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Marine Environmental Data Service Report for 1981/82

by

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### Introduction

This year, data from only about 2,500 oceanographic stations have been received from the NAFO area. A substantial portion of these data have not yet been fully processed by MEDS because of an unusual degree of staff turnover in the section handling data input. This seems to have stabilized for the last 4 months, allowing a more coherent approach to the data received.

As mentioned in last year's report, the information management system has been implemented in its first version as of March 1982. By that time, all of the historical NAFO and ICNAF documents had been reviewed to extract information on historical data collections. In addition, as information about cruises is received, it is logged in the system.

This year, there is no environmental summary given because of the limited number of cruises which are fully processed, and none have data along standard NAFO sections.

### 1981 Data Not Yet Received by MEDS

Table 1a lists information known about data collections which have taken place in the NAFO area but for which no data have yet been received by MEDS. This table has been prepared by making use of our new information management system, called "CAMDI." This will be explained in more detail in the section which discusses the acquisition of historical data. The CAMDI number of each entry allows the rapid retrieval of other data associated with each cruise.

Because the CAMDI system has a more general user community than

NAFO, a modified set of geographic codes, based on the International Hydrographic Bureau set of codes, has been used. Figure 1 shows the relationship between NAFO and IHB zones.

Table 1b lists cruises which have taken place but for which information has not yet been entered into the CAMDI system. Five of the cruises have been reported in NAFO documents, while the rest have been extracted from IGOSS messages received at MEDS.

Table 1 lists upwards of 4700 stations which have not yet been received by MEDS. This is down from last year's estimate of over 6000.

#### 1981 Data Received and Processed

Table 2 lists the data received from collections made in the NAFO area in 1981. As is the case in other years, most is of Canadian origin. The only other country which submitted data was the USSR. The number of hydro casts (1431) and BT data (824) archived this year is approximately 50% of what was done in 1980.

This year, MEDS has had a large turnover of staff in the section handling incoming data. The turnover, coupled with software modifications, has slowed down the processing of data. In spite of this, we were able to fully process about 50% of the 1981 data which were received. Fully processed data have associated track charts, shown in Appendix A.

Although there have apparently been fewer data collected in the NAFO area this year, there have been even fewer received by MEDS. Thus, although there were about 50% fewer stations over last year identified by this report, only about 30% have reached MEDS, compared to 45% last year.

#### Historical Data Acquisition

Of the cruises identified as outstanding in last year's report, it is difficult to estimate how many of these have been received. It is almost certain that none have been received directly. However, a number of cruises have been received through the NODC and WDC-A in the United States. Because of their scheme for identifying cruises and because MEDS has not processed these, it is possible that some of the data appearing in Table 1 from last year's report have been received.

From past years, MEDS received about 4000 stations, with 75% being 1980 data collections. In total, Canada has supplied 2100 stations; the USSR, 1600;

the USA, 268; the Federal Republic of Germany, 76; and Denmark, 55. Almost all of these are still not processed.

Last year, MEDS instituted a computer-based information management system called the Canadian Marine Data Inventory or "CAMDI." The first version of this system became available early in 1982. The basic function of the system is to allow information relating to data collections to be easily accessible to enquiries from MEDS user community. The information is organized into a data base and contains such information as ship, area, date, and type of collections, as well as sponsoring agencies and reference material.

As part of MEDS responsibility to NAFO, a review of historical ICNAF and NAFO documents was undertaken. The review concentrated on identifying material in those documents which were suitable to be included in CAMDI. The review amounted to about 100 CAMDI entries, where one entry may in fact include more than 1 cruise.

Because the information is stored in a data base structure, it is possible to retrieve the data by a number of different criteria. Table 3 has been produced by retrieving from CAMDI all of the cruises in the NAFO area which reside in the system and for which MEDS does not have the data. The contents of the first version of CAMDI have not been integrated with MEDS other data bases yet, so some of the data from the cruise shown may indeed be in MEDS, although a manual check has been made to try to eliminate this possibility. The list has been presented to allow national representatives to check on the whereabouts of these data and to inform MEDS or to supply the data directly.

#### Review of Environmental Conditions in 1981

Appendix A shows the cruise tracks of the data processed from 1981. As can be seen, there were no data collected along standard sections. For this reason, it was not possible to present a review of environmental conditions, as was done last year.

TABLE 1A. Data collections in the NAFO area in 1981 which have not yet reached MEDS.

PLATFORM	START DATE	END DATE	IHB ZONES	#STNS	PARAMETERS	CAMDJ NO.
CANADA						T S C B U
AT CAMERON	24/01/81	01/02/81	1850		X X X	C81133101
AT CAMERON	13/02/81	16/02/81	1860		X X X X	C81334101
AT CAMERON	04/07/81	12/07/81	1860 1900	49	X X X	C81307101
AT CAMERON	16/07/81	25/07/81	1860	32	X X X	C81307101
DAWSON	02/03/81	12/03/81	1860	31	X X X X	C81349101
DAWSON	12/03/81	16/03/81	1860		X X X	C81085H01
DAWSON	22/04/81	01/05/81	1860		X X X X X	C81328101
DAWSON	05/05/81	07/05/81	1860		X X	C81349102
DAWSON	07/06/81	20/06/81	1850		X X	C81286101
DAWSON	17/07/81	25/07/81	2000		X X X	C81261J01
DAWSON	15/11/81	21/11/81	1850		X	C81322102
E.E. PRINCE	02/03/81	13/03/81	1900	152	X X	C81237101
E.E. PRINCE	15/06/81	16/06/81	2000		X X X	C81306102
LADY HAMMOND	19/01/81	20/02/81	1860	156	X X X	C81152101
LADY HAMMOND	23/02/81	06/03/81	1860	86	X X X	C81183101
LADY HAMMOND	09/03/81	19/03/81	1860	58	X X X	C81183101
LADY HAMMOND	23/03/81	02/04/81	1860	116	X X X	C81254J01
LADY HAMMOND	06/04/81	14/04/81	1860	116	X X X	C81254J01
LADY HAMMOND	27/04/81	05/05/81	1860	43	X X X	C81296101
LADY HAMMOND	21/05/81	29/05/81	1860	49	X X X	C81253101
LADY HAMMOND	04/07/81	12/07/81	1860 1900	20	X X X	C81307101
LADY HAMMOND	16/07/81	25/07/81	1860	32	X X X	C81307101
LADY HAMMOND	30/09/81	08/10/81	1860	63	X X X	C82035101
LADY HAMMOND	13/10/81	22/10/81	1860 1900	75	X X X	C82035101
MARK TIDD	17/07/81	05/08/81	2000		X X X	C81306103
PANDORA II	14/04/81	21/04/81	1860	80	X X X	C81166101
PANDORA II	16/05/81	29/05/81	2000	213	X X X X	C81271J01
RICKIE & CHERRY	17/07/81	05/08/81	2000		X X X	C81306103
ST BARNABE	11/06/81	14/08/81	2000	73	X X X X	C81272101
ST BARNABE	17/09/81	28/09/81	2000	47	X X X X	C81321101
THETA	07/01/81	10/02/81	1851	51	X X X X X	C81070981
FED. REP. OF GERMANY						
ANTON DÖHRN	10/02/82	20/03/82	1900 1850	125	X X X X	C82075051
POLAND						
WIECZNO	24/10/81	09/11/81	1850	19	X X X	C82020102
UNITED STATES						
ALBATROSS IV	17/02/81	26/03/81	1850 1860	153	X X X X	C81264101
ALBATROSS IV	01/04/81	10/04/81	1900	18	X X X	C81143101
ALBATROSS IV	15/04/81	01/05/81	1850		X X X X	C81163102
ALBATROSS IV	26/04/81	29/04/81	1850		X X X	C81163102
ALBATROSS IV	18/05/81	30/05/81	1850		X X X	C81265J01
ALBATROSS IV	10/08/81	19/08/81	1850	129	X X X X	C81299101
ALBATROSS IV	22/09/81	06/10/81	1850	140	X X X X X	C82022101
ALBATROSS IV	02/11/81	13/11/81	1860 1850		X X X	C82019102
DELAWARE II	06/01/81	28/01/81	1850	120	X X X	C81104C02
DELAWARE II	17/03/81	03/04/81	1850	139	X X X	C81147101
DELAWARE II	06/04/81	17/04/81	1850	119	X X X	C81163103
DELAWARE II	20/04/81	29/04/81	1850	75	X X X	C81163101
DELAWARE II	05/05/81	14/05/81	1850	75	X X X	C81301101
DELAWARE II	20/05/81	29/05/81	1860	43	X X X X	C81257J01
DELAWARE II	02/06/81	18/06/81	1850	104	X X X	C81257J01
DELAWARE II	03/08/81	21/08/81	1850	74	X X X	C82018101
DELAWARE II	24/08/81	11/09/81	1860	15	X X X	C82018101
DELAWARE II	15/09/81	02/10/81	1850	168	X X X	C82025101
DELAWARE II	05/10/81	16/10/81	1850	100	X X X	C82025101
DELAWARE II	19/10/81	30/10/81	1850 1860	100	X X X	C82025101
DELAWARE II	02/11/81	06/11/81	1900 1860	44	X X X X	C82025101
DELAWARE II	16/11/81	25/11/81	1850	11	X X X	C82019101
GEORGE B. KELEZ	18/03/81	09/04/81	1850	99	X X X X	C81148102
WESTWARD	06/06/81	07/07/81	1860 1850	25	X X X X	C81350101
U S S R						
BGGUSLAV	28/10/81	17/11/81	1850	40	X X X	C82022102
FRGCYON	25/10/81	26/10/81	2100		X X X	C81257106
STVBR	24/09/81	09/10/81	1850	101	X X X	C82020101
STVBR	10/10/81	26/10/81	1850	101	X X X	C82020101
STVBR	28/10/81	17/11/81	1850		X X X	C82018102

Table 1b. Data collections in the NAFO area in 1981 which have not reached MEDS.

Platform	Start Date	End Date	NAFO Area	Number of Stations	Parameters					Reference
					T	S	C	O	U	
G. Atlantica Lady Hammond	20/02/81	11/03/81	CANADA 3M, N, O, 4Vs 4W, X	16	X					SCR 81/VI/23
	01/06/81	11/06/81			X					
Cryos	--/03/81	--/03/81	FRANCE 3Ps	113	X					SCR 81/IV/45
	19/11/81	09/12/81	FEDERAL REPUBLIC OF GERMANY 2H, J, 3K, L, M, N	48	X					IGOSS
Wieczno	22/09/81	06/11/81	POLAND 6A, B, C, D	33	X					IGOSS
North Wind Evergreen	28/09/81	10/12/81	U.S.A. 3M, N, 4Vs, 6D, E 1B, C, D, E, F, 2G, H, J, 3K, L, M, N, O, Ps, 4W, 6D	24	X					IGOSS
	22/06/81	22/08/81		350	X					IGOSS
Albatross IV	12/06/81	29/06/81	6A, B, C, D	21	X					IGOSS
Albatross IV	07/07/81	21/07/81	5Zw, 6A, B, C, D	111	X					IGOSS
Albatross IV	02/08/81	05/08/81	6A, B, C, D	48	X					IGOSS
Albatross IV	29/08/81	16/09/81	5Ze, 6A, B, C, D	96	X					IGOSS
Atlant Passat	03/03/81	04/05/81	U.S.S.R. 4Vs, W, X, 5Ze 3M, N, 4Vs, 6F, G, H	99	X	X				SCR 81/VI/41
	14/11/81	03/12/81		45	X					IGOSS
Monsoon	06/04/81	14/05/81	3M, N, O, 6G, H	24	X					IGOSS
Monsoon	03/12/81	09/12/81	3M, N, O, 6G, H	20	X					IGOSS
E. Krenkel	01/01/81	29/01/81	3Ps, 4W, 6A, B, C, D, E, F, G, H	51	X					IGOSS
Gemma	22/03/81	07/04/81	3M	43	X					IGOSS
Gemma	29/04/81	30/05/81	3M, N	43	X	X				IGOSS
Gemma	21/06/81	25/06/81	3K, L	13	X	X				IGOSS

Table 2. Data collected in the NAFO area in 1981 and received by MEDS.

Track Chart Number	MEDS ID	1981 Date	Subarea	Numbers of Stations	
				BOI	BT
1	180381001	6 - 15 Jan.	4W	12	35
2	180381002	22 Jan. - 19 Feb.	4Vn, Vs, W, X	156	153
3	180381003	24 Feb. - 6 Mar.	4Vn, Vs, W	73	85
4	180381004	10 - 17 Mar.	4W, X	49	59
5	180381005	3 - 13 Mar.	4X, 5Y	152	152
6	180381006	22 - 28 May	4W	---	46
7	180381007	7 - 12 July	4X	43	55
8	180381008	4 - 11 July	4W, X	30	32
9	180381009	16 - 25 July	4Vn, Vs, W	79	93
	180381010	31 July - 10 Aug.	4X	X	X
	180381011	2 - 20 Sept.	4T, S	70	70
	180381012	17 - 23 Sept.	4W, X	39	18
	180381013	30 Sept. - 8 Oct.	4Vs, W	64	9
	180381014	14 - 22 Oct.	4W, X, 5Y, Ze	67	17
	180381015	10 - 22 Nov.	4X, 5Y, Ze	151	---
	180381016	27 Oct. - 12 Nov.	4X, 5Y, Ze	39	---
	183181001	25 - 27 Jan.	4W	4	---
	183181002	13 - 15 Feb.	4W, X	3	---
	183181003	10 - 19 Feb.	4X, 5Ze, 6D	16	---
10	183181004	1 - 12 Mar.	4W, X, 6E	16	---
11	183181009	2 - 11 June	4Vs, W, X	71	---
	90KV80422	9 Nov./80 - 11 Jan./81	1C, D, E, F, 2G, H, J 3K, L	108	---
12	909981004	1 - 12 Mar.	4W, X, 6E	11	---
	909981017	27 Aug. - 12 Sept.	---	79	---
	909981018	16 Sept. - 9 Oct.	---	99	---
				1,431	824

TABLE 3. Historical data collections reported in the NAFO area which have not reached MEDS.

PLATFORM	#STNS	START DATE	END DATE	COUNTRY - DENMARK		GEOGRAPHIC AREA	CAMDI NO.
				IBZ	ZONES		
		30/07/72	19/08/72	2200		DAVIS STRAIT	C82071952
		20/08/72	02/09/72	2200		DAVIS STRAIT	C82071952
		03/09/72	23/09/72	2200		DAVIS STRAIT	C82071952
		01/04/57	30/06/57	2200		DAVIS STRAIT	C82069829
AD0LF JENSEN		06/08/72	04/10/72	2200		DAVIS STRAIT	C81259706
AD0LF JENSEN		01/01/57	31/12/57	2200		DAVIS STRAIT	C82069829
AD0LF JENSEN, TORNAQ	43	01/01/59	31/12/59	2200		DAVIS STRAIT	C82077629
AD0LF JENSEN, TORNAQ		01/01/47	31/12/47	1800	1550	NE ATLANTIC OCEAN	C81258705
DANA		06/07/52	10/08/52	2200		DAVIS STRAIT	C81257103
DANA	15	03/07/53	11/08/53	2100	2200	LABRADOR SEA DAVIS STRAIT	C81259102
DANA	76	29/06/54	30/08/54	2100	2200	LABRADOR SEA DAVIS STRAIT	C81259106
DANA	132	01/07/58	15/08/58	2100	2200 2300	DAVIS STRAIT, BAFFIN BAY, LABR- ADBR SEA	C81282801

COUNTRY - DEM. REP. OF GERMANY

PLATFORM	#STNS	START DATE	END DATE	COUNTRY - DEM. REP. OF GERMANY		GEOGRAPHIC AREA	CAMDI NO.
				IBZ	ZONES		
EISBAK	56	20/04/79	09/05/79	1850		GEORGES BANK	C82075954
EISENVACH	46	16/08/61	26/08/61	2200		WEST COAST OF GREENLAND	C81257803
ERNST HAECKEL	62	23/09/78	20/10/78	2100		LABRADOR SEA	C82075953
ISLAND	17	28/10/59	21/11/59	2100		LABRADOR SEA	C81259803
THUNSFISCH	103	02/09/59	24/09/59	2100		LABRADOR SEA	C81259803

COUNTRY - FED. REP. OF GERMANY

PLATFORM	#STNS	START DATE	END DATE	COUNTRY - FED. REP. OF GERMANY		GEOGRAPHIC AREA	CAMDI NO.
				IBZ	ZONES		
ANT0N D0HRN		01/12/77	03/12/77	2100		HAMILTON INLET BANK	C82070851
ANT0N D0HRN		01/12/78	12/12/78	2200		FYLLAS BANK	C82068705
ANT0N D0HRN	93	27/09/79	19/10/79	1900	1850	GULF OF MAINE	C82075851
ANT0N D0HRN & WALTHER HERWIG	33	08/03/70	28/03/70	1800	2200	NE ATLANTIC OCEAN DAVIS STRAIT	C81257104
ANT0N D0HRN & WALTHER HERWIG		30/11/79	02/12/79	2100		HAMILTON INLET BANK	C82074852
WALTHER HERWIG		14/11/72	30/11/72	1851		GRAND BANKS	C82071853
WALTHER HERWIG		15/02/73	29/03/73	1860		SCOTTIAN SHELF	C82068853
WALTHER HERWIG	50	26/02/73	11/03/73	1850	1860	BROWNS BANK, GEORGES BANK, NAN- TUCKET SHOALS	C82071701
WALTHER HERWIG		26/02/73	11/03/73	1860	1900 1850	GEORGES BANK, NANTUCKET SHOALS - AND BROWNS BANK	C82071834
WALTHER HERWIG		02/11/76	05/11/76	2100		LABRADOR SEA	C82076827
WALTHER HERWIG		17/11/76	29/11/76	2100	2200	DAVIS STRAIT	C82076826
WALTHER HERWIG		28/10/79	15/11/79	2200		DAVIS STRAIT	C82075850

TABLE 3. (Continued).

PLATFORM	#STNS	START DATE	END DATE	IBZ ZONES	COUNTRY = FRANCE	GEOGRAPHIC AREA	CAMDI NO.
CRY08		06/06/75	31/07/75	2000		LANGADE AND MIQUELON ISLANDS	C82075007
		20/05/76	25/07/76	1851 1860		ST PIERRE BANK	C82077026
		01/01/79	31/12/79	1851		GRAND BANKS	C82076051
		01/07/71	31/07/71	1850 1860		NW ATLANTIC OCEAN SCOTIAN SHELF	C81258101
CRY08		06/07/71	28/07/71	1860 2000 1851		GULF OF ST LAWRENCE, GRAND BANKS, SCOTIAN SHELF	C81257Y04
CRY08		09/09/71	24/09/71	1850 1900		GEORGES BANK GULF OF MAINE	C81257Y06
CRY08		25/08/72	24/09/72	2100 2200		LABRADOR SEA DAVIS STRAIT	C82071050
CRY08		28/08/72	23/09/72	2200		DAVIS STRAIT	C81259Y06
CRY08	48	22/01/73	02/02/73	2000		GULF OF ST LAWRENCE	C81259Y05
CRY08		12/05/73	03/06/73	1851 1860		GRAND BANKS SCOTIAN SHELF	C82076001
CRY08		03/09/74	09/09/74	1900 1860 1850		GEORGES BANK	C82070032
CRY08		06/09/74	24/09/74	1850 1860 1900		GEORGES BANK SCOTIAN SHELF	C82071017
CRY08		07/09/74	14/09/74	1900		GULF OF MAINE	C82071015
CRY08		27/09/74	12/10/74	1850 1860 1900		SCOTIAN SHELF, BAY OF FUNDY, NW ATLANTIC OCEAN	C82070011
CRY08		03/10/74	10/10/74	1900 1860 1850		GEORGES BANK	C82070032
CRY08		19/01/75	23/02/75	2000		GULF OF ST LAWRENCE	C82075006
CRY08		10/01/76	08/03/76	2000		GULF OF ST LAWRENCE	C82075006
CRY08		15/03/76	31/03/76	2000 1860		SCOTIAN SHELF	C82077027
CRY08	105	28/10/76	06/12/76	1900 1850 1860		N GEORGES BANK, NANTUCKET SHOALS, MID-ATLANTIC SHELF	C82077028
CRY08	71	13/10/78	31/10/78	1851 2000		ST PIERRE BANK	C82068Y01
CRY08	80	11/01/79	24/02/79	2000 1861 2100		GULF OF ST LAWRENCE, GRAND BANKS, LABRADOR SEA	C82028101
CRY08	53	03/03/79	20/03/79	1861		GRAND BANKS	C82028102
CRY08		11/07/79	12/08/79	1850 1800		NW ATLANTIC NE ATLANTIC OCEAN	C82028103
CRY08	54	08/10/79	27/10/79	1861		GRAND BANKS	C82028102
CRY08	60	12/10/79	31/10/79	1851		GRAND BANKS	C82076050
CRY08		10/01/80	27/02/80	1861 2000 2100		GRAND BANKS, GULF OF ST LAWRENCE, LABRADOR SEA	C82026101
CRY08	40	03/03/80	12/03/80	1851 2000		GRAND BANKS GULF OF ST LAWRENCE	C82026102
CRY08	113	25/09/80	11/11/80	1851 2000		GRAND BANKS GULF OF ST LAWRENCE	C82026102
LA PERLE	75	19/08/80	04/10/80	1860		SCOTIAN SHELF	C82026103
THALASSA	16	16/07/61	05/09/61	1850		GRAND ST PIERRE BANQUEREAU BANK	C81257802
THALASSA	46	09/08/66	15/09/66	1851 2100		GRAND BANKS	C82068025
THALASSA	72	01/03/67	30/04/67	1851 1860 2000		GRAND BANKS, SCOTIAN SHELF, GULF OF ST LAWRENCE	C82077051
THALASSA		01/02/70	31/05/70	1851 1860 2000		GRAND BANKS, SCOTIAN SHELF, GULF OF ST LAWRENCE	C82070009
THALASSA	51	06/07/70	20/08/70	2200		DAVIS STRAIT	C81257103
THALASSA	62	29/08/79	26/09/79	2200 2600		DAVIS STRAIT HUDSON STRAIT	C82029101
THALASSA	82	27/09/79	23/10/79	2200		DAVIS STRAIT	C82029102
THALASSA	51	27/09/79	16/10/79	2200		DAVIS STRAIT	C82074051

TABLE 3. (Continued).

PLATFORM	COUNTRY - ICELAND		#STNS	START DATE	END DATE	IHB ZONES	GEOGRAPHIC AREA	CAMDI NO.
	START DATE	END DATE						
	12	02/07/59	19/07/59	1851	2100	GRAND BANKS	C82078025	
FYLKIR	12	28/08/59	13/09/59	2200		DAVIS STRAIT	C82078025	
FYLKIR	20	18/07/58	02/08/58	2100		HAMILTON BANK	C82077855	
FYLKIR	18	15/09/58	28/09/58	2100		GRAND BANKS, LABRADOR SEA, DAVIS STRAIT, DENMARK STRAIT	C82077855	
	12	01/04/59	15/04/59	1851	2100 2200	IS STRAIT, DENMARK STRAIT	C82078025	
HALLVEIG FRÓDADOTTIR		17/04/57	09/05/57	1800	2200	DAVIS STRAIT (W. GREENLAND BANKS)	C82070830	

PLATFORM	COUNTRY - JAPAN		#STNS	START DATE	END DATE	IHB ZONES	GEOGRAPHIC AREA	CAMDI NO.
	START DATE	END DATE						
SHIRANE MARU	220	01/01/70	31/12/70	1860		SCOTTIAN SHELF	C82069028	
SHIRANE MARU	175	03/06/78	03/07/78	1860		SCOTTIAN SHELF	C82068702	
		17/10/78	16/11/78	1860		SCOTTIAN SHELF	C82068702	

PLATFORM	COUNTRY - NORWAY		#STNS	START DATE	END DATE	IHB ZONES	GEOGRAPHIC AREA	CAMDI NO.
	START DATE	END DATE						
	13	21/07/53	11/08/53	2200		DAVIS STRAIT	C81259101	
		11/07/54	24/07/54	2200		DAVIS STRAIT	C82069027	
		03/08/55	04/08/55	2200		DAVIS STRAIT	C82068104	
		19/08/57	25/08/57	2200		DAVIS STRAIT (W. GREENLAND BANKS)	C82070031	
		20/06/58	04/07/58	2200		DAVIS STRAIT	C82078050	
		05/07/58	06/07/58	2200		DAVIS STRAIT	C82078050	
		06/06/75	31/07/75	2200		DAVIS STRAIT	C82070810	
	72	07/08/52	29/09/52	2200		DAVIS STRAIT	C81258704	
	49	08/04/59	22/04/59	2200		WEST COAST OF GREENLAND	C81259801	
		17/05/72	19/06/72	1800	1851	GRAND BANKS NW ATLANTIC OCEAN	C81259704	
		17/05/72	19/06/72	1851		GRAND BANKS	C82070853	
		14/03/75	05/04/75	2100		LABRADOR SEA	C82075003	
		24/07/54	26/07/54	2200		DAVIS STRAIT	C82069027	

TABLE 3. (Continued).

PLATFORM	#STNS	START DATE	END DATE	IHB ZONES	COUNTRY - POLAND	GEOGRAPHIC AREA	CAMDI NO.
KANTAR	42	05/12/71	11/12/71	2200		DAVIS STRAIT	C81258Y01
SEJWAL		17/12/72	25/02/73	1850		GEORGES BANK	C82071016
WIECZNB		16/07/78	12/08/78	1850 1860		SCOTTIAN SHELF	C82068Y03
		18/06/64	29/07/64	2100 1800 1860		LABRADOR SEA, GRAND BANKS, SCOT- TIAN SHELF, GEORGES BANK	C82076003
				1850			
WIECZNB		20/04/65	17/05/65	1851 1860		GRAND BANKS	C82068051
WIECZNB		06/08/65	02/10/65	1851 1860		GRAND BANKS	C82068051
WIECZNB		01/11/66	31/12/66	1860		SCOTTIAN SHELF	C82068026
WIECZNB	39	31/10/67	14/11/67	1860 1850 1900		GEORGES BANK	C82077052
WIECZNB		01/01/68	31/12/68	1851		GRAND BANKS	C82077003
WIECZNB		01/03/68	19/03/68	1860		SCOTTIAN SHELF	C82077003
WIECZNB		05/09/68	28/10/68	1850		GEORGES BANK	C82077003
WIECZNB	142	02/10/72	28/10/72	1860 1850 1900		GEORGES BANK, GULF OF MAINE, NAN- TUCKET SHOAL AND SCOTTIAN SHELF	C82070052
WIECZNB	141	02/10/72	28/10/72	1850 1860 1900		GEORGES BANK, GULF OF MAINE, S- COTTIAN SHELF	C81259Y02
WIECZNB	130	02/10/72	28/10/72	1860 1900 1850		GEORGES BANK GULF OF MAINE	C82071054
WIECZNB		27/09/74	18/10/74	1900 1860 1850		GEORGES BANK GULF OF MAINE	C82071014
WIECZNB	56	18/04/78	30/04/78	1851		FLEMISH CAP	C82075052

PLATFORM	#STNS	START DATE	END DATE	IHB ZONES	COUNTRY - ROMANIA	GEOGRAPHIC AREA	CAMDI NO.
		01/07/67	31/10/67	1860 1850		GEORGES BANK	C82077053
		01/08/68	23/10/68	1850 1900		GEORGES BANK GULF OF MAINE	C82077004

PLATFORM	#STNS	START DATE	END DATE	IHB ZONES	COUNTRY - SPAIN	GEOGRAPHIC AREA	CAMDI NO.
CIERZO	54	25/05/75	30/06/75	1851 1860		GRAND BANKS SCOTTIAN SHELF	C82075001
MISTRAL		01/06/55	31/07/55	1861		GRAND BANKS	C82068105
VENDAVAL	45	26/06/54	09/07/54	1851		GRAND BANKS	C81259105
VIRAZON		01/02/53	05/04/53	1851		ST PIERRE BANK BANQUEREAU BANK	C81258Y08
		15/06/64	31/08/64	2100 1851 1800		GRAND BANKS	C82068003

PLATFORM	#STNS	START DATE	END DATE	IHB ZONES	COUNTRY - UNITED KINGDOM	GEOGRAPHIC AREA	CAMDI NO.
ERNEST HOLT		09/04/63	01/05/63	1800 1850		NE ATLANTIC OCEAN, SE GREENLAND	C82068002
ERNEST HOLT	44	09/04/63	01/05/63	1800 1850		D	C82068002
SCOTIA		13/08/72	26/08/72	2200		NE ATLANTIC OCEAN SE GREENLAND DAVIS STRAIT	C81259Y06

TABLE 3. (Continued).

PLATFORM	COUNTRY - UNITED STATES		GEOGRAPHIC AREA	CAMDI NØ.
	#STNS	END DATE		
		IBZ ZONES		
		1850 1851 1860	NORTHWEST ATLANTIC OCEAN	C81341003
		1900 2000 2100		
ALBATROSS IV	153	01/01/30 31/12/80	GULF ØF MAINE GEORGES BANK	C81257Y01
ALBATROSS IV	175	02/12/71 17/12/71	COASTAL ATLANTIC OCEAN	C81023L01
ALBATROSS IV	138	24/09/80 30/10/80	NW ATLANTIC OCEAN	C81104C04
ATKA	53	17/11/80 23/12/80	DENMARK STRAIT & NØRWEGIAN SEA	C81077Y03
DELAWARE II	141	28/01/52 18/02/52	GEORGES BANK, SCØTIAN SHELFF, G- ULF ØF MAINE.	C81023U01
		07/11/80 1860 1850 1900		
DELAWARE II	27	12/11/80 14/11/80	GULF ØF MAINE	C81023U01
DELAWARE II	69	02/12/80 19/12/80	NW ATLANTIC OCEAN	C81104C03
EDISTØ	33	23/03/51 06/04/51	DENMARK STRAIT & NØRWEGIAN SEA	C81077Y03
EDISTØ	15	28/01/52 06/02/52	DENMARK STRAIT	C81077Y03

PLATFORM	COUNTRY - U S S R		GEOGRAPHIC AREA	CAMDI NØ.
	#STNS	END DATE		
		IBZ ZONES		
		1860	SCØTIAN SHELFF	C81257B04
		1860	SCØTIAN SHELFF	C81257B04
		2100 1851	GRAND BANKS LABRADØR COAST	C81258B02
		1860	SCØTIAN SHELFF	C81257B04
		2100	LABRADØR SEA	C82077B01
		1850	GEORGES BANK	C82077B01
		1860	SCØTIAN SHELFF	C82077B01
		1851	GRAND BANKS	C82077B01
		2200	DAVIS STRAIT	C82077B01
		1860	SCØTIAN SHELFF	C82068Ø52
		1850	GEORGES BANK	C81257Y05
		2100 1800 1851	GRAND BANKS NW ATLANTIC OCEAN	C81259Y03
		1851	GRAND BANKS	C81258Y02
		1850 1900	GEORGES BANK	C81257Y02
		1860	BØWNS BANK HUDSON CANYON	C81257Y05
		1860 1900 1850	GEORGES BANK GULF ØF MAINE	C82071Ø54
		1860 1900 1850	GEORGES BANK GULF ØF MAINE	C82071Ø54
		1800 1851	GRAND BANKS	C82075Ø05
		1900 1850 1860	SCØTIA SHELFF AND GEORGES BANK	C82071Ø33
		1850	GEORGES BANK	C81258B01
		1850	GEORGES BANK	C81258B01
		1850	GEORGES BANK	C81258B01
		1850 1900 1860	GEORGES BANK	C82074Ø50
		1850 1900 1860	GEORGES BANK	C82074Ø50
		1860 1850	NW ATLANTIC OCEAN, SCØTIAN SHE- LF	C82076Ø28
AKADEMIK KNIPØVICH	200	01/01/71 31/10/71		
ARGUS	300	01/04/72 31/07/72		
ARGUS	100	01/06/71 31/07/71		
ARGUS	28	05/06/71 29/06/71		
ARGUS	60	01/07/71 31/07/71		
ARGUS	130	22/09/72 30/09/72		
AYAKS		12/10/72 28/10/72		
		01/09/75 30/09/75		
BAKLCHISARAI & ARGUS		01/01/72 31/12/72		
BALAKLAVA & BØGUCHAR		01/06/61 30/06/61		
BALAKLAVA & BØGUCHAR		01/10/61 31/10/61		
BALAKLAVA & BØGUCHAR		01/12/61 31/12/61		
BEØGØRSK		01/08/73 31/08/73		
BEØGØRSK		15/10/73 01/11/73		
BEØGØRSK	69	01/11/74 31/12/74		

TABLE 3. (Continued).

PLATFORM	#STNS	START DATE	END DATE	IHB ZONES	COUNTRY - U S S R	GEOGRAPHIC AREA	CAMD1 NØ.
BELBØRSK	27	16/02/79	06/03/79	1860		SCØTIAN SHELF	C82076952
BELBØRSK	54	10/03/79	13/04/79	1860 1850		NW ATLANTIC ØCEAN	C82075955
BELBØRSK	30	10/05/79	22/05/79	1850 1860		SCØTIAN SHELF GULF STREAM	C82076952
BELBØRSK	30	25/05/79	04/06/79	1850 1860		SCØTIAN SHELF GULF STREAM	C82076952
BLESK		10/10/68	07/11/68	1850		NW ATLANTIC ØCEAN	C82069905
FØTØN (SRM=R024)	162	21/09/77	14/10/77	1860		SCØTIAN SHELF	C82070950
GEMMA		24/04/74	06/07/74	2100 1851		GRAND BANKS LABRADØR SEA	C82075902
GEMMA		25/04/74	06/07/74	2100 1851		LABRADØR SEA GRAND BANKS	C82071913
GEMMA		06/12/74	01/01/75	2100 1851		GRAND BANKS LABRADØR SEA	C82075902
KREML		01/07/66	31/10/66	1851 2100		GRAND BANKS	C82069904
KREML		01/12/66	28/02/67	1851		GRAND BANKS	C82069904
MEDVEZHYY, PERSEY III, KRØNSTADT		01/07/76	31/10/76	2200 2300		DAVIS STRAIT	C82077925
NEPTUN		01/11/68	31/12/68	2100		LABRADØR SEA	C82077905
NIKOLAI KØRØBØV		01/03/75	31/03/75	2200		DAVIS STRAIT	C82075904
NOVBØRSIISK	113	28/04/61	18/05/61	1851 2100		GRAND BANKS LABRADØR ØBAST	C81258801
NOVBØRSIISK		01/11/65	31/03/66	2100		LABRADØR SEA	C82069904
NOVBØRSIISK		01/05/66	31/07/66	1850 1860 1851		NW ATLANTIC, SCØTIAN SHELF AND GRAND BANKS, RETURN	C82069904
ØDESSA	70	30/06/61	29/07/61	1851 2100		GRAND BANKS LABRADØR ØBAST	C81258801
ØDISSEY		01/10/75	31/10/75	2100		LABRADØR SEA	C82075905
ØDYSSSEUS		01/06/76	30/06/76	2200 2100 1851		LABRADØR SEA, GRAND BANKS, DAVIS STRAIT, NW ATLANTIC ØCEAN	C82076930
PERSEUS III		01/09/70	02/09/70	1800 2100		NE ATLANTIC ØCEAN LABRADØR SEA	C81257106
PERSEUS III		01/01/71	31/12/71	2200		DAVIS STRAIT	C81257105
PERSEUS III	300	01/05/71	31/07/71	1851		GRAND BANKS	C81258102
PERSEUS III	12	01/11/71	15/11/71	2100		LABRADØR SHELF	C81257105
PERSEUS III		01/04/72	30/07/72	1800 1851 2100		LABRADØR SEA GRAND BANKS	C81258103
PERSEUS III		01/10/72	31/10/72	1800 1851 2100		LABRADØR SEA GRAND BANKS	C81258103
PERSEUS III		01/10/72	31/10/72	2100		LABRADØR SEA	C82070954
PERSEUS III		24/07/74	20/08/74	1851 2100		GRAND BANKS LABRADØR SEA	C82071913
PERSEUS III		24/07/74	20/08/74	2100 1851		GRAND BANKS LABRADØR SEA	C82075902
PERSEUS III		19/12/74	20/12/74	2200		DAVIS STRAIT	C82075902
PERSEUS III		25/06/75	19/09/75	2100 1851		GRAND BANKS LABRADØR SEA	C82075902
PERSEUS III		25/06/75	19/09/75	2100 1851		LABRADØR SEA, GRAND BANKS ØF NE, WØUNDLAND	C82076929
PERSEUS III		23/03/76	02/07/76	2100 1851		LABRADØR SEA, GRAND BANKS ØF NE, WØUNDLAND	C82076929
PERSEUS III		01/11/76	31/12/76	2200 2100 1851		LABRADØR SEA, GRAND BANKS, DAVIS STRAIT, NW ATLANTIC ØCEAN	C82076930
PERSEUS III & ØØSSIYA & ØRØCYØ-		16/01/70	30/01/70	1850 1860 2000		SCØTIAN SHELF ST LAWRENCE GULF	C81257106
PERSEUS III & ØØSSIYA & ØRØCYØ-		14/04/70	30/04/70	1860 2000		SCØTIAN SHELF ST LAWRENCE GULF	C81257106
PERSEUS III & ØØSSIYA & ØRØCYØ-		22/08/70	31/08/70	1860 2000		SCØTIAN SHELF ST LAWRENCE GULF	C81257106
PERSEUS III & ØØSSIYA & ØRØCYØ-		05/10/70	30/10/70	1860 2000		SCØTIAN SHELF ST LAWRENCE GULF	C81257106
PERSEUS III & ØØSSIYA & ØRØCYØ-		26/07/78	01/08/78	1851		FLEMISH CAP	C82068104
ØØBØDA		01/02/65	31/05/65	1851 1800		GRAND BANKS NE ATLANTIC ØCEAN	C82069904

TABLE 3. (Continued).

PLATFORM	COUNTRY - U S S R	#STNS	START DATE	END DATE	IHB ZONES	GEOGRAPHIC AREA	CAMDI NO.
PUREDA			01/05/66	31/08/66	2200	DAVIS STRAIT	C82069804
PURFDA			01/09/66	31/10/66	2200	DAVIS STRAIT	C82069804
POLYARNBYE STYANIE			01/07/75	31/07/75	2200	DAVIS STRAIT	C82075804
PR0CYBN			23/04/70	12/06/70	1851	GRAND BANKS	C81258Y02
PR0CYBN			01/09/70	30/10/70	1851	GRAND BANKS	C81258Y02
PR0CYBN		100	01/01/71	31/12/71	2200	DAVIS STRAIT	C81257Y05
PR0CYBN			01/03/71	31/07/71	1851	GRAND BANKS	C81257Y05
PR0CYBN		238	22/03/71	08/05/71	1851	GRAND BANKS	C81258Y02
PR0CYBN			23/11/71	11/02/72	1851	GRAND BANKS	C81258Y02
PR0CYBN			01/12/71	28/02/72	1800	LABRADOR SEA	C82070854
PR0CYBN			01/04/72	30/06/72	1800	LABRADOR SEA	C81258Y03
PR0CYBN			30/10/74	31/10/74	2100	LABRADOR SEA	C82075802
PR0CYBN & PERSEUS III			01/04/72	30/06/72	1851	GRAND BANKS	C82070854
FR0GNOZ		90	12/10/74	30/10/74	1900	GEORGES BANK	C82071812
FR0GNOZ			21/11/79	31/12/79	1860	GEORGES BANK	C82076853
R0SSIA		108	13/01/68	23/01/68	1850	GEORGES BANK	C82077805
R0SSIA			13/01/68	23/01/68	1860	SCOTTIAN SHELF	C82077805
R0SSIA			01/04/68	30/06/68	1851	GRAND BANKS	C82077805
R0SSIA			02/05/68	09/05/68	1850	GEORGES BANK	C82077805
R0SSIA			02/05/68	09/05/68	1860	SCOTTIAN SHELF	C82077805
R0SSIA			01/07/68	24/07/68	1850	GEORGES BANK	C82077805
R0SSIA			02/08/68	18/08/68	1850	GEORGES BANK	C82077805
R0SSIA			02/08/68	08/08/68	1860	SCOTTIAN SHELF	C82077805
R0SSIA			03/09/68	09/10/68	1850	GEORGES BANK	C82077805
R0SSIA			09/10/68	19/10/68	1850	GEORGES BANK	C82077805
R0SSIA			09/10/68	14/10/68	1860	SCOTTIAN SHELF	C82077805
R0SSIA			03/04/69	02/08/69	1851	GRAND BANKS	C82069808
R0SSIA			03/08/69	31/12/69	1851	GRAND BANKS	C82069808
R0SSIA			14/12/69	14/02/70	1851	GRAND BANKS	C81258Y02
R0SSIA			15/05/70	13/08/70	1851	GRAND BANKS	C81258Y02
R0SSIA			01/05/66	31/07/66	2100	LABRADOR SEA	C82069804
SEVASTOPOL		225	07/07/59	20/08/59	2100	LABRADOR SEA	C81259802
SEVASTOPOL			01/12/64	28/02/65	1851	GRAND BANKS	C82069804
SEVASTOPOL			01/07/65	31/10/65	1851	GRAND BANKS	C82069804
SEVASTOPOL			01/08/65	31/08/65	2300	DAVIS STRAIT	C82068852
SEVASTOPOL			01/12/65	28/02/66	1851	GRAND BANKS	C82069804
SEVASTOPOL					2200	6F ST. LAWRENCE AND DAVIS STRAIT	
SEVASTOPOL			01/12/65	31/12/65	2300	DAVIS STRAIT	C82068852
SEVASTOPOL			01/05/66	30/06/66	1851	GRAND BANKS	C82069804
T0PSEDA		261	05/05/61	17/06/61	2200	DAVIS STRAIT	C81258801
T0PSEDA		258	25/08/61	13/09/61	2200	DAVIS STRAIT	C81258801
T0PSEDA			01/06/65	30/09/65	1851	GRAND BANKS	C82069804
T0PSEDA			01/06/65	30/09/65	2200	AVIS STRAIT	
T0PSEDA			01/06/65	30/06/65	2300	DAVIS STRAIT	C82068852
T0PSEDA			01/07/65	31/07/65	2300	DAVIS STRAIT	C82068852
VOLG0GRAD			01/01/68	31/12/68	2100	LABRADOR SEA	C82077805
ZARNITSA			01/12/75	31/12/75	2200	DAVIS STRAIT	C82075804

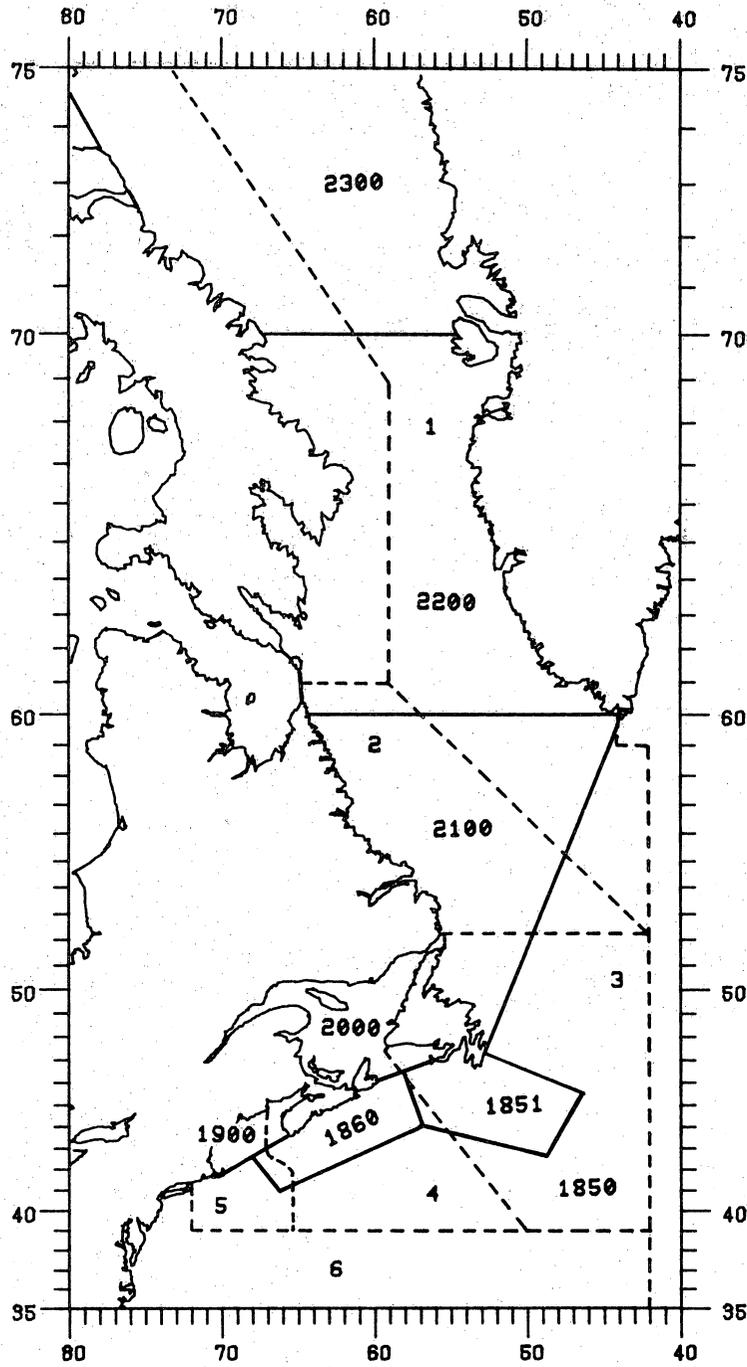
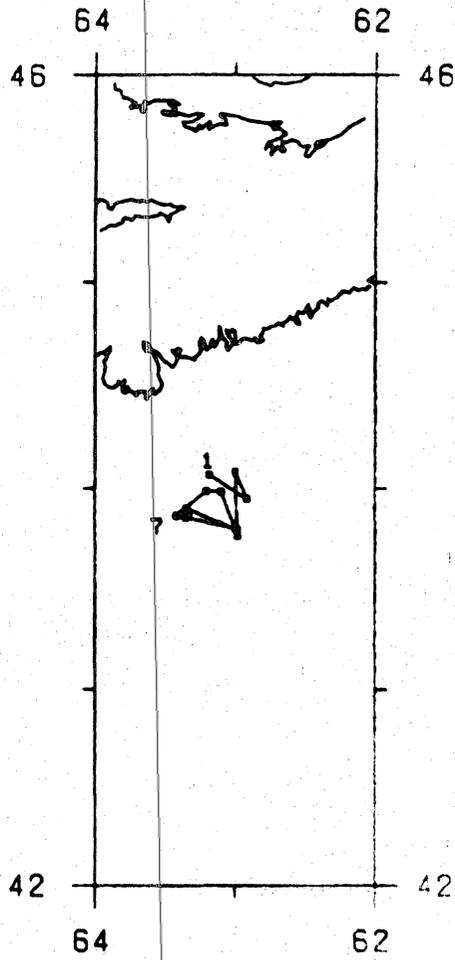


Figure 1: NAFO areas (outlined by dashed lines and numbers 1 to 6) and IHB zones (solid lines and 4 digit numbers).

APPENDIX A: Cruise Tracks

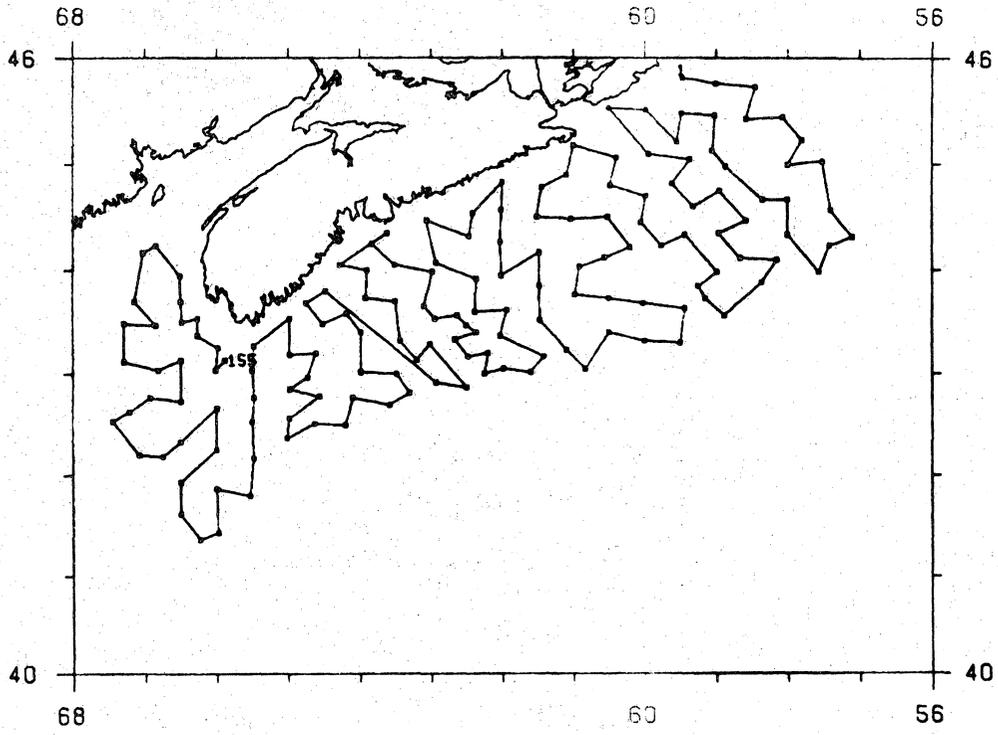


CRUISE 180381001

5/ 1/81 - 15/ 1/81

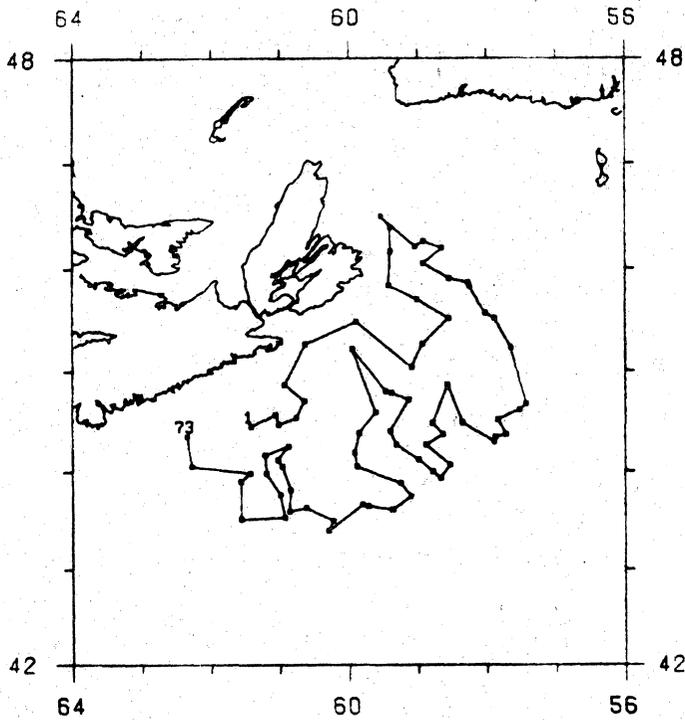
12 STATIONS

Figure A-1



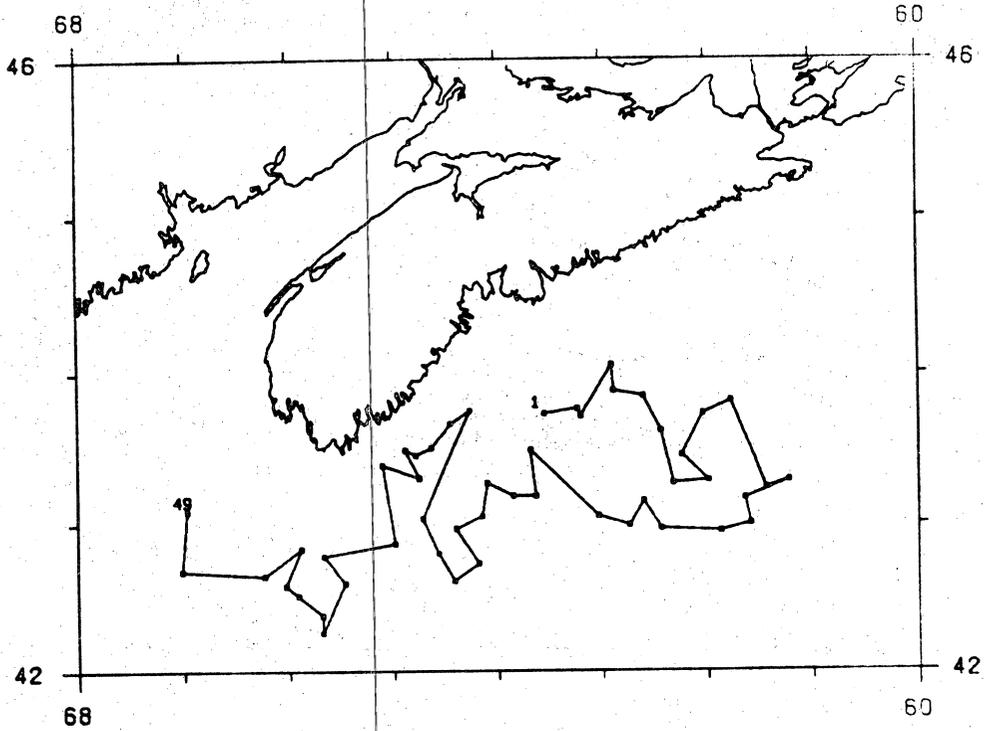
CRUISE 180381002      22/ 1/81 - 19/ 2/81      156 STATIONS

Figure A-2



CRUISE 180381003      24/ 2/81 - 6/ 3/81      73 STATIONS

Figure A-3

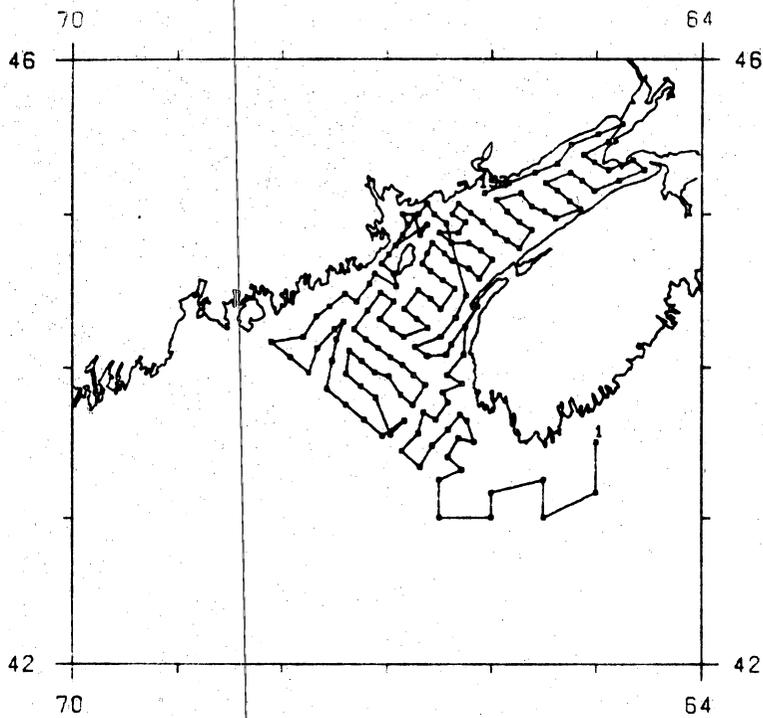


CRUISE 180381004

10/ 3/81 - 17/ 3/81

49 STATIONS

Figure A-4



CRUISE 180381005

3/ 3/81 - 13/ 3/81

152 STATIONS

Figure A-5

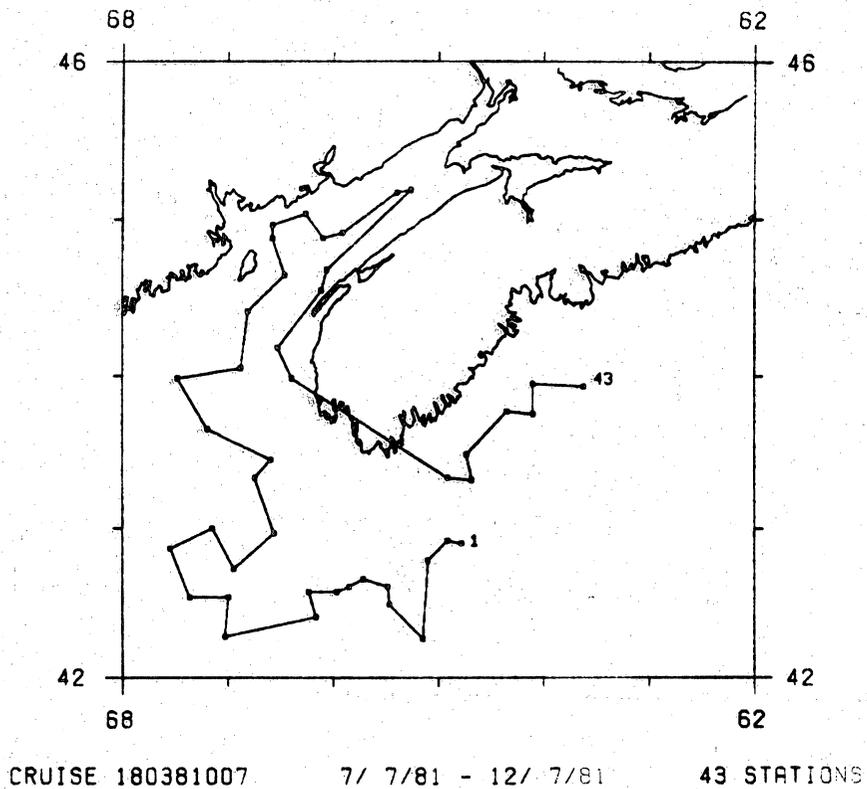


Figure A-6

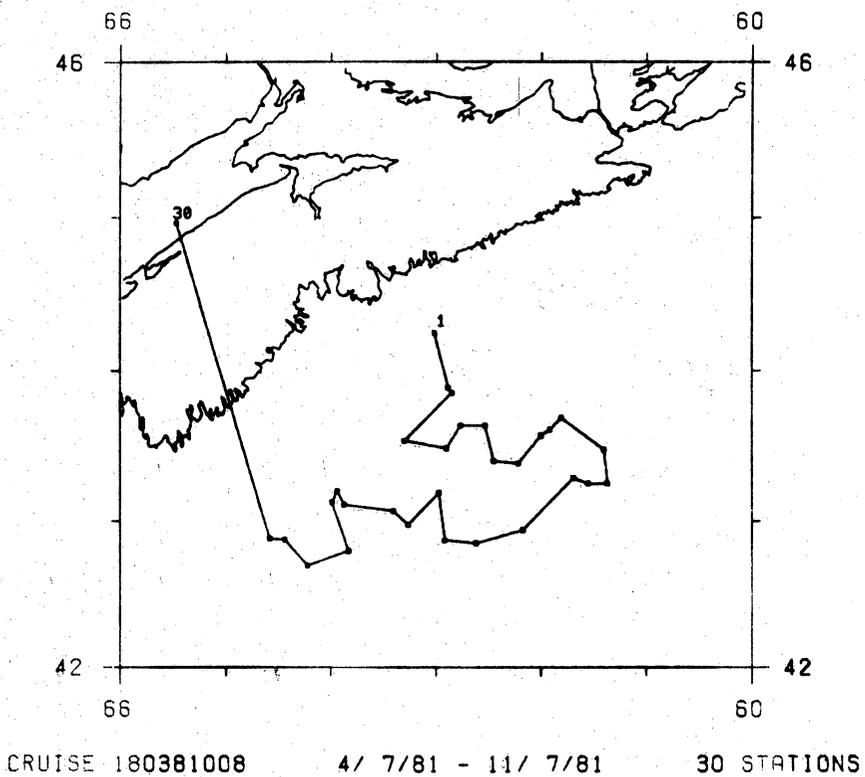
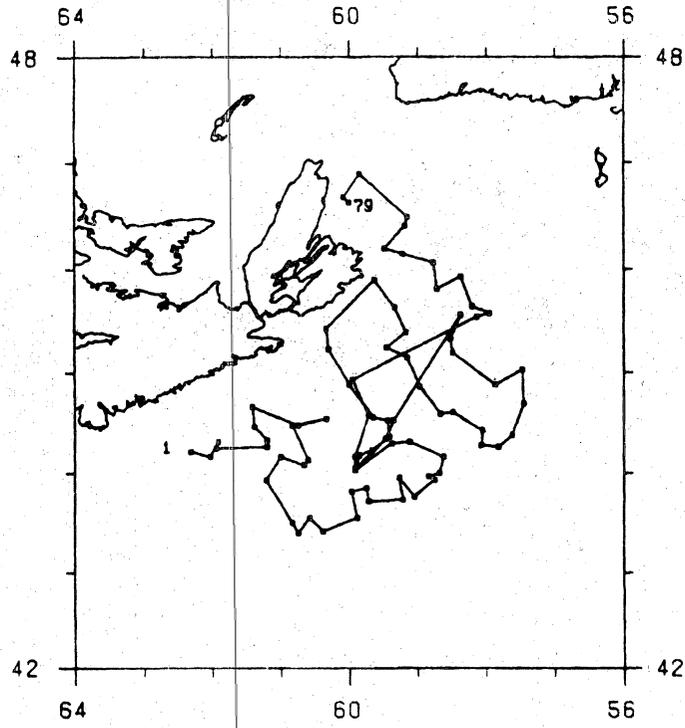
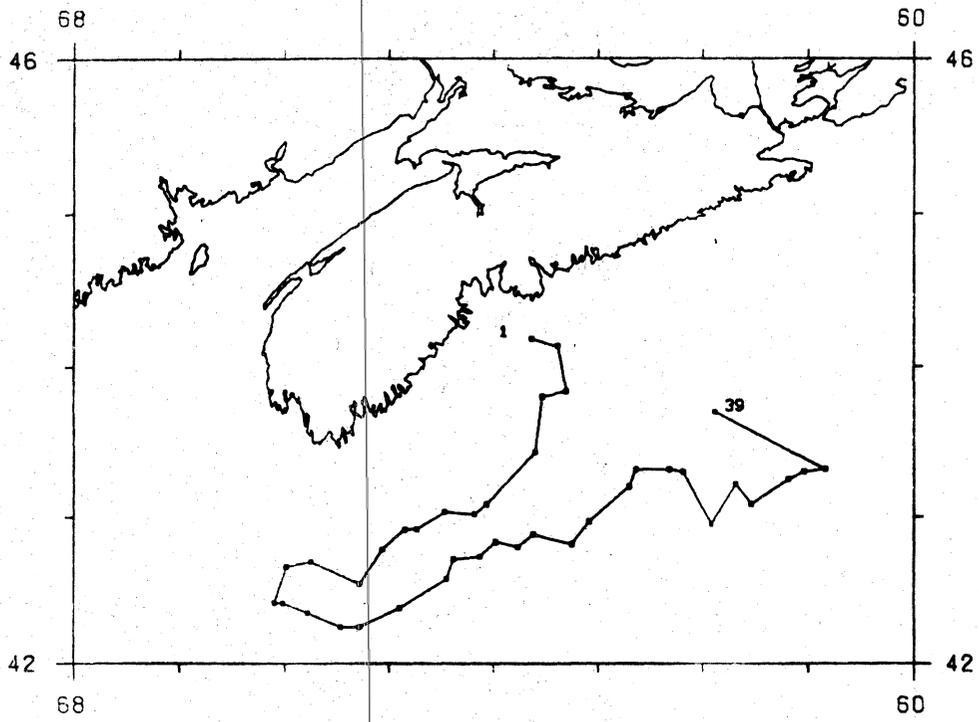


Figure A-7



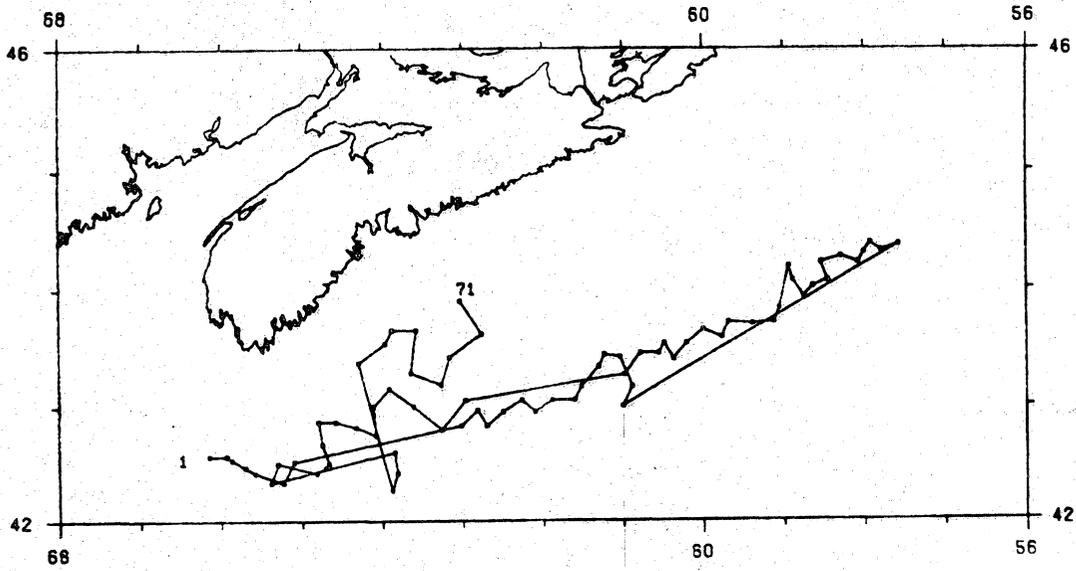
CRUISE 180381009 16/ 7/81 - 25/ 7/81 79 STATIONS

Figure A-8



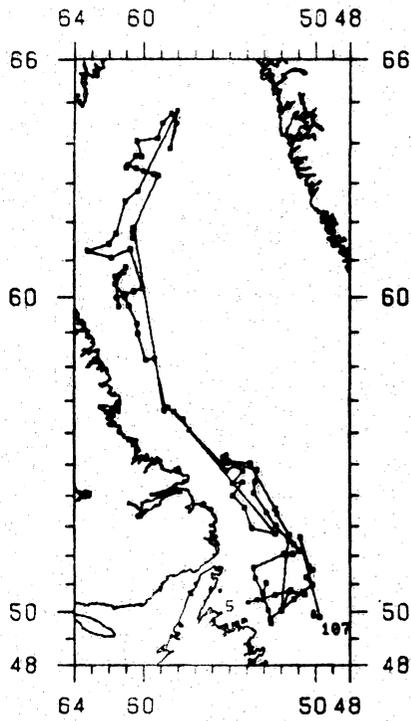
CRUISE 180381012 17/ 9/81 - 23/ 9/81 39 STATIONS

Figure A-9



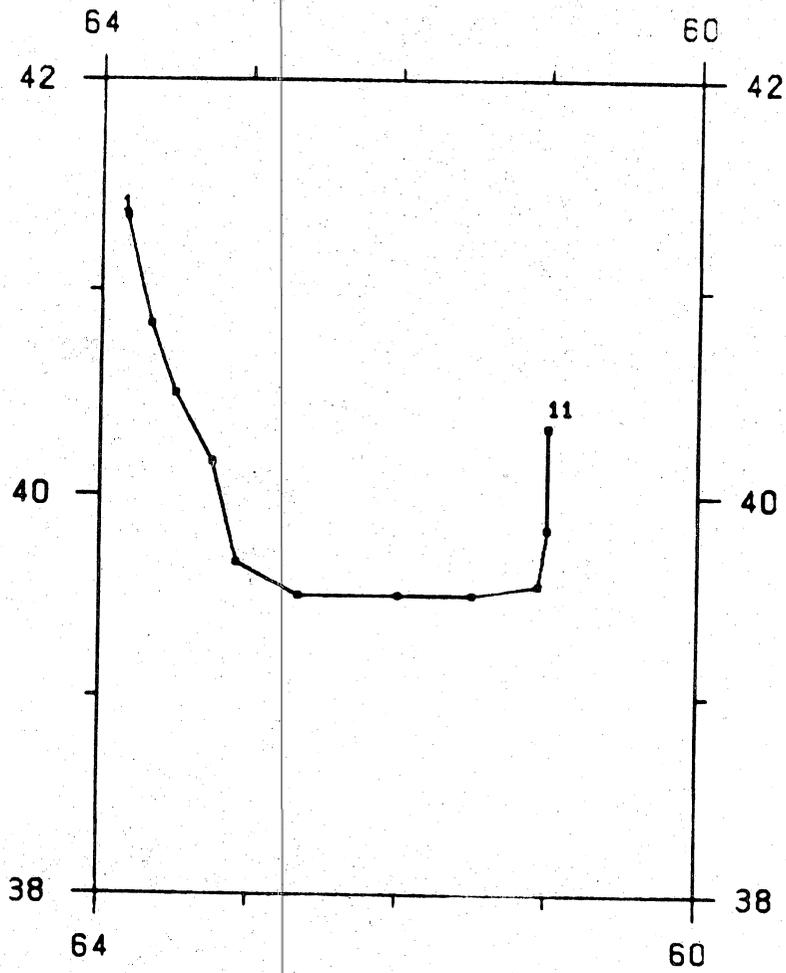
CRUISE 183181009 2/ 6/81 - 11/ 6/81 71 STATIONS

Figure A-10



CRUISE 90KV80422 9/11/80 - 31/ 1/81 108 STATIONS

Figure A-11



CRUISE 909981004

1/ 3/81 - 12/ 3/81

11 STATIONS

**Figure A-12**