Shamook	Oct-10 - Oct-27		4	18OK95009
Wilfred Templeman	Nov-14 - Nov-24	4	63	18IC95015
Wilfred Templeman	Nov-27 - Dec-07	3	57	18IC95016
Shamook	Nov-03 - Nov-30	10		18OK95010
Shamook	Dec-04 - Dec-15	1	11	18OK95011
Teleost	Nov-27 - Dec-07	5	29	18TL95016
Teleost	Dec-08 - Dec-21	1	30	18TL95017
Wilfred Templeman	Dec-08 - Dec-18	6	55	18IC95017

Table 3 a and b : Oceanographic Stations Archived at MEDS for 1995

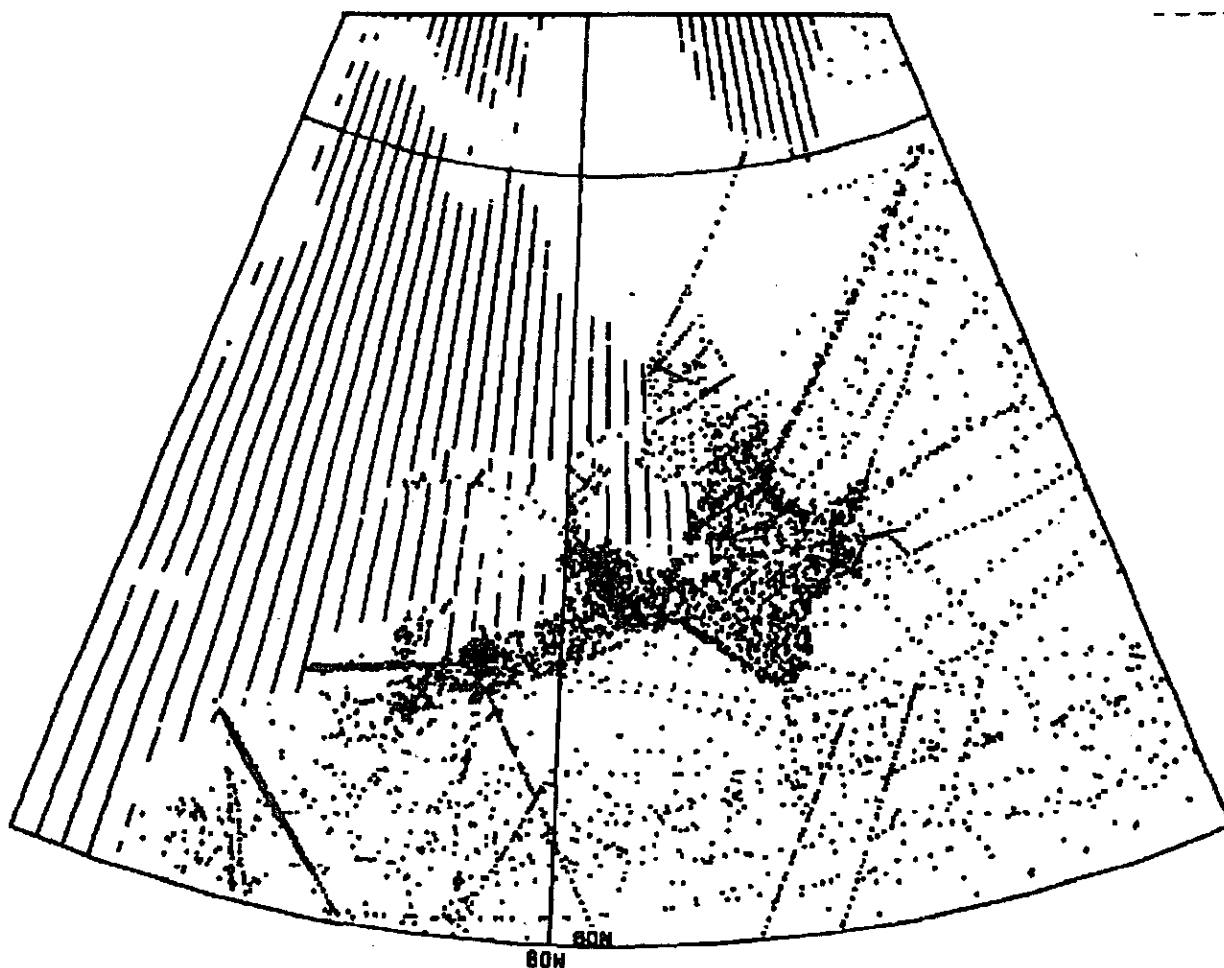


Table 3(a): IGOSS data recieved during 1995, and archived.
Total = 4476 stations

Ship Name	Country	Call Sign		Cruise Period	BATHY	TESAC	NAFO Subarea
CHARLES LYKES	PANAMA	3EJT9	95	May-02 - May-04	5	0	6C, 6D, 6E
				Sep-29 - Sep-30	4	0	6D, 6E
				Dec-20 - Dec-20	2	0	6E
OLIVEBANK	PANAMA	3ETQ5	95	Apr-25 - Apr-25	2	0	6C
				Jun-26 - Jun-29	8	0	6D, 6F, 6G, 6H
				Sep-06 - Sep-07	6	0	5ZW, 6D, 6E
TAI HE	PRC	BOAB	95	Jul-03 - Jul-03	1	0	6F
SHAMOOK	CANADA	CG2676	95	Mar-07 - Mar-08	2	0	3PS
				Apr-18 - Apr-27	0	9	3L
				May-02 - May-04	0	5	3L
				May-17 - May-18	0	5	3L
				Jun-01 - Jun-07	12	2	3L
				Jul-12 - Aug-04	0	236	3L
				Aug-10 - Aug-17	11	1	3L
				Aug-28 - Aug-28	0	4	3L
				Sep-27 - Oct-05	1	15	3L
				Oct-26 - Oct-26	0	4	3L
	Nov-14 - Nov-26	9	0	3L			

UNKNOWN	CANADA	CGAG	95	Dec-04 - Dec-14	1	11	3L							
				Nov-01 - Nov-07	7	0	4X							
				Nov-13 - Nov-16	6	0	4W, 4X							
				Nov-29 - Dec-01	2	0	3M, 4VS							
				Nov-13 - Nov-16	6	0	4W, 4X							
FREDERICTON PARIZEAU	CANADA	CGAN	95	Nov-29 - Dec-01	2	0	3M, 4VS							
				CANADA	CGBS	95	Jun-06 - Jun-13	0	49	4X, 5ZE				
							Jul-15 - Jul-31	39	162	2J, 3K, 3L, 3M				
							Oct-21 - Nov-04	0	91	4R, 4S, 4T, 4VN				
							Nov-16 - Dec-02	0	95	3PS, 4R, 4T, 4VN, 4VS, 4W, 4X, 5Y, 5ZE				
Jan-25 - Jan-27	1	7	3L, 3O											
TELEOST	CANADA	CGCB	95	Feb-02 - Mar-12	12	261	3K, 3L, 3N, 3O, 3PS, 3PN, 4R, 4VN, 4VS							
				Mar-18 - Apr-02	20	71	3L, 3M, 3N							
				Apr-08 - Apr-21	0	65	3K, 3L							
				May-16 - May-19	0	9	3L							
				Jun-04 - Jul-08	21	31	2J, 3K, 3L, 3N							
				Jul-17 - Jul-17	0	1	3L							
				Jul-28 - Aug-01	1	2	3L, 3O							
				Aug-06 - Aug-18	3	106	3L, 3O, 3PS, 3PN, 4VN, 4VS							
				Sep-05 - Sep-22	0	67	3L, 3N, 3O							
				Sep-28 - Sep-28	0	1	3L							
				Oct-06 - Oct-06	0	1	3L							
				Oct-12 - Oct-21	0	29	3K, 3L							
				HUDSON	CANADA	CGDG	95	Apr-19 - May-16	0	90	3L, 3M, 3N, 3O, 4VN, 4VS, 4X, 6G, 6H			
								Jun-09 - Jun-16	0	31	1F, 2H, 2J, 4R			
								Jun-29 - Jul-01	0	4	3M, 3N			
W. TEMPLEMAN	CANADA	CGDV	95					Jan-04 - Jan-15	0	60	3K, 3L			
								Feb-02 - Feb-15	27	0	3K, 3L			
								Apr-03 - Apr-12	7	78	3L, 3O, 3PS			
								Apr-18 - Jun-02	23	316	3L, 3N, 3O, 3PS, 3PN, 4R, 4VN			
								Jun-29 - Jun-29	0	1	3L			
								Jul-05 - Jul-05	0	1	3L			
								Aug-21 - Aug-21	0	1	3L			
				Aug-27 - Sep-01	0	3	3L, 4R							
Sep-06 - Dec-07	14	486	2J, 3K, 3L, 3N, 3O, 3PS											
TORONTO	CANADA	CHAD	95	Nov-08 - Nov-16	9	0	4W, 4X							
				QUEST	CANADA	CZDO	95	Jan-18 - Jan-19	2	0	4X, 6E			
Jan-31 - Jan-31	3	0	4W, 4X											
Mar-09 - Mar-16	5	0	4W, 4X, 6E											
Jun-01 - Jun-07	8	0	3O, 4VS, 6F											
Jul-12 - Jul-19	3	0	4W											
Oct-27 - Oct-27	1	0	4W											
Nov-16 - Nov-18	4	0	6E											
IROQUOIS KOELN ATLANTIC	CANADA	CZGD	95					Oct-31 - Nov-01	9	0	4X			
								FRG	DAKE	95	Jan-03 - Jan-03	4	0	3M
											Mar-19 - Mar-20	14	0	3M, 3N, 3O
				Apr-04 - Apr-07	26	0	3M, 3N, 3O, 4VS, 4W							
				Jun-16 - Jun-18	26	0	3M, 3N, 3O, 4VS, 4W							
				Jul-02 - Jul-02	7	0	3L, 3M							
				Sep-16 - Sep-17	5	0	3L, 3M							
				Oct-02 - Oct-03	18	0	3M, 3N							
				Dec-17 - Dec-18	4	0	3L, 3M							

ANTON DOHRN	FRG	DBFR	95	Oct-19 - Oct-19	3	0	1F
PANORAMA II	PHILIPPINE	DZST	95	Apr-12 - Apr-15	13	0	3M, 3N, 4VS, 6D, 6E, 6F
				Jun-04 - Jun-05	2	0	6H
				Jul-15 - Jul-17	12	0	3M, 3N, 6E, 6F, 6G
				Aug-27 - Aug-29	8	0	3M, 3N, 4VS, 6E, 6F
				Nov-23 - Nov-23	2	0	6H
FERNPASSAT	LIBERIA	ELBD7	95	Feb-27 - Mar-02	19	0	6D, 6E, 6F, 6G, 6H
				Mar-18 - Mar-18	1	0	3M
				Mar-27 - Mar-29	9	0	6D, 6E, 6F, 6G, 6H
				Apr-16 - Apr-28	15	0	4VS, 4W, 4X, 5ZE, 6C, 6D, 6E, 6F, 6H
				May-15 - May-17	7	0	4VS, 4W, 6G, 6H
				May-27 - May-27	1	0	6H
				Jun-13 - Jun-23	23	0	3M, 3N, 3O, 4VS, 4W, 4X, 5ZE, 6B, 6D
				Jul-07 - Jul-10	8	0	3M, 3N, 4VS, 4W, 6C
C.R. PARIS	FRANCE	FNXB	95	Jul-17 - Jul-20	13	0	3M, 3N, 4VS, 6C, 6D, 6E, 6F
				Aug-06 - Aug-17	16	0	3M, 3N, 4VS, 4W, 4X, 5ZE, 6C, 6D, 6E, 6F
				Sep-02 - Sep-05	10	0	3M, 3N, 4VS, 4W, 4X, 5ZE, 6A
				Sep-11 - Sep-14	8	0	3M, 3N, 6D, 6E, 6F, 6G
				Sep-30 - Oct-03	12	0	3M, 3N, 4VS, 4W, 4X, 5ZE, 5ZW
				Oct-08 - Oct-12	11	0	3M, 3N, 4VS, 6C, 6D, 6E, 6F
				Oct-28 - Oct-31	11	0	3M, 3N, 4VS, 4W, 5ZE
				Nov-06 - Nov-09	10	0	3M, 3N, 4VS, 6C, 6D, 6E, 6F
				Nov-26 - Dec-07	23	0	3M, 3N, 4VS, 4W, 4X, 6D, 6E, 6F
				Dec-27 - Dec-30	9	0	3M, 3N, 4VS, 4W, 5ZE
SEALAND DEFENDER	USA	KGJB	95	Aug-07 - Aug-07	1	0	6C
SEA WOLF	USA	KNFG	95	May-05 - May-05	1	0	6C
				Jun-18 - Jun-19	2	0	6C
				Aug-05 - Aug-05	2	0	6C
				Oct-24 - Oct-24	5	0	6B, 6C
				Dec-05 - Dec-05	1	0	6C
UNKNOWN	USA	KWAL	95	Jun-26 - Jun-27	2	0	6H
				Jul-04 - Jul-04	1	0	6H
				Jun-21 - Jun-22	4	0	6D, 6E
				Aug-07 - Aug-08	4	0	6A, 6B, 6D
				Sep-27 - Sep-27	4	0	6D, 6E
				Aug-01 - Aug-06	97	0	3M, 3N, 4W, 6E, 6F, 6H
				Aug-13 - Aug-13	37	0	3N, 6G, 6H
ICEPAT GROTON CT	USA	NIDK	95	Jan-31 - Jan-31	1	0	3K
				Feb-26 - Feb-27	6	0	3M, 3N
				Mar-29 - Apr-05	14	0	3L, 3M, 3N
				Apr-24 - Apr-30	8	0	3L, 3N
				May-29 - May-31	3	0	3N
				Jun-06 - Jun-08	3	0	3N
				Jun-23 - Jun-23	4	0	3N

				Jul-14 - Jul-14	5	0	3M, 3N
JOHN F. KENNEDY	USA	NJFK	95	Sep-15 - Sep-16	2	0	6C
E. KANE	USA	NZSK	95	Mar-19 - Mar-19	3	0	6C
RALEIGH BAY	NETHERLAND	PHKG	95	Feb-16 - Feb-19	10	0	6C, 6D, 6E, 6F, 6G, 6H
				Mar-08 - Mar-14	10	0	4X, 5ZE, 6F, 6G, 6H
				Apr-07 - Apr-17	21	0	3M, 3N, 4VS, 4X, 5ZE, 6D, 6E, 6F, 6G, 6H
				May-01 - May-04	11	0	4W, 5ZE, 6E, 6F, 6G, 6H
				May-09 - May-12	13	0	6B, 6C, 6D, 6E, 6F, 6G, 6H
				May-29 - Jun-01	14	0	5ZE, 6D, 6E, 6F, 6G, 6H
				Jun-07 - Jun-10	17	0	3M, 3N, 4VS, 4W, 6B, 6D, 6E
				Jun-26 - Jul-05	20	0	5ZE, 6B, 6D, 6E, 6F, 6G, 6H
				Jul-22 - Jul-24	12	0	5ZE, 5ZW, 6E, 6F, 6G, 6H
				Jul-30 - Aug-02	12	0	3M, 3N, 4VS, 6C, 6D, 6E, 6F
				Aug-19 - Aug-23	14	0	5ZW, 6D, 6E, 6F, 6G, 6H
				Aug-29 - Sep-01	7	0	3M, 3N, 4W, 6B, 6D
				Sep-18 - Sep-21	8	0	6D, 6E, 6F, 6G, 6H
				Sep-27 - Sep-29	5	0	3M, 3N, 4W
				Oct-14 - Oct-16	7	0	6E, 6F, 6G, 6H
				Oct-23 - Oct-26	12	0	3M, 3N, 4VS, 6C, 6D, 6E, 6F
				Nov-13 - Nov-14	6	0	6E, 6F, 6G, 6H
				Nov-21 - Nov-23	2	0	4VS, 6E
OLEANDER	NETHERLAND	PJJU	95	Jan-06 - Jan-12	22	0	6A, 6B, 6D
				Feb-17 - Feb-18	24	0	6A, 6B, 6D
				Mar-10 - Mar-15	27	0	6A, 6B, 6D
				Apr-05 - Apr-08	22	0	6A, 6B, 6D
				May-03 - May-04	22	0	6A, 6B, 6D
				Jun-07 - Jun-08	23	0	6A, 6B, 6D
				Aug-04 - Aug-09	26	0	6A, 6B, 6D
				Aug-19 - Aug-24	41	0	6A, 6B, 6C, 6D
				Sep-13 - Sep-14	36	0	6A, 6B, 6D
				Oct-20 - Oct-20	1	0	6A
				Nov-03 - Nov-08	24	0	6A, 6B, 6D
				Dec-02 - Dec-07	29	0	6A, 6B, 6D
UNKNOWN	UNKNOWN	SHIP	95	Jan-24 - Jan-24	0	1	3O
				Feb-11 - Feb-11	1	0	6A
				Feb-27 - Feb-27	1	0	6C
				Mar-09 - Mar-09	1	0	4X
				Apr-05 - Apr-05	1	0	1F
				Apr-24 - May-03	1	5	3M, 4VS, 6D, 6H
				May-08 - May-08	0	1	3M
				May-27 - May-27	1	0	3N
				Jul-16 - Jul-16	1	0	3N
				Jul-26 - Aug-06	6	0	2J, 3M, 6B, 6E, 6H
				Aug-13 - Aug-14	3	0	3N, 6C, 6G
				Aug-20 - Aug-20	2	0	4X, 6E
				Oct-24 - Oct-24	1	0	2H
				Nov-03 - Nov-06	2	0	4X

				Nov-14 - Nov-14	1	0	4W
				Dec-11 - Dec-11	1	0	6H
SKOGAFOSS	ANTIGUA AN	V2QT	95	Jan-11 - Jan-16	48	0	1F, 2J, 3K, 3L, 4X, 5Y, 5ZW
				Feb-07 - Feb-14	15	0	1F, 2J, 3K, 4X, 5Y
				Mar-08 - Mar-14	19	0	3K, 3L, 3M, 4X, 5Y, 5ZW
				Apr-05 - Apr-11	16	0	1F, 2J, 3K, 4X, 5Y, 5ZW, 6D
				May-02 - May-07	14	0	3K, 4X, 5Y, 5ZW
				May-29 - Jun-04	18	0	1F, 2J, 3K, 3L, 4X, 5Y, 5ZW
				Jun-26 - Jul-02	18	0	1F, 2J, 3K, 4X, 5Y, 5ZW
				Jul-24 - Jul-30	24	0	1F, 2J, 3K, 4X, 5Y, 5ZW
				Aug-27 - Aug-27	2	0	5ZW
				Sep-19 - Sep-26	15	0	1F, 2J, 3K, 4X, 5Y, 5ZW
				Oct-16 - Oct-22	15	0	1F, 2J, 3K, 4X, 5Y, 5ZW
				Nov-13 - Nov-19	18	0	1F, 2J, 3K, 4X, 5Y, 5ZW
				Dec-13 - Dec-23	23	0	1F, 2J, 3K, 3L, 4X, 5Y, 5ZW
				Dec-28 - Dec-29	12	0	3K, 3L
GADUS ATLANTICA	CANADA	VC9450	95	Feb-01 - Mar-13	0	249	3K, 3L, 3N, 3O, 3PS, 3PN, 4VN, 4VS
C.G. BERNIER	CANADA	VCQR	95	Apr-29 - May-02	5	0	3L
				May-10 - May-10	1	0	3L
BORINGIA	HONGKONG	VRSY	95	Jan-24 - Jan-24	2	0	6B, 6C
				Mar-18 - Mar-18	2	0	6D, 6E
LADY KENDA	CANADA	VY2230	95	Feb-03 - Feb-03	0	3	3PS
				Feb-17 - Feb-17	0	3	3PS
				Feb-23 - Feb-23	0	4	3PS
PRESIDENT MCKINLEY	USA	WVFZ	95	Feb-27 - Feb-27	1	0	6C
				Mar-06 - Mar-06	1	0	6C
				Mar-12 - Mar-12	1	0	6B
				Mar-19 - Mar-19	1	0	6B
				Mar-26 - Mar-26	1	0	6B
				Apr-01 - Apr-01	1	0	6C
				Apr-08 - Apr-09	2	0	6B
				Apr-23 - Apr-23	3	0	6B, 6C
				Apr-30 - Apr-30	2	0	6B
				May-07 - May-08	2	0	6B, 6C
				May-14 - May-14	1	0	6B
				May-21 - May-21	1	0	6C
				Jun-04 - Jun-04	1	0	6C
				Jun-11 - Jun-11	1	0	6C
				Jun-18 - Jun-18	1	0	6B
				Jun-25 - Jun-25	3	0	6B, 6C
				Aug-06 - Aug-06	1	0	6B
				Oct-29 - Oct-30	2	0	6B, 6C
				Nov-06 - Nov-06	1	0	6C
				Nov-13 - Nov-13	1	0	6B
				Nov-19 - Nov-20	2	0	6B, 6C
				Nov-26 - Nov-27	2	0	6B, 6C
				Dec-03 - Dec-03	1	0	6B
				Dec-11 - Dec-11	1	0	6C

MITLA	MEXICO	XCNX	95	Dec-31 - Dec-31	1	0	6C
				Feb-21 - Feb-21	1	0	6E
				Jun-13 - Jun-15	10	0	3M, 3N, 4VS, 6E, 6F
				Jul-24 - Jul-27	11	0	3M, 3N, 6D, 6E, 6F, 6G
				Sep-05 - Sep-09	6	0	6G, 6H

Table 3(b): Ocean Subsurface Data (other than IGOSS) for 1995.

Total = 1821 stations

Country	Cruise Num	Cruise Period	BT	CTD	BOTTLE	NAFO Subarea
CANADA	181095101	Jan-11 - Jan-16	47	0	0	1F, 2J, 3K, 3L, 4X, 5Y, 5ZW
CANADA	181095102	Feb-07 - Feb-14	21	0	0	1F, 2J, 3K, 3L, 4W, 4X, 5Y, 5ZW
CANADA	181095103	Feb-18 - Feb-18	1	0	0	6B
		Mar-08 - Mar-14	30	0	0	3K, 3L, 3M, 4X, 5Y, 5ZW
CANADA	181095104	Apr-05 - Apr-11	18	0	0	1F, 2J, 3K, 4X, 5Y, 5ZW
CANADA	18AH95001	Mar-14 - Mar-16	7	0	0	4W, 4X
CANADA	18AH95002	Jun-06 - Jun-07	5	0	0	4W, 4X
CANADA	18AH95003	Jun-16 - Jun-17	13	0	0	4X, 6E
		Jul-06 - Jul-06	4	0	0	4W, 6E
CANADA	18AH95004	Oct-09 - Oct-10	3	0	0	4W, 6F
CANADA	18AH95005	Sep-12 - Sep-29	40	0	0	4X
CANADA	18CN95020	May-17 - May-18	0	5	0	4T
CANADA	18CN95024	Jul-15 - Jul-18	0	6	0	4S
CANADA	18FN95001	Jan-10 - Jan-13	8	0	0	3L, 3O, 3PS, 4VS, 4W
CANADA	18FN95002	Jan-23 - Jan-24	3	0	0	4X
CANADA	18FN95003	Feb-09 - Feb-12	4	0	0	3M, 3N, 3PS, 4W
		Apr-29 - Apr-29	1	0	0	3N
CANADA	18FN95004	Sep-11 - Sep-15	13	0	0	4X
CANADA	18FN95005	Sep-18 - Sep-29	47	0	0	4W, 4X, 5Y
CANADA	18FN95006	Oct-17 - Oct-20	13	0	0	4X
CANADA	18GU95002	Jun-19 - Jun-30	34	0	0	4W, 4X
CANADA	18GU95003	Oct-30 - Nov-02	11	0	0	4X, 5Y
CANADA	18GU95004	Nov-06 - Nov-08	6	0	0	4X
CANADA	18GU95005	Feb-09 - Feb-12	14	0	0	3L, 3M, 3PS, 4VS, 4W
CANADA	18HL95001	Apr-20 - Apr-25	18	0	0	1F, 3L, 3PS, 4VS, 4W
		Jun-14 - Jun-29	51	0	0	3M, 3N, 3O, 4W, 4X
CANADA	18HL95002	Jul-19 - Jul-24	9	0	0	3L, 3PS, 4VS, 4W
CANADA	18HL95003	Aug-18 - Sep-07	36	0	0	3L, 3M, 3N, 3O, 3PS, 4VS, 4W, 4X
CANADA	18HL95004	Oct-14 - Oct-17	12	0	0	3K, 3L, 3M, 3PS, 4VS, 4W
		Nov-12 - Nov-13	4	0	0	3L, 3PS
CANADA	18HN95001	Jun-22 - Jun-22	3	0	0	4X, 6E
CANADA	18IS95001	Oct-17 - Oct-20	8	0	0	4W, 4X
CANADA	18IS95002	Oct-30 - Nov-03	20	0	0	4X, 5Y
CANADA	18IS95005	Jun-17 - Jun-29	40	0	0	3L, 3PS, 4VS, 4W, 4X
CANADA	18IS95006	Jul-08 - Jul-19	20	0	0	6B, 6C
CANADA	18NE95001	Feb-15 - Feb-23	0	75	84	5ZE
CANADA	18NE95002	Feb-27 - Mar-12	0	119	128	3PS, 4VN, 4VS, 4W
CANADA	18NE95003	Jun-25 - Jul-07	0	98	98	4W, 4X, 5Y
CANADA	18NE95004	Jul-10 - Jul-20	0	101	105	4VN, 4VS, 4W
CANADA	18NN95001	Jan-13 - Jan-26	30	0	0	4W, 4X, 5ZE, 6B
CANADA	18NN95002	Jan-31 - Feb-03	11	0	0	4X
CANADA	18NN95003	Feb-09 - Feb-12	13	0	0	3L, 3M, 3PS, 4VS, 4W
		Mar-21 - Mar-23	3	0	0	3M, 3N, 4VS
CANADA	18NN95004	Apr-08 - Apr-11	3	0	0	3PS, 4W, 4X
CANADA	18NN95005	Apr-17 - Apr-17	1	0	0	4VS

CANADA	18NN95006	Apr-19 - Apr-19	1	0	0	4X
CANADA	18NN95007	May-01 - May-03	6	0	0	4W, 5ZE, 6B, 6C, 6D
		May-16 - May-19	7	0	0	4W, 4X, 5ZE, 6C
CANADA	18NN95008	Jun-05 - Jun-16	14	0	0	3M, 3N, 3PS, 4VS, 4W
CANADA	18NN95009	Jun-19 - Jun-30	46	0	0	4W, 4X
CANADA	18NN95010	Oct-02 - Oct-03	3	0	0	4X, 5ZE, 6D
		Oct-19 - Oct-20	3	0	0	4X
CANADA	18NN95011	Oct-31 - Nov-02	11	0	0	4X, 5Y
CANADA	18NN95012	Nov-06 - Nov-09	12	0	0	4W, 4X
CANADA	18NN95013	Nov-13 - Nov-17	13	0	0	4W, 4X
CANADA	18OD95001	Apr-26 - Apr-26	1	0	0	4W
		May-02 - May-02	1	0	0	4W
		May-08 - May-10	4	0	0	4X
		May-16 - May-18	7	0	0	4W, 4X
		May-25 - May-30	7	0	0	4VS, 4W
CANADA	18OD95002	Aug-16 - Aug-18	2	0	0	4X, 6E
		Sep-18 - Sep-20	3	0	0	4X, 5ZE, 6B
CANADA	18OD95003	Jul-31 - Jul-31	1	0	0	4W
		Aug-08 - Aug-10	4	0	0	4X
CANADA	18QU95001	Jan-05 - Jan-05	1	0	0	4X
		Jan-18 - Jan-19	2	0	0	4X, 6E
CANADA	18QU95002	May-10 - May-10	3	0	0	6E
CANADA	18QU95003	May-31 - Jun-08	10	0	0	3O, 4VS, 4W, 6F
CANADA	18QU95004	Jul-06 - Jul-19	8	0	0	4W, 4X
CANADA	18QU95005	Mar-07 - Mar-16	13	0	0	4W, 4X, 6E
CANADA	18QU95007	Oct-24 - Oct-27	10	0	0	4W
		Nov-03 - Nov-03	1	0	0	6E
CANADA	18QU95008	Nov-16 - Nov-18	5	0	0	6E
CANADA	18TL95004	Apr-29 - May-07	0	39	0	3PN, 4R
CANADA	18TN95001	Jan-11 - Jan-26	31	0	0	4W, 4X, 5ZE, 6B, 6D
		Feb-13 - Feb-14	4	0	0	5ZE, 6B, 6C
CANADA	18TN95002	Mar-04 - Mar-16	10	0	0	3L, 3PS
CANADA	18TN95003	Apr-20 - Apr-25	14	0	0	1F, 3K, 3L, 3PS, 4VS, 4W
		Jun-14 - Jun-28	25	0	0	3L, 3M, 3N, 4VS, 4W, 4X
CANADA	18TN95004	Sep-25 - Sep-28	8	0	0	4W, 4X
CANADA	18TR95001	Oct-23 - Oct-24	3	0	0	4W
CANADA	18TR95002	Apr-24 - Apr-25	5	0	0	2J, 3K, 3L
CANADA	18VQ95001	Feb-09 - Feb-11	6	0	0	3L, 3PS, 4VS, 4W, 4X
CANADA	18VQ95002	Jul-06 - Jul-07	2	0	0	3O, 4W
CANADA	18WN95001	Jan-17 - Jan-18	5	0	0	4X, 6D, 6E

Table 4: Historical data (from years prior to 1995), recieved at MEDS since last NAFO report. Total Stations = 31794 Archived

MEDS

Cruise No Year BT Bottle CTD NAFO Subarea

HISTORICAL DATA PROCESSED AND ARCHIVED.

Total =	31794	stations				
180078903	1990	0	0	369	0A, XX, 1A, 1B	
180590011	1990	0	0	1	3K	
180590013	1990	0	0	0	3P, 3O, 3L	
180590020	1991	0	0	1	3L, 3K, 3N	
180591035	1992	0	0	1	3L	
180592014	1992	0	0	102	3K, 3L	
180592020	1992	0	0	13	3L	
180592029	1992	0	0	112	3L, 3K	
180592031	1992	0	0	11	3L	
180592042	1992	0	0	45	3L	

180592051	1993	0	0	25	3L
180593008	1993	0	0	87	3L, 3K
180593017	1993	0	0	259	2J, 3K, 2H, 3L, 3M
180593020	1993	0	0	56	3L
180593022	1993	0	0	2	3L
180593024	1993	0	0	97	3L, 3K
180593025	1993	0	0	6	3L
180593032	1993	0	0	88	3L, 3K
180593036	1993	0	0	38	3L
180593041	1993	0	0	0	3L, 3K
180593042	1993	0	0	57	3L, 3N
180593043	1969	0	0	38	3K, 3L, 2J
181069035	1969	0	0	26	4X
181069046	1970	0	0	12	4X
181070007	1970	0	0	59	4W, 4T
181070011	1970	0	0	30	4T, 4W
181070023	1970	0	0	22	3N, 6H
181070030	1970	0	0	74	4W
181070036	1971	0	0	21	4T, 4R, 4V
181071013	1971	0	0	44	4W
181071016	1972	0	0	19	3N, 6H
181072005	1972	0	0	105	4R, 4V, 4S
181072008	1972	0	0	10	6H, 3N
181072035	1973	0	0	38	4S, 4T, 4R
181073000	1973	0	0	86	4T
181073012	1973	0	0	78	3P, 4V, 4R, 4T, 4S, 4W, XX
181073013	1973	0	0	274	4W, 4T, 4S, 4V, XX, 4R, 4X
181073016	1973	0	0	78	4T
181073035	1974	0	0	104	4T, 4R, 4S, 4V
181074001	1974	0	0	91	4T, 4S, 4V, 4R
181074004	1974	0	0	7	4W, 4X
181074006	1974	0	0	510	4S, 4T, 4R, 4V, XX
181074011	1974	0	0	12	4W, 4X
181074020	1974	0	0	94	4V
181074029	1974	0	0	11	4X, 4W
181074031	1974	0	0	60	4V
181074035	1975	0	0	11	4X, 4W
181075001	1975	0	0	208	3P, 4T, 4S, 4R, 4V
181075003	1975	0	0	17	4W, 6E, 4X
181075006	1975	0	0	12	4W, 4X
181075008	1975	0	0	155	4V
181075013	1975	0	0	107	4S, 4R, 4T, 4V
181075015	1975	0	0	411	4T, XX
181075016	1975	0	0	403	4T
181075020	1975	0	0	27	4V, 4W
181075021	1975	0	0	13	4W, 4X
181075026	1975	0	0	11	4W, 4X
181075031	1975	0	0	48	4T, 4R, 4S, 4V
181075033	1976	0	0	17	4X, 4V, 4W
181076003	1976	0	0	19	4W, 4X
181076005	1976	0	0	55	4X, 4W
181076006	1976	0	0	45	XX, 4T
181076007	1976	0	0	75	4T, XX
181076008	1976	0	0	118	4T, 4S, XX
181076013	1976	0	0	164	4W, 4X
181076015	1976	0	0	36	4V
181076017	1976	0	0	29	4W, 4X, 4V
181076020	1976	0	0	524	4X, 4W
181076021	1976	0	0	58	4V, 3P, 4R

181076024	1976	0	0	13	4W, 4X
181076030	1976	0	0	451	4W
181076033	1976	0	0	127	4X, 4W
181076034	1976	0	0	13	4V
181076036	1976	0	0	35	4S, 4T, 4R, 4V
181076038	1977	0	0	25	4X, 4W
181077001	1977	0	0	39	4W, 4X
181077003	1977	0	0	34	4X, 4W
181077007	1977	0	0	93	4X
181077013	1977	0	0	16	4W
181077017	1977	0	0	328	4X, 4W
181077023	1977	0	0	183	4X, 5Y
181077024	1977	0	0	58	0A, 1A, 2G, 0B, XX, 1B, 1C
181077026	1977	0	0	54	4X
181077028	1977	0	0	176	4X, 5Z
181077029	1977	0	0	125	2J, 2H, 2G, 0B
181077033	1977	0	0	12	4R, 4S, 4T
181077999	1978	0	0	78	0B, 2G, 1C, 1E, 1D, 1F
181078001	1978	0	0	17	4X, 4W
181078002	1978	0	0	155	XX, 1F, 2H, 2J, 2G, 3M, 3K, 3L
181078011	1978	0	0	19	6H, 3N, 6G
181078017	1978	0	0	70	4T, 4S
181078028	1978	0	0	46	4S, 4R
181078030	1978	0	0	76	4T, 4S
181078031	1978	0	0	589	5Z, 4X, 4W
181078032	1978	0	0	22	2J
181078034	1979	0	0	38	4T, 4S, 4R, 4V
181079001	1979	0	0	133	3M, 3L, 3K
181079007	1979	0	0	37	4X, 5Z
181079008	1979	0	0	44	4X
181079010	1979	0	0	88	4T, XX, 4S
181079016	1979	0	0	87	3M
181079022	1979	0	0	56	4X, 5Z
181079024	1979	0	0	87	4T, XX
181079025	1979	0	0	41	3N, 6H, 3M, XX
181079026	1979	0	0	29	4T, 4S
181079027	1979	0	0	120	4X, 5Z
181079031	1980	0	0	12	4S, 4T, 4R
181080002	1980	0	0	11	3L, 3M
181080006	1980	0	0	80	5Z, 4X
181080007	1980	0	0	27	4T, 4S, 4V, 4W
181080018	1980	0	0	61	4X
181080019	1980	0	0	84	3M, 3O, 3P, 3L, XX
181080021	1980	0	0	108	4R, 3K
181080022	1980	0	0	81	5Z, 4X
181080026	1980	0	0	49	2J
181080028	1980	0	0	46	0A, 1A
181080029	1980	0	0	14	XX, 3M, 4V, 6H
181080033	1980	0	0	35	4R, 3K
181080034	1980	0	0	47	3L, 3O, 3P
181080037	1980	0	0	20	2J
181080038	1980	0	0	11	4X
181080039	1980	0	0	75	4X
181080040	1981	0	0	11	4S, 4T
181081004	1981	0	0	28	4X
181081007	1981	0	0	47	3M, XX, 3N
181081008	1981	0	0	45	3L, 3O, 3N, 3P
181081010	1981	0	0	76	4X
181081011	1981	0	0	41	4S, 4R

181081014	1981	0	0	8	4X
181081024	1981	0	0	65	3M
181081035	1981	0	0	14	2J
181081040	1981	0	0	24	4X, 4W
181081042	1981	0	0	72	4X, 4W
181081043	1981	0	0	24	4S, 4R, 4V, 4T
181081901	1982	0	0	91	3M, XX, 3N, 3L
181082002	1982	0	0	34	3L, 3K, 3M, XX
181082005	1982	0	0	16	4X
181082007	1982	0	0	95	4T, XX
181082008	1982	0	0	23	XX, 4T, 4S, 3P
181082026	1982	0	0	89	4T, 4V
181082027	1982	0	0	129	0B, XX, 2G, 2J, 2H
181082032	1982	0	0	135	XX, 4T
181082033	1982	0	0	895	4W, 4X, 5Z
181082035	1982	0	0	57	4X, 5Z
181082038	1982	0	0	37	3K, 3M, 2J
181082042	1982	0	0	39	4S, 4V, 3P, 4T, 4R
181082043	1983	0	0	29	4W, 4X
181083001	1983	0	0	29	4X, 5Z
181083003	1983	0	0	112	4X
181083009	1983	0	0	39	4V, 6F, 4W, 6E
181083018	1983	0	0	46	4R, 3K
181083021	1983	0	0	36	2J, 3K
181083024	1983	0	0	749	4X, 4W
181083029	1983	0	0	37	4V, 4W, 6F
181083030	1983	0	0	76	0B, 2G, 2J, 2H, 3K
181083032	1983	0	0	9	4W
181083034	1983	0	0	15	4X
181083036	1983	0	0	56	2J, 3K, XX, 3M
181083038	1983	0	0	35	4R, 4S, 4T, 4V
181083902	1984	0	0	29	4X
181084001	1984	0	0	99	4R, 4S, 4T, 4V
181084007	1984	0	0	30	4V, 4W
181084008	1984	0	0	33	5Z, 4X
181084012	1984	0	0	50	4V, 4W, 6F, 6E
181084023	1984	0	0	42	3L
181084025	1984	0	0	138	4X
181084026	1984	0	0	367	2H, 2J
181084031	1984	0	0	35	1A
181084034	1984	0	0	1021	4V, 4W
181084036	1984	0	0	29	6F, 4W, 4V
181084038	1984	0	0	26	2J
181084039	1984	0	0	17	0A
181084043	1984	0	0	57	4X
181084048	1985	0	0	65	4R, 4T, 4V, 4S
181085004	1985	0	0	79	4V, 4W, 6F
181085008	1985	0	0	25	3L, 3N
181085013	1985	0	0	58	4X, 5Z
181085017	1985	0	0	61	4X, 4V, 4W
181085018	1985	0	0	312	2J, 2H
181085024	1985	0	0	892	3L, 3M
181085029	1985	0	0	65	0A, 2H, 1B, 1A, XX
181085039	1985	0	0	35	4S, 4T, 4R, 4V
181085040	1985	0	0	89	4W, 4V
181085041	1985	0	0	115	4X
181085900	1986	0	0	43	4X
181086001	1986	0	0	60	4W, 4V
181086005	1986	0	0	586	3N, 3L, 3O

181086006	1986	0	0	524	3N, 3M, XX, 6H, 4V
181086008	1986	0	0	16	4X
181086021	1986	0	0	1116	1A, 2J, 1D, 3K, 1E, 2H, 1C, 0A
181086022	1986	0	0	23	4X, 4W
181086031	1986	0	0	361	3L, 3N, 3O
181086036	1986	0	0	11	4X, 4W
181086037	1986	0	0	26	4T, 4S, 4R, 4V
181086900	1987	0	0	33	4X
181087001	1987	0	0	17	3N
181087002	1987	0	0	42	3L, 3O
181087026	1987	0	0	449	2H, 2J
181087031	1987	0	0	192	1A, XX, 0A, 1B, 0B, 1C
181087037	1987	0	0	562	3M, 3N, XX
181087041	1988	0	0	256	3N, 3L, 3M
181088023	1988	0	0	352	5Z
181088025	1988	0	0	34	2J, 2H
181088041	1990	0	0	25	4X
181090025	1990	0	0	43	5Z, 4X
181090030	1991	0	0	53	4S, 4T, 4R, 4V
181091033	1991	0	0	9	2J
181091035	1991	0	0	47	5Z
181091041	1991	0	0	20	4W
181091058	1991	0	0	67	4S, 4R, 4T, 4V, 3P
181091059	1991	0	0	12	3L
181091060	1992	0	0	12	4W
181091061	1992	0	0	92	3K, 3O, 3P, 3L
181092010	1992	0	0	50	3L, 4V, 3M
181092018	1992	0	0	6	4W
181092029	1992	0	0	48	5Z, 4X
181092050	1993	0	0	79	4T, 4S, 4R, 3P, 4V, 4W
181093002	1993	0	0	15	3M, 3O, 3N, 4V, XX, 3P
181093027	1993	0	0	2	2J
181093032	1993	0	0	27	4X, 5Z
181093033	1993	0	0	134	4W, 4X
181093040	1984	0	0	70	4T, 4V, 4S, 3P, 4R
181884021	1985	1	0	0	4X
181885025	1986	1	0	0	4X
181886012	1986	3	0	0	4W, 4X
181886025	1986	1	0	0	3O
181886026	1986	1	0	0	4W
181886030	1986	1	0	0	4W
181886038	1987	1	0	0	4W
181887006	1987	2	0	0	4X
181887019	1987	1	0	0	4X
181887034	1987	1	0	0	4W
181887043	1987	1	0	0	4W
181887052	1987	1	0	0	4V
181887057	1987	1	0	0	4X
181887059	1987	2	0	0	4T
181887061	1988	1	0	0	4X
181888005	1988	1	0	0	6C
181888034	1989	1	0	0	4V
181889028	1990	19	0	0	2H
181890005	1990	3	0	0	6E
181890009	1990	1	0	0	6D
181890023	1992	1	0	0	4X
181892001	1992	1	0	0	4X
181892016	1993	2	0	0	4X
181893012	1987	1	0	0	5Z

181987033	1993	1	0	0	4W
181C93001	1978	0	65	64	5Z
182978018	1994	0	0	225	4T, 4S
18BG94023	1994	0	0	24	4T
18C594001	1994	9	0	0	4W
18C694001	1994	20	0	0	6E, 4X
18C694002	1993	2	0	0	4X
18C793058	1993	0	0	15	4T
18CN93034	1993	0	0	17	4S
18CN93040	1993	0	0	10	4T
18CN93049	1994	0	0	4	4S
18CN94003	1994	0	0	3	4S
18CN94027	1994	0	0	2	4S
18CN94028	1994	0	0	18	4T
18CN94029	1994	0	0	2	4T
18CN94030	1994	0	0	13	4T
18CN94039	1994	0	0	16	4T
18CN94040	1994	0	0	4	4T
18CN94048	1994	0	0	1	4S
18CN94050	1994	0	0	2	4T
18FC94034	1994	0	0	74	4T
18FC94037	1992	0	0	9	4T
18FL92026	1992	0	0	90	4S, 4T
18FL92062	1992	0	0	73	4T
18FL92068	1992	0	0	24	4T, 4S
18FL92073	1993	0	0	96	4T
18FL93032	1993	0	0	44	4R, 4S
18FL93046	1993	0	0	30	XX
18FL93052	1984	0	0	36	4V, 4S
18GA84001	1985	176	0	0	4S, 4R, 4T, 3P, 4V
18GA85001	1986	151	0	0	4S, 4R, 3P, 4T
18GA86001	1987	172	0	0	4R, 4S, 3P, 4T, 4V
18GA87001	1988	131	0	0	3P, 4R, 4S, 4T
18GA88001	1989	155	0	0	4S, 4R, 3P, 4T
18GA89001	1993	66	0	0	4R, 4S, 3P
18GA93001	1994	0	0	122	4R, 4S, 3P, 4T
18GA94011	1994	0	0	80	4R, 3P, 4S, 4V
18GB94017	1994	0	0	27	4T
18GU94011	1994	24	0	0	6C, 6B, 4X, 4W
18GU94012	1994	7	0	0	3M, 3P, 3L, 3O, 4V, 4W
18GU94013	1994	28	0	0	4X, 4W
18GU94014	1994	30	0	0	4X, 4W
18GU94015	1994	27	0	0	4X, 4W
18HL94003	1994	1	0	0	3N
18HU94031	1993	0	0	6	XX
18IS93049	1994	8	0	0	4V, 4W, 3O, 3N, 3M
18IS94005	1994	33	0	0	4X, 4W
18IS94006	1978	8	0	0	4W, 4X
18LH78001	1978	0	48	0	4W, 4V
18LH78002	1982	0	36	0	4V, 4W
18LH82001	1984	0	84	0	4W, 4V, 4X
18LH84001	1985	95	0	0	4T, 4S, 4R
18LH85001	1986	135	0	0	4S, 4R, 4T, 4V
18LH86001	1986	168	0	0	4S, 4R, 4T
18LH86008	1987	0	0	100	4S, 4R
18LH87001	1987	112	0	0	3P, 4S, 4T, 4R
18LH87020	1988	0	0	170	4T, 4S, 4R, 3P
18LH88001	1988	139	0	0	4S, 4T, 4R
18LH88025	1989	0	0	48	4T, 4S, 4R, 4V

18LH89001	1987	66	0	0	4S, 4T, 4R
18LL87010	1988	0	0	109	4S
18LL88020	1990	0	0	52	4S
18LL90033	1994	0	0	47	4T, 4S
18MP94010	1994	15	0	0	4W, 4X
18MP94011	1994	9	0	0	4X, 4W
18MP94012	1986	12	0	0	4W, 4X
18NE86001	1986	0	98	0	4X
18NE86002	1987	0	27	0	5Z
18NE87001	1987	0	71	0	4X, 5Z
18NE87002	1988	0	92	0	4V, 4W
18NE88001	1988	0	132	0	5Z
18NE88002	1988	0	68	0	4W, 4V
18NE88003	1988	0	87	0	4W, 4X, 5Y, 5Z
18NE88004	1989	0	90	0	4V, 4W
18NE89001	1989	0	116	0	5Z
18NE89002	1989	0	81	0	4W, 4V
18NE89003	1989	0	107	0	4X, 4W, 5Z, 5Y
18NE89004	1990	0	77	0	4V, 4W
18NE90001	1990	0	129	30	5Z
18NE90002	1990	0	77	0	4W, 4V
18NE90003	1990	0	151	150	4W, 4X, 5Z, 5Y
18NE90004	1991	0	72	72	4V, 4W
18NE91055	1992	0	0	206	4S, 4R, 4T, 4V, 3K
18NE92001	1992	0	91	90	4X, 4W, 5Z, 5Y
18NE92002	1992	0	103	95	4V, 4W
18NE92010	1992	0	0	80	4S, 4R, 4V
18NE92055	1993	0	0	202	4S, 4T, 4R, 4V
18NE93001	1993	0	86	84	5Y, 4X, 4W
18NE93002	1993	0	104	99	4W, 4V
18NE93003	1993	0	46	36	4V, 4W
18NE93045	1994	0	0	208	4S, 3P, 4R, 4T, 4V
18NE94001	1994	0	43	41	5Z
18NE94002	1994	14	90	74	4W, 4V, 3P
18NE94003	1994	0	96	93	4W, 4X, 5Y
18NE94004	1994	0	99	92	4V, 4W
18NE94038	1994	0	0	130	4S, 4R, 4T
18NE94043	1994	0	0	83	4T, 4V
18NN94001	1994	8	0	0	4W, 4X
18NN94002	1993	14	0	0	4W, 4X
18PE93028	1993	0	0	70	4T
18PE93051	1986	0	0	50	XX, 4R
18PT86090	1987	0	0	55	4S
18PT87003	1987	0	0	77	4S, 4T
18PT87032	1994	0	0	43	4S
18PV94001	1994	10	0	0	4X, 4W
18PZ94007	1994	0	0	39	4R, 4T
18PZ94041	1994	0	0	34	4T, 4S
18PZ94047	1993	0	0	100	4S, 4R, 4T
18QU93050	1994	8	0	0	4V, 3O
18QU94014	1994	10	0	0	6E
18QU94015	1994	43	0	0	4W, 4V
18QU94016	1994	6	0	0	4X, 6E
18QU94017	1994	16	0	0	4X
18QU94020	1994	5	0	0	5Z, 6D
18TN94008	1994	11	0	0	6D, 4X, 5Z, XX, 4W
18TN94009	1994	14	0	0	4X, 4W
18TR94001	1994	1	0	0	6C
18TR94002	1994	7	0	0	4W

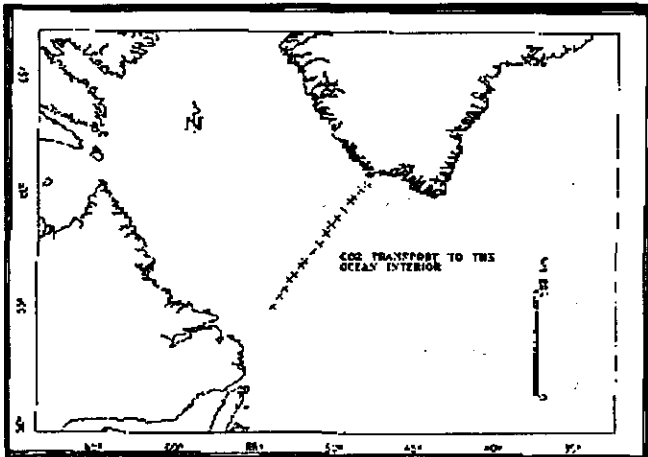
18TR94010	1994	10	0	0	3P,3M,3L,3N,XX,4V
18WN94001	1994	7	0	0	4X,4W
18WN94002	1994	2	0	0	4W
18WN94003	1994	4	0	0	4X,4W

Joint Global Ocean Flux Study (JGOFS)

MEDS is responsible for the management and archival of data collected in the Canadian JGOFS programme. Canadian JGOFS, the largest and most ambitious of Canadian oceanographic initiatives, has brought together biologists, physicists, chemists and geologists from universities and government laboratories in a concerted effort to address what is arguably the most important environmental challenge the world has yet faced - global warming. The resulting collaboration and attendant integrative approach to the science will answer many questions about how the oceans sequester carbon, and will provide an atmosphere of cooperation that will be felt in the Canadian oceanography community for decades to come.

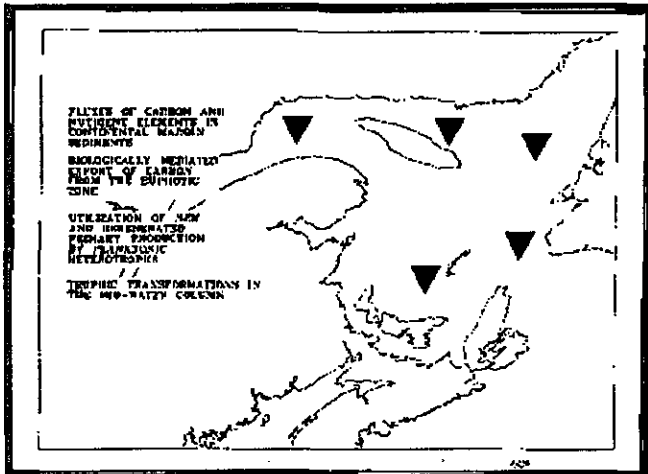
The past years have been a particularly important period in the Canadian JGOFS Program. Project science is now well established, collaboration has grown, and working groups have addressed the important issues of core measurements, data management, and ship use. Below are descriptions of four data sets within the NAFO area.

NAFO Subarea 2H, 1F (1992)



Measurements include dissolved inorganic carbon, total alkalinity, and halocarbons as transient tracers (CFC-11, CFC-12, CFC-13 and carbon-tetrachloride).

**NAFO Subarea 4T, 4S, 4R, 4Vn (1992-1994)
Gulf of St. Lawrence 9 Cruises to 5 sites.**



Meteorology: 8 types of observations are made.

Temperature: CTD

Salinity: CTD

Fluorescence: CTD

Transmission: CTD

O2 sensor on CTD

Bio-optical measurements: PAR profiles are collected with every CTD profile

Oxygen: bottles, no titrations on board of ship

Nutrients: NO₂, NO₃, NH₄, PO₄, SiO₂ and urea.

Carbonate measurement: Total DIC (collaboration with Mucci) and pH

Pigments: chlorophyll a by fluorometer all sampled depths; Size fractionated in the photic zone except from cruises 5 and 6

HPLC analysis from surface, chl a max, 50 and 100m

HPLC analysis of copepod gut pigments, samples collected 4 times during 24 h

HPLC analysis and chl a by fluorometer from sediment trap samples

POC and PON from cruise 2 on, also on sediment trap samples

Seston from cruise 2 on, also on sediment trap samples

Primary production by C-14: for cruises 5 and 6.

since cruise 5, during cruises 1-4 the secchi disk was used; Surface PAR measurements during cruise 3 and 6

Bacterial abundance, biomass and production since cruise 4

Picoplankton cell counts and cyanobacterial abundance since cruise 4

Phytoplankton cell counts

ETS (size fractionated)

Direct plankton respiration, since cruise 5, size fractionated

Mesoplankton abundance and grazing: 3 depths (surface, mid and deep layers) at midnight and noon; defecation rates and ingestion rates

Microzooplankton abundance, since cruise 4 (only in selected depths)

Floating sediment traps: at 50 m, at all stations, since cruise 4, and 150 m (or 80 m), only at deep stations, cruises 1,5,6,7,etc.

Moored sediment traps at stations 1 and 6

ADCP, till 250 m cruises, 1,2 and 3 and till 75 m since cruise 5

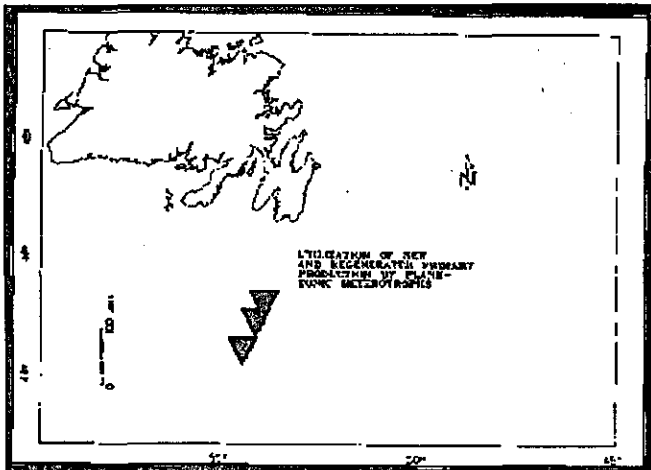
Turbulence profiler, cruise 5 and from cruise 7 on

Standard depths for sampling : 100, 50, 25, 15, 10, 1, and 0.1% light depth, 50, 75, 100, 150, 200, 250, 300, 350 m and close to bottom (depending on the depth and the station and the photic zone).

All samples are prefiltered through 200 µm mesh.

Size fractionation by filtration through 5 µm meshes and GF/F filters.

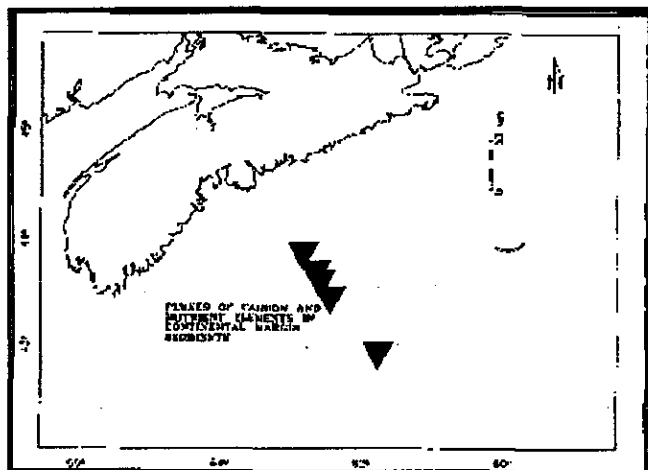
NAFO Subarea 30 (1992 - 1994)



Measurements include: zooplankton abundance and composition, zooplankton grazing, primary production,

bacterial production, biomass of phytoplankton and bacteria, nutrients, and CTD.

NAFO Subarea 4W (1992-1994)



Benthic Processes Study measurements in the Gulf of St. Lawrence (above map) and across the shelf and on the slope include: particulate organic carbon, biological populations, and a wide range of chemical species. Measurement, of radionuclides provides information on sedimentation rate, irrigation and bioturbation. Parallel studies in the laboratory are examining the kinetics of CaCO₃ dissolution and precipitation, and sedimentation and resuspension of sediment sample materials collected at study sites.

Drifting Buoy (Dribu) Data

Drifting buoy (or DRIBU) data is received at MEDS over the GTS. Measures taken to assure its quality are much the same as those for the ocean subsurface data described above. 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). Duplicate checking is done, and is important to discriminate between data 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 8 million (as of 1995) 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 4 lists data collected by Drifting Buoys in the NAFO Area in 1995. Maps of DRIBU tracks for 1995, processed and archived by MEDS, are show in the figure.

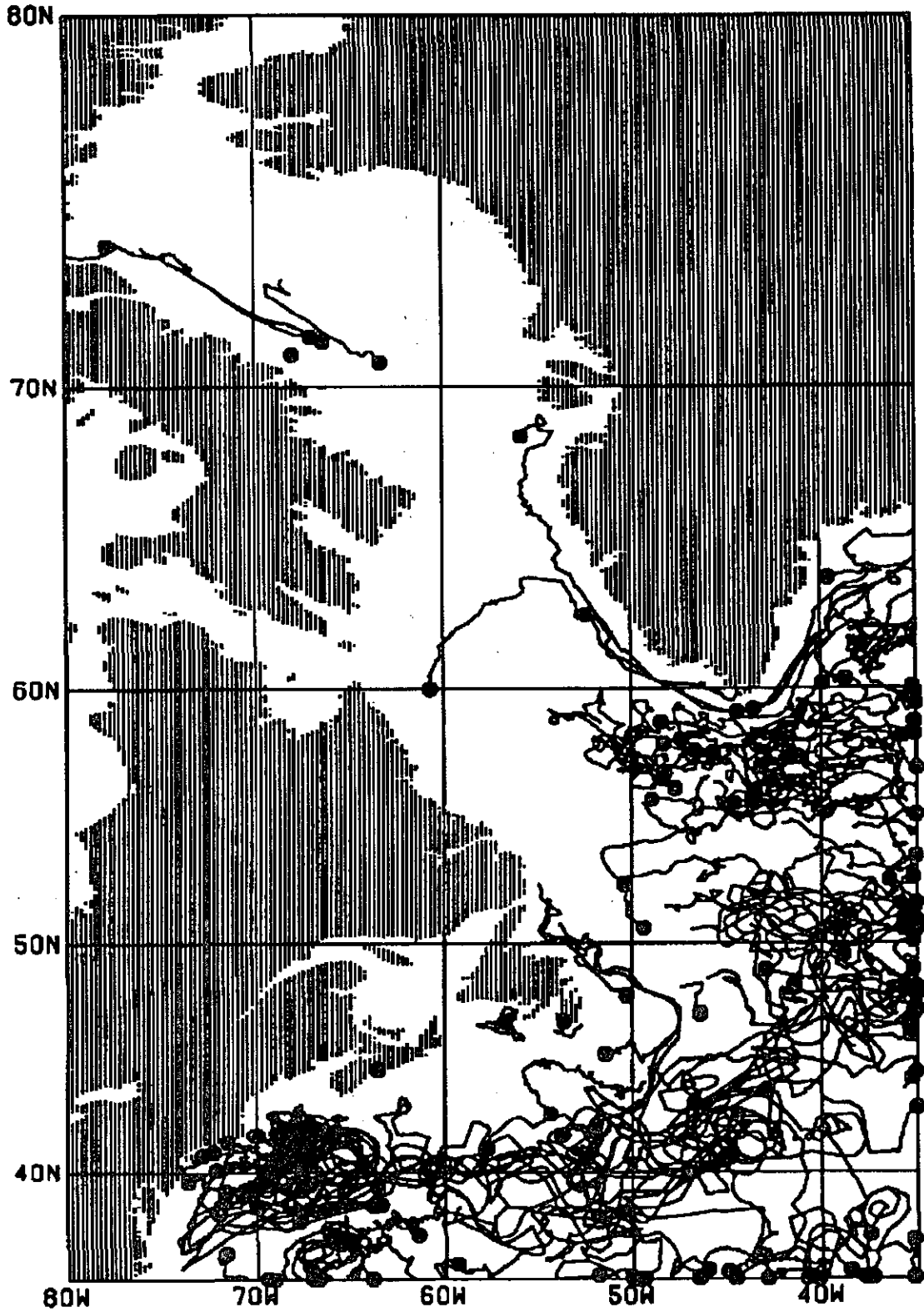
Table 5: Data Collected by Drifing Buoys in the NAFO Area in 1995
 Number of Buoys = 113 and Buoy Days = 9617

BUOY	DATE RANGE	DAYS	SST	AP	AT	WS	WD	TC	NAFO Subarea
13587	Apr-08 - Apr-08	1	X	-	-	-	-	X	6E
13922	Sep-17 - Dec 26	100	X	X	-	-	-	-	6E,6F,6D
13923	Nov-30 - Dec 03	4	X	X	-	-	-	-	6G,6H
25565	May-07 - Dec 31	239	-	X	X	-	-	-	1F,2H

41096	Jan-19	-	Jan-20	1	X	X	-	-	-	-	4S
41526	Nov-07	-	Dec 14	38	X	X	-	X	X	-	6D
41527	Dec 10	-	Dec 14	5	X	X	-	-	-	-	6D, 6C
41581	Oct-29	-	Dec 18	51	X	X	-	-	-	-	6D, 6E
41585	Nov-20	-	Dec 31	42	X	X	-	X	X	-	6D, 6E
41904	Mar-06	-	May-30	85	X	X	-	-	-	-	6H, 6G
41906	Jan-04	-	Feb-07	34	X	X	-	-	-	-	6C
41911	Jun-20	-	Dec 09	172	X	X	-	-	-	-	6C, 6B, 6D, 4X, 4W, 4VS, 6F, 6G, 6H, 3N, 3M
41913	Jan-13	-	Mar-26	73	X	X	-	-	-	-	6E, 4W, 4VS, 6F, 3O, 3N, 3M
41918	Oct-23	-	Nov-04	13	X	X	-	-	-	-	6H
41922	Jan-02	-	Apr-03	91	X	X	-	-	-	-	6F, 6G, 4VS, 3N, 3M
41925	Sep-27	-	Dec 30	94	X	X	-	-	-	-	6H, 6G
41936	Aug-22	-	Dec 31	132	X	X	-	-	-	-	6D, 6E
41939	Sep-12	-	Dec 29	109	X	X	-	-	-	-	6F, 6E, 4VS, 6G, 6H, 3N, 3M
41940	Nov-03	-	Nov-04	1	X	X	-	-	-	-	6D
42514	Mar-04	-	Apr-19	47	X	X	-	-	-	-	6C, 6B, 6D, 4W, 4VS, 6G, 3N, 3M
44502	May-05	-	Oct-06	155	X	X	-	-	-	-	3L, 2J, 3K
44503	May-05	-	Sep-01	120	X	X	-	-	-	-	3M, 3K
44504	Mar-07	-	Apr-30	54	X	X	-	-	-	-	3N, 3M
44505	Apr-12	-	Jul-06	85	X	X	-	-	-	-	3N, 3O, 4VS, 3M
44506	Apr-12	-	Jul-28	108	X	X	-	-	-	-	3N, 3O, 3M, 3K
44507	May-05	-	Dec 31	241	X	X	-	-	-	-	3N, 3O, 3PS, 4VS
44508	May-24	-	Jul-30	68	X	X	-	-	-	-	3N, 3M
44509	Jun-14	-	Jul-05	21	X	X	-	-	-	-	3L, 3M
44510	Aug-11	-	Dec 31	143	X	X	-	-	-	-	3K, 3L, 3N, 3O
44511	Aug-11	-	Dec 31	143	X	X	-	-	-	-	3K, 3L, 3N, 3M, 6H
44518	Jan-23	-	Aug-22	211	X	X	-	-	-	-	5ZE, 4X, 6D, 4W, 6E, 6F
44519	Jan-23	-	Feb-23	32	X	X	-	-	-	-	5ZE, 4X
44521	Jan-23	-	Jul-02	160	X	X	-	-	-	-	5ZE, 4X, 6D, 6E, 4W, 4VS, 3O, 3N, 3M
44522	Jan-23	-	Mar-04	41	X	X	-	-	-	-	5ZE, 4X, 6D, 6E
44523	Jan-23	-	Jun-24	152	X	X	-	-	-	-	5ZE, 4X, 6D, 6E, 4W, 4VS, 3O, 3N, 3M
44524	Feb-28	-	Sep-05	189	-	X	-	-	-	-	5ZE, 5ZW, 6A, 6B, 6D, 4X, 4W, 4VS, 3O
44525	Feb-28	-	Dec 14	290	-	X	-	-	-	-	5ZE, 5ZW, 6A
44526	Feb-28	-	Jul-26	148	-	-	-	-	-	-	5ZE
44527	Feb-28	-	Sep-05	190	-	X	-	-	-	-	5ZE
44528	Feb-28	-	Sep-06	191	-	X	-	-	-	-	5ZE, 5ZW
44529	Aug-01	-	Dec 31	153	X	X	-	-	-	-	4X, 5ZE, 4W, 4VS, 3O, 6G
44531	Aug-01	-	Oct-14	75	X	X	-	-	-	-	5ZW, 4W, 6A
44532	Aug-01	-	Sep-05	36	X	X	-	-	-	-	5ZW, 6A
44534	Aug-01	-	Dec 31	153	X	X	-	-	-	-	5ZE, 4X, 6D, 4W, 4VS
44535	Aug-01	-	Dec 31	153	X	X	-	-	-	-	5ZE, 5ZW, 6B, 6C, 6D, 6E
44536	Aug-01	-	Dec 31	153	X	X	-	-	-	-	5ZE, 4X, 6D, 5ZW, 6B, 6A
44537	Aug-01	-	Aug-14	14	X	X	-	-	-	-	5ZW, 5ZE
44542	Aug-01	-	Dec 31	153	X	X	-	-	-	-	5ZE, 5ZW
44544	Aug-01	-	Aug-04	4	X	X	-	-	-	-	5ZE
44546	Aug-02	-	Sep-12	41	X	X	-	-	-	-	4VS, 6G, 6H
44547	Aug-02	-	Nov-15	105	X	X	-	-	-	-	4W, 6F, 6G, 4VS, 3O, 3N, 6H, 3M
44548	Aug-02	-	Oct-10	70	X	X	-	-	-	-	4W, 6E, 6F, 6G
44552	Aug-01	-	Dec 31	153	X	X	-	-	-	-	5ZE, 4X
44553	Aug-01	-	Sep-06	37	X	X	-	-	-	-	5ZE, 5ZW
44554	Aug-01	-	Dec 31	153	X	X	-	-	-	-	4X, 5ZE, 6D, 5ZW, 6B, 6C
44555	Nov-17	-	Dec 31	45	X	X	-	-	-	-	5ZE, 5ZW, 6A
44556	Aug-01	-	Dec 31	153	X	X	-	-	-	-	5ZE, 5Y, 4X, 6D, 6B, 6E
44557	Nov-17	-	Dec 31	45	X	X	-	-	-	-	5ZE, 6D, 6B
44561	Nov-17	-	Dec 31	45	X	X	-	-	-	-	5ZE, 5ZW, 6B
44563	Aug-01	-	Dec 31	153	X	X	-	-	-	-	5ZE, 5Y, 6D, 6E, 4X, 4W
44564	Aug-01	-	Dec 31	153	X	X	-	-	-	-	5ZE, 5Y, 4X, 6D
44565	Aug-01	-	Dec 31	153	X	X	-	-	-	-	5ZE, 5ZW, 6A, 6B, 6C, 6D
44566	Aug-01	-	Sep-06	37	X	X	-	-	-	-	5ZE

44569	Nov-17 - Dec 31	45	X	X	-	-	-	-	5ZE, 4X
44570	Nov-17 - Dec 31	45	X	X	-	-	-	-	5ZE, 5ZW
44613	Apr-07 - Jul-25	110	X	X	X	X	X	-	2J, 3K, 3L, 3M
44616	May-13 - Jul-30	78	X	X	X	-	-	-	1F, 2J
44624	Jan-01 - Jan-19	19	X	X	X	-	-	-	3K, 2J
44646	Oct-27 - Oct-31	4	-	-	-	-	-	-	0A
44684	Oct-24 - Oct-25	1	-	-	-	-	-	-	4X
44690	Oct-24 - Oct-25	1	-	-	-	-	-	-	4X
44726	Jan-13 - Jan-14	2	X	X	X	-	-	-	1F
44727	Oct-07 - Oct-28	21	X	X	X	-	-	-	2J, 1F
44728	May-15 - Jul-28	75	X	X	X	-	-	-	1F
44742	May-14 - Dec 31	232	X	X	X	X	X	-	1F
44761	Nov-22 - Dec 31	40	-	X	X	-	-	-	1F, 2H
44763	Sep-05 - Dec 31	118	-	X	X	-	-	-	1F
44766	Jan-01 - Jan-20	20	-	X	X	-	-	-	3K
44769	Jul-20 - Jul-20	1	X	X	X	-	-	-	1F
44770	Jan-12 - Sep-08	240	-	X	X	-	-	-	1F, 6H
44774	Nov-30 - Dec 31	32	X	X	X	-	-	-	2H, 2J, 1F
44779	Sep-09 - Sep-15	7	X	X	-	-	-	-	6H
44901	Aug-23 - Dec 31	130	X	X	-	-	-	-	1F
44904	Aug-22 - Dec 30	130	X	X	-	-	-	-	1F
44906	Jan-02 - Oct-18	290	X	X	-	-	-	-	3PS, 1F
44907	Aug-24 - Dec 31	130	X	X	-	-	-	-	1F
44908	Nov-16 - Dec 17	31	X	X	-	-	-	-	3K
44909	Jan-01 - Dec 10	343	X	X	-	-	-	-	3M, 6G, 1F, 1E, 1D, 1C, 1B, 1A
44910	Jul-20 - Aug-16	28	X	X	-	-	-	-	3M
44912	Sep-11 - Nov-28	78	X	X	-	-	-	-	3M
44913	Sep-11 - Dec 31	112	X	X	-	-	-	-	1F
44914	Sep-13 - Nov-13	61	X	X	-	-	-	-	6H, 6G, 3N, 3M
44915	Oct-18 - Dec 30	73	X	X	-	-	-	-	1F
44919	Oct-18 - Dec 29	73	X	X	-	-	-	-	3K, 3L, 3N, 3O
44920	Oct-17 - Nov-23	37	X	X	-	-	-	-	3K, 2J
44921	Nov-07 - Nov-07	1	X	-	-	-	-	-	3K
46510	Jan-25 - Feb-10	16	X	X	-	X	X	-	4X
47531	Oct-31 - Dec 31	62	-	X	-	-	-	-	0A
47532	Nov-17 - Dec 31	45	-	-	-	-	-	-	0A
47533	Nov-17 - Dec 29	43	-	-	-	-	-	-	1A, 0A
47542	Jan-01 - Mar-14	72	-	-	-	-	-	-	0A
52621	Oct-18 - Nov-01	14	X	X	-	-	-	-	4X
56509	Oct-18 - Nov-01	14	X	X	-	-	-	-	4X
56511	Oct-19 - Nov-01	13	X	X	-	-	-	-	4X
56512	Oct-20 - Nov-01	13	X	X	-	-	-	-	4X
62511	Jun-26 - Jun-26	1	X	X	X	-	-	-	2H
62675	Jun-29 - Jun-29	1	X	X	-	-	-	-	1E
62902	Oct-28 - Nov-09	13	X	X	-	-	-	-	6H
64544	Jan-01 - Jun-24	175	X	X	-	X	X	-	1F
64949	Dec 10 - Dec 31	22	X	X	-	-	-	-	1F, 1E, 1D
65581	Jul-13 - Sep-20	70	-	X	X	-	-	-	1F
65901	Aug-23 - Nov-08	78	X	X	-	-	-	-	1F, 1E, 1D, 0B, 2G
65902	Jan-01 - Feb-15	46	X	X	-	-	-	-	3K, 2J, 1F

1995 DRIFTING BUOYS



Current Meter Data

Current meters have been deployed in the NAFO area for many years. The Bedford Institute of Oceanography, Dartmouth, Nova Scotia collects and archives a substantial set of these observations.

Wave Data

Table 6 lists wave measurement data in the NAFO area for 1995. These data are visually inspected and using 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.

Table 6: Wave spectra in the NAFO area for 1995
Total Spectra = 116725

STATION NAME	LATITUDE	LONGITUDE	INST TYPE	WATER DEPTH (M)	NUMBER OF GOOD SPECTRA	NAFO SUBAREA
HOTEL	38.5000	70.7000	US	3231.0	8536	6B
Gulf of Maine	42.9000	68.9000	US	26.0	7272	5Y
Nantucket	40.5000	69.4000	US	62.0	8298	5ZE
Delaware Bay	38.5000	74.7000	US	28.0	7100	6B
Georges Bank	41.1000	66.6000	US	88.0	8517	5ZE
LONG ISLAND	40.3000	73.2000	US	40.0	7527	6A
East Scotian Slope	41.2330	61.4330	AE	4500.0	1546	4W
SW Grand Banks	44.2330	53.6330	AE	1500.0	5650	3O
Banquereau	44.3170	57.3500	AE	1100.0	3246	4VS
Tail of the Bank	42.7330	50.5170	AE	1430.0	2057	5Y
Laurentian Fan	42.0670	56.1500	AE	4500.0	6789	4VS
La Have Bank	42.4670	64.2330	AE	1500.0	3721	4X
Irving Whale	47.3670	63.3330	AE	73.0	3343	3P
Prince Edward Point	43.7830	76.8670	AE	72.0	3076	5Y
Mont Louis	49.5670	65.7670	AE	180.0	1868	4S
Pt. Colbourne	42.7330	79.2830	AE	24.0	764	5Y
TORBAY	47.6330	52.5000	WA	164.4	10037	3L
OSBORNE HEAD	44.4830	63.4170	WA	56.7	16423	4W
Port-Aux-Basques Inn	47.5670	59.1330	WA	27.4	51	3P
Port-Aux-Basques Out	47.5670	59.1000	WA	61.6	82	3P
Point Petre	43.8330	77.3670	ME	40.0	4382	5Y
Baie de Shippegan	47.7920	64.7360	WR	8.0	3713	
Lanoraie	45.964	73.2130	SW	2.0	901	
St-Pierre	46.1950	72.8960	SW	3.0	1826	