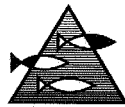


Oversikt over tokt og stasjoner tatt i 2004

Report on oceanographic cruises and data stations, 2004

Karen Gjertsen, Vigdis Rong, Kareen Brøker og Svein Erik Enersen

PROSJEKTRAPPORT



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Rapport: FISKEN OG HAVET	Nr. - År 4 - 2005
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Forfatter(e): Karen Gjertsen, Vigdis Rong, Kareen Brøker and Svein Erik Enersen	

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Sammendrag (norsk):

Rapporten gir en oversikt over tokt i regi av Havforskningsinstituttet og Universitetet i Bergen med forskningsfartøyene "G. O. Sars", "Johan Hjort", "Håkon Mosby", "Jan Mayen" og "G. M. Dannevig" i 2004. Kartene viser hovedsakelig CTD- og trålstasjoner, men også planktonstasjoner. For de fleste toktene vises kurs- og stasjonskart samt oversikt over når de faste snittene er tatt. Antall observasjoner pr. måned for de faste stasjonene langs kysten er vist i egen tabell. Oversiktene er innrapporterte til Det internasjonale råd for havforskning (ICES) i skjemaet "Cruise Summary Report". Data fra toktene er tilgjengelig fra Norsk Marint Datasenter ved Havforskningsinstituttet.

Summary (English):

The report presents cruises carried out by the research vessels "G. O. Sars", "Johan Hjort", "Håkon Mosby", "Jan Mayen" and "G. M. Dannevig" on behalf of the Institute of Marine Research and the University of Bergen during 2004. The charts mainly show CTD and trawl stations. Some charts also include plankton stations. Beside tracks and stations, standard sections observed are listed. A separate table lists the number of observations per month for the fixed stations along the Norwegian coast. The overviews are reported to the International Council for the Exploration of the Sea (ICES) in the "Cruise Summary Report". The data may be requested from the Norwegian Marine Datacenter.

Emneord (norsk): 1. Kurskart 2. Stasjonskart 3.	Subject heading (English): 1. Cruise track chart 2. Stations chart 3.
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Helge Sægen
.....
prosjektleder

Helge Sægen
.....
forskningsgruppeleder

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1 CRUISES 2004 - OVERVIEW

1.1 G. O. Sars (Ship no 10)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF TRACK CHART	COMMENT
	Start	End			Start	End		
2004101	05 Jan	23 Jan	Dock.	Flekkefjord/Stavanger				No CTD data
2004102	19 Jan	20 Jan	Calibration.	Sognefjorden				No CTD data
2004103	21 Jan		Noise measurements.	Heggerneset				No CTD data
2004104	22 Jan	23 Jan	Testing of various equipment.	Area around Bergen	001	010	16	
2004105	25 Jan	27 Jan	Marine geology, marine biology.	The Hardangerfjord and adjacent fjords				No CTD data
2004106 Part I	31 Jan	09 Mar	Abundance estimates of demersal fish. Acoustic abundance estimates of capelin. Acoustic mapping of capelin. Fisheries meeting, Murmansk. Climate investigations.	Barents Sea, Murmansk	011	129	17	
2004106 Part II	13 Mar	15 Mar			130	143	18	
2004107 Part I	16 Mar	06 Apr	Acoustic abundance estimate of (spring/winter) cod. Hydrography, plankton. Deployment of drifting buoy with profiling CTD.	Vesterålsbankene, Røstbanken and Vestfjorden	144	303	19-20	
2004107 Part II	06 Apr	12 Apr			304	341	21-22	
2004108	13 Apr	29 Apr	Methodological investigations on a biological sampling trawl. Testing of instruments for MARECO.	Barents Sea	342	344	23	
2004109	02 May	27 May	Hydrography, plankton, pelagic fish. New marine feeding resources. ADAPT/CLIMAR. Acoustic abundance measurement of herring.	Norwegian Sea	345	390	24-26	
2004110	04 Jun	05 Aug	MARECO. Examining biodiversity. Mid Atlantic Ridge.	Iceland-Azores	391	429	27	

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF TRACK CHART	COMMENT
	Start	End			Start	End		
2004111	06 Aug	13 Aug	NORFISHING 2004	Trondheim				No CTD data
2004112	13 Aug	17 Oct	Educational cruise (marine geophysics). Retrieval/deployment of ADCP-rigs. Sediment coring, shallow seismic. Bioprospecting and geomicrobiological examinations of hydrothermal fields.	Svalbard margin, Storfjordrenna, Bjørnøya	430	464	28	
2004113 Part I	18 Oct	08 Nov	Acoustic species identification, abundance estimate of mackerel (SIMFAMI). Hydrography, plankton.	North Sea and Norwegian Sea	465	552	29	
2004113 Part II	09 Nov	16 Nov			553	565	30	
2004114	16 Nov	30 Nov	Methodological investigations on a biological sampling trawl.	Barents Sea	566	570	31	
2004115	02 Dec	19 Dec	Acoustic special investigations on herring.	Ofofjorden, Vestfjorden	571	584	32-33	

1.2 Johan Hjort
(Ship no 12)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF TRACK CHART	COMMENT
	Start	End			Start	End		
2004201	05 Jan	17 Jan	Dock.	Bergen				No data
2004202	17 Jan	29 Jan	Climate investigations.	Barents Sea	001	064	34	
2004203	31 Jan	15 Mar	Abundance estimate of demersal fish. Acoustic mapping of capelin.	Barents Sea	065	251	35	
2004204	19 Mar	18 Apr	Abundance and distribution of Blue Whiting. Investigations on target strength of Blue Whiting.	West of the British Isles	252	354	36-37	
2004205	20 Apr	01 May	Tagging of salmon.	Southern Norwegian Sea	355	382	38	
2004206	02 May	10 May	Testing of technical equipment (MESSOR).	Fjord near Bergen	383	383	39	
2004207	19 May	11 Jun	Measuring egg production of mackerel and horse mackerel.	West of Ireland and Scotland	384	531	40-42	
2004208	13 Jun	06 Jul	Oceanographic investigations.	Norwegian Sea and the Greenland Sea	532	646	43	
2004209	08 Jul	30 Jul	Acoustic abundance estimate of herring.	North Sea	647	803	44-45	
2004210	01 Aug	04 Oct	Hydrography, plankton. Acoustic abundance estimate of herring. Abundance estimate of demersal fish with main emphasis on Greenland Halibut and Redfish. Climate investigations. Salmon at sea. Environmental investigations, plankton. Acoustic abundance estimate of capelin. Acoustic species identification. Whale observations during the 0-group cruise.	Norwegian Sea and the Barents Sea	804	1052	46-47	
2004211	05 Oct	10 Oct	Hydrography. Svalbard.	Svalbard zone				Cancelled
2004212	11 Oct	11 Nov	Coastal cruise, including deployment of drifting buoy with profiling CTD.	Coast and fjords	1053	1136	48-49	
2004213	14 Nov	27 Nov	Behavioural studies in bottom trawl.	North Sea			50	
2004214	01 Dec	20 Dec	Acoustic abundance estimate of herring.	Ofoten, Vestfjorden, Tysfjorden, Norw.Sea	1137	1147	51	

1.3 Håkon Mosby
(Ship no 1)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF TRACK CHART	COMMENT
	Start	End			Start	End		
2004601	05 Jan	20 Jan	Dock.	Søviknes				No CTD data
2004602	21 Jan	22 Jan	Testing seismic equipment.	Byfjorden				No CTD data
2004603	30 Jan	19 Feb	International Bottom Trawl Survey (IBTS) 1. quarter.	North Sea	001	102	52-54	
2004604	20 Feb	27 Feb	Educational cruise.	Western part of Norway	103	151	55	
2004605	28 Feb	07 Mar	Herring spawning.	Coast of Rogaland and Møre	(152)		56	No CTD data
2004606	08 Mar	12 Apr	Map occurrence of cod and plaice eggs. Map occurrence of herring larvae. Replacement of current measurement rigs, CTD-ADCP. Satellite validation.	North Sea	153	385	57	
2004607	13 Apr	19 Apr	Educational cruise (MAR 230).	North Sea	386	408	58	
2004608	20 Apr	26 Apr	Investigations on gelatinous plankton, EU (EUROGEL).	In fjords of the western part of Norway	409	423	59	CTD no. 421 does not exist.
2004609	28 Apr	10 May	Recruitment index for saithe.	North Sea	424	437	60-61	Sensor errors. Some stations are missing.
2004610	11 May	25 May	Index for shrimp occurrence.	North Sea and Skagerrak	438	499	62	
2004611	01 Jun	02 Jun	Testing of prototype for seismic source.	Byfjorden				No CTD data
2004612	10 Jun	30 Jun	Cruise targeting capelin larvae.	Barents Sea	500	566	63	
2004613	01 Jul	09 Jul	Studies of mixing processes.	Storfjordrenna, Bjørnøya	567	631	64	
2004614	13 Jul	26 Jul	Bottom fauna.	Norwegian Sea	632	653	65	
2004615	02 Aug	15 Aug	Surveillance of pollution.	Norwegian Sea				No CTD data
2004616	18 Aug	30 Aug	Research and education.	Spitsbergen - shelf and fjords	654	906	66	
2004617	04 Sep	12 Oct	International Bottom Trawl Survey (IBTS) 3. quarter.	North Sea	907	1064	67-68	

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF TRACK CHART	COMMENT
	Start	End			Start	End		
2004618	14 Oct	19 Oct	Replacement of current measurement rigs, CTD- ADCP.	Svinøy				No CTD data
2004619	20 Oct	01 Nov	Demonstrations of equipment together with the research vessel "Hans Brattstrøm". Investigations on gelatinous plankton, EU (EUROGEL). Acoustic behavioural investigations of jellyfish, krill and fish.	Coast and fjords. Fjords in the western part of Norway. Lurefjorden.	1066	1091	69-70	
2004620	12 Nov	14 Nov	Testing bottom drilling equipment.	Byfjorden				No CTD data
2004621	16 Nov	19 Dec	Acoustic abundance estimates of herring and sprat in coastal and fjord areas from the Swedish boarder to Grense Jakobselv. Environmental investigations in selected fjords.	Swedish boarder- Vestfjorden	1092	1216	71-72	

1.4 Jan Mayen
(Ship no 19)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF TRACK CHART	COMMENT
	Start	End			Start	End		
2004701	12 Apr	01 May	Bottom trawl survey, shrimp and fish. Surveillance of ecosystem effects of king crab.	Barents Sea, Svalbard zone	154	161	73	
2004702	06 Aug	22 Aug	Acoustic trawl survey with emphasis on shrimp, Greenland halibut, cod, haddock, and redfish. Bottom trawl survey targeting fry and young Greenland halibut. Distribution and abundance of shrimp.	Western Barents Sea, West of Svalbard.	308	351	74-75	
2004703	10 Sep	29 Sep	Acoustic trawl survey with emphasis on shrimp, Greenland halibut, cod, haddock, and redfish. Bottom trawl cruise after trawl survey targeting fry and young Greenland halibut. Distribution and abundance of shrimp.	Western Barents Sea, West of Svalbard.	401	504	76	
2004704	15 Oct	12 Nov	Coastal cruise.	Coast and fjords	512	593	77	

1.5 G. M. Dannevig
(Ship no 16)

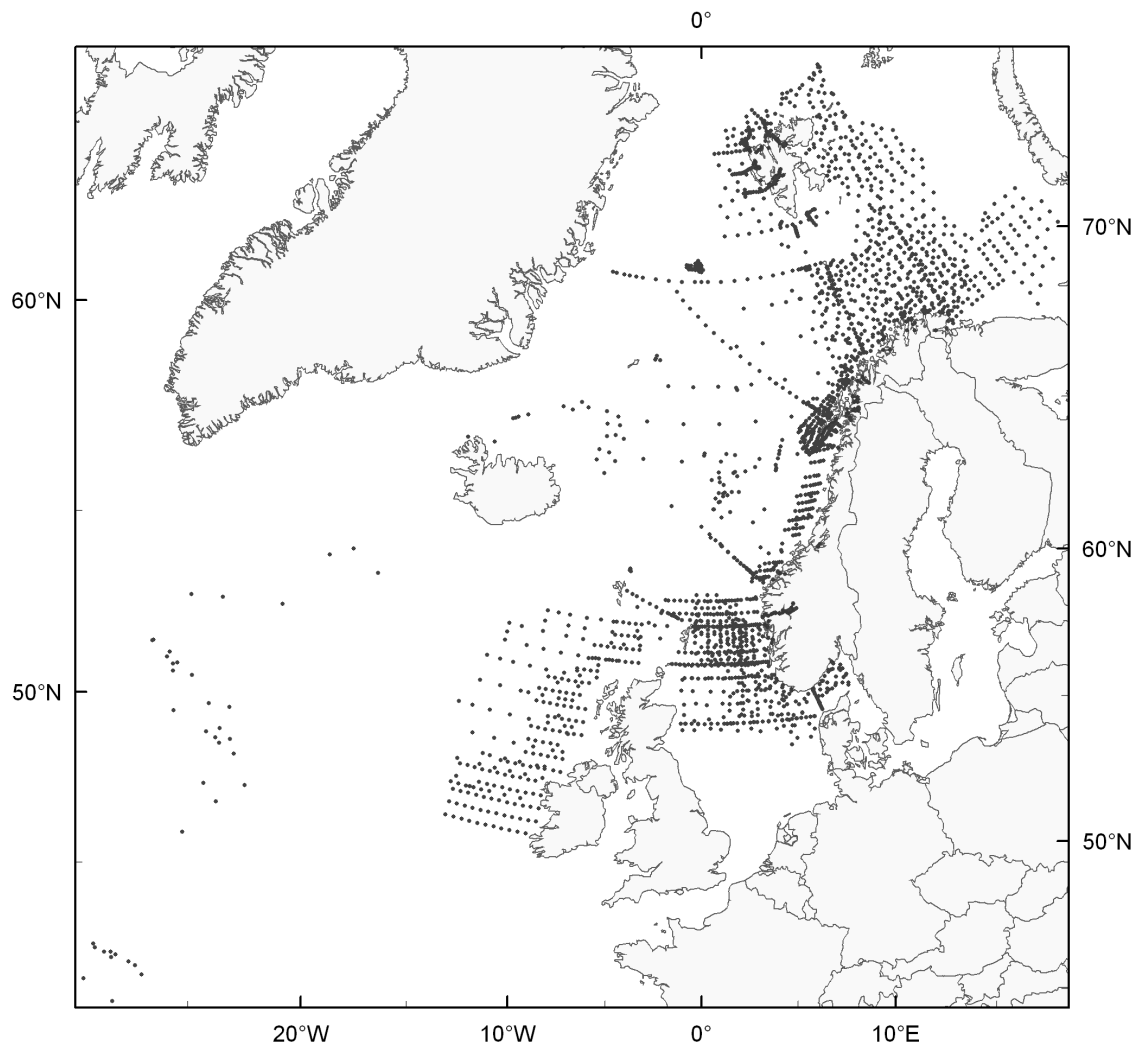
CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF TRACK CHART	COMMENT
	Start	End			Start	End		
2004301	08 Jan	12 Jan	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak, Norwegian coast of Skagerrak	1	28	79	
2004302	12 Jan	02 Feb	Dock.	Hirtshals				No CTD data
2004303	03 Feb	06 Feb	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak, Norwegian coast of Skagerrak	29	66	80	
2004304	17 Mar	21 Mar	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak, Norwegian coast of Skagerrak	67	92	81	
2004305	22 Mar	28 Mar	Habitat preferences, coastal cod/North Sea cod, egg sampling.	Skagerrak	193	123		
2004306	14 Apr	29 Apr	Environmental investigation after the spring bloom. Environmental investigations at a fixed station near Arendal.	Eastern North Sea/ Skagerrak/Cattegat	125	238	82	
2004307	30 Apr	01 May	Environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Norwegian coast of Skagerrak, Skagerrak	239	250		
2004308	04 May	14 May	Studies of environmental condition and fish distribution in the Lindesnes area. Environmental investigations at a fixed station near Arendal.	Skagerrak coast, Skagerrak	251	252		
2004309	01 Jun	09 Jun	Habitat preferences coastal cod/North Sea cod, 0-group sampling.	Skagerrak	255	260		

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF TRACK CHART	COMMENT
	Start	End			Start	End		
2004310	01 Jun	01 Jun	Environmental investigations at a fixed station near Arendal.	Skagerrak	254	254		
2004311	10 Jun	15 Jun	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak, Norwegian coast of Skagerrak	261	286	83	
2004312	05 Jul	09 Jul	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak, Norwegian coast of Skagerrak	287	312	84	
2004313	16 Aug	20 Aug	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak, Norwegian coast of Skagerrak	313	338	85	
2004314	21 Aug	31 Aug	Identify suitable areas for lobster reserves.	Skagerrak	339	343		
2004315	31 Aug	31 Aug	Environmental investigations at a fixed station near Arendal	Skagerrak	344	344		
2004316	13 Sep	14 Sep	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak	345	353		
2004317	15 Sep	04 Oct	Beach seine studies. Environmental investigations at a fixed station near Arendal.	Skagerrak coast, Skagerrak	354	392		
2004318	05 Oct	09 Oct	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak, Norwegian coast of Skagerrak	393	418	86	

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF TRACK CHART	COMMENT
	Start	End			Start	End		
2004319	11 Oct	26 Oct	Shrimp and Norway lobster biology. Environmental investigations at a fixed station near Arendal.	Skagerrak coast, Skagerrak				Trawl st. no 1-15
2004320	11 Nov	11 Nov	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak	420	422		
2004321	12 Nov	08 Dec	Contaminants in seafood - Grenland. Studies of demersal fish resources on the Skagerrak coast. Environmental investigations at a fixed station near Arendal.	Skagerrak, Skagerrak coast	423	435		
2004322	09 Dec	13 Dec	Hydrographic standard section "Torungen-Hirtshals", environmental investigations. Environmental investigations at a fixed station near Arendal and in areas with local and regional influence.	Skagerrak, Norwegian coast of Skagerrak	436	461	87	

2 CHARTS - OVERVIEW

2.1 CTD stations 2004

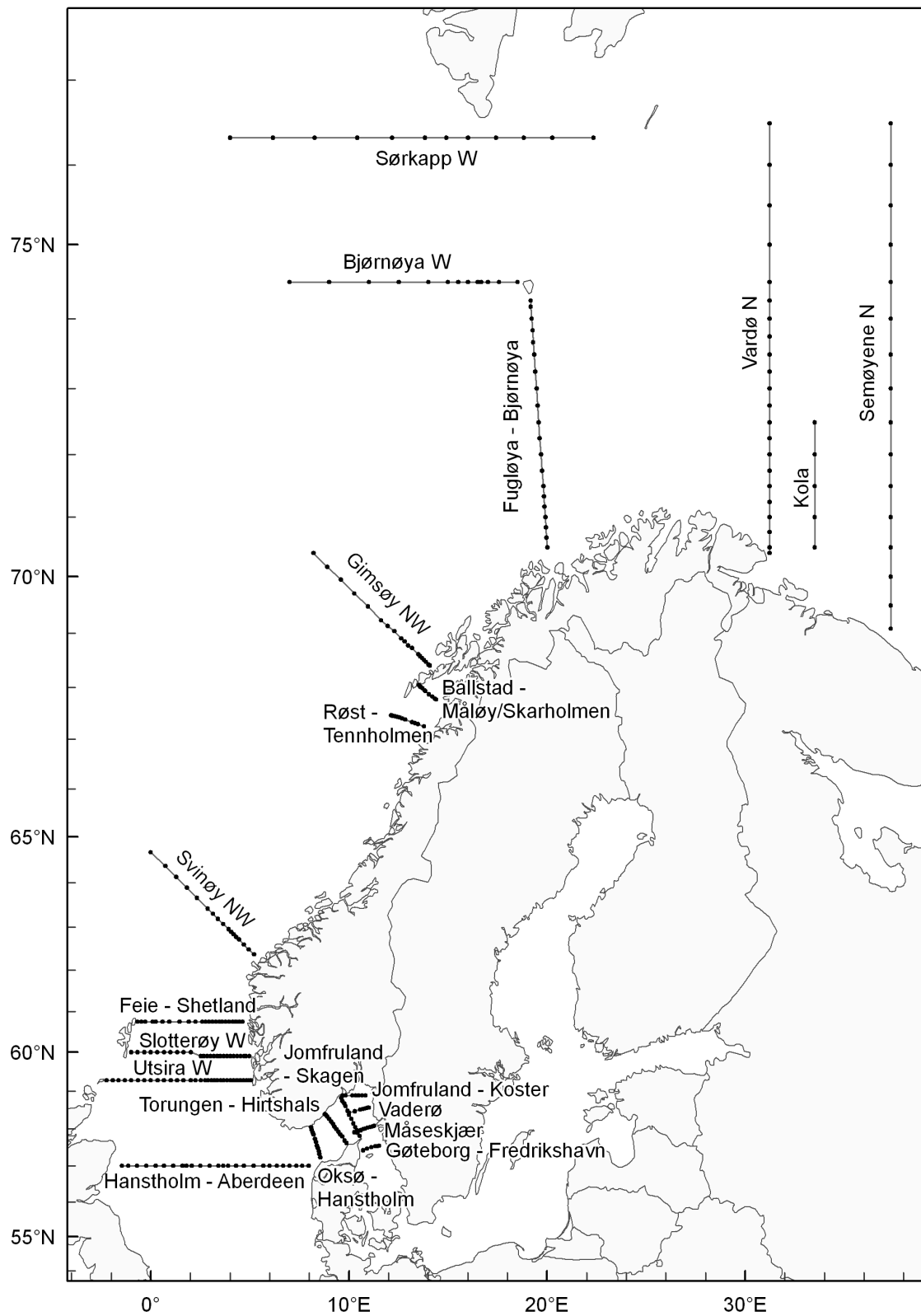


- CTD stations

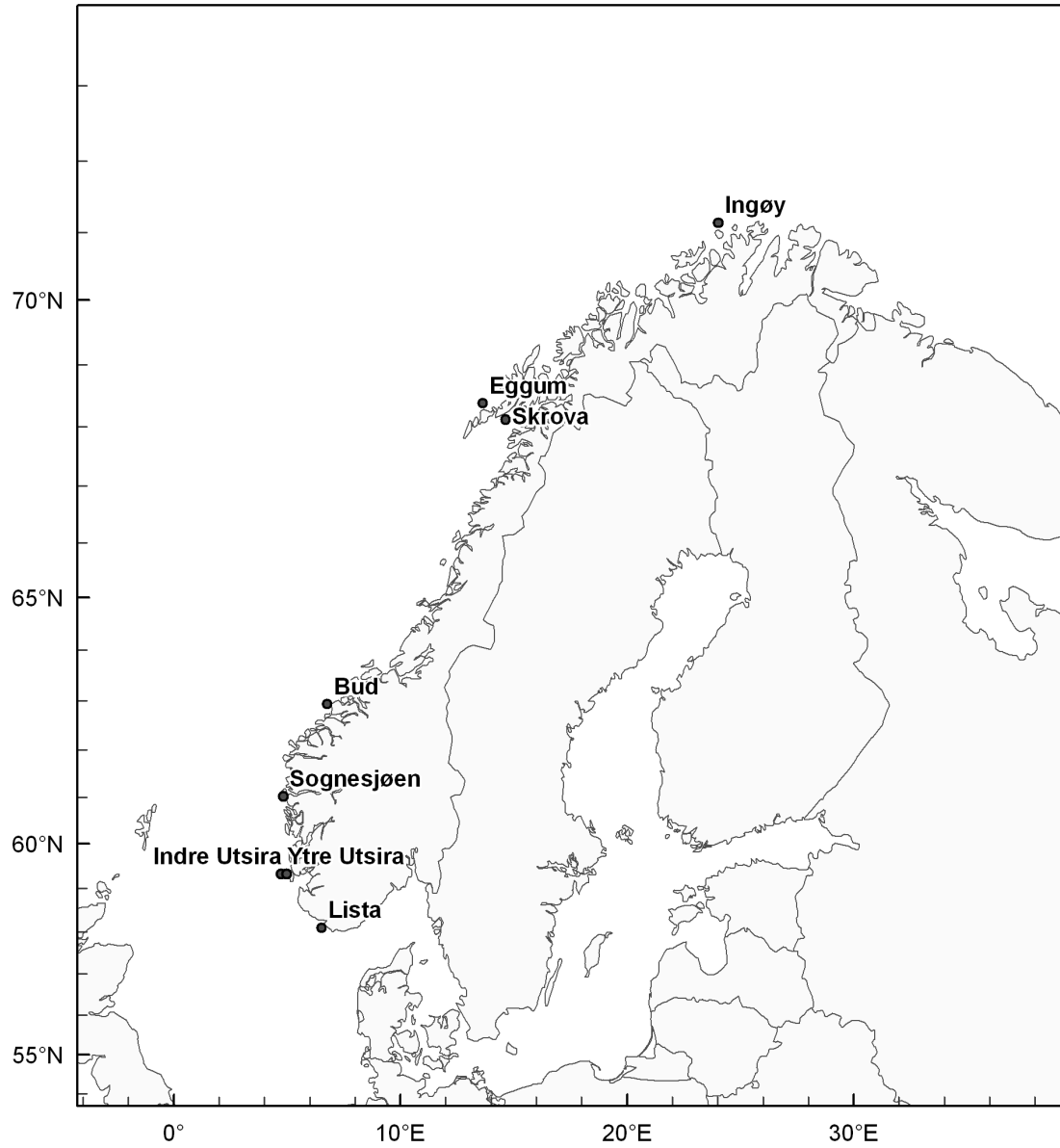
Stations per ship:

Johan Hjort	1.146 stations
Håkon Mosby	1.056 stations
G. O. Sars	583 stations
Jan Mayen	155 stations
	2.940 stations

2.2 Standard oceanographic sections



2.3 Fixed oceanographic stations



3 TABLES - OBSERVATIONS IN 2004

3.1 Standard oceanographic sections 2004

(Cruise no/ship)

Standard sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Torungen-Hirtshals	2004301GMD	2004303GMD	2004304GMD	2004306GMD	2004307GMD	2004311GMD	2004312GMD	2004313GMD	2004316GMD	2004318GMD	2004320GMD 2004621HM	2004322GMD
Okso-Hanstholm							2004209JH			2004617HM		
Hanstholm-Aberdeen	2004603HM	2004603HM					2004209JH			2004617HM		
Utsira West	2004603HM						2004209JH		2004617HM			
Feie-Shetland	2004603HM			2004607HM			2004209JH		2004617HM			
Svinøy-North/West	2004202JH							2004210JH			2004113GS	
Gimsøy-North/West	2004202JH			2004107GS	2004109GS	2004208JH		2004210JH				
Sørkapp West								2004702JM				
Fugløya-Bjørnøya	2004202JH		2004203JH	2004107GS		2004612HM		2004210JH				
Vardø North	2004202JH		2004106GS			2004612HM			2004210JH			
Bjørnøya West						2004208JH						
Semøyene-North												

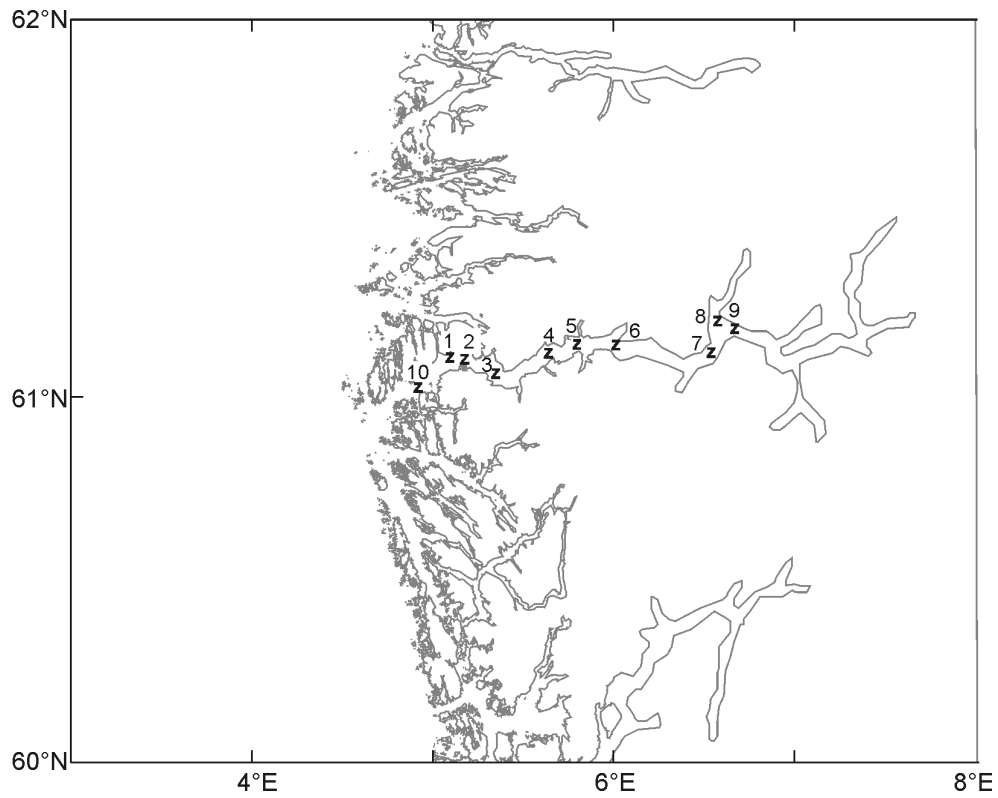
3.2 Fixed oceanographic stations 2004

(No of observations)

Fixed stations	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
LISTA N58° 05,1' E04° 44'	2	3	4	2	3	3	3	4	2	3	3	3	35
UTSIRA Y N59° 19' E04° 44'	3	3	2	2	3	4	2	2	1	2	2	1	27
UTSIRA I N59° 19' E04° 59'	3	3	2	2	3	4	2	2	0	2	2	1	26
SOGNESJØEN N61° 01' E04° 50'	1	3	3	2	3	3	3	3	2	4	2	1	30
BUD N62° 56' E06° 47'	2	1	3	3	2	2	3	3	2	3	1	0	25
SKROVA N68° 07' E14° 39'	4	4	5	4	4	4	5	4	5	4	4	3	50
EGGUM N68° 23' E13° 38'	3	3	2	3	3	2	2	2	3	3	2	3	31
INGØY N71° 08' E24° 01'	3	3	3	3	2	4	3	3	1	4	2	3	34

4 CHARTS FOR CRUISES 2004

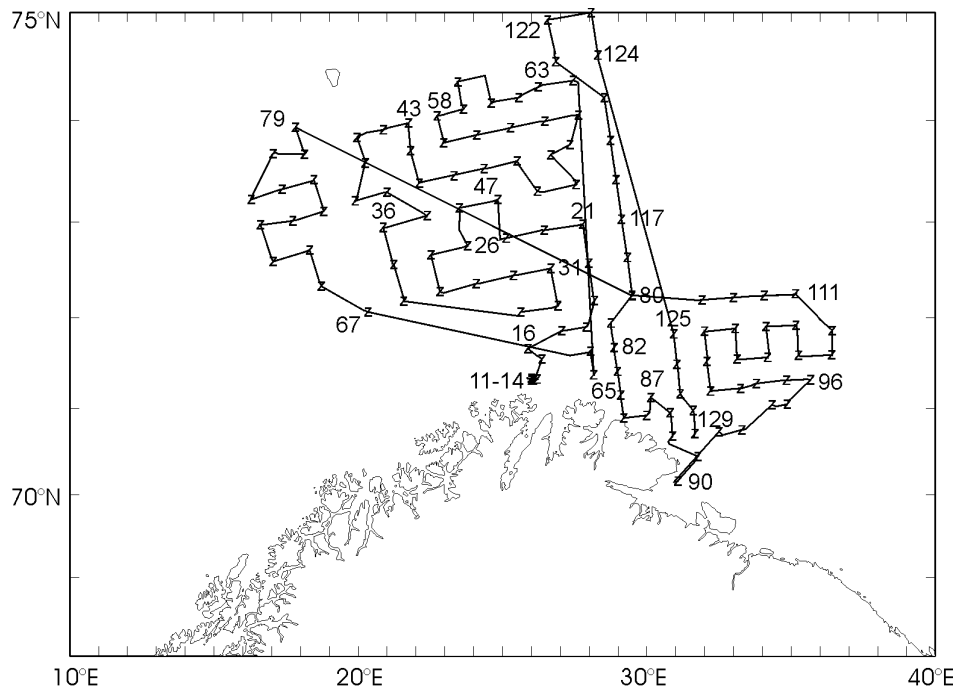
4.1 G. O. Sars



22-23 January 2004
Cruise no 2004104

z CTD st.no 1-10

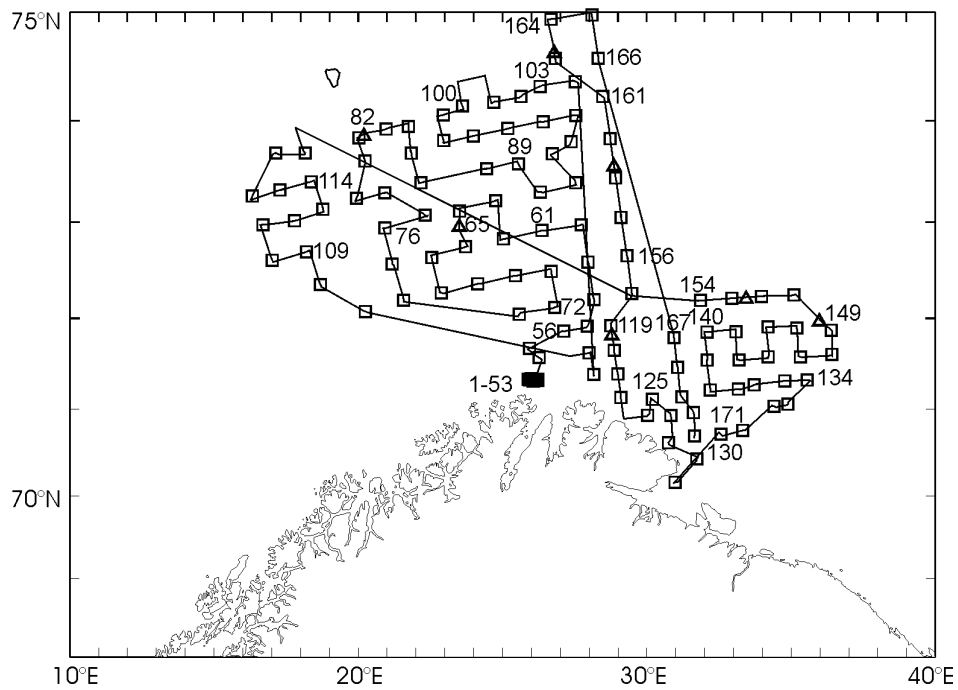
"G. O. Sars"



31 Jan – 9 Mar 2004
Cruise no 2004106 - Part I

z CTD st.no 11-129

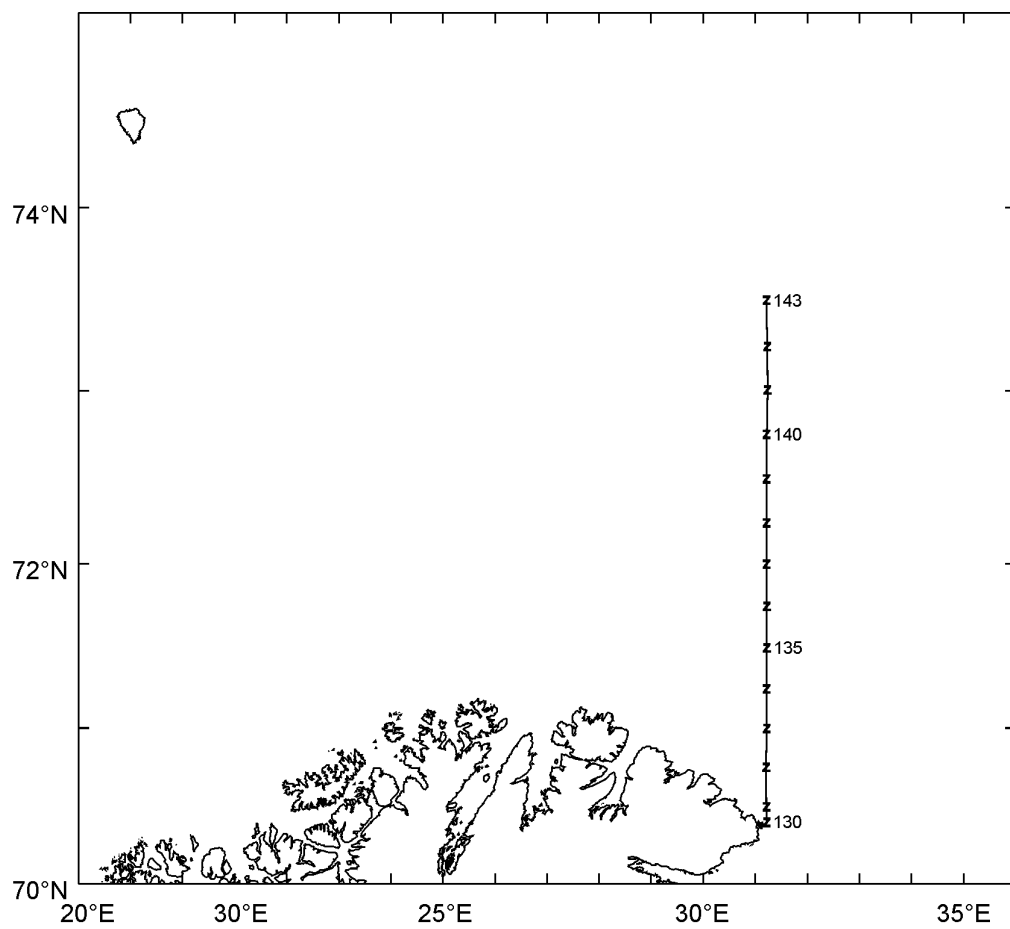
“G. O. Sars”



31 Jan – 9 Mar 2004
Cruise no 2004106 - Part I

Trawl st. no 1-171
□ Bottom trawl st.
△ Pelagic trawl st.

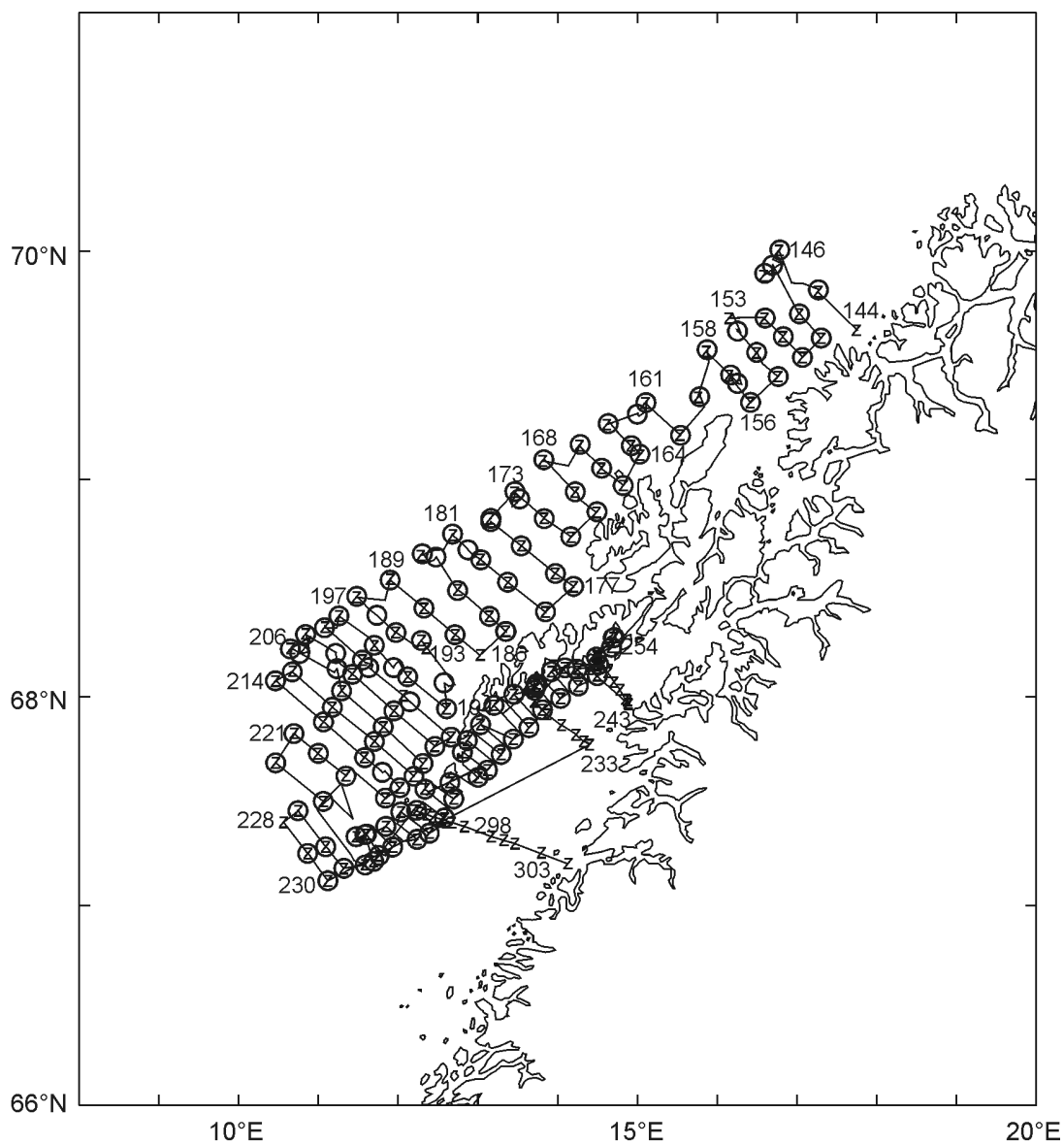
“G. O. Sars”



13-15 March 2004
Cruise no 2004106 – Part II

z CTD st. no. 130-143
Standard section:
Vardø N: st. no. 130-143

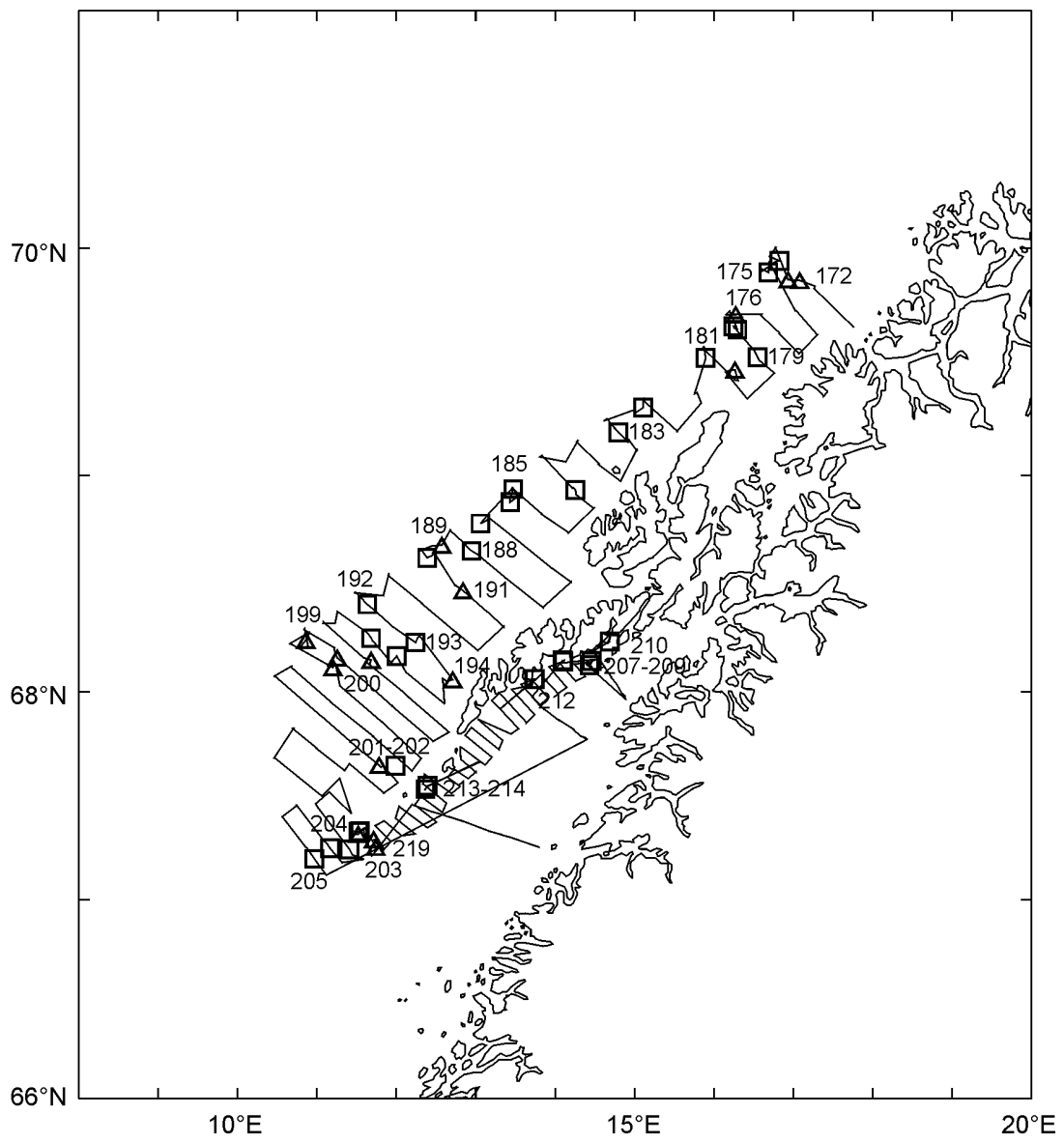
“G. O. Sars”



16 March – 6 April 2004
 Cruise no 2004107 – Part I

z CTD st.no 144-303
 o Plankton st. (WP-II-net)

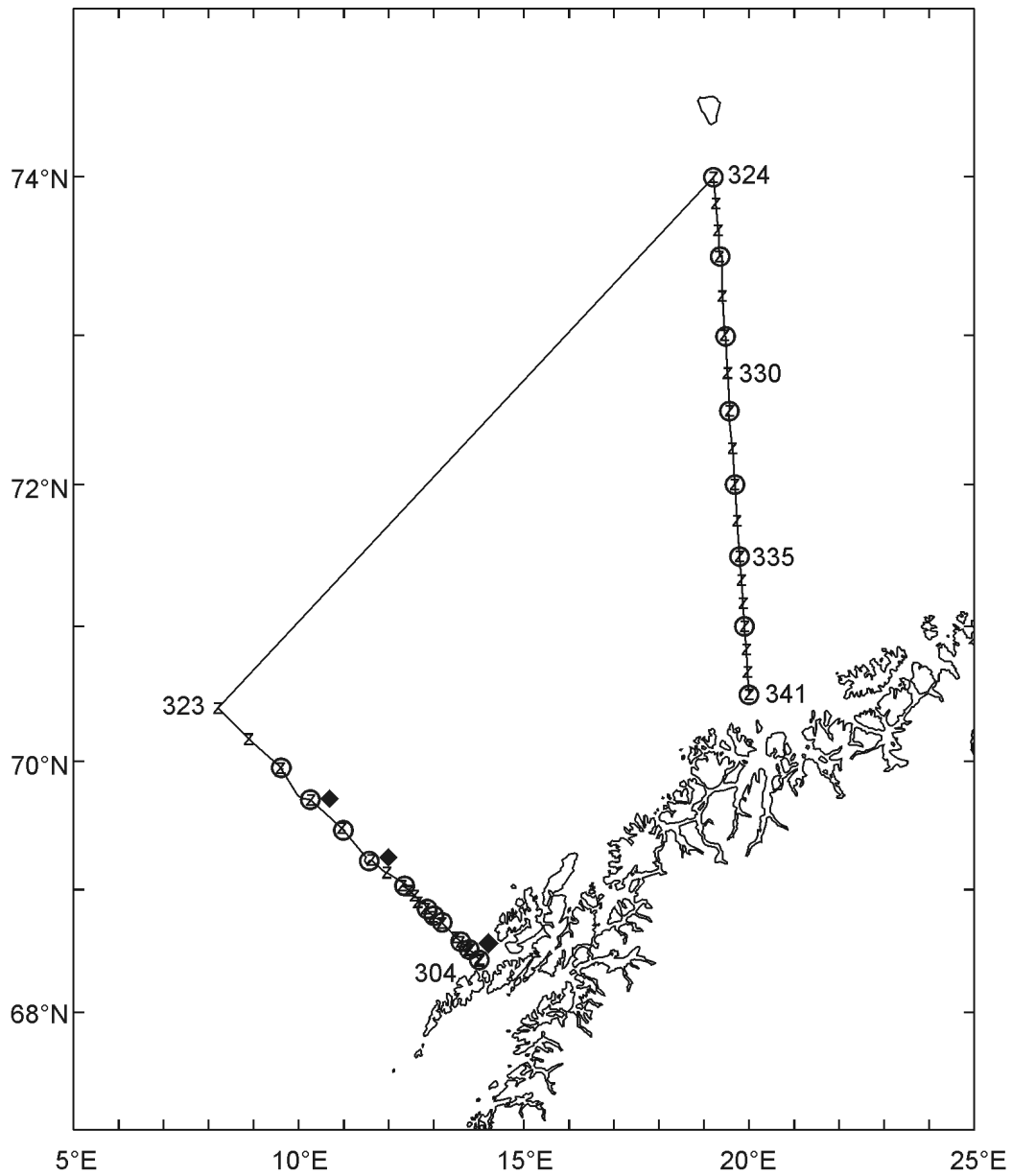
“G. O. Sars”



16 March – 6 April 2004
 Cruise no 2004107 – Part I

Trawl st.no 172-219
 □ Bottom trawl
 Δ Pelagic trawl

“G. O. Sars”



6-12 April 2004
Cruise no 2004107 – Part II

z CTD st.no 304-341

“G. O. Sars”

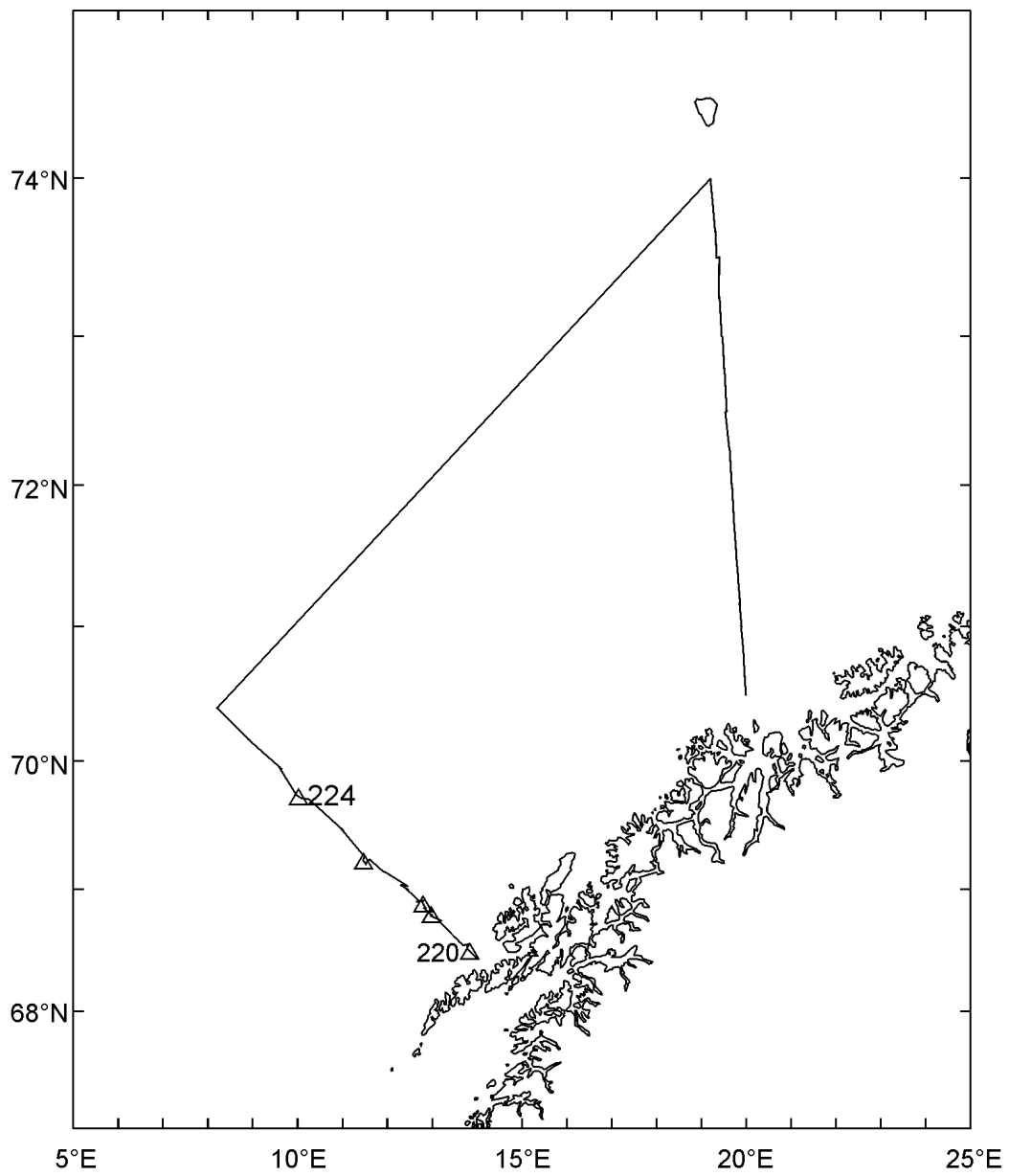
○ Plankton st. (WP-II-net)

◆ Plankton st. (Mocness)

Standard section:

Gimsøy NW: st.no 304-323

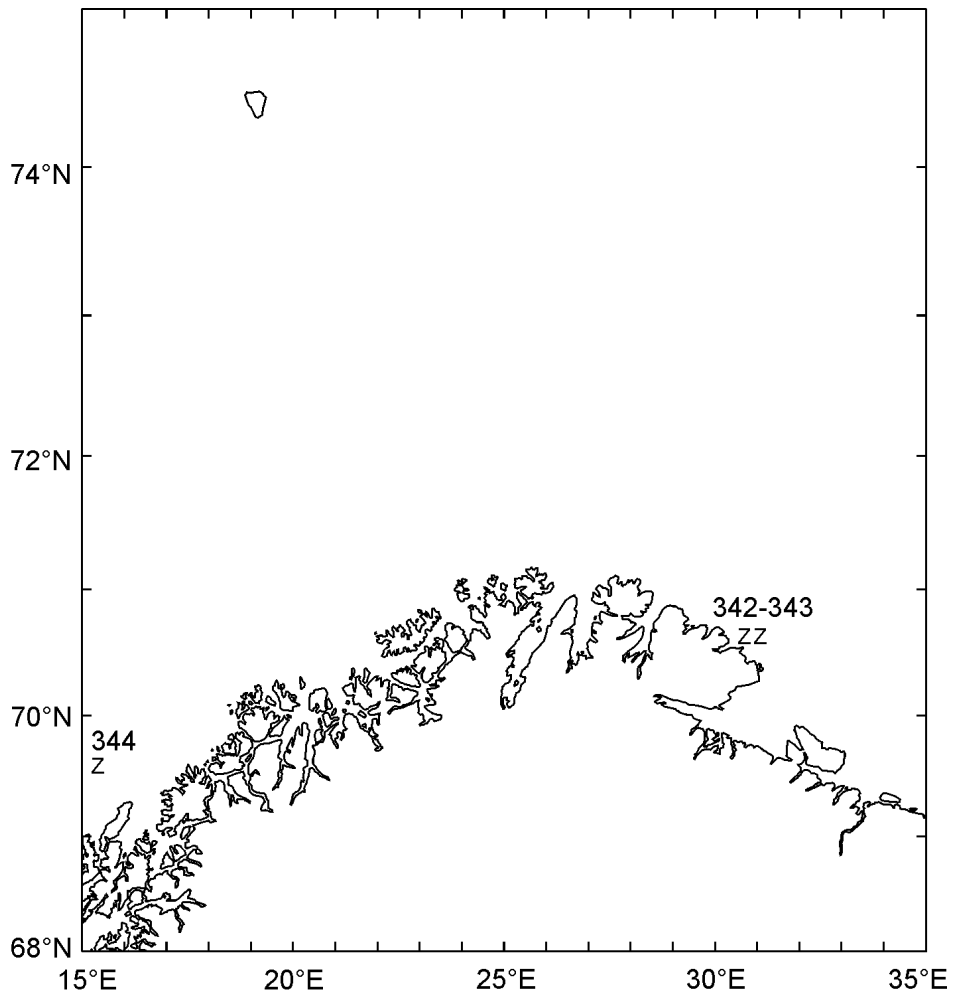
Fugløya-Bjørnøya: st.no 324-341



6-12 April 2004
Cruise no 2004107 – Part II

△ Pelagic trawl st.no 220-224

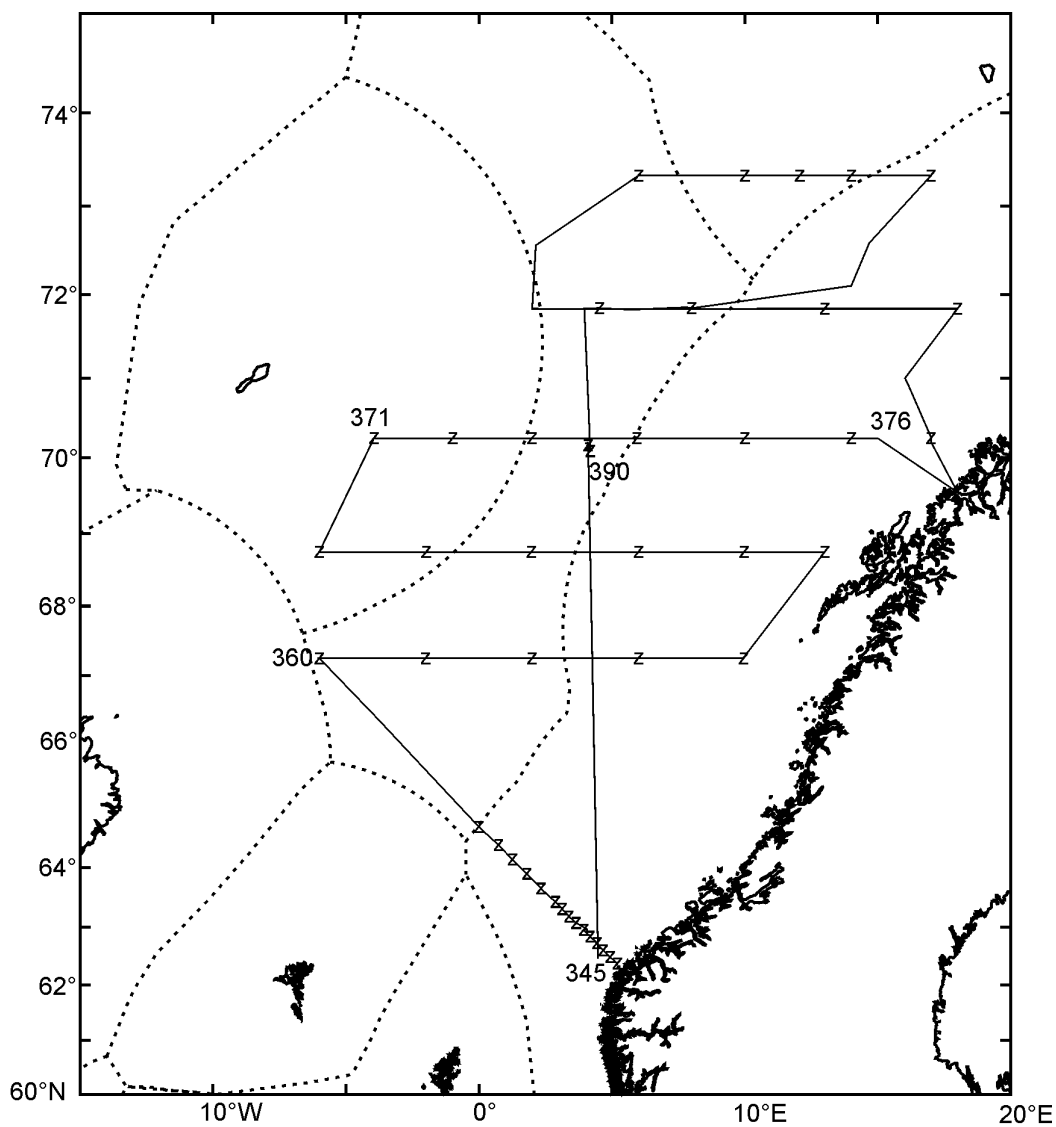
“G. O. Sars”



14-29 April 2004
Cruise no 2004108

z CTD st.no 342-344

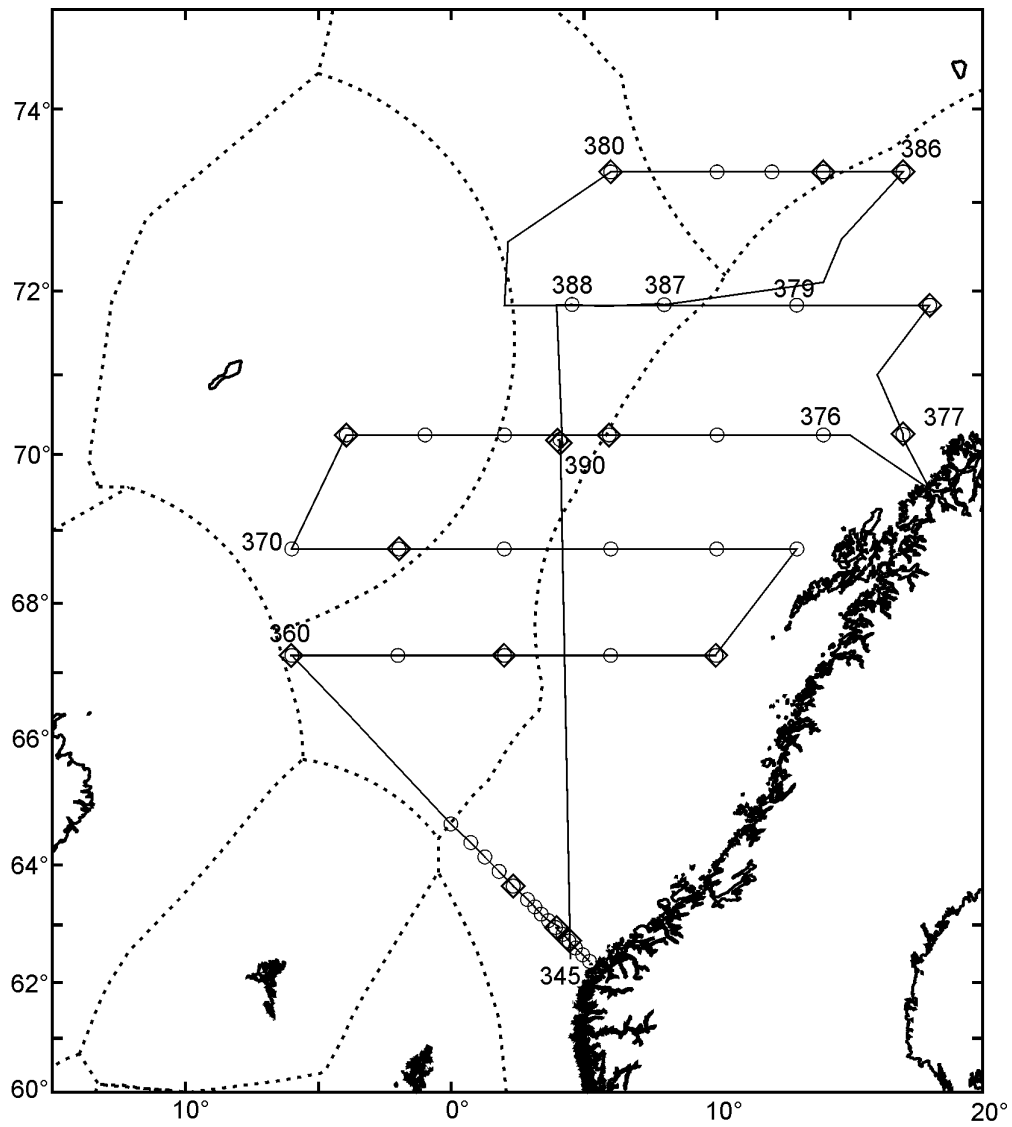
“G. O. Sars”



2-27 May 2004
Cruise no 2004109

z CTD st.no 345-390
Standard section:
Gimsøy NW: st.no 345-359

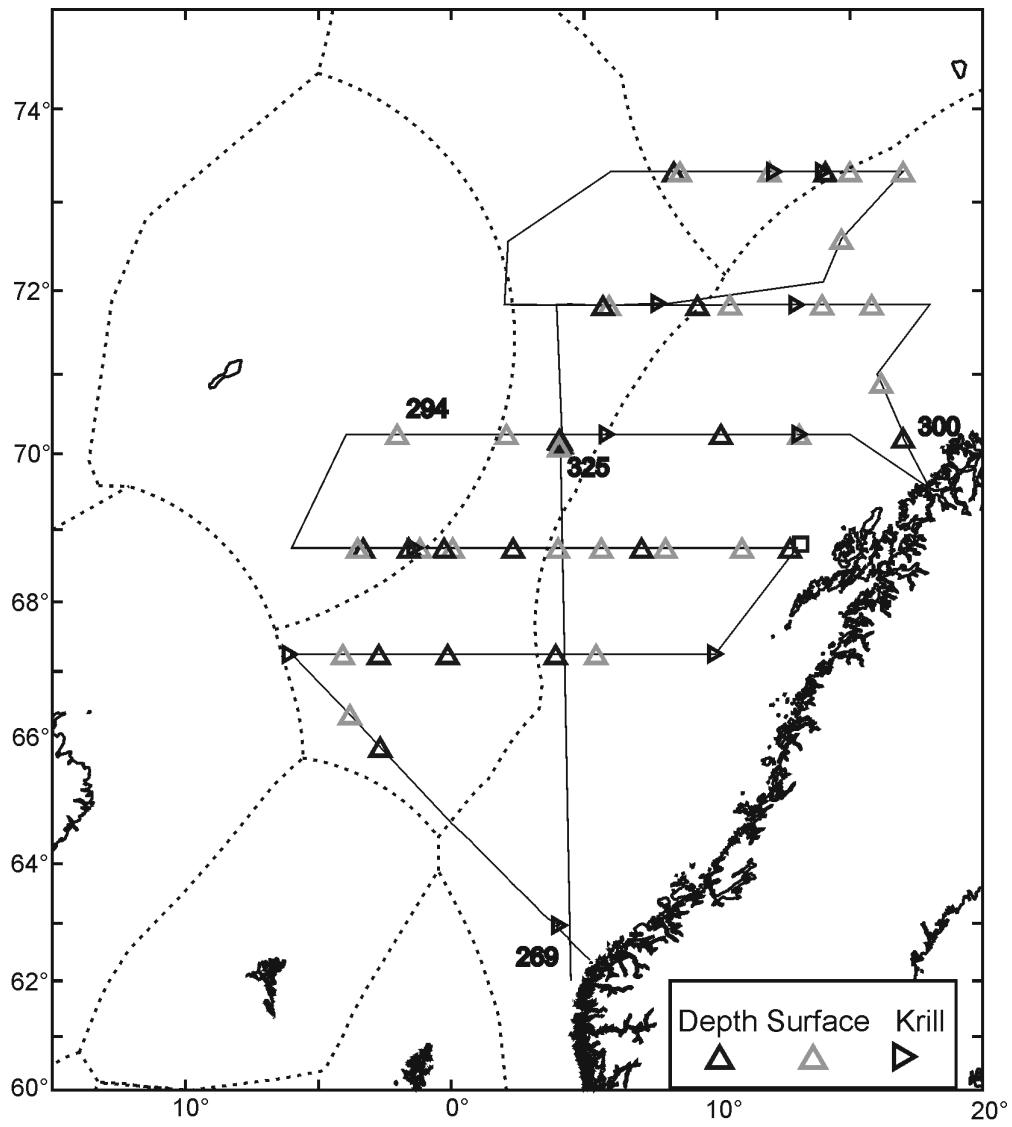
“G. O. Sars”



2-27 May 2004
 Cruise no 2004109

Plankton stations
 ○ WP II-net
 ◇ Mocness

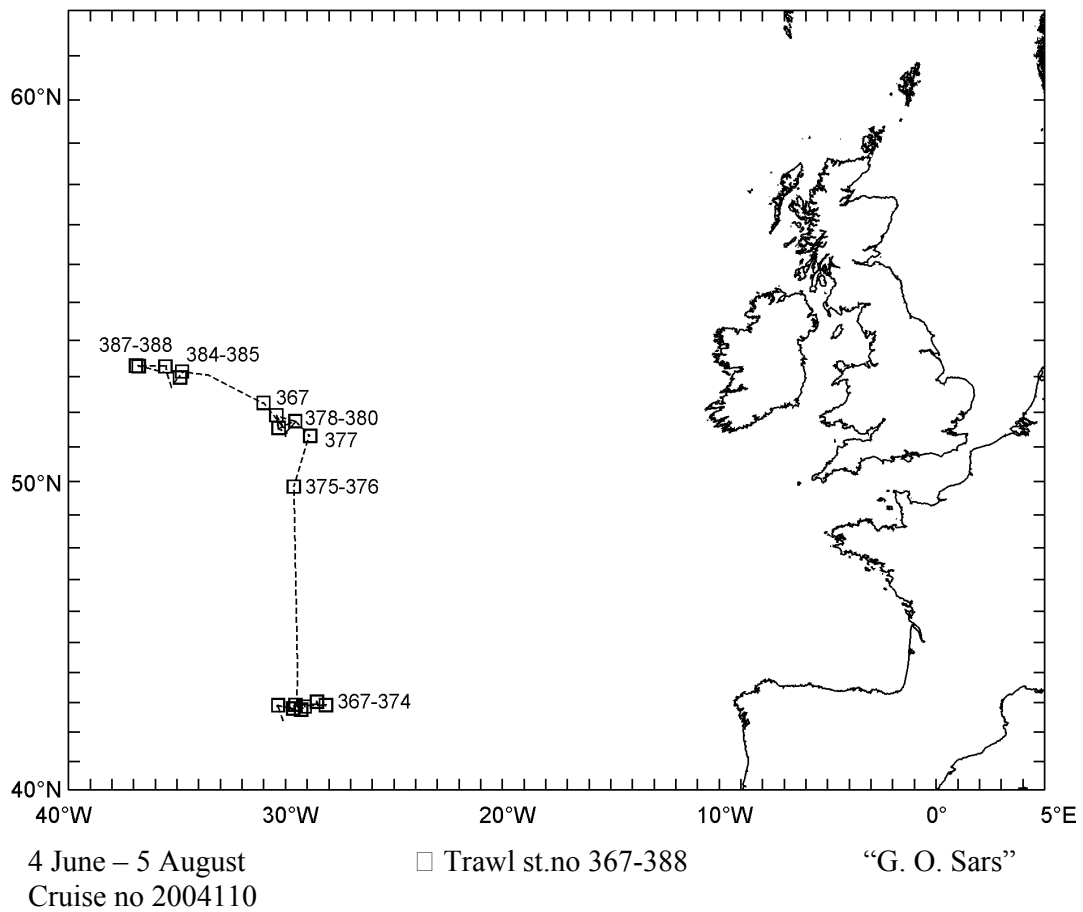
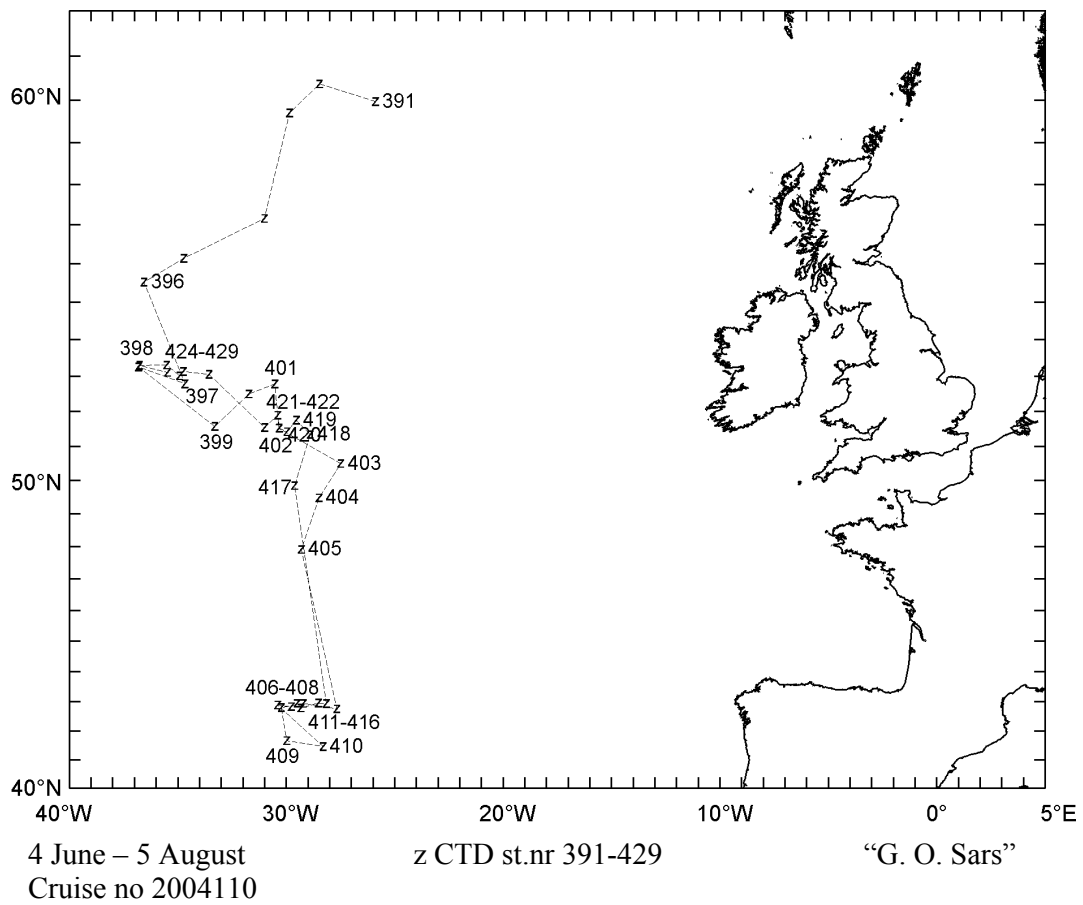
“G. O. Sars”

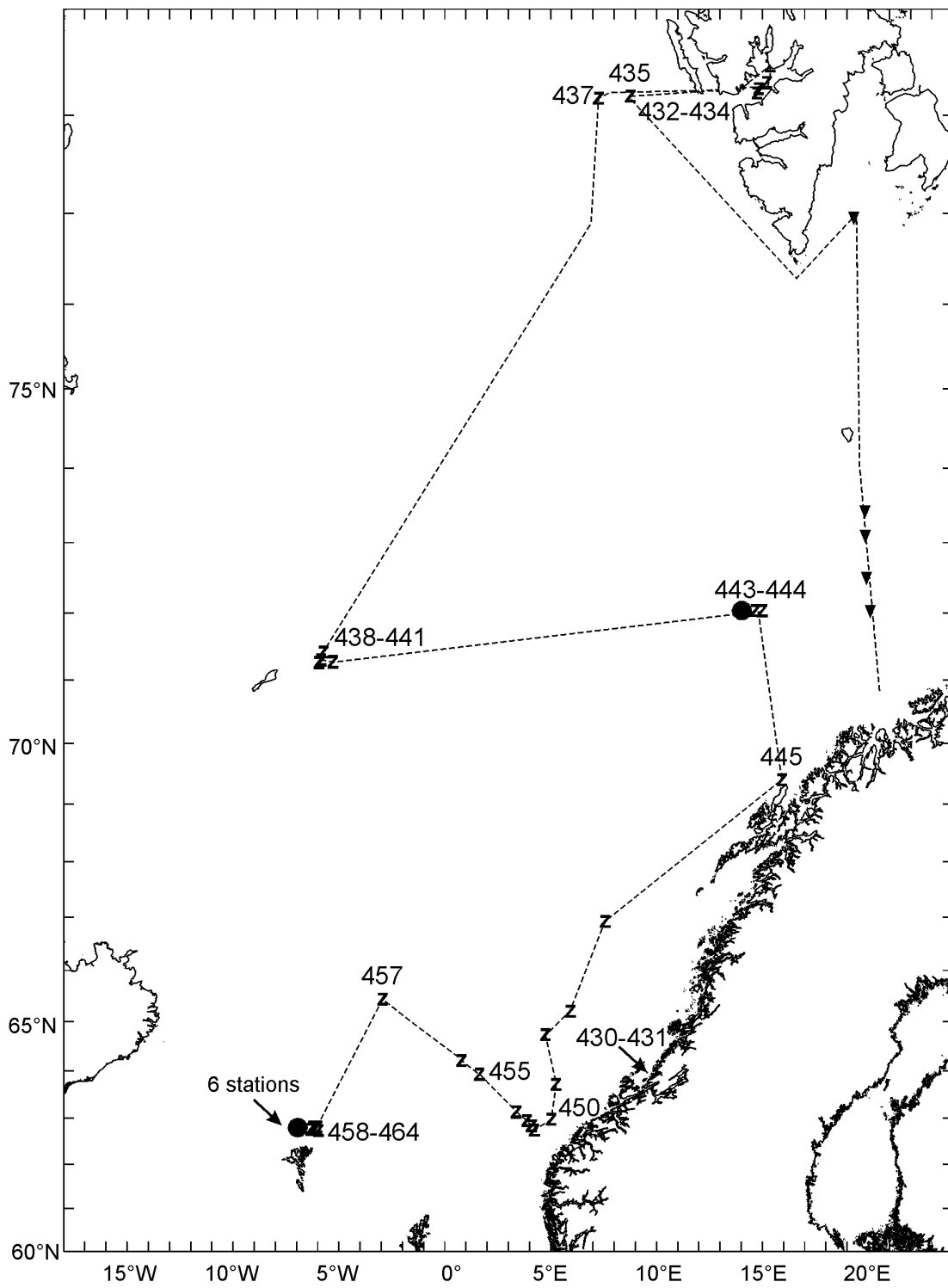


2-27 May 2004
Cruise no 2004109

Pelagic trawl st.no 269-325

“G. O. Sars”

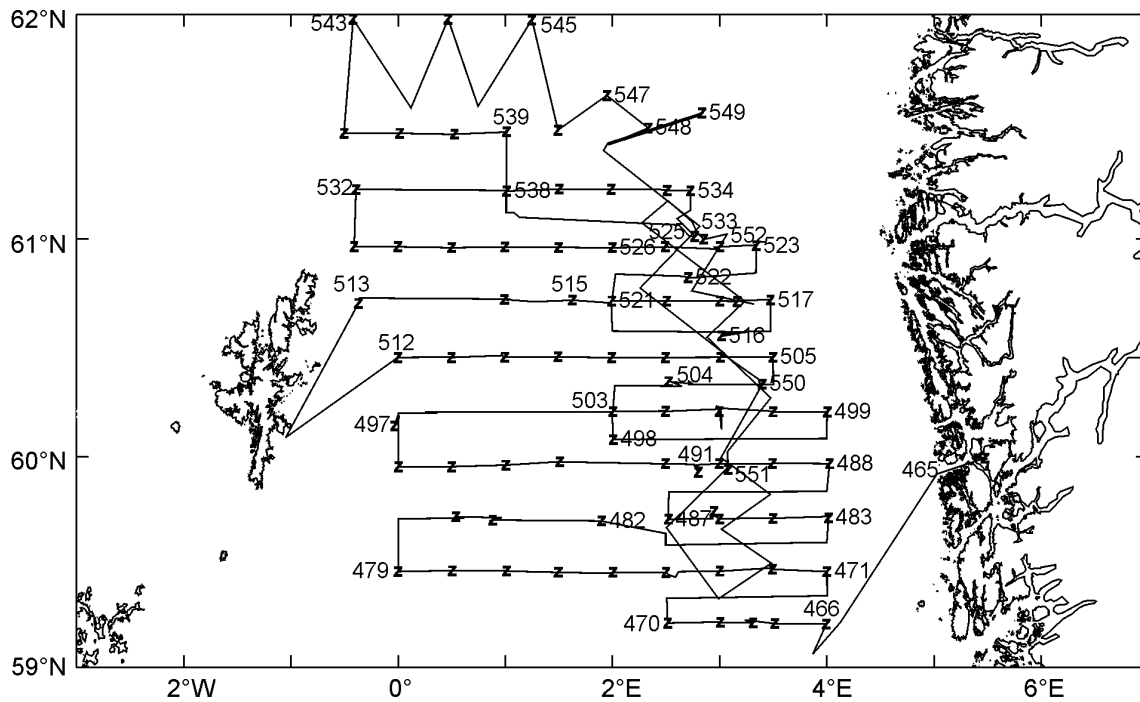




13 August – 17 October 2004
 Cruise no 2004112

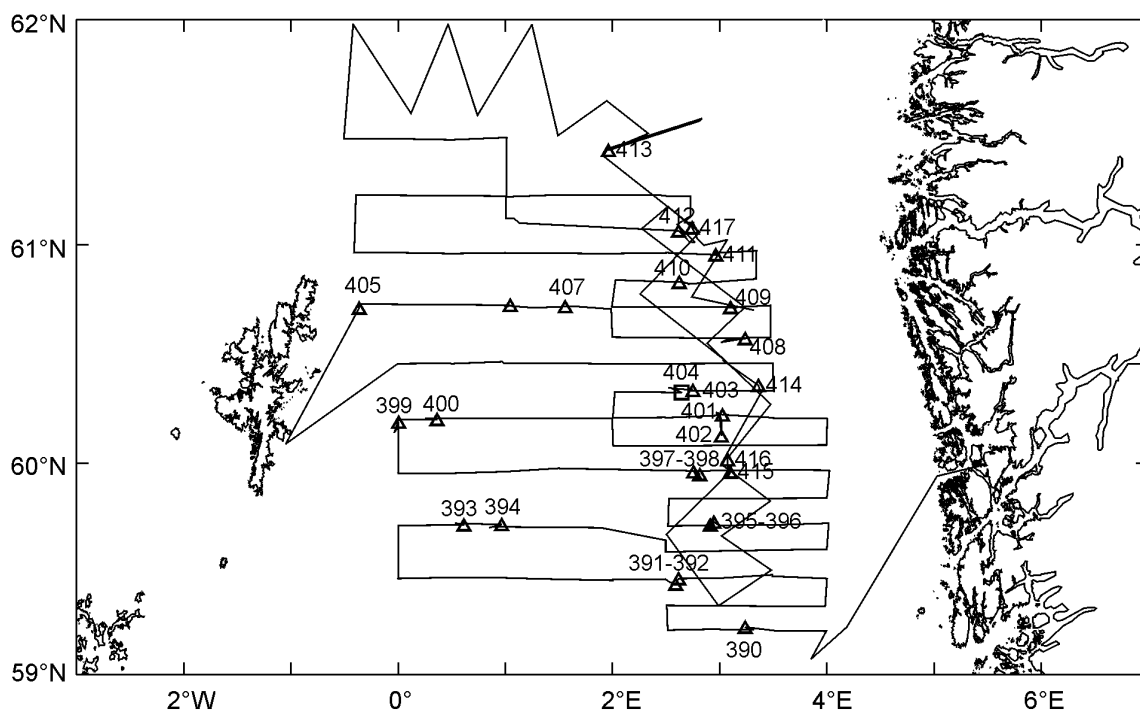
- z CTD st.no 430-464
- Grab stations
- ▲ Deployment and recovery of current moorings

“G. O. Sars”



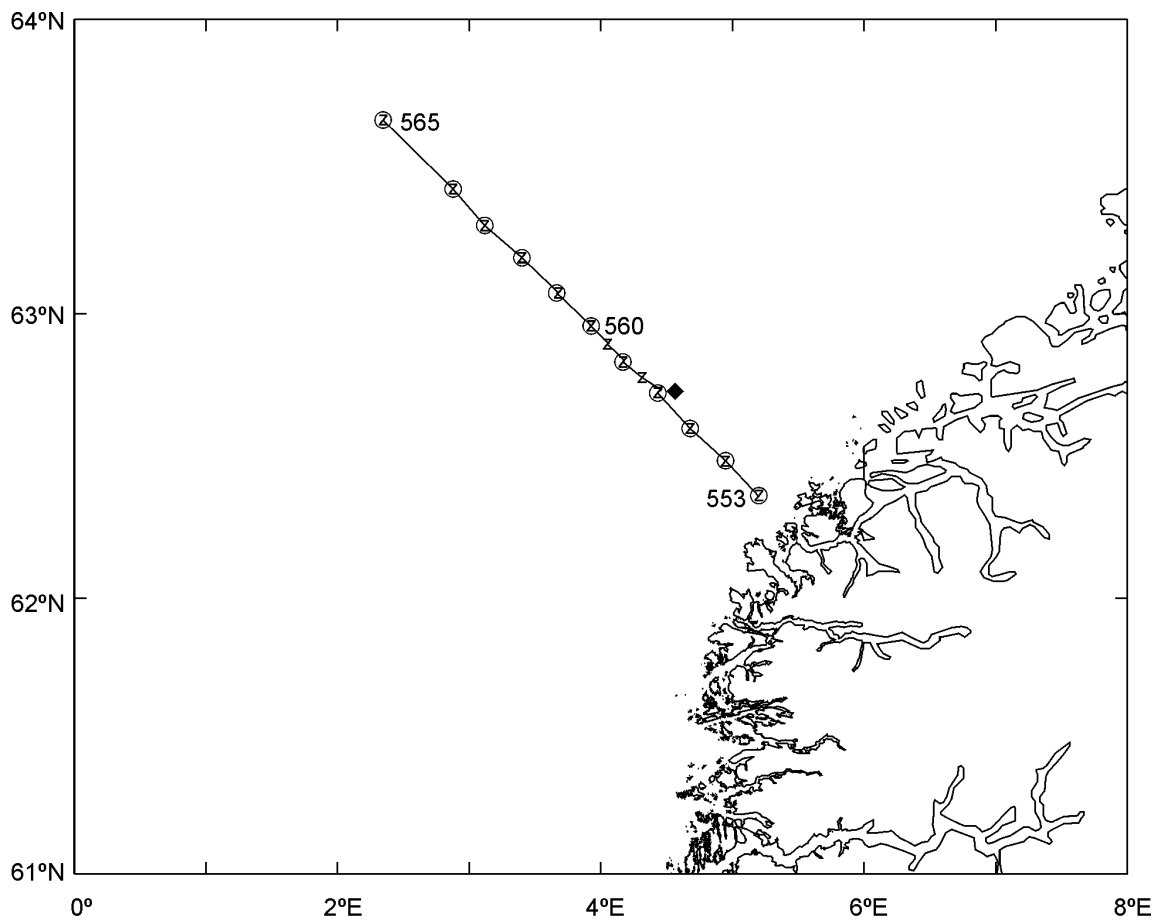
18 October – 8 November 2004 z CTD st.no 465-552
Cruise no 2004113 Part I

“G. O. Sars”



18 October – 8 November 2004 Trawl st.no 390-417
Cruise no 2004113 Part I
Δ Pelagic trawl
□ Bottom trawl

“G. O. Sars”



9-16 November 2004
 Cruise no 2004113 Part II

z CTD st.no 553-565

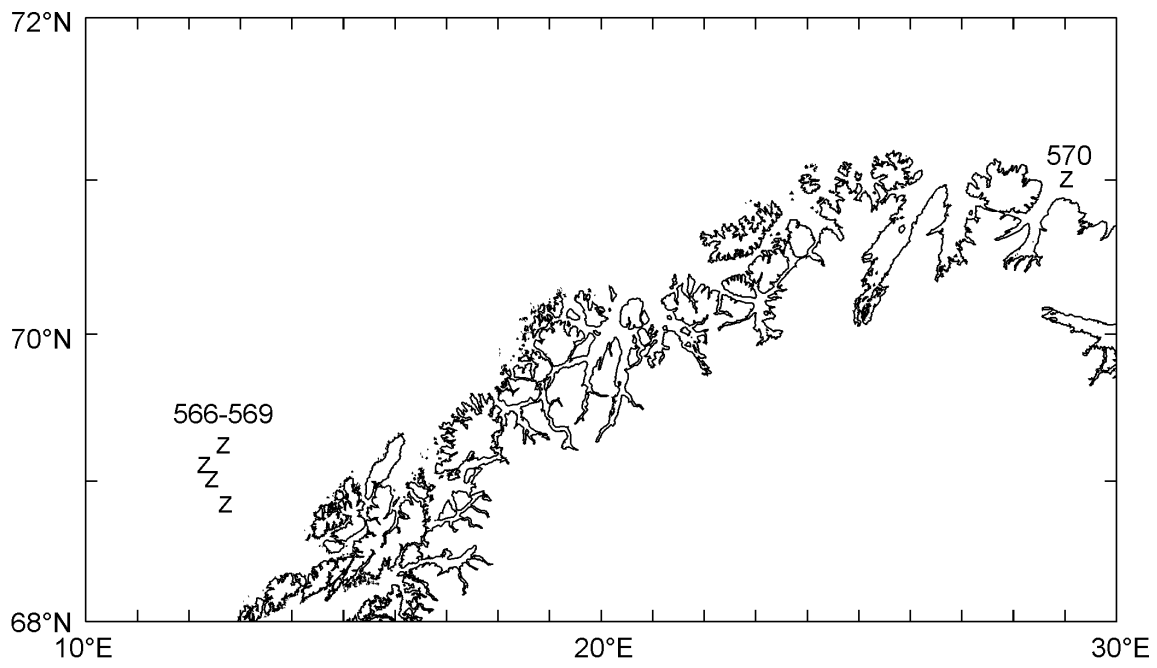
“G. O. Sars”

○ WP-II-net

◆ Mocness

Standard section:

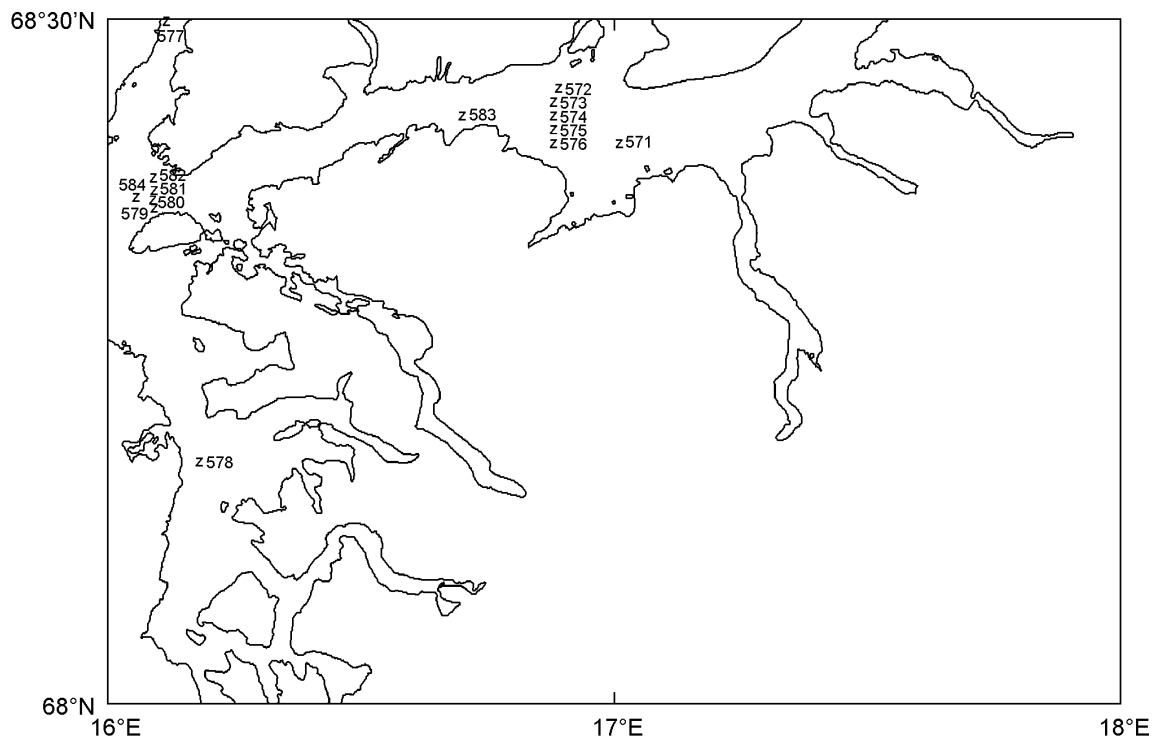
Svinøy NW st.no 553-565



16-30 November 2004
Cruise no 2004114

z CTD st.no 566-570

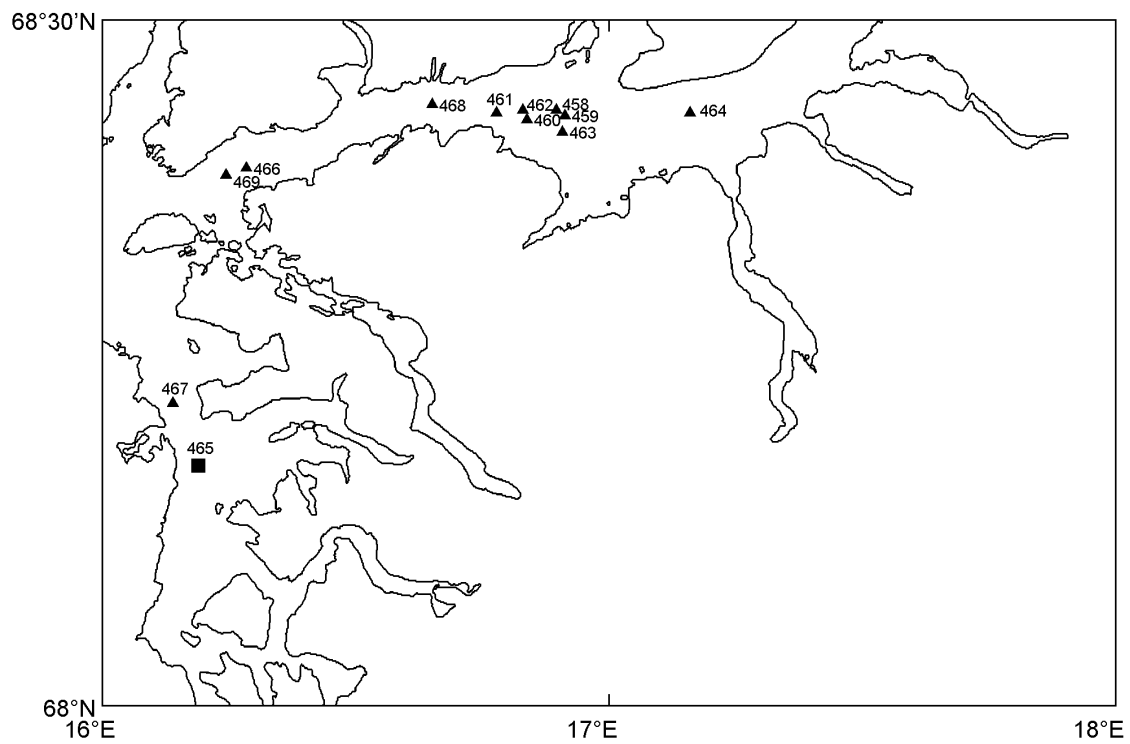
"G. O. Sars"



2-19 December 2004
Cruise no 2004115

z CTD st.no 571-584

“G. O. Sars”

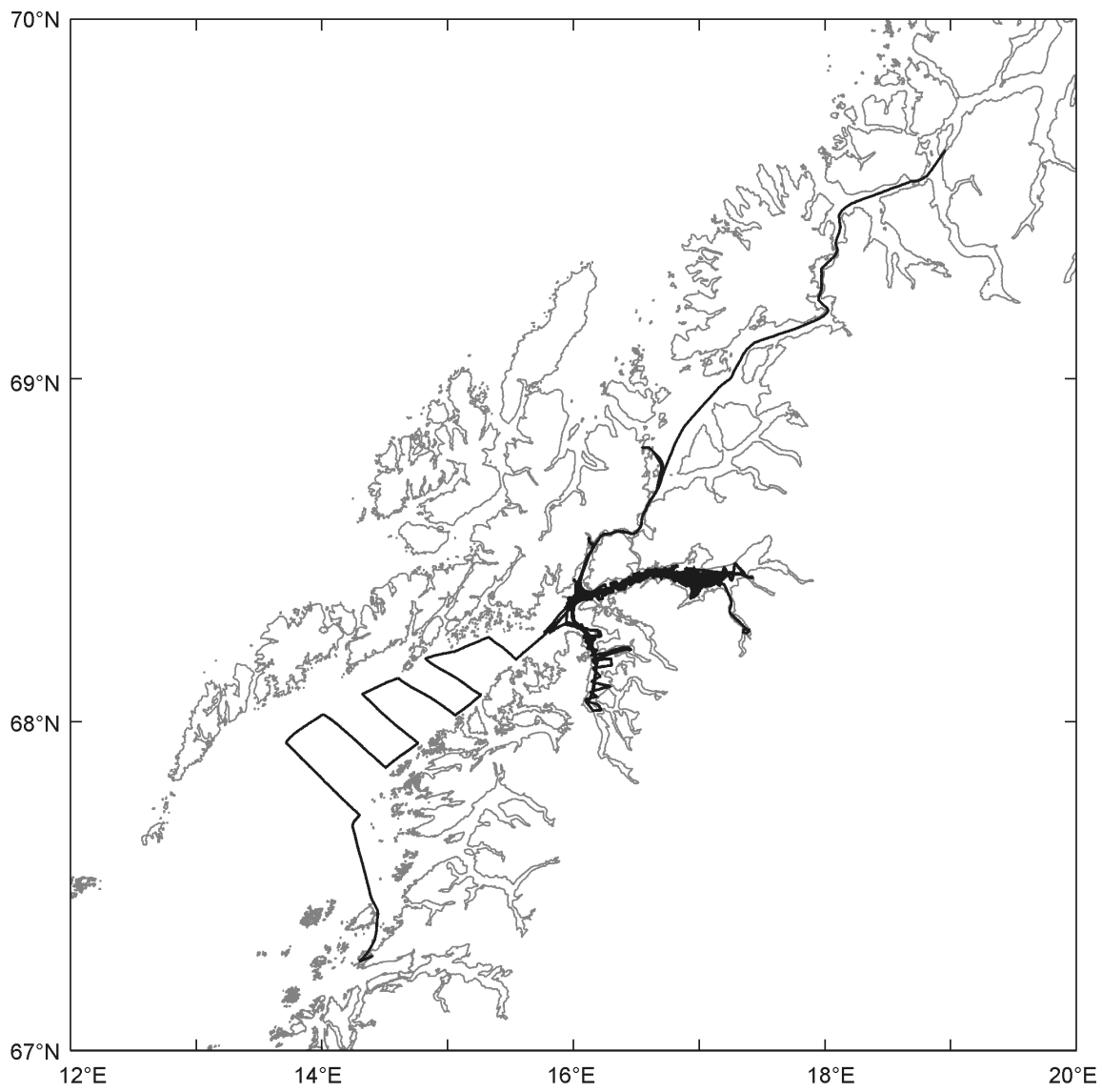


2-19 December 2004
Cruise no 2004115

Trawl st.no 458-469

“G. O. Sars”

▲ Pelagic trawl
■ Bottom trawl

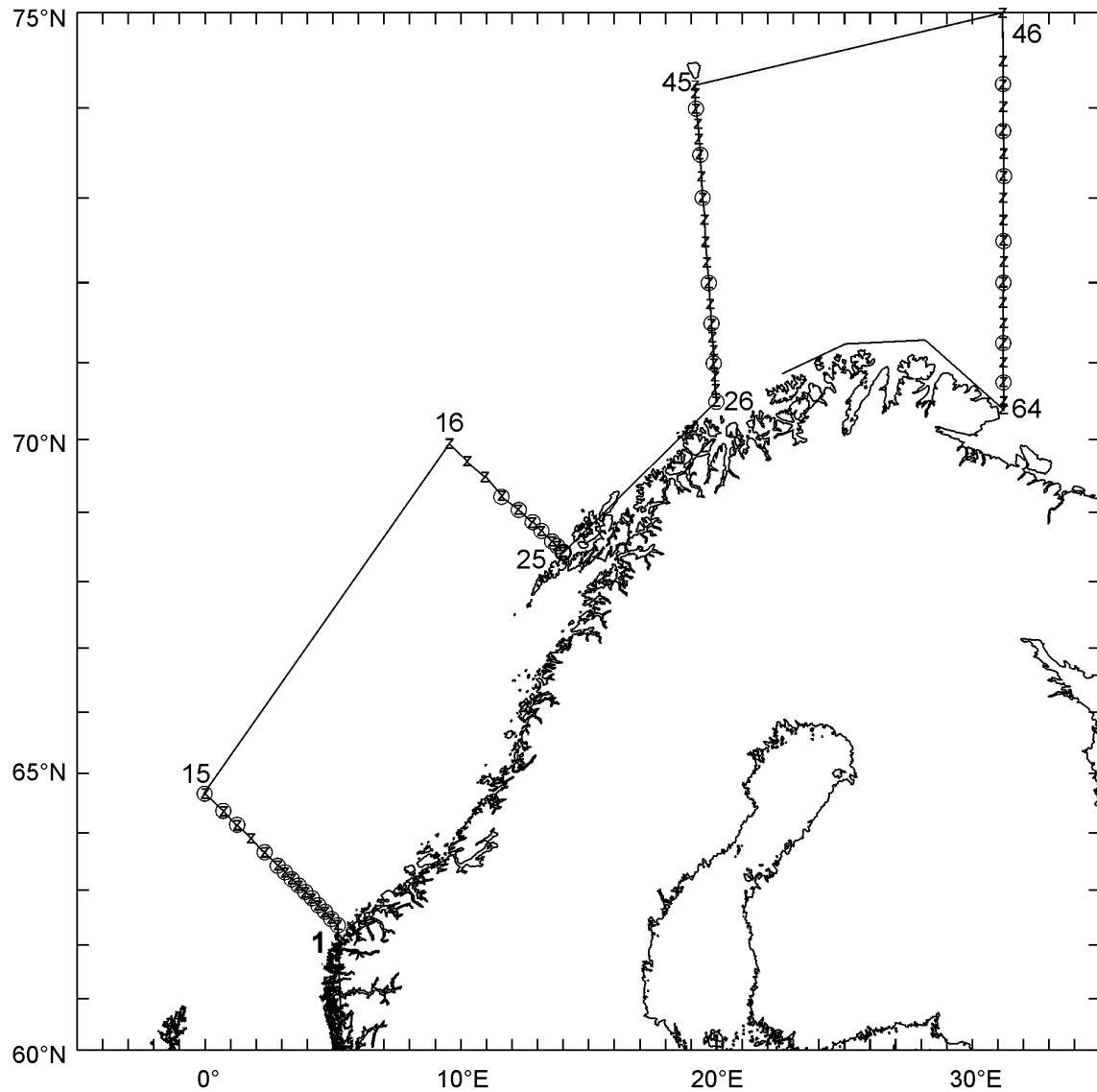


2-19 December 2004
Cruise no 2004115

Track chart

"G. O. Sars"

4.2 Johan Hjort



17-29 January 2004
Cruise no 2004202

z CTD st.no 1-64
○ Plankton st. (WP-II-net)

“Johan Hjort”

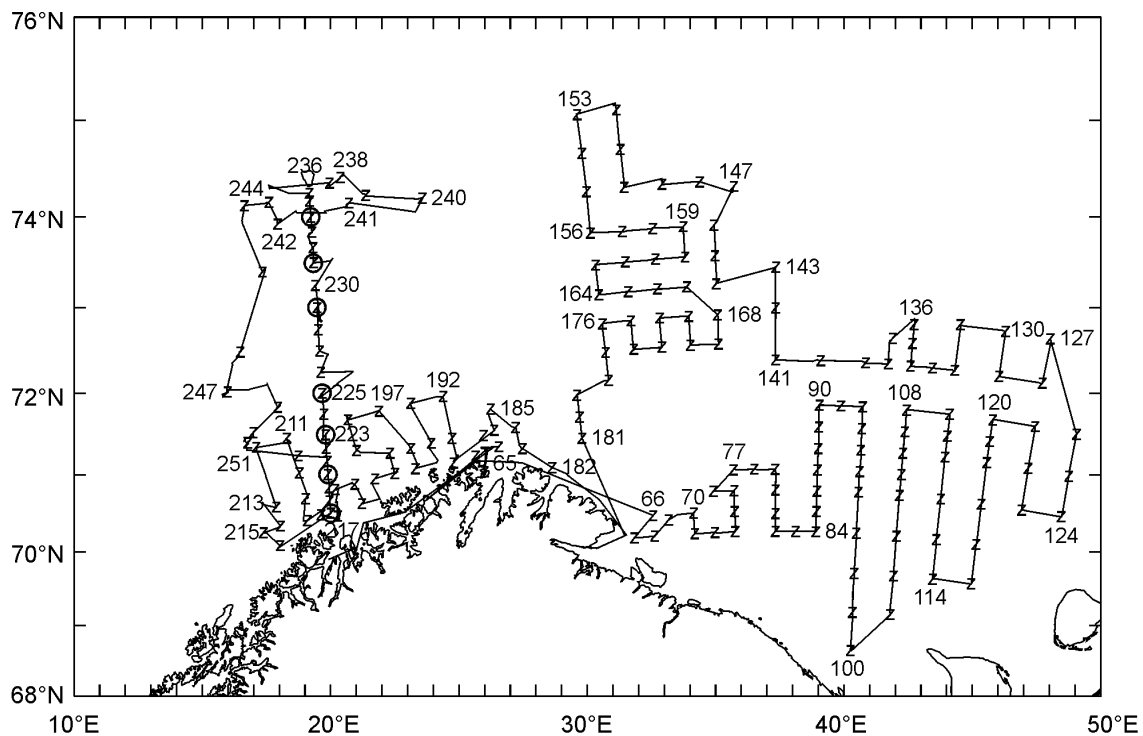
Standard sections:

Svinøy NW st.no 1-15

Gimsøy NW st.no 16-25

Fugløya-Bjørnøya st.no 26-45

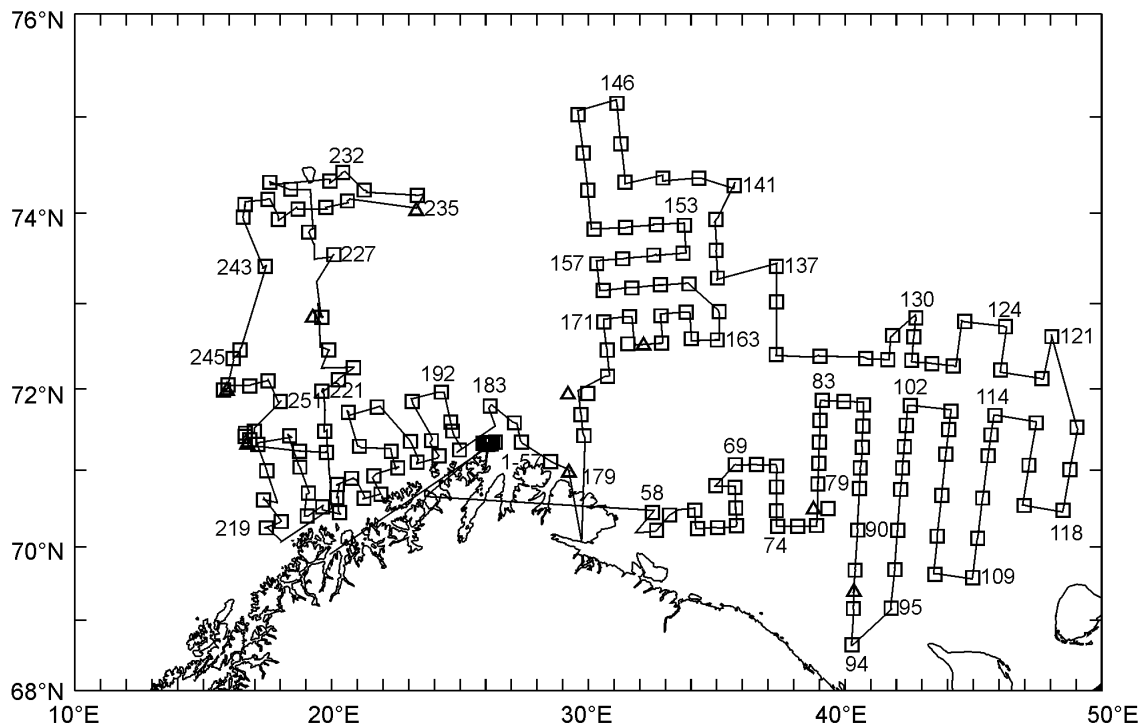
Vardø N st.no 46-64



31 Jan – 15 Mar 2004
Cruise no 2004203

z CTD st.no 65-251
o Plankton st. (WP-II-net)
Standard sections:
Fugløya Bjørnøya st.no 217-236

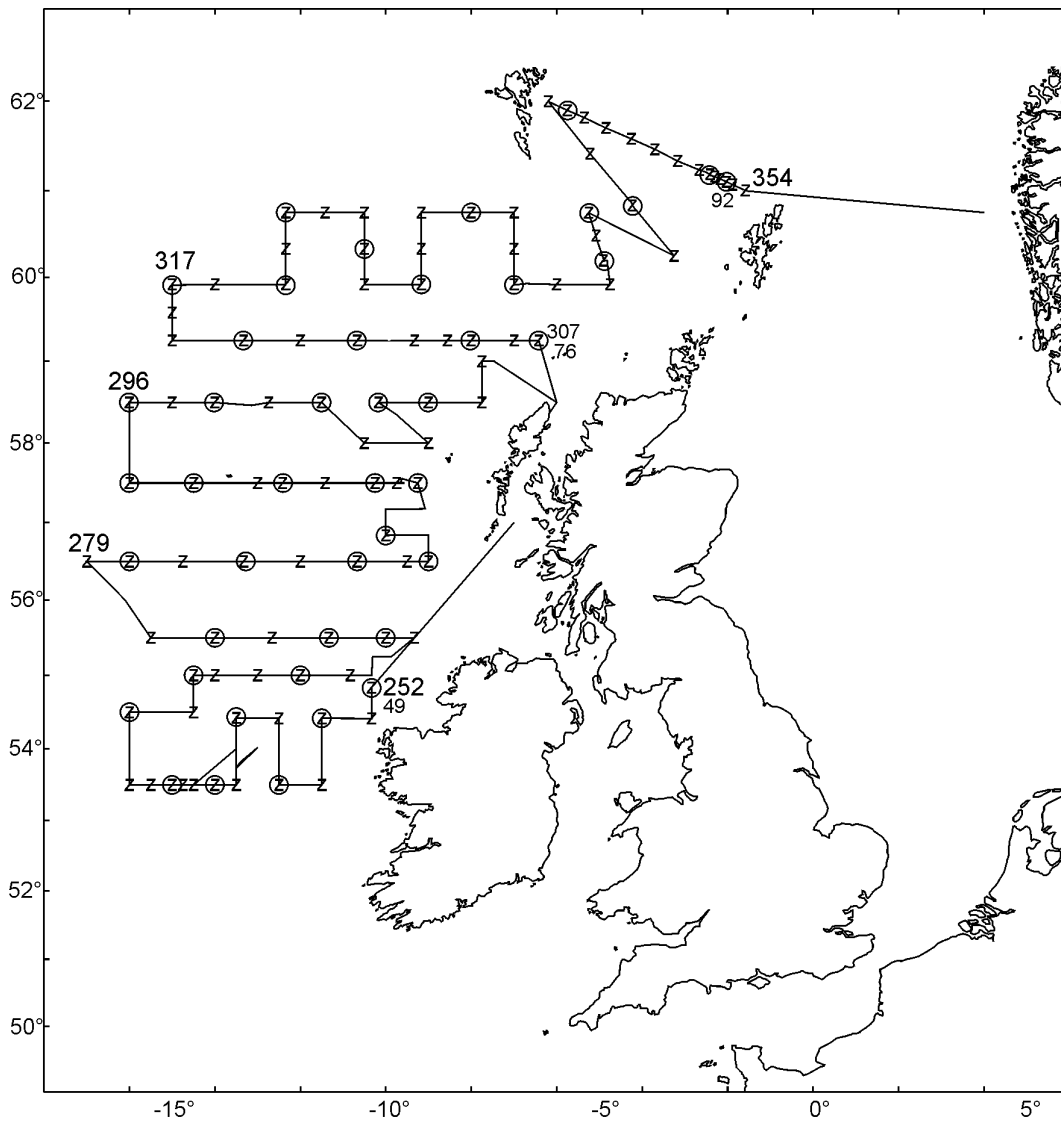
“Johan Hjort”



31 Jan – 15 Mar 2004
Cruise no 2004203

Trawl st.no 1-258
□ Bottom trawl
△ Pelagic trawl

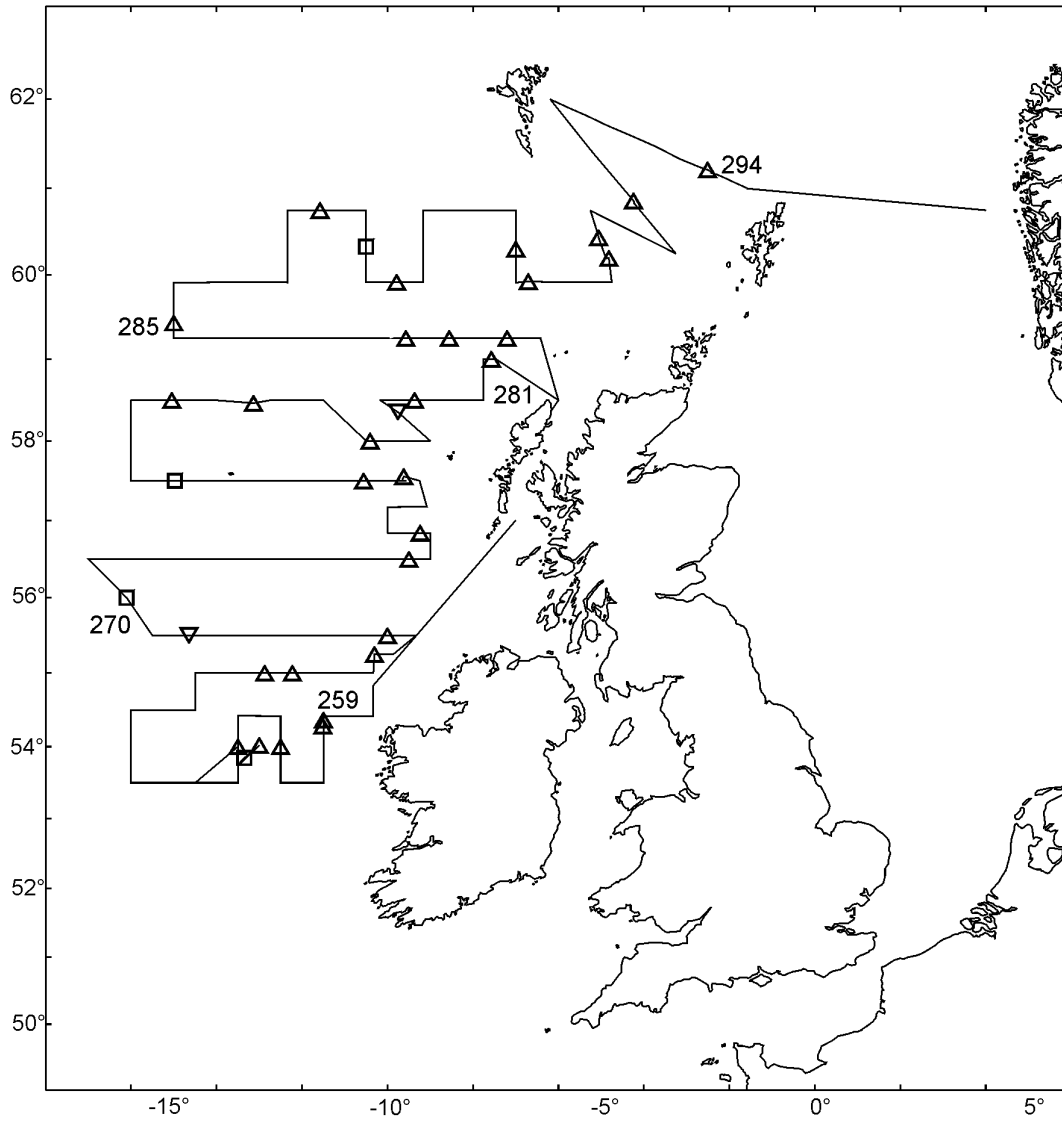
“Johan Hjort”



19 Mar – 18 Apr 2004
 Cruise no 2004204

z CTD st.no 252-354
 ○ Dip-net (80 cm)

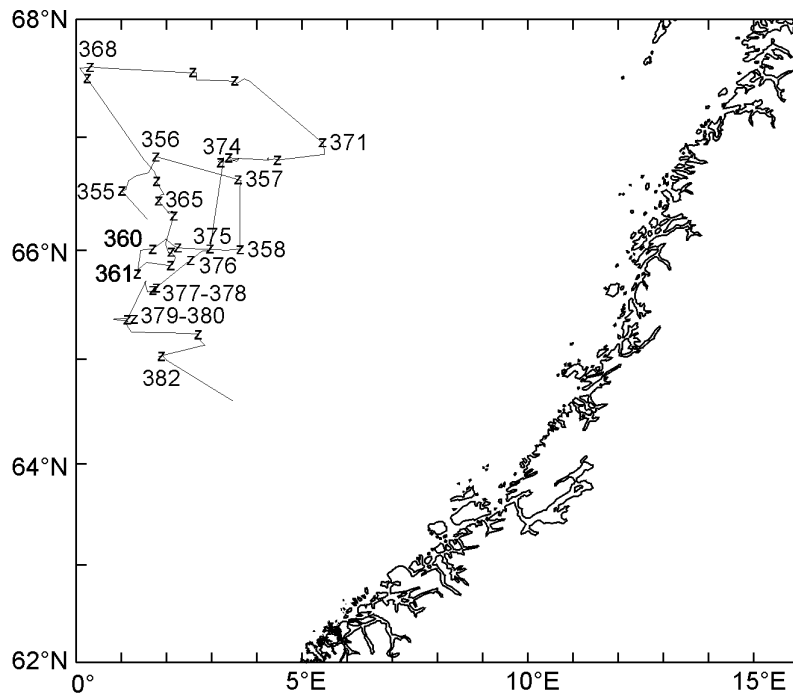
“Johan Hjort”



19 Mar – 18 Apr 2004
Cruise no 2004204

Trawl st.no 259-294
 Δ Large pelagic trawl
 ∇ Small pelagic trawl
 □ Bottom trawl

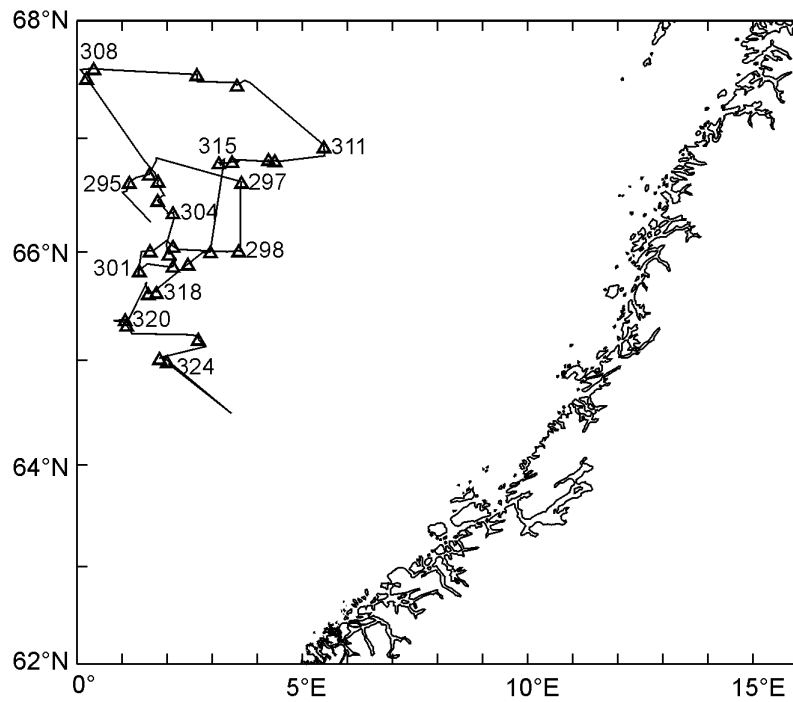
“Johan Hjort”



20 April – 1 May 2004
Cruise no 2004205

z CTD st.no 355-382

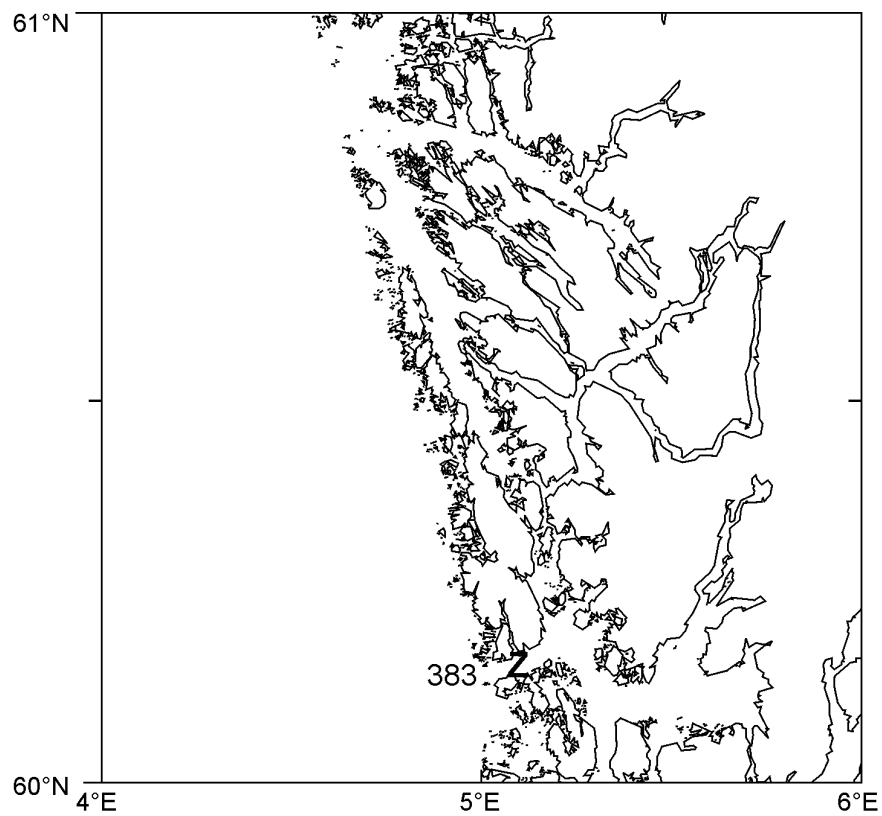
“Johan Hjort”



20 April – 1 May 2004
Cruise no 2004205

Δ Pelagic trawl st.no 295-324

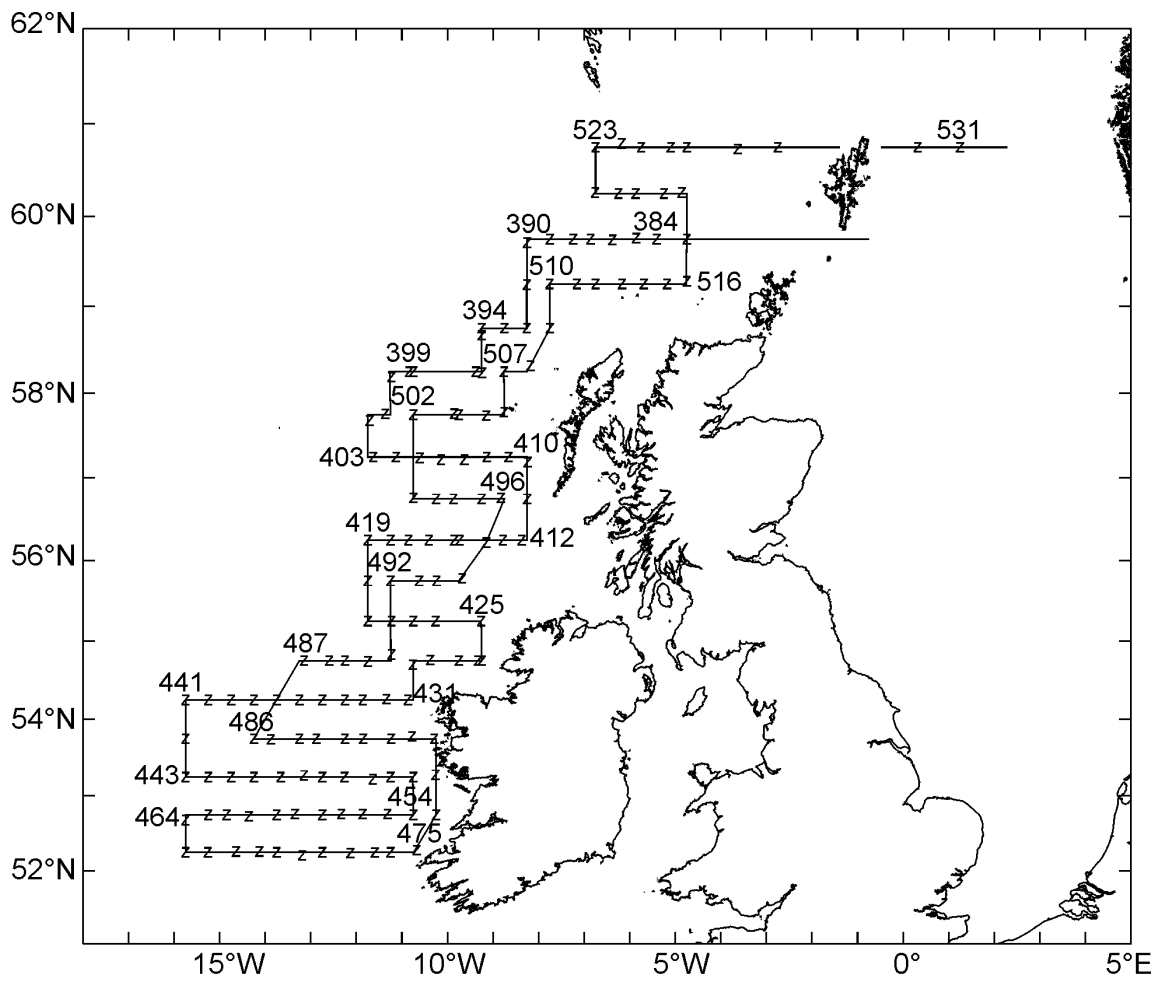
“Johan Hjort”



2-10 May 2004
Cruise no 2004206

z CTD st.no 383

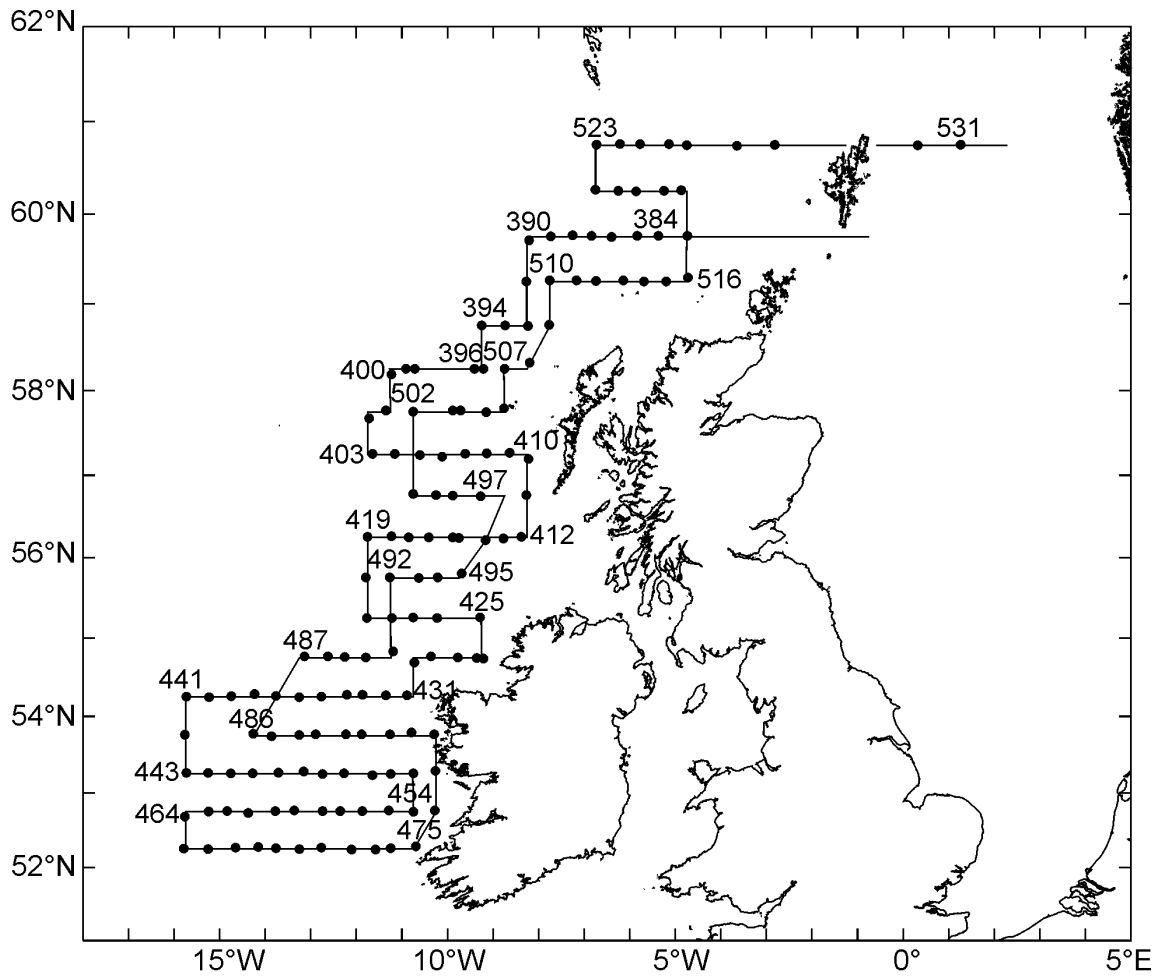
“Johan Hjort”



19 May-11 June 2004
Cruise no 2004207

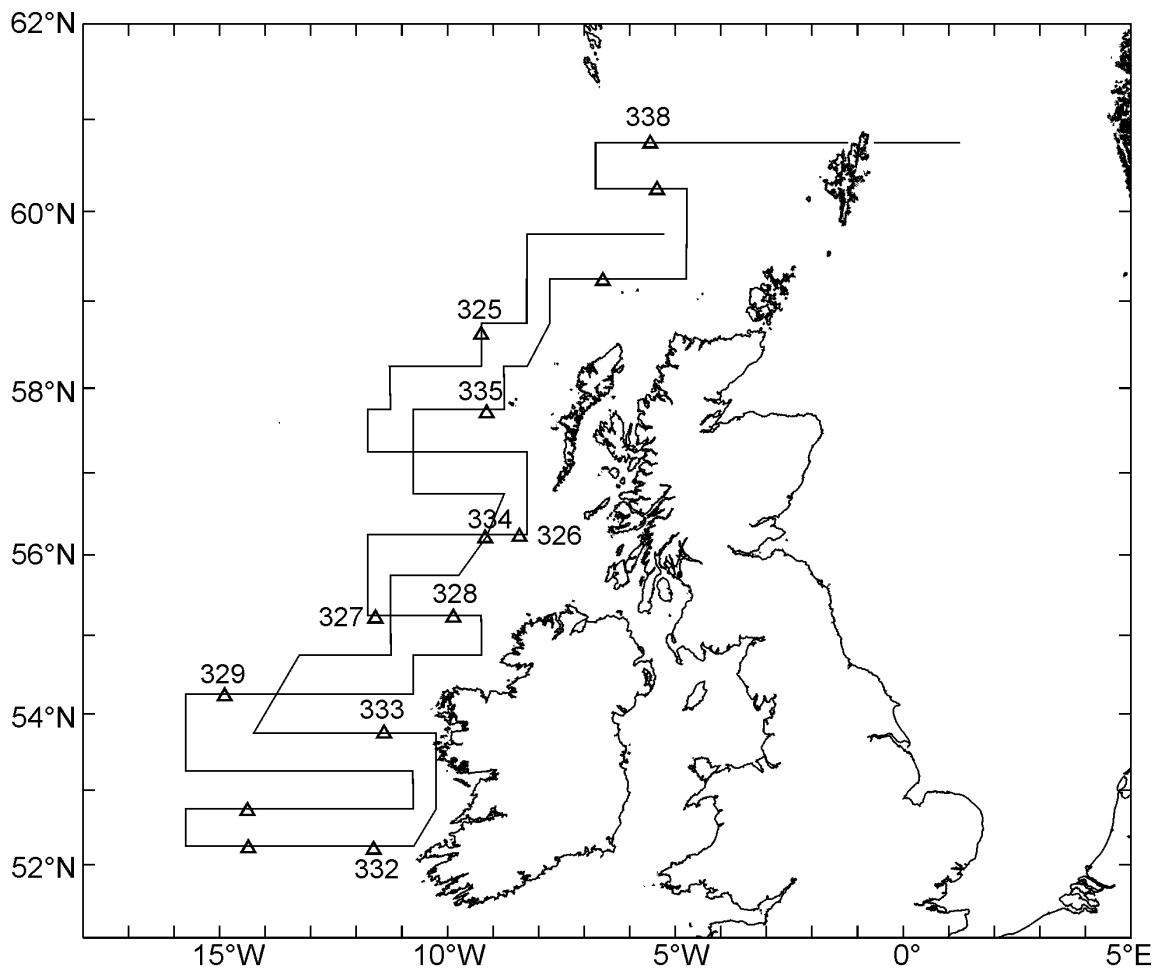
z CTD st.no 384-531

“Johan Hjort”



19 May-11 June 2004 • Gulf III stations
 Cruise no 2004207 (taken on every CTD st. except st.no 395 and 496)

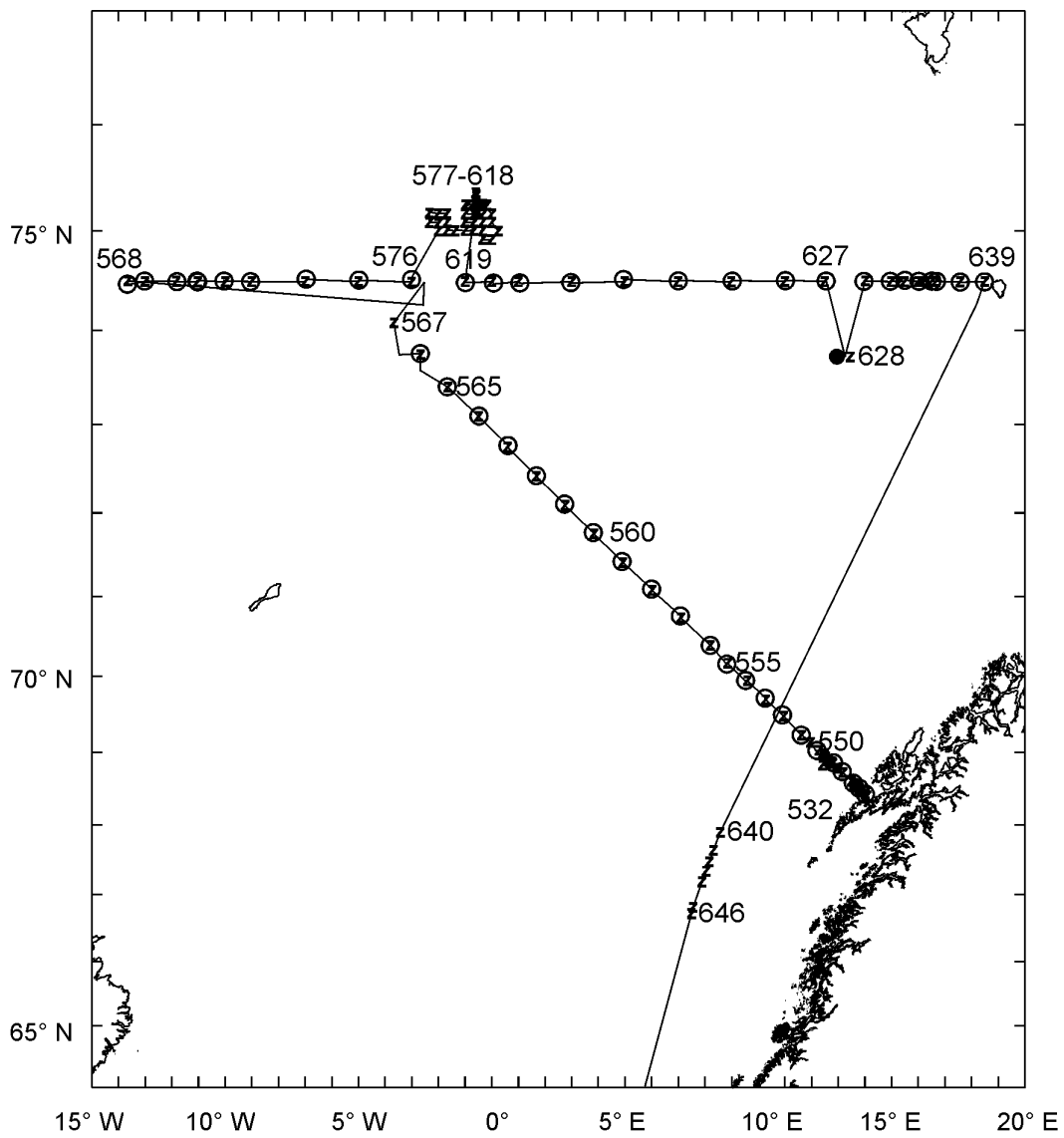
“Johan Hjort”



19 May-11 June 2004
Cruise no 2004207

Δ Pelagic trawl st.no 325-338

“Johan Hjort”



13 June – 6 July 2004
Cruise no 2004208

z CTD st.no 532-646
o Plankton st. (WP-II-net)

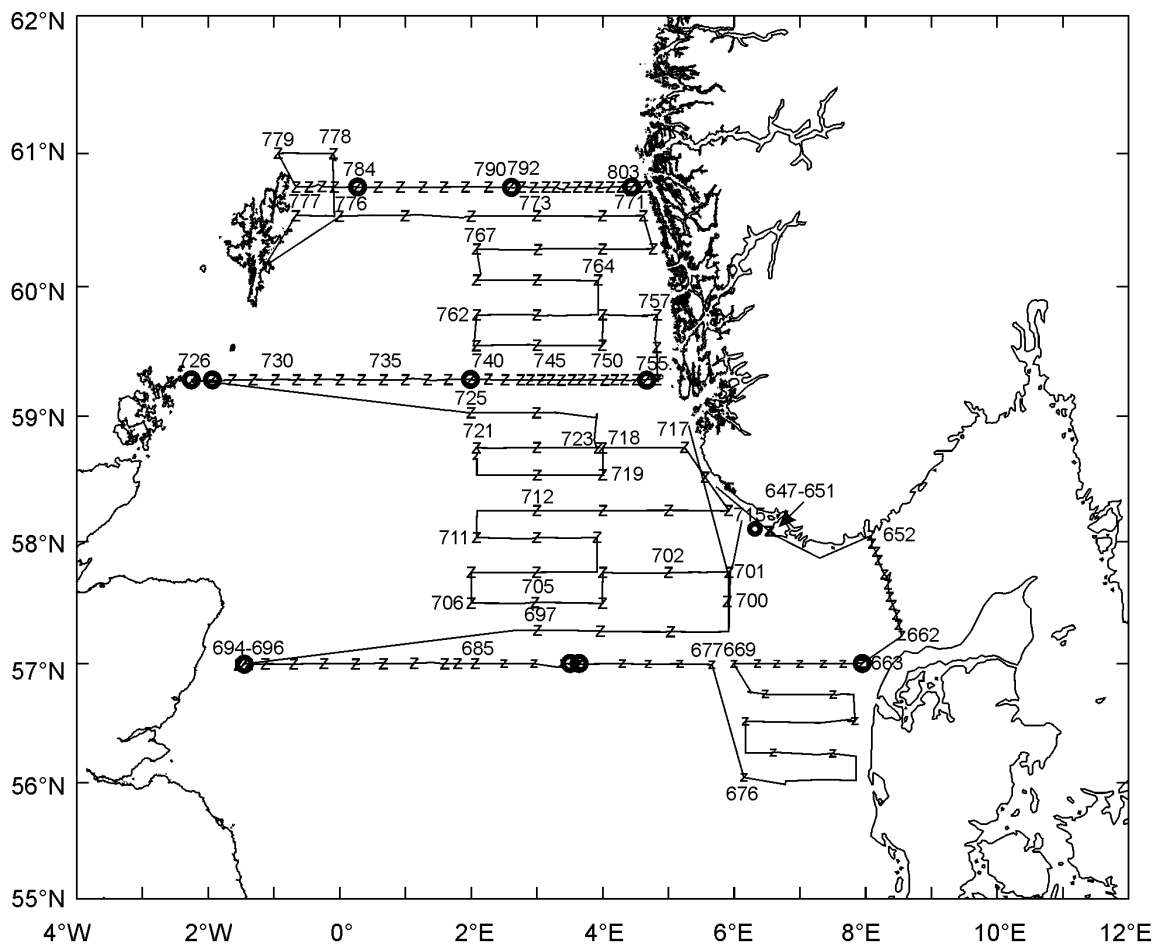
“Johan Hjort”

● Grab station

Standard section:

Gimsøy NW st.no 532-567

Bjørnøya W st.no 568-576, 619-627, 629-639



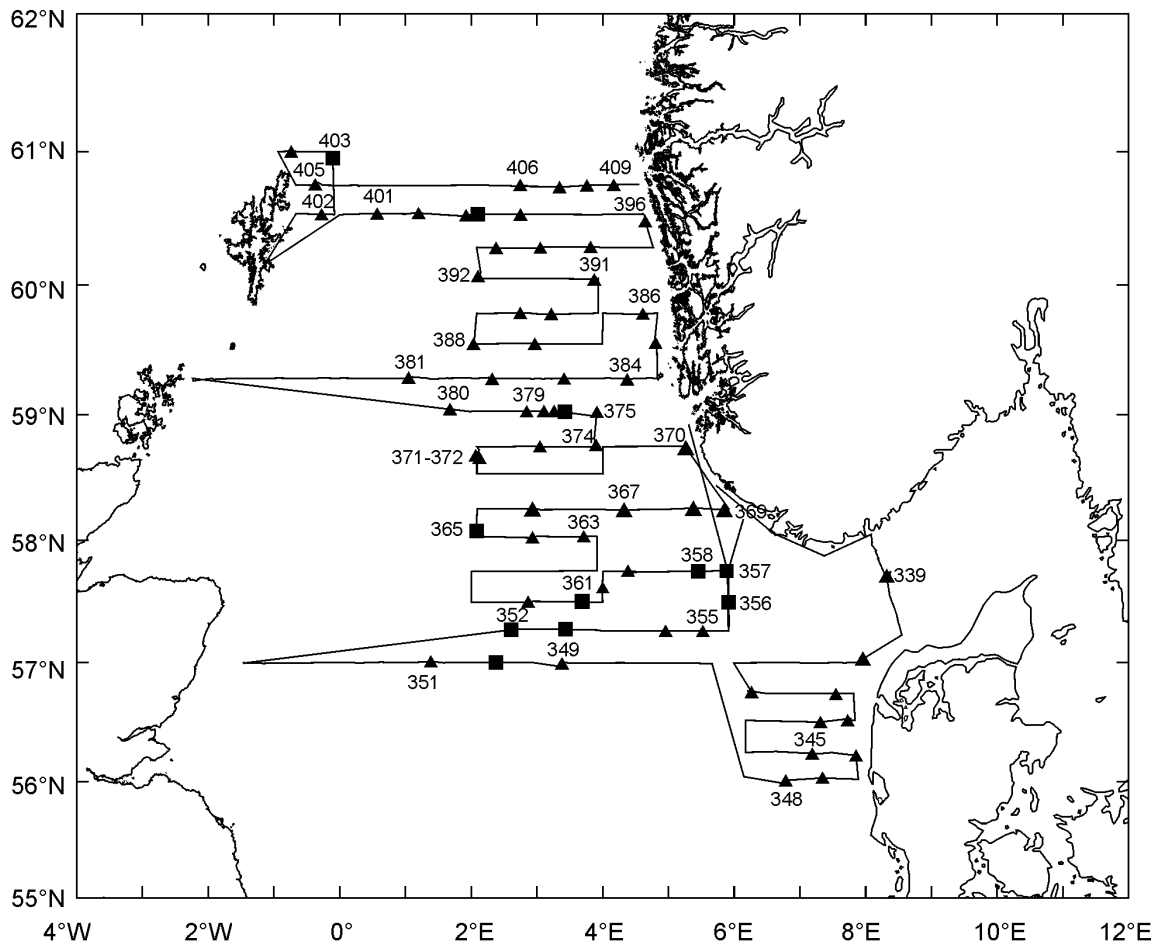
8-30 July 2004
Cruise no 2004209

z CTD stations st.no 647-803
o Grab station

“Johan Hjort”

Standard section:

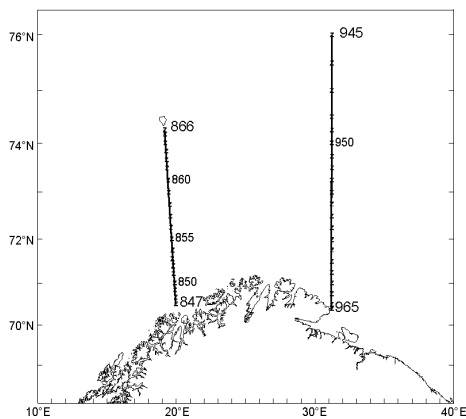
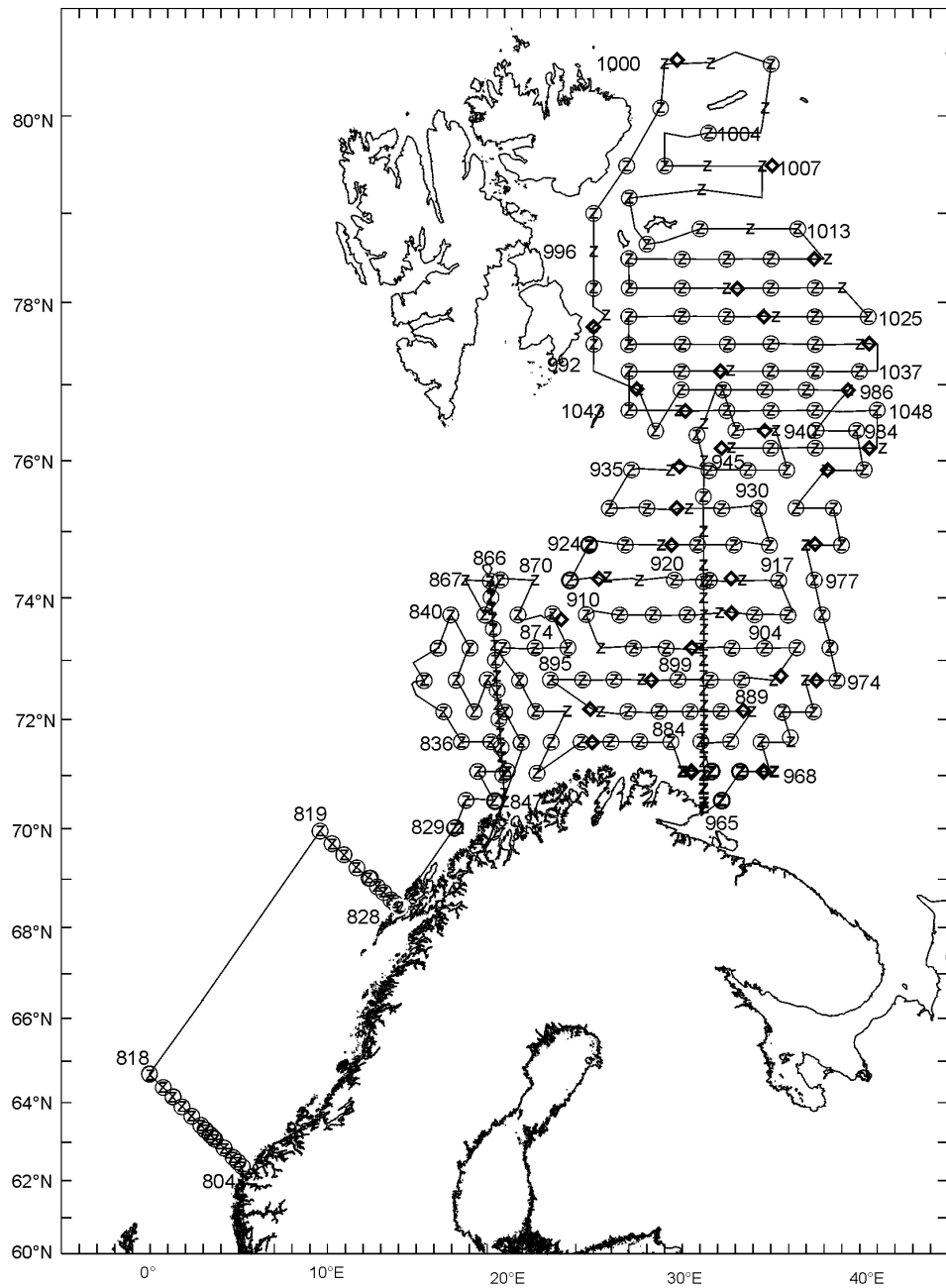
- Oksø-Hanstholmen st.no 652-662
- Hanstholmen-Aberdeen st.no 663-696
- Utsira W st.no 726-755
- Feie-Shetland st.no 780-803



8-30 July 2004
Cruise no 2004209

Trawl st.no 339-409
▲ Pelagic trawl
■ Bottom trawl

“Johan Hjort”



1 August – 4 October 2004
Cruise no 2004210

“Johan Hjort”

z CTD st.no 804-1052

● Plankton (WP-II-net)

◇ Mocness st.

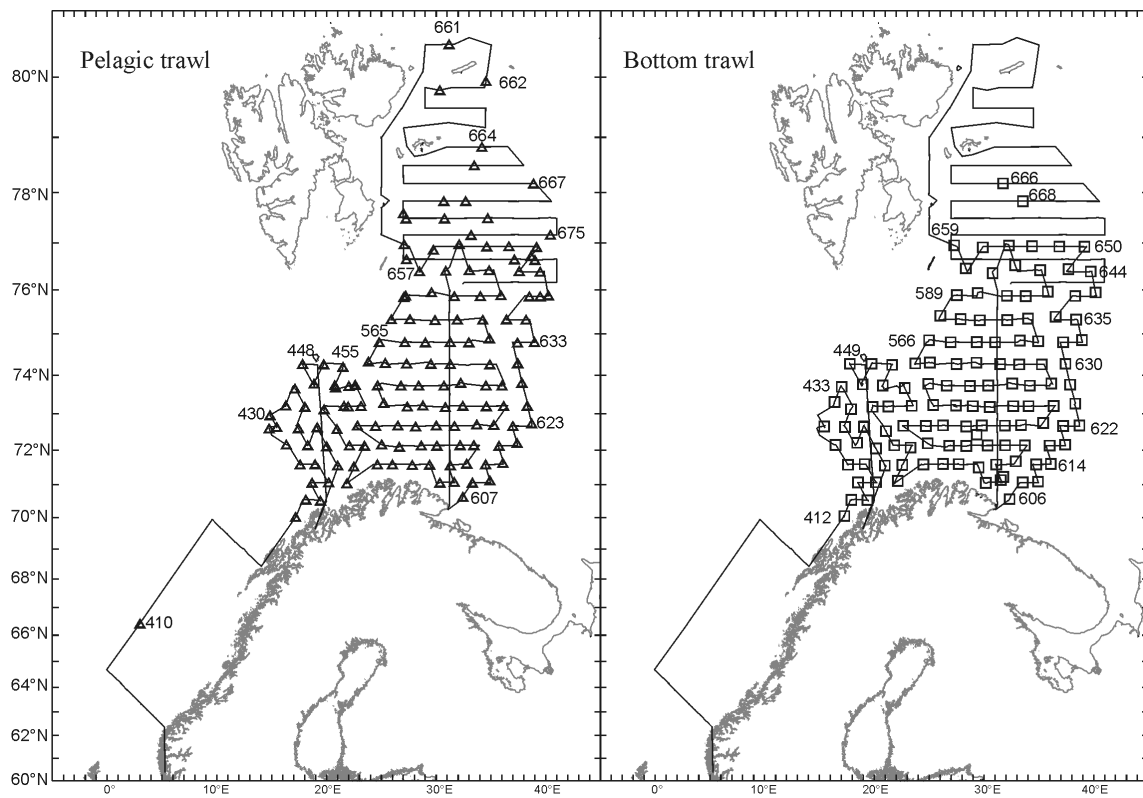
Standard sections:

Svinøy NW st.no 804-818

Gimsøy NW st.no 819-828

Fugløya-Bjørnøya st.no 847-866

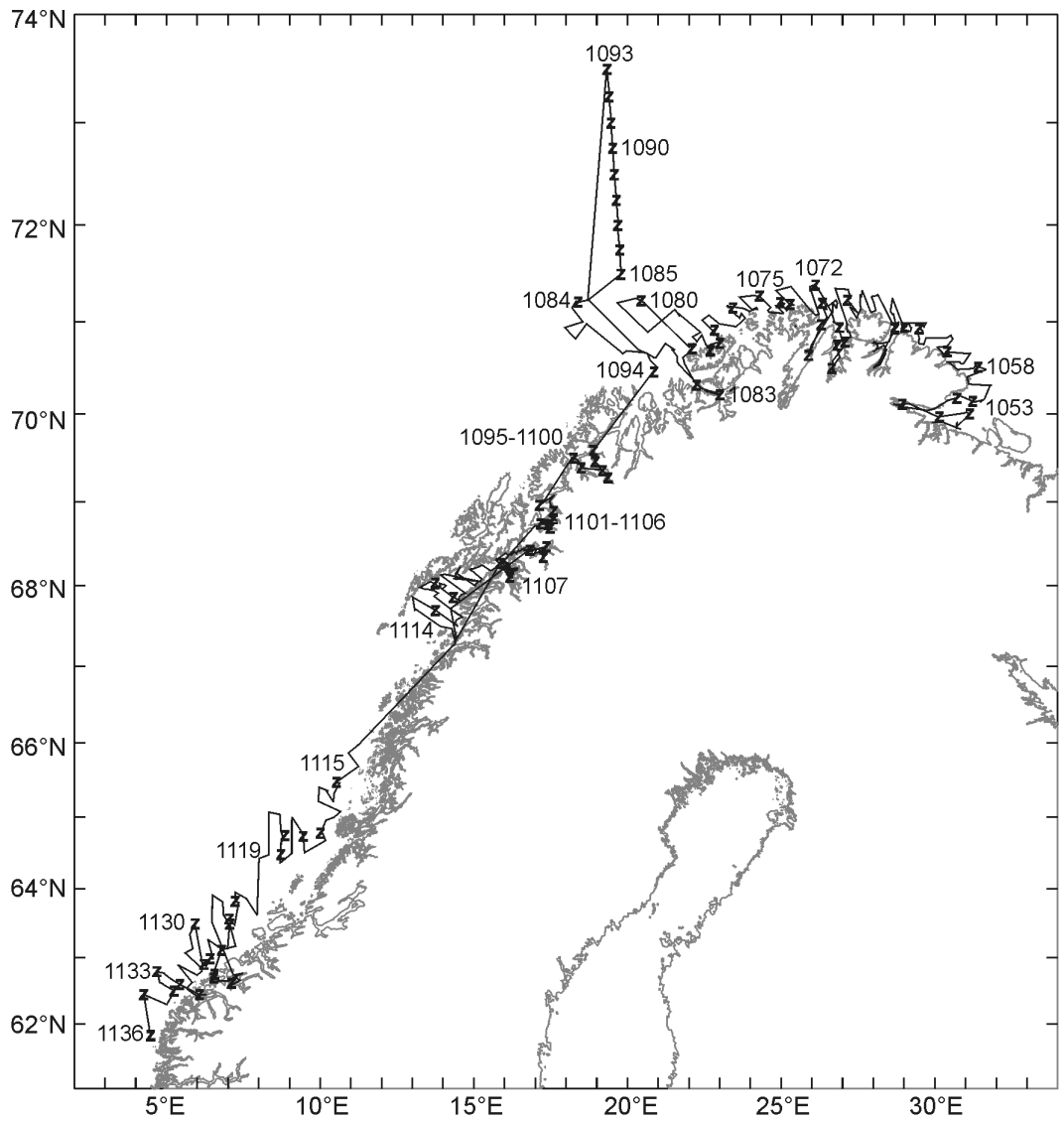
Vardø N st.no 945-965



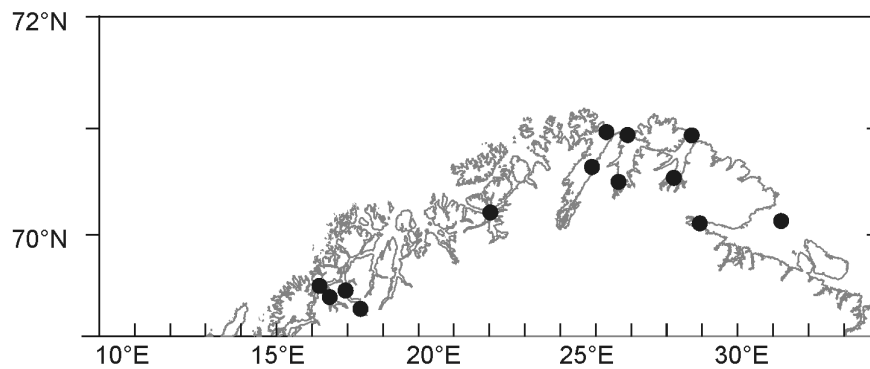
1 August – 4 October 2004
Cruise no 2004210

Trawl st.no 410-679

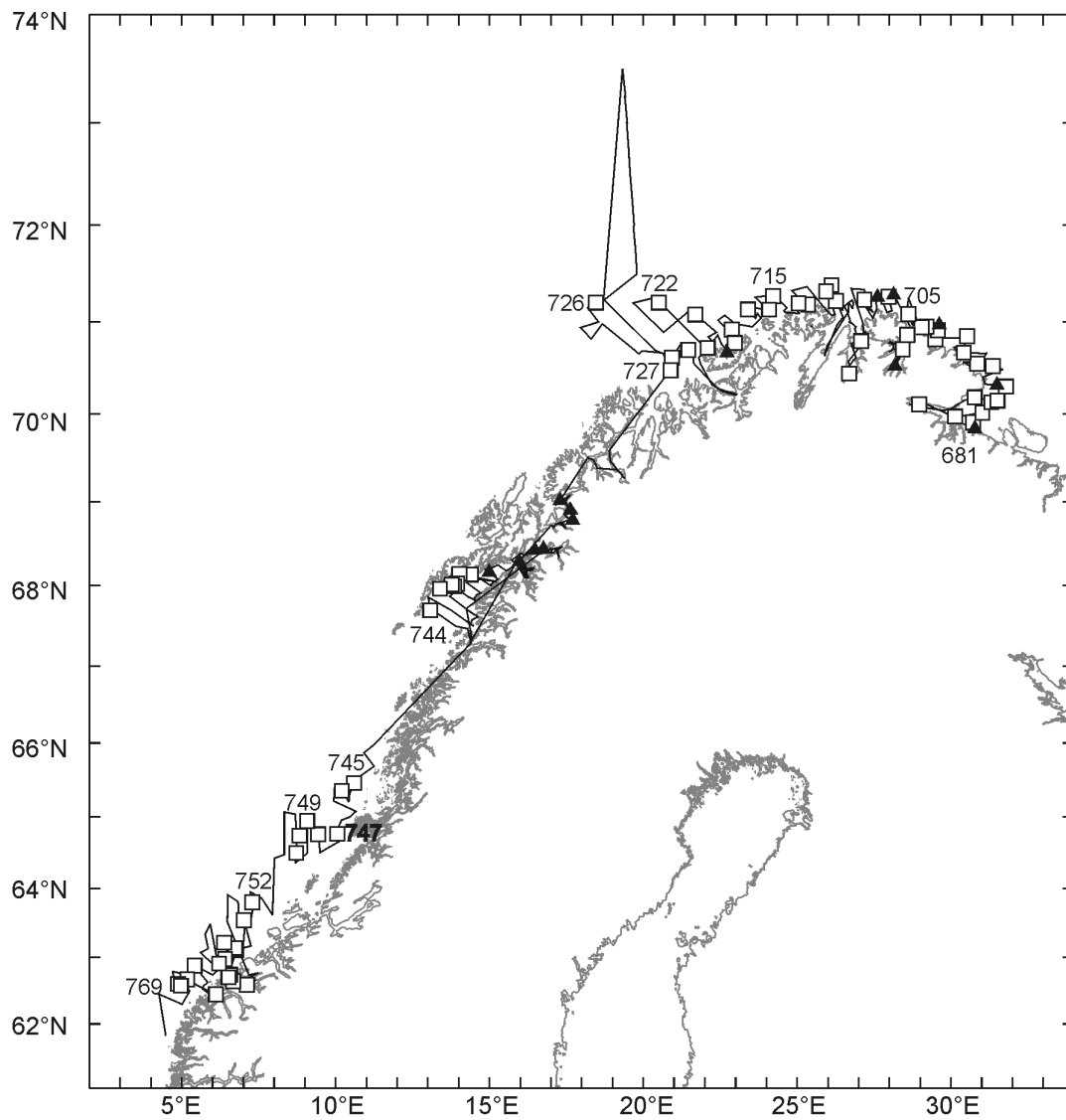
“Johan Hjort”



11 October – 11 November 2004 z CTD st.no 1053-1136 "Johan Hjort"
Cruise no 2004212



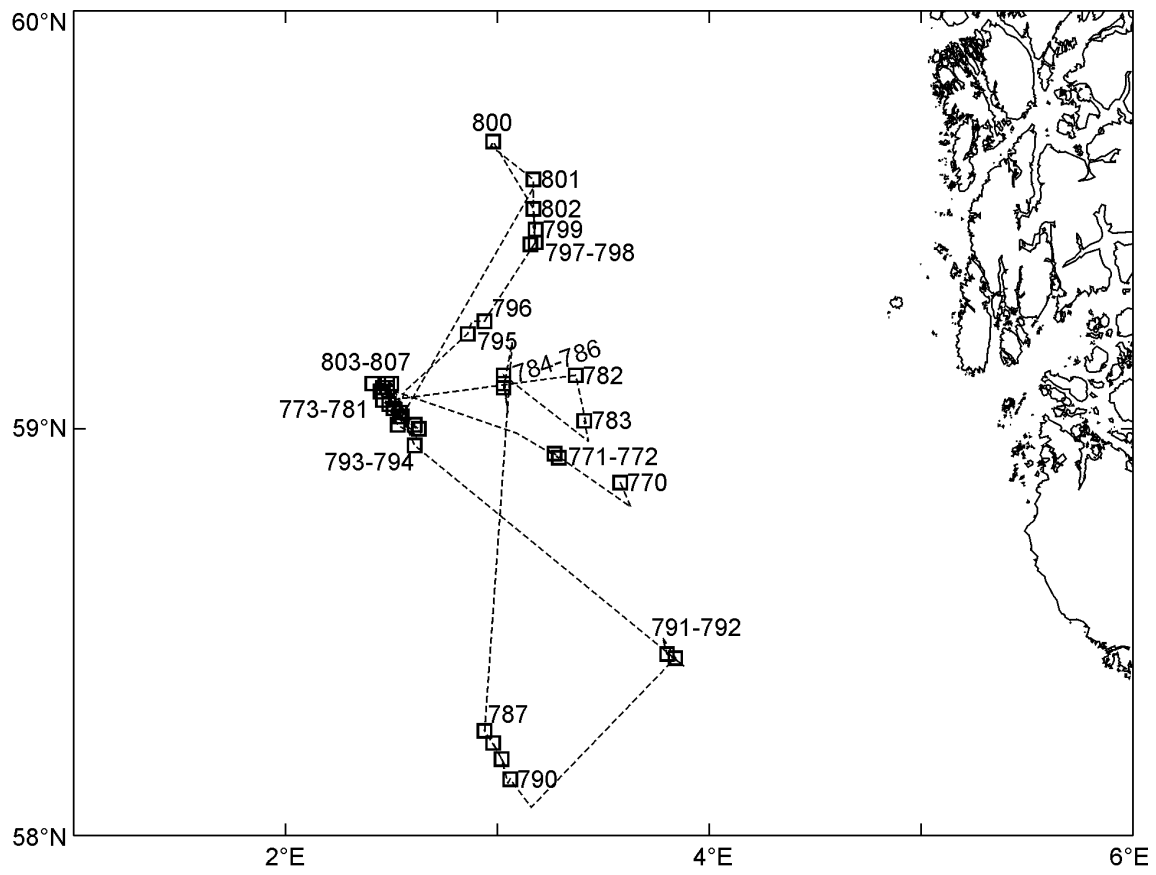
11 October – 11 November 2004 ● Grab stations "Johan Hjort"
Cruise no 2004212



11 October – 11 November 2004
 Cruise no 2004212

Trawl st.no 681-769
 □ Bottom trawl
 ▲ Pelagic trawl

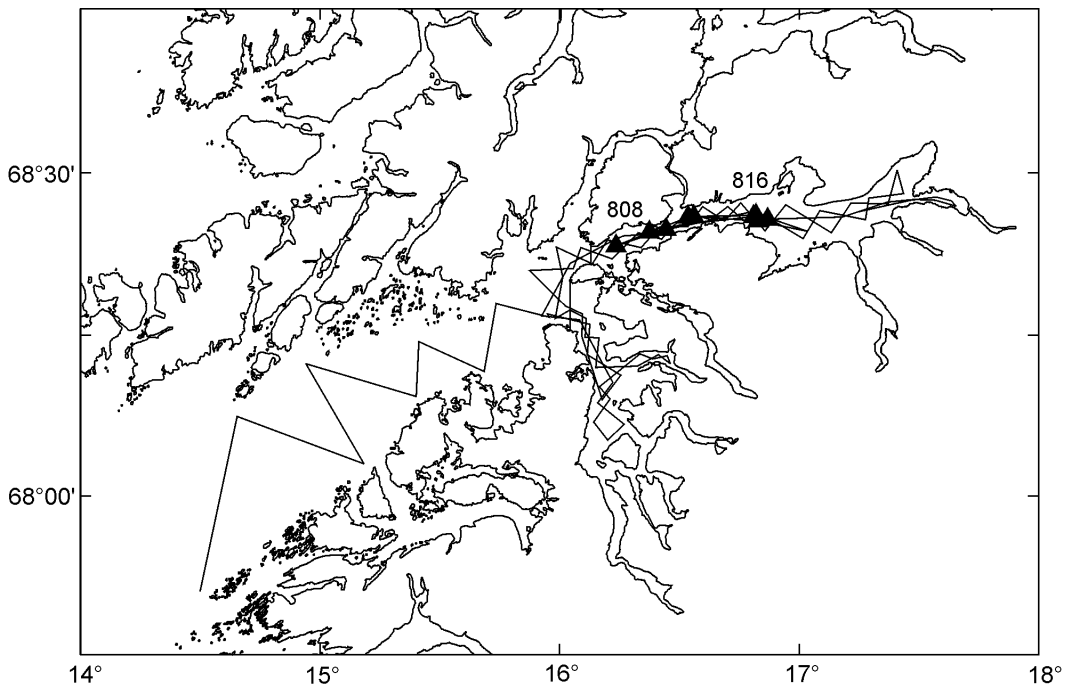
“Johan Hjort”



14-27 November 2004
 Cruise no 2004213

□ Bottom trawl st.no 770-807

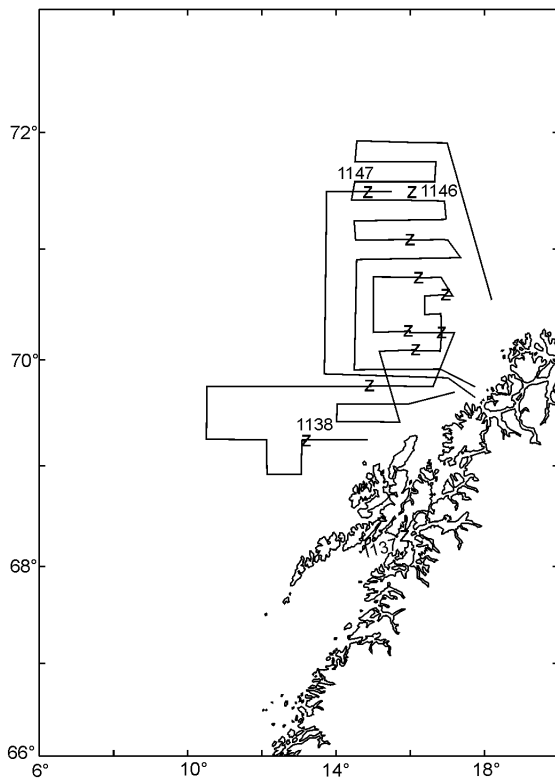
“Johan Hjort”



1-20 December 2004
Cruise no 2004214 Part I (1-5.12.2004)

Pelagic trawl no 808-816

“Johan Hjort”

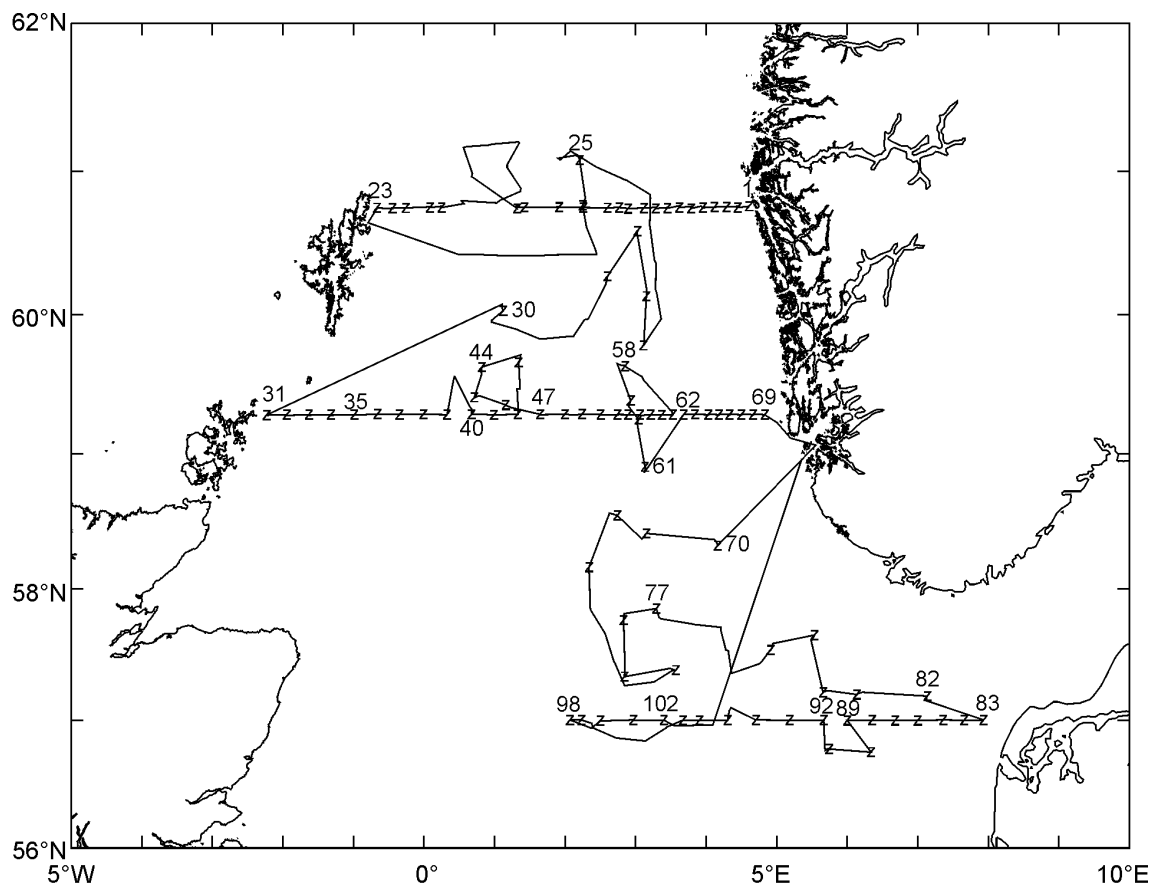


1-20 December 2004
Cruise no 2004214 Part I (1-5.12.2004)

z CTD st.no 1137-1147
▲ Pelagic trawl no 817-827

“Johan Hjort”

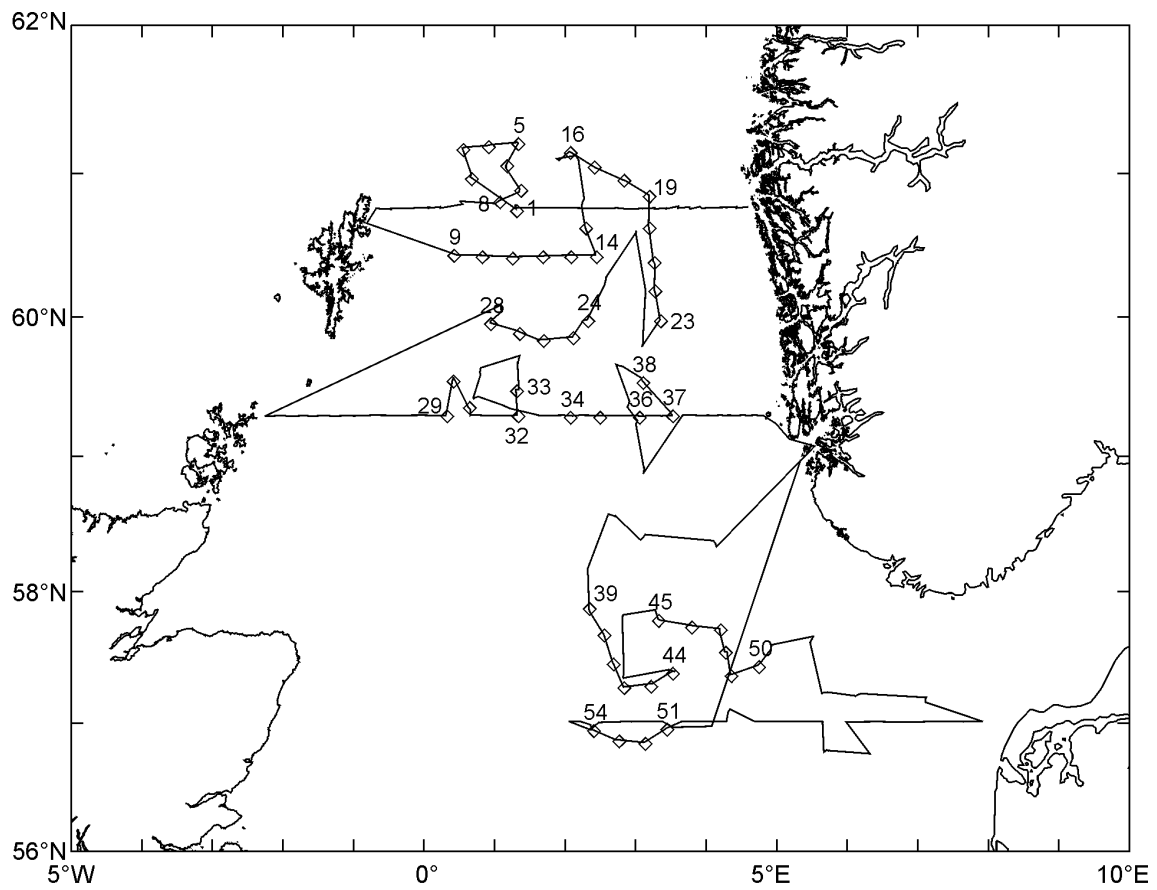
4.3 Håkon Mosby



30 Jan – 19 Feb 2004
Cruise no 2004603

z CTD st.no 1-102
Standard sections:
Feie-Shetland st.no 1-23
Utsira W st.no 31-42, 47-56, 62-69
Hanstholmen-Aberdeen st.no 83-102

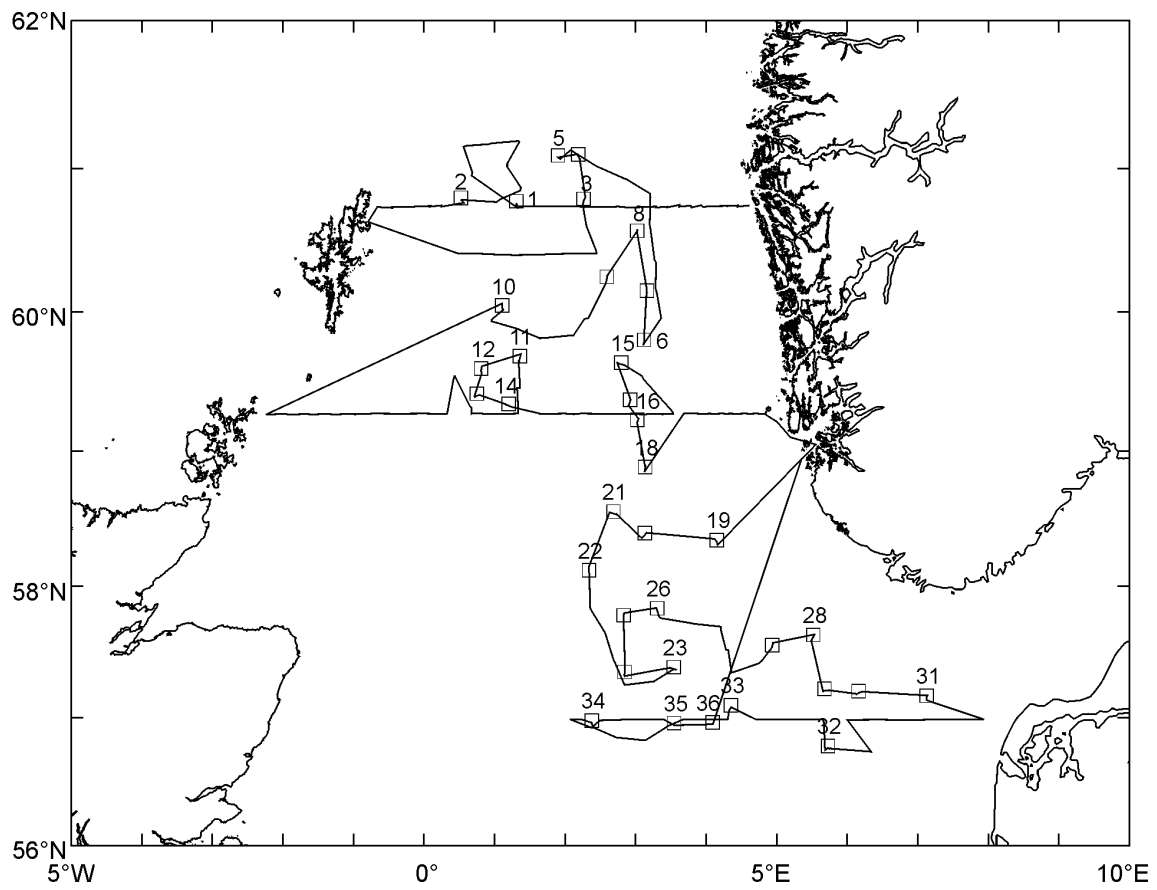
“Håkon Mosby”



30 Jan – 19 Feb 2004
 Cruise no 2004603

◇ MİK stations

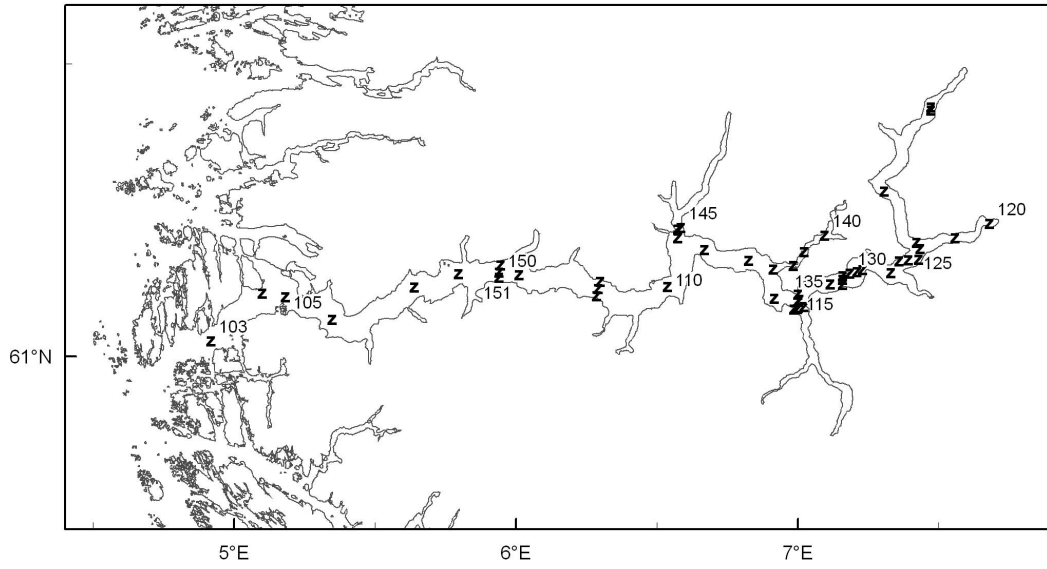
“Håkon Mosby”



30 Jan – 19 Feb 2004
Cruise no 2004603

□ Bottom trawl st.no 1-36

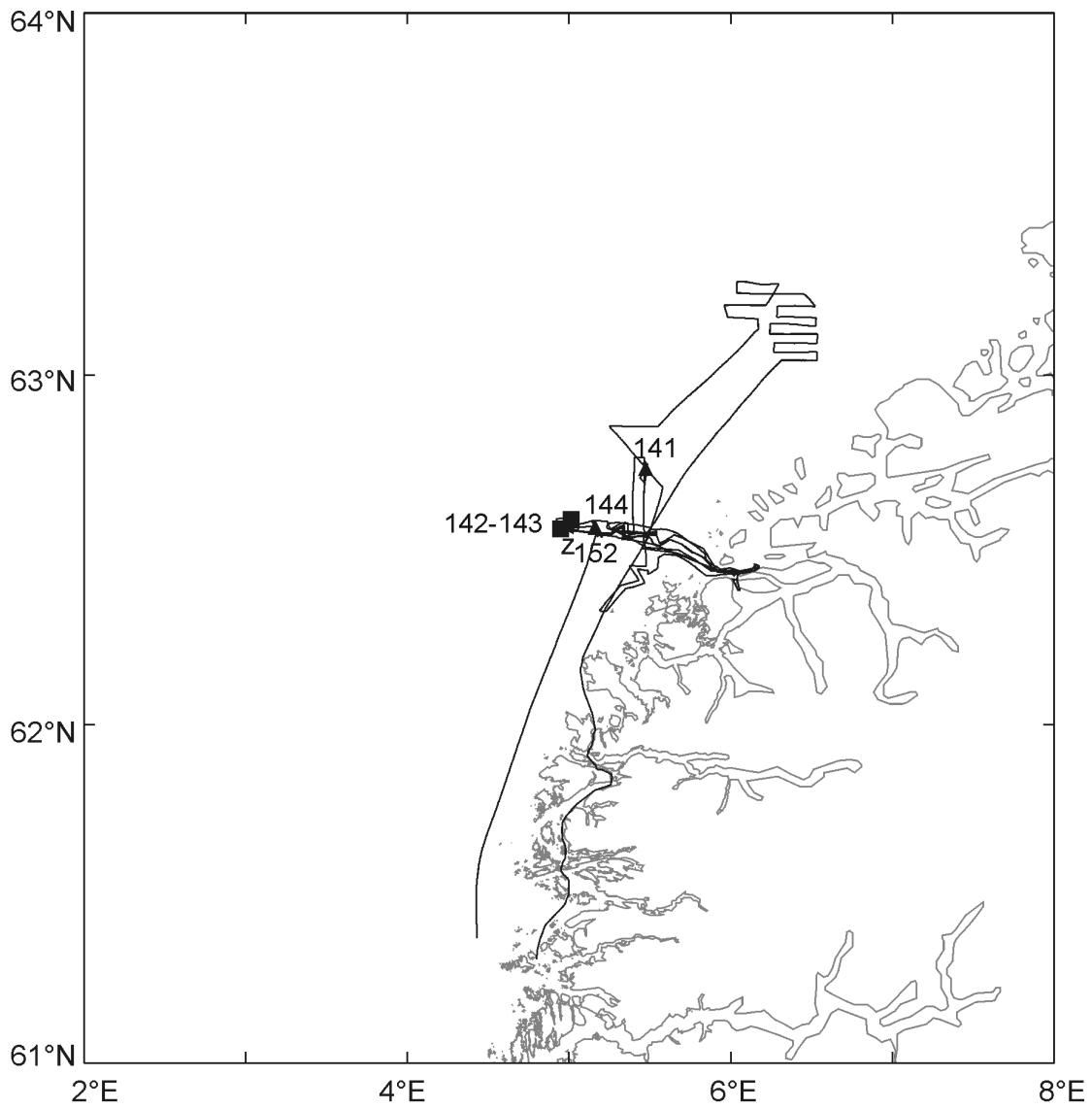
“Håkon Mosby”



20-27 February 2004
Cruise no 2004604

z CTD st.no. 103-151

“Håkon Mosby”

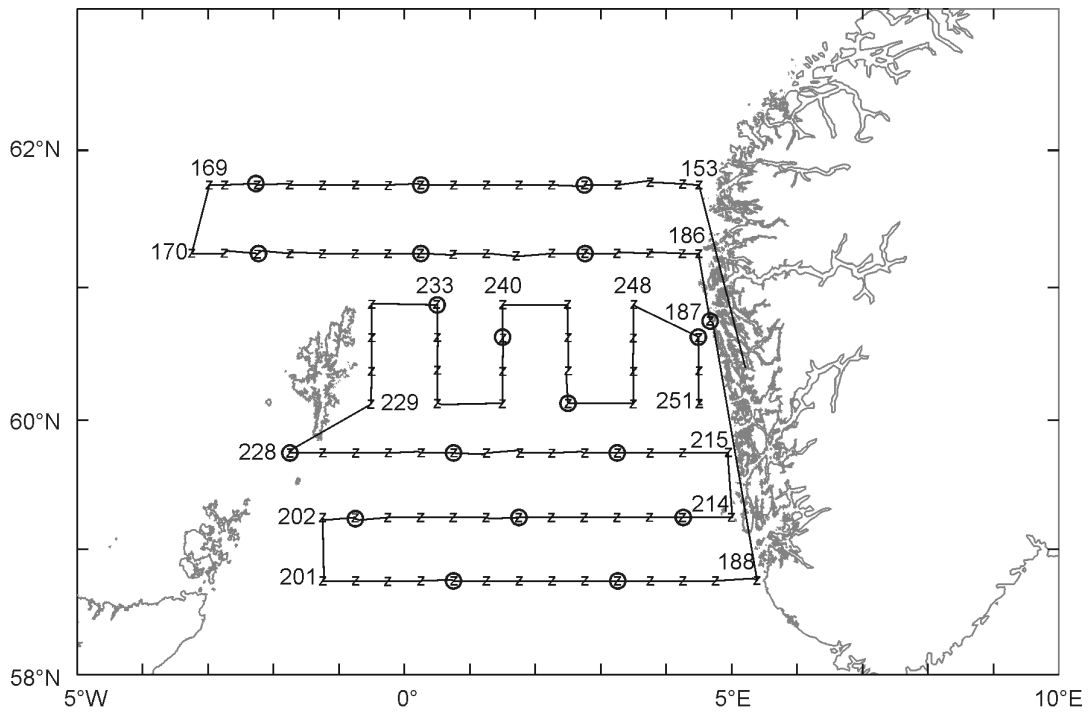


28 Feb – 7 Mar 2004
Cruise no 2004605

z CTD st.no 152
Trawl st.no 141-144

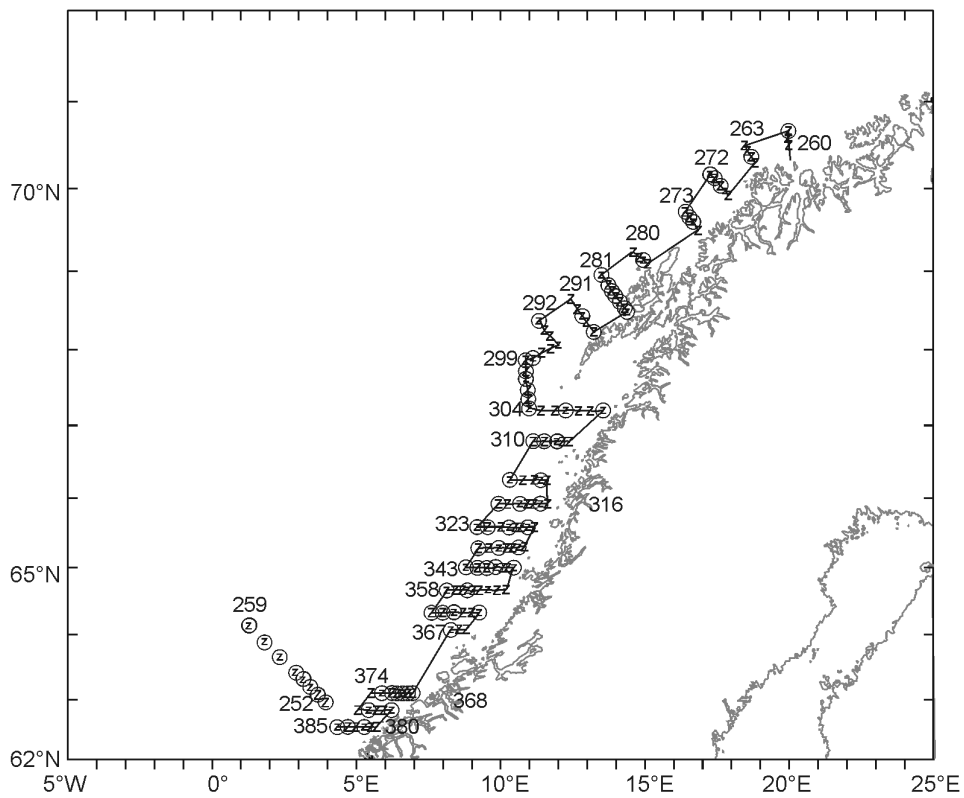
“Håkon Mosby”

■ Bottom trawl
▲ Pelagic trawl



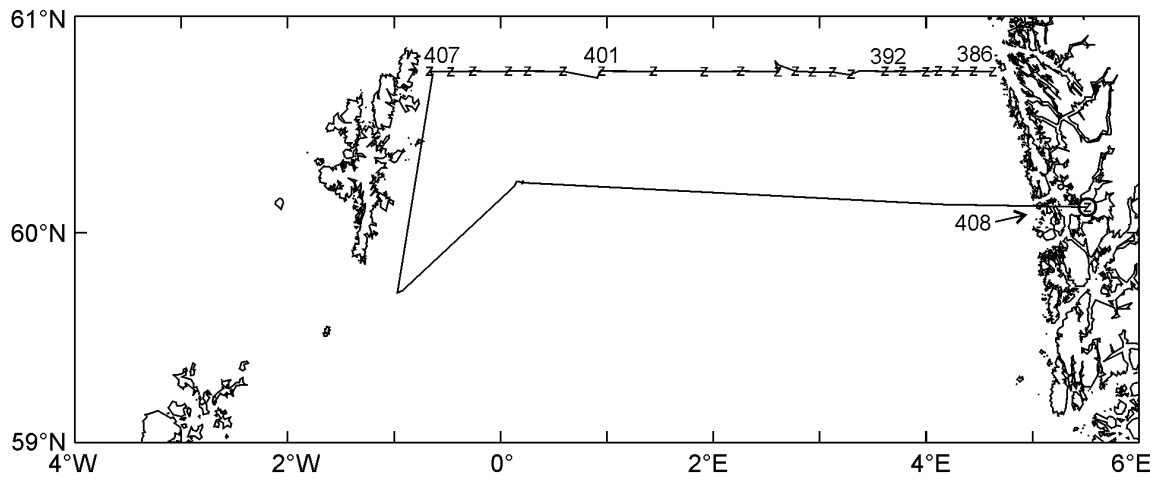
8 March – 24 March 2004 z CTD st.no 153-251
 Cruise no 2004606 Part I o Plankton st. (WP-II-net)

“Håkon Mosby”



25 March – 12 April 2004 z CTD st.no 252-385
 Cruise no 2004606 Part II

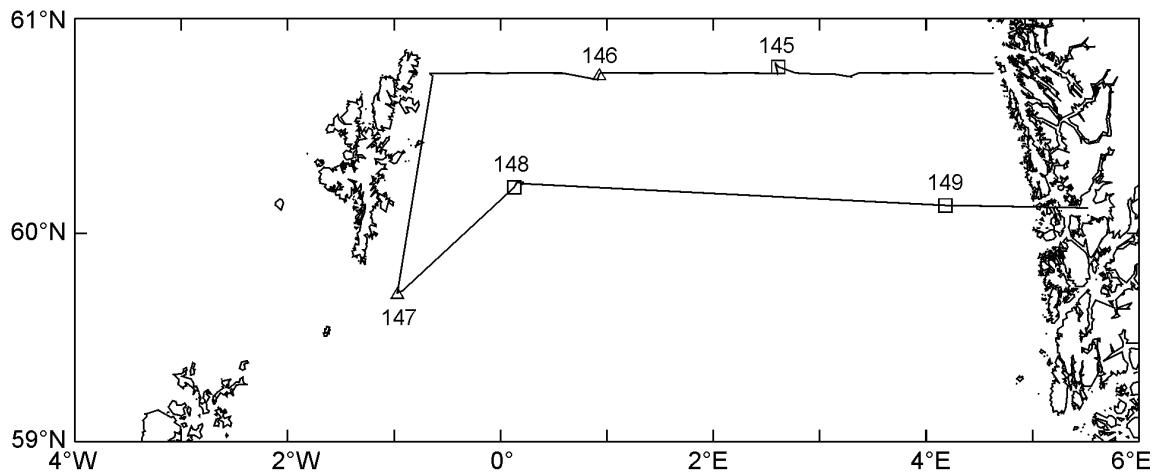
“Håkon Mosby”



13-19 April 2004
Cruise no 2004607

z CTD st.no 386-408
○ WP-II-net
Standard section:
Feie-Shetland st.no 386-407

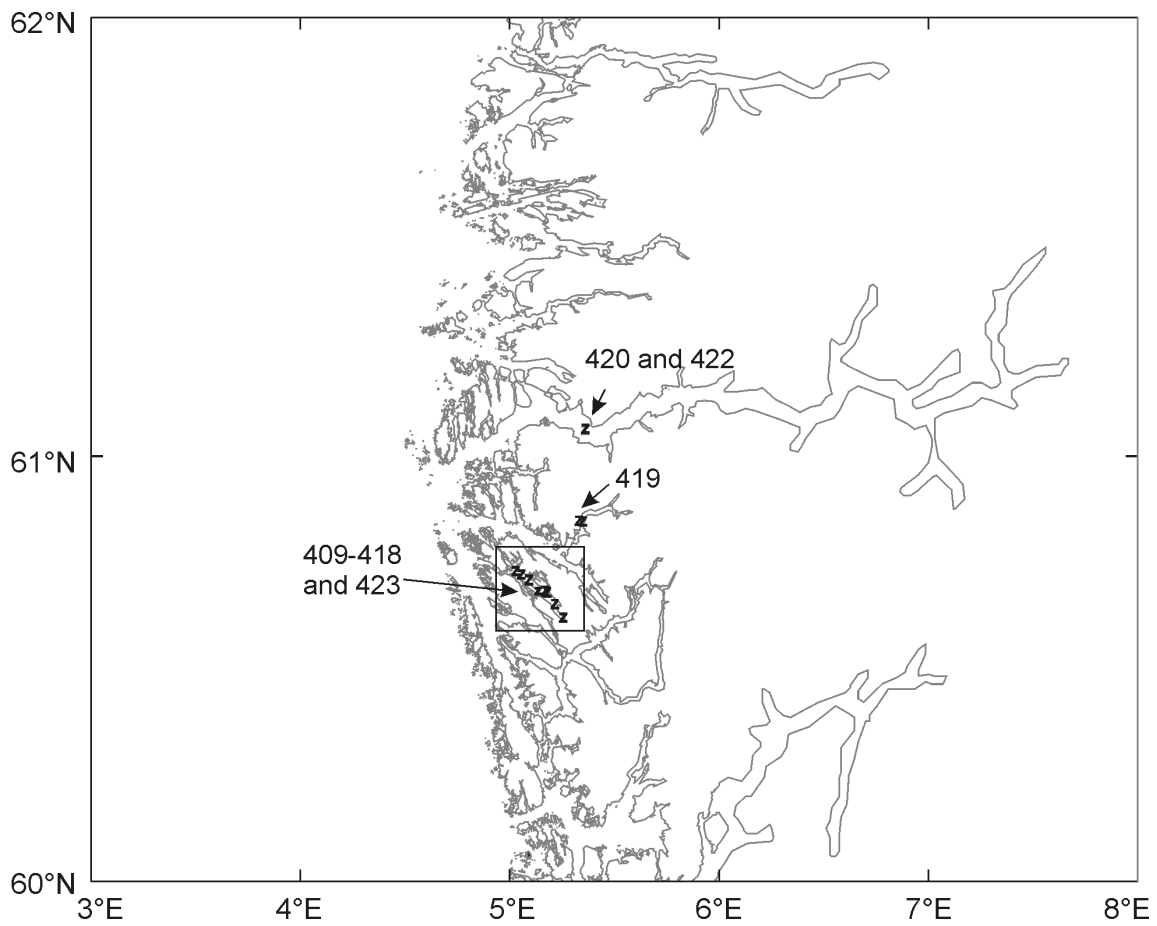
“Håkon Mosby”



13-19 April 2004
Cruise no 2004607

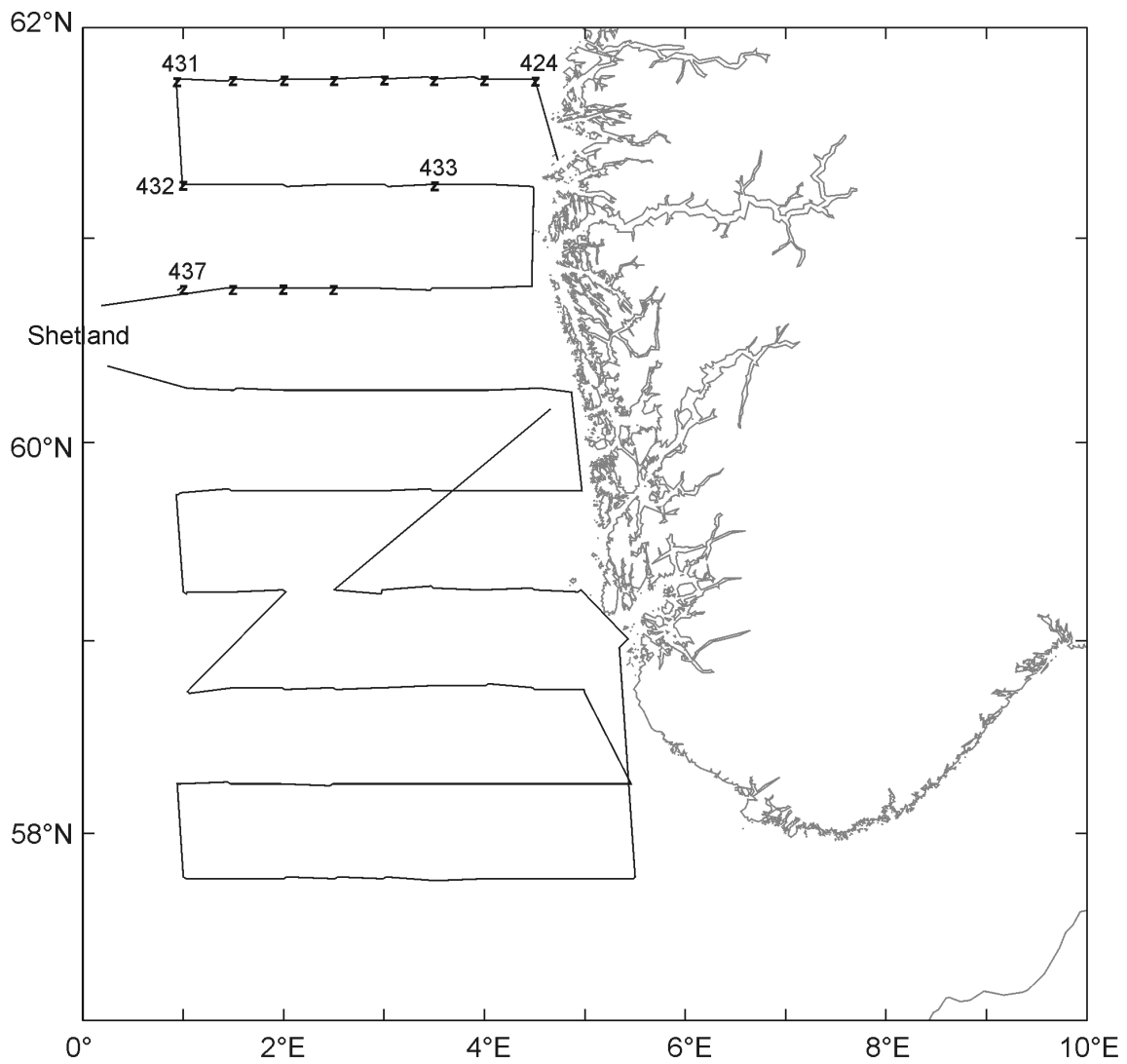
Trawl st.no 145-149
□ Bottom trawl
△ Pelagic trawl

“Håkon Mosby”



20-26 April 2004
Cruise no 2004608

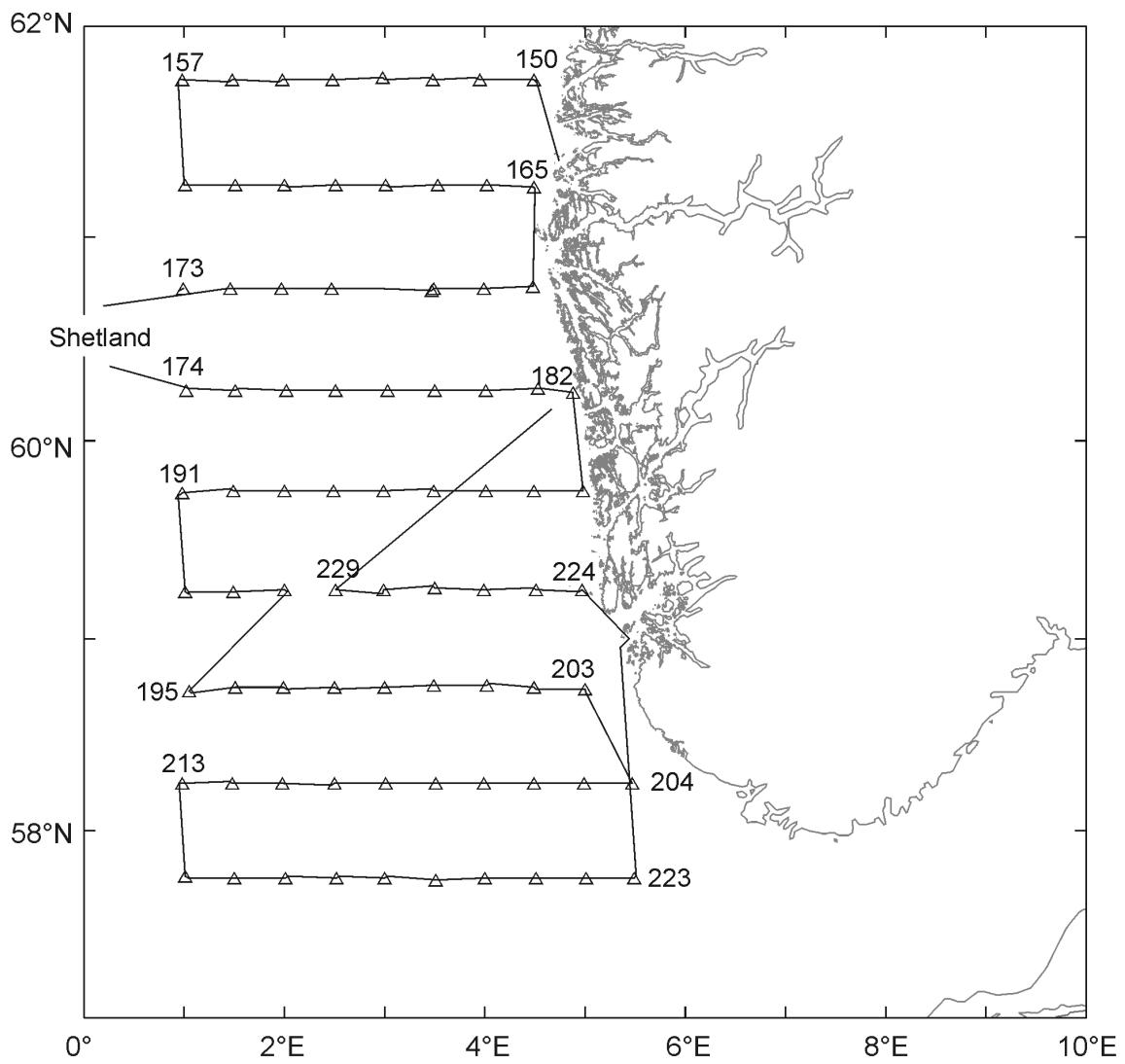
z CTD st.no 409-423 (st.421 is missing) "Håkon Mosby"



28 April – 10 May
Cruise no 2004609

z CTD st.no 424-437

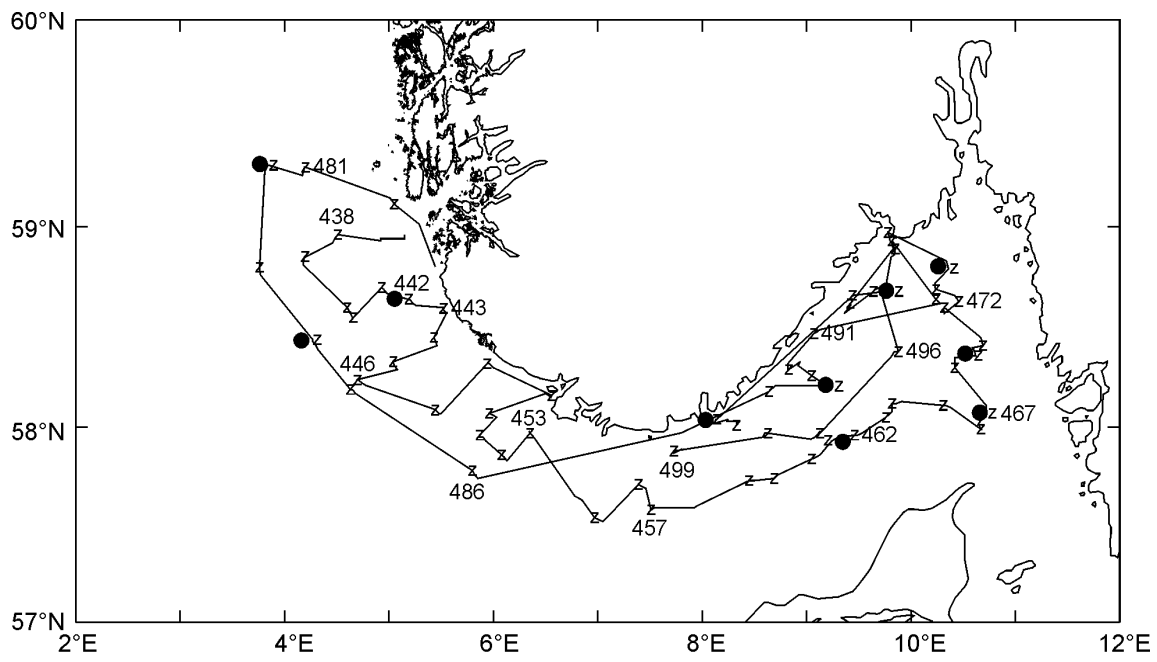
“Håkon Mosby”



28 April – 10 May
Cruise no 2004609

Δ Pelagic trawl st.no 150-229

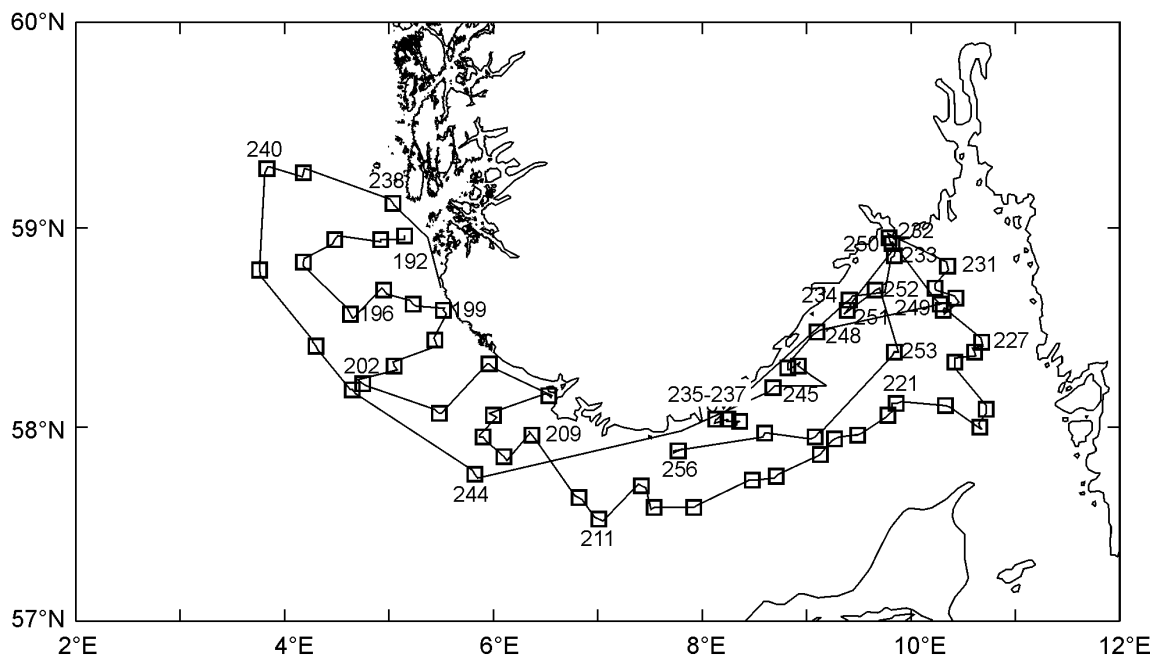
“Håkon Mosby”



11-25 May 2004
Cruise no 2004610

z CTD st.no 438-499
● Grab stations

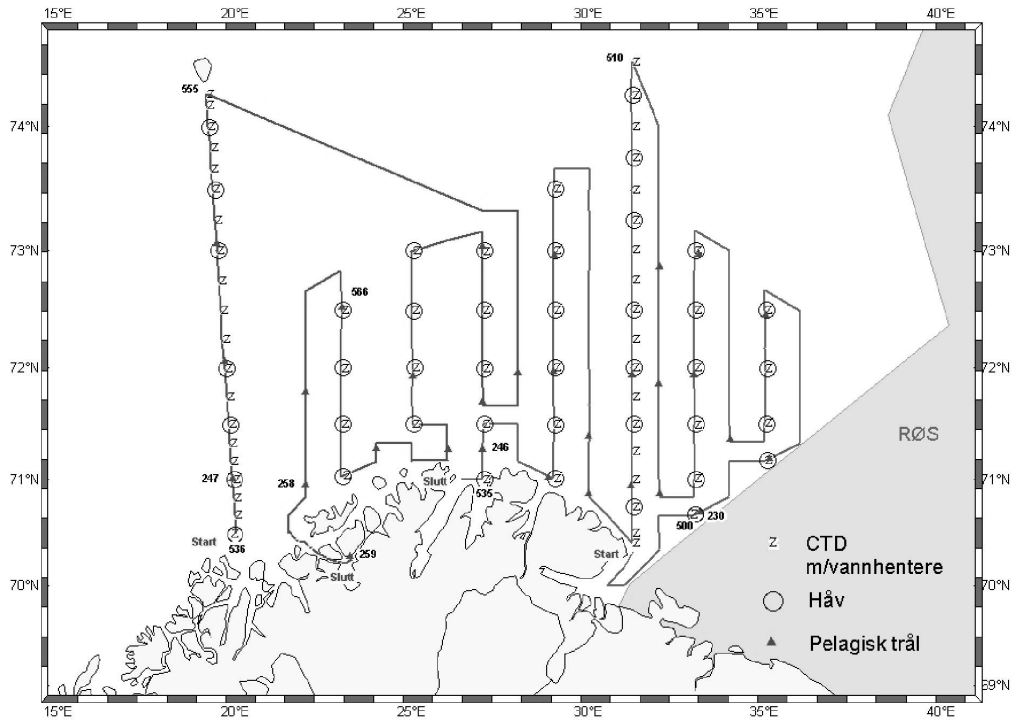
“Håkon Mosby”



11-25 May 2004
Cruise no 2004610

□ Bottom trawl st.no 192-256

“Håkon Mosby”

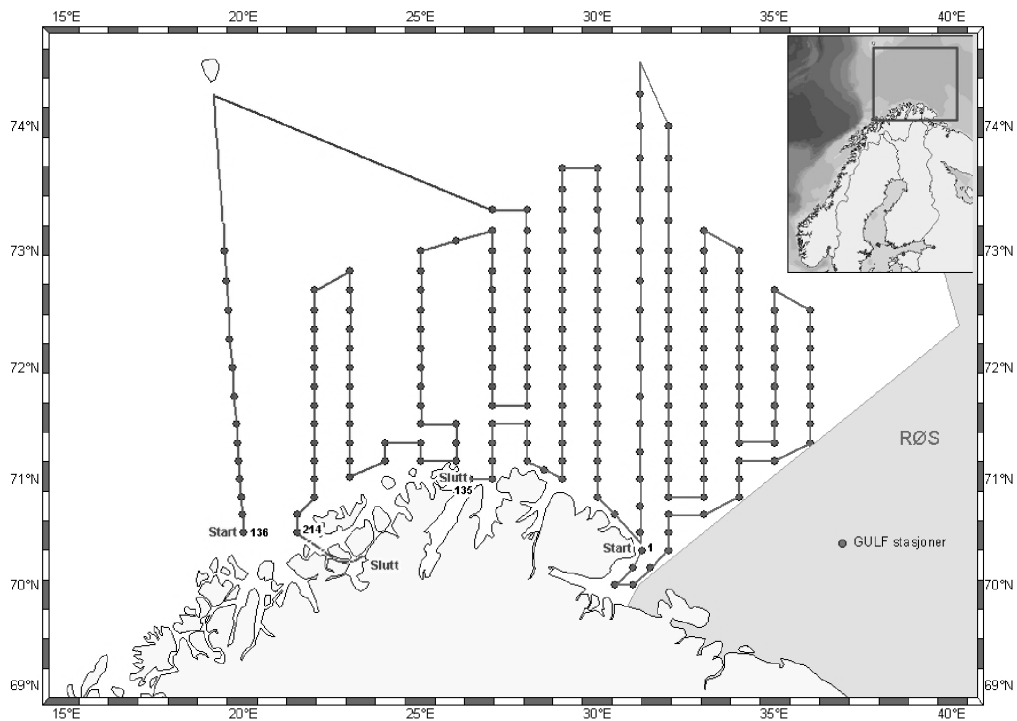


10-30 June 2004 z CTD st.no 500-566
 Cruise no 2004612 ▲ Trawl st.no 230-259

“Håkon Mosby”

○ WP-II-net

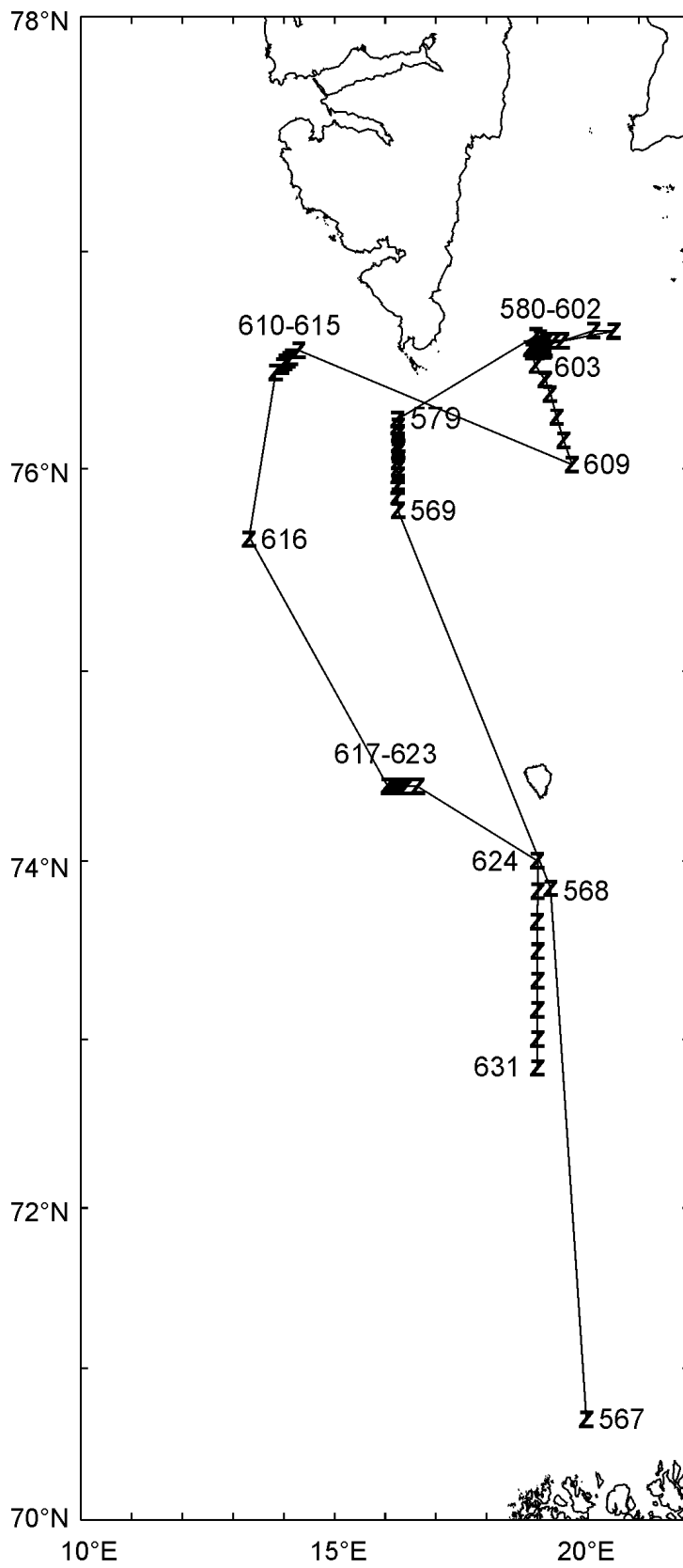
Standard section: Fugløya-Bjørnøya st.no 536-555
 Vardø N st.no 510-527



10-30 June 2004
 Cruise no 2004612

● Gulf III plankton samplers

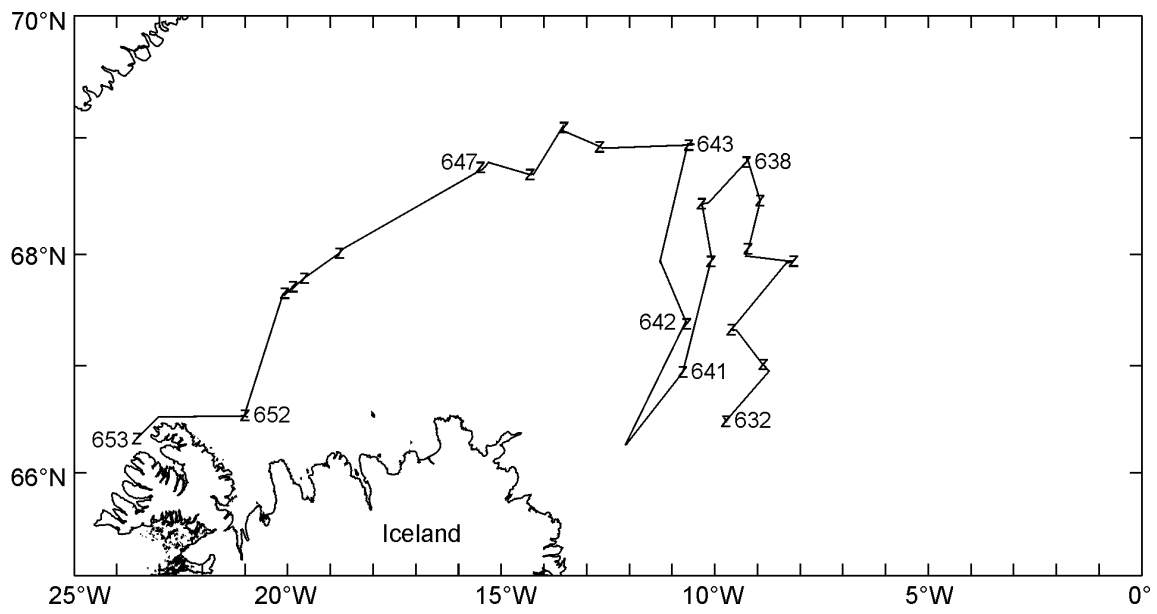
“Håkon Mosby”



1-9 July 2004
Cruise no 2004613

z CTD st.no 567-631

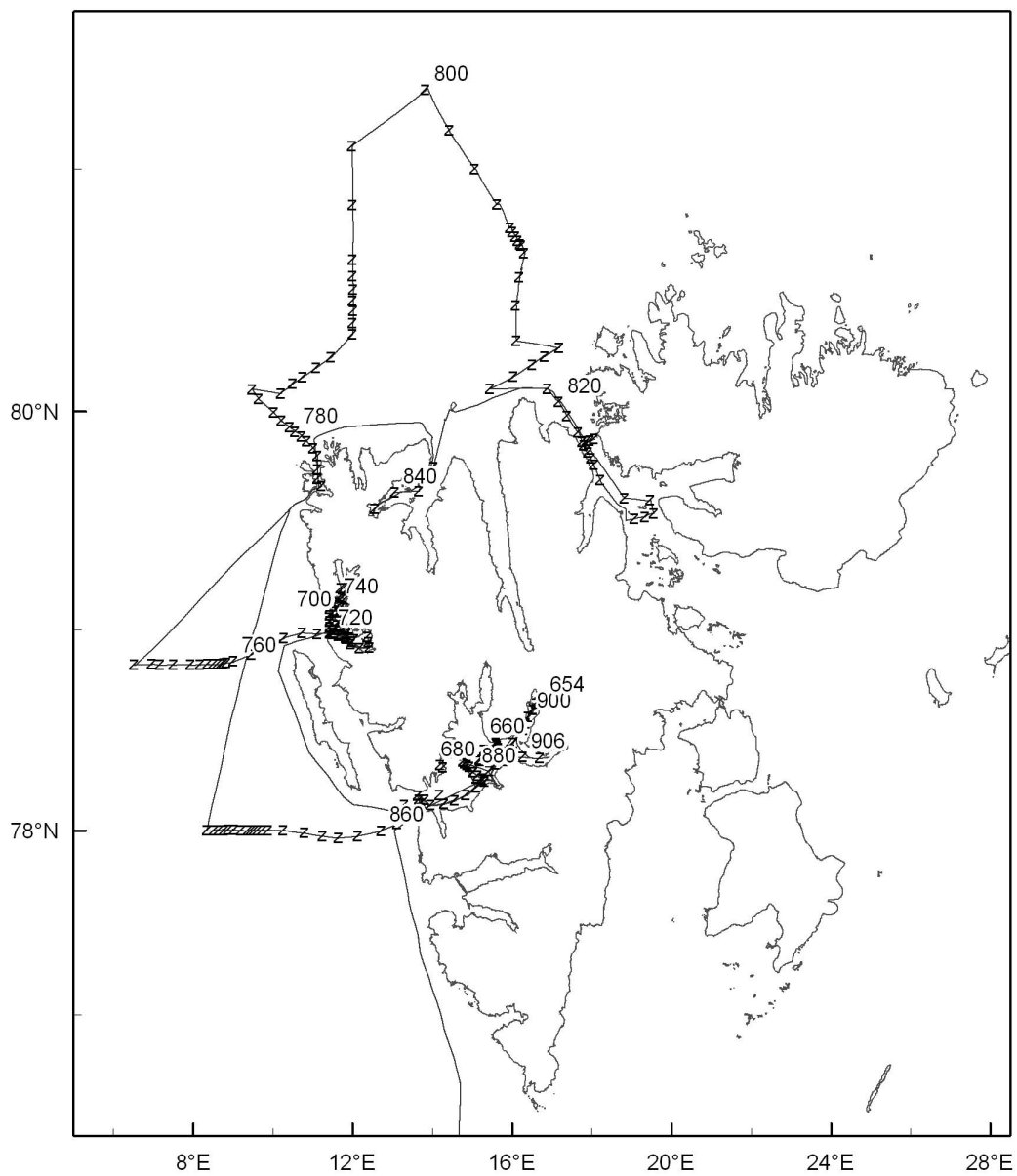
"Håkon Mosby"



13-26 July 2004
Cruise no 2004614

z CTD st.no 632-653

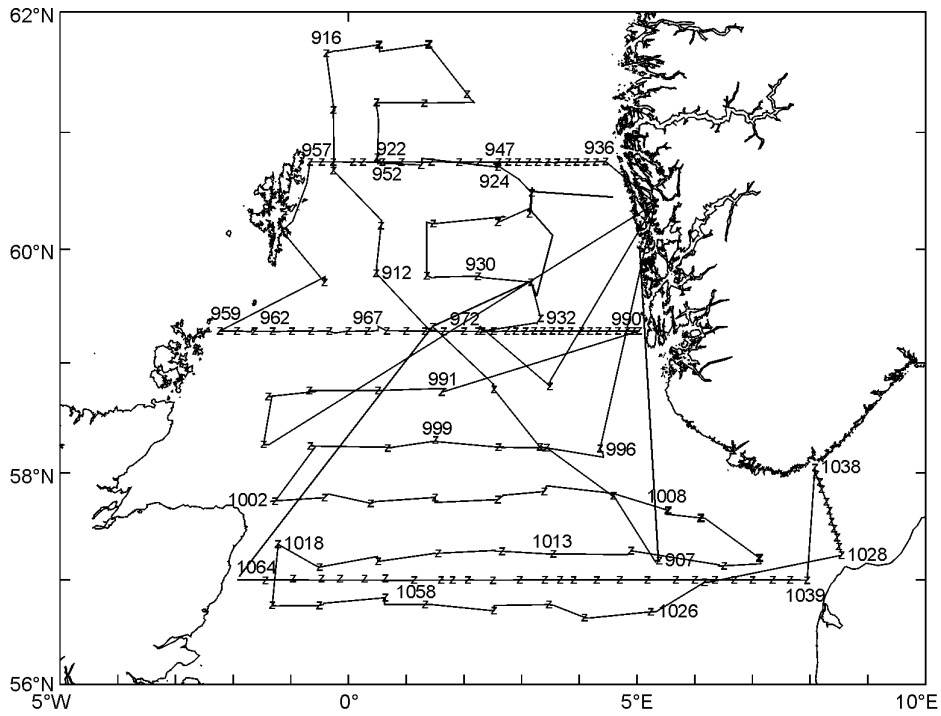
“Håkon Mosby”



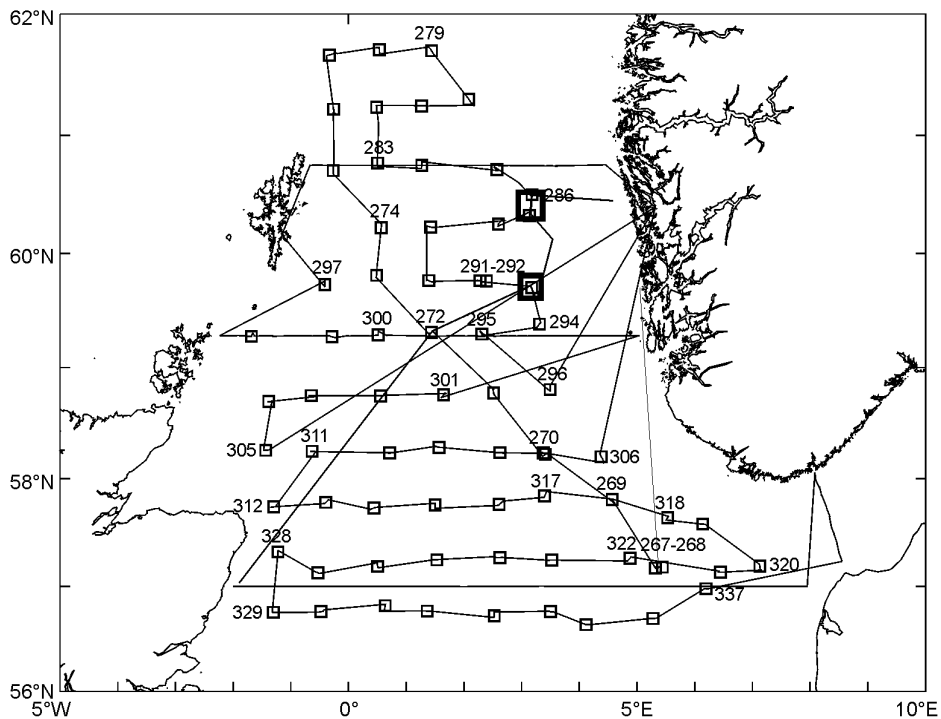
18-30 August 2004
Cruise no 2004616

z CTD st.no 654-906

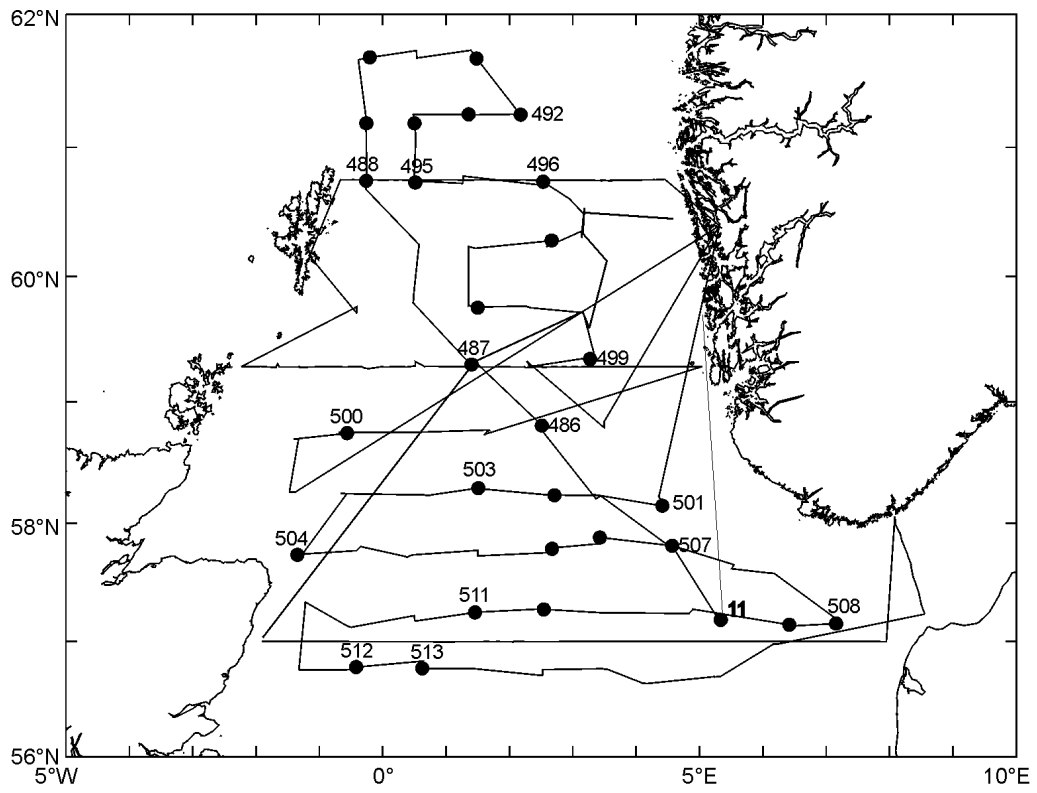
“Håkon Mosby”



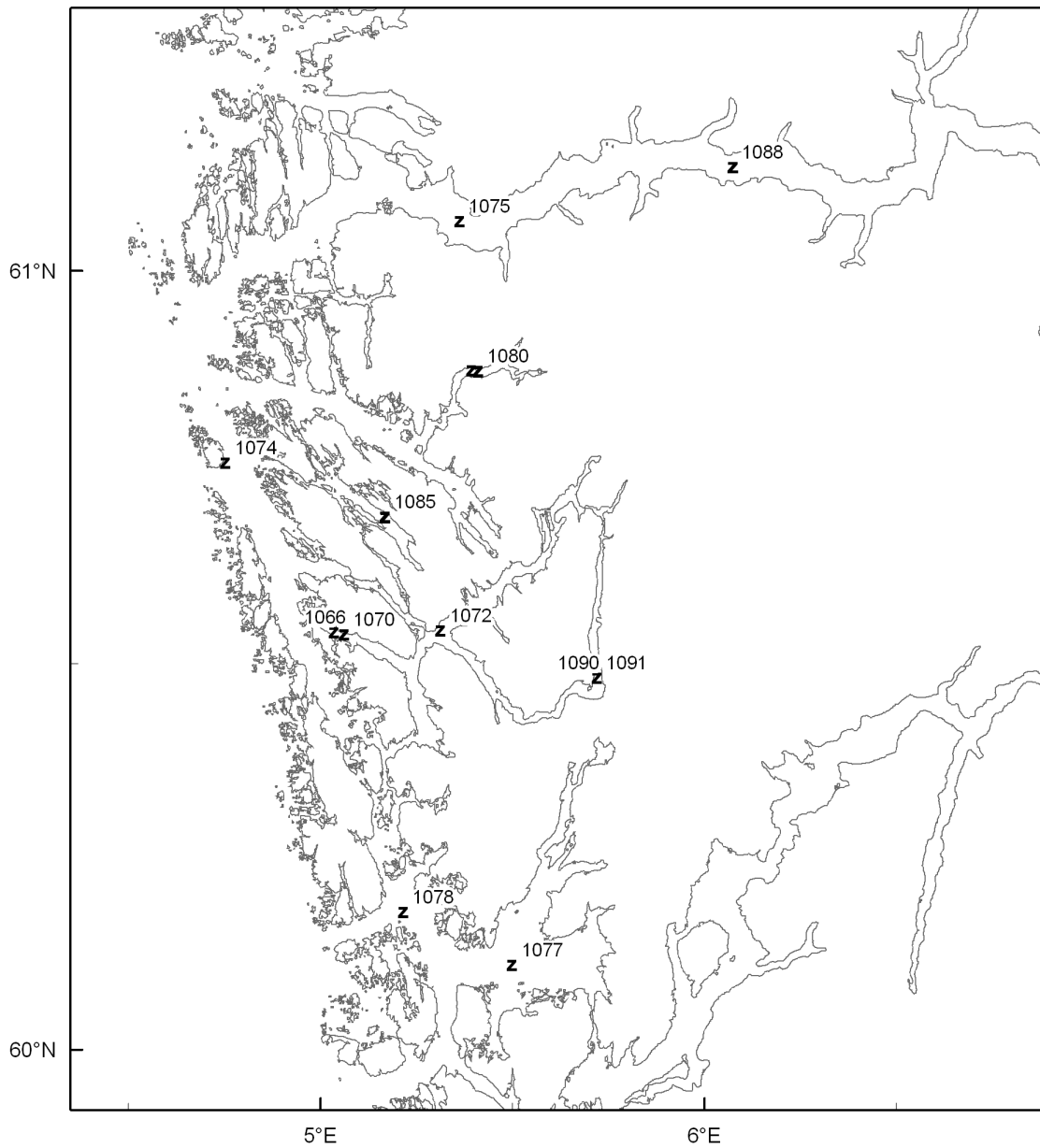
4 September – 12 October 2004 z CTD st.no 907-1064 “Håkon Mosby”
 Cruise no 2004617
 Standard sections:
 Feie-Shetland st.no 936-957
 Utsira W st.no 959-990
 Oksø-Hanstholm st.no 1028-1038
 Hanstholm-Aberdeen st.no 1039-1064



4 September – 12 October 2004 □ Bottom trawl st.no 267-367 “Håkon Mosby”
 Cruise no 2004617 □ Area for 29 trawlstations, st.no 338-367



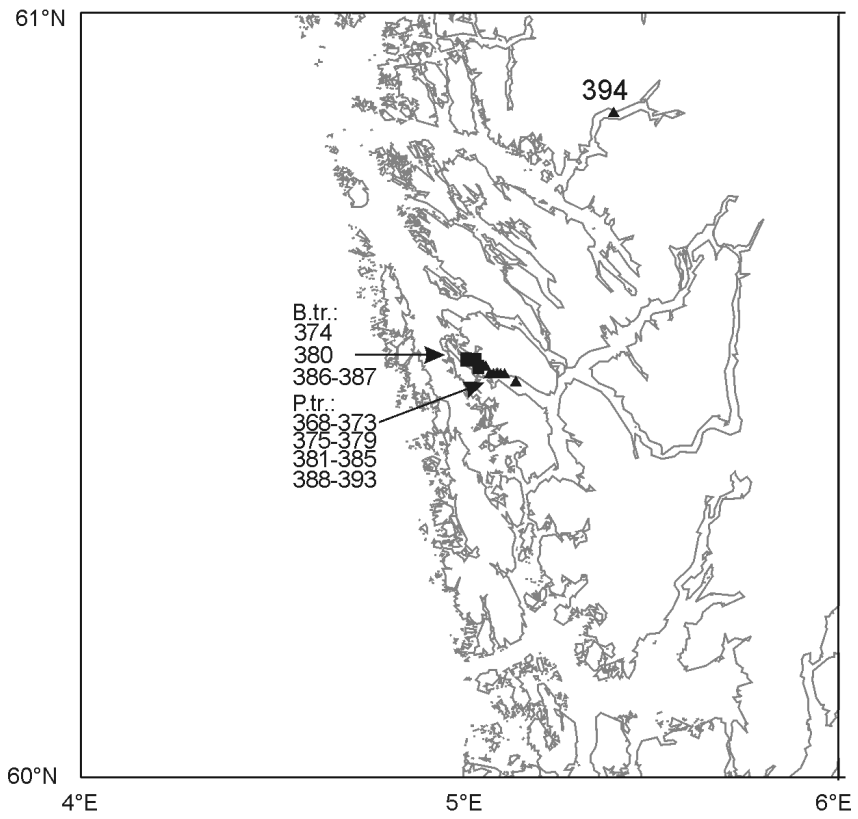
4 September – 12 October 2004 • Grab and beam trawl stations "Håkon Mosby"
 Cruise no 2004617



20 October – 1 November 2004
Cruise no 2004619

z CTD st.no 1066-1091

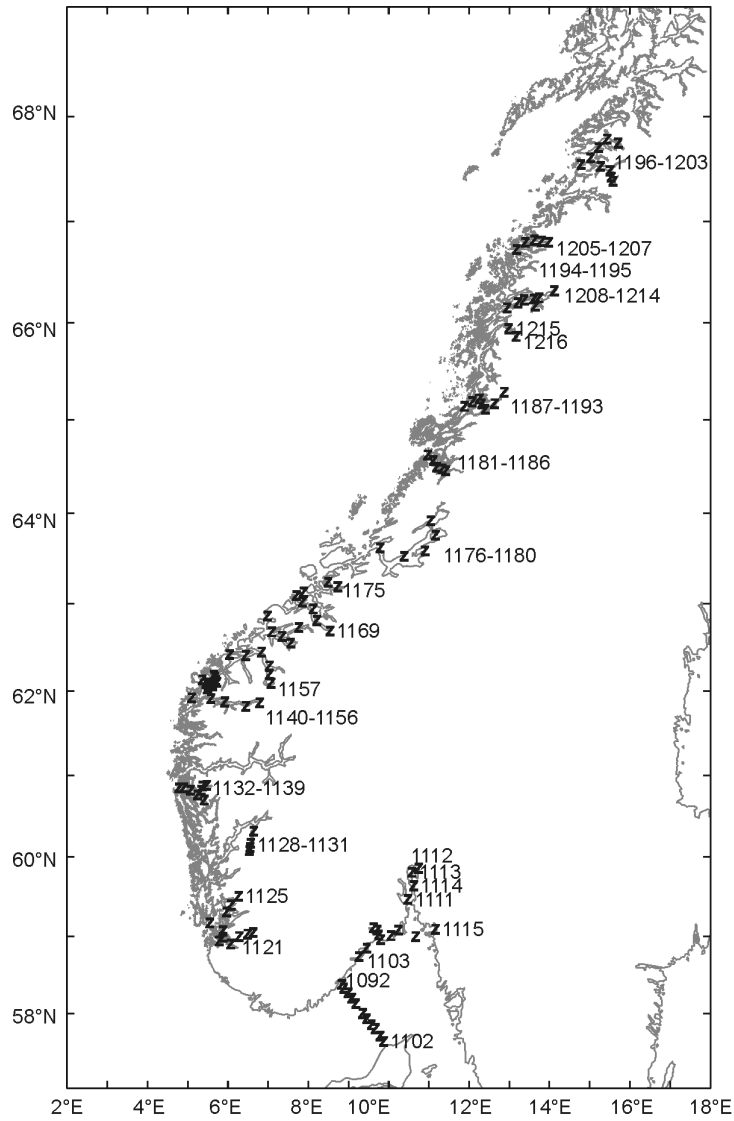
“Håkon Mosby”



20 October – 1 November 2004
Cruise no 2004619

Trawl st.no 368-373
▲ Pelagic trawl
■ Bottom trawl

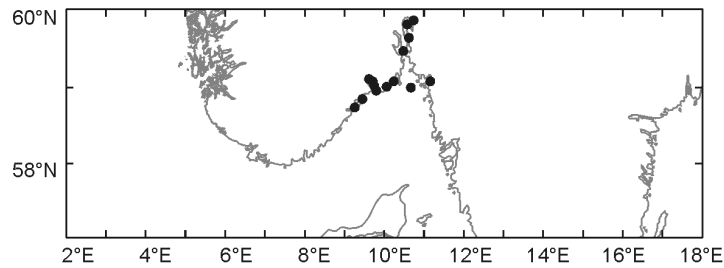
“Håkon Mosby”



16 Nov – 19 Dec 2004
Cruise no 2004621

z CTD st.no 1092-1216
Standard section:
Torungen-Hirtshals st.no 1092-1102

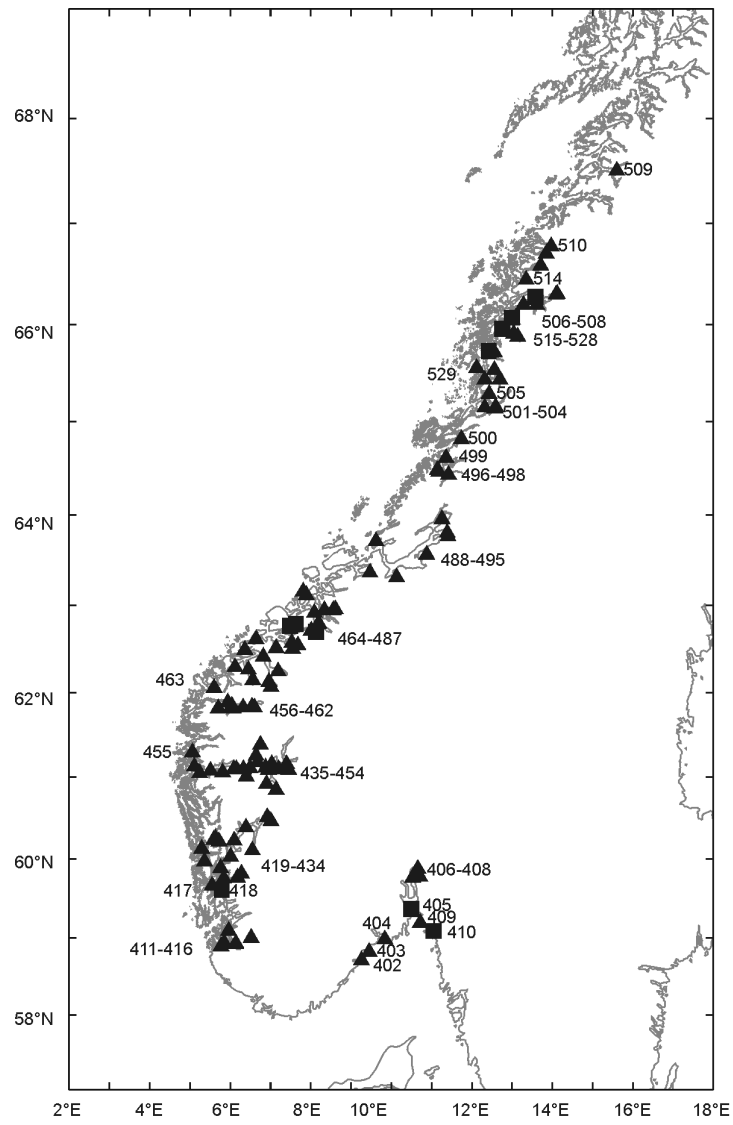
“Håkon Mosby”



16 Nov – 19 Dec 2004
Cruise no 2004621

● Grab stations

“Håkon Mosby”

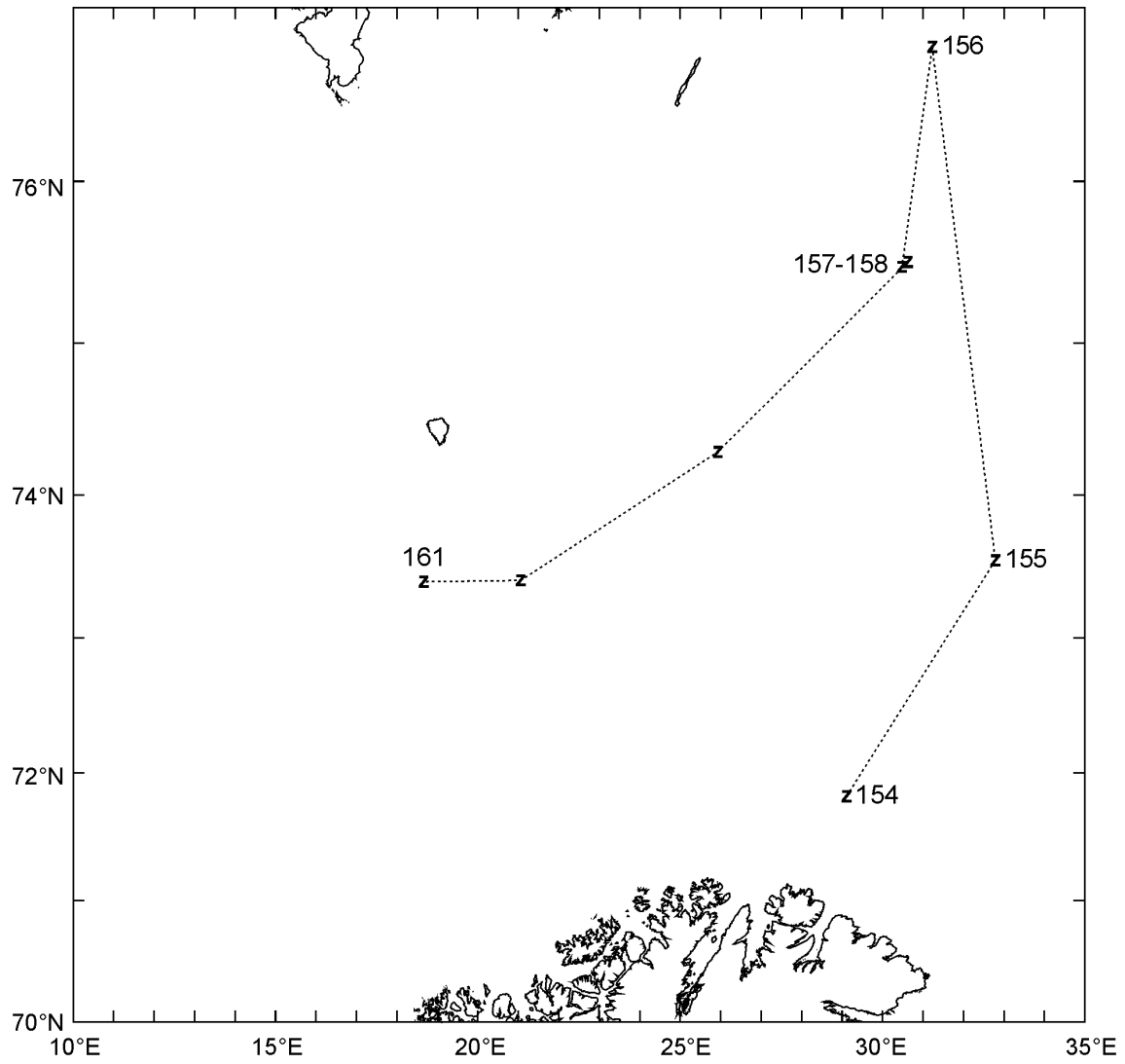


16 Nov – 19 Dec 2004
Cruise no 2004621

Trawl st.no 402-529
▲ Pelagic trawl
■ Bottom trawl

“Håkon Mosby”

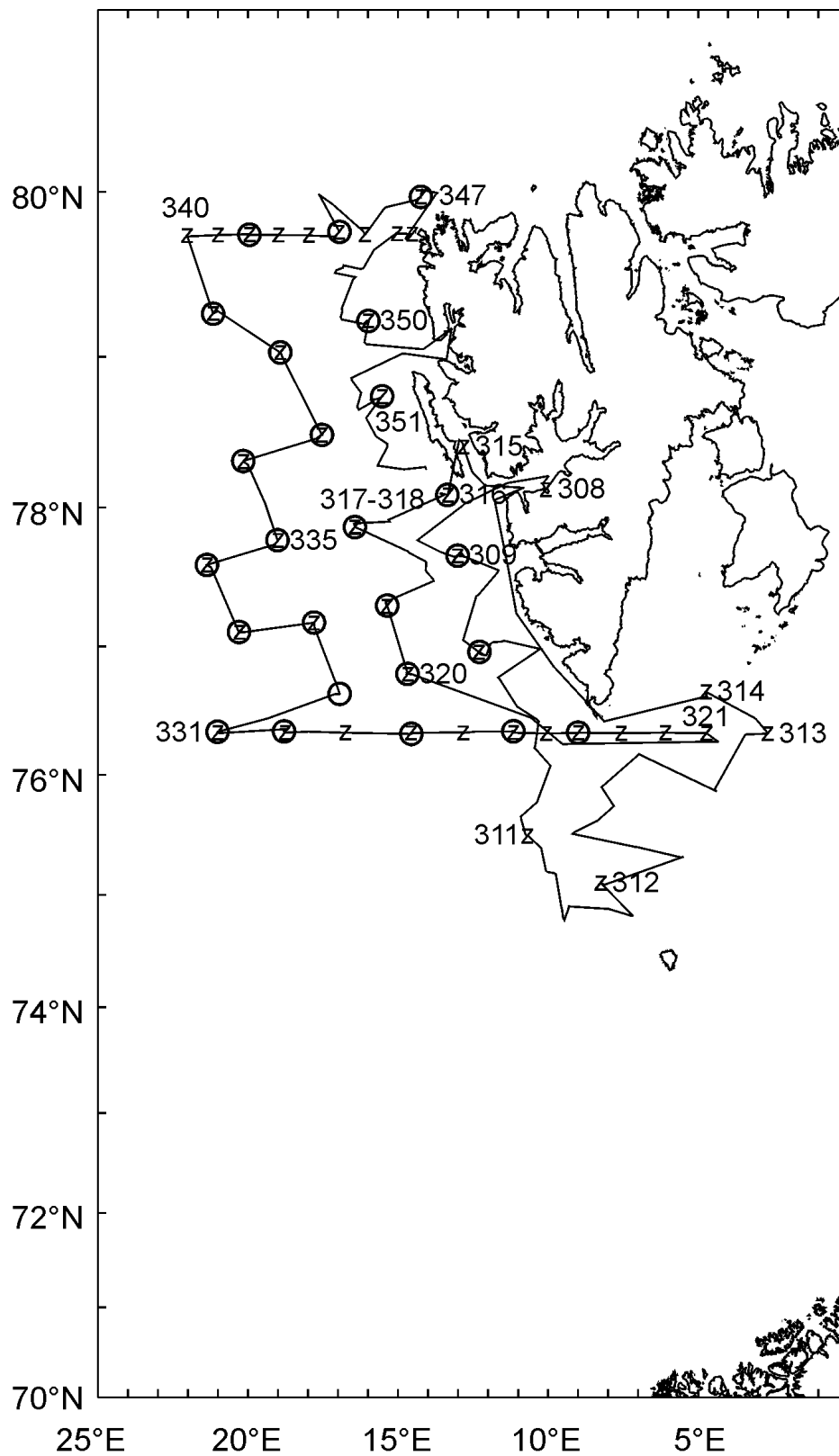
4.4 Jan Mayen



12 April – 1 May 2004
Cruise no 2004701

z CTD st.no 154-161

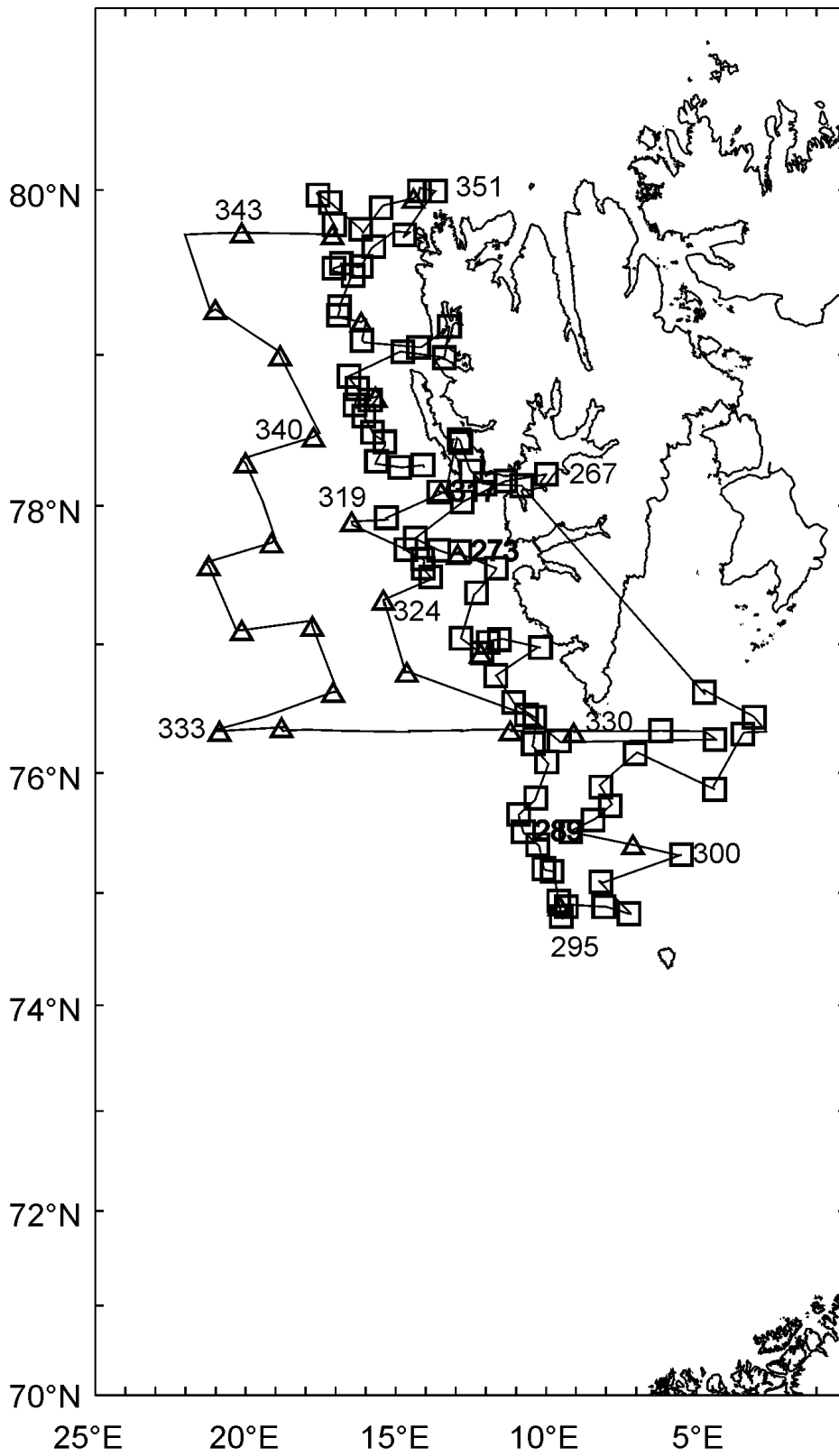
“Jan Mayen”



6-22 August 2004
Cruise no 2004702

z CTD st.no 308-351
Standard section:
Sørkapp W st.no 321-331

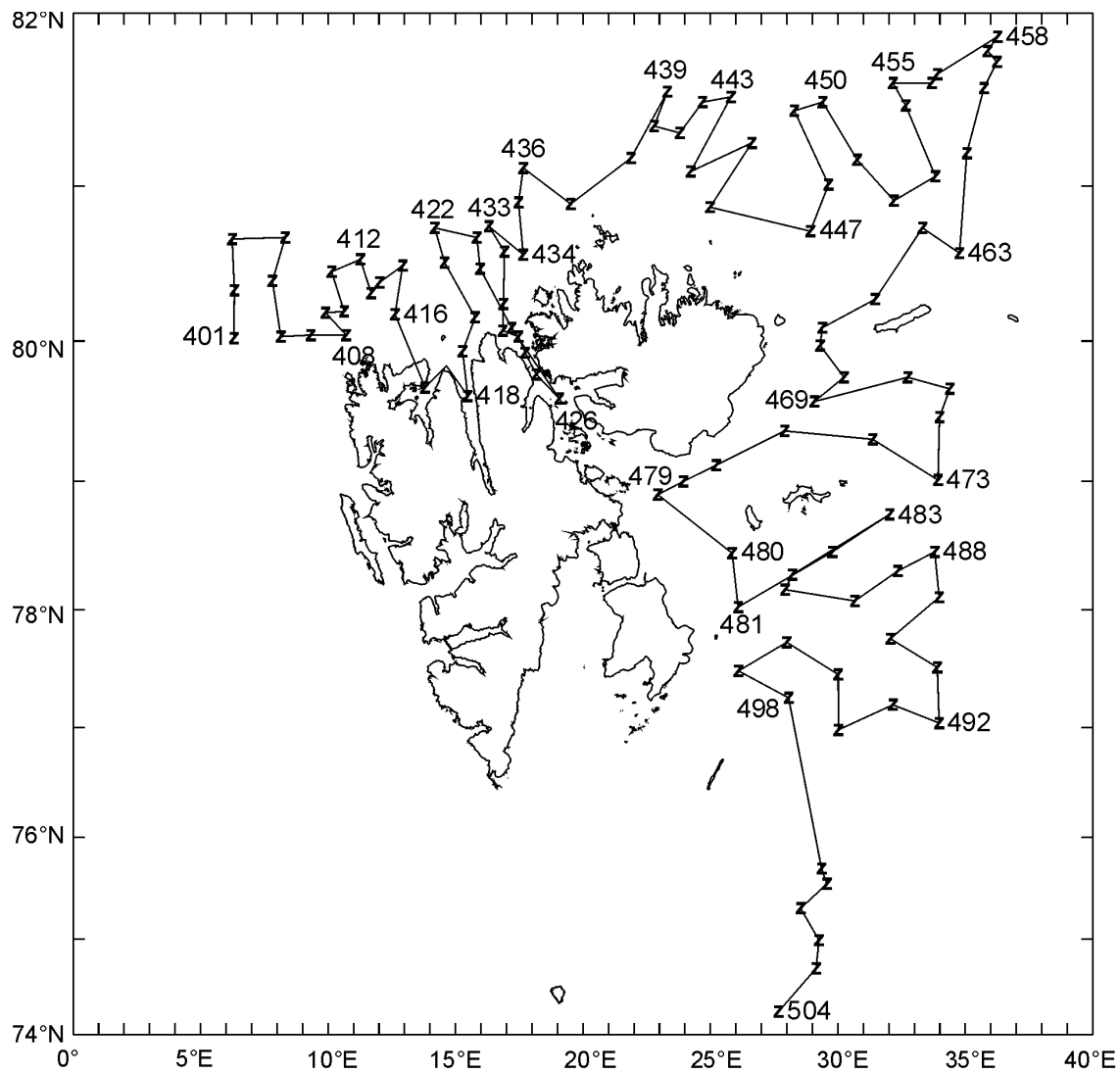
“Jan Mayen”



6-22 August 2004
Cruise no 2004702

Trawl st.no 267-377
 □ Bottom trawl
 Δ Pelagic trawl

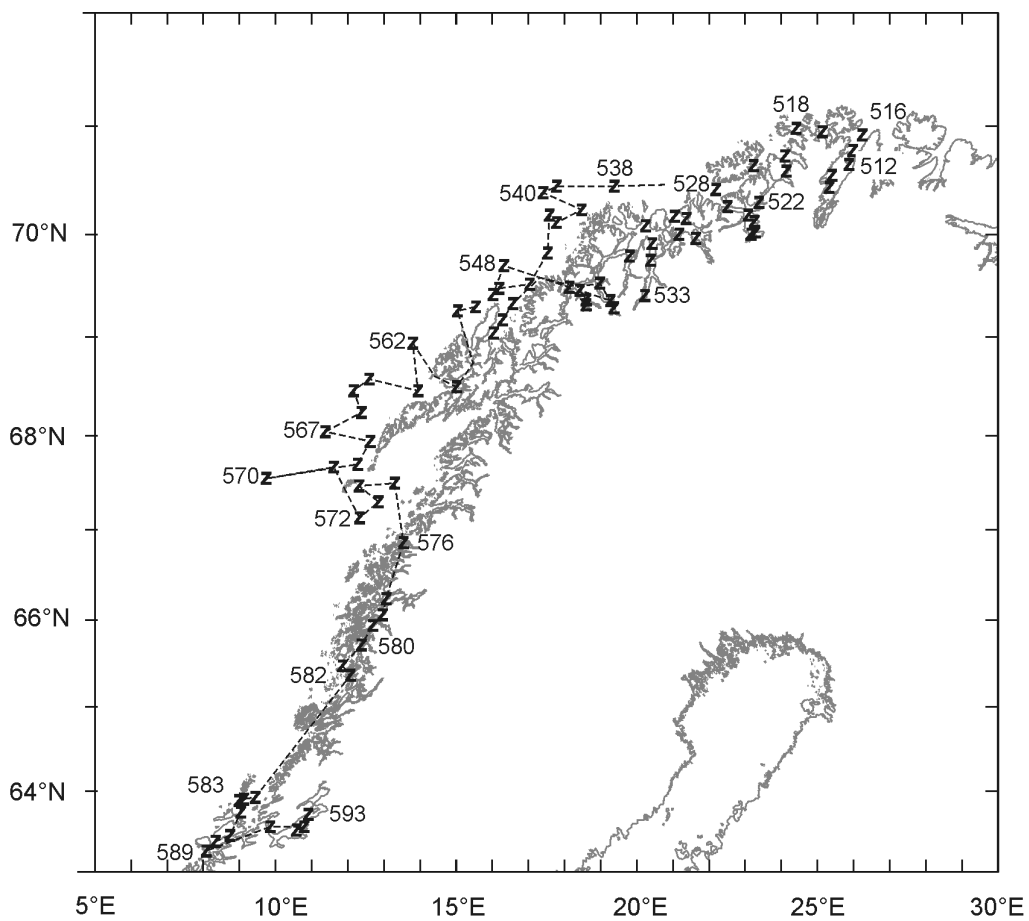
“Jan Mayen”



10-29 September 2004
Cruise no 2004703

z CTD st.no 401-504

“Jan Mayen”



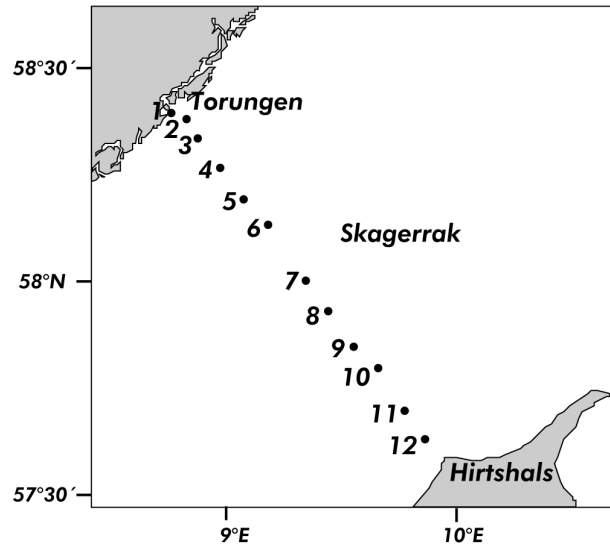
15 Oct – 12 Nov 2004
Cruise no 2004704

z CTD st.no 512-593

“Jan Mayen”

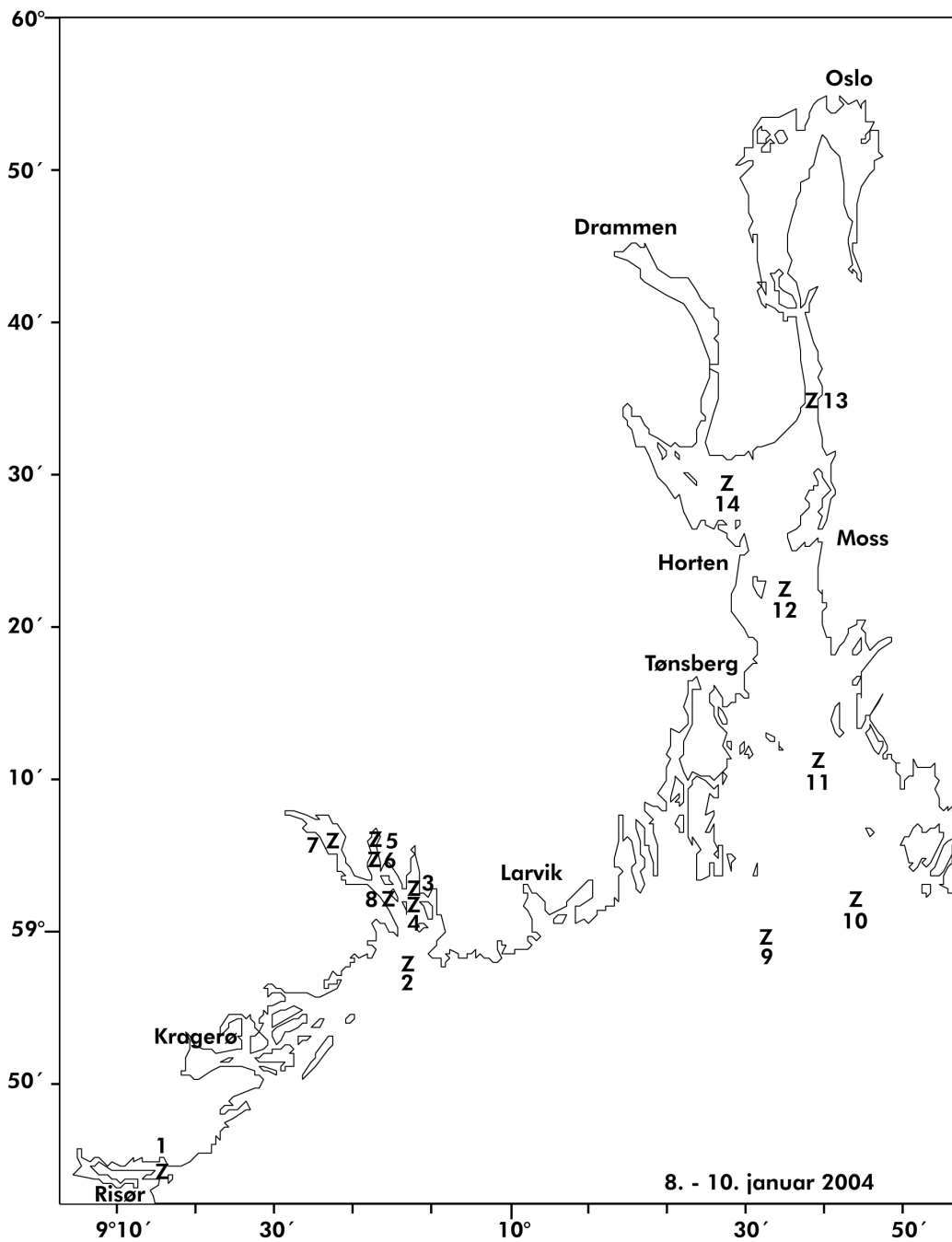
4.5 G. M. Dannevig

Standard section Torungen-Hirtshals 2004



Month	CTD st. no
January	17 - 28
February	55 - 66
March	67 - 78
April	125 - 136
May	239 - 250
June	261 - 272
July	301 - 312
August	313 - 324
September	345 - 353
October	407 - 418
November	420 - 422
December	436 - 447

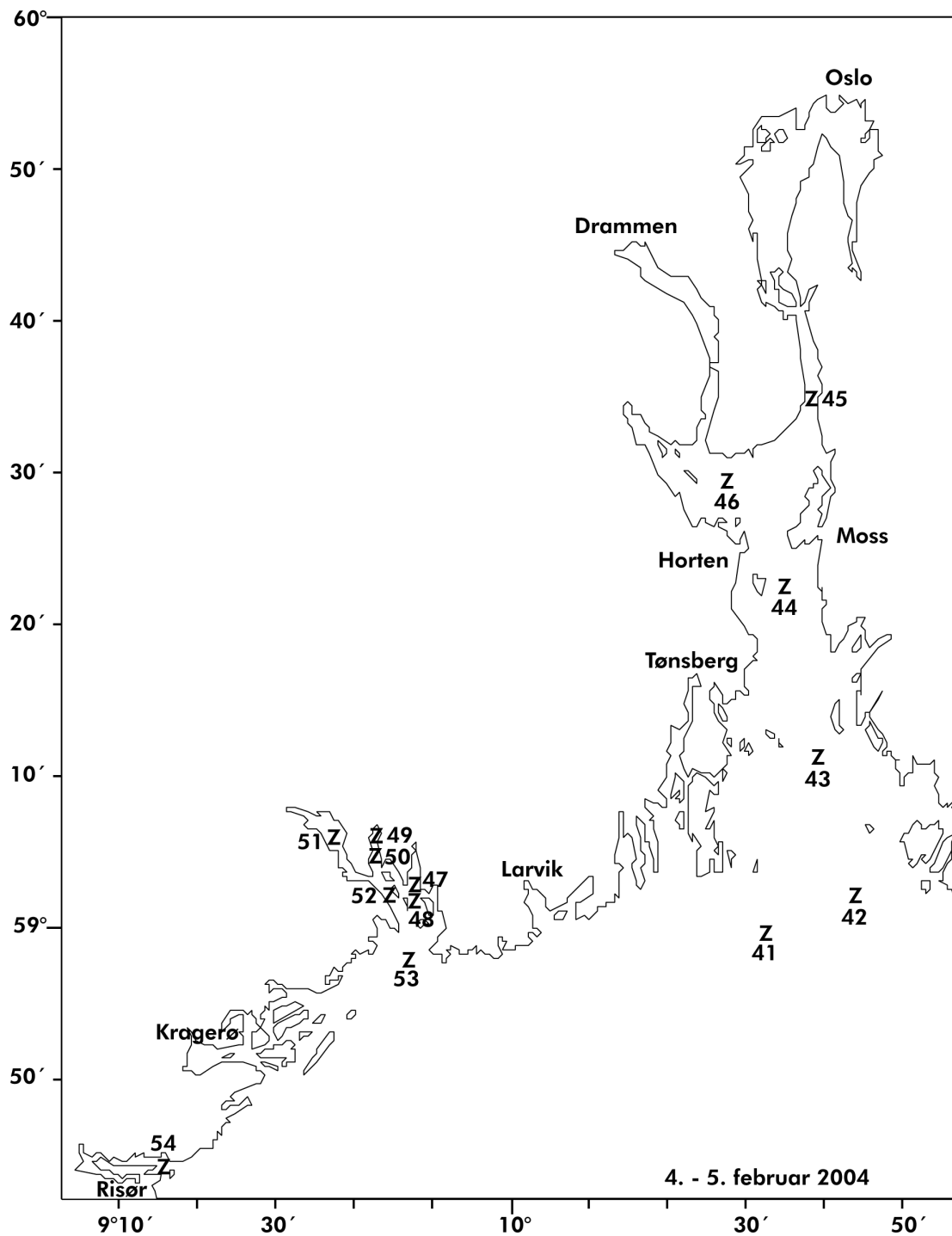
Uncompleted due to weather conditions



8-12 January 2004
Cruise no 2004301

z CTD st.no 1-28
Standard section:
Torungen-Hirtshals st.no 17-28

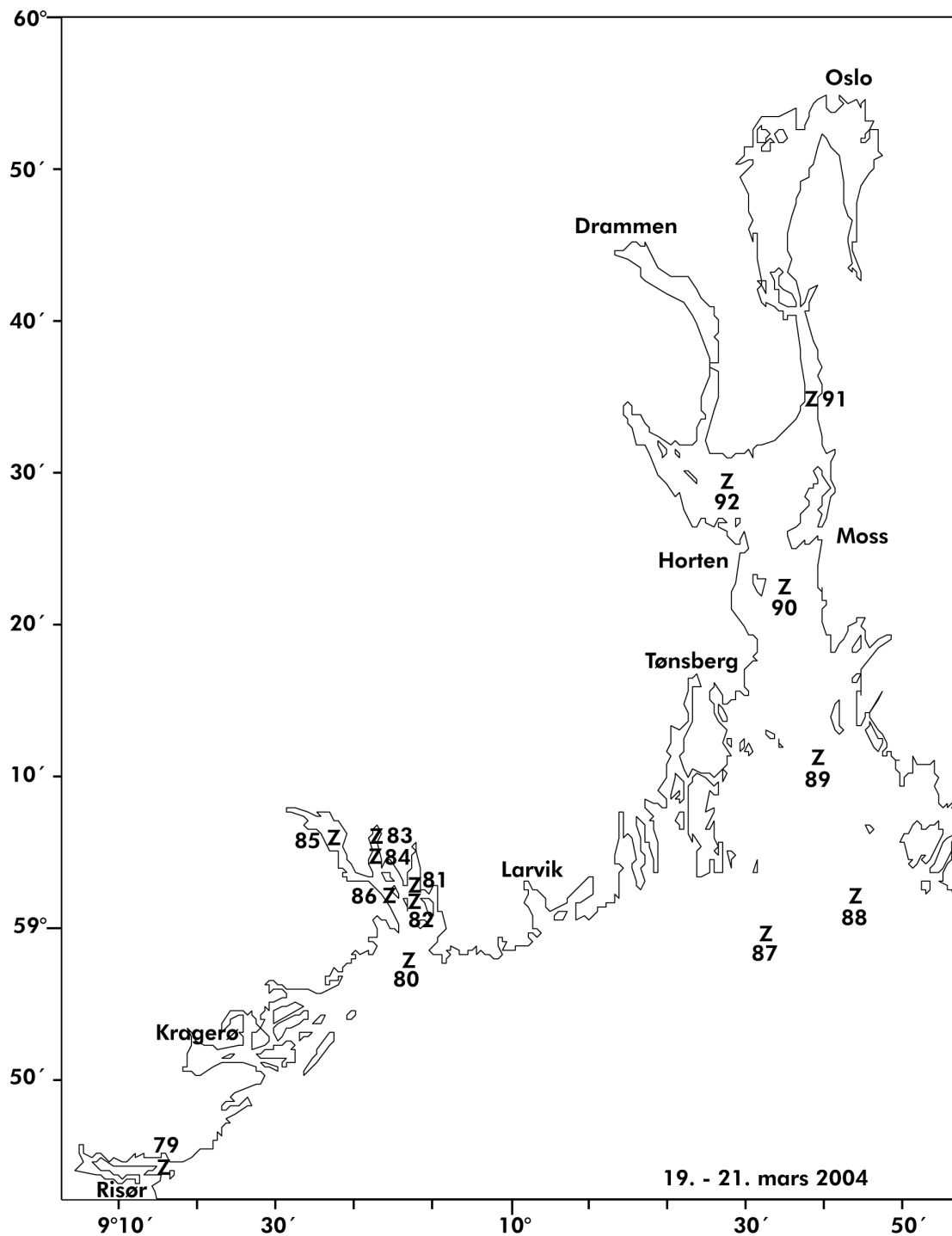
“G. M. Dannevig



3-6 February 2004
Cruise no 2004303

z CTD st.no 29-66
Standard section:
Torungen-Hirtshals st.no 55-66

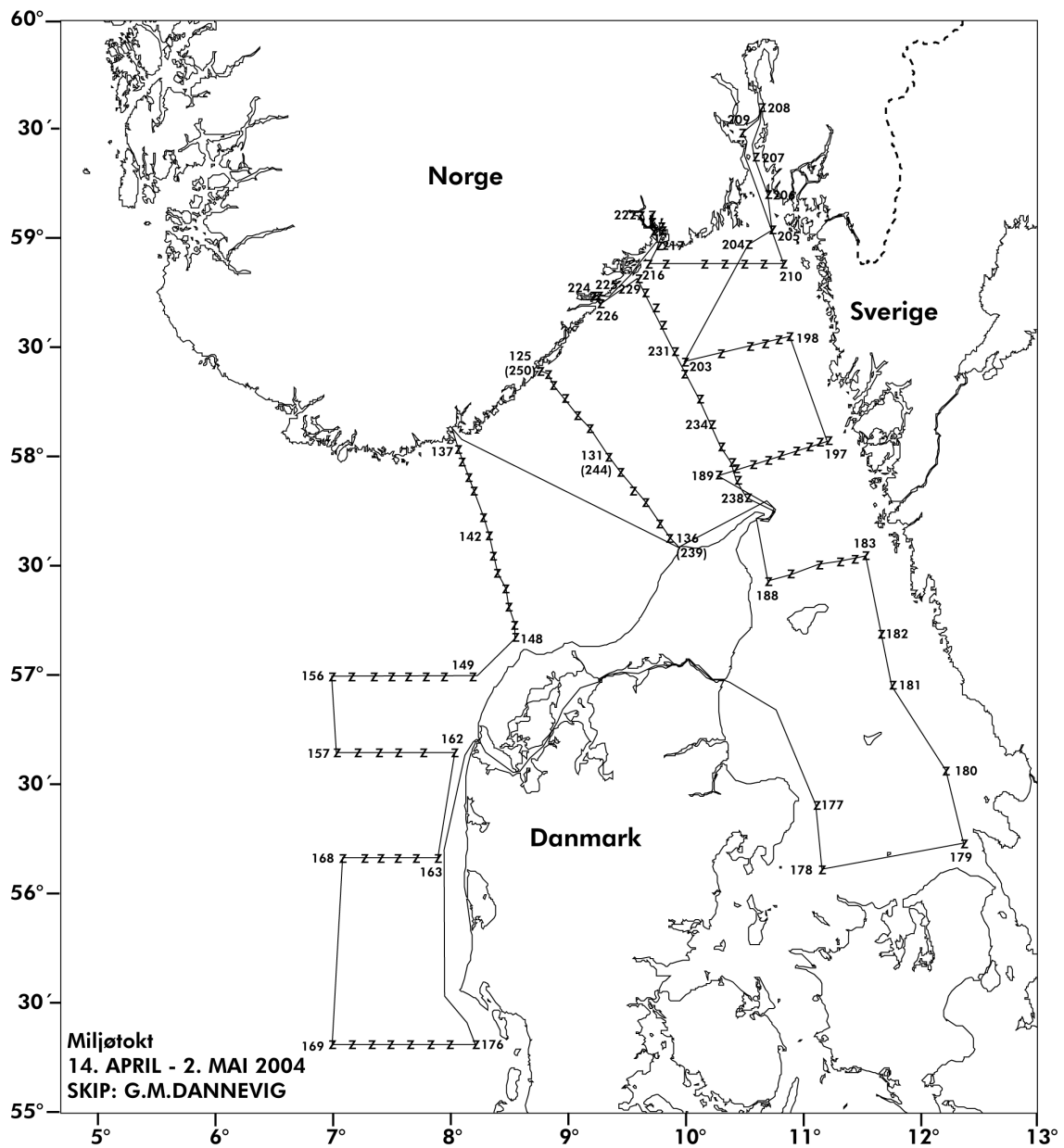
“G. M. Dannevig



17-21 March 2004
Cruise no 2004304

z CTD st.no 67-92
Standard section:
Torungen-Hirtshals st.no 67-78

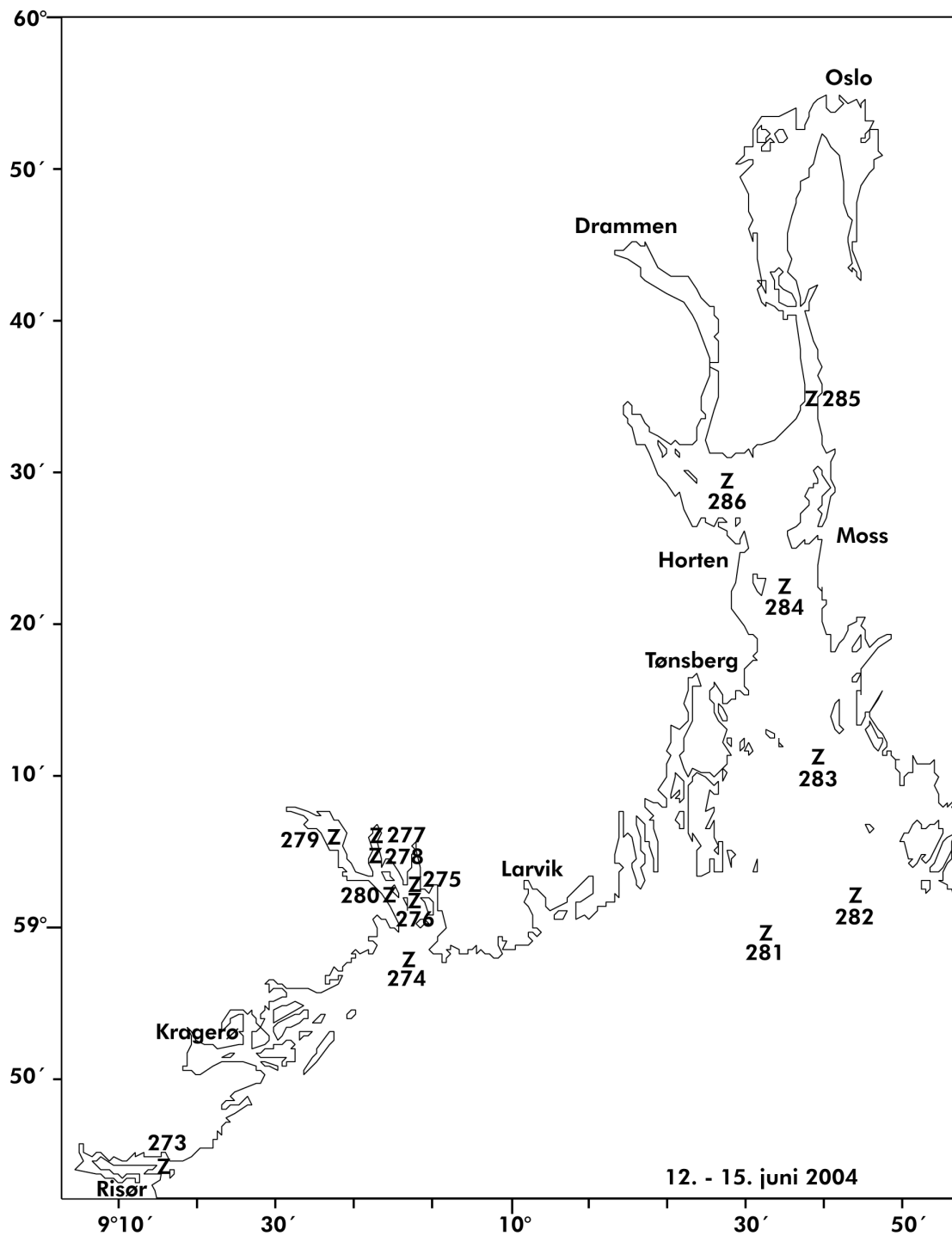
“G. M. Dannevig



14-29 April 2004
 Cruise no 2004306

z CTD st.no 125-238
 Standard section:
 Torungen-Hirtshals st.no 125-136

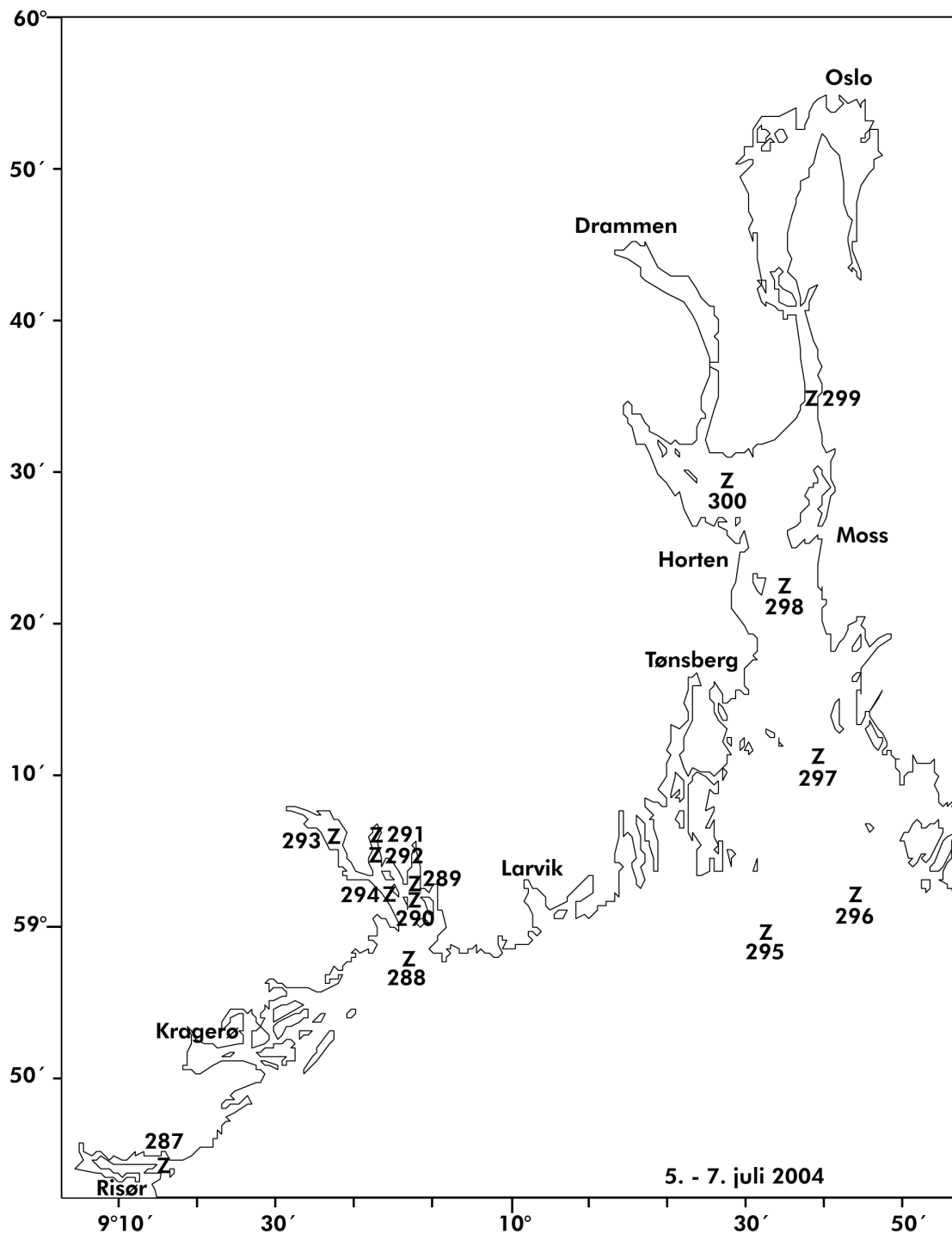
“G. M. Dannevig



10-15 June 2004
Cruise no 2004311

z CTD st.no 261-286
Standard section:
Torungen-Hirtshals st.no 261-272

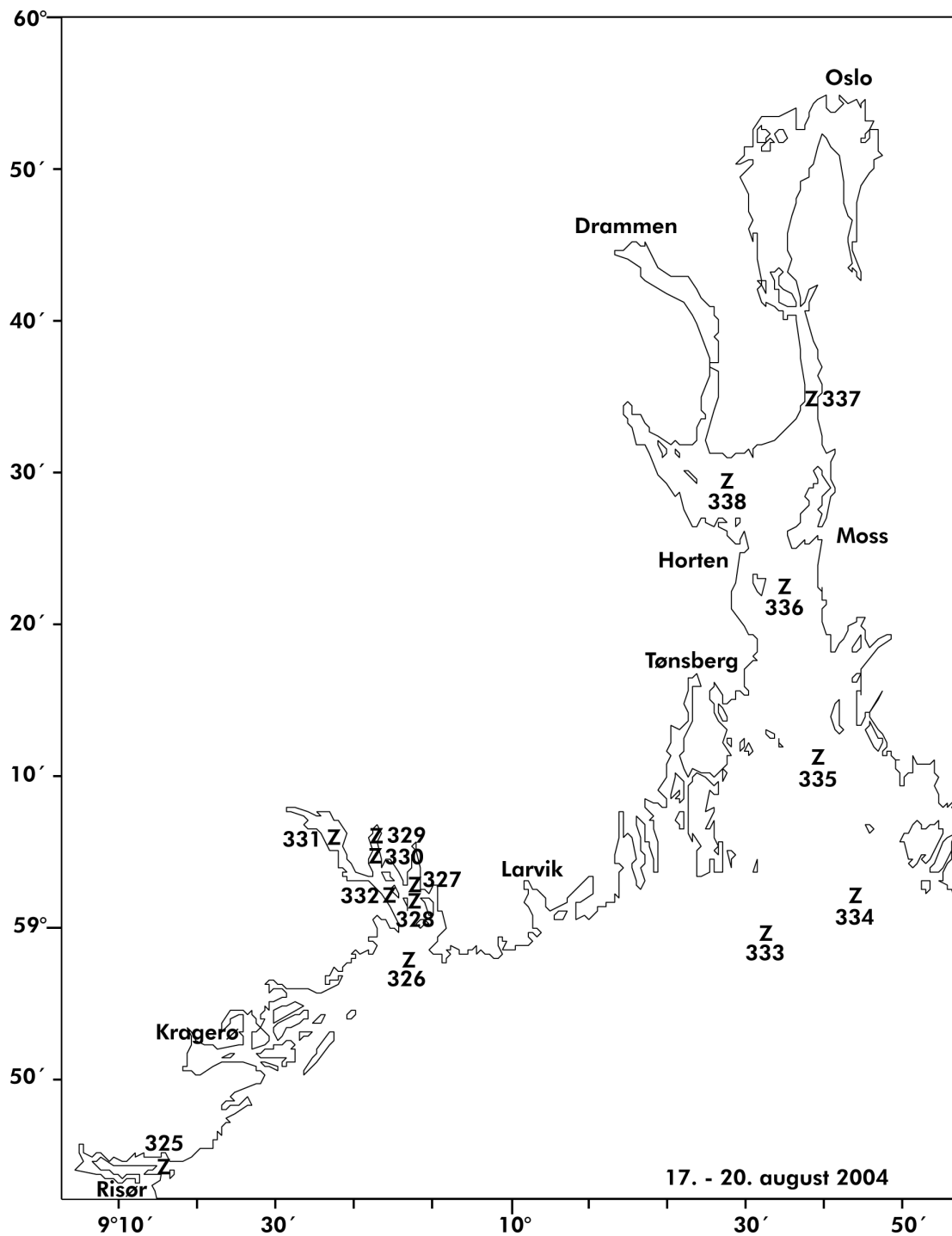
“G. M. Dannevig



5-9 July 2004
Cruise no 2004312

z CTD st.no 287-312
Standard section:
Torungen-Hirtshals st.no 301-312

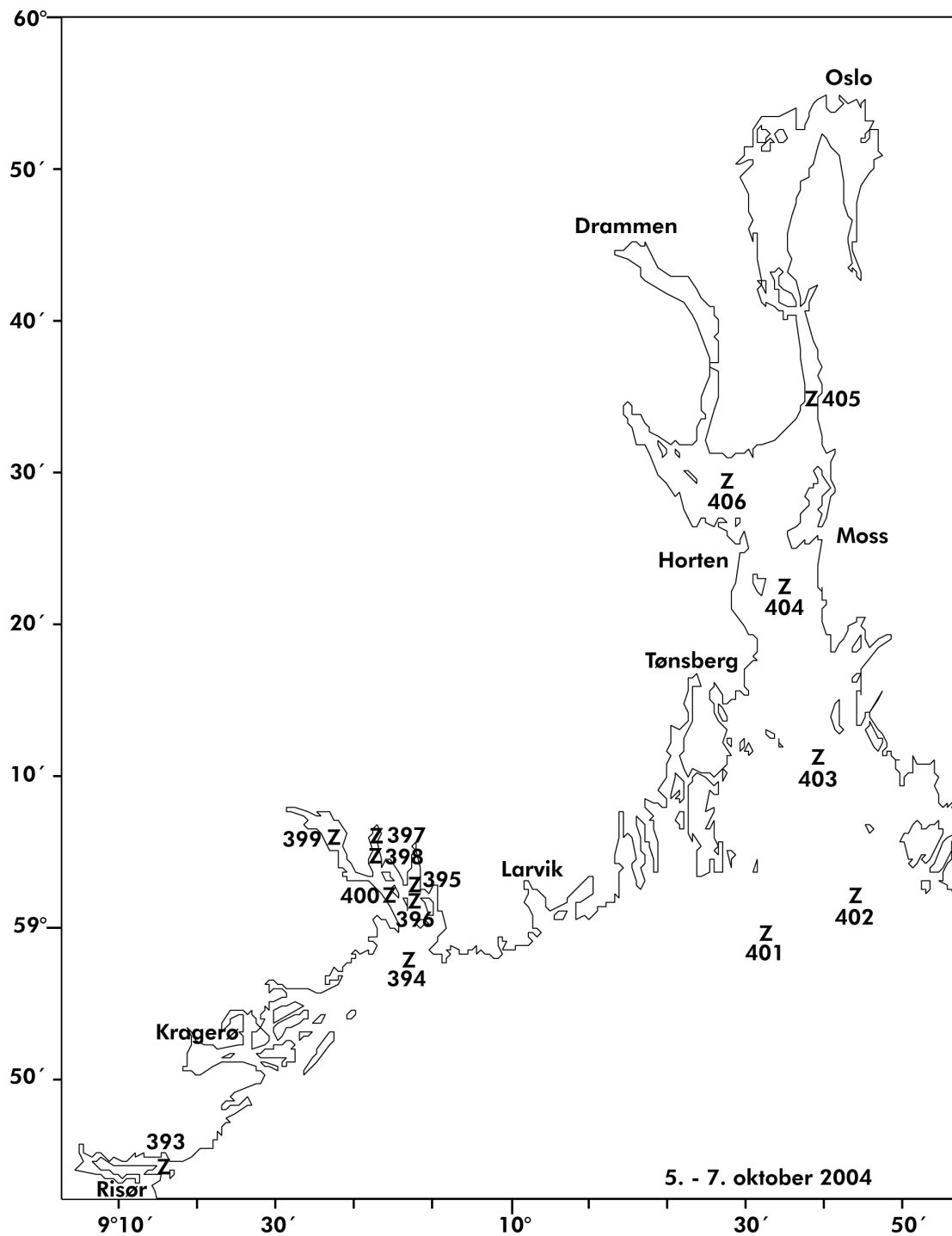
“G. M. Dannevig



16-20 August 2004
Cruise no 2004313

z CTD st.no 313-338
Standard section:
Torungen-Hirtshals st.no 313-324

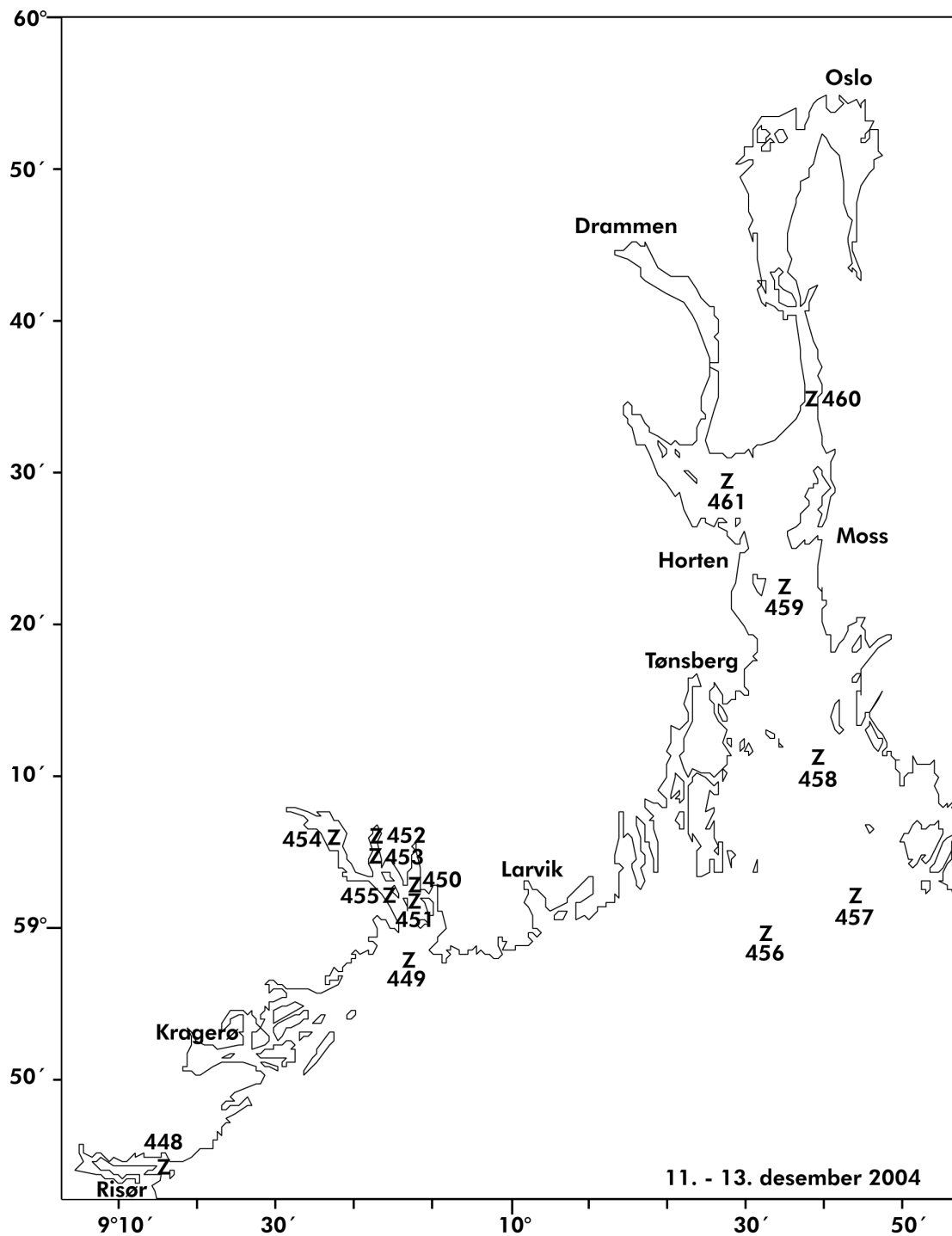
“G. M. Dannevig



5-9 October 2004
Cruise no 2004318

z CTD st.no 393-418
Standard section:
Torungen-Hirtshals st.no 407-418

“G. M. Dannevig



9-13 December 2004
Cruise no 2004322

z CTD st.no 436-461
Standard section:
Torungen-Hirtshals st.no 436-447

“G. M. Dannevig