Université du Québec
Institut national de la recherche scientifique
Eau, Terre et Environnement

DISTRIBUTION OF TEMPERATURE AND SALINITY IN THE CANADIAN ARCTIC ARCHIPELAGO DURING THE 2006 ARCTICNET SAMPLING EXPEDITION
(FROM AUGUST 22nd TO NOVEMBER 9TH 2006)

By

Annie Simard[1], Marie-Emmanuelle Rail[1] and Yves Gratton[1]

[1]INRS-Eau, Terre et Environnement
490, de la Couronne
Québec, Qc
Canada, G1K 9A9

MARCH 2010

CORRECT CITATION FOR THIS PUBLICATION :

Simard, A., M.E. Rail and Y. Gratton. 2010. Distribution of temperature and salinity in the Canadian Arctic Archipelago during the 2006 ARCTICNET sampling expedition (from August 22nd to November 9th 2006). Report No R1127, INRS-ETE, Québec (Qc): vi + 79 p.

ABSTRACT

This report presents the CTD (Conductivity, Temperature and Depth) data obtained during the 2006 ArcticNet expedition held between August 22nd and November 9th in the Canadian High Arctic. The report also contains information on the data obtained by the Self Contained Autonomous Micro Profiler (SCAMP), moorings and ship mounted Acoustic Doppler Current Profiler (SM-ADCP) that were recorded during the same expedition. Detailed maps of sampling sites for each Arctic region are included. CTD's temperature and salinity data are presented as contour plots following West-East or South-North sections. Examples of ADCP and SCAMP data are also included.

RÉSUMÉ

Ce rapport présente les données de CTD (conductivité, température et profondeur) recueillies au cours de la mission ArcticNet 2006 qui s'est déroulée dans l'Arctique canadien du 22 août au 9 novembre. Il présente également des informations sur les données du Self Contained Autonomous Micro Profiler (SCAMP), du Acoustic Doppler Current Profiler (ADCP) de coque et des informations sur les données de mouillage récupérées au cours de la même mission. Des cartes détaillées montrant les sites d'échantillonnage pour chacune des régions arctiques y sont incluses. Les données de température et de salinité du CTD y sont illustrées sous forme de contours effectués le long de sections ouest-est ou sud-nord. Deux exemples des données enregistrées par le SCAMP et un ADCP sont présentés.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF APPENDICES

FOREWORD : ARCTICNET AND THE NETWORK OF CENTRES OF EXCELLENCE

The Canadian Network of Centres of Excellence (NCE) is a unique joint program that brings together several universities, government agencies, industrial companies and non-profit organizations. Their mission is to increase Canada's economy and social benefits through research and entrepreneurial programs. Three Canadian federal granting agencies – the Canadian Institutes for Health Research (CIHR), the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Social Sciences and Humanities Research Council of Canada (SSHRC) – and Industry Canada, have combined their efforts to financially support and oversee the initiatives of the NCE. (NCE web site at http://www.nce.gc.ca)

ArcticNet is one of the NCE networks and brings together scientists and managers in the natural, environmental, social sciences and human health. Several Inuit organizations, northern communities, as well as government and industrial agencies have joined ArcticNet in their mission. More than 100 ArcticNet researchers and students from 28 Canadian universities and 5 Federal departments collaborate on 27 research projects with teams from U.S.A., Japan, Denmark, Norway, Poland, the U.K., Spain, Russia, Greenland and France.

The ArcticNet Network investigators study the impacts of climate change in Canadian Arctic to assess the effect of ongoing warming and modernization on Canadian Arctic ecosystems, economies and societies, and help Canadians face the impacts and opportunities that may occur due to climate change in the Arctic. ArcticNet's structure is set to translate the growing understanding of the changing Arctic ecosystem into national policies, adaptation strategies and impact assessment studies conducted on societies and marine / terrestrial coastal ecosystems in the Canadian High Arctic, the Eastern Arctic, Hudson Bay and Eastern Sub Arctic. (Please see the ArcticNet Annual Report 2004-2005 for more information). (ArcticNet web site at http://www.arcticnet.ulaval.ca)

1. INTRODUCTION

ArcticNet's 2006 expedition was carried out from August 22nd to November 9th. During the first six weeks (leg 1 or 0602), the ship covered the coastal Canadian Arctic (Fig. 1) from Northern Baffin Bay in the East to Beaufort Sea in the West. On September 28th, it started a second six weeks journey (leg 2 or 0603) sailing through the Northwest Passage again, but passing through Bellot Strait, Gulf of Boothia and Foxe Basin to end up in Hudson Strait.

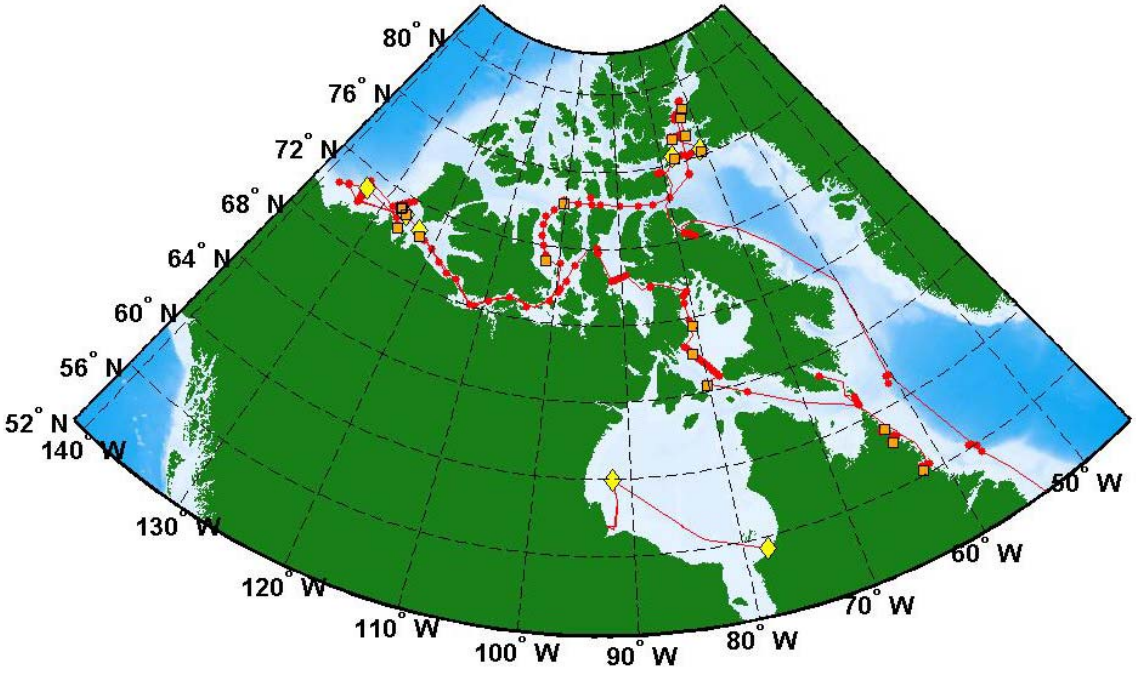


FIGURE 1. ArcticNet 2006 study area. Ship track is illustrated as a red line, Rosette-CTD sampling locations are represented by red dots, yellow diamond-shaped dots show mooring sites and SCAMP sampling stations are represented by orange squares.

This report provides the ArcticNet community with a synthesis of the available data recorded during this 3-month expedition. Enclosed data consists of 253 Rosette-CTD (Conductivity Temperature Depth profiler) and 82 SCAMP (Self Contained Autonomous Profiler) profiles. Also included is information about a year of data recorded by 27 different instruments from nine (recuperated) mooring lines as well as current data recorded along the ship track by a ship mounted ADCP (Acoustic Doppler Current Profiler).

Related Studies

Several published studies and scientific papers have reported on the physical oceanographic processes in the Canadian Arctic. Extensive CTD profiles were collected in the polynyas of the North Water (NOW) in northern Baffin Bay. Gratton *et al.* (2006) presents the NOW program data in their report and two special issues have been published, Atmosphere-Ocean (volume 29, n°3, 2001) and Deep-Sea Research II (volume 49, n°22-23, 2002), with studies of the North Water Polynya. Stewart and Lockhart (2005) have recently carried out an extensive study on the Hudson Bay region. The oceanography of the Northwest Passage was the subject of a chapter in a special issue of «The Sea» (volume 14, part B, 2005). In this paper, McLaughlin *et al.* presented their comprehensive study of all the oceanographic aspects and processes encountered in the Northwest Passage and explain in details the physical and chemical oceanography of this area. The Beaufort Sea and Amundsen Gulf are the Canadian Arctic regions that have been studied the most extensively over the years, especially during the Canadian Arctic Shelf Exchange Study (CASES) program and subsequently during ArcticNet expeditions and later on this year during various projects involved with the Circumpolar Flaw Lead System Study (CFL) and the International Polar Year (IPY) programs. All the publications regarding the CASES projects can be found on the CASES website (at http://www.cases.quebec-ocean.ulacal.ca). In 2008, the Journal of Geophysical Research published eleven papers from the CASES program in a special issue, volume 113, number C3. The same year, a book containing a synthesis of the work performed in every main research subject of the program was edited by L. Fortier, D. Barber and J. Michaud. It was titled : *On thin Ice*. Simard *et al.* (2008) have also prepared a synthesis report regarding the CTD profiles and other physics data generated during the CASES 2002-2004 expeditions. The oceanography of the Beaufort Sea was also discussed by Ingram *et al.* in part «A» of the special issue of «The Sea» (volume 14, part A, 2005).

2. SAMPLING PROGRAM

Rosette

During the 2006 expedition, the rosette was equipped with 24 «Niskin» 12 L bottles, a CTD SeaBird 911+ and eight independent sensors (see Table 1 for sensors specifications). It was deployed from the ship and lowered into the water column at a rate of 1 m s^{-1}. CTD profiles were carried out in the Canadian Arctic and Hudson Bay (see Fig. 2 and Appendix 1A) following a schedule of 6 sections, 72 stations and 115 casts during Leg 0602 and a schedule of 11 sections, 105 stations and 138 casts during Leg 0603 (see Table 2 and Table 3). A summary and the «Logbook» of the CTD profiles available for all stations are presented in Appendix 2 and in Rail (2006a and 2006b) sampling reports. Appendix 2 also presents the «Logbook» of the 7 CTD profiles performed in 2006 during a short mooring deployment and recovery expedition in Hudson Bay on the CCGS Pierre Radisson.

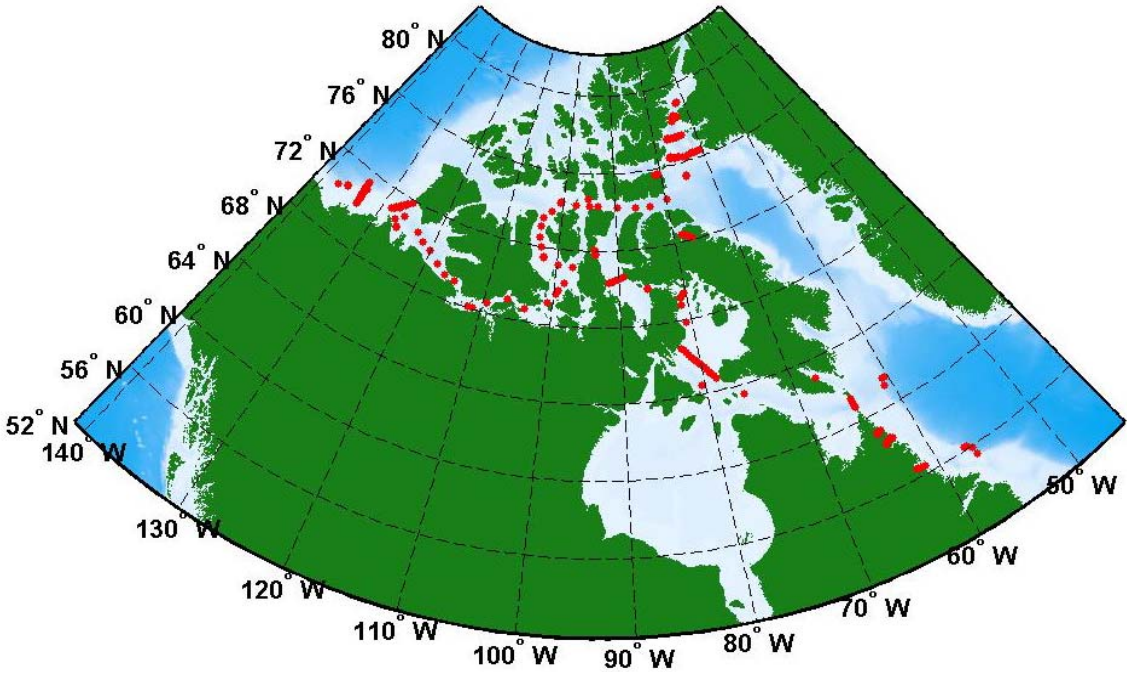
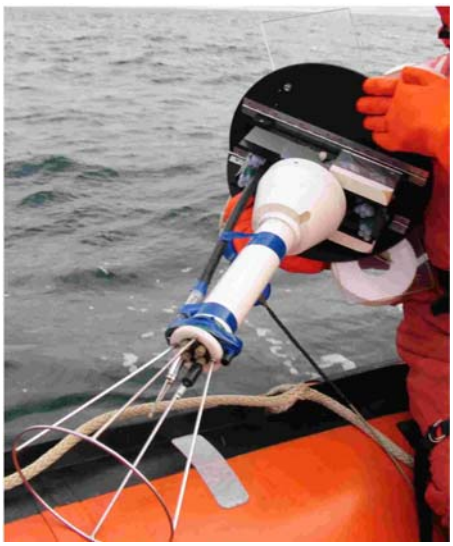


FIGURE 2. 2006 Rosette sampling sites

The processing and quality control of CTD data are presented in section 3 of this report. As a general «rule of thumb» CTD data are reserved for the ArcticNet Network Investigators for a period of 3 years. After this period, data will be hosted on the ArcticNet and/or the Integrated Service Data Management (ISDM) website and will be available to the international community.

Self Contained Autonomous Micro Profiler (SCAMP)



The SCAMP is a CTD-type profiler. It samples at a frequency of 100 Hz (i.e. 100 times per second). It free falls at approximately 10 cm s^{-1}, resulting in a vertical resolution of approximately one (1) millimetre, down to a maximum depth of 100 m. The instrument measures the temperature and salinity fluctuations at the micro-scale in order to estimate the turbulent mixing occurring in the water column. To properly measure (as opposed to "estimate") turbulence we should also be measuring the velocity fluctuations. Unfortunately, we do not have velocity sensors (due to budget limitations). The current sensors on the SCAMP include temperature (three sensors), salinity (i.e. conductivity; two sensors), a PAR (Photosynthetically Active Radiation) and fluorescence.

SCAMP profiles were carried out in Baffin Bay, Victoria Strait, Beaufort Sea and Amundsen Gulf, Foxe Basin and Labrador fjords (see Fig. 3 and Appendix 1B). Measurements were taken at 8 stations (29 casts) during leg 0602 and 12 stations (53 casts) during leg 0603 for a total of 82 different profiles. The logbook of SCAMP profiles is presented in Appendix 3. Two examples of data profiles are presented in Appendix 4. Scamp data are not available yet. When available, processing and quality control protocols will be provided at the same time as the scamp data.

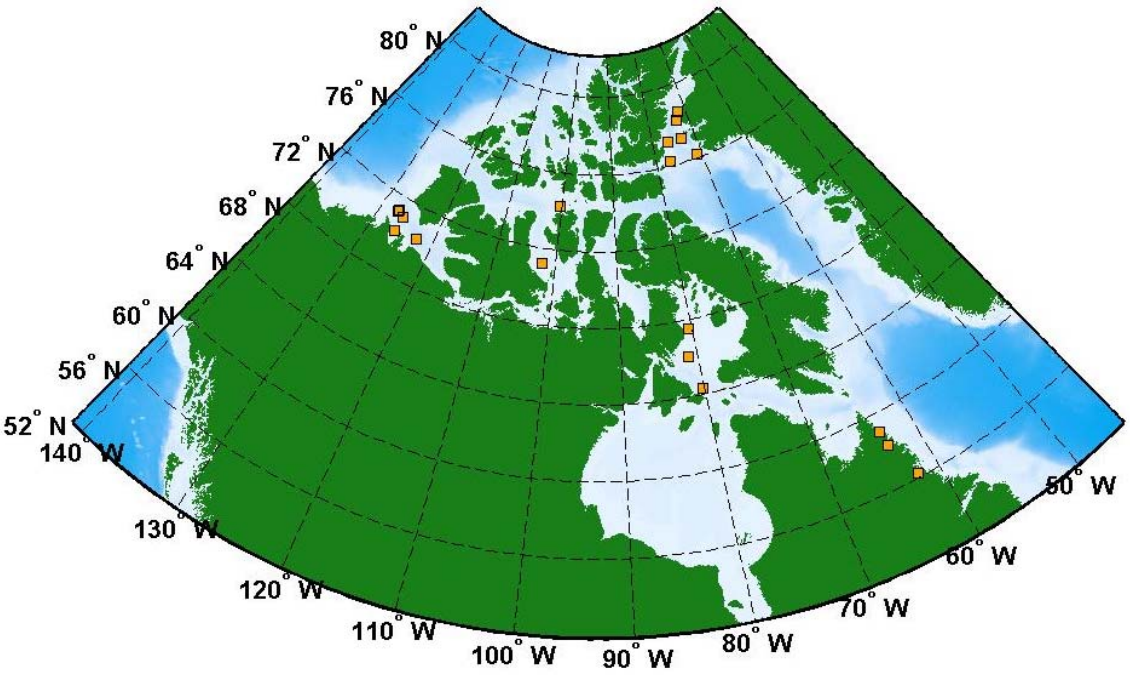


FIGURE 3. SCAMP 2006 sampling sites

Moorings

Nine moorings deployed in Beaufort Sea, Baffin Bay and Hudson Bay in 2005 were retrieved in August, September and October of the 2006 (see Fig. 4 and Appendix 1C). A summary of the 34 instruments, sensors, and validated data is presented in Table 4. The instruments included five RDI 300 kHz Workhorse ADCPs, two RDI 75 kHz Long Ranger ADCPs, eight Aanderaa RCM-11 (Recording Current Meters), six Aanderaa RCM-4 (Recording Current Meters), four Aanderaa RCM-7, three Alec conductivity-temperature sensors, four Sea-Bird SBE-37 conductivity-temperature sensors and two Sea-Bird SBE-26 wave and tide recorders. The data recovery was only partly successful due to instrument malfunctions and two moorings were never recovered (BA04-05 and AN02-05). Michaud *et al.* (2006) and Rail *et al.* (2010) have summarized all the problems encountered in their technical report. Some of the recovered moorings were processed and redeployed for another year of measurements (see Fig. 5 and Appendix 1C). ArcticNet moorings are identified according to the following guidelines: the letters and the first two digits represented the location (CA: Beaufort Sea; BA: Baffin Bay and AN: Hudson Bay); the last two digits are the deployment year.

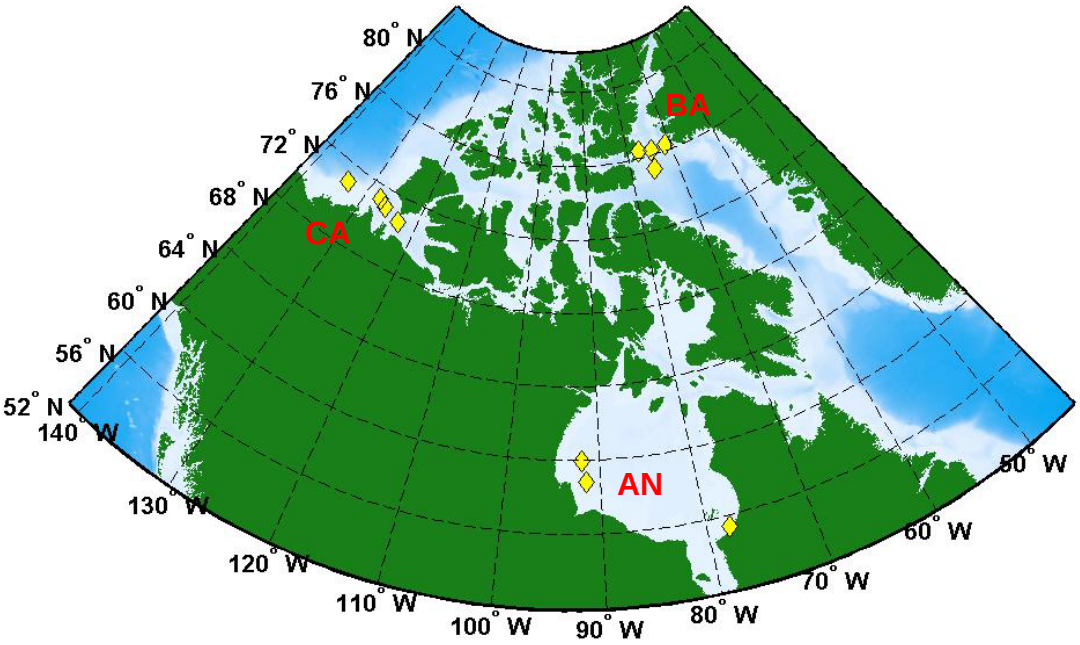


FIGURE 4. Moorings deployed in 2005 and recovered in 2006

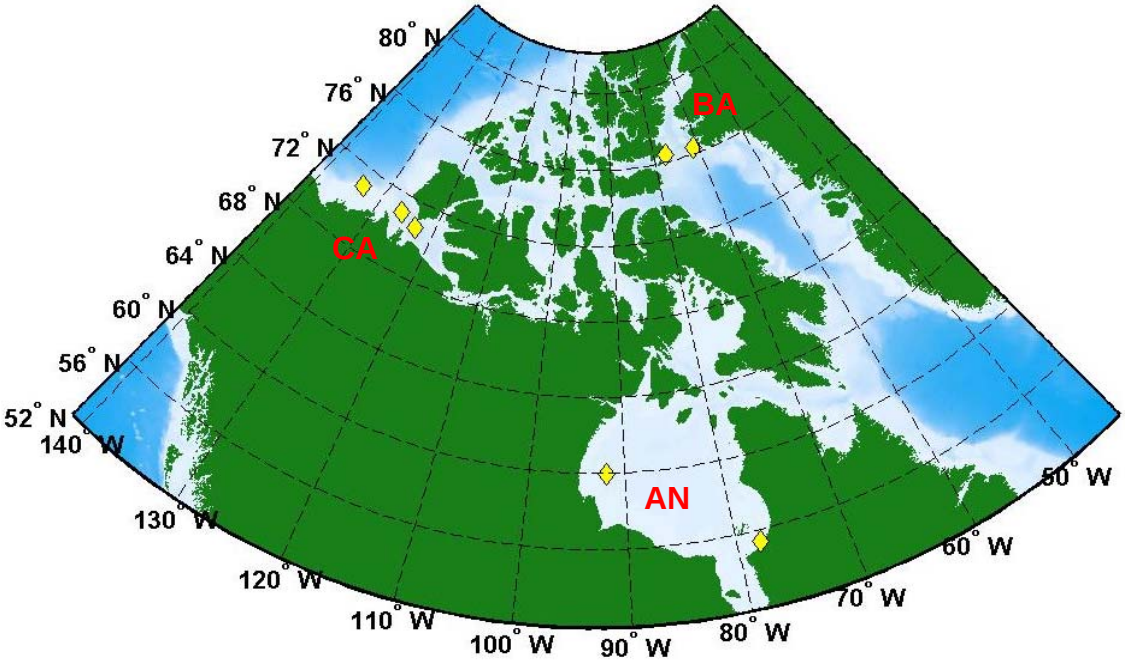


FIGURE 5. Moorings deployed in 2006

Ship mounted Acoustic Doppler Current Profiler (ADCP)

In 2006, the CCGS Amundsen was equipped with a new RDI Ocean Surveyor (ship-mounted) 150 kHz ADCP. The settings used for the 2006 expedition were chosen according to RDI technical staff recommendations. The hull ADCP has recorded current data along the ship track from the beginning to the end of the 2006 expedition (see Fig 6). Note that the ship track in the Hudson Bay is for the CCGS Pierre Radisson which is not equipped with a hull-mounted ADCP. Ship-mounted ADCP data included date and time, ship localisation, and finally an average of current speed and current direction for every 8 m cell from 8 m under the ship hull to maximum bottom tracking depth. Averages are available for a five and a ten minutes period. The ADCP setting was changed at the end of the first leg in an attempt to synchronize the hull ADCP with another sensor (an EK-60) mounted close to the ADCP on the Amundsen's hull. Because of sound attenuation by the ice window, the maximum bottom-tracking depth is around 240 m. This value is reduced to 100-150 m when the ship is steaming.

Data validation was not performed. Tests were done at the beginning of the expedition in the St Lawrence River near Sept-Îles and the collected data was saved for use in future data validation processes. Note that the raw data is available upon request.

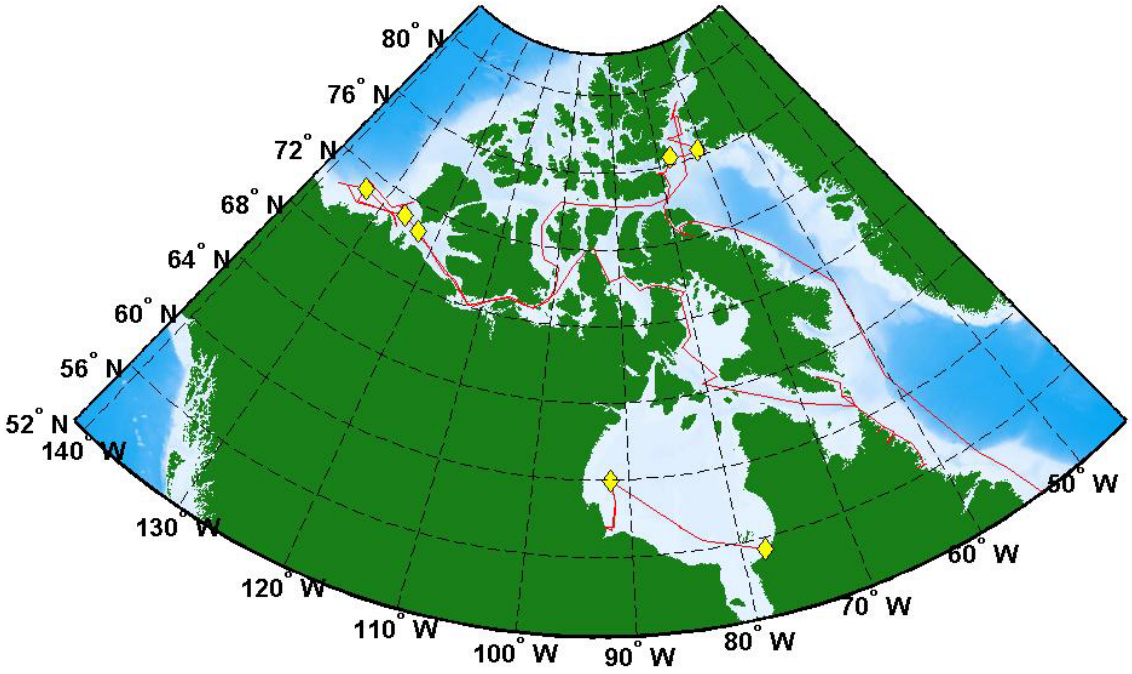


FIGURE 6. Moored-ADCP deployed in 2006 and ship-mounted ADCP sampling sites. The moored-ADCP stations are illustrated by yellow diamond markers and the ship-mounted ADCP is illustrated by the red ship track.

3. DATA PROCESSING AND QUALITY CONTROL

Rosette-CTD data

Rosette-CTD data processing and quality control are described in detail by Guillot (2003, 2006a and 2006b). The «READ ME » file attached to each yearly CTD data set also presents the most important processing steps and changes made to the data files. All users should read these files so they can be aware of data limitations.

Processing included the following steps: calibration of coefficients, conversion of data to physical units, alignment correction and extraction of useless data. Oxygen sensor calibration was done using Winkler titrations and salinity data were compared with water samples analysed with a Guildline 8400B autosal. The CTD data were passed through a quality control test based on UNESCO's algorithm standards (1990). The recorded data were averaged every 1 db. The computed oceanographic parameters (see Table 5) were calculated using the averaged recorded data. Missing data were linearly interpolated. Finally, there is one ASCII file for every CTD cast. The content of a typical ASCII file is shown in Table 5.

CTD profiles cover the water column down to 10 meters from the sea-bed. To reduce the amount of information presented in this report, temperature and salinity contours are only provided for each section shown on Fig. 2 and Appendix 1A. The contours are presented in Appendices 5 and 6. All the profiles along the same section were used in the interpolation process. The temperature and salinity data were interpolated on a 5 km by 5 m grid with a triangle-based cubic interpolation method and contoured in Matlab®. The origin of each section is the westernmost or southernmost cast. For the West-East sections, Canada is on the left and Greenland on the right; for the South-North sections, South is on the left and North on the right.

Mooring data

Processing steps for mooring data are described in Rail *et al.* (2010). It consisted of meta-data and calibration coefficients validation, control of the instrument depth and clock, and comparison of mooring data with Rosette-CTD data recorded at the same location. Instrument depths and salinity data were corrected by adding an offset when requested. Erroneous time tags were corrected. Missing data and questionable data are mentioned in the quality control report, and they were replaced by NaNs. Users should consult the Quality Control Report (Rail *et al.* 2010). ASCII files were created for every instrument (Table 4).

Moored ADCP data

The processing and quality control of ArcticNet ADCP data are still ongoing. The quality control procedures on ADCP data were adapted from the «ADCP*tools*» box of the U.S. Geological Survey's «*Sediment Transport Instrumentation Group*». The «ADCP*tools*» functions used by the USGS were adapted to the peculiarities of

ArcticNet's data. The tests include the validation of the calibration, data and meta-data. The modified tests used are based on comparisons between data and defined «thresholds». If a data point does not meet the thresholds it is rejected and all its associated data points are then considered as «questionable». A document presenting in detail the finalized procedures of processing and quality control of ADCP data is available (Guillot 2007). An example of a stick diagram produced with the 2003-2004 ADCP data is shown in Appendix 7.

4. DISCUSSION

The sampling area covered by the ArcticNet 2006 expedition was huge (as usual): Hudson Bay and Strait, Foxe Basin, northern Baffin Bay, Canadian Arctic Archipelago, Amundsen Gulf and southern Beaufort Sea. The associated data base is enormous and will take a few years to process. In a twelve-week (two six-week legs) yearly expedition we can barely obtain a snapshot of the four sub-regions. The CAA is much better sampled this year. Of special interest are the first and only ArcticNet sections in Foxe Basin (Appendix 6).

Three on-going studies are worth mentioning. Romain Lanos has completed his study of southern Beaufort Sea and Amundsen Gulf using the CASES (Canadian Shelf Exchange Study) and ArcticNet 2004-2006 CTD data. In his Ph.D. thesis (Lanos 2009), he describes the regional and seasonal variability in the Beaufort Sea – Amundsen Gulf region. An on-going study of the SCAMP turbulent profiles (C. Sévigny, Ph.D. thesis in progress) show from the 2005 data, that the turbulence is dominated by double-diffusive processes in Smith Sound. Additional SCAMP profiles were obtained in CAA and Beaufort Sea in 2006. We observed that the turbulent mechanical processes (probably wind and tidal mixing) are dominating the double-diffusive processes in Beaufort Sea and Amundsen Gulf. Current pulses were observed in the 2003-2004 and 2004-2005 mooring data at CA04. The pulses have been related to storms in Bering Strait by C. Bélanger (Bélanger et al., submitted). Once the 2007-2008 data has been processed we will have a six year time series of the general conditions in Beaufort Sea and Smith Sound.

5. ACKNOWLEDGMENTS

We thank Captains Julien and Gariépy and their crew aboard the CCGS Amundsen for their outstanding collaboration. We also thank the «Rosette team», Véronique Lago, Stéphane Thanassekos, and all the «Rosette monkeys» for their outstanding sampling effort cast after cast after cast. Thanks to the mooring team: Luc Michaud, Pascal Massot, Sylvain Blondeau, Alexandre Forest, Louis Létourneau and Marc Robitaille. Thanks to Caroline Sévigny and Dany Dumont for their zodiac outings in order to obtain the SCAMP profiles. And last but not least, many thanks to Pascal Guillot for his data processing efforts.

6. REFERENCES

Bélanger, C., Y. Gratton, D. Dumont, A. Forest and L. Fortier. Observations of remote-wind-induced pulses of current under ice cover in the Canadian Beaufort Shelf Region. Submitted to Geophys. Res. Letters.

Fortier, L. D. Barber and J. Michaud [Eds], 2008. On thin Ice. Aboriginal Issues Press, Winnipeg, 215 p.

Blondeau, S., P. Massot, A. Forest, and L. Létourneau. 2006. Mooring Operation Cruise Report ArcticNet 2006 – Leg 1. Internal report, Laval University, Québec (Qc): 3 p.

Gratton, Y., M. Ouellet, M.E. Rail, and R.G. Ingram. 2006. Distribution of temperature and salinity in Northern Baffin Bay during the International North Water program (August 1997, April to July 1998, and September 1999). Internal Report No R897, INRS-ETE, Québec (Qc): x + 124 p.

Guillot, P. 2003. Sea-Bird CTD Processing and Quality Control Procedure. Technical report, draft version, Québec-Océan, Université du Québec à Rimouski: 42 p.

Guillot, P. 2006a. Processing notes about the ArcticNet 0602 data. Technical Report, Québec-Océan, Université du Québec à Rimouski: 41 p.

Guillot, P. 2006b. Processing notes about the ArcticNet 0603 data. Technical Report, Québec-Océan, Université du Québec à Rimouski: 88 p.

Guillot, P. 2007. Rapport de traitement de données Workhorse ADCP (Acoustic Doppler Current Profiler). Technical report, draft version, Québec-Océan, Université du Québec à Rimouski, 99 p.

Ingram, R.G., E.C. Carmack, F.A. McLaughlin, and S. Nicol. 2005. Polar Ocean Coastal Boundaries, chapter 3 *in: The Sea –Ideas and Observations on Progress in the Study*

of the Seas, Volume 14 part A, A.R. Robinson and K.H. Brink (eds), Harvard University Press, Cambridge: pp. 61-81.

Lanos, R., 2009. Circulation générale, mases d'eau, cycles d'évolution et transports entre la mer de Beaufort et le Golfe d'Amundsen. Ph.D. Thesis, INRS-ETE, September 2009.

McLaughlin, F.A., E.C. Carmack, R.G. Ingram, W.J. Williams, and C. Michel. 2005. Oceanography of the Northwest Passage, chapter 31 *in: The Sea–Ideas and Observations on Progress in the Study of Seas, Volume 14 part B*, A.R. Robinson and K.H. Brink (eds), Harvard University Press, Cambridge: pp. 1213-1244.

Melling, H. (1999). Observations by moored instruments in Northern Baffin Bay 1997-1998. Unpub. Rep., Institute of Ocean Sciences, Sydney, B.C.: 37 p.

Michaud, J. 2006. BAYSIS 2006, CCGS Pierre Radisson 12-24 September 2006. Internal report, Laval University, Québec (Qc) : 8 p.

Michaud, L., P. Massot, S. Blondeau, M. Robitaille and M.E. Rail. 2006. ArcticNet 2006 Cruise Report Leg 2 Mooring operations. Internal report, Laval University, Québec (Qc): 4 p.

Rail, M.E. 2006a. Physical Team Sampling Report – ArcticNet 0602, from August 21st to September 28th onboard the CCGS Amundsen. Internal report, INRS-ETE, Québec (Qc): 4 p.

Rail, M.E. 2006b. Physical Team Sampling Report – ArcticNet 0603, from September 28th to November 9th onboard the CCGS Amundsen. Internal report, INRS-ETE, Québec (Qc): 3 p.

Rail, M.E., D. Boisvert, C. Bélanger and Y. Gratton. 2010. ArcticNet 2005-2006 mooring data - quality control report. Internal report (Unpublished), INRS-ETE, Québec (Qc): v + 26 p.

Simard, A., M.E. Rail, and Y. Gratton. 2008. Distribution of temperature and salinity in the southern Beaufort Sea during the CASES program. Internal Report, draft version, INRS-ETE, Québec (Qc): ix + 132 p.

Simard, A., M.E. Rail, and Y. Gratton. 2010. Distribution of temperature and salinity in the Canadian Arctic Archipelago during the 2005 ARCTICNET sampling expedition (from August 5th to October 27th 2005). Report No R1126, INRS-ETE, Québec (Qc): vi + 79 p.

Stewart, D.B., and Lockhart, W.L. 2005. An overview of the Hudson Bay marine ecosystem. Can. Tech. Rep. Fish. Aquat. Sci. 2586: vi + 487 p.

TABLE 1. Rosette sensors specifications, ArcticNet scientific 2006 expedition

Parameter	Sensor		Range	Accuracy	Resolution
	Compagny	Instrument Type			
Attached to the Rosette					
CTD	SeaBird	SBE-9plus [1]			
Temperature	SeaBird	SBE-03 [1]	-5°C à +35°C	0.001°C	0.0002°C
Conductivity	SeaBird	SBE-4C [1]	0-7 S/m (0-70mmho/cm)	0.0003 S/m (0.003mmho/cm)	0.00004 S/m (0.0004 mmho/cm)
Pressure	Paroscientific	410K-105	up to 10 500m (15 000psia)[2]	0.015% of full scale	0.001% of full scale
Dissolved oxygen	SeaBird	SBE-43 [3]	120% of surface saturation[4]	2% of saturation	unknown
pH	SeaBird	SBE-18-I [5]	0-14 pH units	0,1 pH unit	unknown
Nitrates concentration	Satlantic	MBARI-ISUS 5T [6]	0.5 to 2000 μM	±2 μM	±0.5 μM
Light intensity (PAR)	Biospherical	QCP2300	1.4×10^{-5} to 0.5 μE/(cm^2·sec)		
sPAR	Biospherical	QCP2200	1.4×10^{-5} to 0.5 μE/(cm^2·sec)		
Fluorescence	Seapoint	Chlorophyll-fluorometer	0.02-150 μg/l	unknown	30
Transmissiometer	Wetlabs	C-Star	0-5 V	unknown	1.25 mV
Altimeter	Benthos	PSA-916 [7]	0 - 100 m	unknown	0.01 m

Notes: [1] Maximum depth of 6800m
[2] Depending on the configuration
[3] Maximum depth of 7,000m
[4] In all natural waters, fresh and marine
[5] Maximum depth of 1,200m
[6] Maximum depth of 1,000m
[7] Maximum depth of 6,000m

TABLE 2. Summary of the Rosette sampling, ArcticNet scientific 2006 expedition

Expedition number	Leg number	Date		Number of CTD casts	Number of stations	Number of sections
		Start	End			
0602	1	August 22	September 28	115	72	6
0603	2	September 28	November 9	138	105	11

TABLE 3. List of Rosette sections and their corresponding stations and casts

Section	Station	Cast
Leg 0602		
Oliver Sound	B	11
	C	12
	A	10
	D	14
	E	15
NOW S1		27
	127	26
		29
		28
	129	33
	130	34
	131	38
NOW S2	117	56
	118	53
	119	50
	120	49
	121	48
	122	47
	123	46
	124	45
	125	44
	126	39
NOW S3	101	79
	102	74
	103	73
	104	72
	105	71
	106	70
	108	68
	109	67
	111	66
	112	65
	113	64
	114	63
	115	59
	116	57
Belcher glacier	Belcher6	80
	Belcher5	81
	Belcher2	82
	Belcher3	83
Northwest Passage	315	115
	314	114
		113
	313	112
	312	111
	311	110
	310.5	109
	310	107
	309.5	105
	309	104
	308.5	103
	308	101
	307.5	100
	307	95
	306	94
	ResoluteBay	93
	305	92
	304	91
	303	89
	302	88
	301	86
	300	84

Section	Station	Cast
Leg 0603		
Beaufort S400	420	31
	419	29
	418	28
	417	27
	416	26
	415	25
	414	24
	413	23
	412	22
	411	21
	410	20
	409	19
Beaufort S700	433	49
	432	48
	431	47
	430	46
	429	45
	428	44
	427	43
	426	42
	425	39
	424	38
	423	37
	422	36
	421	34
Northwest Passage	407	70
	405	71
	404	72
	403	73
		74
		75
		76
		77
Bellot Strait	320	81
	319	80
	318	79
	317	78
Gulf of Boothia	321	82
	322	83
	323	85
	324	86
	325	87
	326	88
Igloolik Island	332	94
	331	93
	330	92
	329	91
Foxe Basin	335	98
	336	99
	337	100
	338	101
	339	103
	340	104
	341	105
	342	106
	343	107
	344	108
	345	109
	346	110
	347	111
	348	112
	349	113

Section	Station	Cast
Leg 0603		
Hudson Strait	356	117
	355	118
	354	119
	353	120
	352	121
Nachvak fjord	605	125
	604	126
	602	124
	601	123
	606	127
Saglek fjord	615	128
	614	129
	613	130
	612	131
	610	132
	617	133
Anaktalak fjord	624	137
	623	136
	622	135
	621	134
	620	138

TABLE 4. Summary of moored instruments, ArcticNet 2005-2006

		Position								Parameters measured							
Mooring	Water depth	North Latitude	West Longitude	Instr.	Serial No	Instr. Depth (m)	Date of first reliable data	Date of last reliable data	Sampling frequency (min)	Water Temp. (°C)	Cond. (m S/cm)	Pressure (dbar)	Current Speed (cm/s)	Current Direction (true)	Turbidity (NTU)	Dissolved Oxygen (µM)	Quality Control Comments
CA04-05	307	71° 04.81	133° 37.75	ALEC CT	688	39	2005-09-06 21:00	2006-10-07 19:00	10	X	X						WARNNG: this line as tilted
				WH-ADCP	333	82	2005-09-06 20:52	2006-10-07 17:50	60	X			X	X			
				RCM 11	289	210	2005-09-06 20:59	2006-10-07 18:27	30	X	X	X	X	X	X		WARNNG: this line as tilted; some missing data points; offset correction on salinity data
CA05-05	201	71° 16.84	127° 32.18	SBE37	1697	38	2005-09-09 05:00	2006-10-02 21:10	10	X	X	X					suspicious salinity data point on February 10th, 2006
				WH-ADCP	2645	90	2005-09-09 04:54	2006-07-11 09:14	20	X			X	X			
				RCM 11	285	163	2005-09-09 05:01	2006-10-02 20:58	30	X	half of them	X	X	X	X	X	some missing data points; many missing salinity data point; turbidity data are negative
				SBE26	372	179	2005-09-09 05:07	2006-10-02 20:37	30			X					
CA08-05	397	71° 00.41	126° 04.46	SBE37	3463	NO DATA RECORDED											
				WH-ADCP	2646	73	2005-09-10 04:52	2006-07-18 02:12	20	X			X	X			
				RCM 4	8677	91	?	?	?	**b.d.**	**b.d.**		**b.d.**	**b.c.**			
				RCM 11	290	194	2005-09-10 05:00	2006-10-02 14:21	30	X	X	X	X	X	X	X	some missing data points; offset correction on salinity data
				RCM 11	287	370	2005-09-10 04:59	2006-08-25 11:53	30	X	X	X	X	X	X	X	some missing data points; offset correction on salinity data
CA18-05	540	70° 39.94	122° 59.30	RCM 11	280	32	2005-09-12 23:00	2006-10-01 17:50	30	X	X	X	X	X	X	X	some missing oxygen data points
				RCM 11	266	106	2005-09-12 23:00	2006-10-01 17:55	30	X	X	X	X	X	X	X	some missing data points
				RCM 11	273	203	2005-09-12 23:00	2006-10-01 17:52	30	X	X	X	X	X	X	X	some missing data points; offset correction on salinity data
				RCM 7	10301	399	2005-09-12 23:30	2006-08-14 16:30	60	X	X		X	X			offset correction on salinity data
BA01-05	649	76° 19.62	071° 11.90	RCM 4	8859	LOST											
				RCM 4	8214	195	2005-08-17 07:00	2006-09-15 19:00	180	X	**b.c.**		X	**b.c.**			3 hours sampling interval
				SBE26	371	200	2005-08-17 05:49	2006-05-29 08:49	30	X		X					weird pressure data after May 29th, 2006
				RCM 7	12800	CORRUPTED FILE											
				LR-ADCP	3883	In progress				In progress							
BA02-05	444	76° 16.06	074° 34.50	RCM 4	8572	104	2005-08-18 01:30	2006-09-08 02:30	60	X	**b.c.**		X	X			
				RCM 4	8672	211	?	?	?	**b.d.**	**b.d.**		**b.d.**	**b.c.**			
				LR-ADCP	3815	427	2005-08-17 23:17	2006-09-08 00:47	60	X			X	X			
BA03-05	358	76° 23.03	077° 24.06	SBE37	1695	96 / 3	2005-08-18 23:00	2006-08-29 19:15	15	X	X	X					dragged by sea ice on January 6th, 2006
				RCM 7	10298	LOST											
				RCM 11	0284	LOST											
BA04-05	475	75° 15.21	074° 58.65	Never recovered													
AN01-05	107	59° 58.67	091° 56.62	ALEC CT	684	LOST											
				ALEC CT	592	NO DATA RECORDED											
				WH-ADCP	3045	80	2005-10-13 03:05	2006-09-16 20:25	20	X			X	X			
AN02-05	80	58° 46.92	091° 31.39	Never recovered													
AN03-05	130	55° 24.47	077° 55.79	SBE-37	2424	NO DATA RECORDED											
				RCM 7	12796	35	2005-10-01 19:00	2006-09-13 13:00	60	X	**b.c.**		X	**b.c.**			temperature reachs its detection limit few time
				RCM 4	8850	75	?	?	?	**b.d.**	**b.d.**		**b.d.**	**b.c.**			
				WH-ADCP	23	96	2005-10-01 17:54	2006-07-22 22:54	20	X			X	X			

Please notice that **b.d.** stands for Bad Data and **b.c.** stands for Bad Calibration.

TABLE 5. Content of the ASCII Rosette-CTD data files.

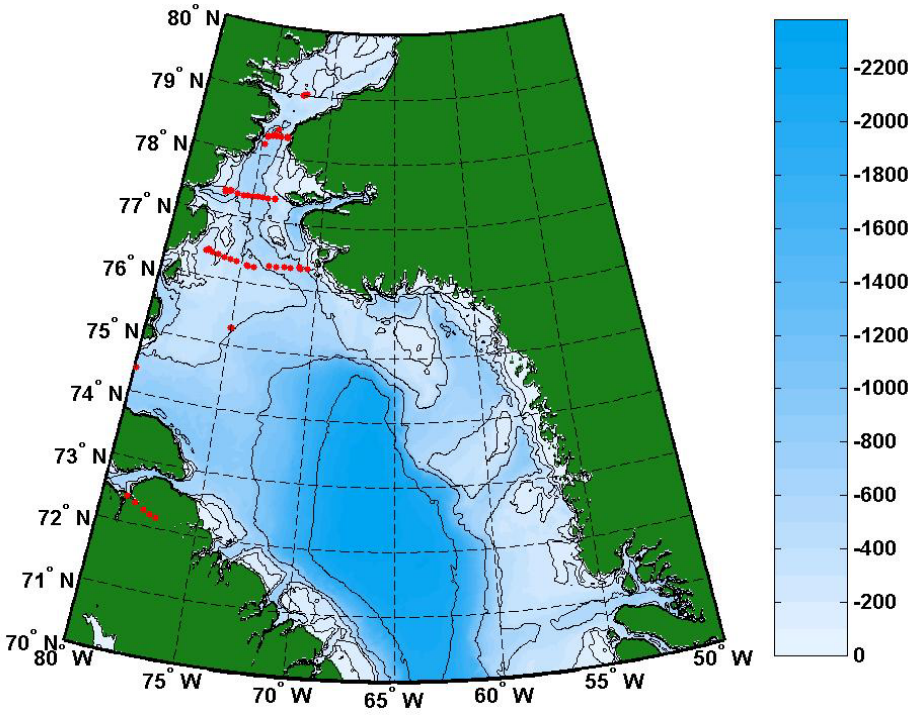
Parameters	Units	Number of significant digits
Pressure (or depth)	dbars	2
Temperature	°C (ITS-90)	3
Transmissivity	%	2
Fluorescence	µg/l	2
Salinity	PSS (1978)	3
Density, σ (S,T,P)	kg/m^3	2
Specific volume anomaly	10^{-8} m^3/kg	0
N^2: Brunt-Väisälä frequency	$1/sec^2$	2
Density; σ_τ ; σ(S,T,O)	kg/m3	3
Potential temperature (θ)	°C	3
σ_θ ; σ(S,θ,O)	kg/m^3	3
Freezing temperature	°C	2
Dissolved oxygen concentration	ml/l	4
pH	no units	3
Nitrates	$mmol/m^3$	2
PAR pressure	dbars	2
PAR	µEinsteins/m^2/sec	3
Surface PAR	µEinsteins/m^2/sec	3

APPENDIX 1. Higher resolution maps of Arctic areas where Rosette-CTD, SCAMP and moorings data were collected.

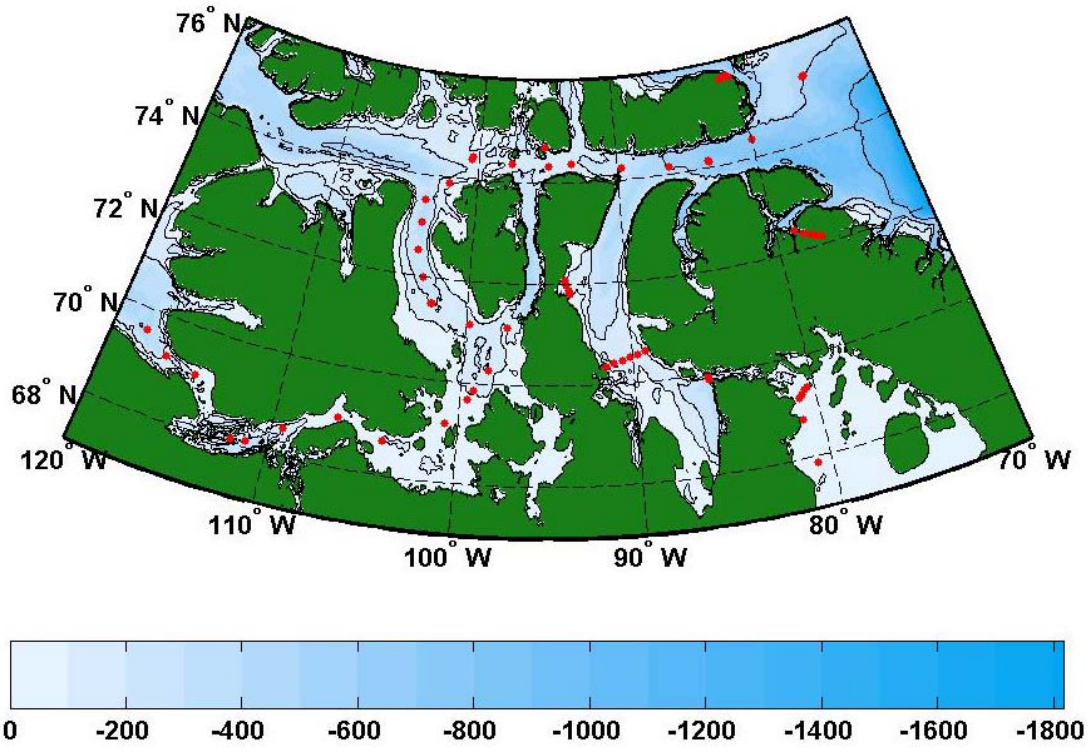
1A. Rosette-CTD sampling sites in Baffin Bay, Northwest Passage, Beaufort Sea, Hudson Bay, Hudson Strait and Labrador Sea (Legs 1 and 2).

1B. SCAMP sampling sites in Baffin Bay, Northwest Passage, Beaufort Sea, Hudson Bay and Labrador fjords (Legs 1 and 2).

1C. Moorings recovered and deployed in Baffin Bay, Beaufort Sea and Hudson Bay (Legs 1 and from NGCC Pierre Radisson).

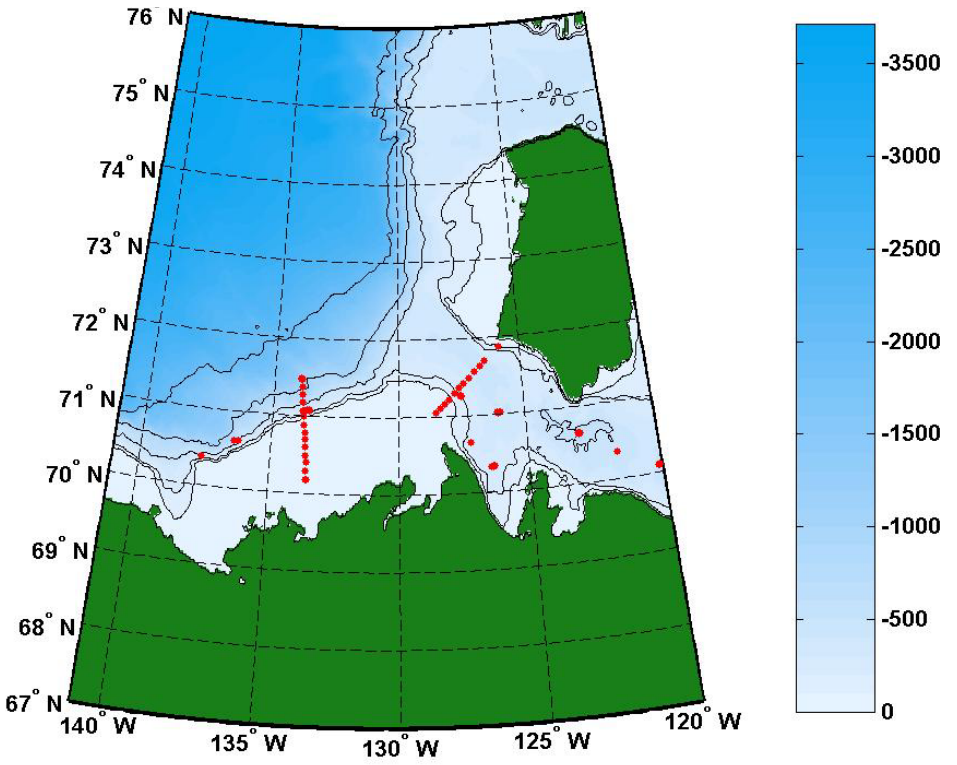


Baffin Bay (Leg 1)

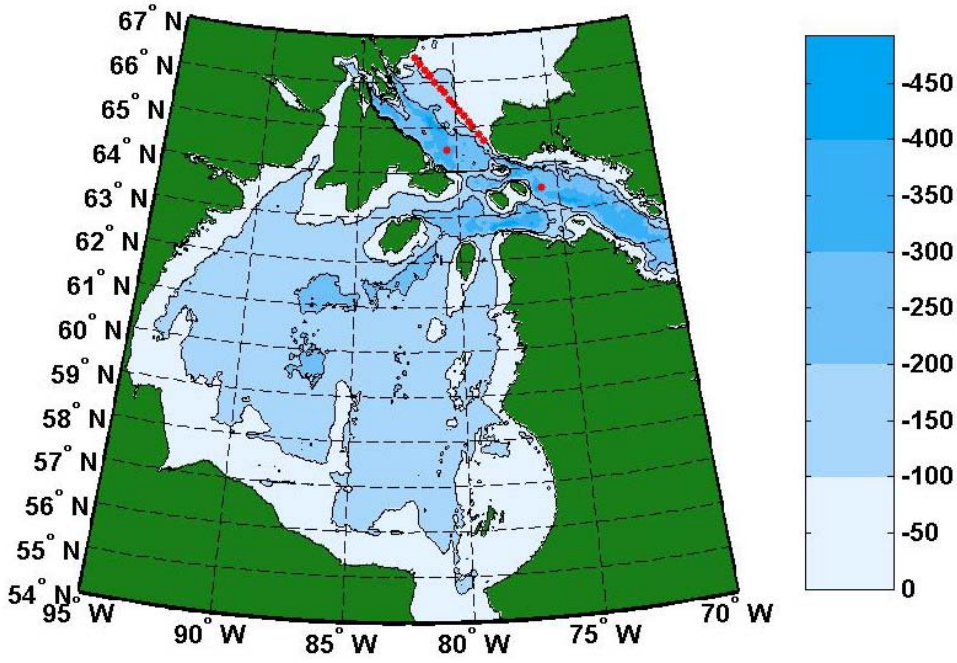


Northwest Passage (Legs 1 & 2)

APPENDIX 1A. Rosette-CTD sampling sites in Baffin Bay and Northwest Passage

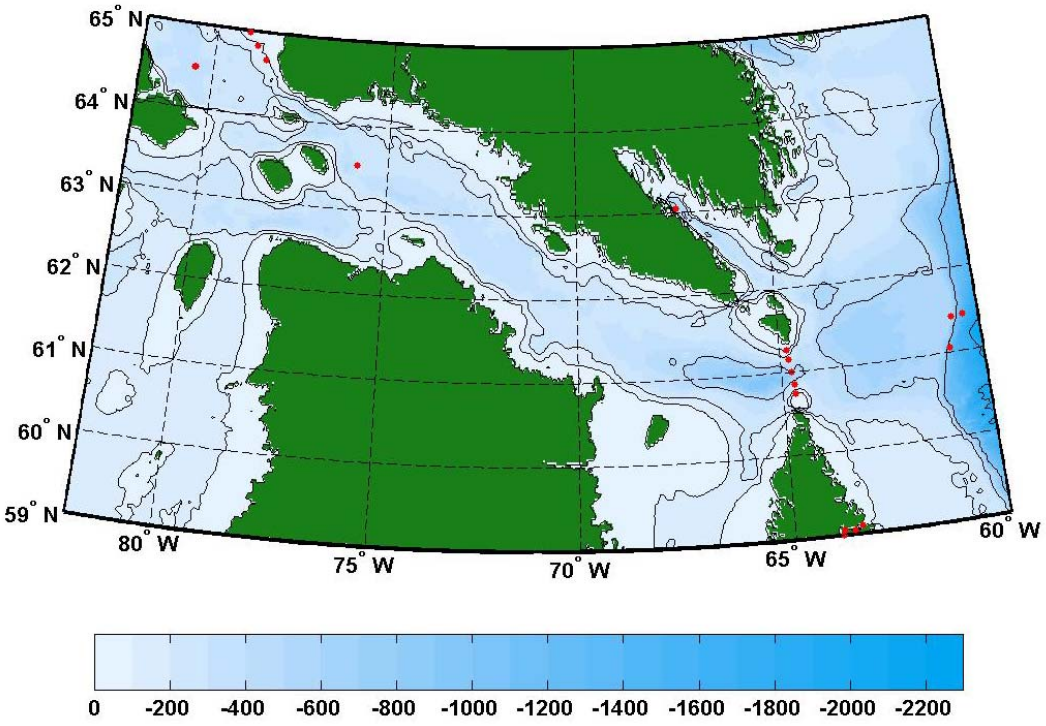


Beaufort Sea (Legs 1 & 2)

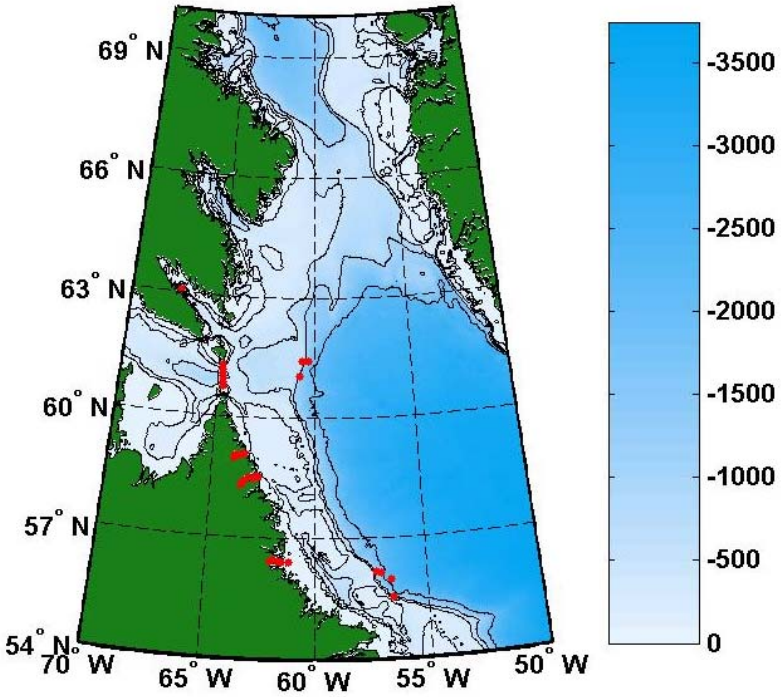


Hudson Bay (Leg 2)

APPENDIX 1A. Rosette-CTD sampling sites in Beaufort Sea and Hudson Bay

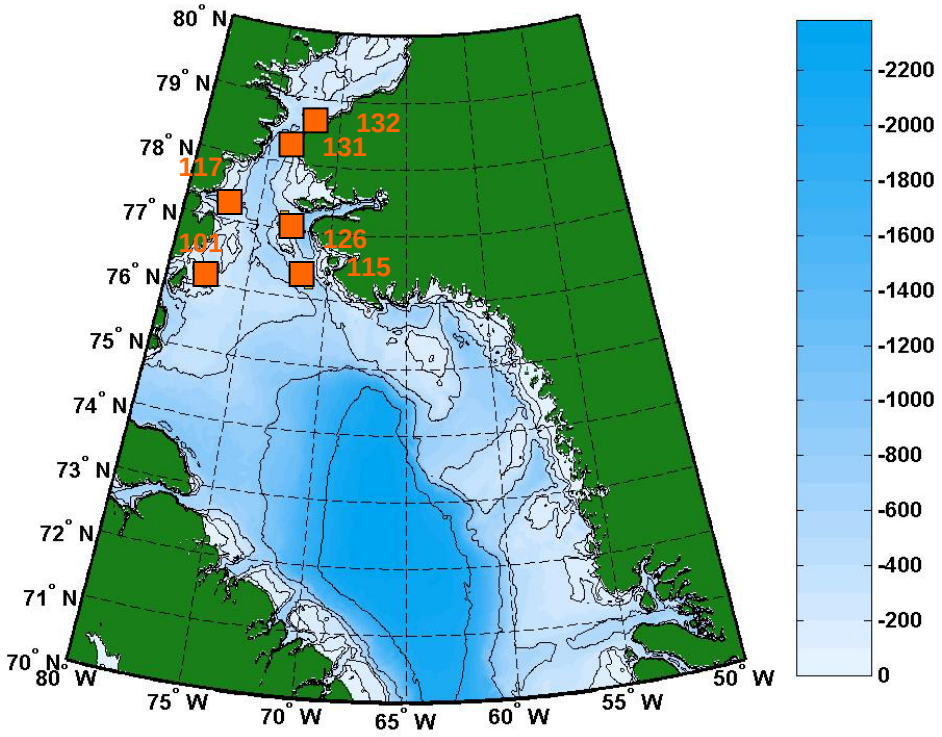


Hudson Strait (Leg 2)

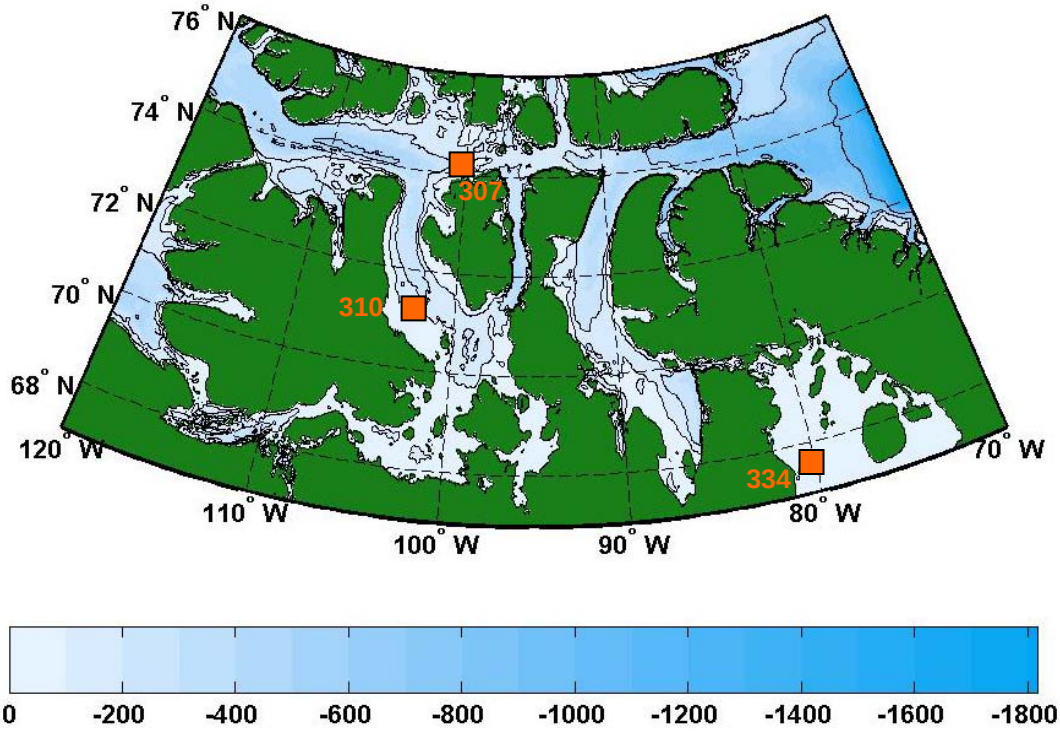


Labrador Sea (Leg 2)

APPENDIX 1A. Rosette-CTD sampling sites in Hudson Strait and Labrador Sea.

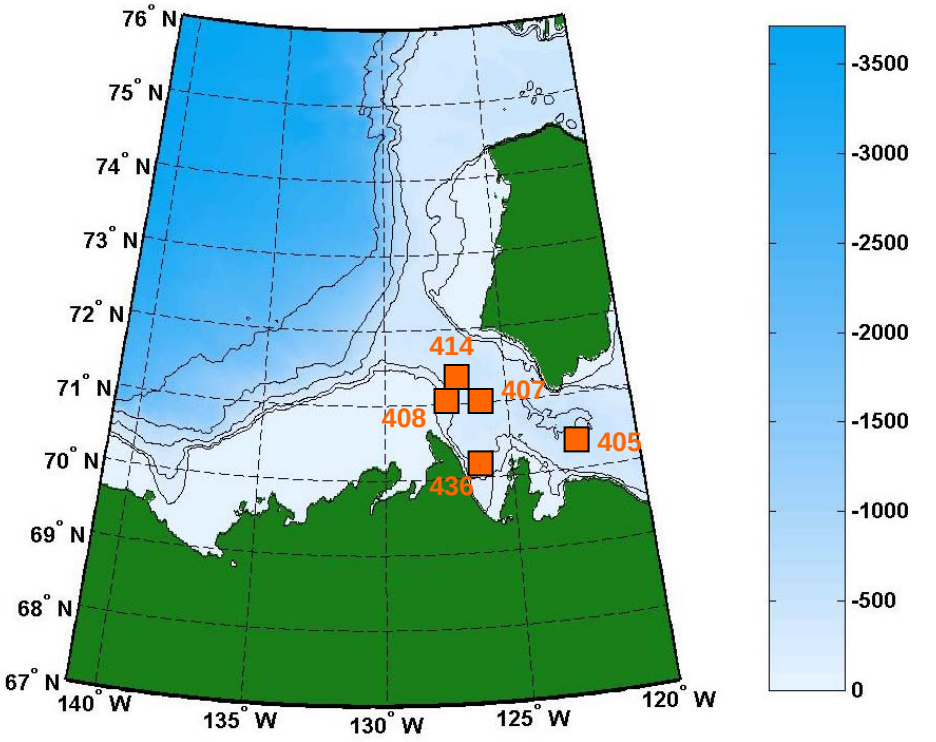


Baffin Bay (Leg 1)

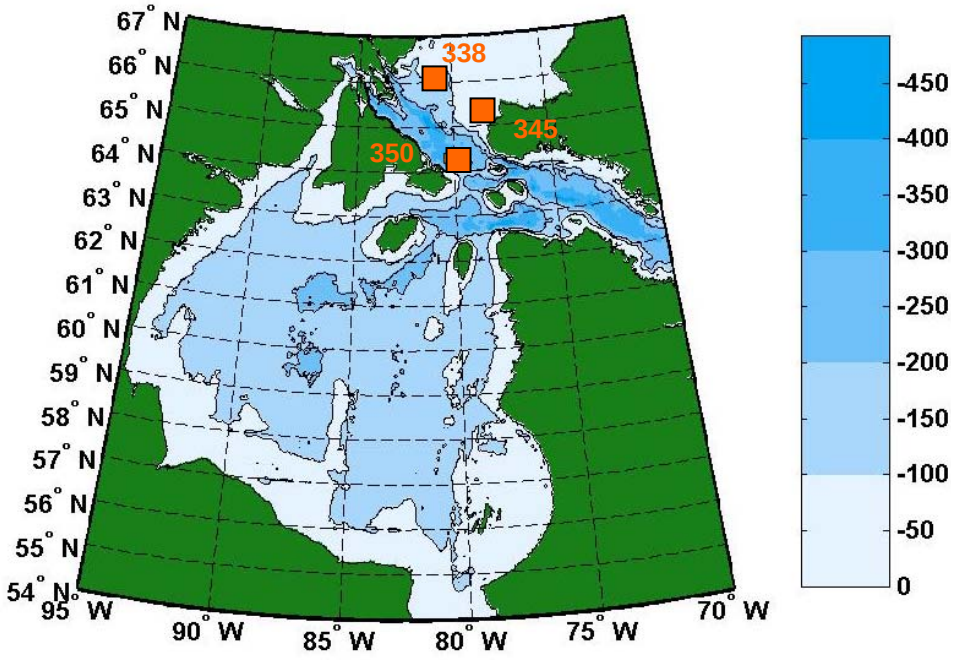


Northwest Passage (Legs 1 & 2)

APPENDIX 1B. SCAMP sampling sites in Baffin Bay and Northwest Passage.

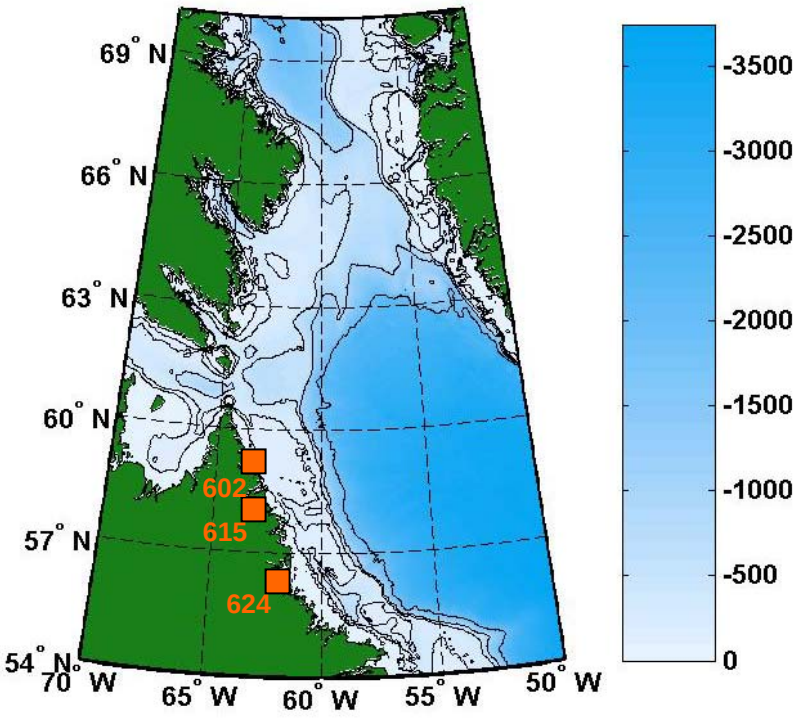


Beaufort Sea (Legs 1 & 2)

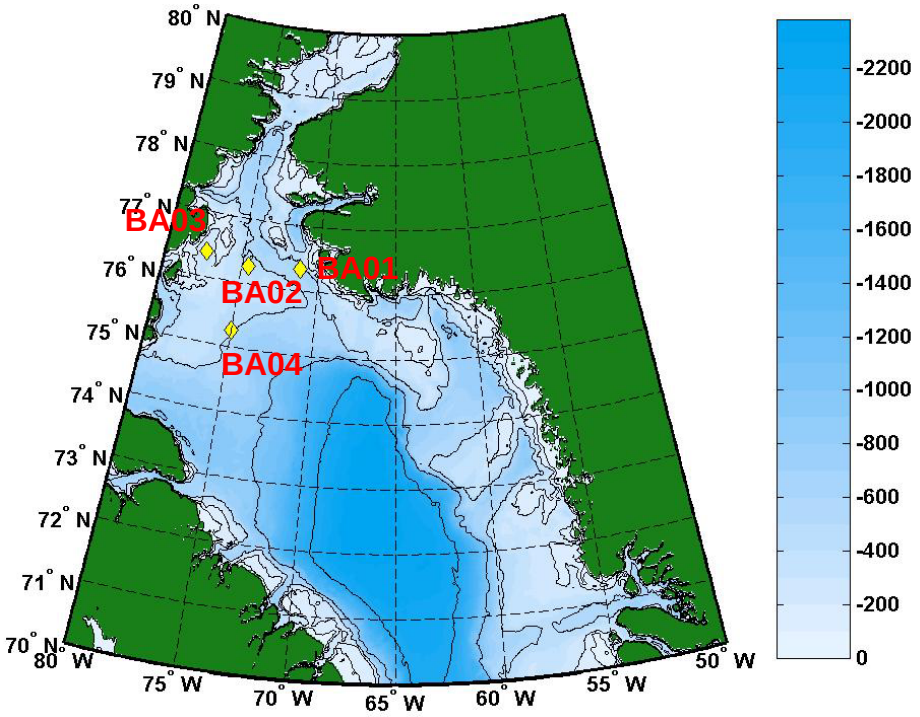


Hudson Bay

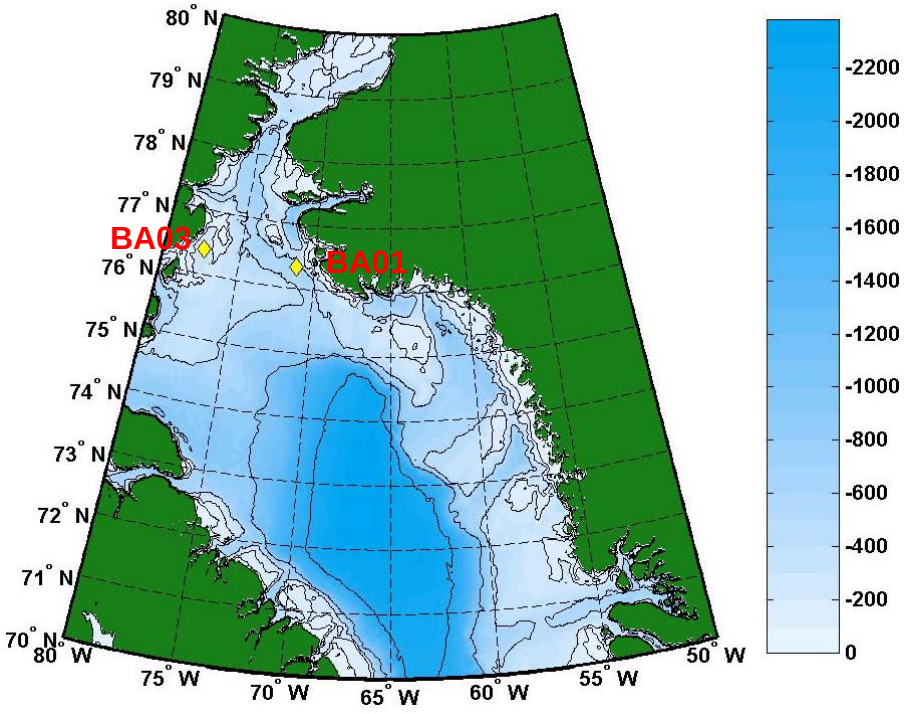
APPENDIX 1B. SCAMP sampling sites in Beaufort Sea and Hudson Bay.



APPENDIX 1B. SCAMP sampling sites in Labrador fjords.

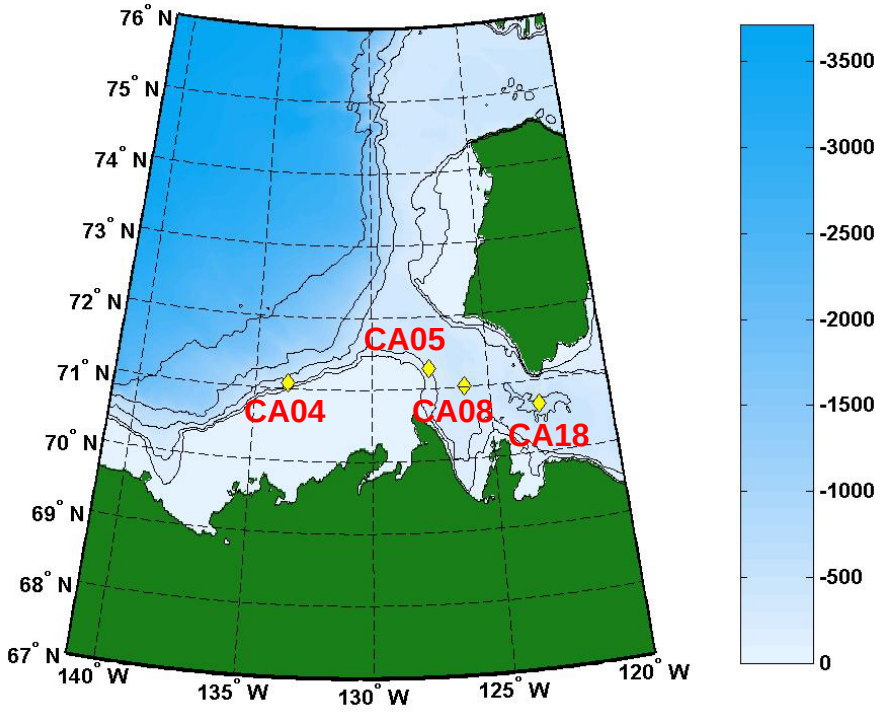


Moorings recovered in Baffin Bay.

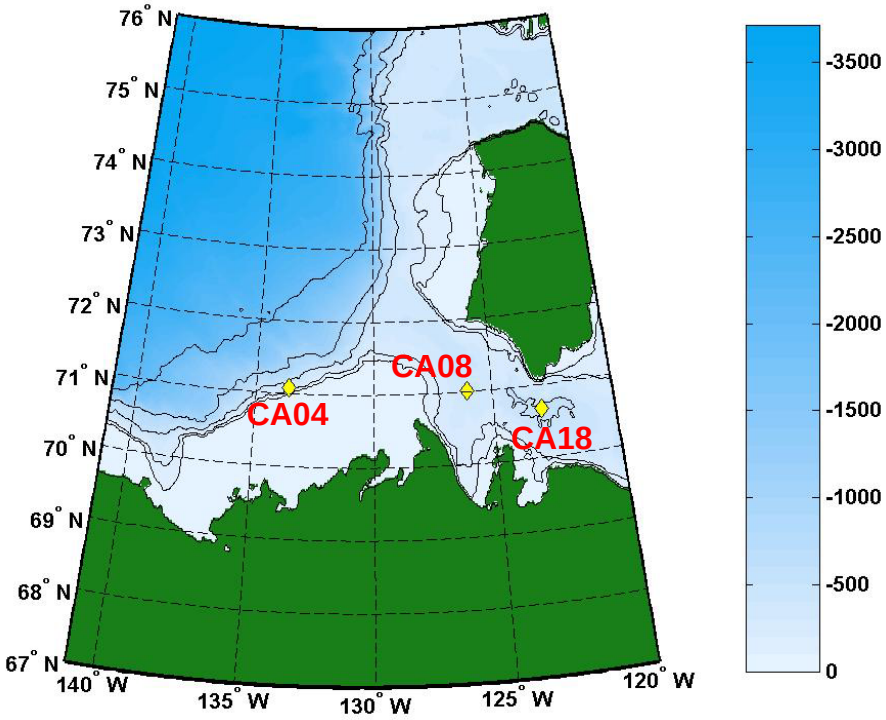


Moorings deployed in Baffin Bay.

APPENDIX 1C. Moorings recovered and deployed in Baffin Bay in 2006 (Leg 1)

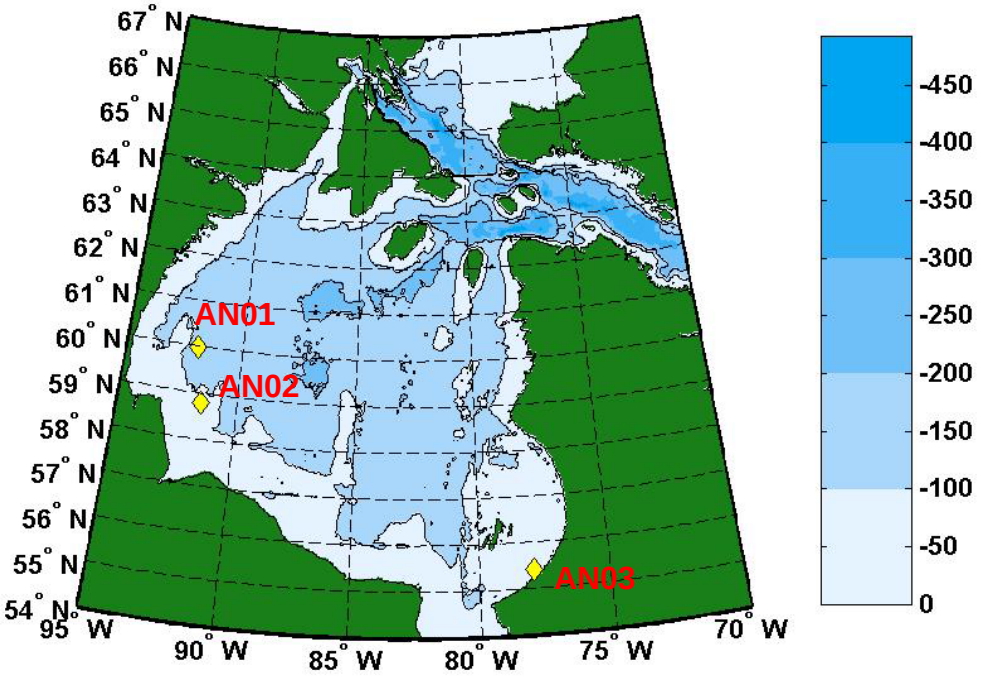


Moorings recovered in Beaufort Sea.

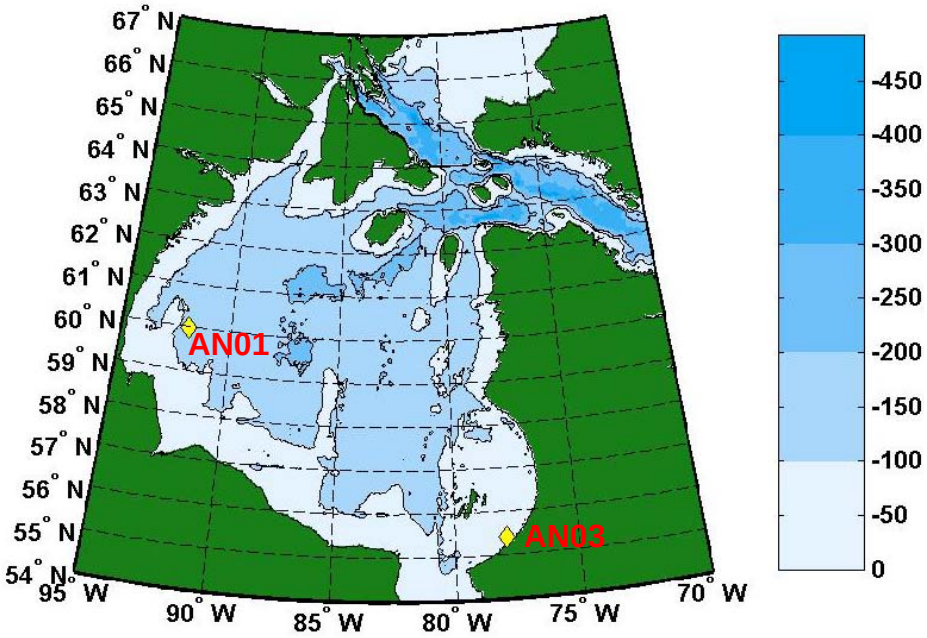


Moorings deployed in Beaufort Sea.

APPENDIX 1C. Moorings recovered and deployed in Beaufort Sea in 2006 (Leg 1)



Moorings recovered in Hudson Bay.



Moorings deployed in Hudson Bay.

APPENDIX 1C. Moorings recovered and deployed in Hudson Bay (from NGCC Radisson).

APPENDIX 2. Rosette-CTD cast locations, sampling times, water depths and corresponding station or mooring numbers during 2006 ArcticNet scientific expeditions.

2A. Rosette logbook for Leg 1 (expedition 0602)

2B. Rosette logbook for Leg 2 (expedition 0603)

APPENDIX 2A. Rosette casts locations, sampling times, water depths and corresponding stations or mooring numbers during ArcticNet expedition 0602 (page 1/3).

Cast number	Station or mooring	Start date UTC	Start time UTC	Latitude (North)	Longitude (West)	Cast depth (m)	Sea bottom depth (m)
1	Saguenay	2006-08-22	23:43	48° 15.52	069° 19.74	331	310
2	Sept-Iles	2006-08-25	00:41	50° 03.22	065° 58.24	179	167
3	Makkovik-1	2006-08-27	10:05	55° 30.99	056° 31.78	1539	1000
4	Makkovik-2	2006-08-27	22:16	56° 09.75	057° 16.34	1212	1000
5	Makkovik-3	2006-08-28	10:17	56° 06.92	057° 02.16	1820	1000
6	Makkovik-4	2006-08-28	22:17	55° 57.11	056° 36.99	2167	1000
7		2006-08-30	10:12	61° 26.36	060° 22.45	1463	1000
8		2006-08-30	22:14	61° 03.09	060° 48.24	1217	1000
9		2006-08-31	10:19	61° 25.40	060° 40.28	619	610
10	OliverS.A	2006-09-04	13:31	72° 15.23	077° 47.19	372	358
11	OliverS.B	2006-09-05	00:51	72° 24.34	078° 45.05	466	450
12	OliverS.C	2006-09-05	02:17	72° 19.53	078° 15.26	267	258
13	OliverS.A	2006-09-05	03:38	72° 15.36	077° 47.21	372	358
14	OliverS.D	2006-09-05	06:58	72° 11.41	077° 27.84	236	211
15	OliverS.E	2006-09-05	08:21	72° 09.62	077° 06.43	127	110
16	BA04	2006-09-07	02:05	75° 16.62	074° 56.89	489	467
17	BA04	2006-09-07	04:08	75° 16.36	074° 58.68	485	467
18	BA04	2006-09-07	06:07	75° 16.36	074° 58.39	484	467
19	BA02	2006-09-08	02:30	76° 15.94	074° 33.95	460	450
20		2006-09-08	15:07	78° 25.16	073° 51.02	512	502
21	132	2006-09-09	00:39	78° 59.73	072° 19.99	248	243
22	132	2006-09-09	07:09	79° 01.30	072° 01.88	193	181
23	132	2006-09-09	09:35	78° 59.80	072° 20.25	247	243
24	132	2006-09-09	12:40	78° 59.73	072° 20.55	241	236
25	132	2006-09-09	14:30	79° 00.14	072° 17.24	250	242
26	127	2006-09-10	03:14	78° 17.75	074° 35.69	604	278
27	127	2006-09-10	03:45	78° 17.10	074° 38.30	602	598
28	127	2006-09-10	17:28	78° 20.22	074° 11.42	512	502
29	127	2006-09-10	19:28	78° 19.06	074° 17.52	532	522
31	127	2006-09-11	00:55	78° 09.87	074° 44.27	600	602
32	129	2006-09-11	05:17	78° 19.75	074° 00.87	577	571
33	129	2006-09-11	07:01	78° 19.74	073° 59.70	566	555
34	130	2006-09-11	08:59	78° 19.45	073° 37.51	705	675
35	131	2006-09-11	11:17	78° 18.89	073° 07.80	245	239
36	131	2006-09-11	13:49	78° 19.36	073° 11.18	333	328
37	131	2006-09-12	03:40	78° 19.12	073° 11.01	257	260
38	131	2006-09-12	05:14	78° 19.09	073° 11.19	306	302
39	126	2006-09-12	17:53	77° 20.71	073° 24.88	334	325
40	126	2006-09-12	19:29	77° 20.81	073° 25.35	327	320
41	126	2006-09-13	02:14	77° 21.80	073° 25.16	317	312
42	126	2006-09-13	04:07	77° 21.54	073° 25.51	321	313
43	126	2006-09-13	05:57	77° 20.64	073° 25.66	323	319
44	125	2006-09-13	10:06	77° 20.52	073° 55.25	491	484
45	124	2006-09-13	11:02	77° 20.61	074° 18.11	705	696
46	123	2006-09-13	12:55	77° 20.55	074° 38.44	697	692
47	122	2006-09-13	17:05	77° 20.07	075° 00.72	653	645
48	121	2006-09-13	19:06	77° 20.25	075° 22.40	584	575
49	120	2006-09-13	20:23	77° 19.90	075° 41.19	563	560
50	119	2006-09-13	23:06	77° 20.17	076° 04.26	526	520

APPENDIX 2A. Rosette casts location, sampling time, water depth and corresponding stations or mooring numbers during ArcticNet expedition 0602 (page 2/3).

Cast number	Station or mooring	Start date UTC	Start time UTC	Latitude (North)	Longitude (West)	Cast depth (m)	Sea bottom depth (m)
51	118	2006-09-14	05:11	77° 21.87	076° 32.69	277	261
52	118	2006-09-14	06:41	77° 22.18	076° 35.73	233	229
53	118	2006-09-14	08:30	77° 22.26	076° 40.60	255	250
55	117	2006-09-14	18:22	77° 20.40	076° 56.94	417	390
56	117	2006-09-14	20:16	77° 21.82	076° 58.31	184	173
57	116	2006-09-15	10:55	76° 20.03	070° 38.49	174	160
58	115	2006-09-15	14:13	76° 19.39	071° 10.13	660	650
59	115	2006-09-16	01:09	76° 19.92	071° 12.09	673	673
60	115	2006-09-16	08:05	76° 19.93	071° 11.98	672	660
61	115	2006-09-16	11:03	76° 20.61	071° 12.12	654	649
62	115	2006-09-16	13:06	76° 20.82	071° 12.50	653	651
63	114	2006-09-17	04:01	76° 19.37	071° 46.86	613	605
64	113	2006-09-17	05:11	76° 19.01	072° 13.29	553	544
65	112	2006-09-17	06:54	76° 18.81	072° 42.36	561	557
66	111	2006-09-17	08:50	76° 18.43	073° 12.77	596	586
67	109	2006-09-17	14:19	76° 15.28	074° 10.39	446	440
68	108	2006-09-17	16:03	76° 15.62	074° 35.41	446	440
69	108	2006-09-17	18:36	76° 16.13	074° 36.65	448	X
70	106	2006-09-17	22:34	76° 18.33	075° 20.78	383	376
71	105	2006-09-17	23:33	76° 19.47	075° 46.92	346	339
72	104	2006-09-18	01:12	76° 20.42	076° 10.82	197	188
73	103	2006-09-18	02:09	76° 21.66	076° 33.90	153	143
74	102	2006-09-18	03:21	76° 22.65	076° 59.00	243	236
75	101	2006-09-18	06:36	76° 23.47	077° 18.37	324	320
76	101	2006-09-18	08:10	76° 22.98	077° 23.76	351	344
77	101	2006-09-18	15:51	76° 24.63	077° 16.67	311	304
78	101	2006-09-18	19:38	76° 24.37	077° 17.46	309	305
79	101	2006-09-18	21:35	76° 22.94	077° 25.63	393	385
80	Belcher-6	2006-09-19	20:07	75° 40.22	081° 15.74	180	169
81	Belcher-5	2006-09-19	21:09	75° 42.35	081° 00.62	215	209
82	Belcher-2	2006-09-19	22:46	75° 42.70	080° 48.51	627	625
83	Belcher - 3	2006-09-20	00:09	75° 39.93	080° 33.99	630	626
84	300	2006-09-20	08:30	74° 22.33	079° 58.25	690	688
85	301	2006-09-20	19:24	74° 07.48	083° 19.43	676	674
86	301	2006-09-20	23:03	74° 07.44	083° 20.69	680	672
87	301	2006-09-21	01:21	74° 08.55	083° 22.83	678	675
88	302	2006-09-21	07:57	74° 09.22	086° 16.29	519	516
89	303	2006-09-21	13:24	74° 14.19	089° 40.65	229	219
90	303	2006-09-21	17:32	74° 14.12	089° 39.78	229	223
91	304	2006-09-22	00:28	74° 21.75	093° 18.97	173	165
92	305	2006-09-22	03:24	74° 19.75	094° 59.77	170	162
93	Resolute Bay	2006-09-22	10:17	74° 40.92	095° 11.43	152	140
94	306	2006-09-23	05:47	74° 20.96	097° 35.01	132	125
95	307	2006-09-23	12:07	74° 24.15	100° 35.05	167	158
96	307	2006-09-23	14:22	74° 24.25	100° 35.39	168	159
97	307	2006-09-23	22:21	74° 26.55	100° 27.52	154	144
98	307	2006-09-23	23:39	74° 23.84	100° 35.20	172	166
99	307	2006-09-24	00:52	74° 23.97	100° 34.46	168	163
100	307.5	2006-09-24	10:37	73° 53.97	101° 58.86	130	122

APPENDIX 2A. Rosette casts locations, sampling times, water depths and corresponding stations or mooring numbers during ArcticNet expedition 0602 (page 3/3).

Cast number	Station or mooring	Start date UTC	Start time UTC	Latitude (North)	Longitude (West)	Cast depth (m)	Sea bottom depth (m)
101	308	2006-09-24	13:49	73° 30.44	103° 29.16	325	318
102	308	2006-09-24	14:57	73° 30.44	103° 28.99	325	316
103	308.5	2006-09-24	19:41	73° 03.32	103° 32.59	348	338
104	309	2006-09-25	01:10	72° 30.30	103° 30.32	280	270
105	309.5	2006-09-25	04:14	71° 59.94	102° 59.88	247	237
106	310	2006-09-25	09:44	71° 29.66	102° 15.36	215	205
107	310	2006-09-25	11:28	71° 29.47	102° 13.43	210	202
108	310	2006-09-25	22:46	71° 29.92	102° 14.48	213	201
109	310.5	2006-09-26	06:04	71° 09.94	099° 45.13	139	131
110	311	2006-09-26	12:02	70° 16.38	098° 27.51	149	144
111	312	2006-09-26	18:34	69° 09.52	100° 42.13	57	53
112	313	2006-09-27	01:22	68° 40.81	103° 59.26	106	91
113	314	2006-09-27	06:45	68° 59.88	106° 35.57	110	103
114	315	2006-09-27	14:29	68° 32.85	109° 23.03	170	162
115	316	2006-09-28	02:41	68° 06.87	111° 09.24	294	281

APPENDIX 2B. Rosette casts locations, sampling times, water depths and corresponding stations or mooring numbers during ArcticNet expedition 0603 (page 1/3).

Cast number	Station or mooring	Start date UTC	Start time UTC	Latitude (North)	Longitude (West)	Cast depth (m)	Sea bottom depth (m)
1	400	2006-09-29	09:28	69° 05.49	114° 48.32	160	154
2	401	2006-09-29	13:02	69° 14.14	116° 36.20	177	168
3	402	2006-09-29	16:35	69° 35.74	118° 08.03	410	411
4	403	2006-09-30	00:53	70° 06.04	120° 05.94	417	406
5	403	2006-09-30	03:35	70° 06.05	120° 05.76	416	392
6	403	2006-09-30	06:00	70° 06.36	120° 05.42	408	407
7	405	2006-10-01	08:47	70° 39.07	122° 56.67	583	575
8	405	2006-10-01	12:10	70° 39.22	122° 59.24	610	592
9	405	2006-10-01	16:44	70° 39.49	123° 00.15	594	587
10	405	2006-10-01	20:44	70° 39.06	122° 56.90	579	570
11	405	2006-10-02	01:43	70° 38.56	122° 58.08	595	592
12	405	2006-10-02	04:37	70° 39.15	122° 58.33	598	584
13	407	2006-10-02	12:31	71° 01.24	126° 05.20	390	380
14	408	2006-10-02	20:20	71° 15.91	127° 31.00	187	186
15	408	2006-10-02	22:26	71° 15.92	127° 31.03	187	187
16	408	2006-10-03	01:09	71° 15.77	127° 29.93	193	187
17	408	2006-10-03	02:46	71° 15.81	127° 29.82	197	194
18	408	2006-10-03	04:43	71° 15.30	127° 29.20	194	186
19	409	2006-10-04	13:08	71° 52.14	125° 52.14	108	109
20	410	2006-10-05	10:15	71° 41.97	126° 29.37	400	400
21	411	2006-10-05	11:57	71° 37.76	126° 41.82	430	420
22	412	2006-10-05	13:31	71° 33.96	126° 54.44	410	400
23	413	2006-10-05	15:06	71° 29.60	127° 08.75	373	360
24	414	2006-10-05	16:50	71° 25.29	127° 22.04	305	299
25	415	2006-10-06	01:14	71° 21.72	127° 33.28	238	235
26	416	2006-10-06	02:03	71° 17.52	127° 46.08	158	149
27	417	2006-10-06	03:12	71° 13.30	127° 58.94	84	74
28	418	2006-10-06	03:58	71° 09.65	128° 09.85	65	58
29	419	2006-10-06	04:46	71° 06.39	128° 20.26	56	47
30	420	2006-10-06	05:31	71° 03.17	128° 31.03	40	33
31	420	2006-10-06	07:48	71° 03.19	128° 30.86	42	33
32	421	2006-10-06	18:58	71° 28.18	133° 56.17	1196	990
33	421	2006-10-06	20:57	71° 28.75	133° 56.14	1128	990
34	421	2006-10-06	22:59	71° 28.73	133° 56.91	1120	991
35	421	2006-10-07	04:11	71° 28.05	133° 54.47	1150	1000
36	422	2006-10-07	08:36	71° 22.20	133° 52.95	1083	1000
37	423	2006-10-07	10:51	71° 16.35	133° 51.14	790	790
38	424	2006-10-07	12:28	71° 10.24	133° 49.84	560	560
39	425	2006-10-07	14:17	71° 04.12	133° 47.18	286	272
40	425	2006-10-07	15:16	71° 03.75	133° 49.87	288	274
41	435	2006-10-07	18:30	71° 04.60	133° 38.86	285	275
42	426	2006-10-07	21:00	70° 59.22	133° 45.00	113	98
43	427	2006-10-07	22:24	70° 52.76	133° 43.79	70	69
44	428	2006-10-07	23:34	70° 47.42	133° 42.24	67	64
45	429	2006-10-08	01:20	70° 41.56	133° 41.35	62	58
46	430	2006-10-08	02:49	70° 35.77	133° 39.33	71	61
47	431	2006-10-08	04:44	70° 29.71	133° 37.89	66	58
48	432	2006-10-08	06:10	70° 24.37	133° 36.42	62	53
49	433	2006-10-08	08:05	70° 17.09	133° 36.00	66	58
50	436	2006-10-09	10:54	70° 20.82	126° 20.96	247	240

APPENDIX 2B. Rosette casts locations, sampling times, water depths and corresponding stations or mooring numbers during ArcticNet expedition 0603 (page 2/3).

Cast number	Station or mooring	Start date UTC	Start time UTC	Latitude (North)	Longitude (West)	Cast depth (m)	Sea bottom depth (m)
51	436	2006-10-09	13:43	70° 20.13	126° 21.18	246	242
52	436	2006-10-09	16:26	70° 20.18	126° 21.23	252	240
53	436	2006-10-09	18:30	70° 19.60	126° 23.21	254	242
54	436	2006-10-09	20:06	70° 20.39	126° 20.73	251	243
55	436	2006-10-10	00:17	70° 20.04	126° 26.77	253	246
56		2006-10-11	22:21	70° 39.04	127° 12.19	251	242
57	435	2006-10-12	13:36	71° 04.55	133° 34.94	310	299
58	435	2006-10-12	15:34	71° 50.00	133° 33.42	333	313
59	435	2006-10-12	17:35	71° 04.28	133° 34.10	290	279
60	435	2006-10-13	01:32	71° 05.03	133° 34.58	333	318
61		2006-10-13	21:41	70° 22.73	137° 36.39	432	423
62	437?	2006-10-15	20:49	70° 37.67	136° 14.83	548	546
63		2006-10-16	17:43	70° 36.89	136° 24.62	693	680
64	434	2006-10-17	00:22	70° 10.60	133° 33.40	46	39
65	434	2006-10-17	02:37	70° 10.86	133° 34.64	43	35
66	407	2006-10-17	22:15	71° 00.53	126° 04.32	391	384
67	407	2006-10-18	01:22	71° 00.67	126° 02.88	397	392
68	407	2006-10-18	03:11	71° 01.03	125° 57.12	395	389
69	407	2006-10-18	05:03	71° 00.45	126° 03.73	390	381
70	407	2006-10-18	07:30	71° 01.21	126° 00.50	398	388
71	405	2006-10-18	17:50	70° 39.65	122° 59.79	591	583
72	404	2006-10-18	20:54	70° 20.79	121° 36.05	464	458
73	403	2006-10-19	00:29	70° 05.86	120° 06.67	414	405
74		2006-10-20	07:26	68° 05.02	111° 57.51	226	218
75		2006-10-21	12:39	69° 40.66	099° 35.95	75	64
76		2006-10-21	18:34	69° 51.48	099° 16.74	119	110
77		2006-10-22	02:20	71° 07.29	097° 30.09	99	90
78	317	2006-10-22	16:49	72° 05.14	093° 54.25	112	103
79	318	2006-10-22	18:12	71° 59.21	093° 48.95	83	72
80	319	2006-10-22	19:09	71° 52.96	093° 42.68	100	91
81	320	2006-10-22	20:16	71° 48.23	093° 37.05	91	82
82	321	2006-10-23	04:47	70° 20.94	091° 33.99	96	87
83	322	2006-10-23	05:58	70° 24.06	091° 06.07	222	213
84	322	2006-10-23	08:40	70° 24.06	091° 05.95	222	212
85	323	2006-10-23	12:15	70° 26.95	090° 38.54	134	122
86	324	2006-10-23	13:22	70° 30.10	090° 08.64	134	122
87	325	2006-10-23	14:52	70° 33.17	089° 40.36	164	154
88	326	2006-10-23	16:06	70° 36.11	089° 13.53	86	74
89	327	2006-10-24	03:52	69° 57.12	085° 45.63	236	225
90	328	2006-10-24	05:12	69° 53.03	085° 44.25	114	108
91	329	2006-10-24	21:24	69° 22.02	080° 23.40	36	29
92	330	2006-10-24	22:06	69° 19.12	080° 33.00	58	50
93	331	2006-10-24	23:20	69° 15.11	080° 45.83	71	64
94	332	2006-10-25	00:14	69° 10.98	080° 59.88	77	72
95	333	2006-10-25	02:41	68° 45.94	081° 00.87	34	26
96	334	2006-10-25	09:09	67° 52.77	080° 47.99	82	75
97	334	2006-10-25	11:12	67° 53.02	080° 47.47	82	77
98	335	2006-10-25	20:06	66° 32.92	082° 08.11	99	92
99	336	2006-10-25	21:31	66° 25.23	081° 50.63	141	130
100	337	2006-10-25	23:06	66° 16.88	081° 36.89	70	61

APPENDIX 2B. Rosette casts locations, sampling times, water depths and corresponding stations or mooring numbers during ArcticNet expedition 0603 (page 3/3).

Cast number	Station or mooring	Start date UTC	Start time UTC	Latitude (North)	Longitude (West)	Cast depth (m)	Sea bottom depth (m)
101	338	2006-10-26	00:29	66° 09.98	081° 19.77	135	124
102	338	2006-10-26	02:30	66° 09.35	081° 19.81	134	125
103	339	2006-10-26	05:26	66° 00.97	081° 04.99	147	140
104	340	2006-10-26	06:36	65° 52.98	080° 46.93	133	126
105	341	2006-10-26	07:52	65° 47.08	080° 34.93	136	130
106	342	2006-10-26	09:09	65° 37.07	080° 16.81	113	107
107	343	2006-10-26	10:19	65° 31.01	080° 03.49	95	85
108	344	2006-10-26	11:53	65° 21.83	079° 47.52	93	88
109	345	2006-10-26	13:05	65° 14.98	079° 32.67	113	106
110	346	2006-10-26	14:19	65° 06.04	079° 18.66	90	80
111	347	2006-10-26	17:50	64° 59.13	079° 05.98	88	76
112	348	2006-10-26	19:07	64° 50.11	078° 51.08	133	120
113	349	2006-10-26	20:35	64° 41.07	078° 35.10	135	127
114	350	2006-10-27	01:00	64° 29.94	080° 30.08	385	378
115	350	2006-10-27	03:23	64° 29.66	080° 31.22	384	379
116	351	2006-10-27	18:08	63° 32.11	075° 50.09	353	343
117	356	2006-10-28	21:30	60° 44.53	064° 41.79	283	280
118	355	2006-10-28	23:02	60° 50.98	064° 42.73	410	417
119	354	2006-10-29	00:45	61° 00.10	064° 44.65	495	491
120	353	2006-10-29	02:19	61° 09.05	064° 47.40	397	401
121	352	2006-10-29	04:13	61° 15.98	064° 48.67	294	273
122		2006-10-29	15:46	63° 03.10	067° 22.78	449	433
123	601	2006-11-01	13:47	59° 02.90	063° 37.33	162	153
124	602	2006-11-01	16:28	59° 03.42	063° 51.72	155	147
125	605	2006-11-01	20:00	58° 58.43	063° 53.23	49	43
126	604	2006-11-01	23:10	59° 00.01	063° 53.71	67	60
127	606	2006-11-02	03:57	59° 05.52	063° 26.15	213	195
128	615	2006-11-02	18:57	58° 18.67	063° 33.71	132	128
129	614	2006-11-02	23:42	58° 23.57	063° 23.92	171	166
130	613	2006-11-03	05:17	58°29.07	063° 13.32	238	234
131	612	2006-11-03	07:47	58° 28.31	062° 58.05	80	80
132	610	2006-11-03	08:34	58° 31.99	062° 50.39	113	103
133	617	2006-11-03	10:31	58° 30.04	062° 41.32	130	129
134	621	2006-11-04	08:40	56° 24.88	061° 31.56	114	108
135	622	2006-11-04	09:42	56° 25.00	061° 43.89	79	78
136	623	2006-11-04	10:34	56° 26.83	061° 56.31	111	109
137	624	2006-11-04	11:26	56° 25.32	062° 04.17	70	66
138	620	2006-11-04	22:26	56° 23.85	061° 13.00	95	86

APPENDIX 3. SCAMP cast locations, sampling times, water depths and corresponding station numbers during 2006 ArcticNet scientific expedition

3A. SCAMP logbook for Leg 1 (expedition 0602)

3B. SCAMP logbook for Leg 2 (expedition 0603)

APPENDIX 3.A. Logbook of SCAMP profiles during Leg 1 (page 1/2)

STATION	132	131	126	117
LOCALISATION	**Kane Basin**	**Baffin Bay**	**Baffin Bay**	**Baffin Bay**
Lat.	78° 59.837'	78º 19.541'	77º 20.717'	77º 22.432'
Long.	-072º 18.714'	-073º 14.802'	-073º 24.880'	-076º 57.619'
DEPARTURE				
date (TU)	2006-09-09	2006-09-11	2006-09-12	2006-09-14
time (TU)	13:39	18:30	17:00	19:45
RETURN				
time (TU)	15:39	21:10	19:00	21:26
CONDITIONS				
wind direction	235/240	20	130	330
wind speed	14	30	15	12
Pa	996.85/996.78	1003	1000.48	1019.8
Rel. Hum.	87%	74%	61%	82%
air temp. (°C)	-0.0/-0.3	-1.7	1.4	-2.6
water temp. (°C) (SST)	-0.17/-0.15	1.0	2.87	-1.05
sea state	2	5-6	5-6	4
ice (1/10)	2	1	iceberg	1
clouds (1/8)	6	6	3	6
CTD CAST #	25	36	39	55
Water depth (m)	250	333	334	417
SCAMP 1	143245	202509	171111	203450
SCAMP 2	145827	204001	173943	205146
SCAMP 3	151519		175740	210658
SCAMP 4				
SCAMP 5				
MISCELLANEOUS				
Profil depth (m)	50	50	50	50-60
Max # scans	50000	50000	50000	80000
Chrono (min)	8.5	8.5	8.5	9
Start of GPS UTC	13h39	18h32	17h01	19h45
GPS file name	09092006gps	11092006gps	12092006gps	14092006gps
MINILOGS				
File name	09092006Top.txt 09092006Middle.txt 09092006Bottom.txt	none	12092006Top.xt 12092006Bottom.txt	14092006Top.txt 14092006Middle.txt 14092006Bottom.txt
COMMENTS	Problem with the connector.	Ongoing problems with data salvaging. Two important shearing «areas» are illustrated in the first profile, they are less evident in the second profile. Heavy seas.	Installation of the USB connection in the SCAMP. Impossible to download the data from the «middle» minilog.	
Person in charge:	Caroline Sévigny			

APPENDIX 3.A. Logbook of SCAMP profiles during Leg 1 (page 2/2)

STATION	115	101	307	310
LOCALISATION	**Baffin Bay**	**Baffin Bay**	**Barrow Strait**	**McClintock Channel**
Lat.	76º 20.553'	76º 24.630'	74º 25.290'	71º 21.369'
Long.	-071º 12.072'	-077º 16.668'	-100º 33.131'	-102º 10.194'
DEPARTURE				
date (TU)	2005-09-16	2006-09-18	2006-09-23	2006-09-25
time (TU)	13:00	12:43	17:25	19:00
RETURN				
time (TU)	15:15	15:26	19:59	20:44
CONDITIONS				
wind direction	135	275	160	30
wind speed	6	11	8	18
Pa	1006.28	1015	1012.83	1014.66
Rel. Hum.	83%	91%	99%	99%
air temp. (°C)	2.5	0.1	-3.3	-2,4
water temp. (°C) (SST)	2.54	0.16	-0.59	-0,55
sea state	3	3	1	3
ice (1/10)	iceberg	iceberg	2	3
clouds (1/8)	1	1	0	fog, 7
CTD CAST #	62	77	96	108
Water depth (m)	654	311	168	216
SCAMP 1	134341	134341	181847	194516
SCAMP 2	140206	140206	183312	200012
SCAMP 3	141702	141702	184937	201712
SCAMP 4	143053	143053	190336	
SCAMP 5	144528	144528	192324	
MISCELLANEOUS				
Profil depth (m)	50-60	50-60	80-90	80-90
Max # scans	80000	80000	80000	80000
Chrono (min)	9	10	9-10	8
Start of GPS UTC	13h03		17h25	19h07
GPS file name	16092006gps	18092006gps	23092006gps	25092006gps
MINILOGS				
File name	16092006Top.txt 16092006Middle.txt 16092006Bottom.txt	18092006Top.txt 18092006Middle.txt 18092006Bottom.txt	none	none
COMMENTS	Potential problems with one of the temperature sensors. Had to add a rubber ring.	Speed still too fast. Will have to change all the batteries before the next sampling.		Stong currents. Drill overheating while recovering.
Person in charge:	Caroline Sévigny			

APPENDIX 3.B. Logbook of SCAMP profiles during Leg 2 (page 1/3)

STATION	405	408	414	436
LOCALISATION	**Amundsen Gulf**	**Amundsen Gulf**	**Amundsen Gulf**	**Franklin Bay**
Lat.	70º 39.08'	71º 15.91'	71º 25.27'	70º 19.76'
Long.	-122º 56.86'	-127º 31.04'	-127º 22.02'	-126º 22.46'
DEPARTURE				
date (TU)	2006-10-01	2006-10-03	2006-10-05	2006-10-09
time (TU)	20:38	00:12	16:34	19:25
RETURN				
time (TU)	22:15	01:58	18:20	21:30
CONDITIONS				
wind direction	160	150	53	70
wind speed	8	10	21	8
Pa	1011.2	1009.7	1011.3	1033.5
Rel. Hum.	86%	93%	83%	67%
air temp. (°C)	0.0	0.8	-2.5	-5.0
water temp. (°C) (SST)	3.9	2.1	1.9	1.3
sea state	3	4	6	2
ice (1/10)	---	---	---	---
clouds (1/8)	4	6	6	5
CTD CAST #	10	16	24	53
Water depth (m)	579	193	305	254
SCAMP 1	205319*	232156	165743	022441
SCAMP 2	212222	233927	171456	023826
SCAMP 3	213809	235554	172950	025213
SCAMP 4	215430	001510	174620	030932
SCAMP 5		003205		032417
MISCELLANEOUS				
Profil depth (m)	85-88	88	30-40	65-70
Max # scans	80000	80000	80000	80000
Chrono (min)	8	8	7	8
Start of GPS UTC	19:34	00:12	15:34	19:26
GPS file name	01102006gps	02102006gps	05102006gps	09102006gps
MINILOGS				
File name	Bin01102006top.003 Bin01102006middle.000 B12-01102006bottom.003	Bin02102006top.004 Bin02102006middle.001 B12-02102006bottom.004	Bin05102006top.004 --- B12-05102006bottom.004	Bin09102006top.005 --- B12-09102006bottom.005
COMMENTS	Rapid descent speed (>0.2m/s) following Caroline's last configuration or «tune up». *The first cast (205319) is incomplete due to a deployment delay.	Descent speed of >0.2m/s.	Descent speed of ~ 0.1m/s. The blue carrier box got stock in the zodiac during the recovering. The box has a crack on his cover. Had to change the SCAMP's batteries after sampling. Unable to download the data from the middle minolog.	Replacement of a blue plastic link/chain that broke off due to cold weather. The hour and date registered in the SCAMP files (09OCT2006_??????.txt) are not valid date. Descente spedd of ~0.15m/s. Unable to download data from the middle minilog.
Person in charge:	Dany Dumont			

APPENDIX 3.B. Logbook of SCAMP profiles during Leg 2 (page 2/3)

STATION	407	334	338	345
LOCALISATION	**Amundsen Gulf**	**Foxe Basin**	**Foxe Basin**	**Foxe Basin**
Lat.	71º 00.69'	67º 53.00'	66º 09.29'	65º 05.96'
Long.	-126º 02.82'	-080º 47.47'	-081º 19.14'	-079º 18.36'
DEPARTURE				
date (TU)	2006-10-18	2006-10-25	2006-10-26	2006-10-26
time (TU)	00:55	11:00	01:12	14:12
RETURN				
time (TU)	02:57	12:45	03:20	15:24
CONDITIONS				
wind direction	18	253	308	10
wind speed	7	10	9	9
Pa	1012.9	1021.5	1025	1022.2
Rel. Hum.	81%	92%	87%	86%
air temp. (°C)	-2.7	1.1	-1.1	-1.3
water temp. (°C) (SST)	1.58	1.94	1.49	0.48
sea state	1	1	3	3
ice (1/10)	---	---	---	---
clouds (1/8)	8	8	6	7
CTD CAST #	69	97	102	110
Water depth (m)	390	82	134	84
SCAMP 1	010610	112024	012512	142620
SCAMP 2	012053	113209	013916	143900
SCAMP 3	013519	114414	015453	145125
SCAMP 4	014932	120019	020903	150235
SCAMP 5	020414	121250	022305	
MISCELLANEOUS				
Profil depth (m)	55-60	55-70	50-65	55-75
Max # scans	80000	50000	50000	60000
Chrono (min)	8	7	8	8
Start of GPS UTC	00:53	10:56	01:12	---
GPS file name	18102006gps	25102006gps	26102006gps	---
MINILOGS				
File name	Bin18102006top.005	Bin25102006top.005	Bin26102006top.005	Bin26102006top(2).005
	---	---	Bin26102006middle.001	---
	B12-18102006bottom.005	B12-25102006bottom.005	B12-26102006bottom.005	B12-26102006bottom(2).005
COMMENTS		Got out before dawn. Nothing to report.	Sampling during the night. The GPS fell at the bottom of the zodiac and got wet with sea water. It's not working anymore and will have to be rinced thoroughly before the next sampling.	Did not used the GPS. Le coordonates of the station were noted at the end of the last casts:#4:65°9.8N/79°19.9W.
Person in charge:	Dany Dumont			

APPENDIX 3.B. Logbook of SCAMP profiles during Leg 2 (page 3/3)

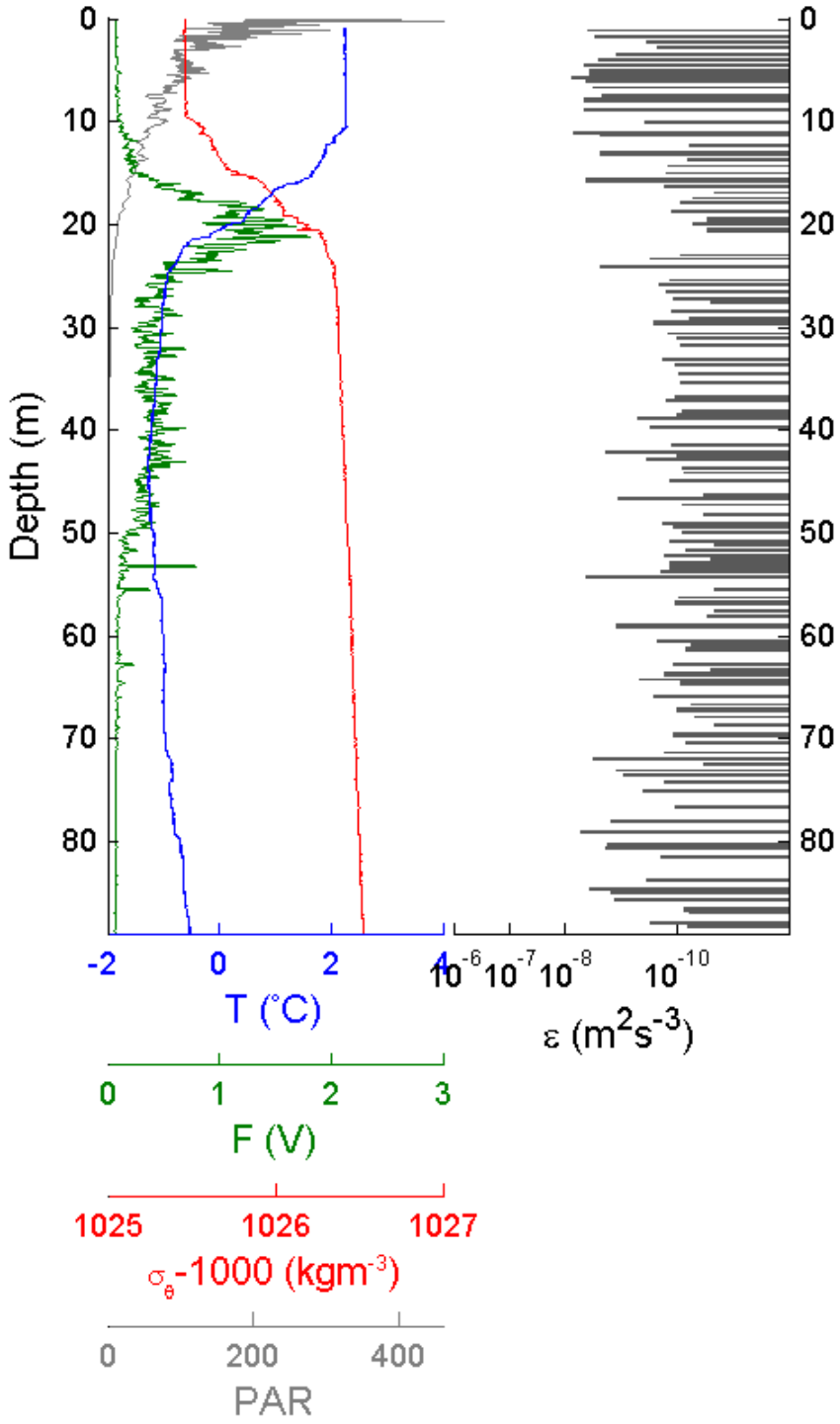
STATION	350	602	615	624
LOCALISATION	**Foxe Basin**	**Nachvak Fjord**	**Saglek Fjord**	**Anaktalak Fjord**
Lat.	64º 29.96'	59º 03.30'	58º 20.60'	56º 25.30'
Long.	-080º 30.00'	-063º 51.40'	-063º 30.90'	-062º 04.10'
DEPARTURE				
date (TU)	2006-10-27	2006-11-01	2006-11-02	2006-11-04
time (TU)	00:54	18:30	18:40	15:00
RETURN				
time (TU)	02:30	20:30	20:30	17:00
CONDITIONS				
wind direction	124	calm	221	292
wind speed	7	calm	28	9
Pa	1017.2	999.8	997.8	1004.7
Rel. Hum.	84%	83%	64%	72%
air temp. (°C)	-1.2	1.6	-0.1	-3.3
water temp. (°C) (SST)	1.03	1.92	1.58	
sea state	1	0	4	3
ice (1/10)	---	beginning to form	---	---
clouds (1/8)	8	6	6	0
CTD CAST #	114	124	129	137
Water depth (m)	350	162	131	70
SCAMP 1	010500	172919	181047	142407
SCAMP 2	011804	174944	183437	145032
SCAMP 3	013102	180726	185723	151102
SCAMP 4	014519	182133		
SCAMP 5	020020	184224		
MISCELLANEOUS				
Profil depth (m)	52-72	40-50	24-33	33-50
Max # scans	60000	60000	80000	80000
Chrono (min)	8	8	10	8
Start of GPS UTC	---	---	19:01	14:54
GPS file name	---	---	02112006gpsqo	04112006gpsqo
MINILOGS				
File name	Bin27102006top.005	---	Bin02112006top.005	Bin04112006top.005
	---	---	---	---
	B12-27102006bottom.005	---	B12-02112006top.005	B1204112006bottom.005
COMMENTS	The GPS was not used (getting repared). The postion of the station was noted between casts 2 and 5: #2:64°30.1N/80°30.1W; #3:64°30.1N/80°30.2W; #4:64°30.1N/80°30.2W; #5:64°30.1N/80°30.3W. Will be able to use the GPS for the next sampling. I rinced it toroughly with distilled water.	The minilogs were not deployed. The GPS is not receiving the satellite signal. The sea surface is like a mirror and crystal ice is forming.	The zodiac is rapidly drifting due to winds. I had to unwind 500m of cable in 10 minutes. The spedd descent slowed significantly at 15-20m, probably due to cable drag. The GPS still cannot receive the satellite signal (maybe there is an internal malfunction?!).	
Person in charge:	Dany Dumont			

APPENDIX 4. SCAMP data plots

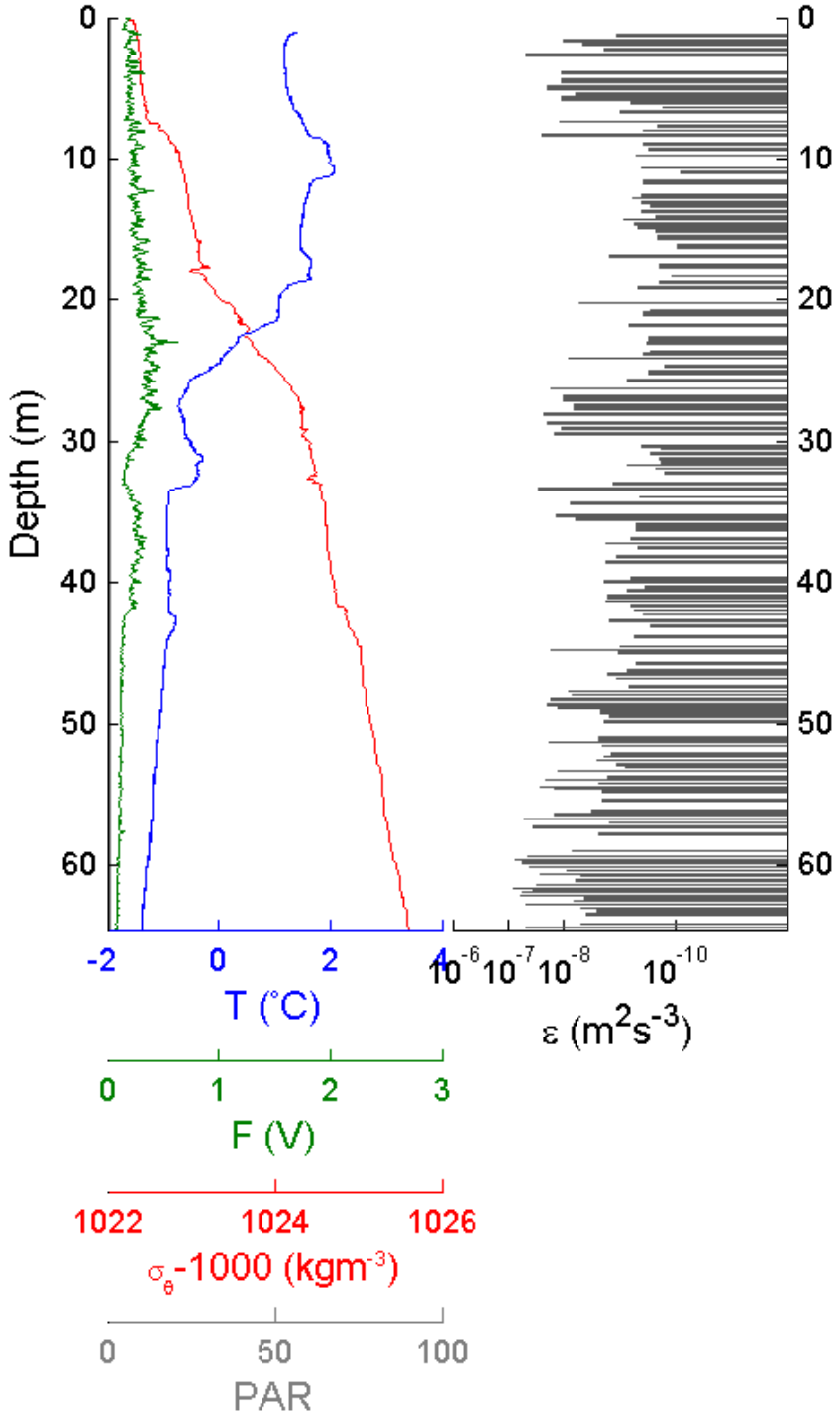
4A. Example of SCAMP data from Leg 1 (expedition 0602)

4B. Example of SCAMP data from Leg 2 (expedition 0603)

APPENDIX 4.A SCAMP data profile. The data is from the profile #134341 recorded on station 115 during leg 0602. The blue line represented the temperature (^{o}C), the green one is fluorescence (volts), the red one is density (kg m^{-3}), the gray is light penetration and finally the black one is the turbulent kinetic energy dissipation (m^{2} s^{-3}).



APPENDIX 4.B SCAMP data profile. The data is from the profile #013519 recorded on station 407 during leg 0603. The blue line represented the temperature (^{o}C), the green one is fluorescence (volts), the red one is density (kg m^{-3}), the gray is light penetration and finally the black one is the turbulent kinetic energy dissipation (m^{2} s^{-3}).



APPENDIX 5. Sections of salinity and potential temperature for ArcticNet expedition 0602 (Leg 1).

The same color scale is used for all sections except 5.6 where fresher water was recorded. For the sections in northern Baffin Bay, Canada is on the left and Greenland is on the right.

5.1. Section in Oliver Sound

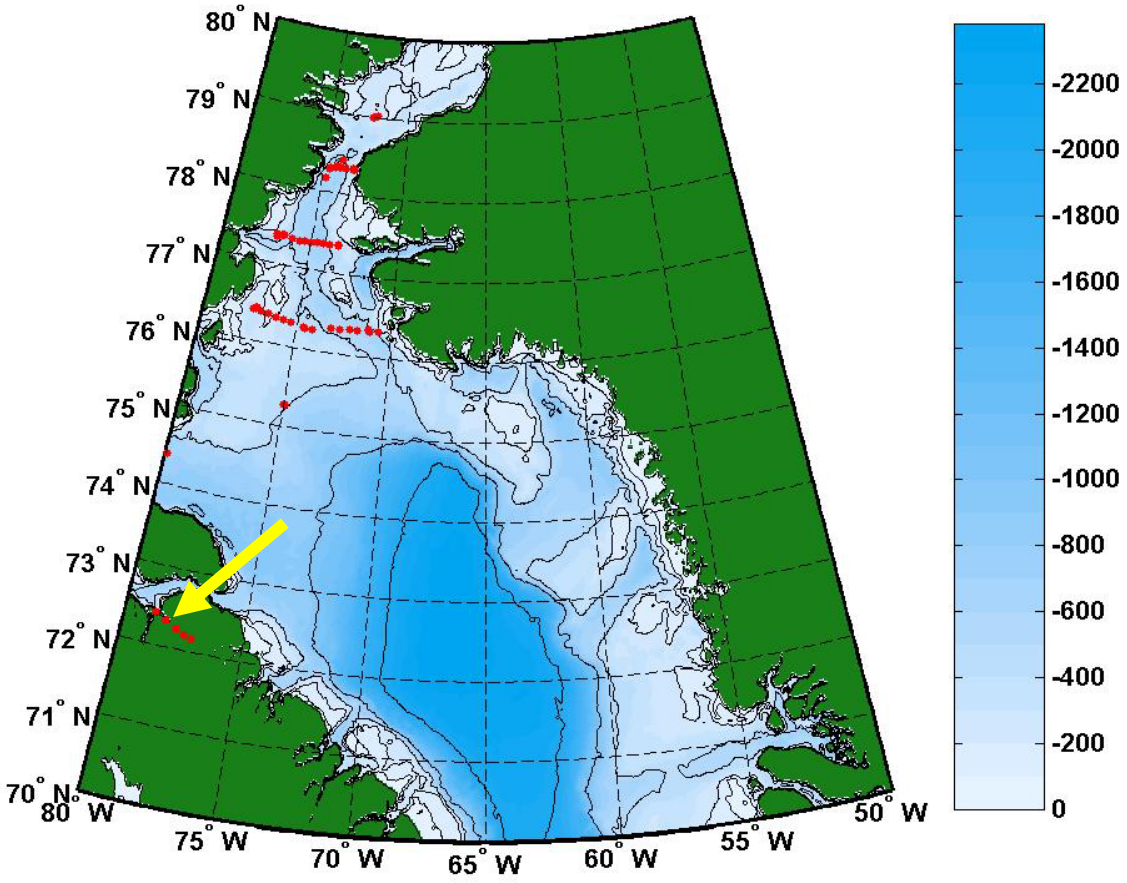
5.2. Section NOW S1 in northern Baffin Bay (same as named location than during NOW program in 1998)

5.3. Section NOW S3 in northern Baffin Bay (same as named location than during NOW program in 1998)

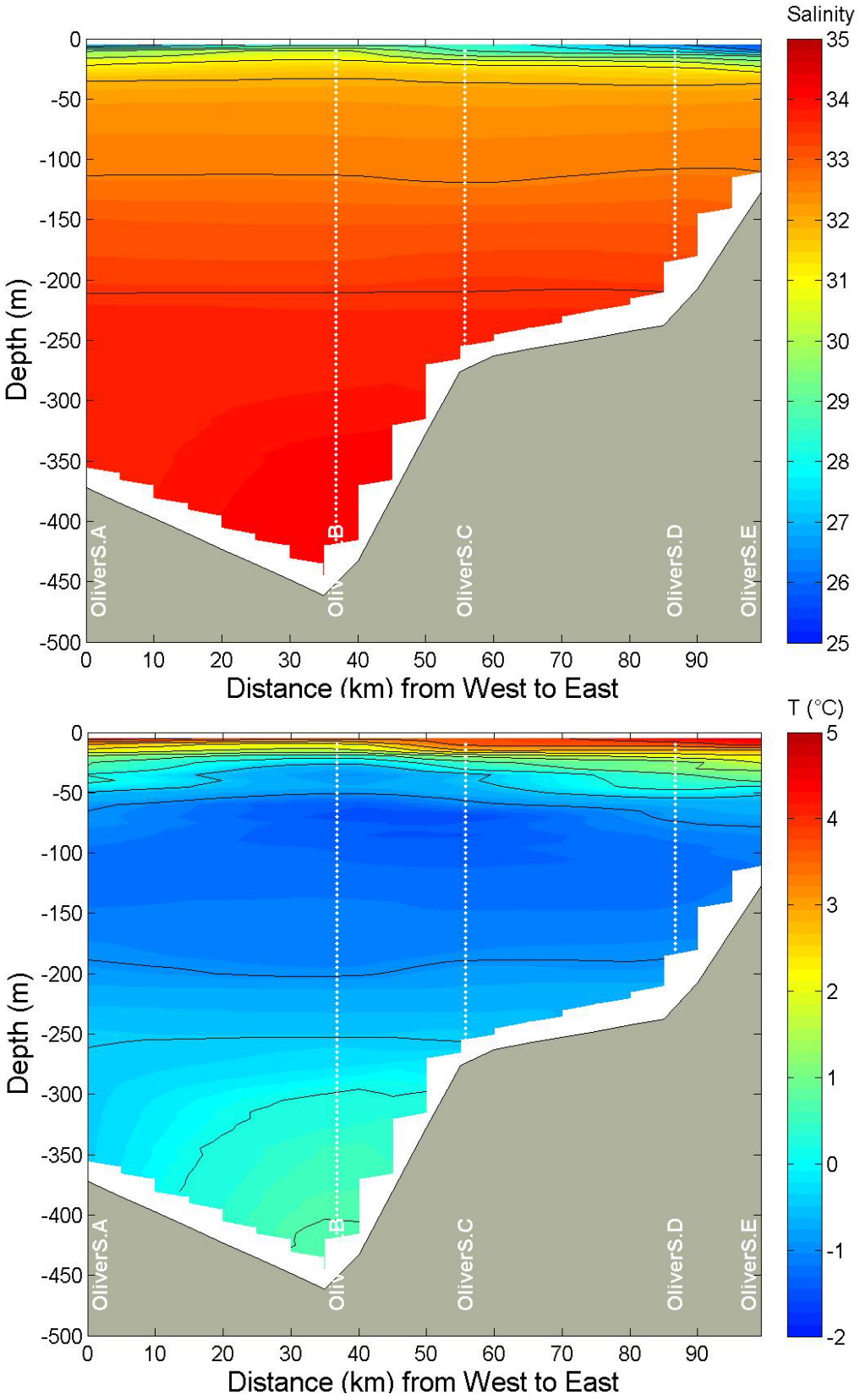
5.4. Section NOW S5 in northern Baffin Bay (same as named location than during NOW program in 1998)

5.5. Section in front of Belcher Glacier in northern Baffin Bay

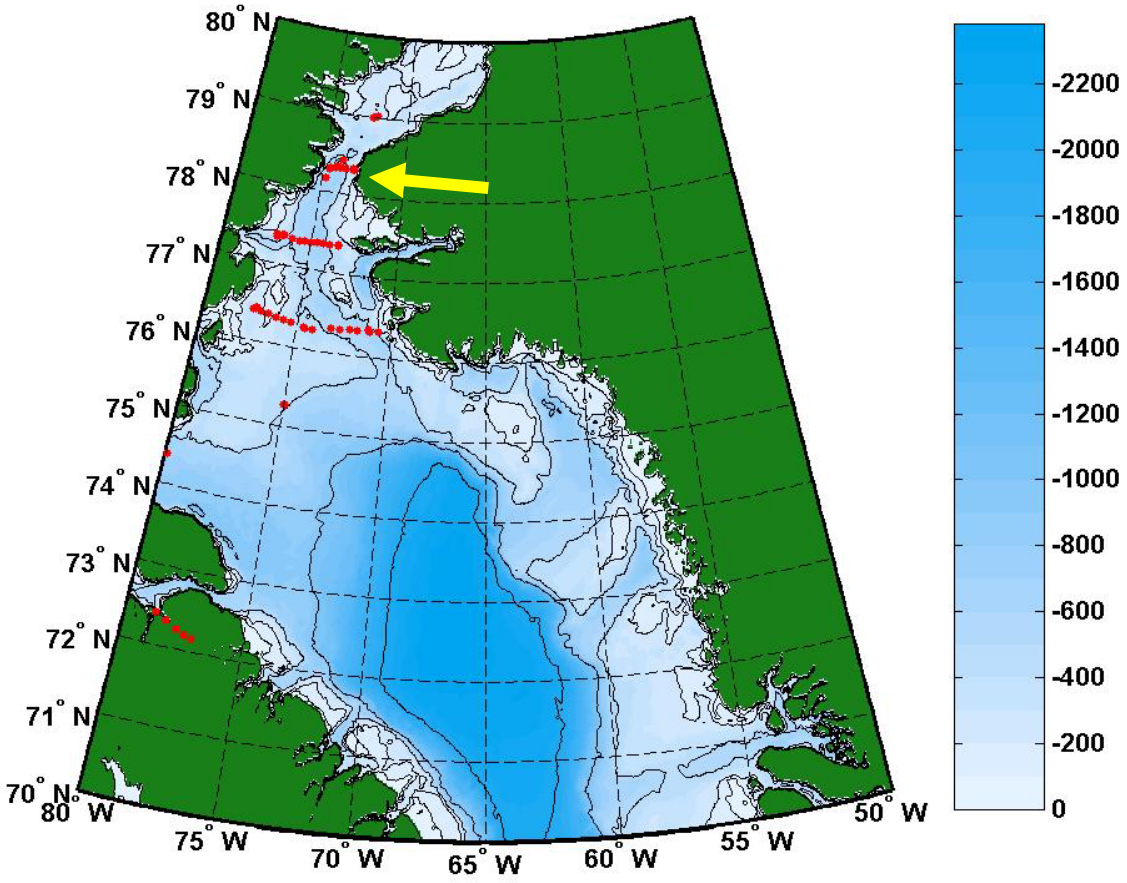
5.6. Section along Northwest Passage.



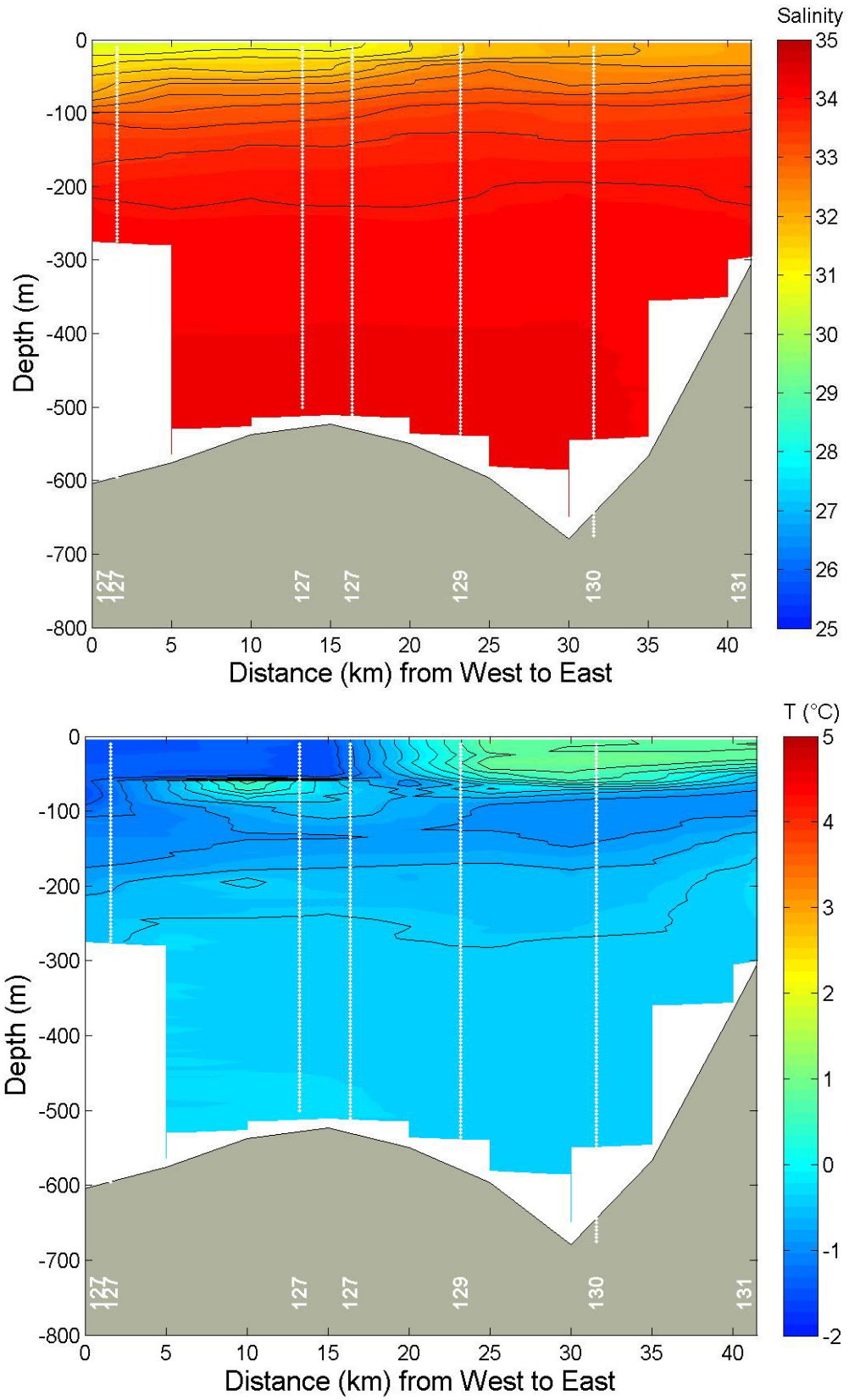
APPENDIX 5.1.A. The yellow arrow identifies the location of the section in Oliver Sound. This section is contoured on the next page.



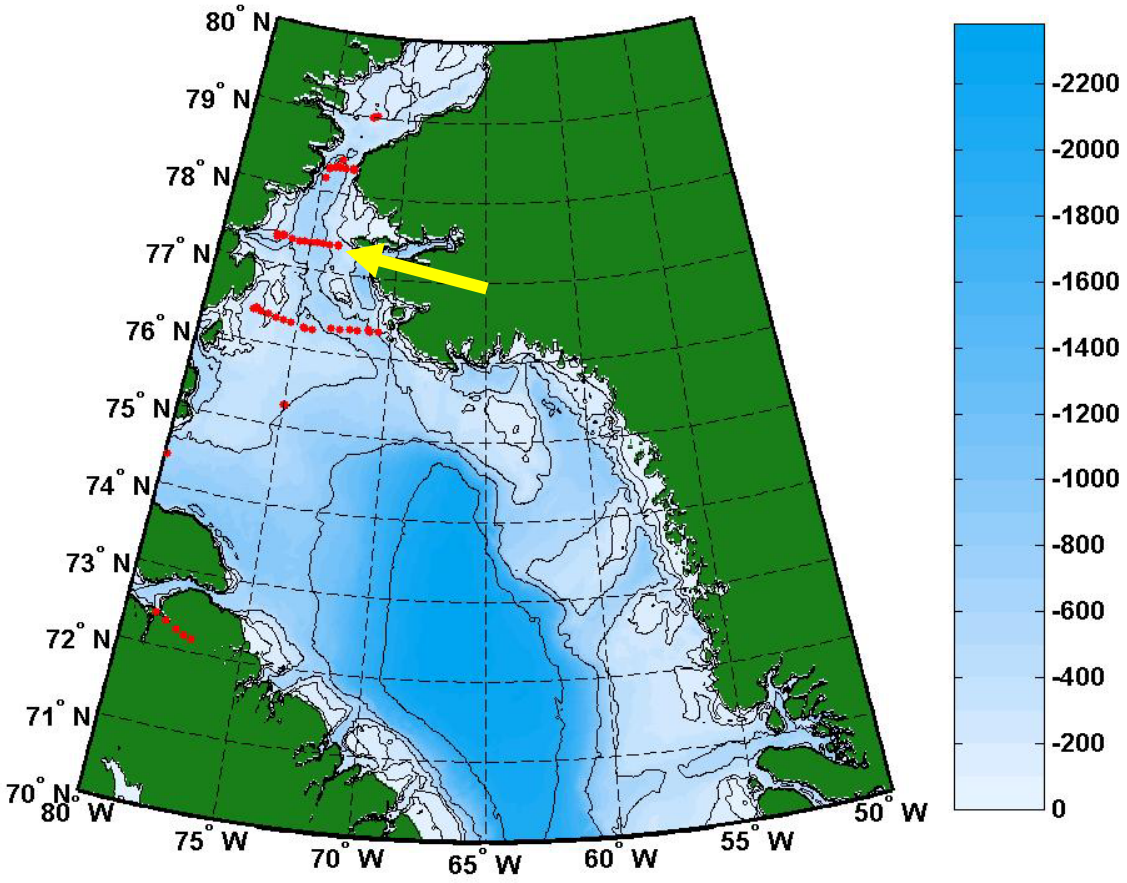
APPENDIX 5.1.B. Salinity and potential temperature along the section in Oliver Sound. The western sites are on the left and the eastern sites are on the right.



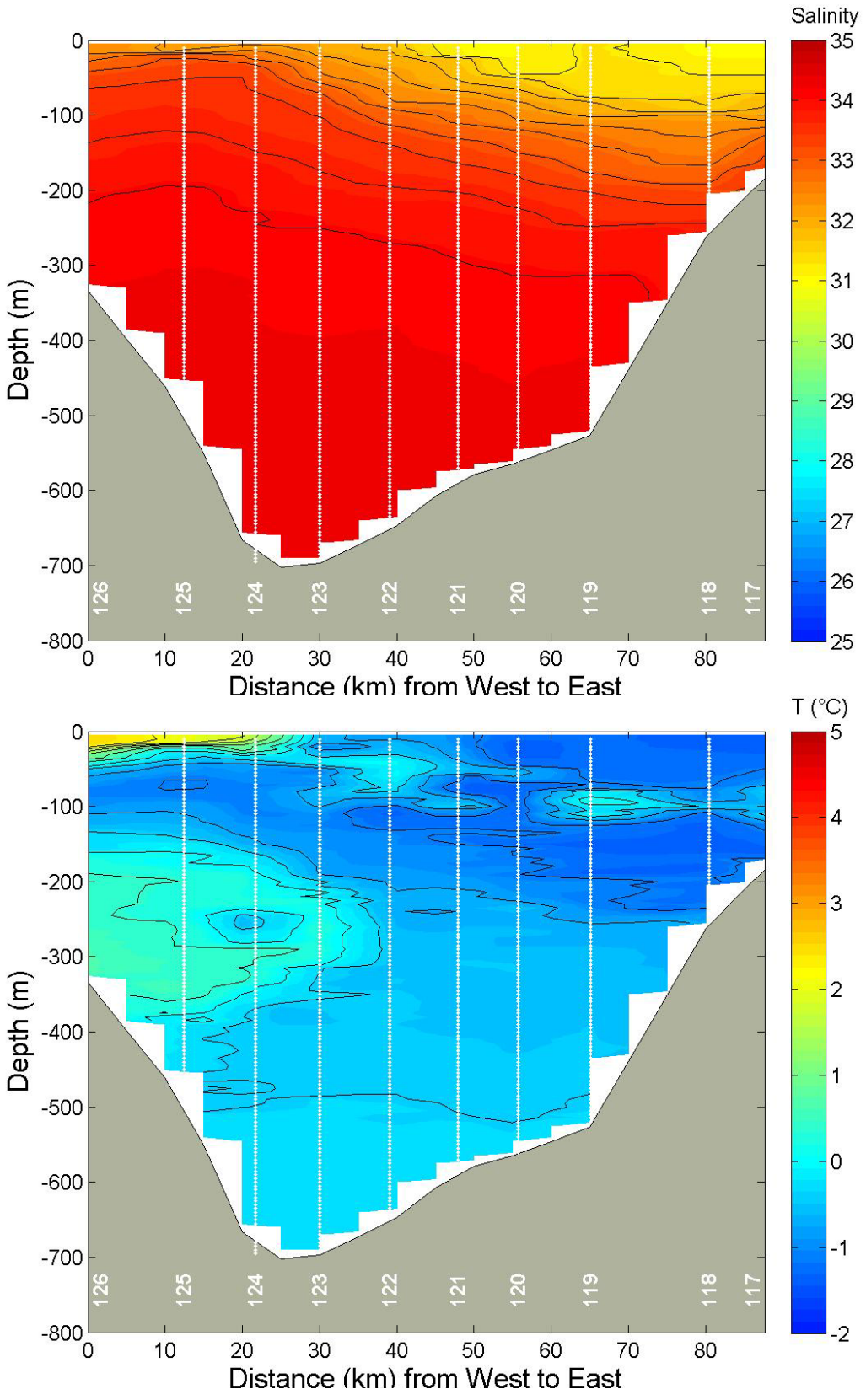
APPENDIX 5.2.A. The yellow arrow identifies the location of the section NOW S1 in northern Baffin Bay. This section is contoured on the next page. (NOW referring to North Water polynya expedition).



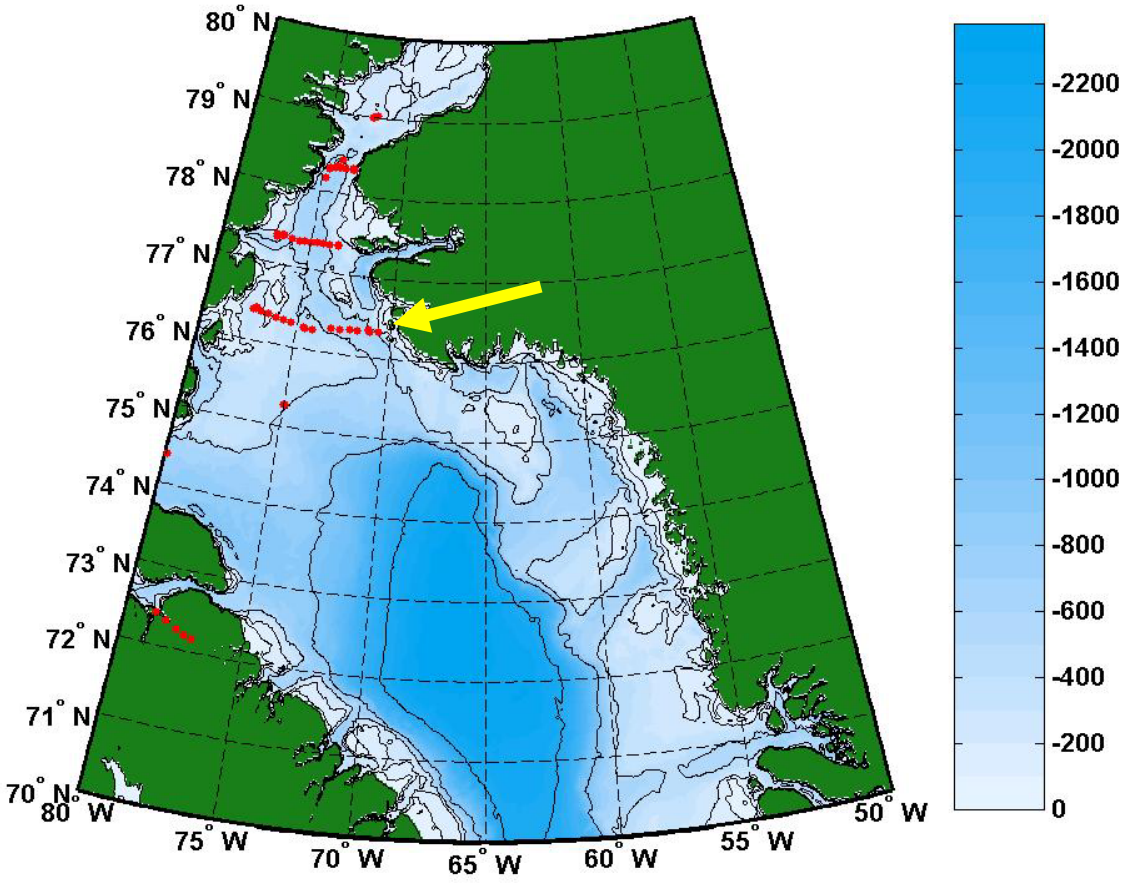
APPENDIX 5.2.B. Salinity and potential temperature along the section NOW S1. The western sites are on the left and the eastern sites are on the right.



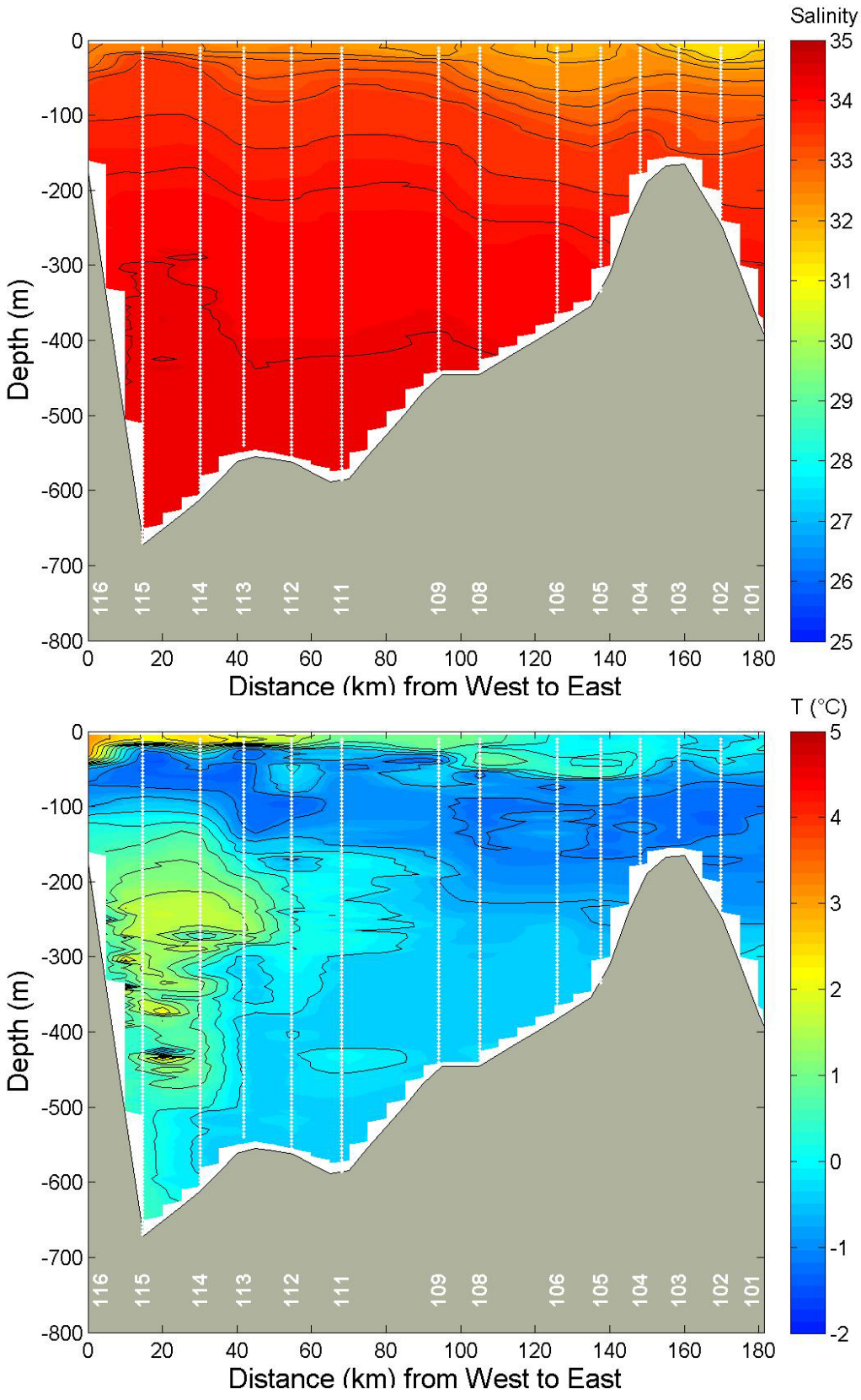
APPENDIX 5.3.A. The yellow arrow identifies the location of the section NOW S3 in northern Baffin Bay. This section is contoured on the next page.



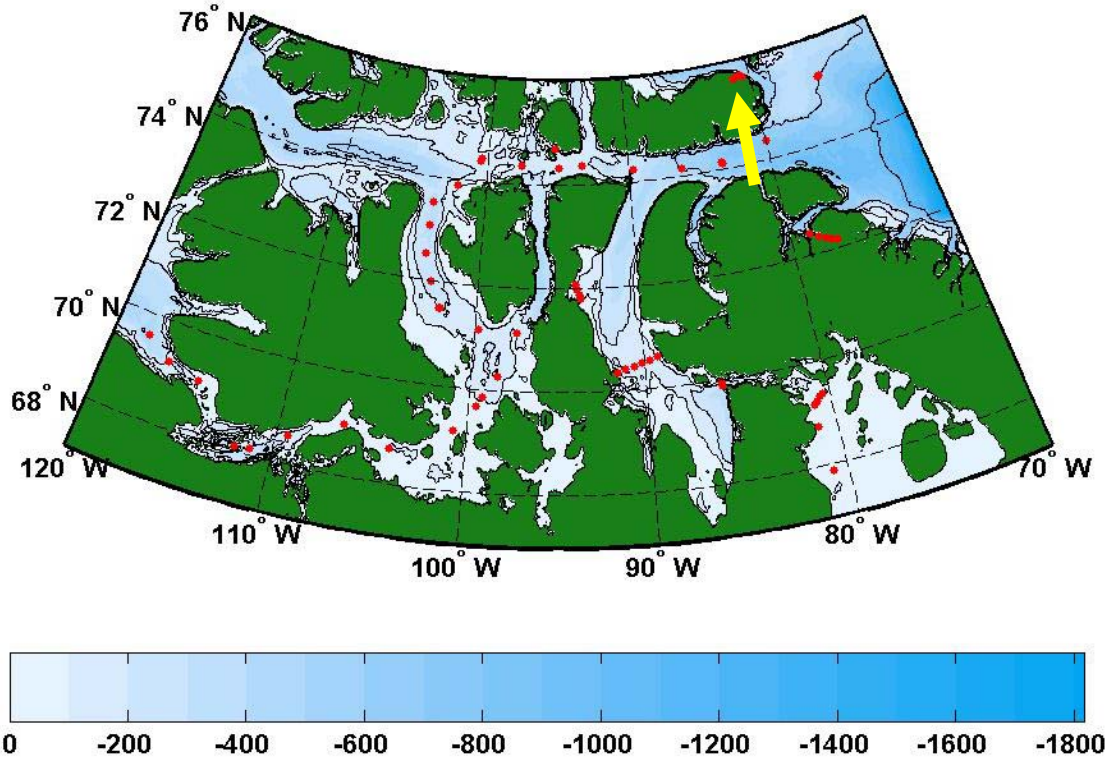
APPENDIX 5.3.B. Salinity and potential temperature along the section NOW S3. The western sites are on the left and the eastern sites are on the right.



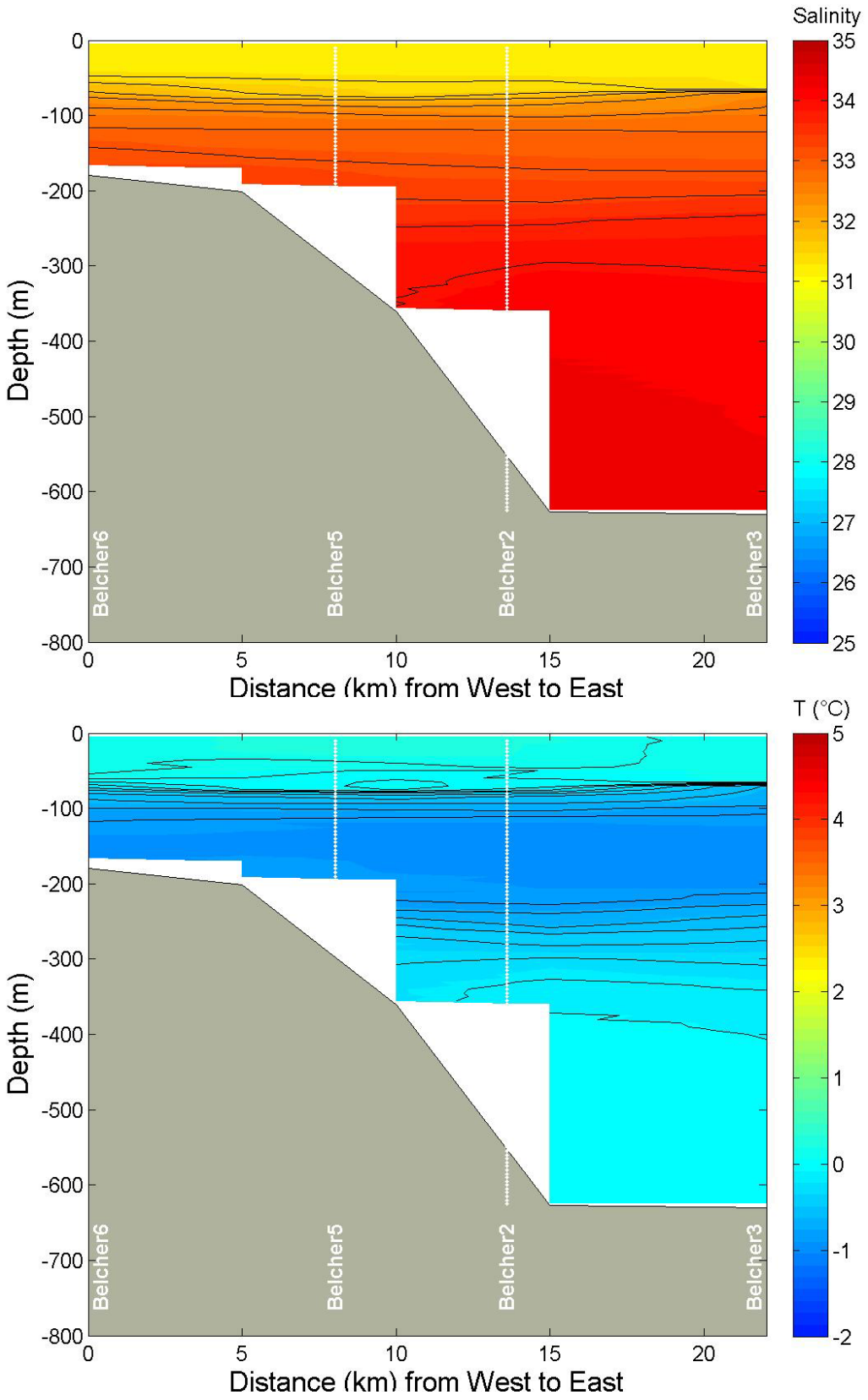
APPENDIX 5.4.A. The yellow arrow identifies the location of the section NOW S5 in northern Baffin Bay. This section is contoured on the next page.



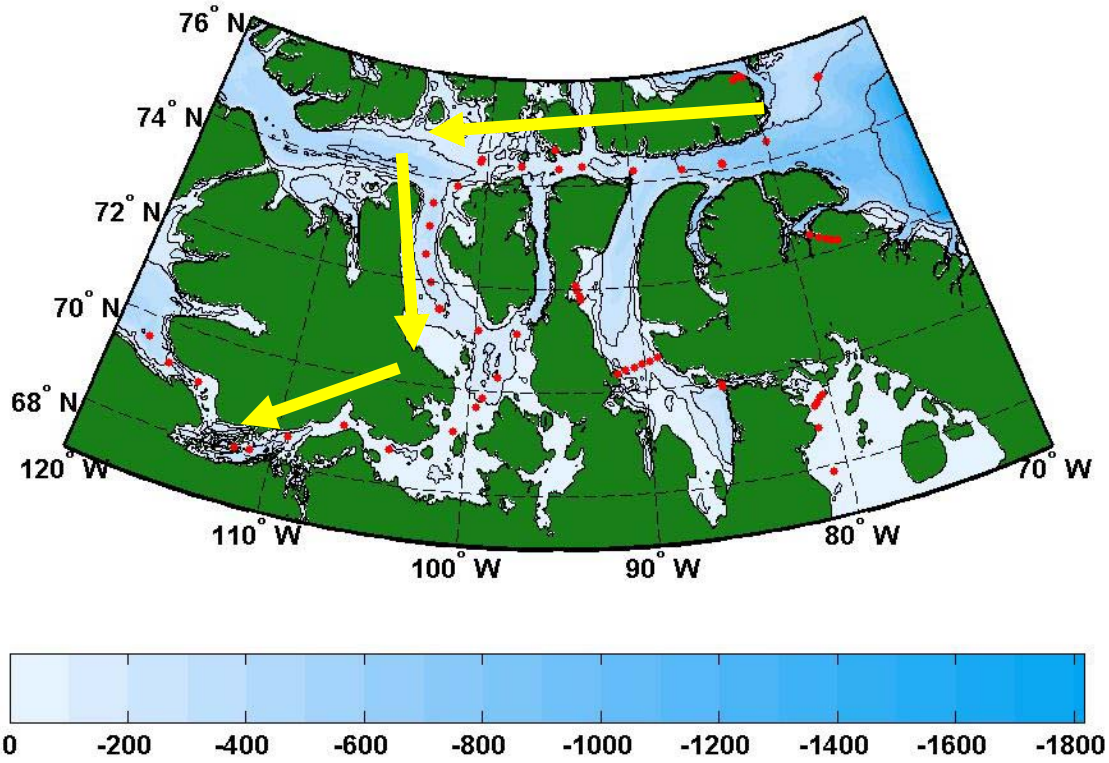
APPENDIX 5.4.B. Salinity and potential temperature along the section NOW S5. The western sites are on the left and the eastern sites are on the right.



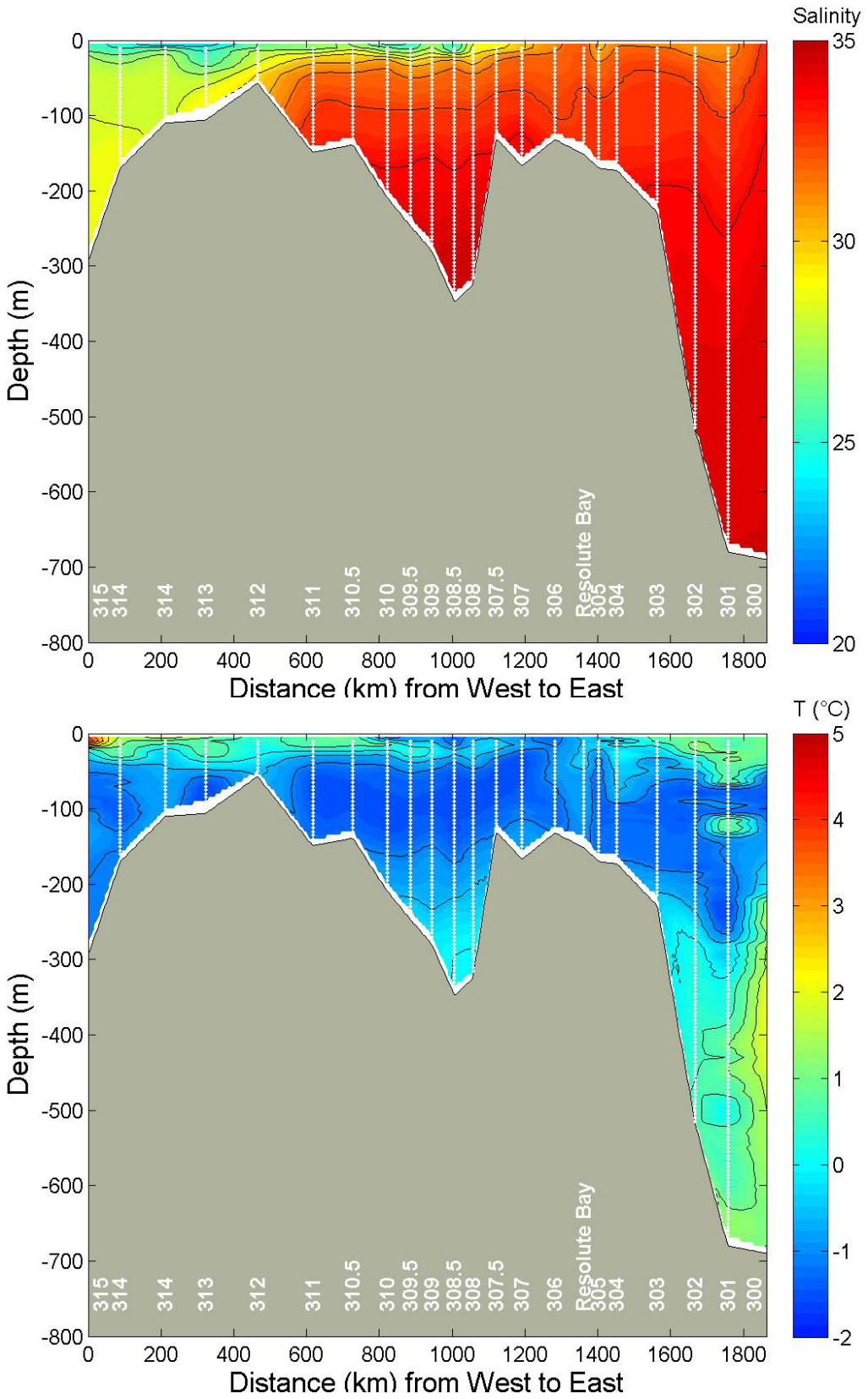
APPENDIX 5.5.A. The yellow arrow identifies the location of the section in front of Belcher Glacier in northern Baffin Bay. This section is contoured on the next page.



APPENDIX 5.5.B. Salinity and potential temperature along the section in front of Belcher Glacier. The western sites are on the left and the eastern sites are on the right.



APPENDIX 5.6.A. The yellow arrow identifies the location of the section along the Northwest Passage. This section is contoured on the next page. The boat sailed from East to West, but the section is plot from West (left) to East (right).



APPENDIX 5.6.B. Salinity and potential temperature along the section along the Northwest Passage. The western sites are on the left and the eastern sites are on the right.

APPENDIX 6. Contours of salinity and potential temperature for the different sections of ArcticNet expedition 0603 (Leg 2).

The same color scale is used for all sections except 6.2 where fresher water was recorded. For West to East sections, West is on the left and East is on the right. For South to North sections, South is on the left and North is on the right.

6.1. Section S400 in Beaufort Sea (same location than in 2003-2004 during CASES program)

6.2. Section S700 in Beaufort Sea (same location than in 2003-2004 during CASES program)

6.3. Section along the Northwest Passage

6.4. Section on the eastern side of Bellot Strait

6.5. Section across the Gulf of Boothia

6.6. Section in front of Igloolik Island

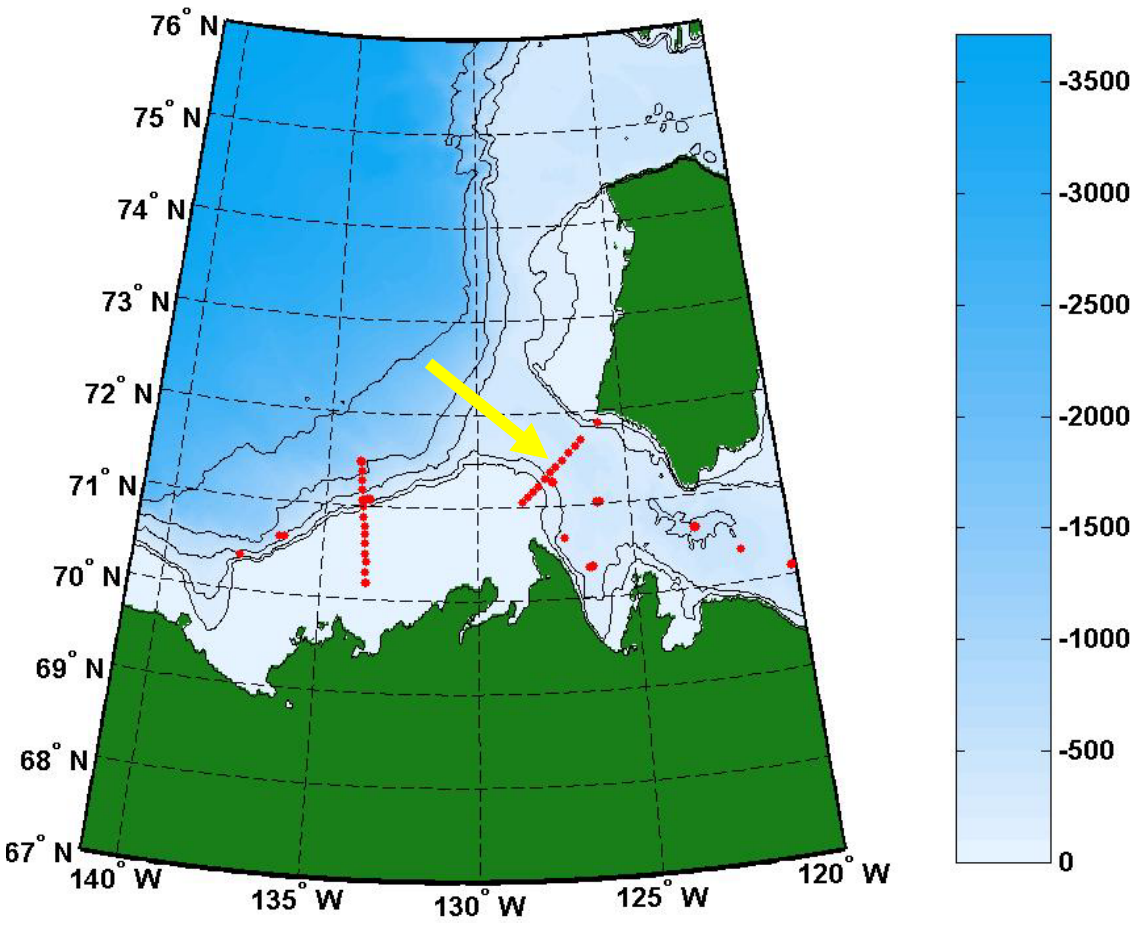
6.7. Section across Foxe Basin

6.8. Section 13 across Hudson Strait (as named in 2005)

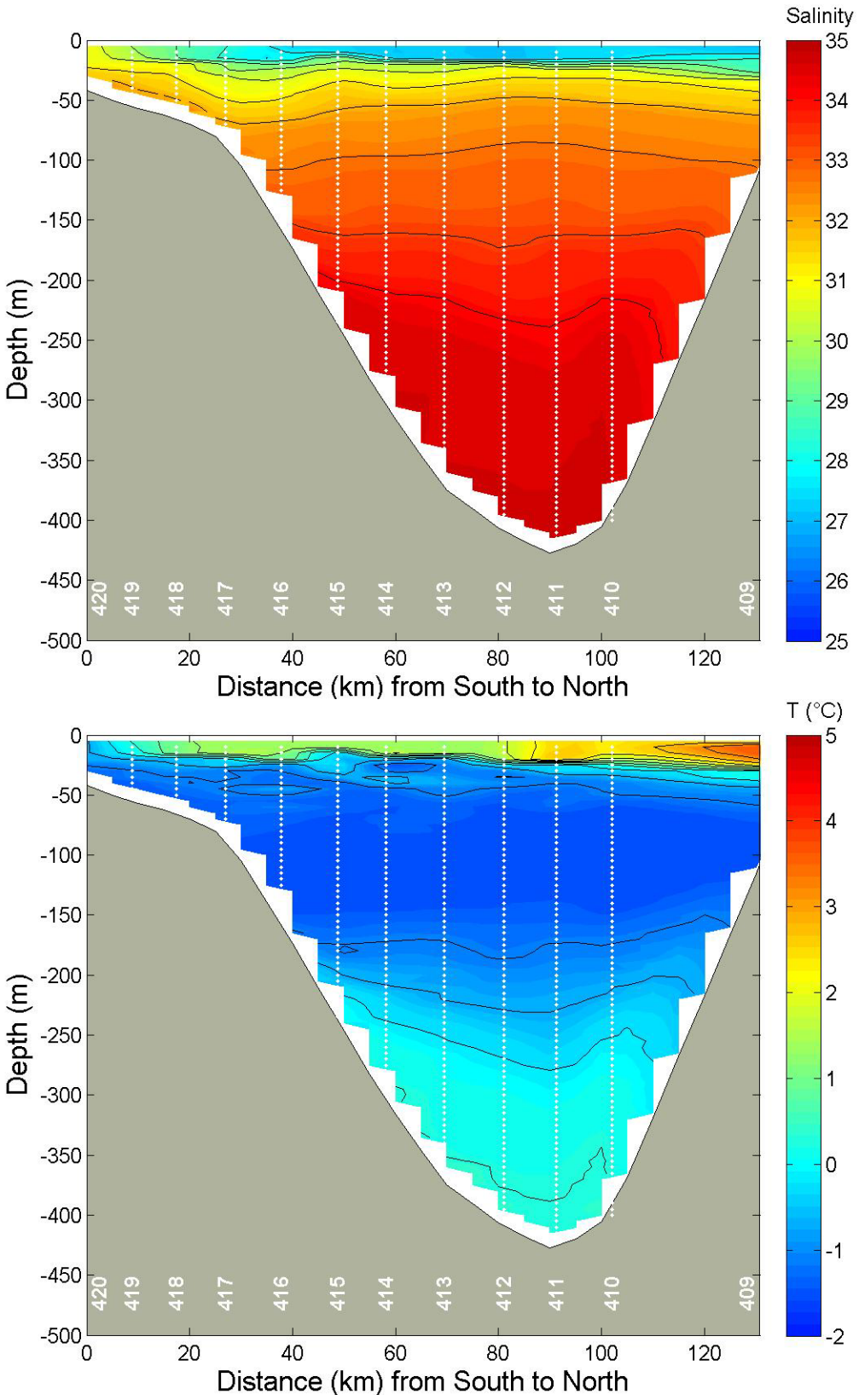
6.9. Section in Nachvak fjord along Labrador coast

6.10. Section in Saglek fjord along Labrador coast

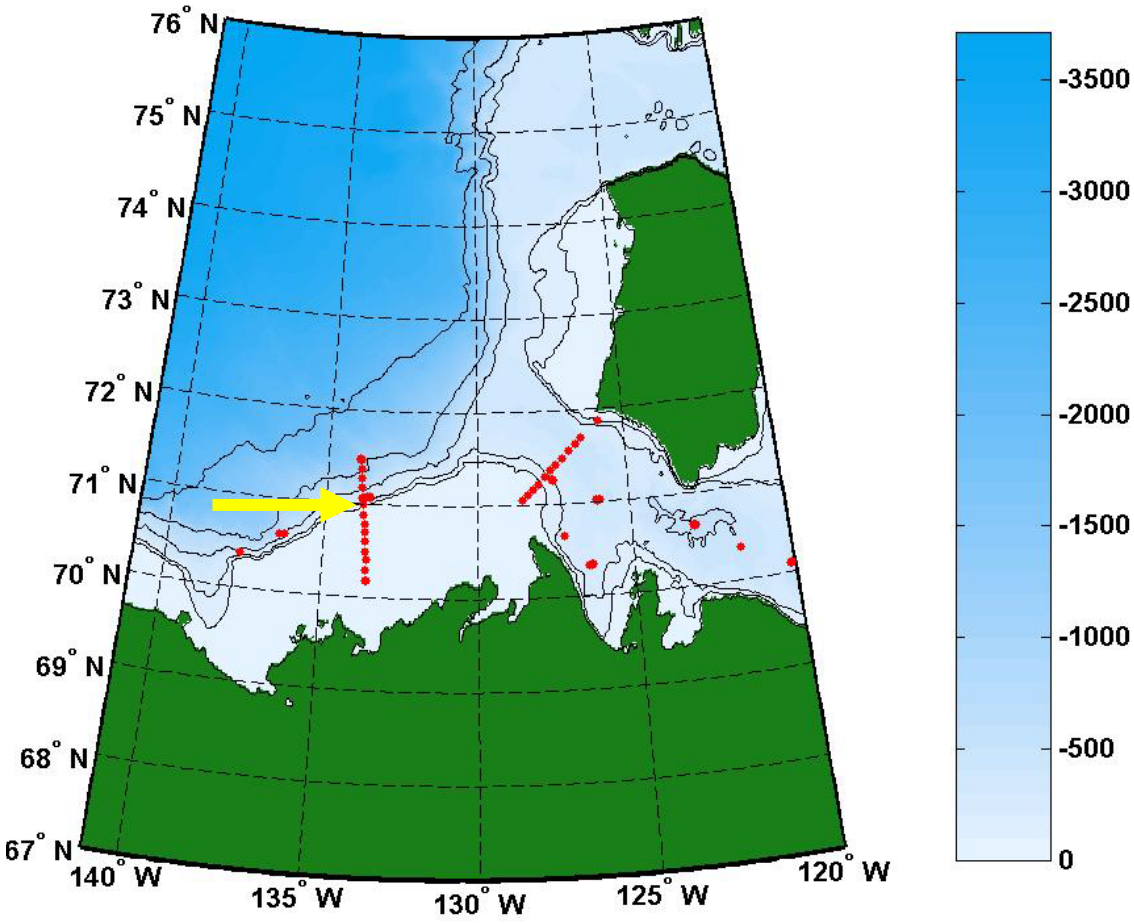
6.11. Section in Anaktalak fjord along Labrador coast



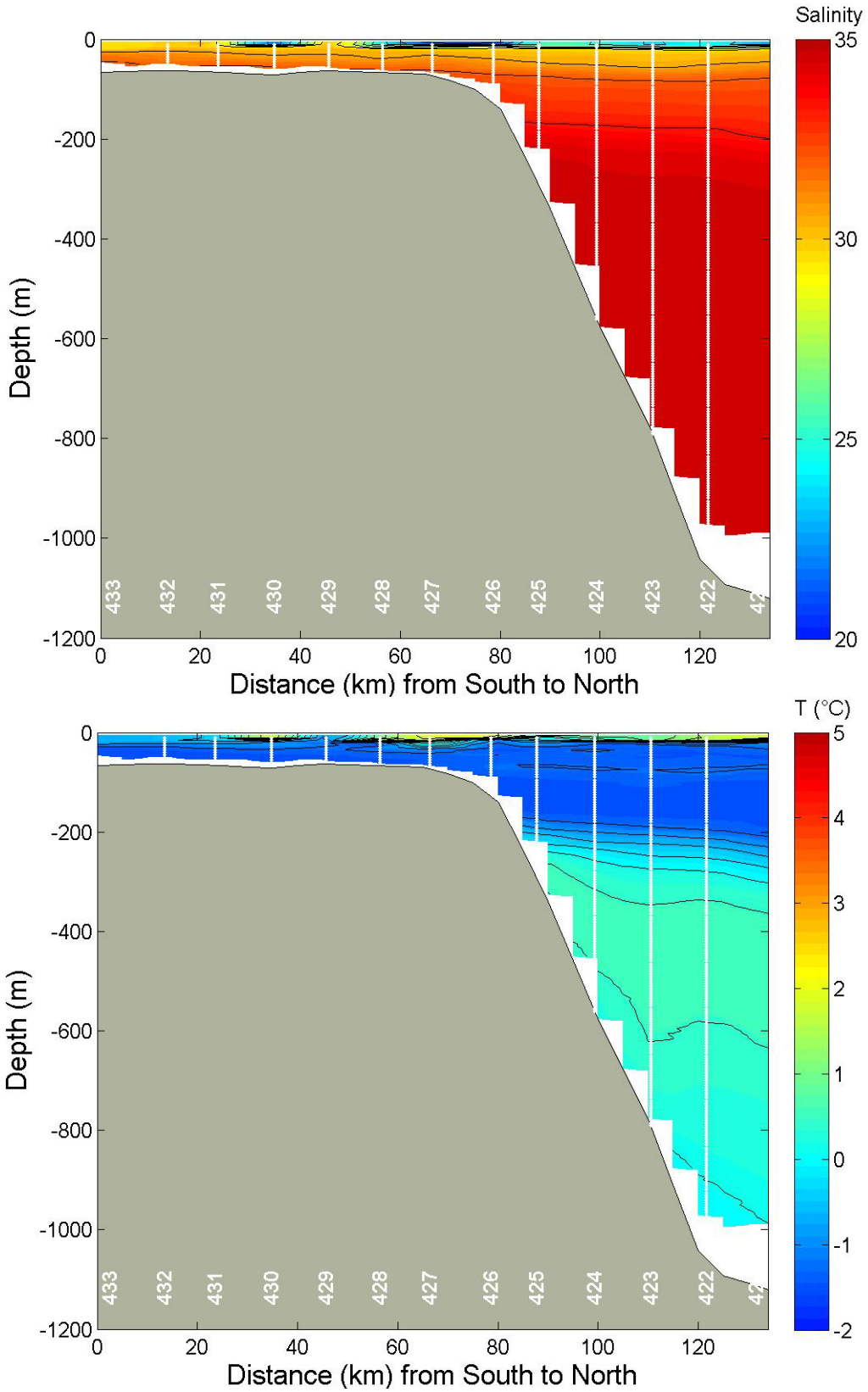
APPENDIX 6.1.A. The yellow arrow identifies the location of section S400 in Beaufort Sea. This section is contoured on the next page.



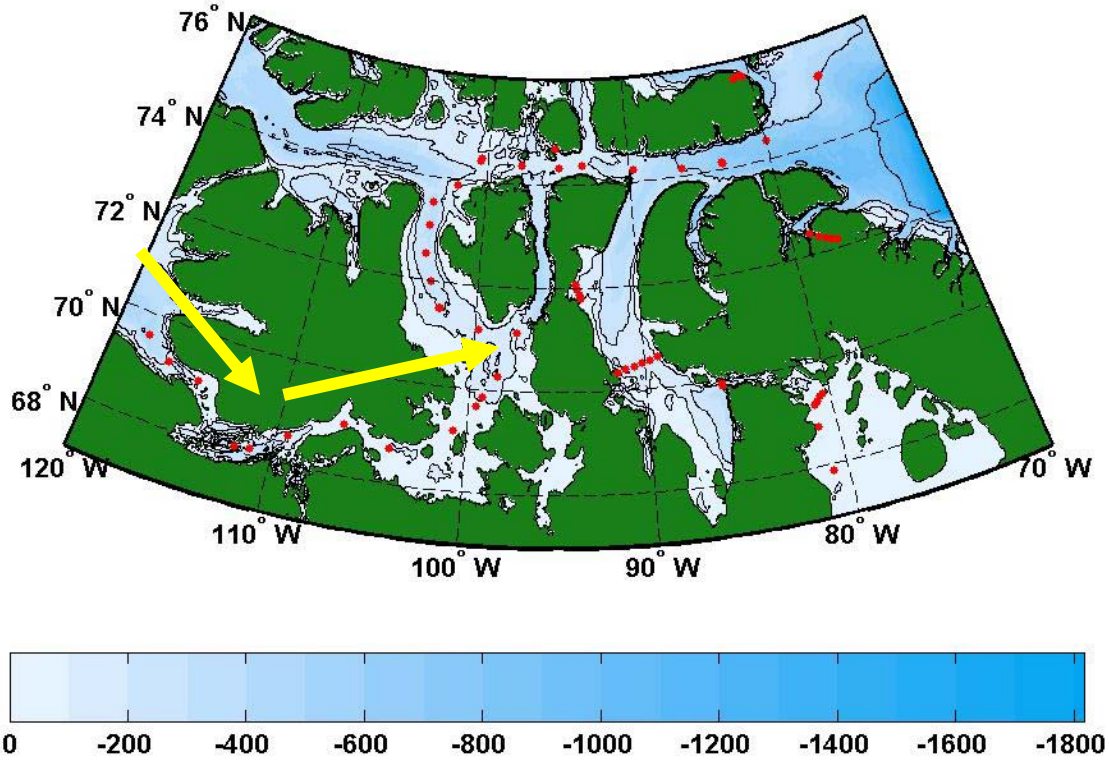
APPENDIX 6.1.B. Salinity and potential temperature along section S400. The southern sites are on the left and the northern sites are on the right.



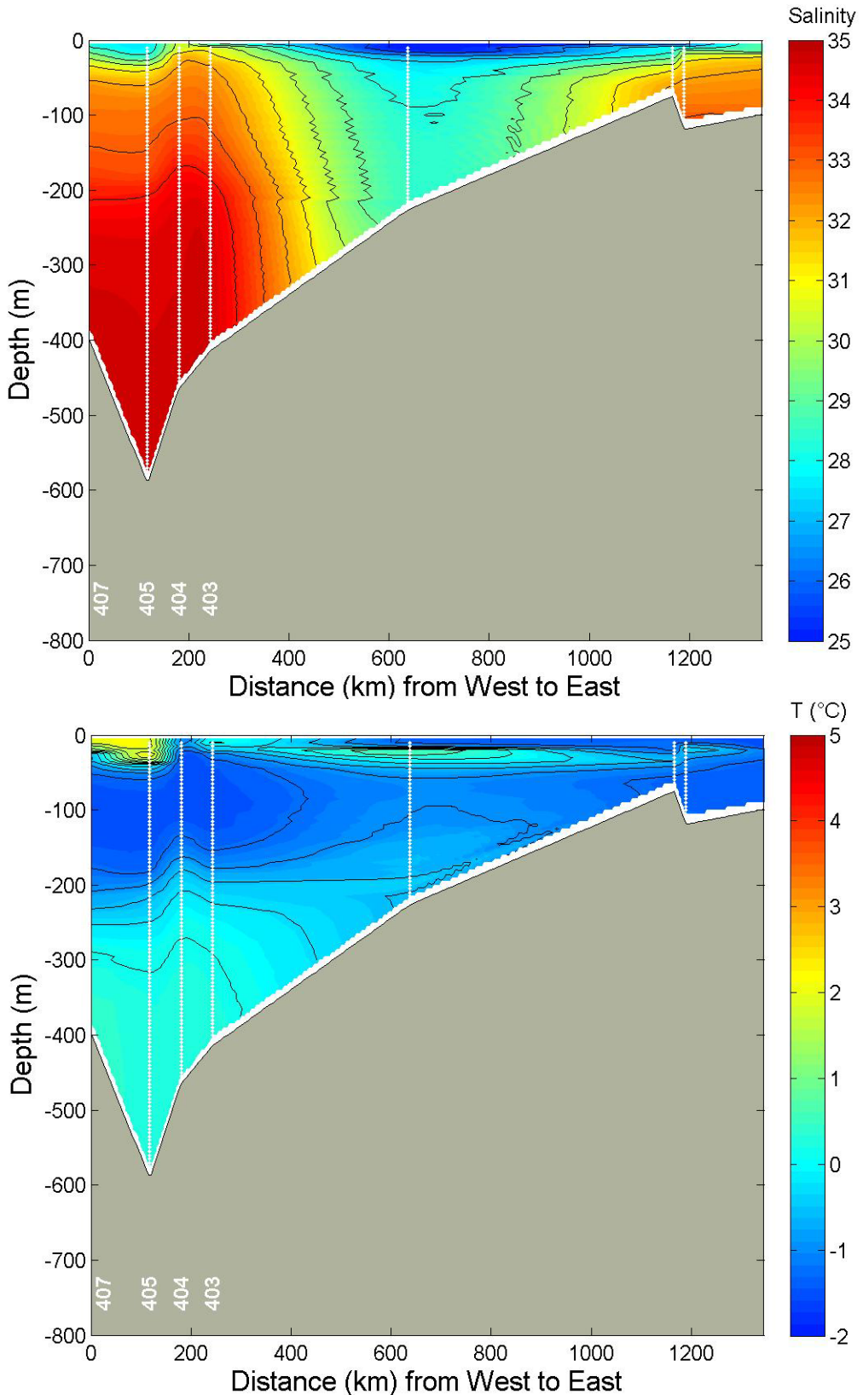
APPENDIX 6.2.A. The yellow arrow identifies the location of the section S700 in Beaufort Sea. This section is contoured on the next page.



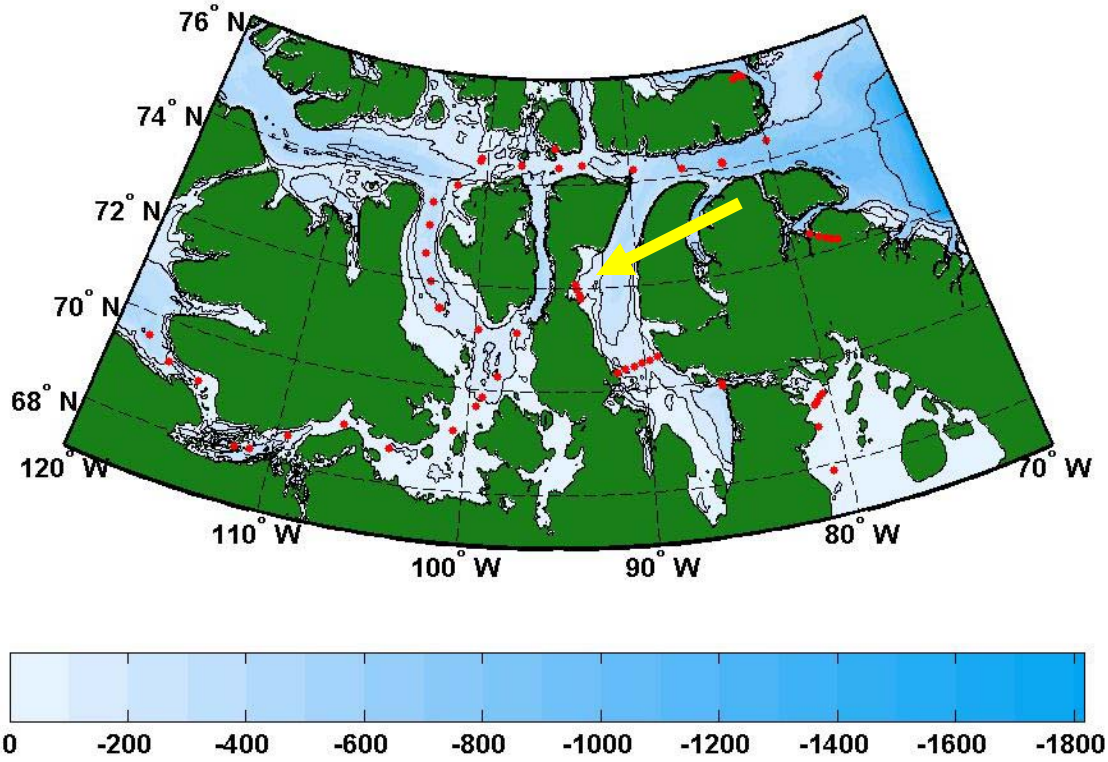
APPENDIX 6.2.B. Salinity and potential temperature along S700. The southern sites are on the left and the northern sites are on the right.



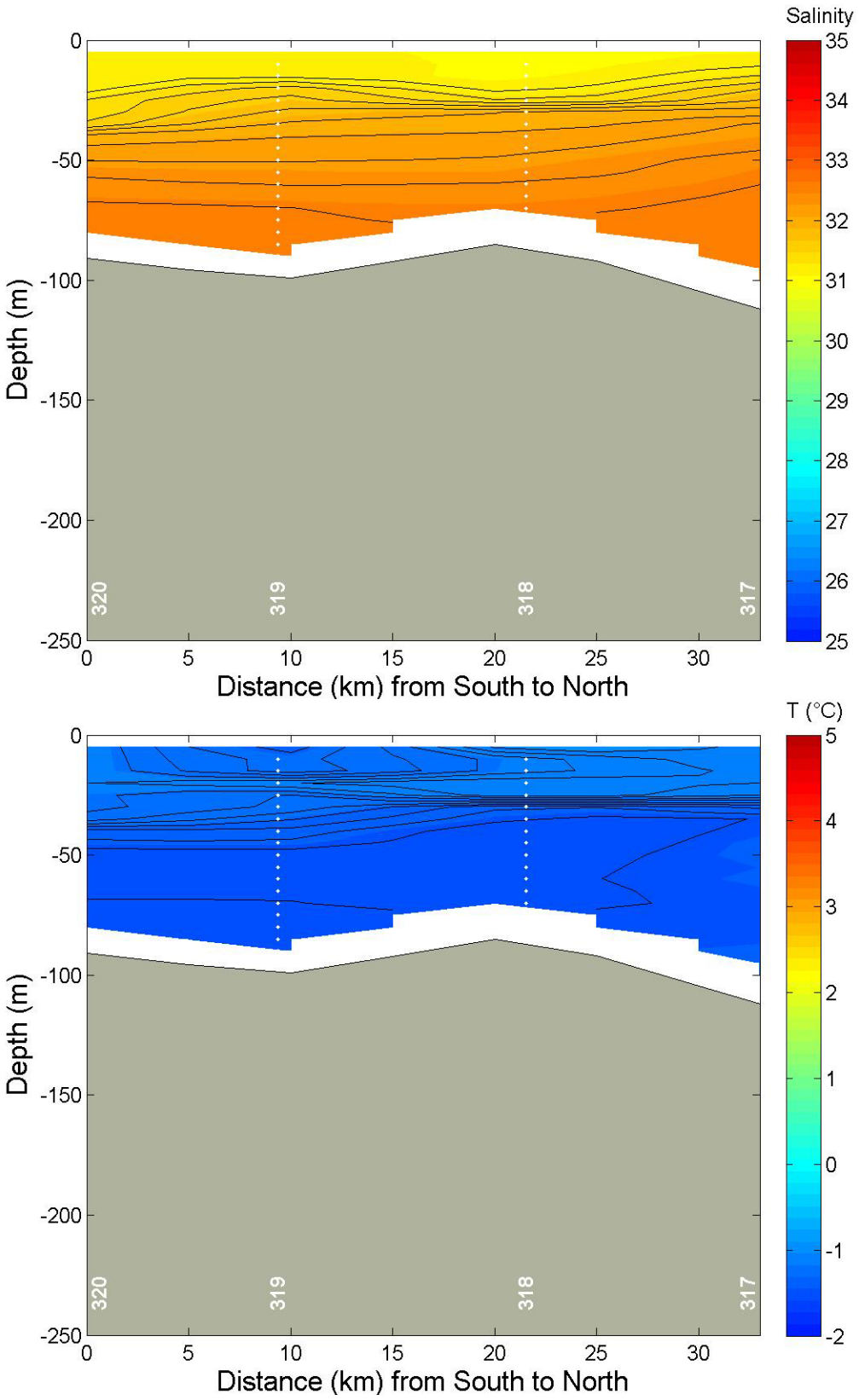
APPENDIX 6.3.A. The yellow arrow identifies the location of the section along the Northwest Passage. This section is contoured on the next page.



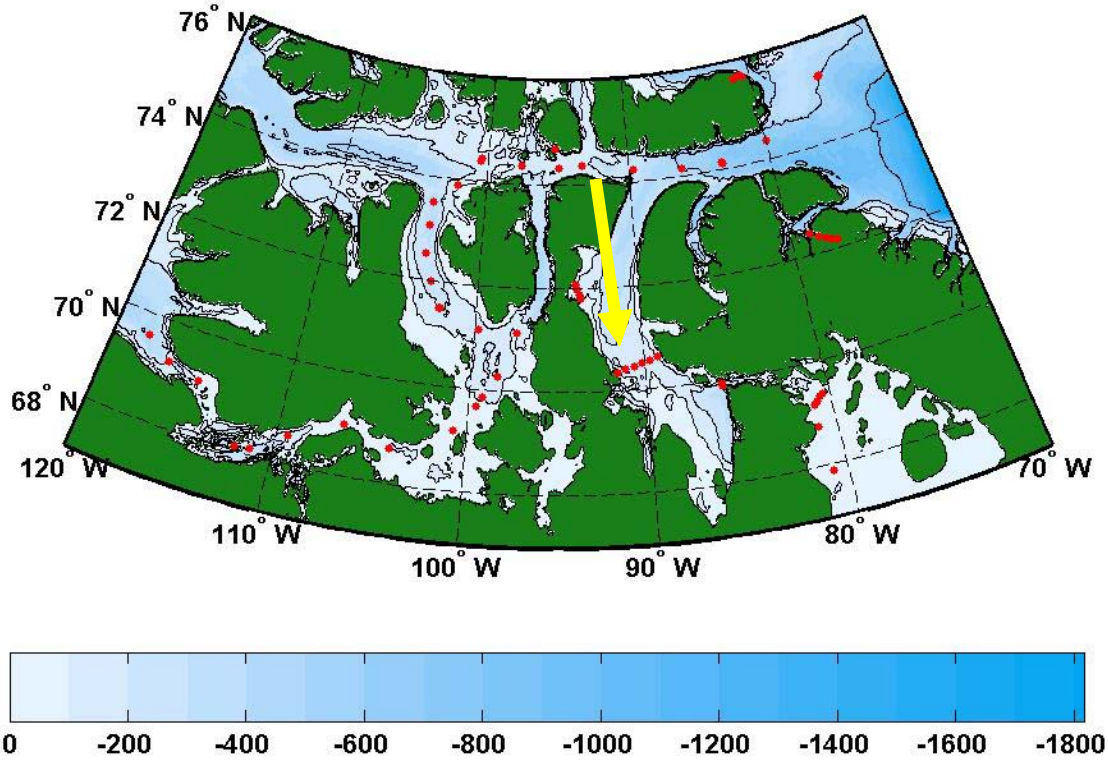
APPENDIX 6.3.B. Salinity and potential temperature along the section along the Northwest Passage. The western sites are on the left and the eastern sites are on the right.



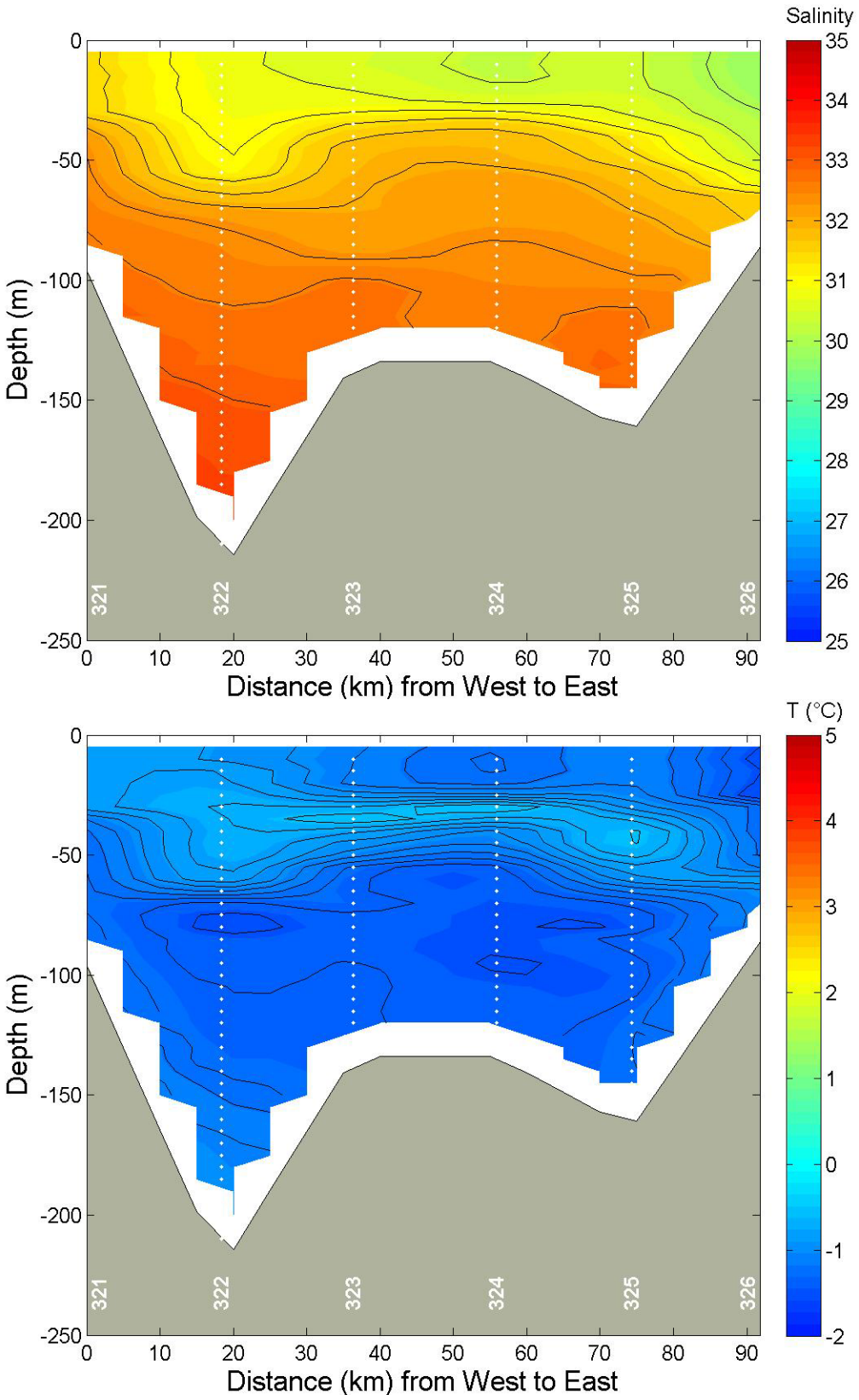
APPENDIX 6.4.A. The yellow arrow identifies the location of the section on the eastern side of Bellot Strait. This section is contoured on the next page.



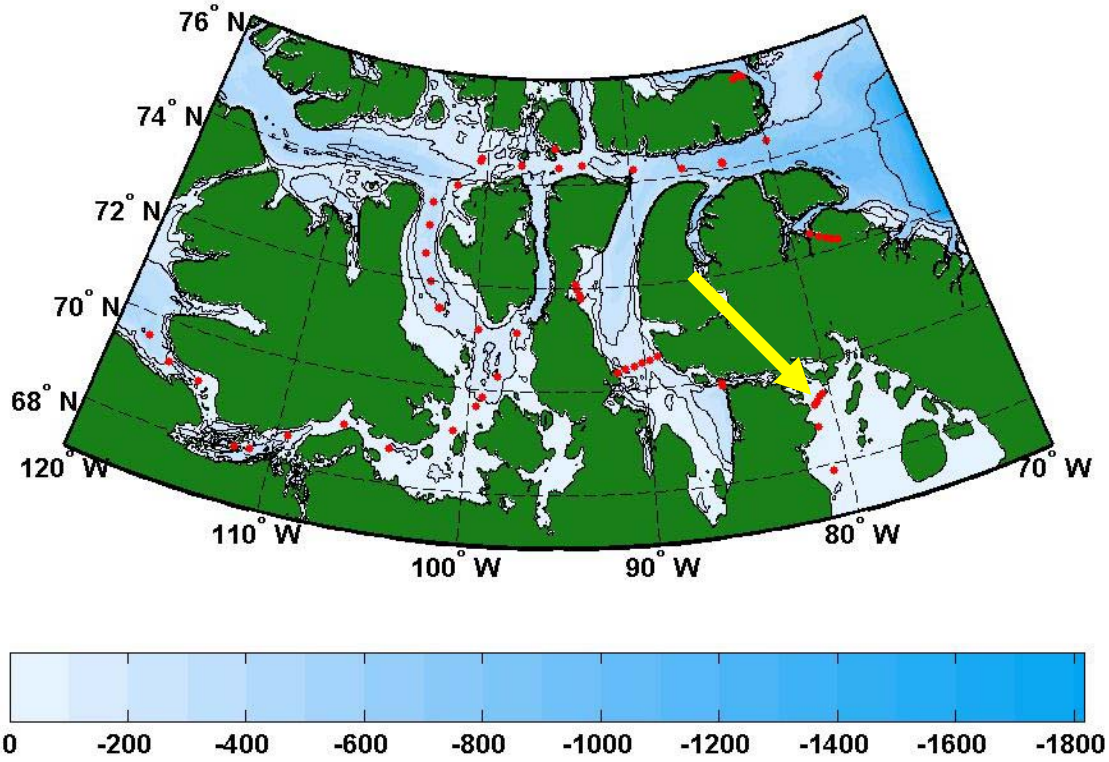
APPENDIX 6.4.B. Salinity and potential temperature along the section on the eastern side of Bellot Strait. The southern sites are on the left and the northern sites on the right.



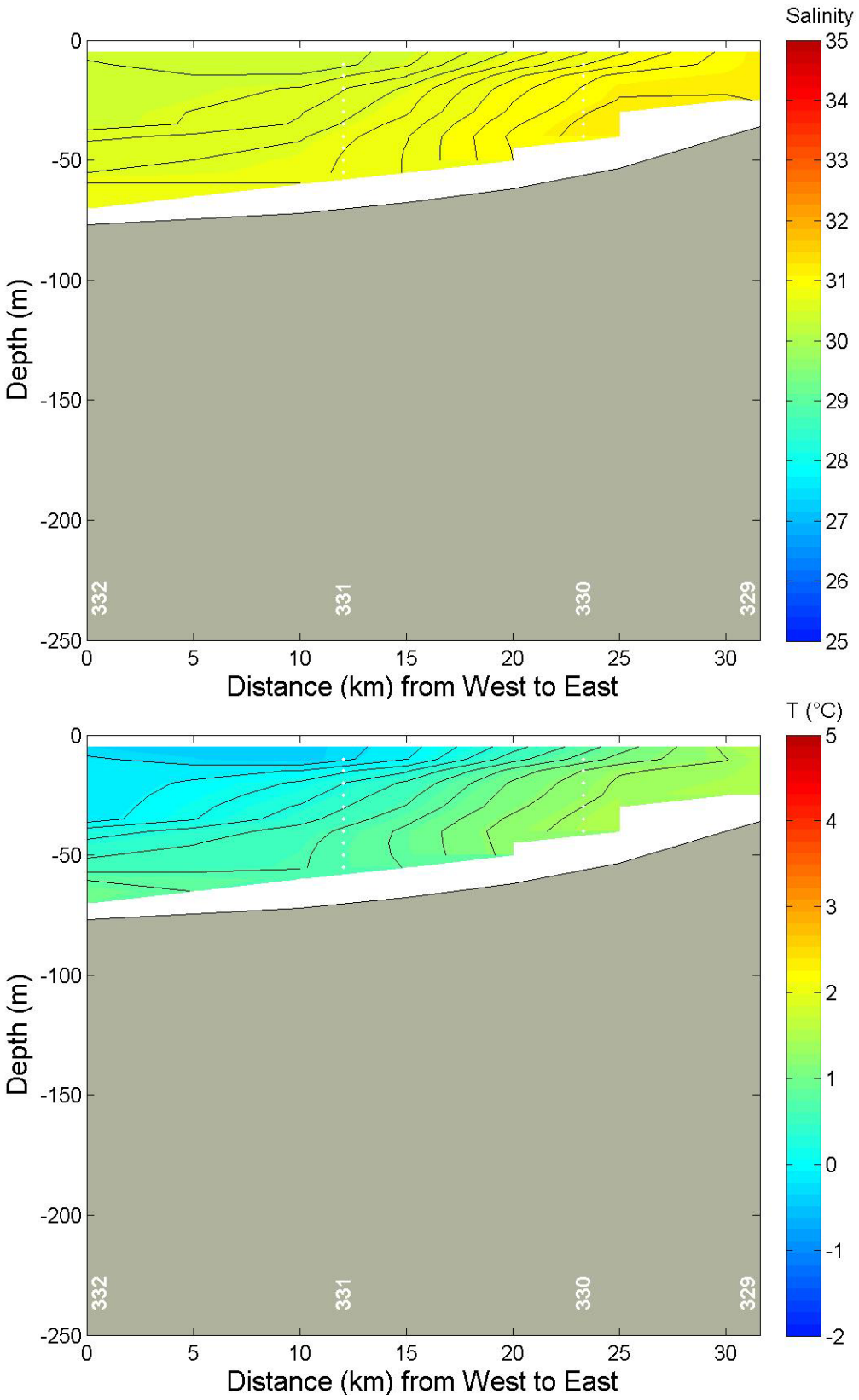
APPENDIX 6.5.A. The yellow arrow identifies the location of the section across the gulf of Boothia. This section is contoured on the next page.



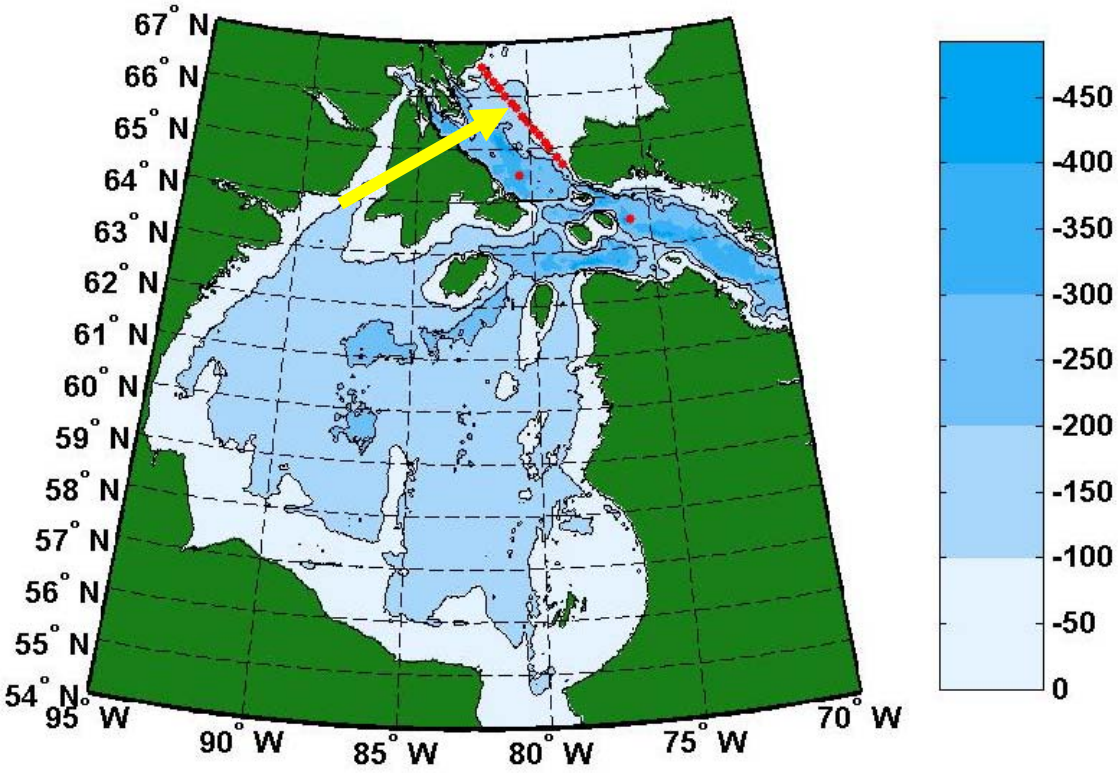
APPENDIX 6.5.B. Salinity and potential temperature along the section across the gulf of Boothia. The western sites are on the left and the eastern sites are on the right.



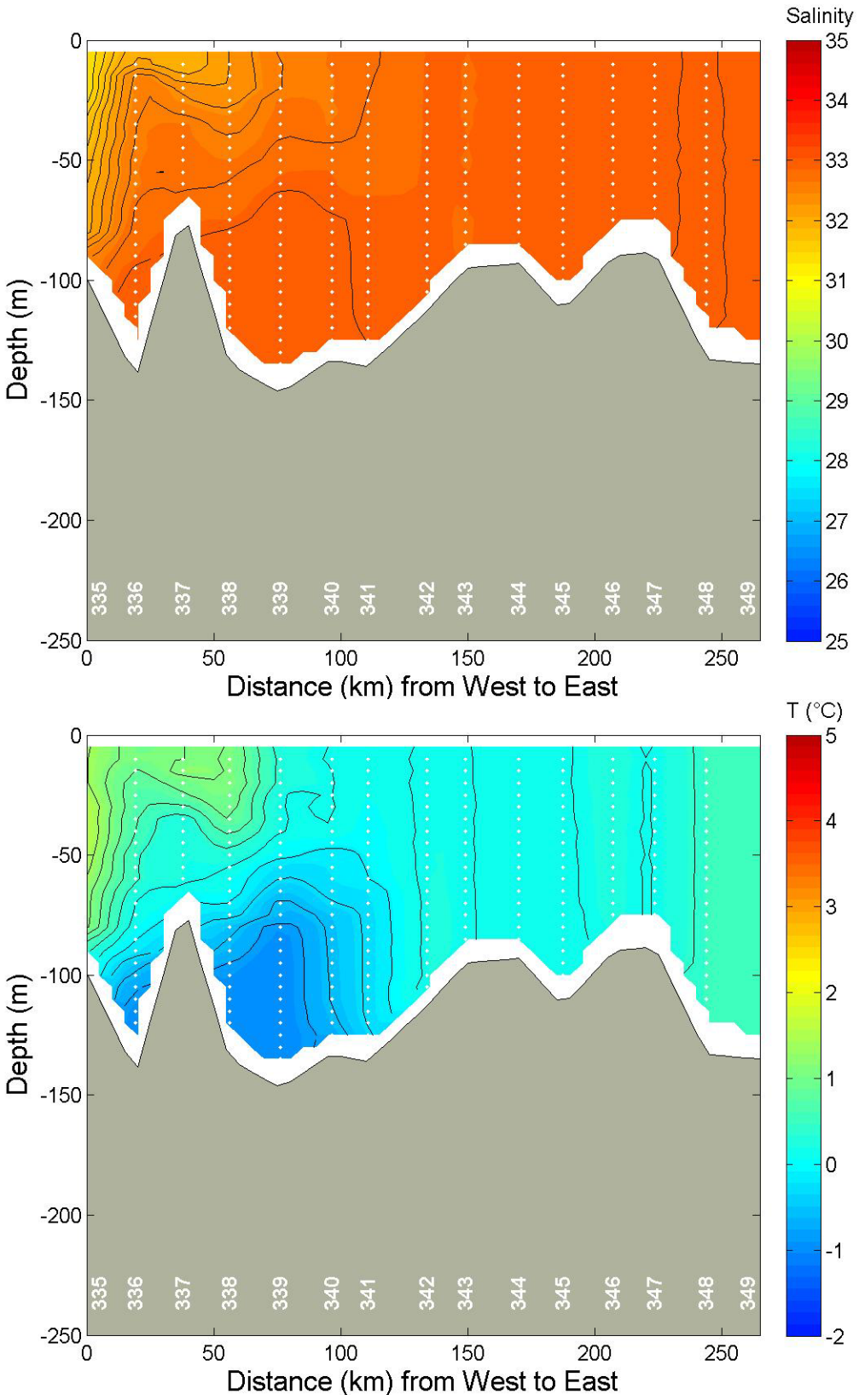
APPENDIX 6.6.A. The yellow arrow identifies the location of the section in front of Igloolik Island. This section is contoured on the next page.



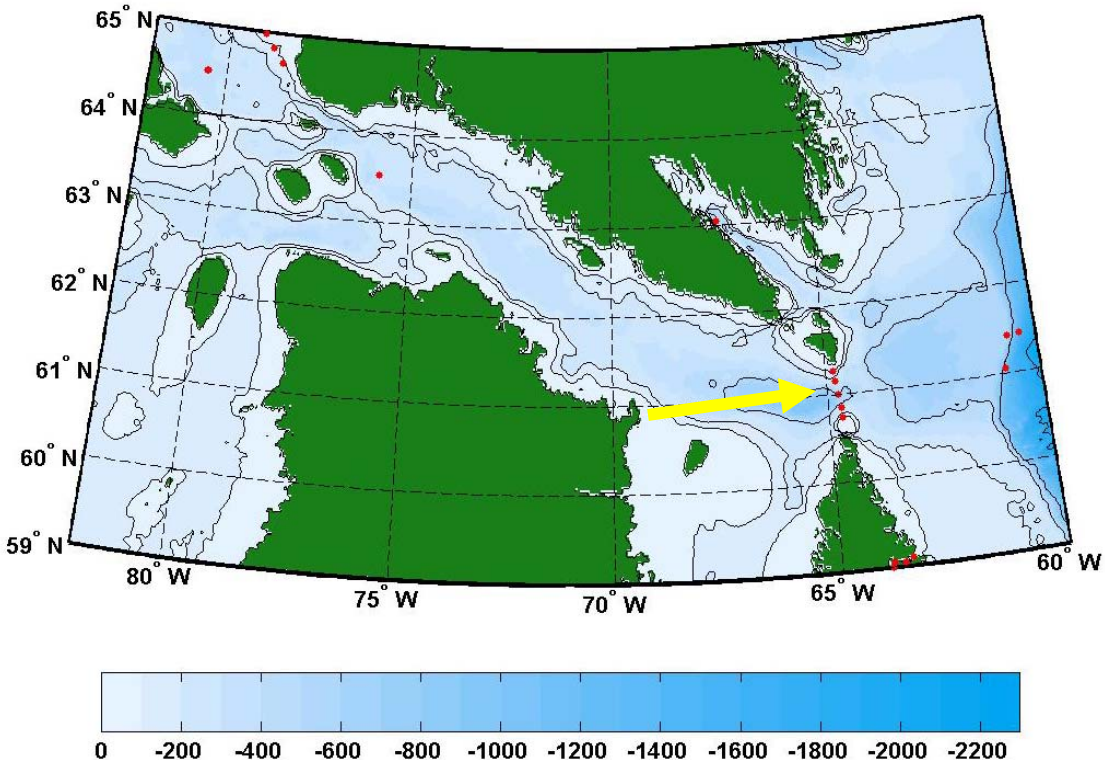
APPENDIX 6.6.B. Salinity and potential temperature along the section in front of Igloolik Island. The western sites are on the left and the eastern sites are on the right.



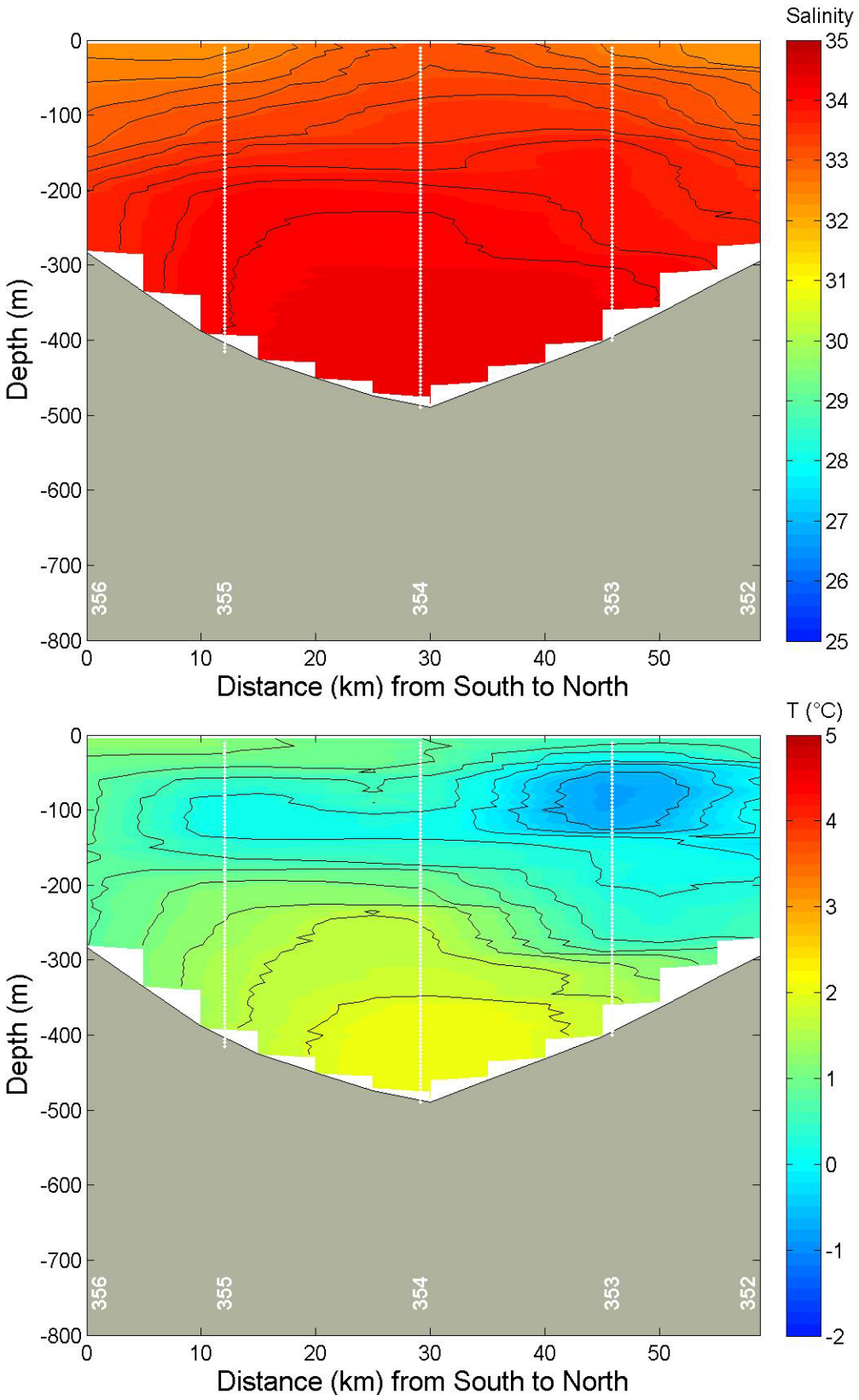
APPENDIX 6.7.A. The yellow arrow identifies the location of the section across Foxe Basin. This section is contoured on the next page.



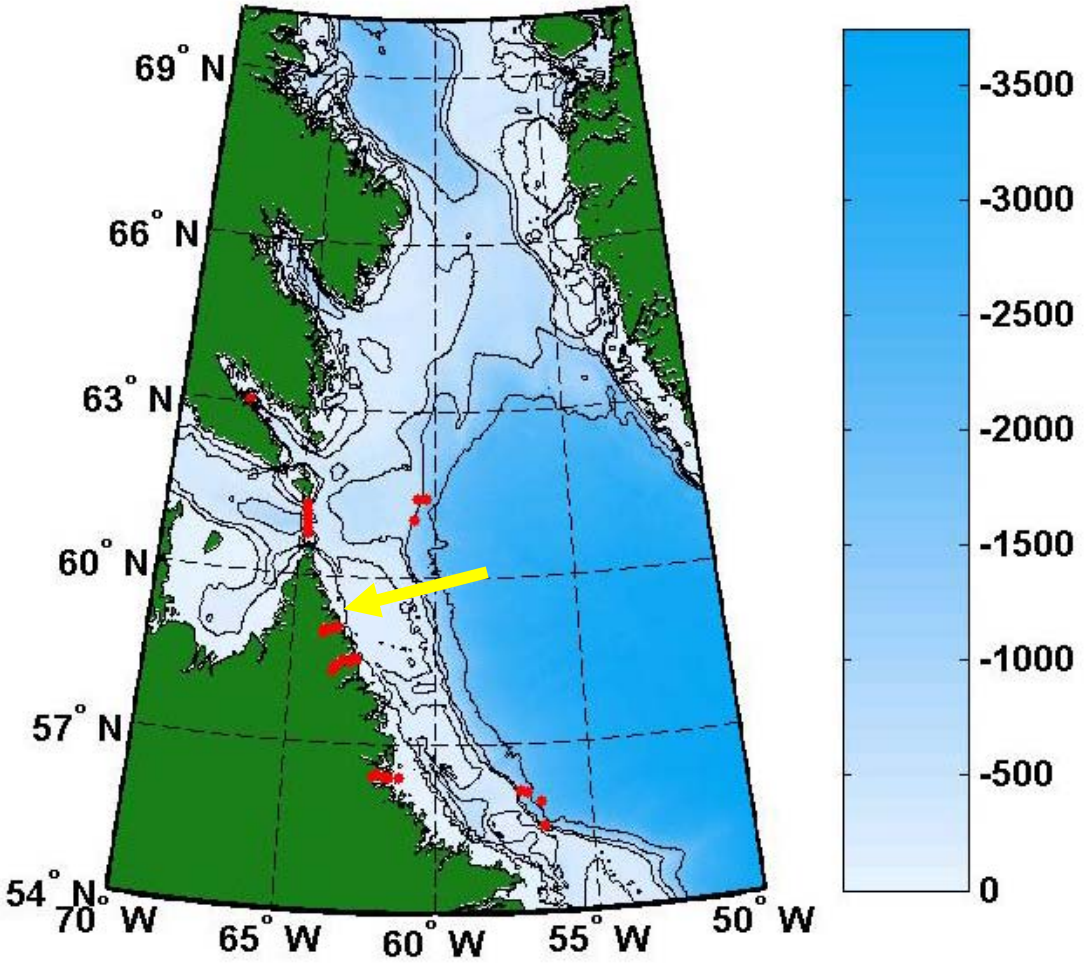
APPENDIX 6.7.B. Salinity and potential temperature along the section across Foxe Basin. The western sites are on the left and the eastern sites are on the right.



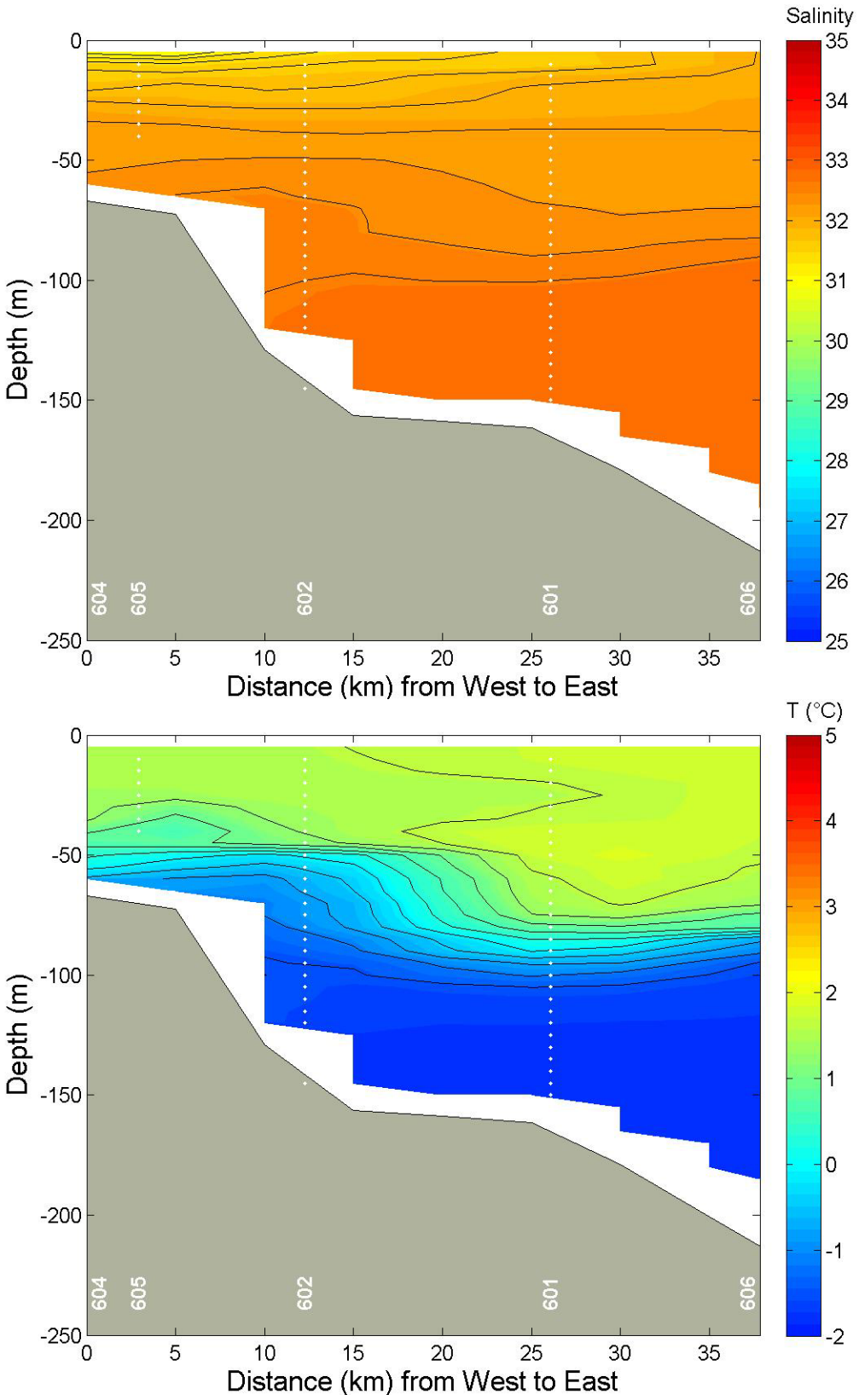
APPENDIX 6.8.A. The yellow arrow identifies the location of the section 13 across Hudson Strait. This section is contoured on the next page.



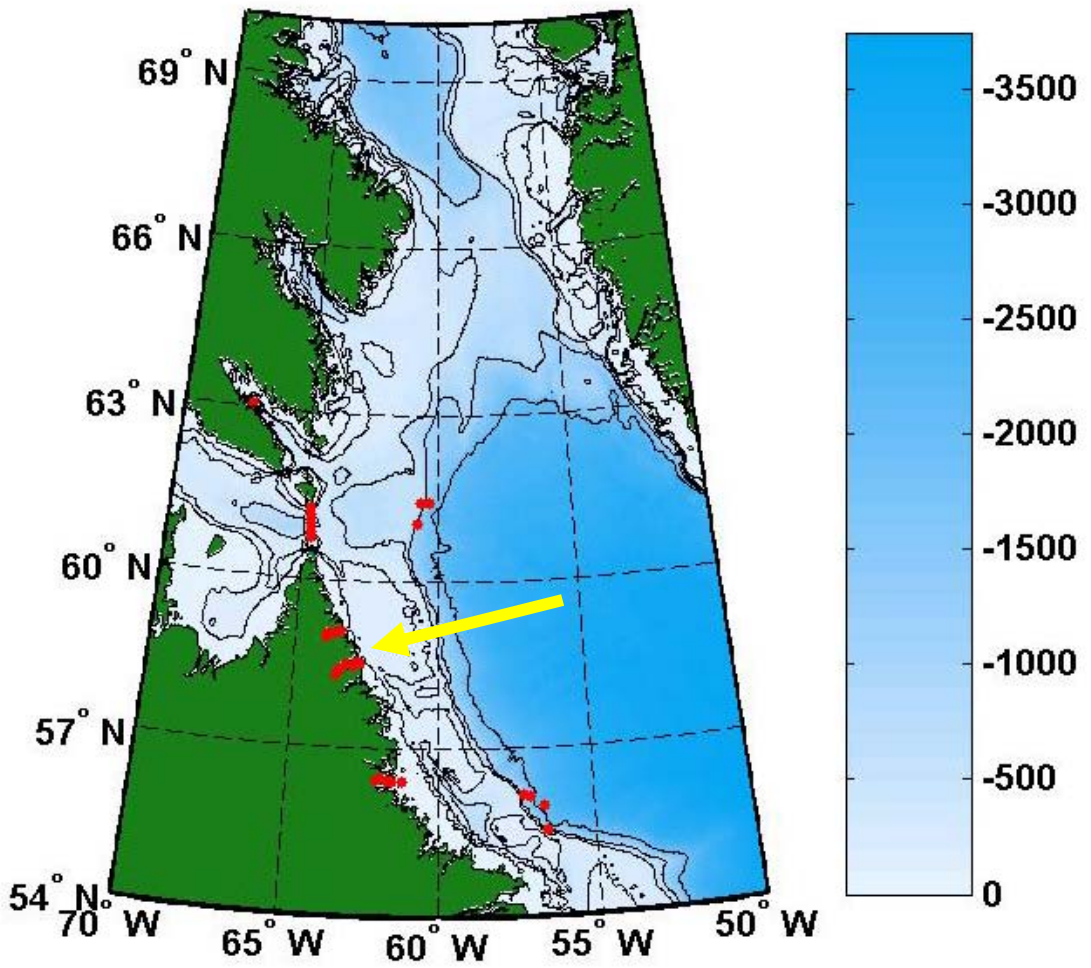
APPENDIX 6.8.B. Salinity and potential temperature along section 13 across Hudson Strait. The southern sites are on the left and the northern sites are on the right.



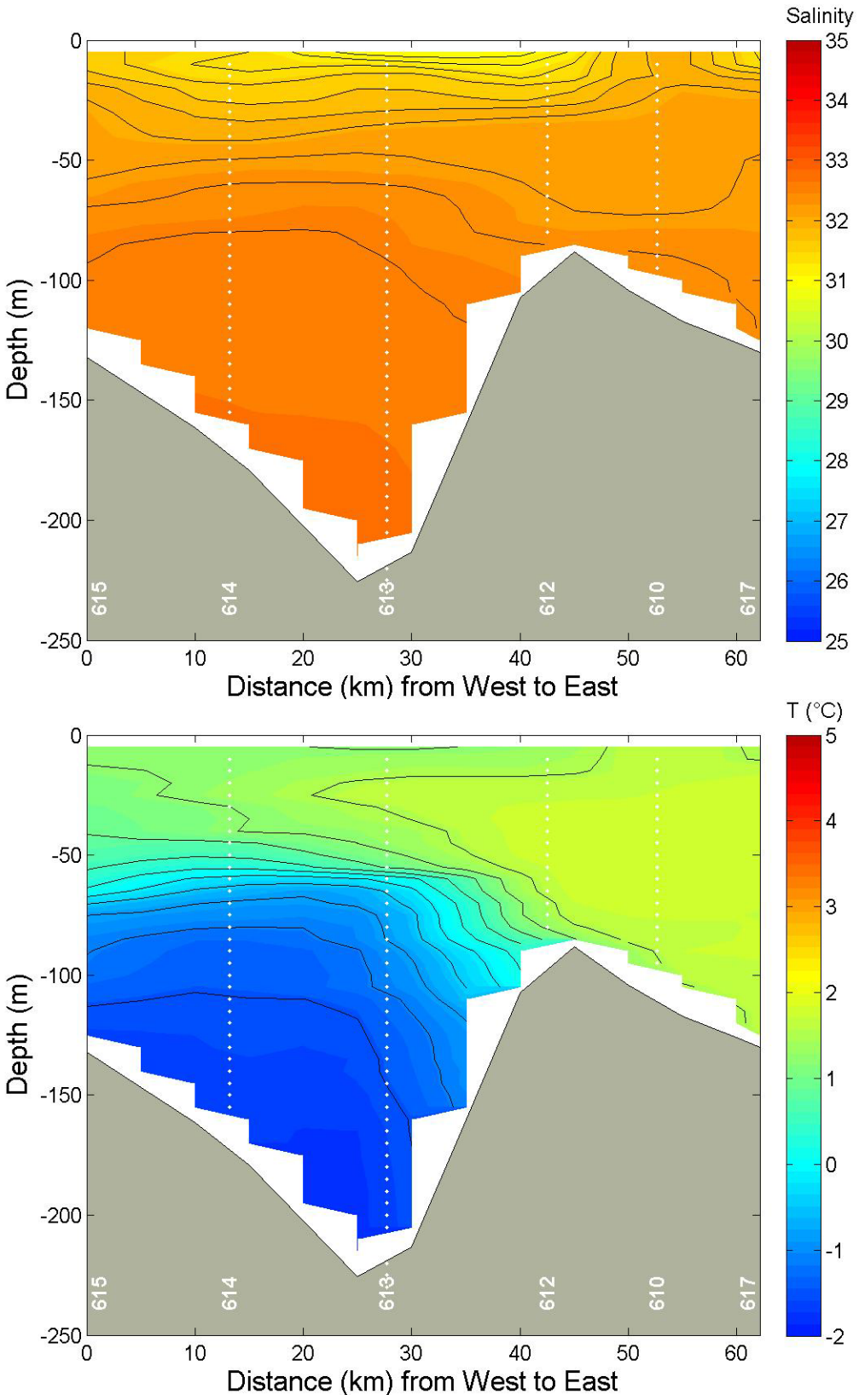
APPENDIX 6.9.A. The yellow arrow identifies the location of the section in Nachvak fjord along Labrador coast. This section is contoured on the next page.



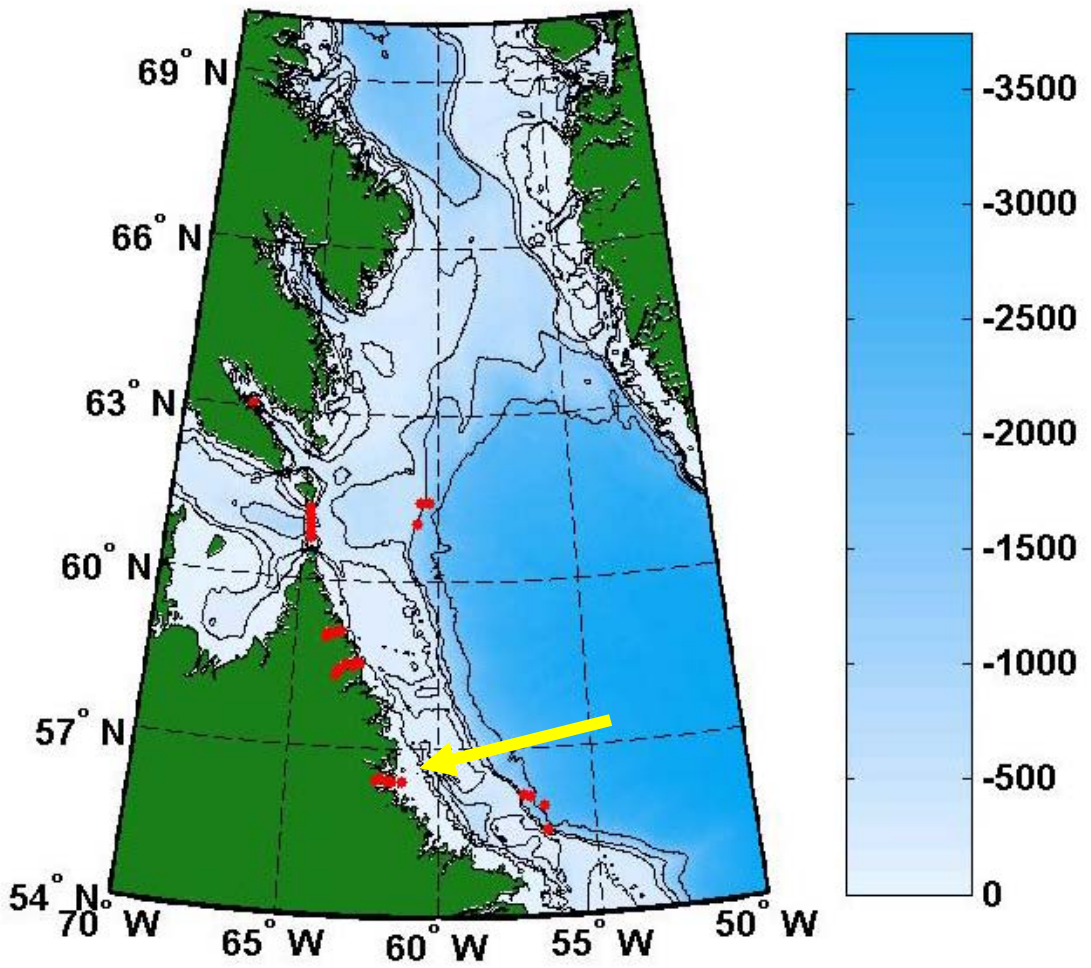
APPENDIX 6.9.B. Salinity and potential temperature along the section in Nachvak fjord. The western sites are on the left and the eastern sites are on the right.



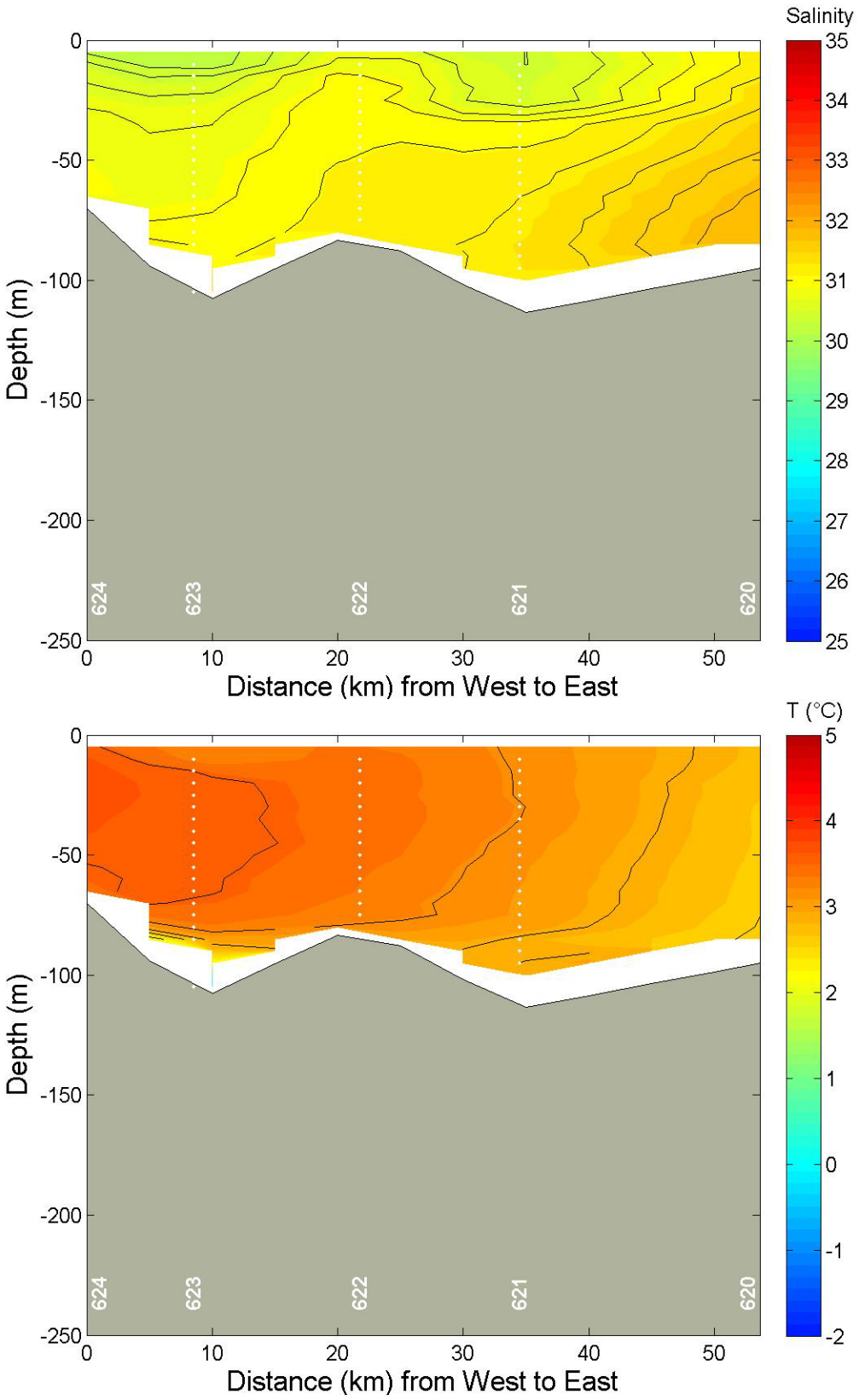
APPENDIX 6.10.A. The yellow arrow identifies the location of the section in Saglek fjord along Labrador coast. This section is contoured on the next page.



APPENDIX 6.10.B. Salinity and potential temperature along the section in Saglek fjord. The western sites are on the left and the eastern sites are on the right.



APPENDIX 6.10.A. The yellow arrow identifies the location of the section in Anaktalak fjord along Labrador coast. This section is contoured on the next page.



APPENDIX 6.10.B. Salinity and potential temperature along the section in Anaktalak fjord. The western sites are on the left and the eastern sites are on the right.

APPENDIX 7. Example of an ADCP stick diagrams from 2003-2004.

APPENDIX 7. Example of 2003-2004 ADCP data from the mooring CA08 showing the ADCP velocity between 16 and 80 meters.