

nr. 4/2006

## **Oversikt over tokt og stasjoner tatt i 2005**

**Report on oceanographic cruises and data stations, 2005**

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



# PROSJEKTRAPPORT



## HAVFORSKNINGSINSTITUTTET INSTITUTE OF MARINE RESEARCH

Nordnesgaten 50, Postboks 1870 Nordnes, 5817 BERGEN  
Tlf. 55 23 85 00, Fax 55 23 85 31, [www.imr.no](http://www.imr.no)

<b>Tromsø</b>	<b>Flødevigen</b>	<b>Austevoll</b>	<b>Matre</b>
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Report on oceanographic cruises and data stations, 2005

**Forfatter(e):**

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

**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 2005. 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 2005. 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.

*Helge Sagen*  
.....  
prosjektleder

*Helge Sagen*  
.....  
forskningsgruppeleder



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# 1 CRUISES 2005

## 1.1 G. O. Sars

(Ship no 10)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2005101	1 Jan	11 Jan	Dock.	Bergen	-	-		
2005102	12 Jan	14 Jan	Mapping marine obstacles.	Raunefjorden	1	1	16	
2005103	16 Jan	30 Jan	Transects.	Norwegian Sea, Barents Sea	2	66	17	
2005104	1 Feb	7 Mar	Ecosystem survey.	Barents Sea	67	139	18-19	
2005105	11 Mar	15 Apr	Blue whiting spawning area survey.	Atlantic Ocean West of British Isles	140	230	20-21	
2005106	18 Apr	4 May	Dock.	Flekkefjord	-	-		
2005107	6 May	8 Jun	Ecosystem survey in the Norwegian Sea. Collecting environmental tests with regard to radioactivity.	Norwegian Sea	231	327	22-24	
2005108	9 Jun	25 Jun	Bottom habitates and biological variety. Recovery multicorer. Transit, recovery multicorer.	Norwegian Sea, Troms-Finnmark	328	341	25-26	The stations 339-341 are not a formal part of the cruise.
2005109	30 Jun	14 Jul	Marine geological investigations.	North Sea, Storegga, Nordfjord, Hardangerfjorden	342	361	27	
2005110	15 Jul	4 Aug	Investigations in the Mohn and Knipovich ridge. Micro biological investigations in the Håkon Mosby volcano.	Norwegian Sea	362	386	28	
2005111	6 Aug	30 Sep	Ecosystem survey. Atlantic herring/salmon in the Svalbard zone. Testing of automatic catch meter. Collecting environmental samples with regard to radioactivity in the Barents Sea.	Barents Sea and the Svalbard area	387	557	29-33	

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2005112	1 Oct	9 Oct	Methodology survival strategy. Density measurement.	Norwegian coast - Troms/Finmark	558	562	34-35	Three of the stations are carried out during return to Tromsø after the cruise.
2005113	20 Oct	24 Oct	Educational cruise. Distribution of salmon lice.	West coast, Hardangerfjorden	563	578	36	
2005114	26 Oct	18 Dec	North Sea ecosystem. Surveillance of pollution. Collecting environmental samples with regard to radioactivity in the North Sea. Plankton in the Skagerrak and the North Sea. Environmental seminary in Oslo.	North Sea. Oslo	579	780	37-40	
2005115	19 Dec	23 Dec	Installation and testing of a multibeam sonar.		781	785	41	

**1.2 Johan Hjort**  
(Ship no 12)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2005201	1 Jan	19 Jan	Dock.		-	-		No CTD data
2005202	20 Jan	26 Jan	Testing of MESSOR, plankton trawl and the CTD of the fixed oceanographic stations.	Western Norway	1	2	42	
2005203	1 Feb	15 Mar	Ecosystem survey.	Barents Sea	3	172	43-44	
2005204	18 Mar	12 Apr	Spawning cod survey.	Lofoten/Vesterålen/ Norwegian Sea	173	355	45-47	
2005205	13 Apr	9 May	Recruitment index for saith fry survey. Environmental survey.	North Sea	356	507	48-52	
2005206	13 May	8 Jun	Recruitment investigations of Atlantic herring and Blue whiting. Distribution of capelin larvae.	Barents Sea	508	585	53-55	
2005207	13 Jun	3 Jul	Mackerel eggs investigations.	North Sea	586	766	56-58	
2005208	4 Jul	27 Jul	Acoustic estimates of SSB of North Sea herring.	North Sea	767	887	59-60	
2005209	28 Jul	8 Sep	Ecosystem survey.	Barents Sea, Norwegian Sea	888	987	61-63	
2005210	13 Sep	17 Sep	Transects and handling of rigs.	Barents Sea west	988	1012	64	
2005211	19 Sep	8 Oct	Trawl methodology survey. Testing of equipment.	Barents Sea	1013	1016	65-66	
2005212	11 Oct	8 Nov	Coastal ecosystem survey.	Varanger - Møre	1017	1085	67-68	
2005213	11 Nov	28 Nov	Wintering of Atlantic herring.	Lofoten, Vesterålen	1086	1099	69-70	
2005214	30 Nov	31 Dec	Dock.		-	-		



**1.3 Håkon Mosby**  
(Ship no 1)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2005601	1 Jan	9 Jan	Dock.		-	-		
2005602	17 Jan	6 Feb	International Bottom Trawl Survey (IBTS) 1. quarter.	North Sea	1	55	71-73	The cruise was reduced due to docking and weather conditions.
2005603	9 Feb	11 Feb	Operational oceanography.		-	-		Cancelled
2005604	12 Feb	13 Feb	Geotechnology 2005.	West coast	-	-		No CTD data
2005605	14 Feb	6 Mar	Studies of schools of spawning herring. Spawning survey. Atlantic herring.	Møre - Vesterålen	56	60	74-75	
2005606	8 Mar	16 Mar	Educational cruise.	In fjords of the western part of Norway (Lysefjorden, Hardangerfjorden, Bjørnafjorden/ Samnangerfjorden)	61	146	76	
2005607	18 Mar	2 Apr	Herring larvae investigations.	Norwegian coast - other	147	307	77	
2005608	5 Apr	5 Apr	Educational cruise.	Byfjorden	308	317	78	
2005609	6 Apr	7 Apr	Geotechnology 2005.	West coast	-	-		No CTD data
2005610	8 Apr	14 Apr	Svinøy hydrographic section – surveillance.	Norwegian Sea	318	318	79	
2005611	15 Apr	28 Apr	Educational cruise. Fisheries ecology.	North Sea	319	365	80	
2005612	30 Apr	10 May	MONCOZE, North Sea.	North Sea	366	514	81	
2005613	11 May	22 May	Medusae biodiversity.	Hardangerfjorden - Halsafjorden	515	540	82	
2005614	24 May	11 Jun	Shrimp and analysis of bycatch (predators).	Skagerrak	541	666	83	

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2005615	13 Jun	27 Jun	Svinøy hydrographic section - surveillance.	Norwegian Sea	-	-		No CTD data
2005616	27 Jun	8 Jul	Marine paleoclimate in the Lofoten area.	Lofoten/Vesterålen, North Sea and the shelf off Trøndelag.	667	686	84-85	
2005617	11 Jul	31 Jul	International Bottom Trawl Survey (IBTS) 3. quarter. IBTS tagging of frogfish.	North Sea	687	763	86-87	
2005618	5 Aug	18 Aug	Recovery of rig from the sea.	Svalbard area	764	855	88	
2005619	20 Aug	8 Sep	Svalex, student survey.	Svalbard area	-	-		No CTD data
2005620	9 Sep	19 Sep	Educational cruise - data collection.	Svalbard area	856	1053	89	
2005621	20 Sep	22 Sep	Rig deployment.	Svalbard area	-	-		Cancelled
2005622	27 Sep	30 Sep	MAR310. Marine biological field methods.	Raunefjorden	1054	1054	90	
2005623	1 Oct	7 Oct	Replacement of current measurement rigs.	Norwegian Sea	-	-		
2005624	9 Oct	14 Oct	Marine organisms.	Storeggaraset, Møre marg.	1055	1063	91	
2005625	15 Oct	23 Nov	Collecting environmental samples with regard to radioactivity.	Norwegian coast, Swedish border to the Varanger	1064	1171	92-95	
2005626	24 Nov	30 Nov	Shrimp and analysis of bycatch (predators).	Skagerrak, North Sea	1172	1191	96	
2005627	12 Dec	13 Dec	Geotechnology 2005.	West coast	-	-		

**1.4 Jan Mayen**  
**(Ship no 19)**

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2005701	12 Apr	30 Apr	Shrimp survey.	Barents Sea	-	-		Cancelled
2005702	3 Aug	20 Aug	Ecosystem survey.	Svalbard, north and west	240	259	97	
2005703	12 Sep	25 Sep	Ecosystem survey.	Svalbard, north east	260	278	98	
2005704	13 Oct	13 Nov	Coastal Ecosystem survey of coastal areas.	Varanger - Møre	279	347	99-100	

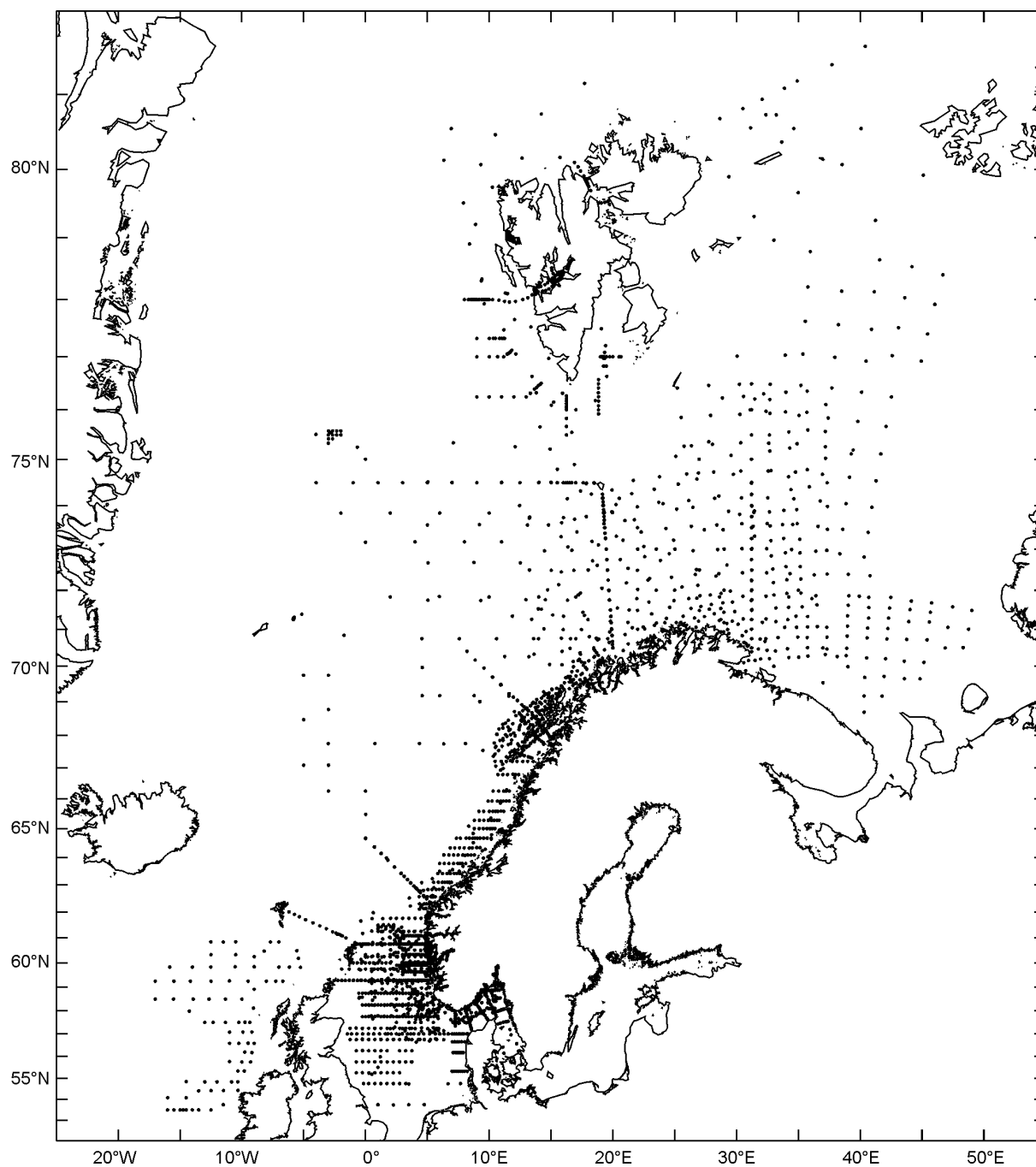
**1.5 G. M. Dannevig**  
**(Ship no 16)**

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2005301	27 Jan	30 Jan	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a nearshore station outside Arendal and in the fjords along the Norwegian Skagerrak coast.	Skagerrak, Norwegian coast of Skagerrak.	1	21	101, 102	
2005302	1 Feb	17 Feb	Mapping of parent cod. Long-term environment monitoring on a nearshore station outside Arendal.	Skagerrak, Norwegian coast of Skagerrak.				Hydrography with STD sensor.
2005303	18 Feb	19 Feb	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a nearshore station outside Arendal and in the fjords along the Norwegian Skagerrak coast.		22	24	103	Sensor errors. Some stations are missing.
2005304	20 Feb	13 Mar	Dock	Hirtshals				
2005305	14 Mar	16 Mar	Long-term environmental monitoring on a nearshore station outside Arendal.	Skagerrak				Hydrography with STD sensor.
2005306	31 Mar	17 Apr	Habitat mapping (spawning grounds) in Hordaland.	Hordaland	25	47	103	
2005307	19 Apr	8 May	Long-term environmental monitoring on a near shore station outside Arendal and environmental investigation in the eastern North Sea, the Skagerrak and Cattegat after the spring bloom.	Eastern North Sea/ Skagerrak/ Cattegat	48	163	101, 104	
2005308	1 Jun	10 Jun	Long-term environmental monitoring on a near shore station outside Arendal. Investigation of the effects of recreational fishery.	Skagerrak, Norwegian coast of Skagerrak.	164	166	105	
2005309	11 Jun	17 Jun	Interaction North Sea cod - coastal cod.	North Sea	167	172	106	
2005310	18 Jun	18 Jun	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a near shore station outside Arendal.	Skagerrak	173	184	101	
2005311	19 Jun	30 Jun	Influence of artificial upwelling of deep-water.	Lysefjorden				Hydrography with STD sensor.

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2005312	1 Jul	5 Jul	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a near shore station outside Arendal and in the fjords along the Norwegian Skagerrak coast.	Skagerrak, Norwegian coast of Skagerrak.	185	210	101, 107	
2005313	18 Aug	19 Aug	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a near shore station outside Arendal.	Skagerrak	211	222	101	
2005314	20 Aug	29 Aug	Monitoring lobster/MPA. Long-term environmental monitoring on a near shore station outside Arendal and in the fjords along the Norwegian Skagerrak coast.	Skagerrak, Norwegian coast of Skagerrak.	223	239	108	
2005315	13 Sep	15 Sep	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a near shore station outside Arendal.	Skagerrak	240	251	101	
2005316	16 Sep	5 Oct	Beach seine studies. Long-term environmental monitoring on a near shore station outside Arendal and in the fjords along the Norwegian Skagerrak coast.	Skagerrak, Norwegian coast of Skagerrak.	252	296	109	
2005317	6 Oct	7 Oct	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a near shore station outside Arendal.	Skagerrak	297	308		
2005318	9 Nov	9 Nov	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a near shore station outside Arendal.	Skagerrak	309	309	110	The standard section "Torungen-Hirtshals" was not carried out due to weather conditions.
2005319	9 Nov	6 Dec	Contaminants in seafood – Grenland. Fishery investigations in outer Oslofjord. Effects of recreational fishery. Long-term environmental monitoring on a near shore station outside Arendal and in the fjords along the Norwegian Skagerrak coast.	Skagerrak, Norwegian coast of Skagerrak	310	333	111	

## 2 CHARTS - OVERVIEW

### 2.1 CTD stations 2005



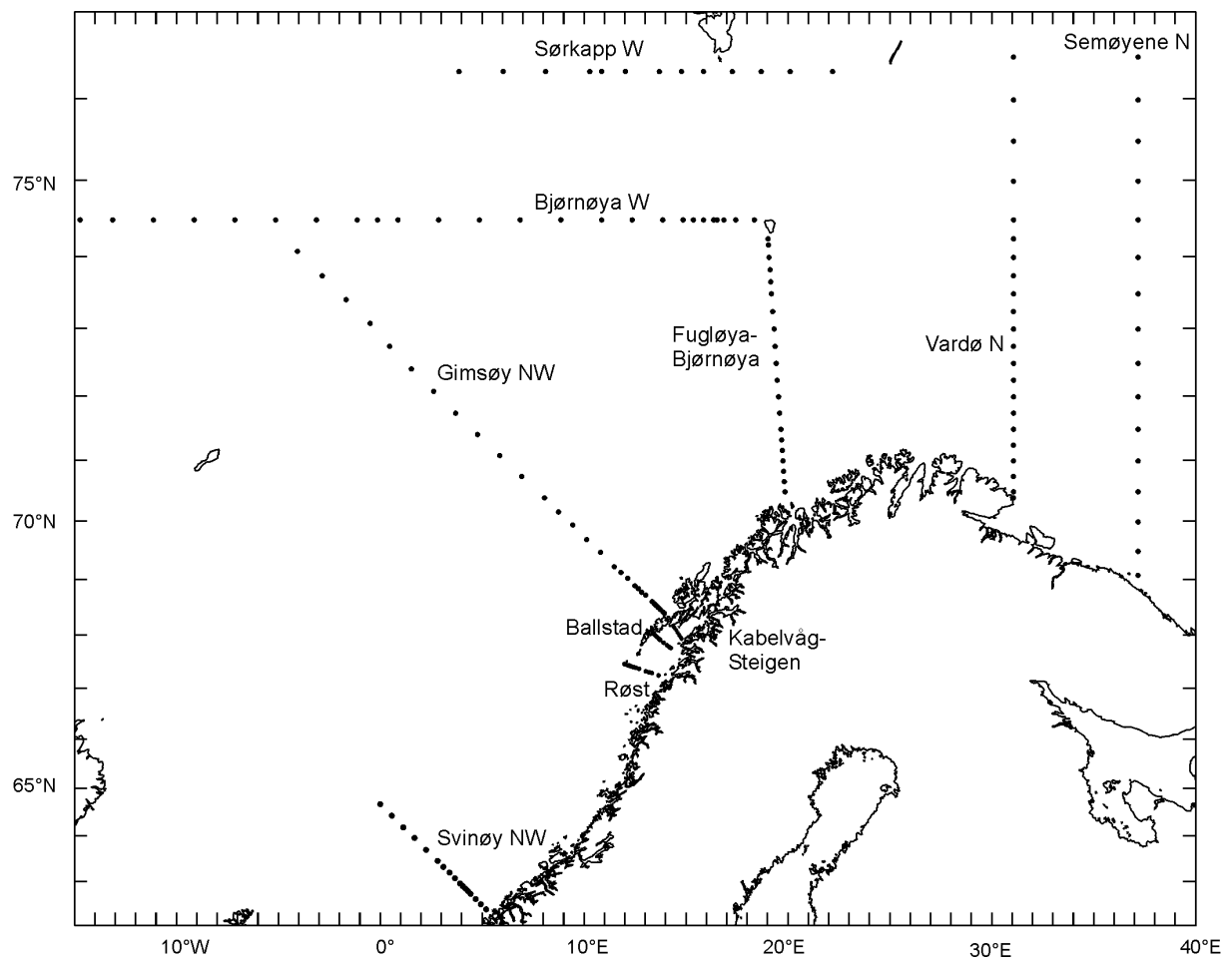
• CTD stations

#### Stations per ship:

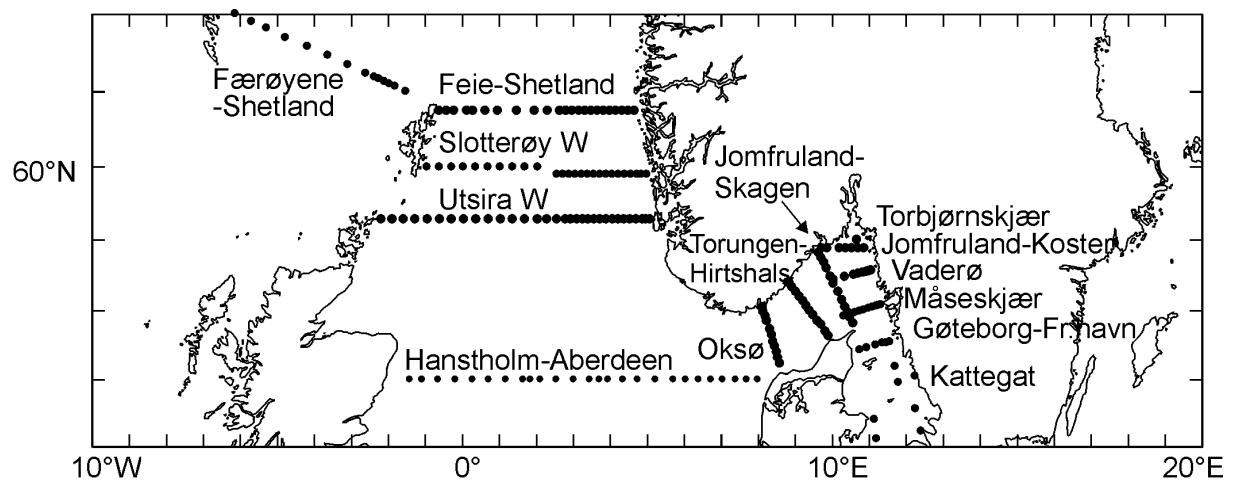
Johan Hjort	1.099 stations
Håkon Mosby	1.091 stations
G. O. Sars	785 stations
Jan Mayen	107 stations
G. M. Dannevig	333 stations
	<b>3.415 stations</b>

## 2.2 Oceanographic sections

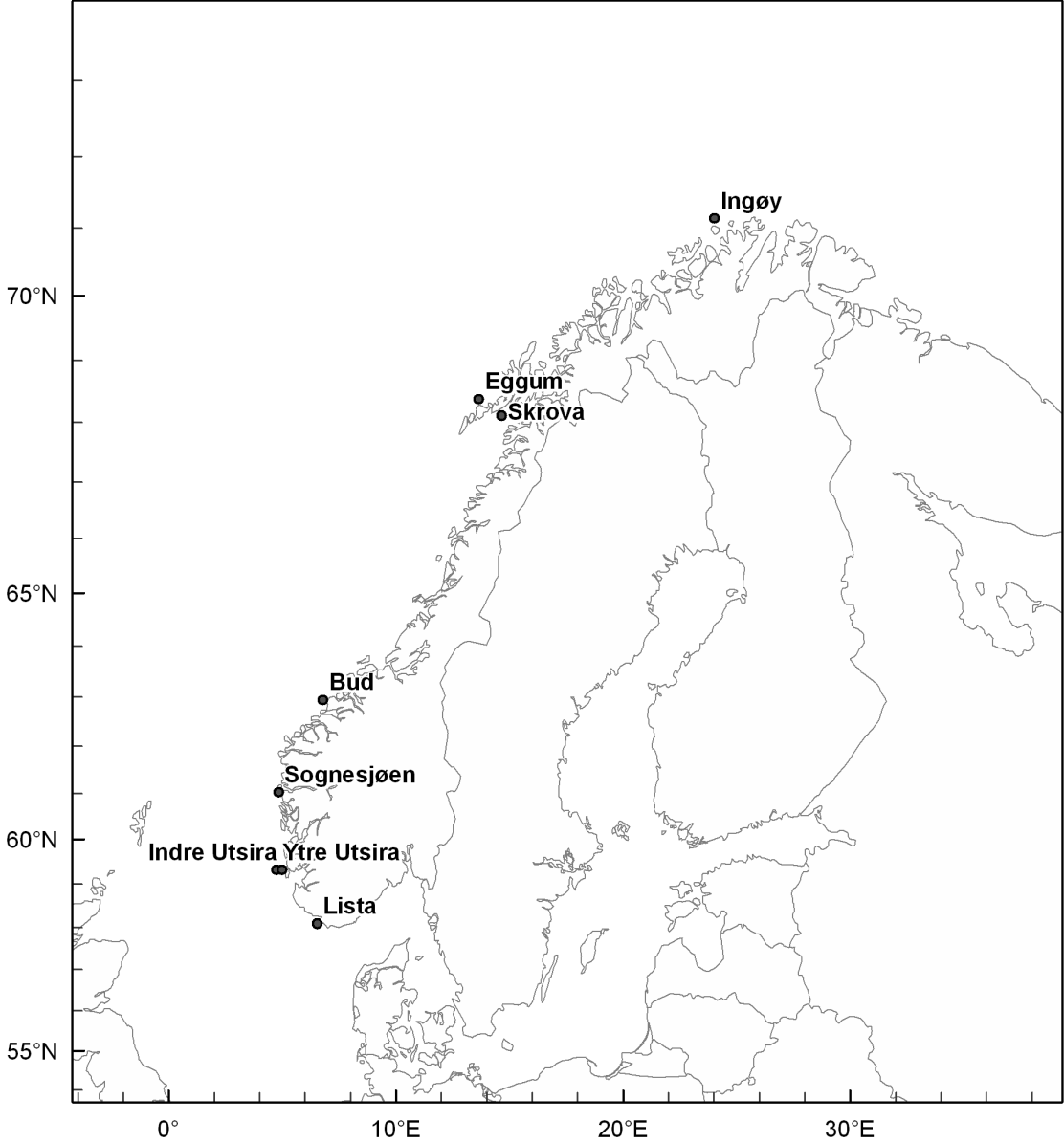
### Norwegian Sea and Barents Sea



### North Sea, Skagerrak and Kattegat



### 2.3 Fixed oceanographic stations





### 3 TABLES - OBSERVATIONS IN 2005

#### 3.1 Standard oceanographic sections 2005

(Cruise no/ship)

Standard sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Torungen-Hirtshals	2005301GMD			2005307GMD 2005307GMD	2005612HM 2005307GMD	2005310GMD	2005312GMD	2005313GMD	2005315GMD	2005317GMD		2005114GOS
Oksø-Hanstholmen							2005208JH				2005625HM	
Hanstholmen-Aberdeen				2005205JH	2005612HM		2005208JH					2005114GOS
Utsira West	2005602HM			2005205JH	2005614HM	2005207JH	2005208JH				2005114GOS	
Feie-Shetland				2005205JH 2005611HM 2005612HM			2005617HM				2005114GOS	
Svinøy-North/West	2005103GOS			2005204JH	2005107GOS		2005209JH			2005625HM		
Gimsøy-North/West	2005103GOS			2005204JH	2005206JH			2005209JH		2005212JH		
Sørkapp West												
Fugløya-Bjørnøya	2005103GOS		2005203JH		2005206JH			2005111GOS	2005210JH	2005212JH		
Vardø North	2005103GOS		2005203JH			2005206JH			2005111GOS			
Bjørnøya West						2005107GOS		2005209JH				
Semøyene-North												
Slotterøy West											2002114GOS	
Jomfruland-Skagen					2005307GMD							
Jomfruland-Koster				2005307GMD								
Torbjørnskjær				2005307GMD								
Väderø				2005307GMD								
Måseskjær				2005307GMD								
Gøteborg-Fredrikshavn				2005307GMD								

Standard sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Kattegat				2005307GMD								
Røst-Tennholmen			2005204JH									
Ballstad- Måløy/Skarholmen				2005204JH								

### 3.2 Other oceanographic sections 2005

Standard sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Færøylene-Shetland				2005105GOS								
Kabelvåg-Steigen				2005204JH								

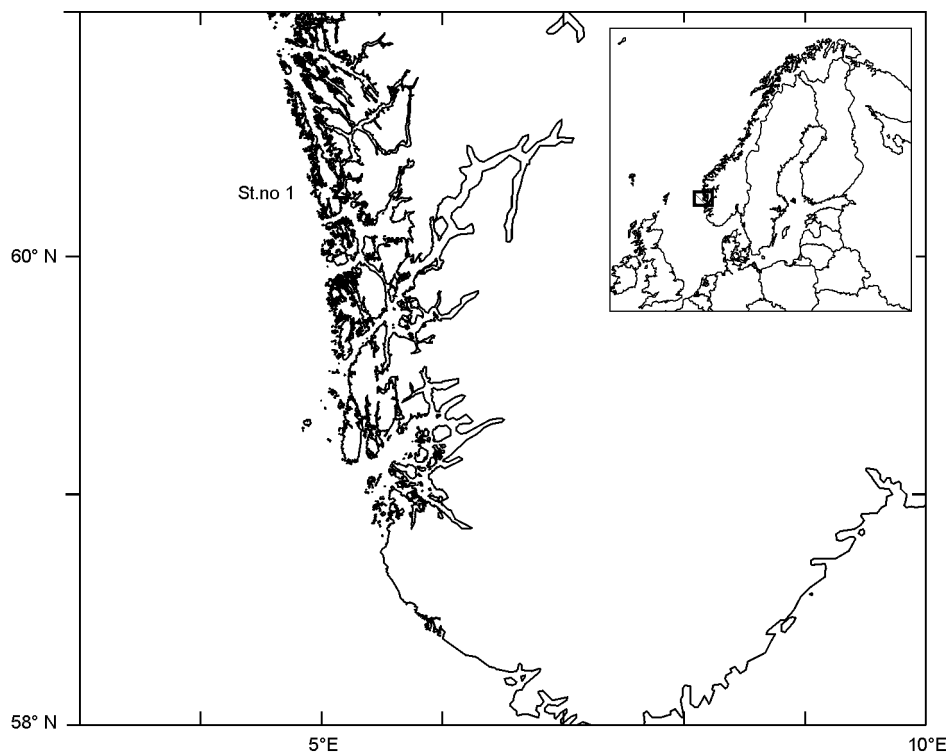
### 3.3 Fixed oceanographic stations 2005

(No of observations)

Fixed stations	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
<b>LISTA</b> N58° 05,1' E06° 32,5'	2	3	2	3	3	3	3	3	3	3	3	3	34
<b>UTSIRA Y</b> N59° 19' E04° 44'		1	2	2	1	2	1	3	2	1	2	1	18
<b>UTSIRA I</b> N59° 19' E04° 59'		1	2	2	1	2	1	3	2	1	2	1	18
<b>SOGNESJØEN</b> N61° 01' E04° 50'	1	3	4	2	2	4	2	3	2	3	2	2	30
<b>BUD</b> N62° 56' E06° 47'		1	1	2	1	1	2	2	1	1	1	1	14
<b>SKROVA</b> N68° 07' E14° 39'	4	4	5	2	4	5	4	4	5	4	4	5	50
<b>EGGUM</b> N68° 23' E13° 38'	2	2	3	2	4	3	3	3	2	3	3	3	33
<b>INGØY</b> N71° 08' E24° 01'	1	3	4	4	3	4	2	3	4	4	3	4	39

## 4 CHARTS FOR CRUISES 2005

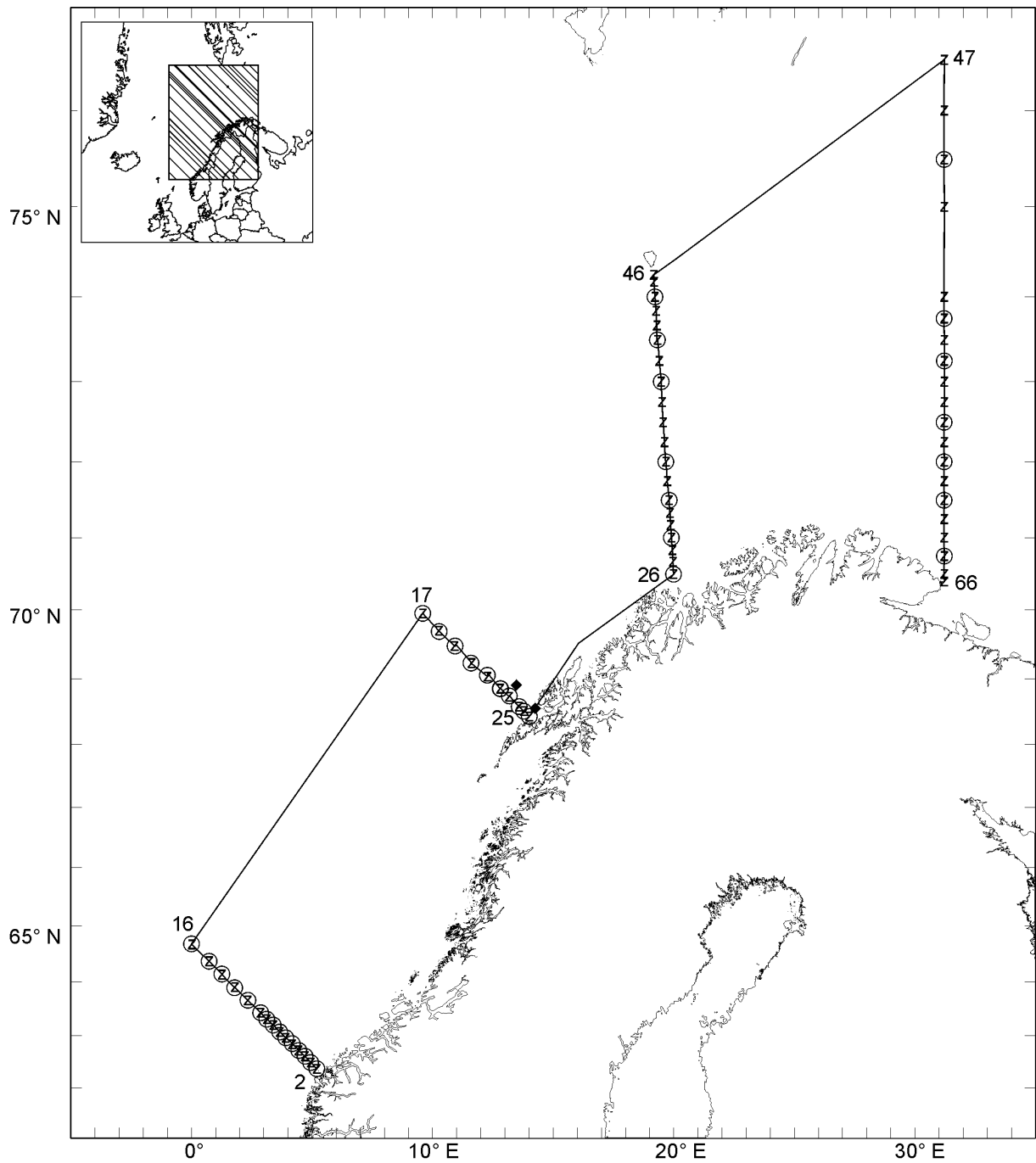
### 4.1 G. O. Sars



12-14 January 2005  
Cruise no 2005102

z CTD st.no 1

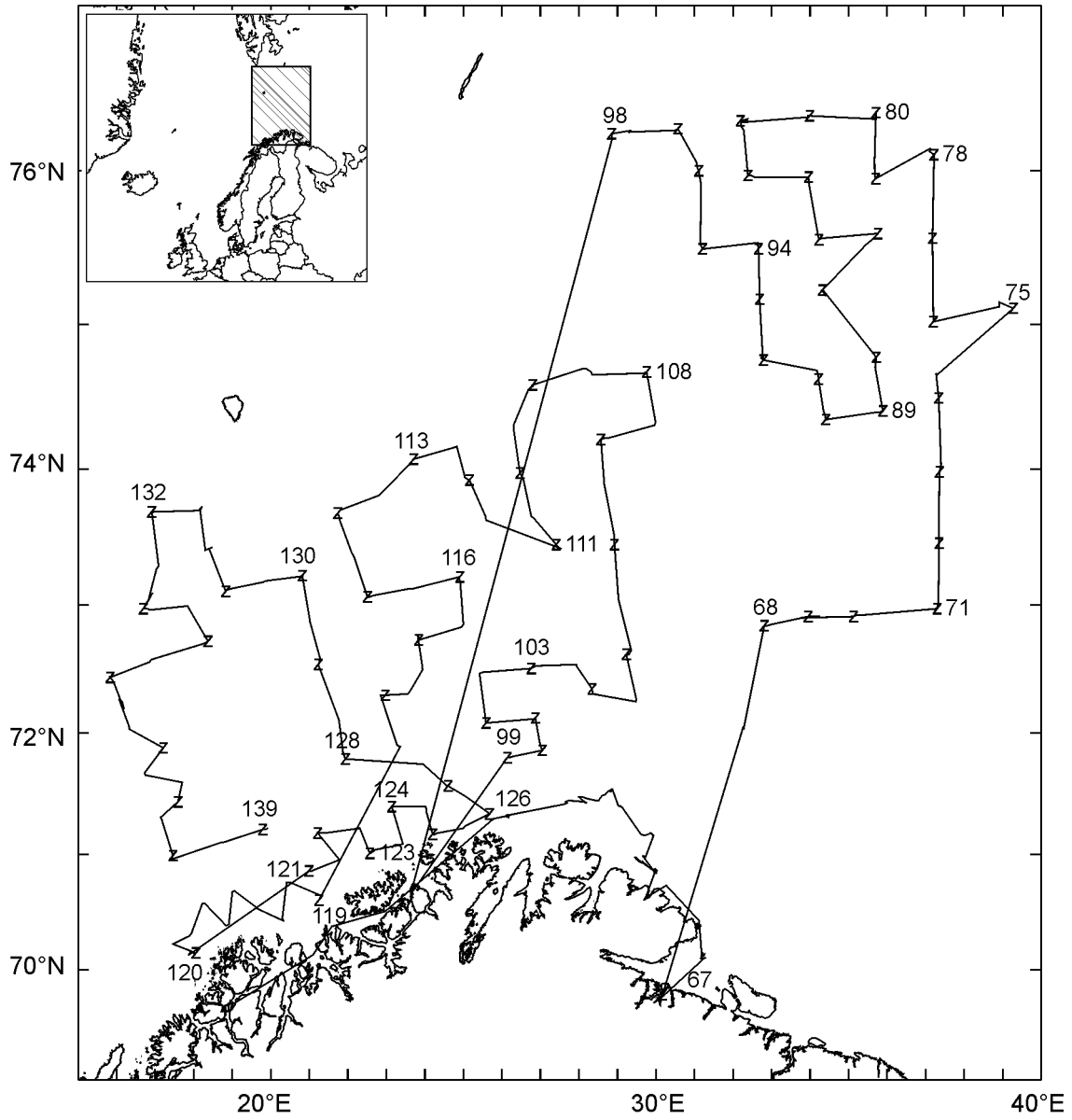
"G. O. Sars"



16 Jan – 29 Jan 2005  
Cruise no 2005103

z CTD st.no 2-66  
 ○ Plankton st. (WP-II-net)  
 ◆ Plankton st. (Mocness)  
 Standard sections:  
 Svinøy NW st.no 2-16  
 Gimsøy NW: st.no 17-25  
 Fugløya-Bjørnøya: st.no 26-46  
 Vardø-N st.no 47-66

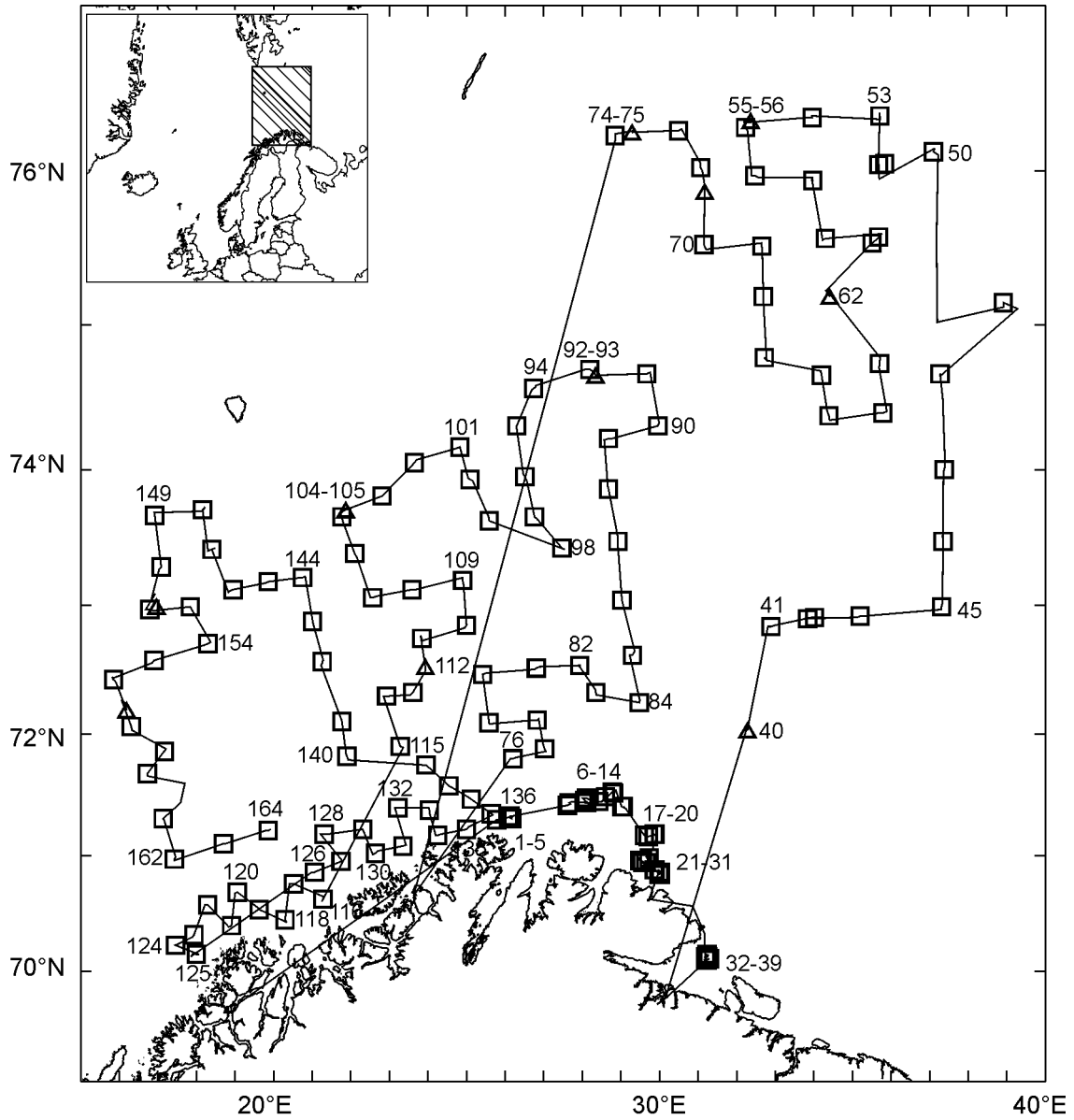
“G. O. Sars”



1 Feb – 7 Mar 2005  
Cruise no 2005104

z CTD st.no 67-139

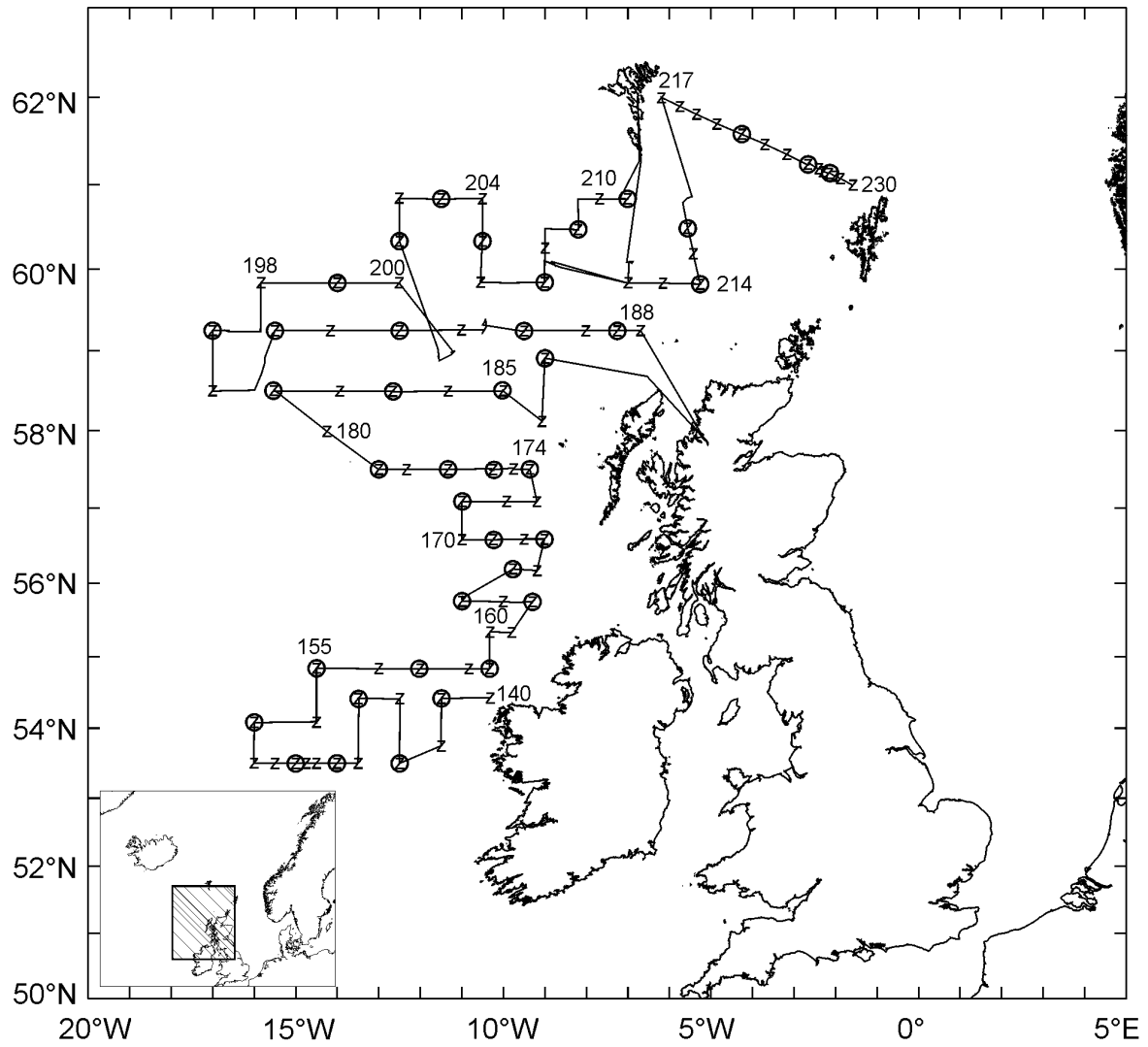
“G. O. Sars”



1 Feb - 7 March 2005  
Cruise no 2005104

Trawl st.no 1-164  
□ Bottom trawl  
△ Pelagic trawl

“G. O. Sars”

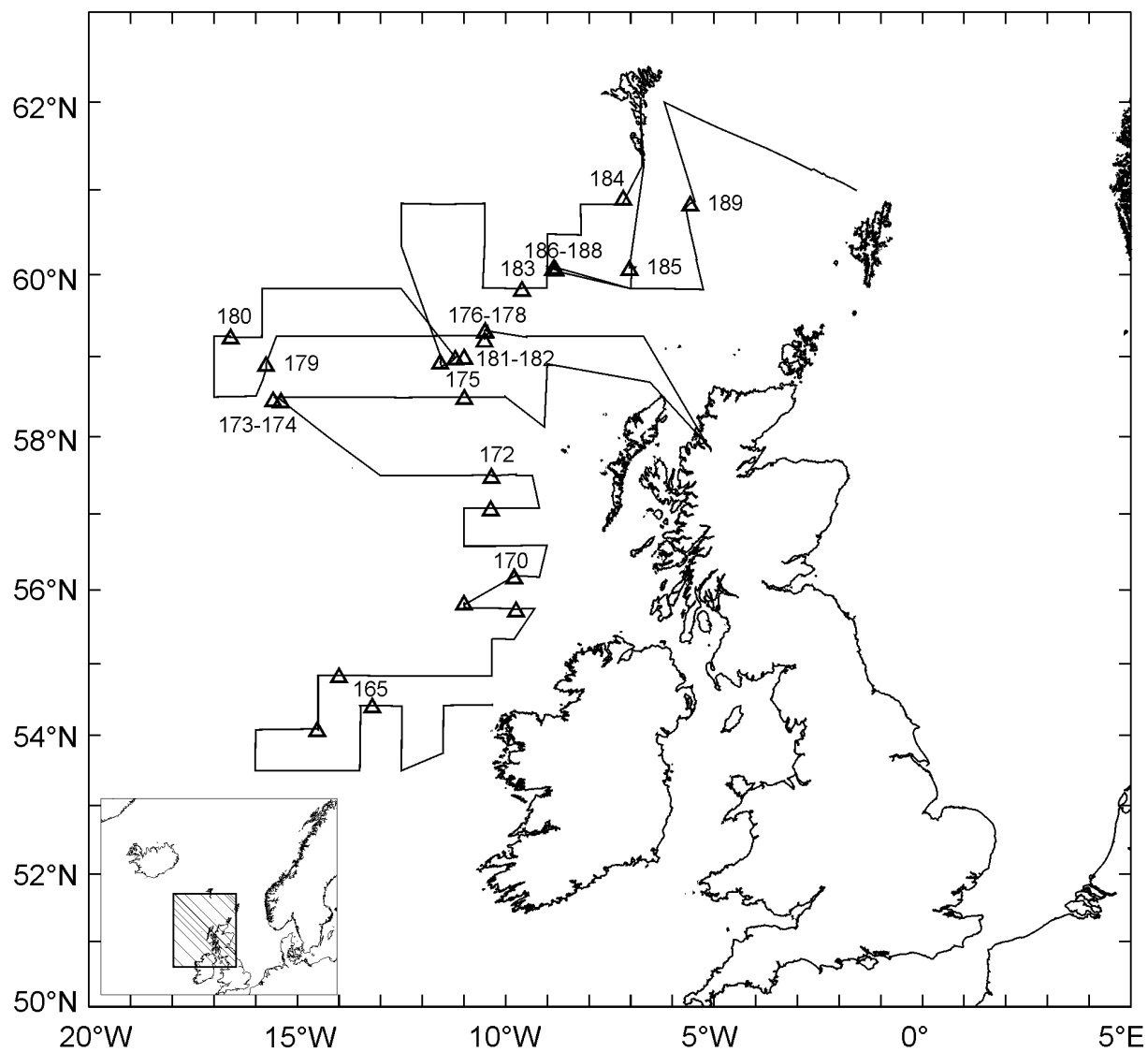


11 March – 15 April 2005  
 Cruise no 2005105

z CTD st.no 140-230  
 O Plankton st. (WP-II-net)  
 Standard section:  
 Færøylene-Shetland st.no 217-230

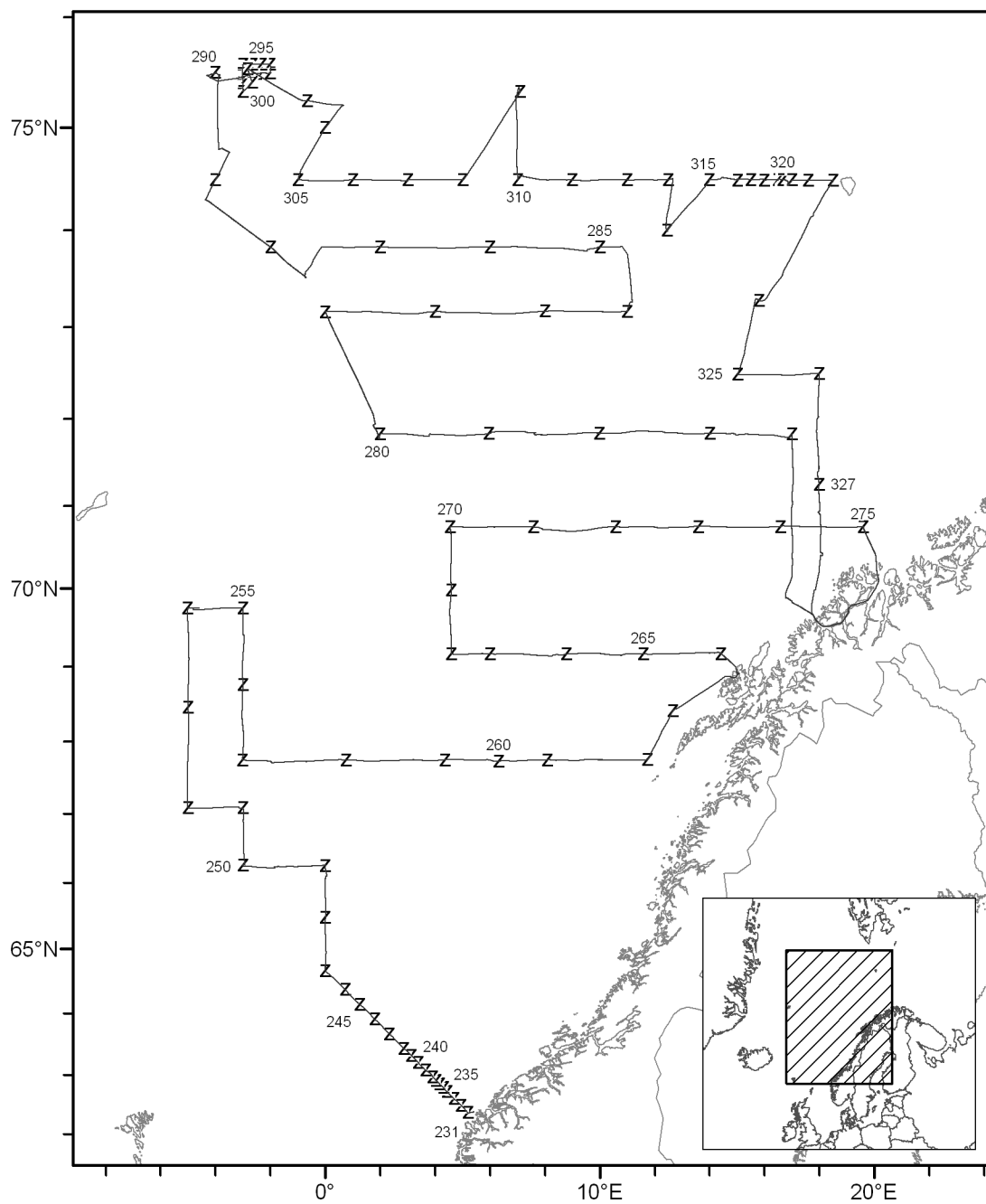
“G. O. Sars”





11 March – 15 April 2005  
Cruise no 2005105

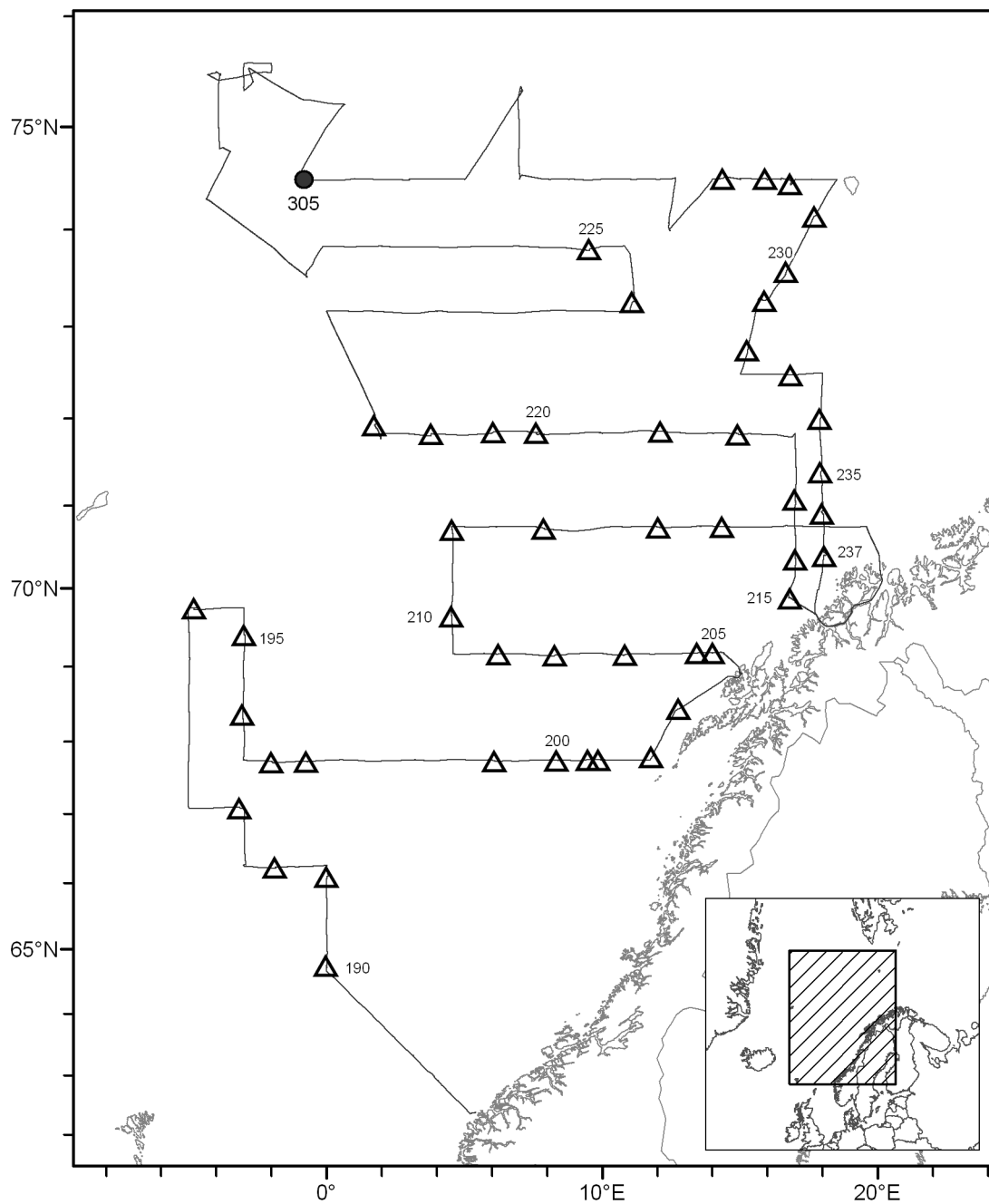
△ Pelagic trawl st.no 165-189      “G. O. Sars”



6 May – 8 June 2005  
Cruise no 2005107

z CTD st.no 231-327  
Standard sections:  
Svinøy-NW st.no 231-246  
Bjørnøya-W st.no 310-313, 315-323

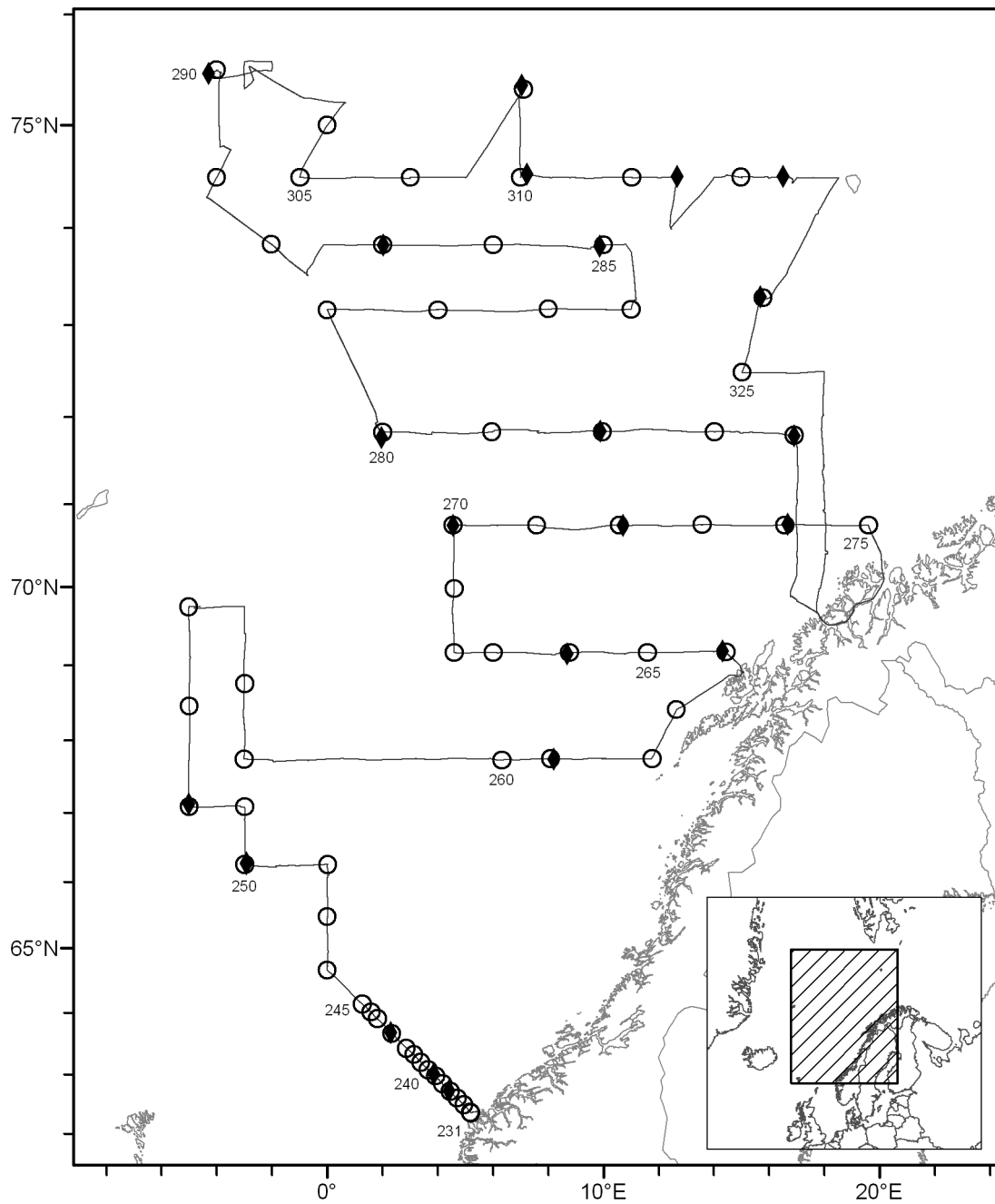
“G. O. Sars”



6 May – 8 June 2005  
 Cruise no 2005107

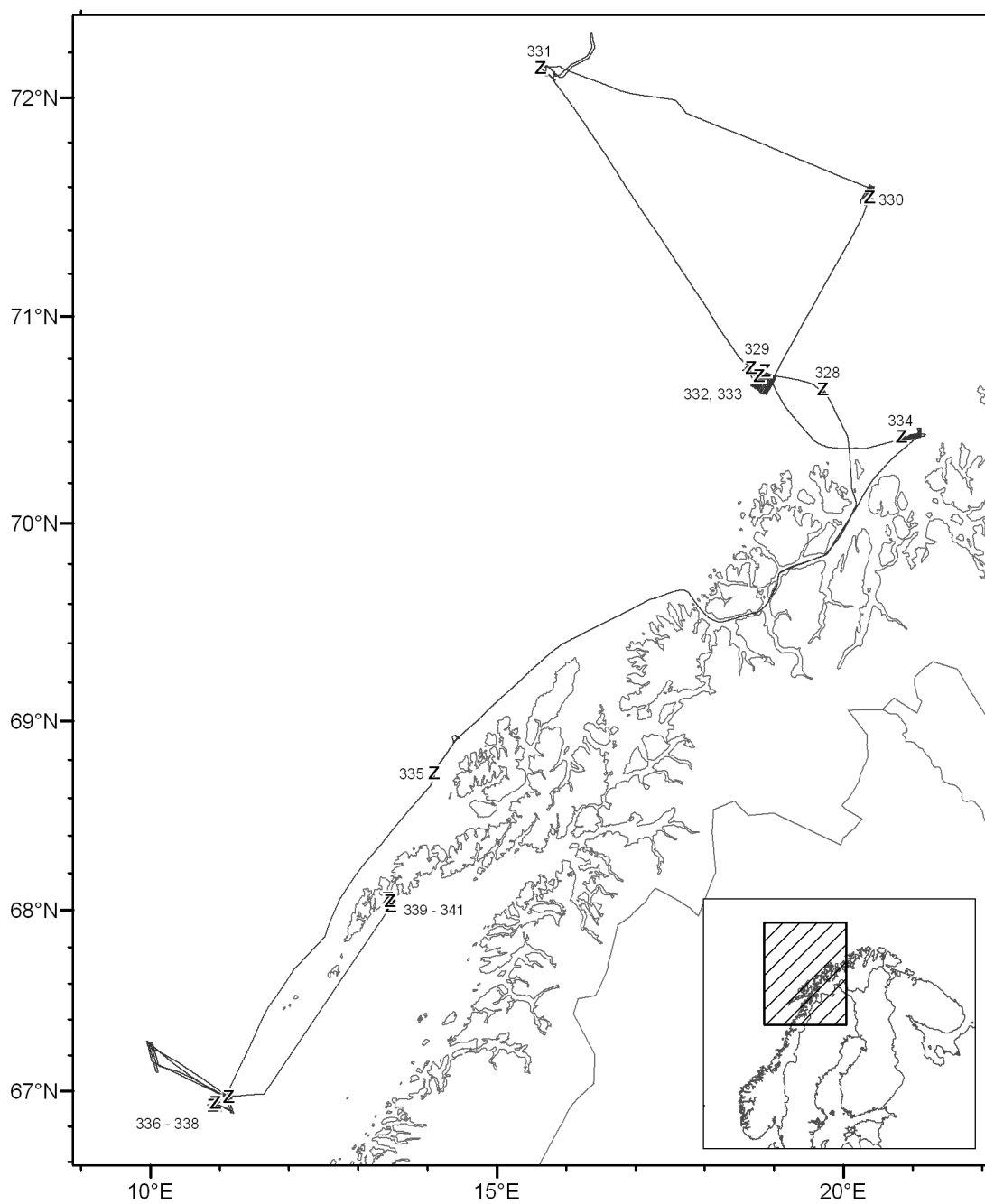
△ Pelagic trawl st.no 190-237  
 ● Grab st.no 305

“G. O. Sars”



6 May – 8 June 2005  
Cruise no 2005107

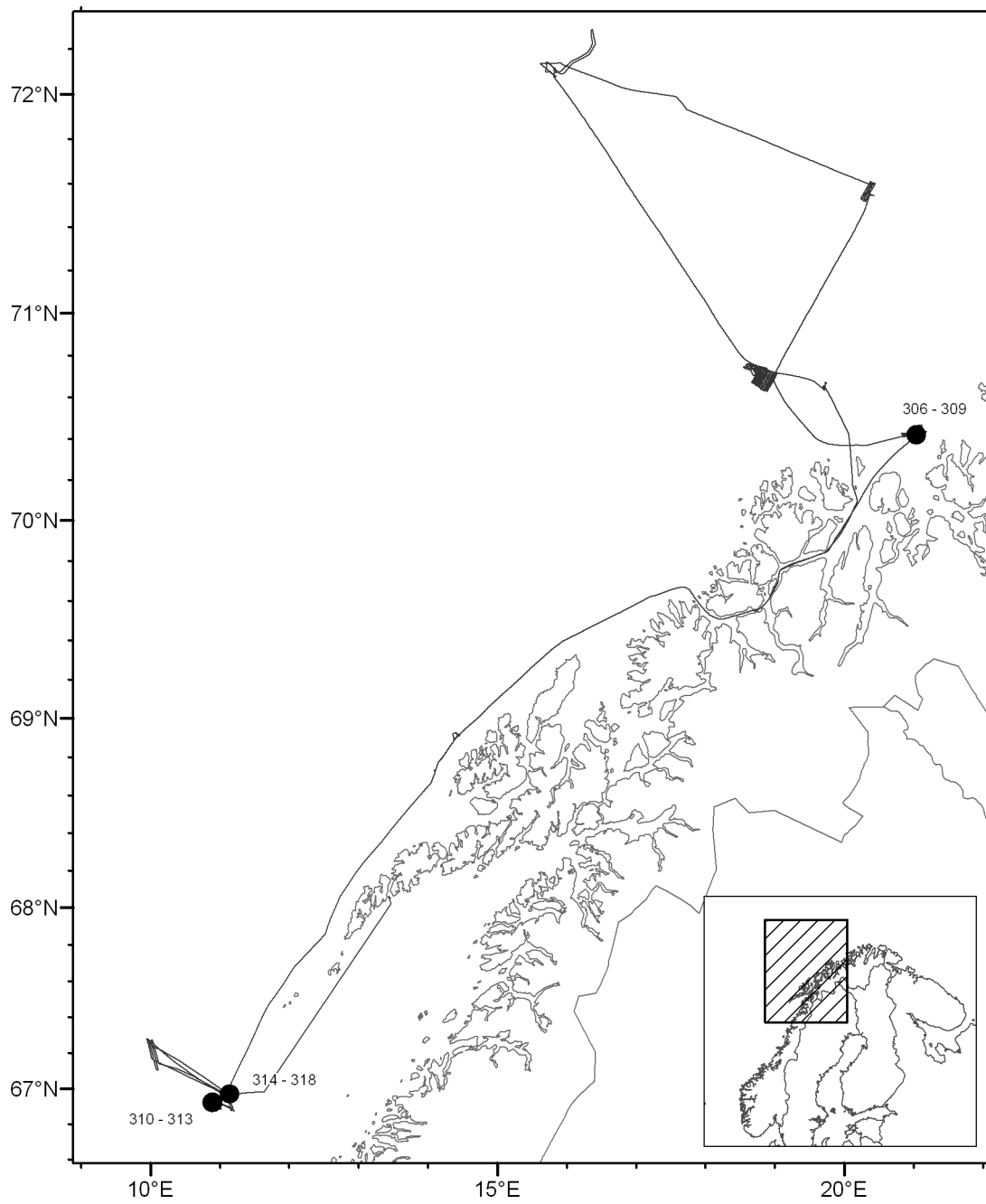
○ Plankton st. (WP-II-net) st.no 231-325 “G. O. Sars”  
◆ Plankton st. (Mocness) st.no 234-324



9-25 June 2005  
Cruise no 2005108

z CTD st.no 328-341

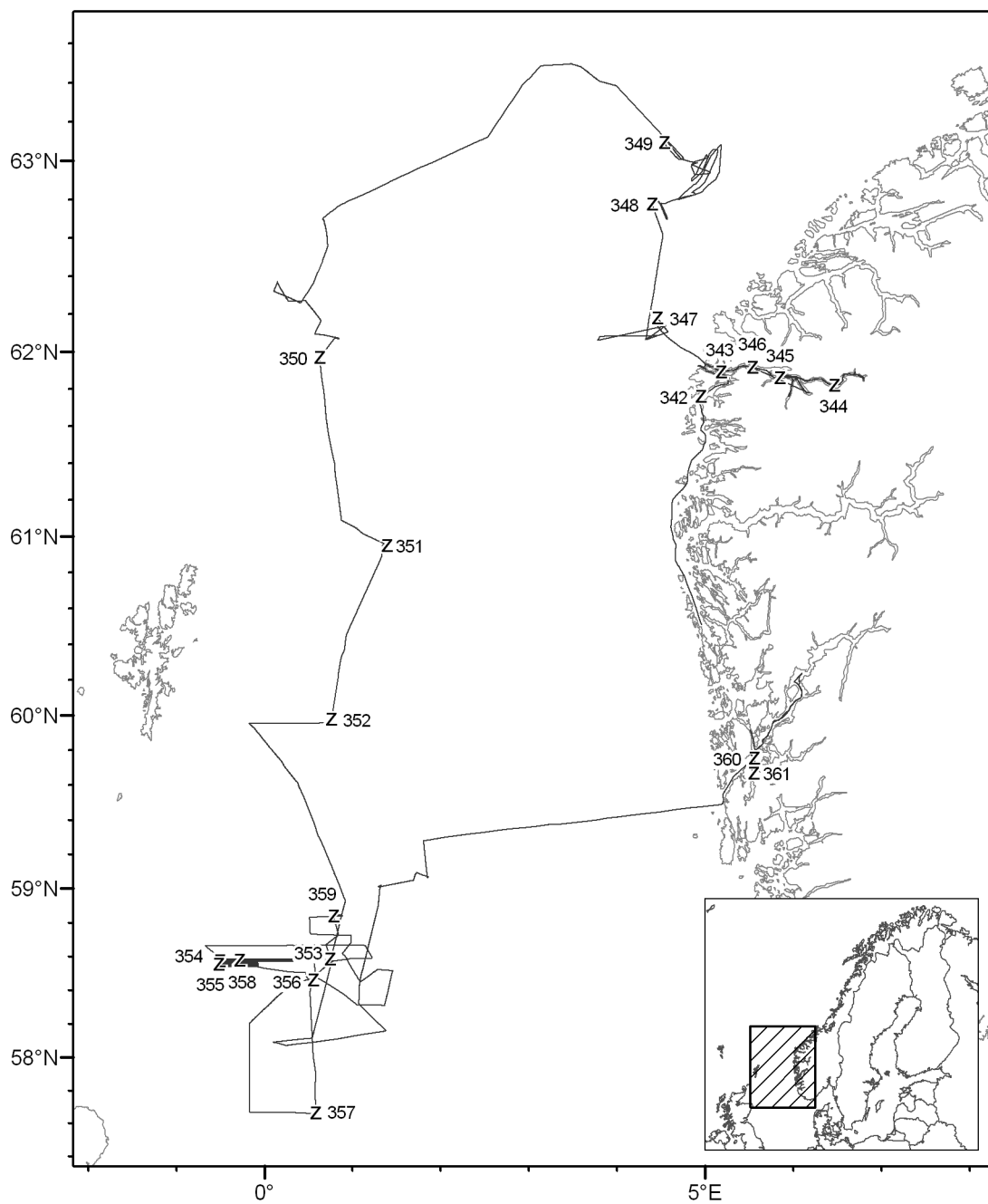
"G. O. Sars"



9-25 June 2005  
Cruise no 2005108

● Grab st.no 306-318

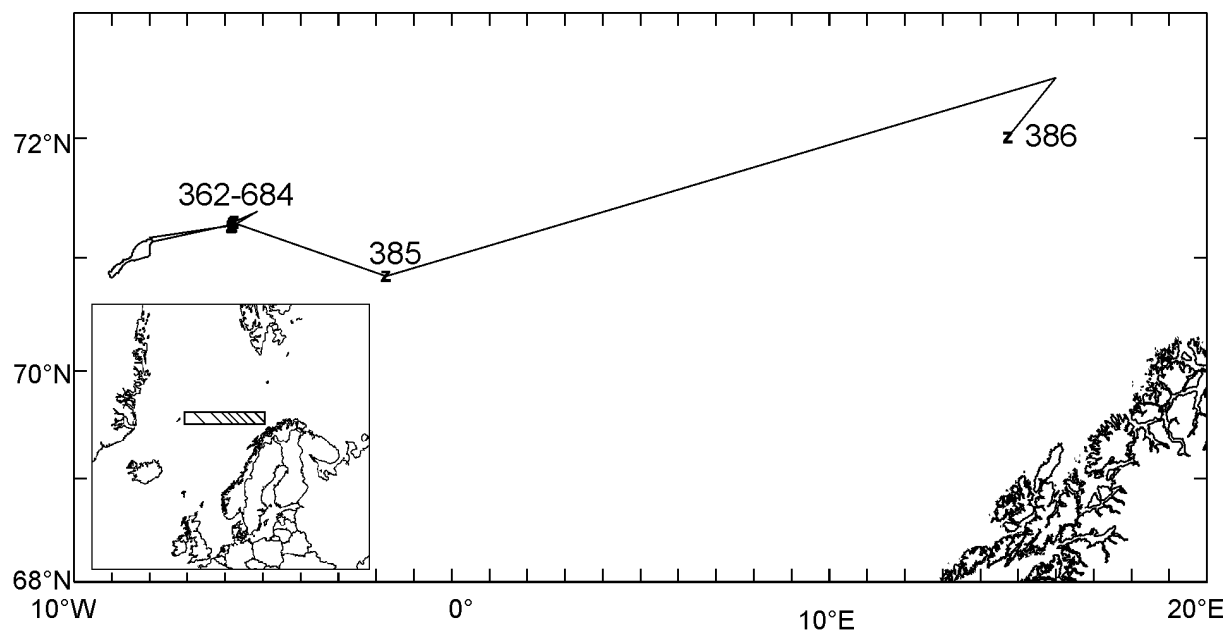
“G. O. Sars”



30 June – 14 July 2005  
Cruise no 2005109

z CTD st.no 342-361

“G. O. Sars”

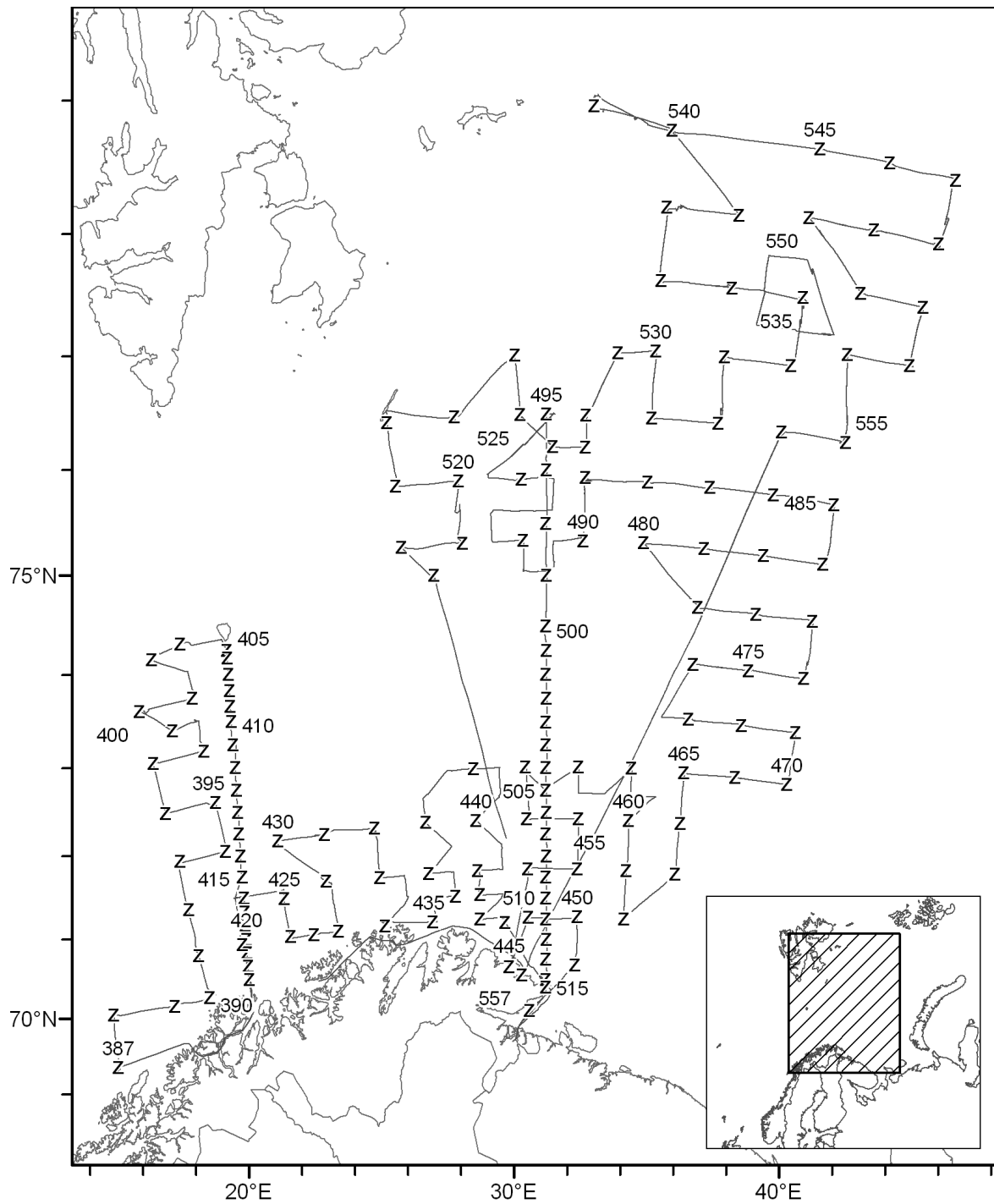


15 July – 4 August 2005  
Cruise no 2005110

z CTD st.nr 362-386

“G. O. Sars”

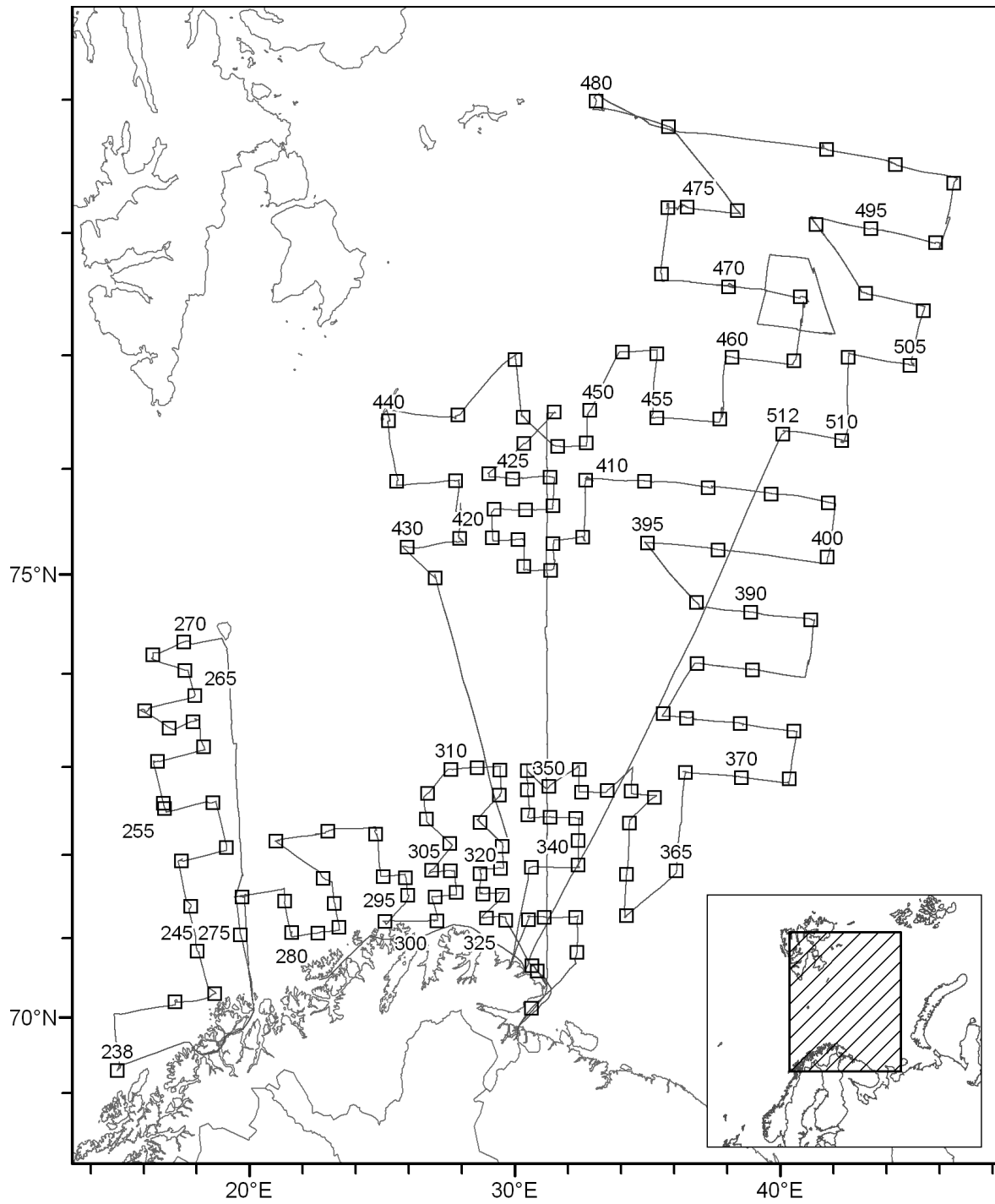




6 Aug-30 Sep 2005  
Cruise no 2005111

z CTD st.no 387-557  
Standard sections:  
Fugløya-Bjørnøya st.no 405-423  
Vardø-N st.no 495-515

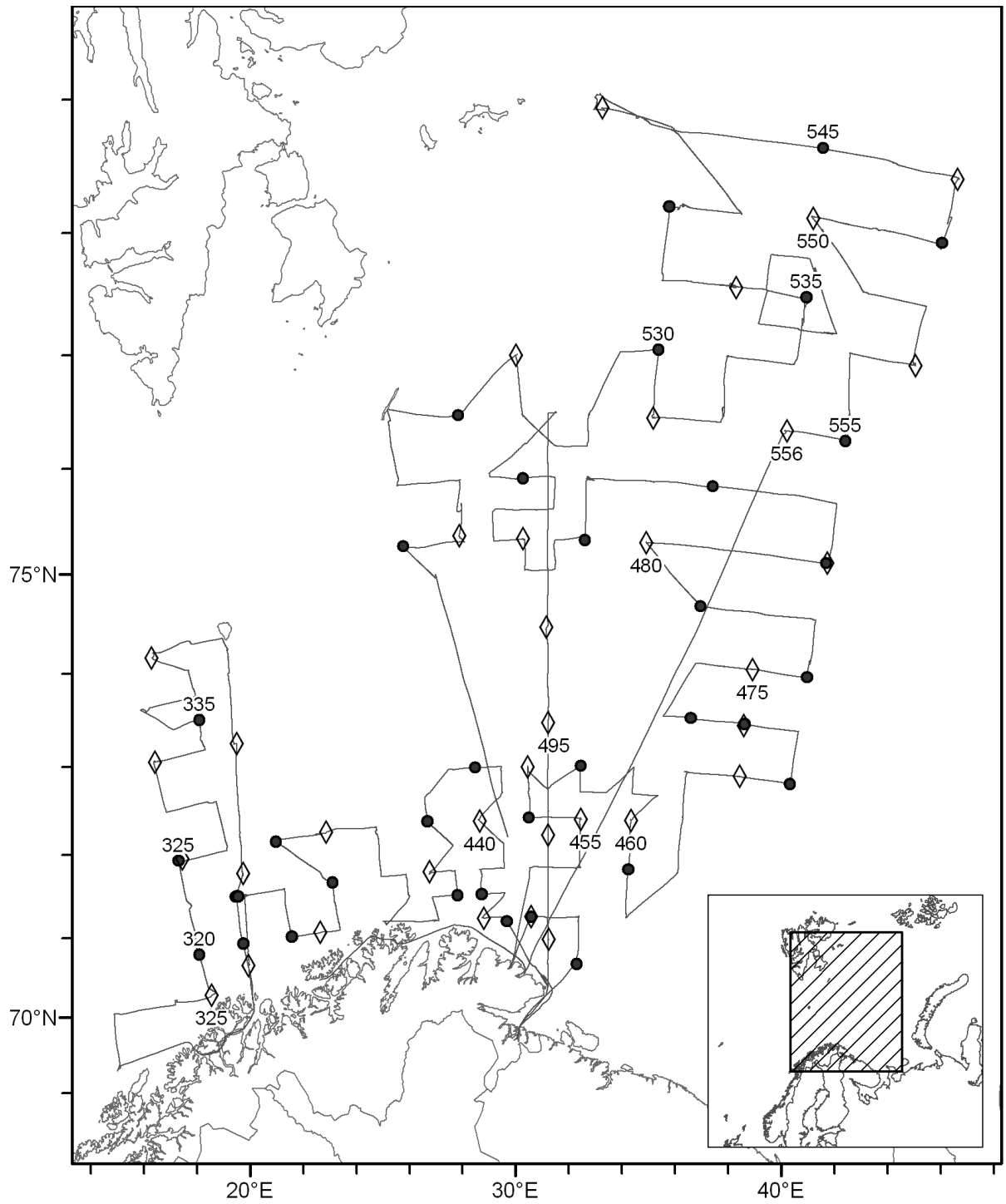
“G. O. Sars”



6 Aug-30 Sep 2005  
Cruise no 2005111

□ Bottom trawl st.no 238-512

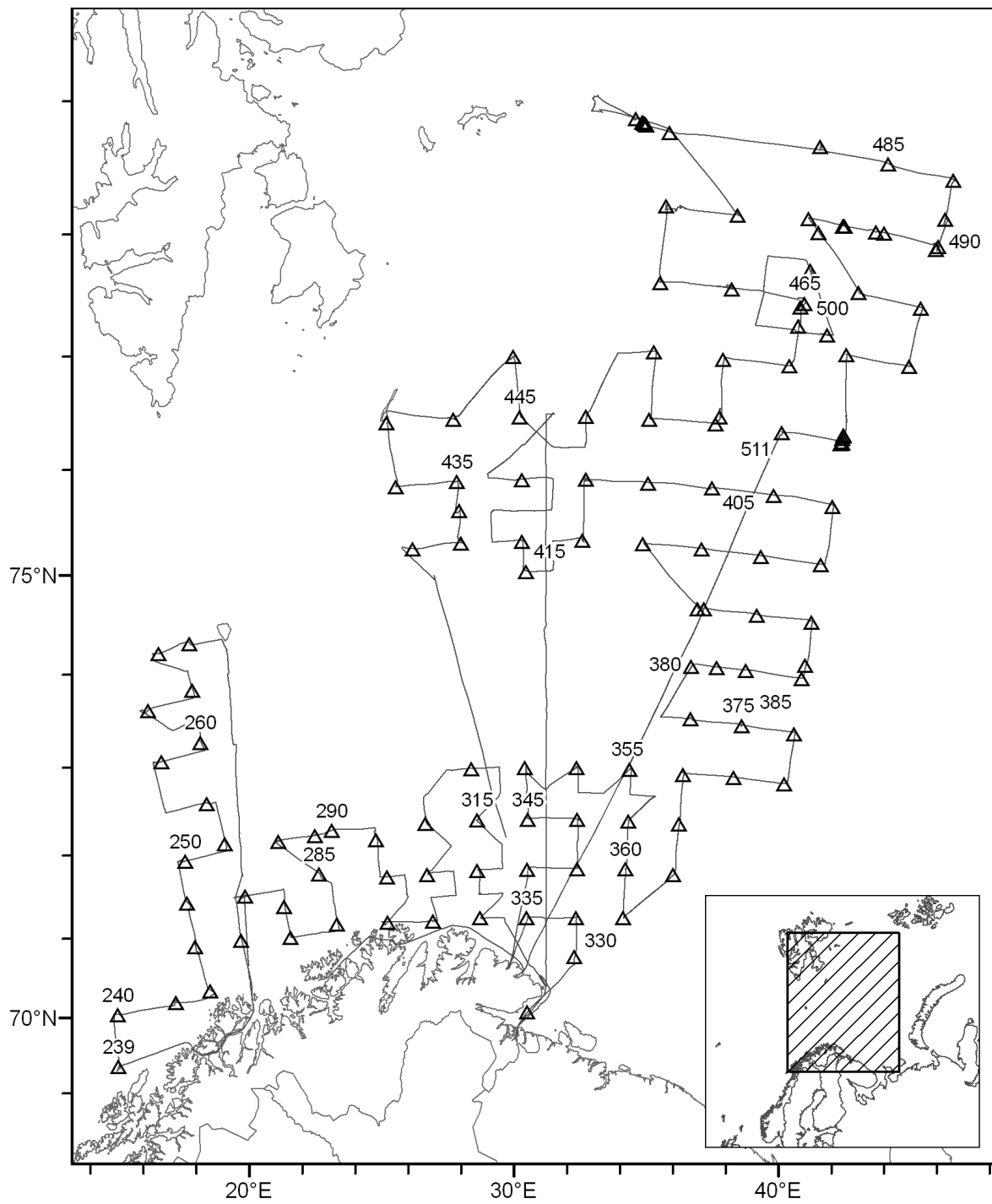
“G. O. Sars”



6 Aug-30 Sep 2005  
Cruise no 2005111

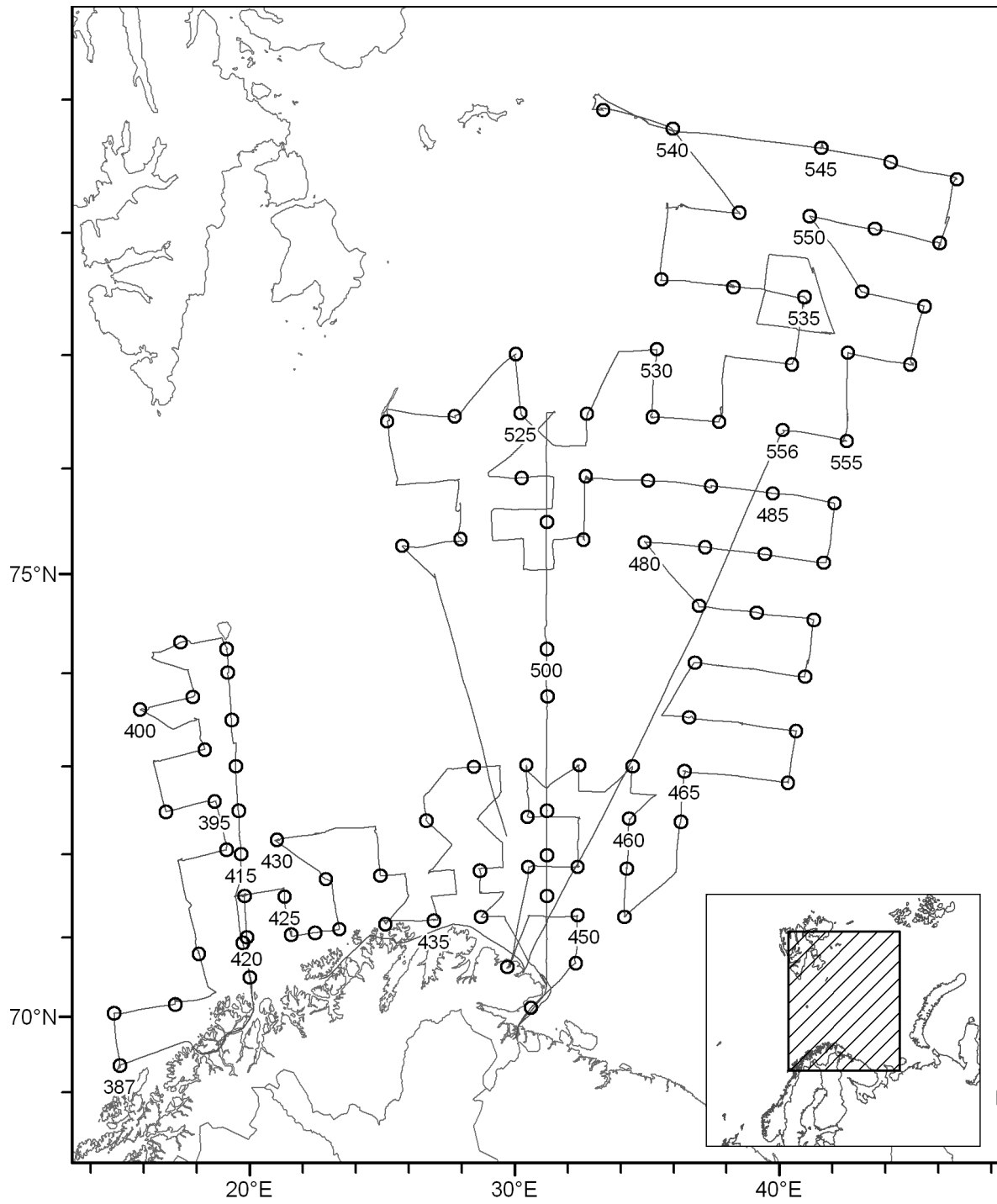
◇ Mocness st.no 325-556  
● Grab st.no 319-555

“G. O. Sars”



6 Aug-30 Sep 2005  
Cruise no 2005111

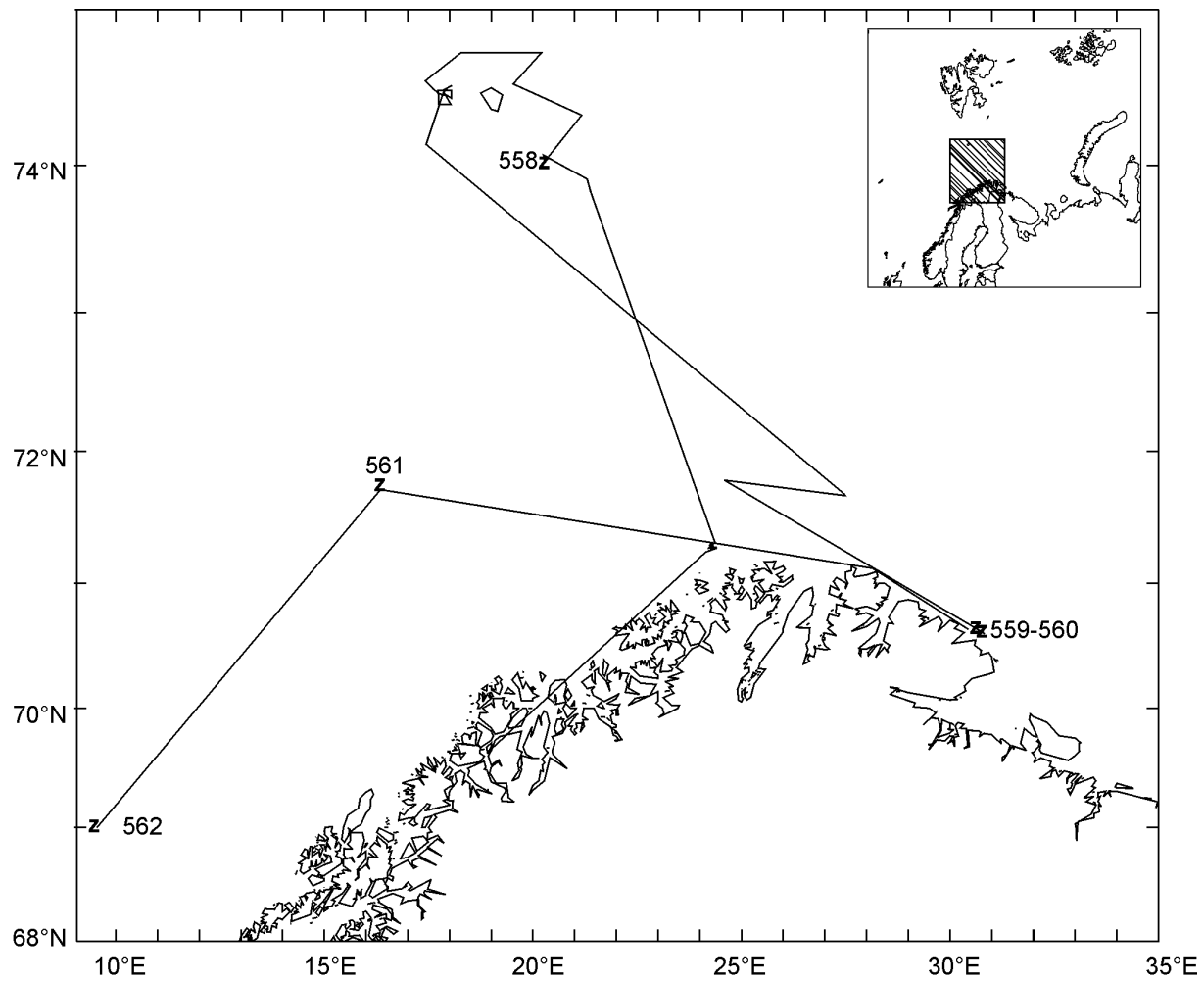
△ Pelagic trawl st.no 239-511 "G. O. Sars"



6 Aug-30 Sep 2005  
Cruise no 2005111

○ WP-II-net st.no 387-556

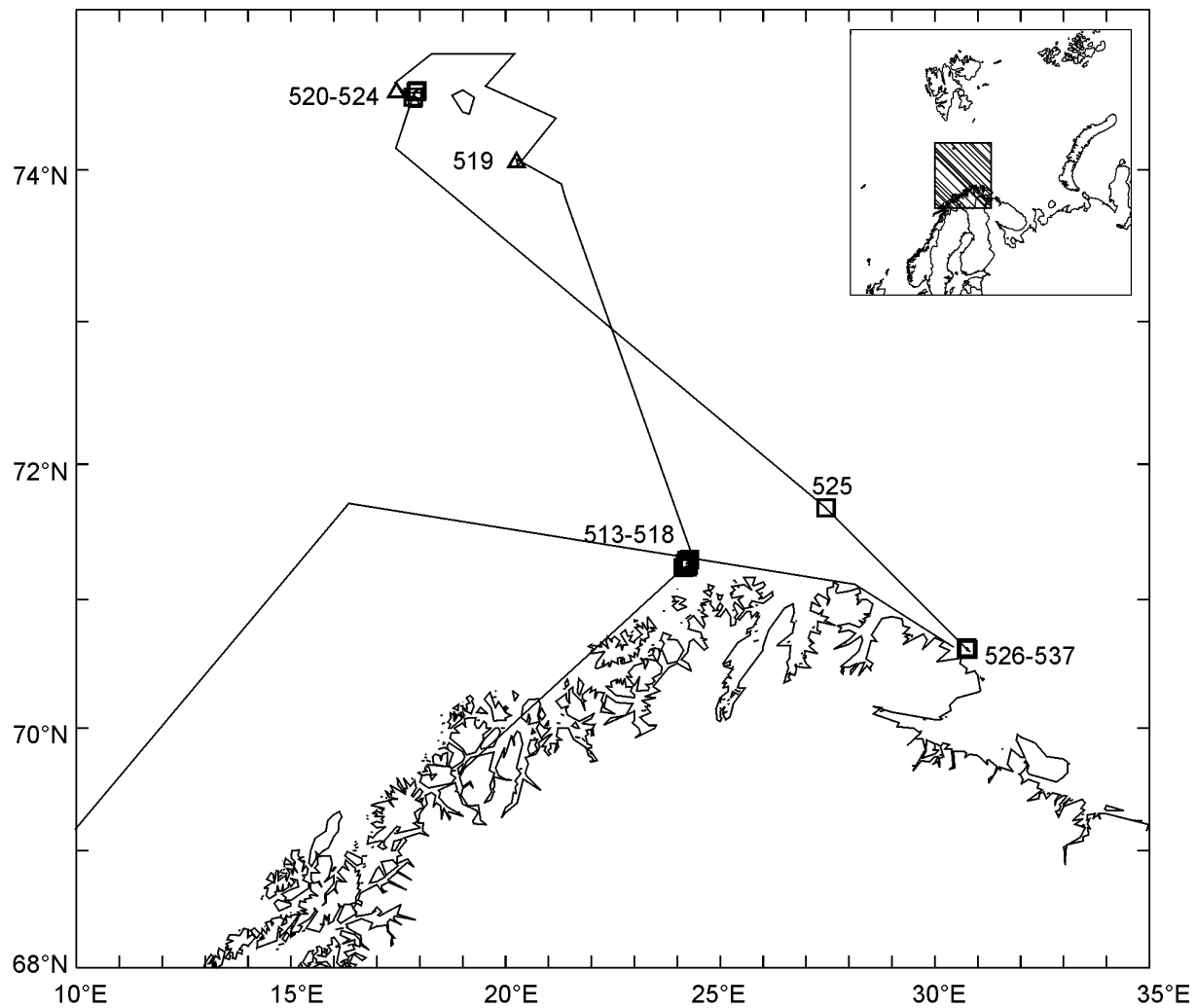
"G. O. Sars"



30 Sep – 9 Oct 2005  
Cruise no 2005112

z CTD st.no 558-562

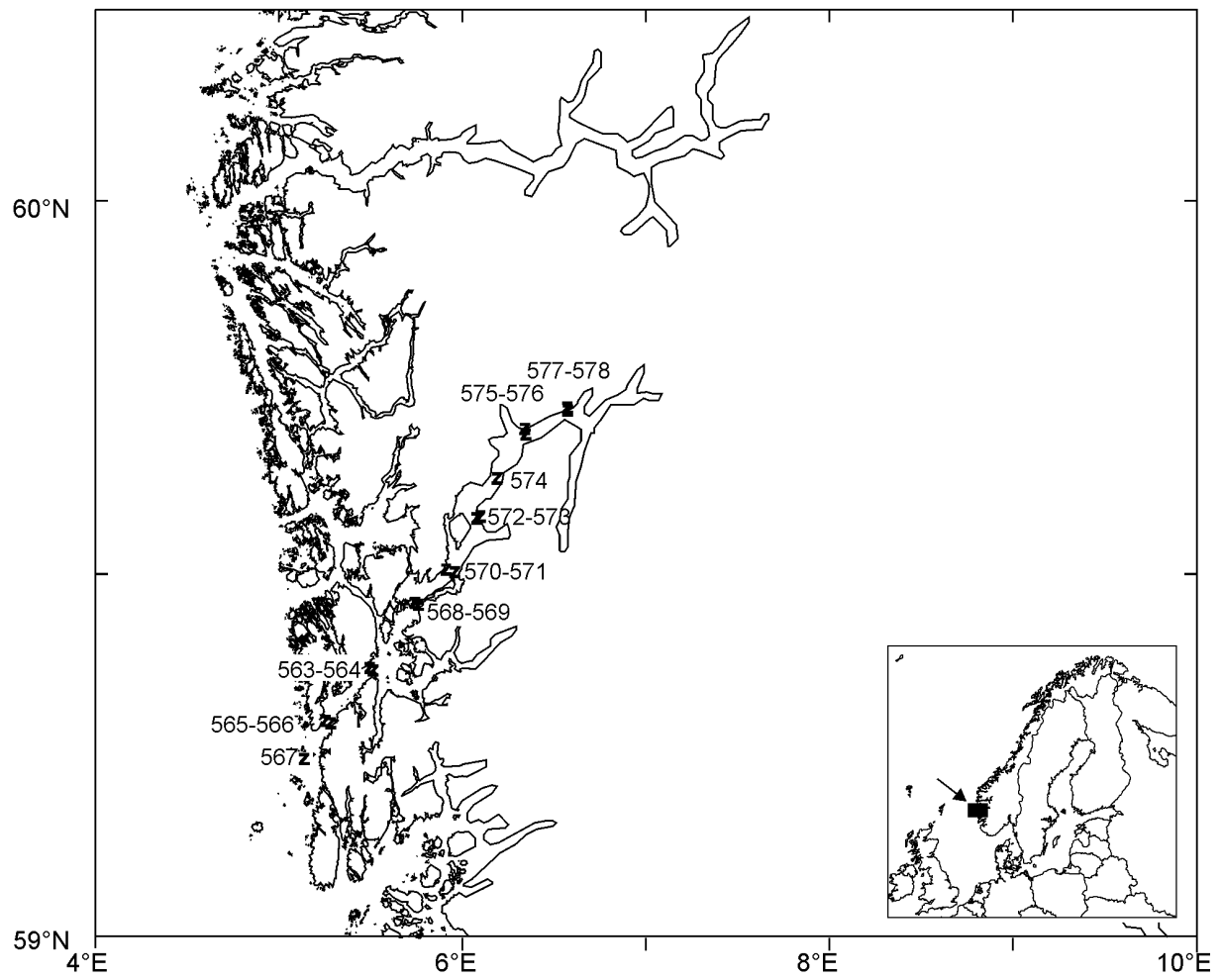
“G. O. Sars”



30 Sep – 9 Oct 2005  
Cruise no 2005112

Trawl st.no 513-537  
 Δ Pelagic trawl  
 □ Bottom trawl

“G. O. Sars”

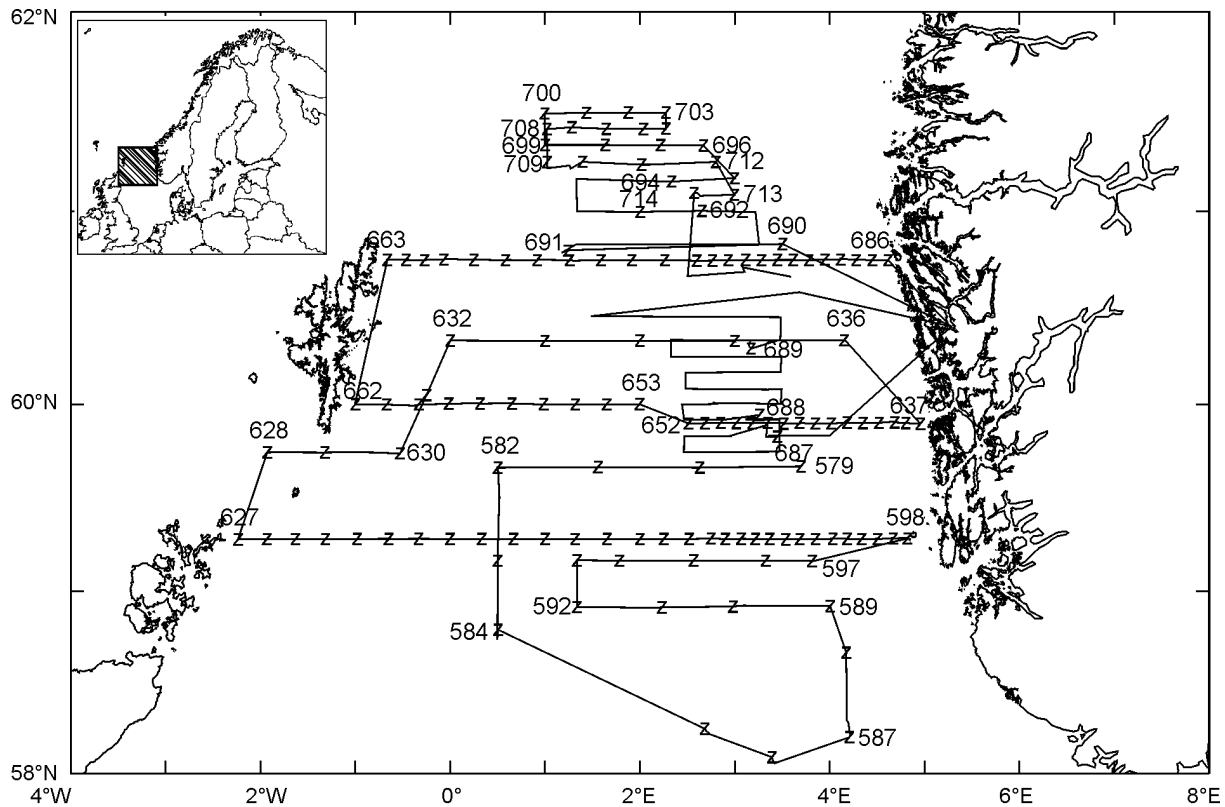


20-24 Oct 2005  
Cruise no 2005113

z CTD st.no 563-578

“G. O. Sars”

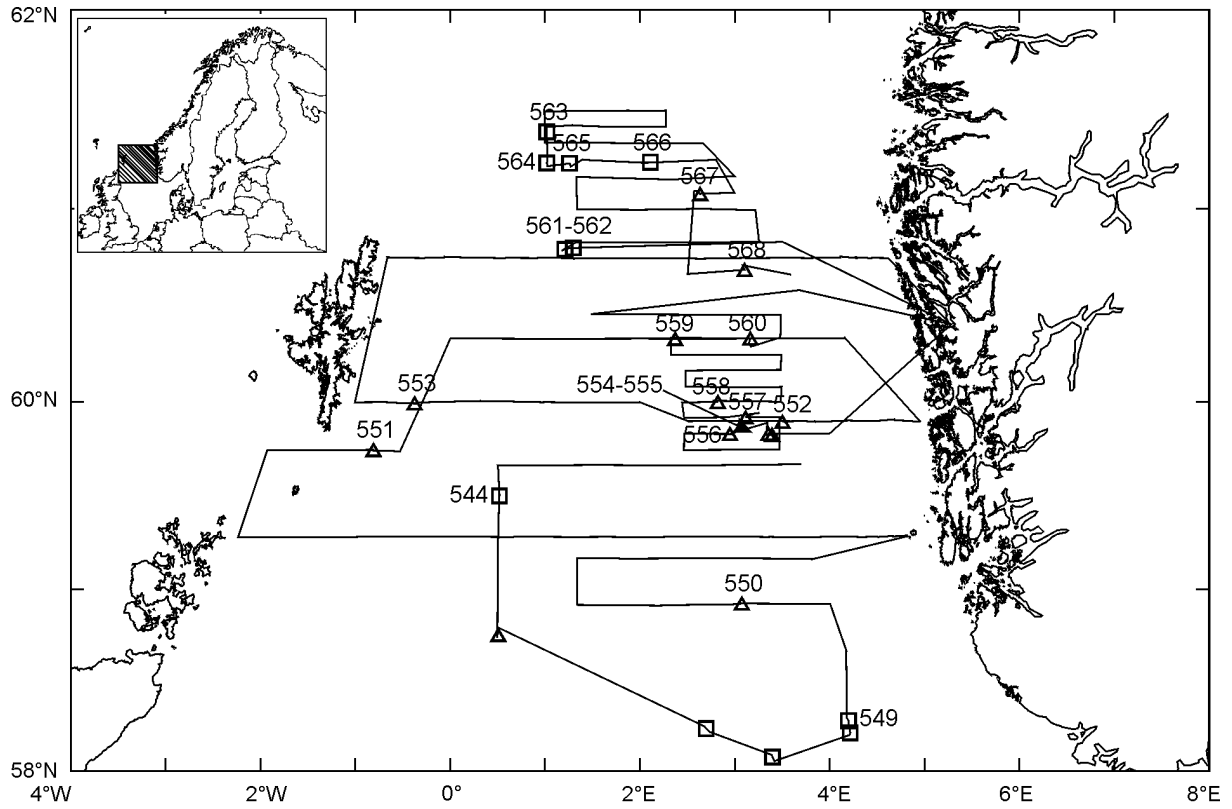




26 Oct-18 Nov 2005  
Cruise no 2005114 Part I

z CTD st.no 579-714  
Standard section  
Feie-Shetland st.no 663-686  
Utsira mot W st.no 598-627  
Slotterøy mot W st.no 637-662

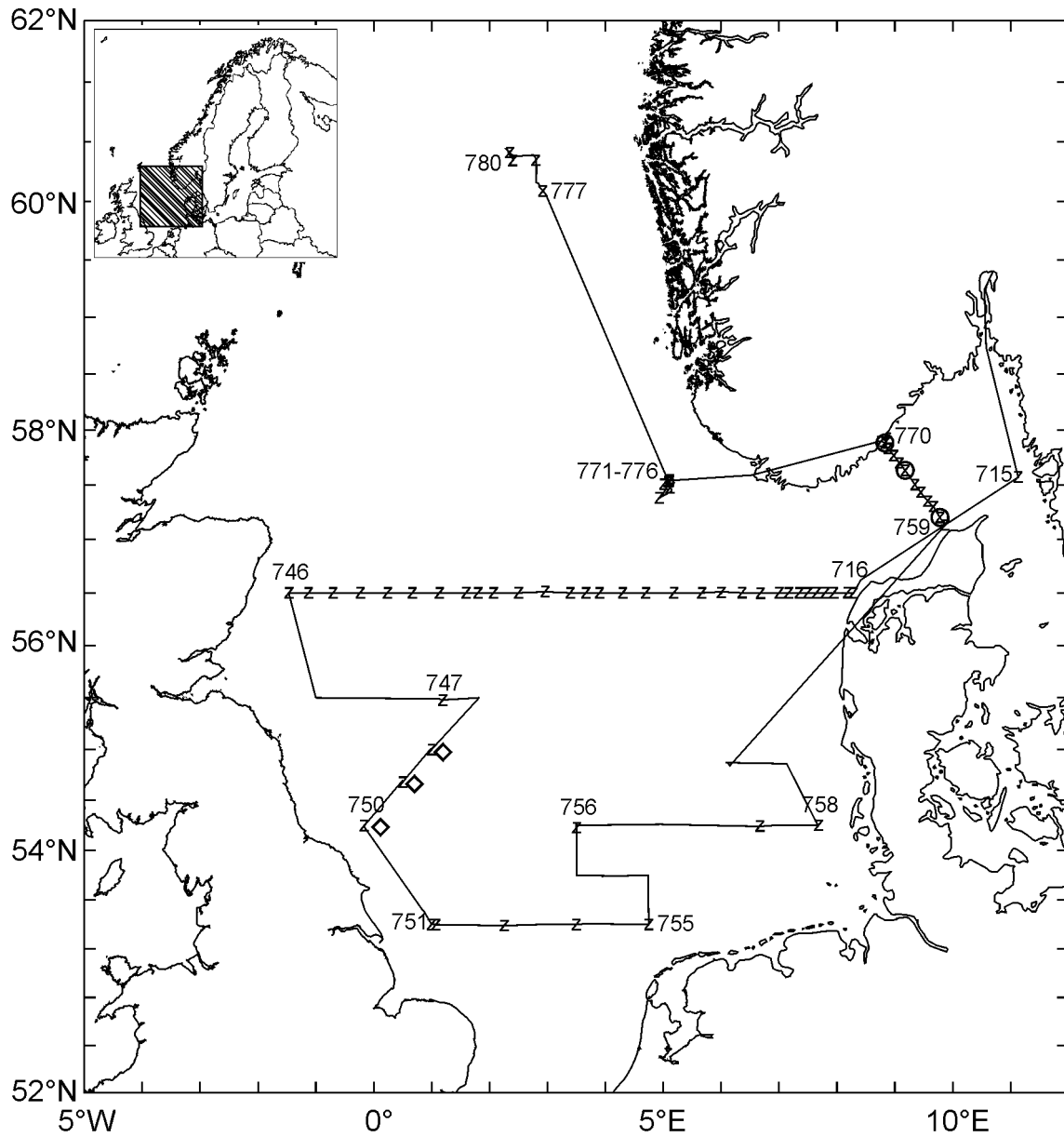
“G. O. Sars”



26 Oct – 18 Nov 2005  
 Cruise no 2005114 Part I

Trawl st.no 544-568  
 □ Bottom trawl  
 △ Pelagic trawl

“G. O. Sars”

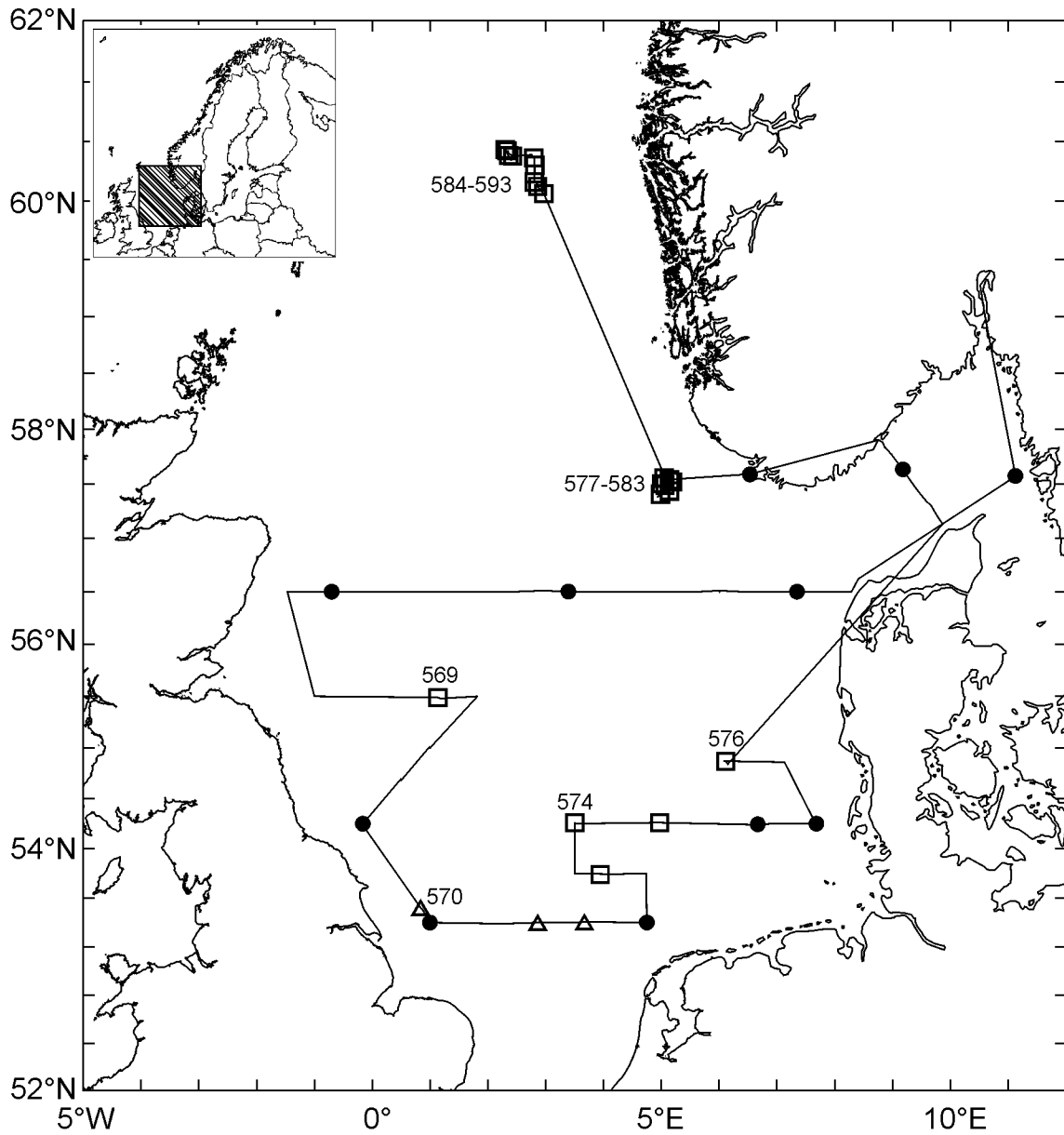


26 Nov – 18 Dec 2005  
 Cruise no 2005114 Part II

z CTD st.no 715-780  
 O Plankton st. (WP-II-net)  
 ◇ MIK stations

“G. O. Sars”

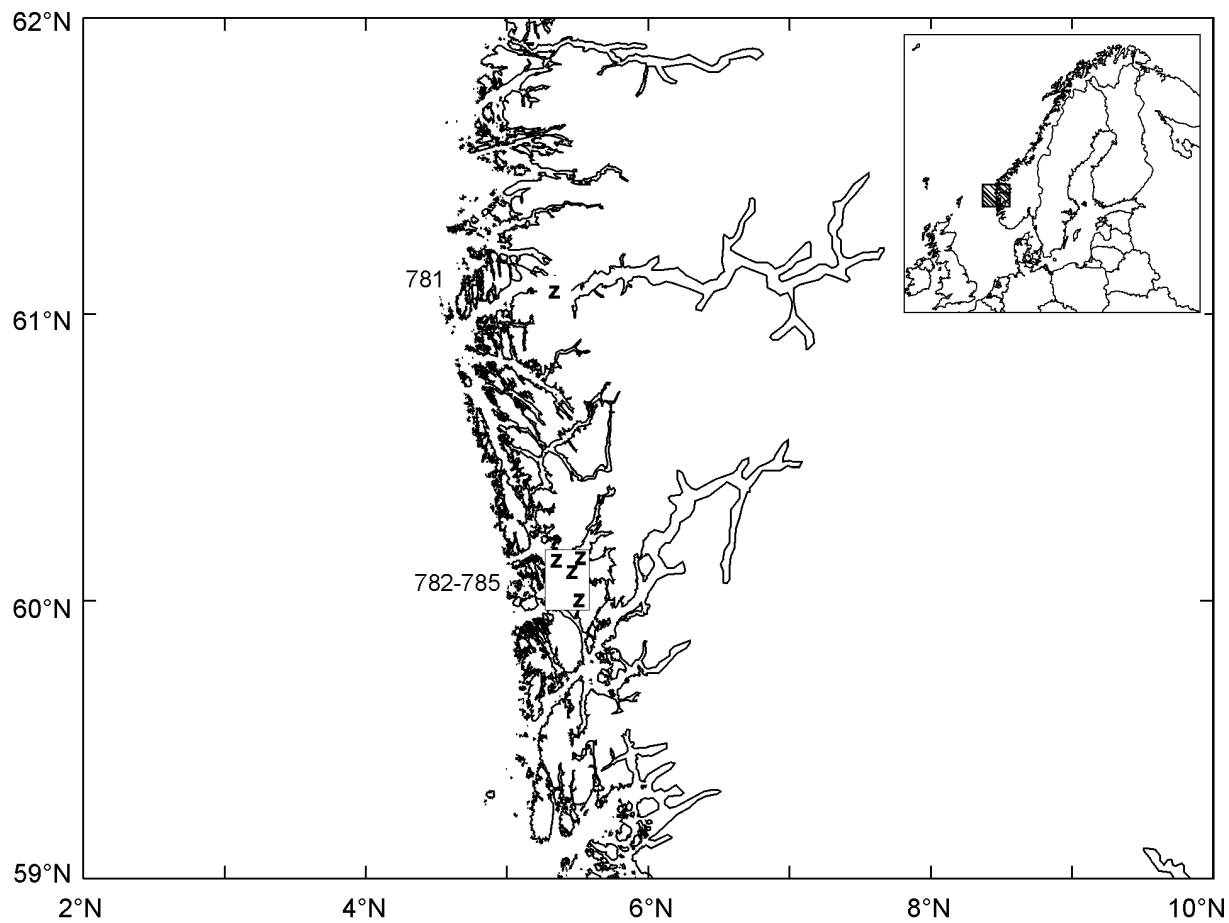
Standard sections:  
 Hanstholmen-Aberdeen st.no 716-746  
 Torungen-Hirtshals st.no 759-770



26 Nov – 18 Dec 2005  
 Cruise no 2005114 Part II

Trawl st.no 569-593  
 □ Bottom trawl  
 △ Pelagic trawl  
 ● Grab st.

“G. O. Sars”

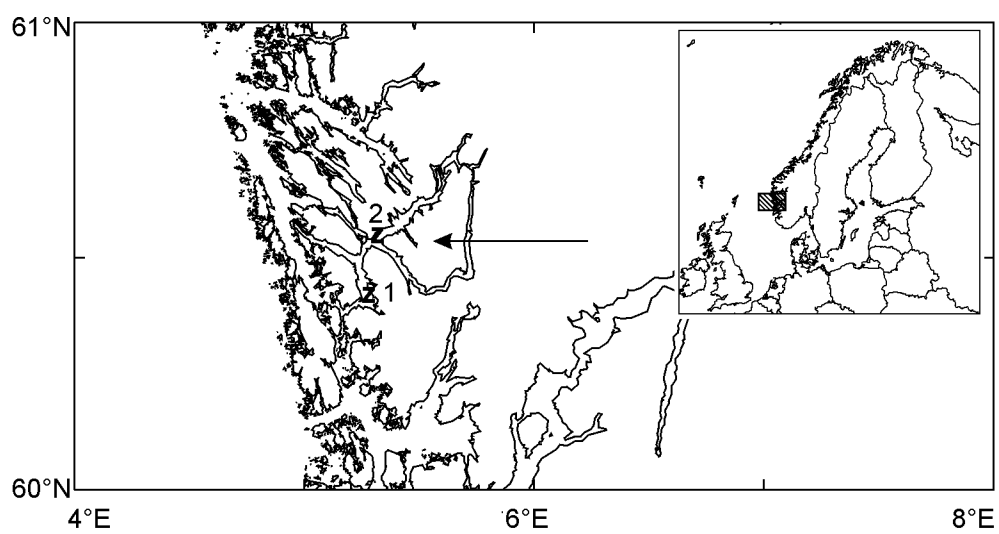


19-23 Dec 2005  
Cruise no 2005115

z CTD st.no 781-785

“G. O. Sars”

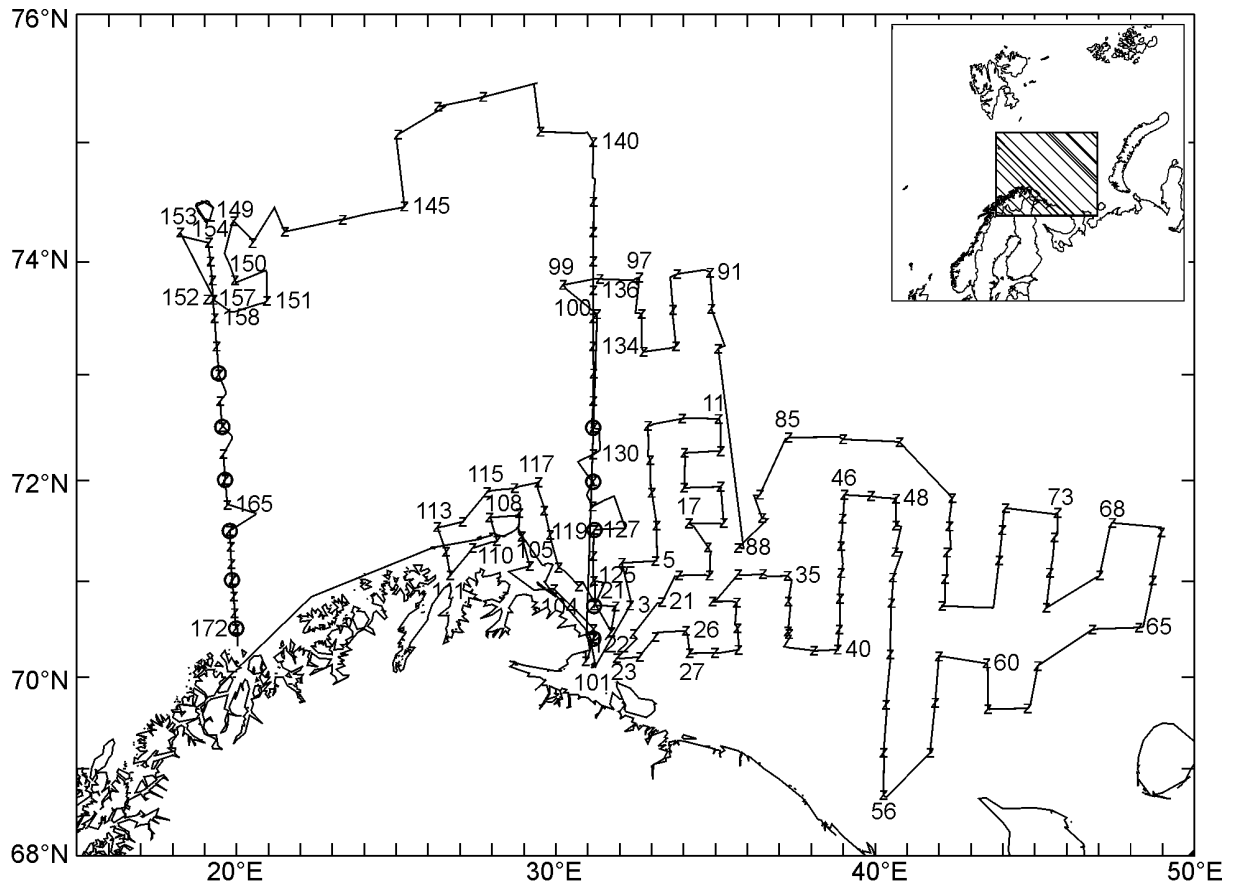
## 4.2 Johan Hjort



20-26 Jan 2005  
Cruise no 2005202

z CTD st.no 1-2

“Johan Hjort”



1 Feb – 15 Mars 2005  
Cruise no 2005203

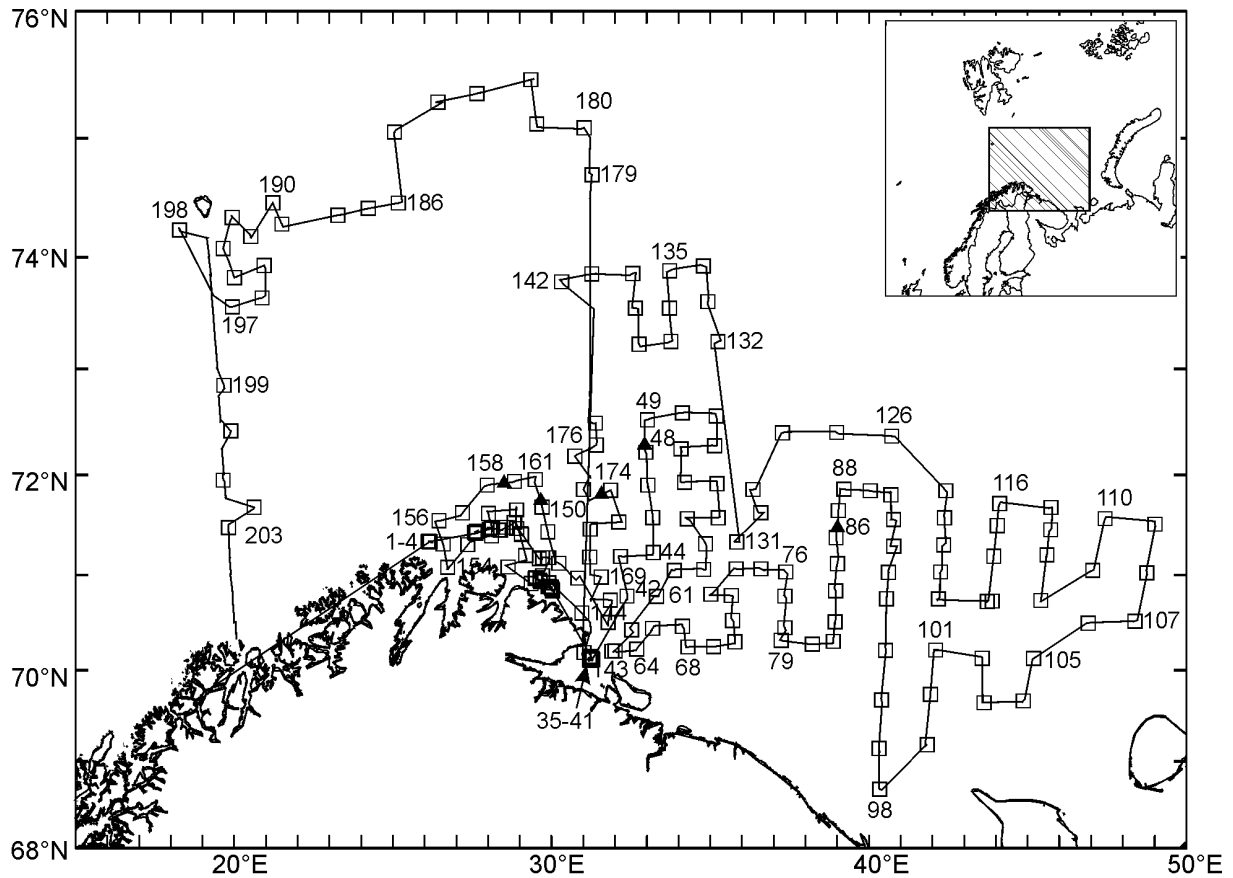
z CTD st.no 3-172  
o Plankton st. (WP-II-net)

“Johan Hjort”

Standard sections:

Fugløya-Bjørnøya st.no 154-172

Vardø-N st.no 122-140

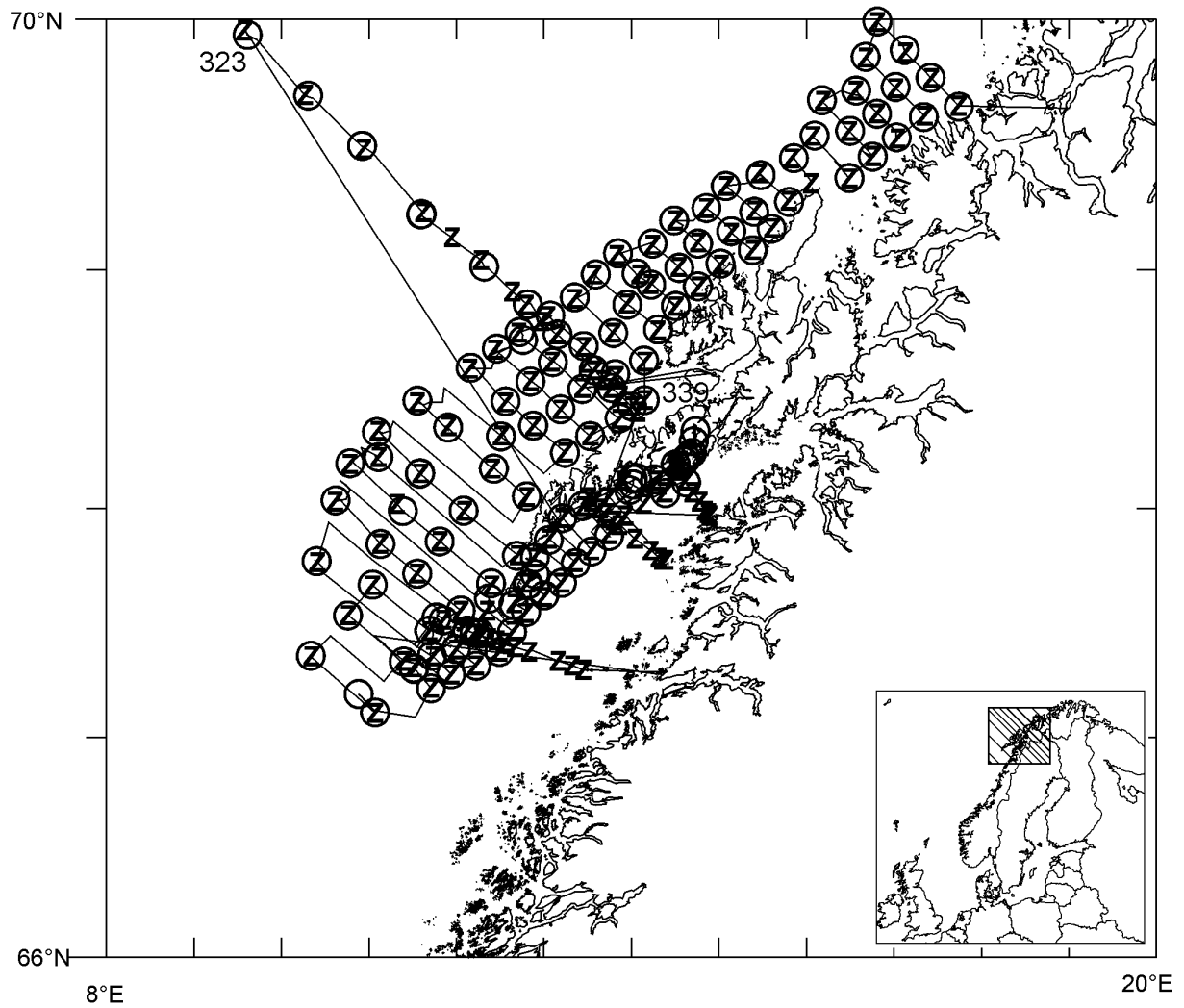


1 Feb – 15 Mars 2005  
Cruise no 2005203

Trawl st.no 1-203  
□ Bottom trawl  
△ Pelagic trawl

“Johan Hjort”

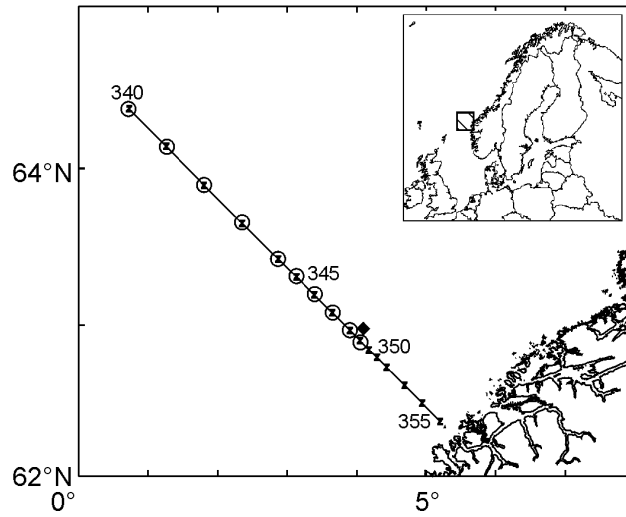




18 Mar – 12 April 2005  
 Cruise no 2005204  
 Part I: 18 Mar – 8 April

z CTD st.no 173-339  
 o Egg survey with vertical net  
 Standard section  
 Gimsøy-NW st.no 323-339  
 Røst-Tennholmen  
 Ballstad-Måløy/Skarholmen  
 Other hydrographic sections:  
 Kabelvåg-Steigen

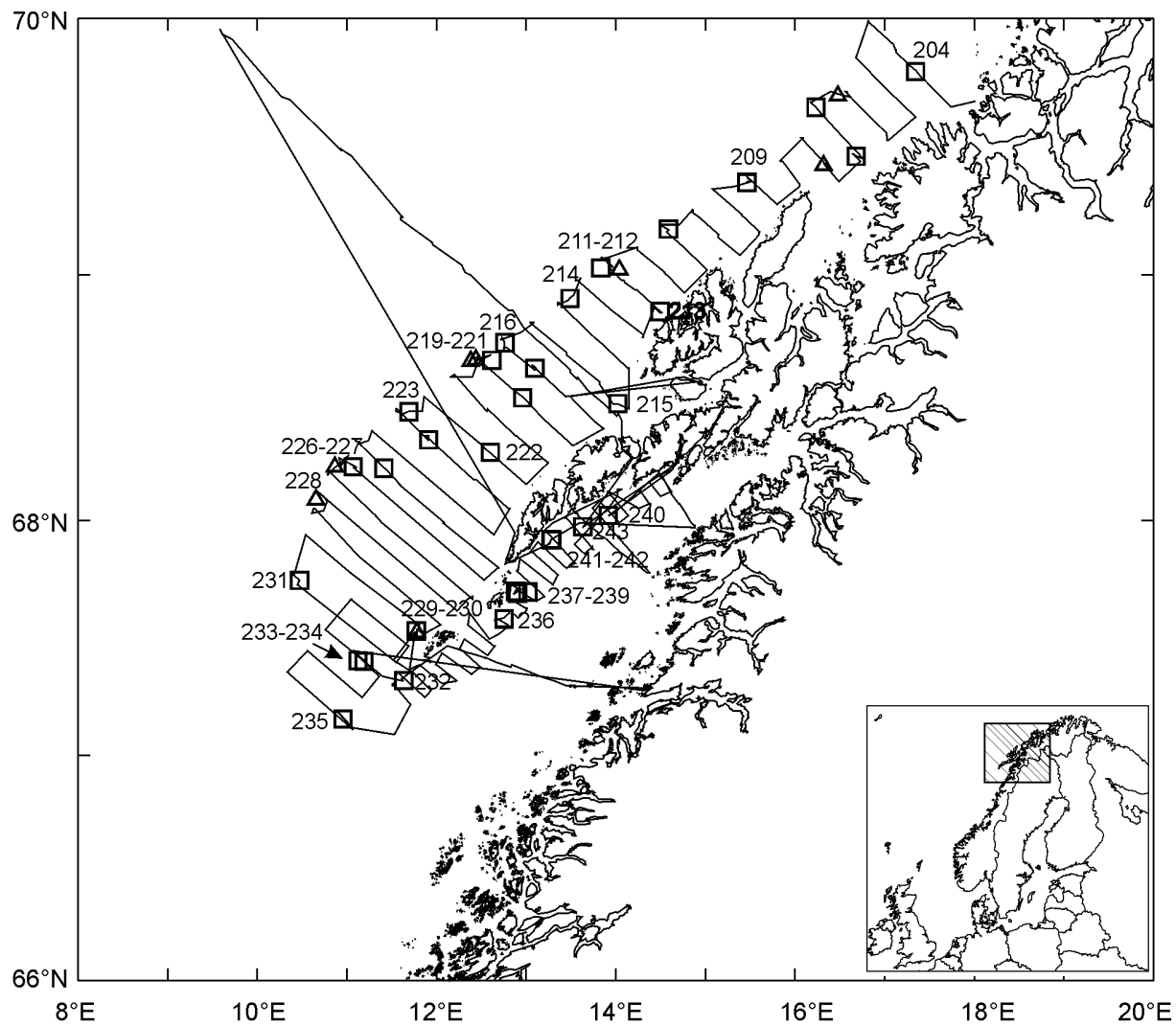
“Johan Hjort”



18 Mar – 12 April 2005  
 Cruise no 2005204  
 Part II: 10 – 12 April

z CTD st.  
 o Plankton st.  
 ◆ Mocness st.  
 Standard section:  
 Svinøy-NW st.no 340-355

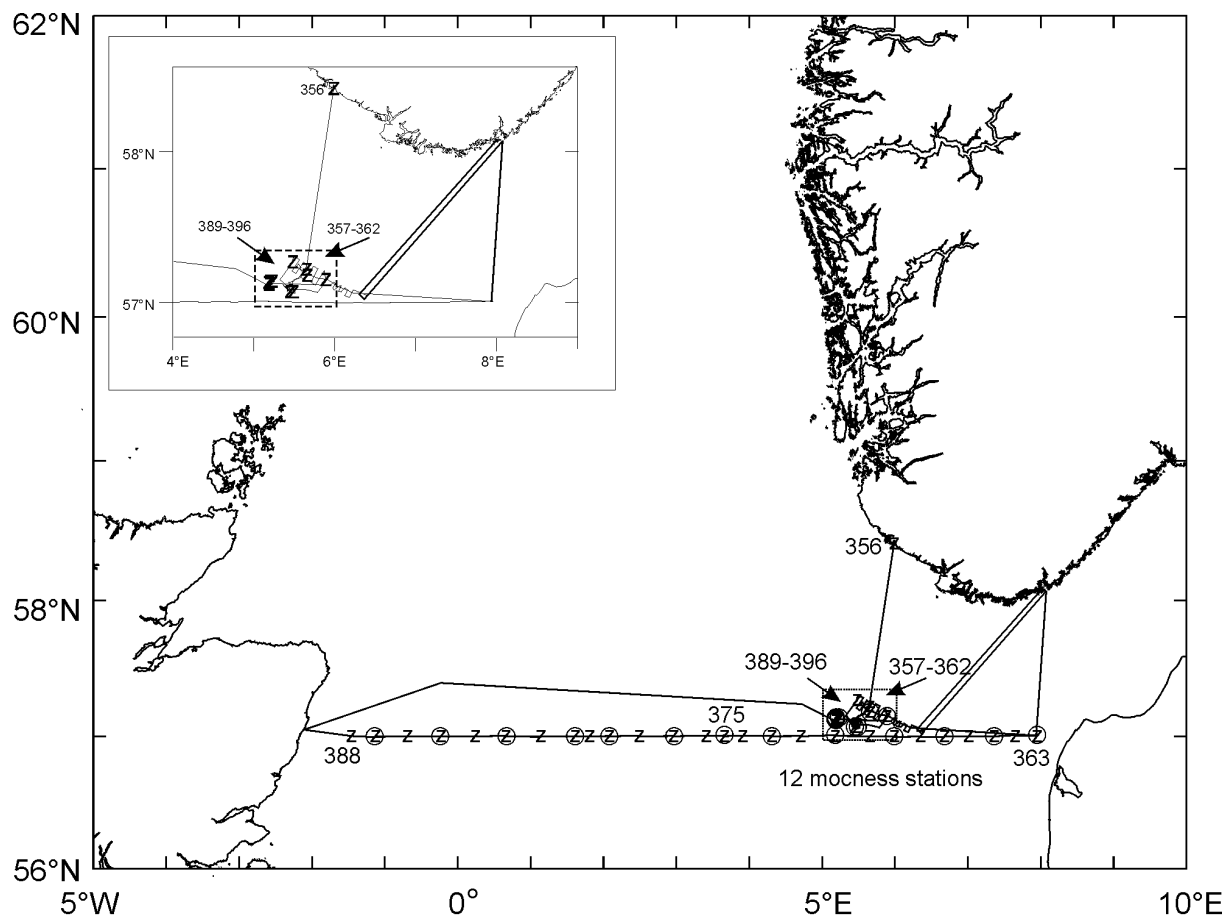
“Johan Hjort”



18 Mar – 12 April 2005  
Cruise no 2005204

Trawl st.no 204-243  
 □ Bottom trawl  
 Δ Pelagic trawl

“Johan Hjort”

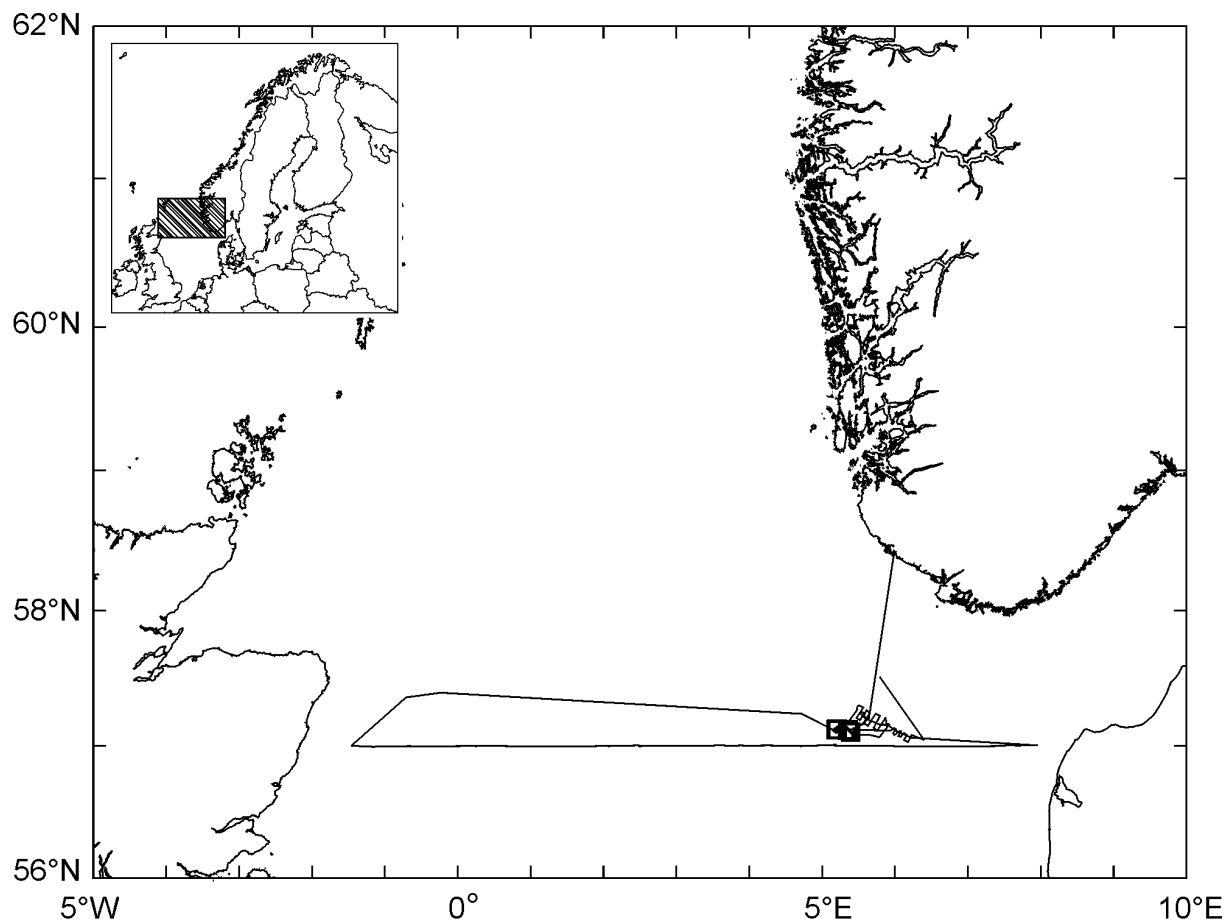


13-24 April 2005  
Cruise no 2005205 Part I

z CTD st.no 356-396  
o Plankton st. (WP-II-net)  
□ 12 MOCNESS st. in this area

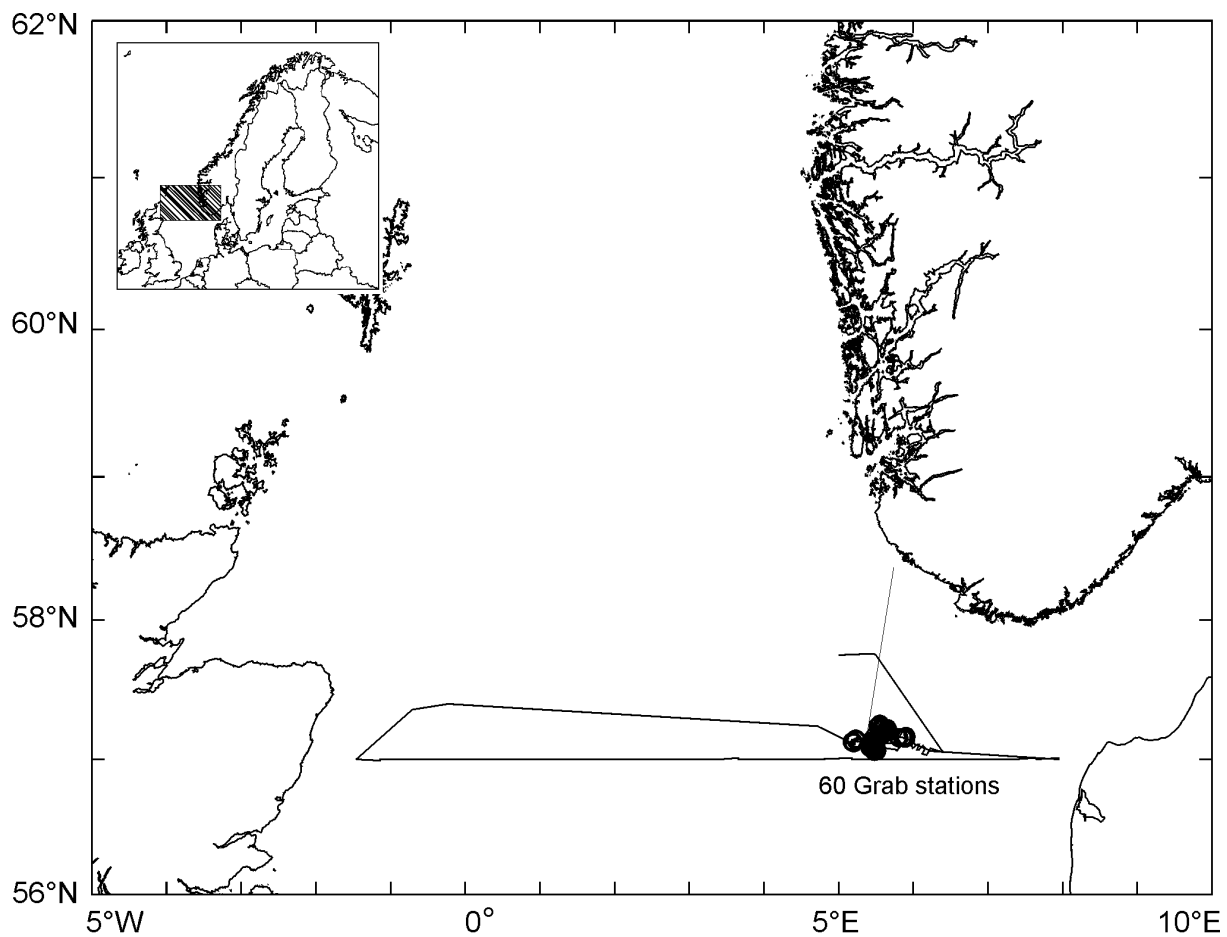
“Johan Hjort”

Standard section:  
Hanstholmen-Aberdeen st.no 363-388



13-24 April 2005  
Cruise no 2005205 Part I

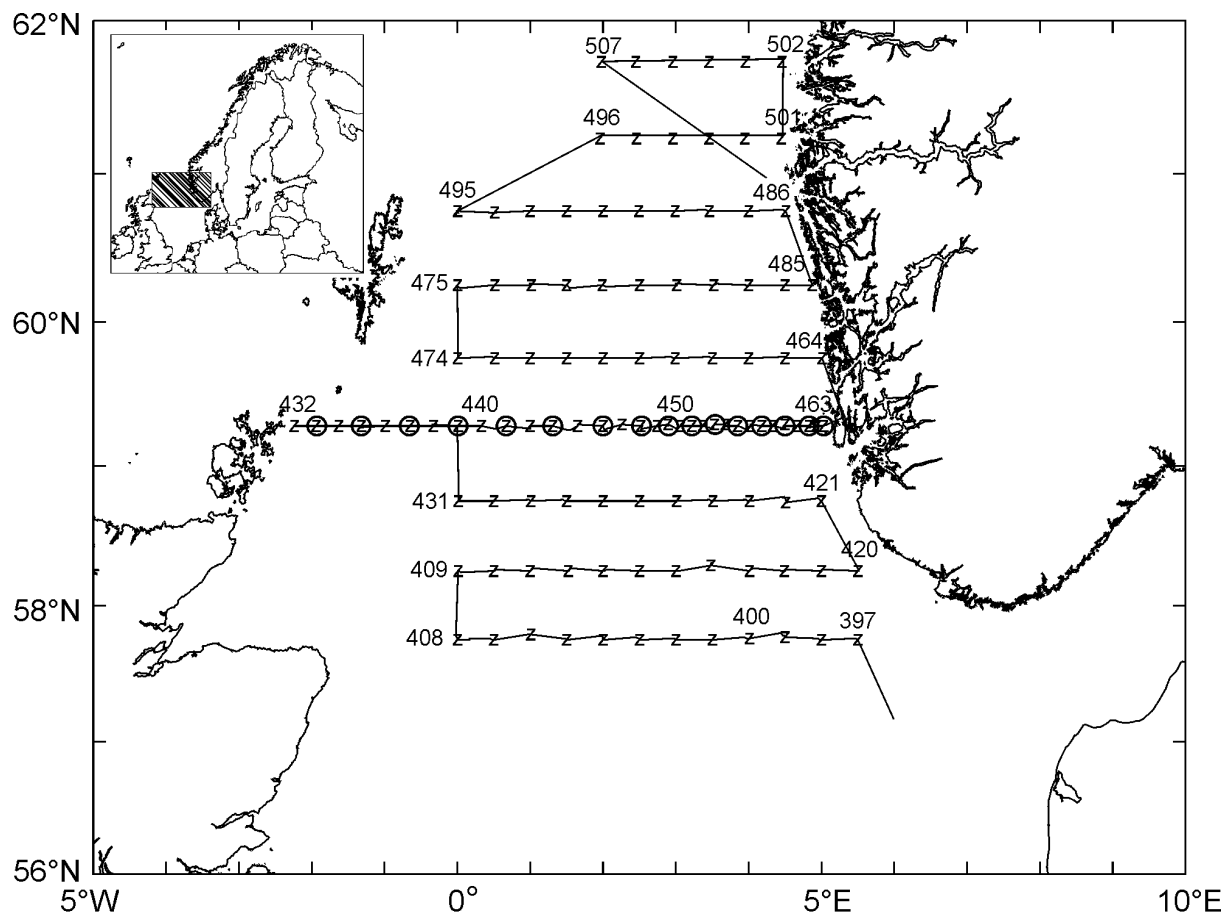
□ Bottom trawl st.no 244-246 (5 hauls) "Johan Hjort"



13-24 April 2005  
Cruise no 2005205 Part I

● Grab st.

“Johan Hjort”

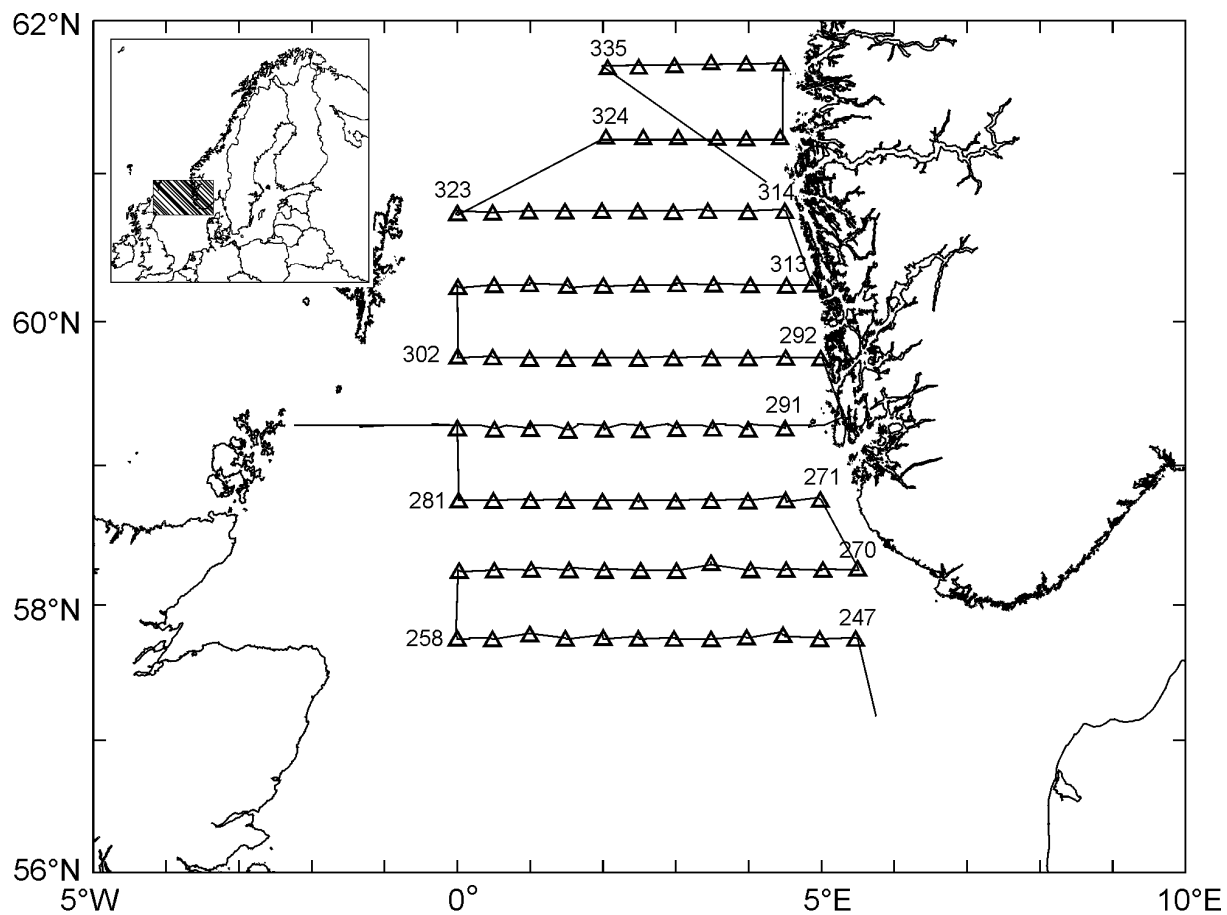


25 April – 9 May 2005  
 Cruise no 2005205 Part II

z CTD st.no 397-507  
 o Plankton st. (WP-II-net)

“Johan Hjort”

Standard section:  
 Utsira mot W st.no 432-463  
 Feie-Shetland st.no 486-495

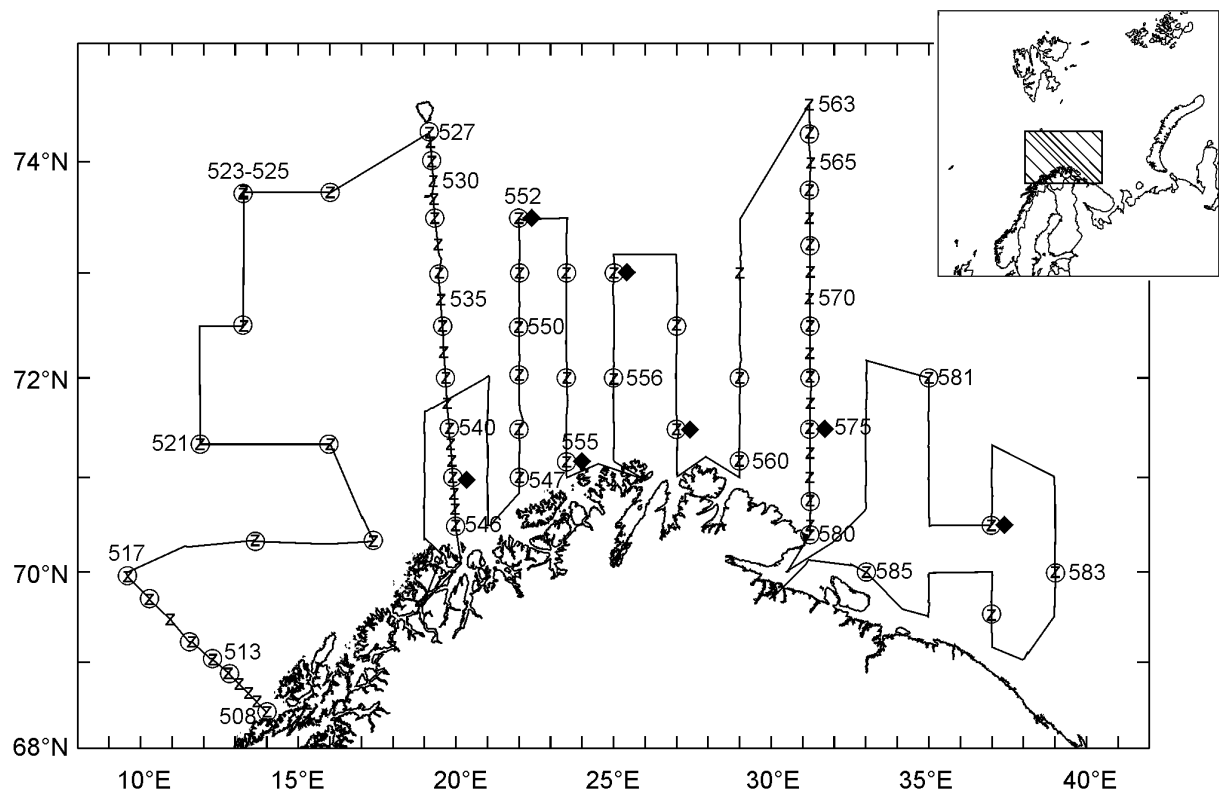


25 April – 9 May 2005  
Cruise no 2005205 Part II

Trawl st.no 247-323  
Δ Pelagic trawl

“Johan Hjort”





13 May – 8 June 2005  
Cruise no 2005206

z CTD st.no 508-585  
○ Plankton st. (WP-II-net)  
◆ Plankton st. (Mocness)

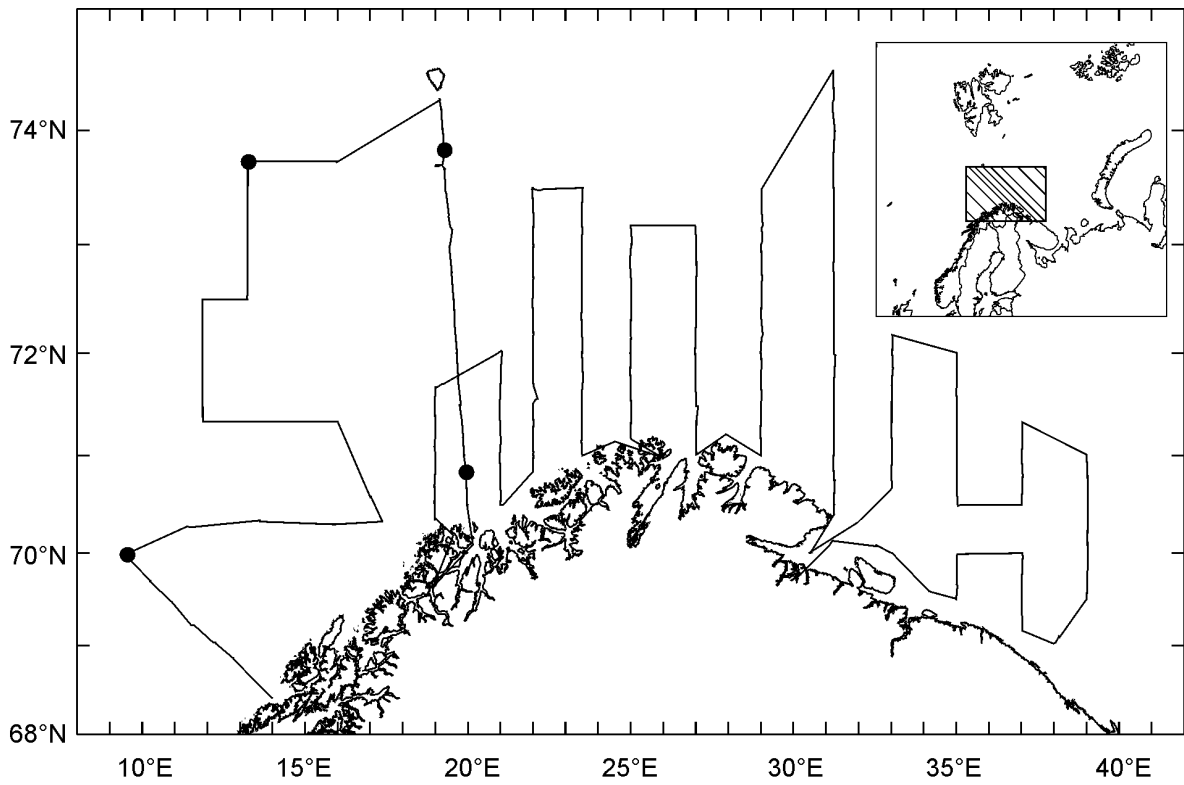
“Johan Hjort”

Standard sections:

Gimsøy-NW st.no 508-513

Fugløya-Bjørnøya st.no 527-546

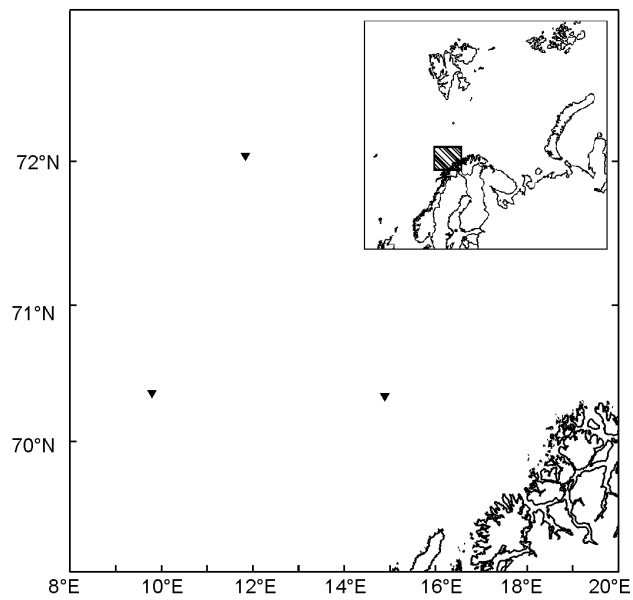
Vardø-N st.no 563-580



13 May – 8 June 2005  
Cruise no 2005206

● Grab st.

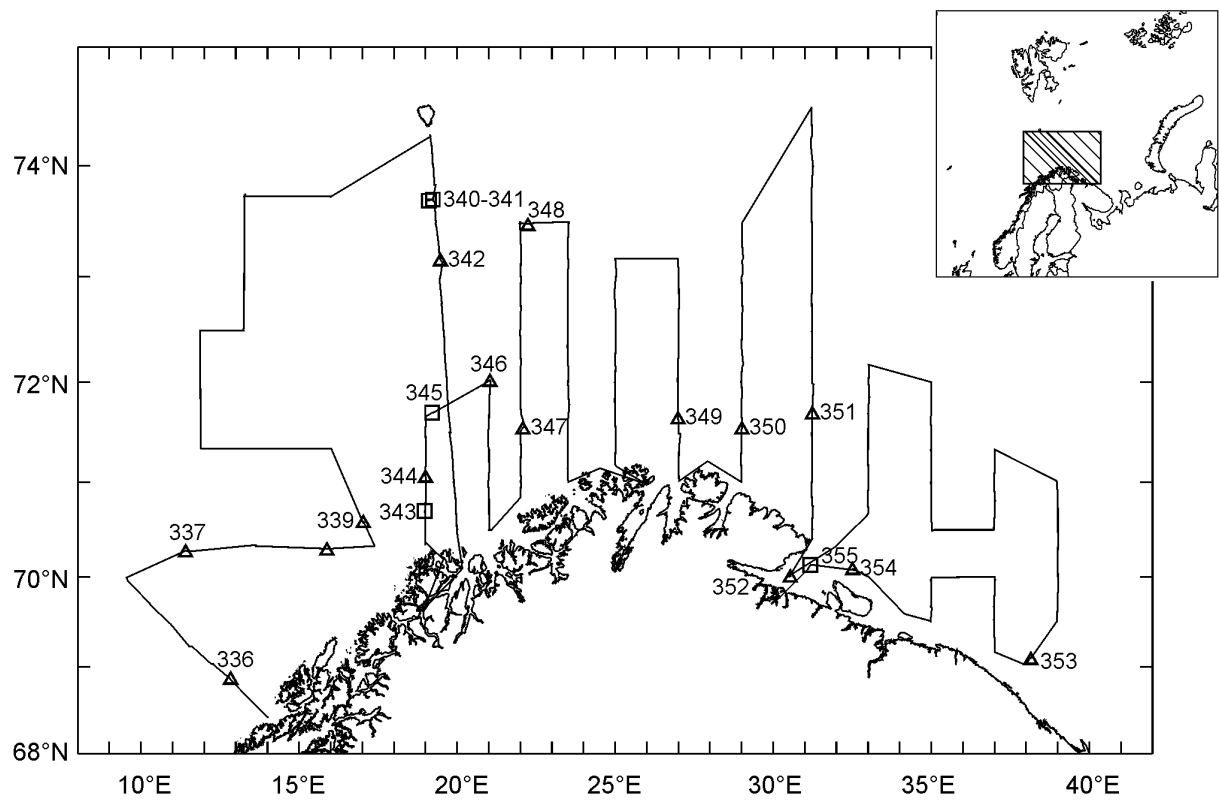
“Johan Hjort”



13 May – 8 June 2005  
Cruise no 2005206

▼ Recovering of rig

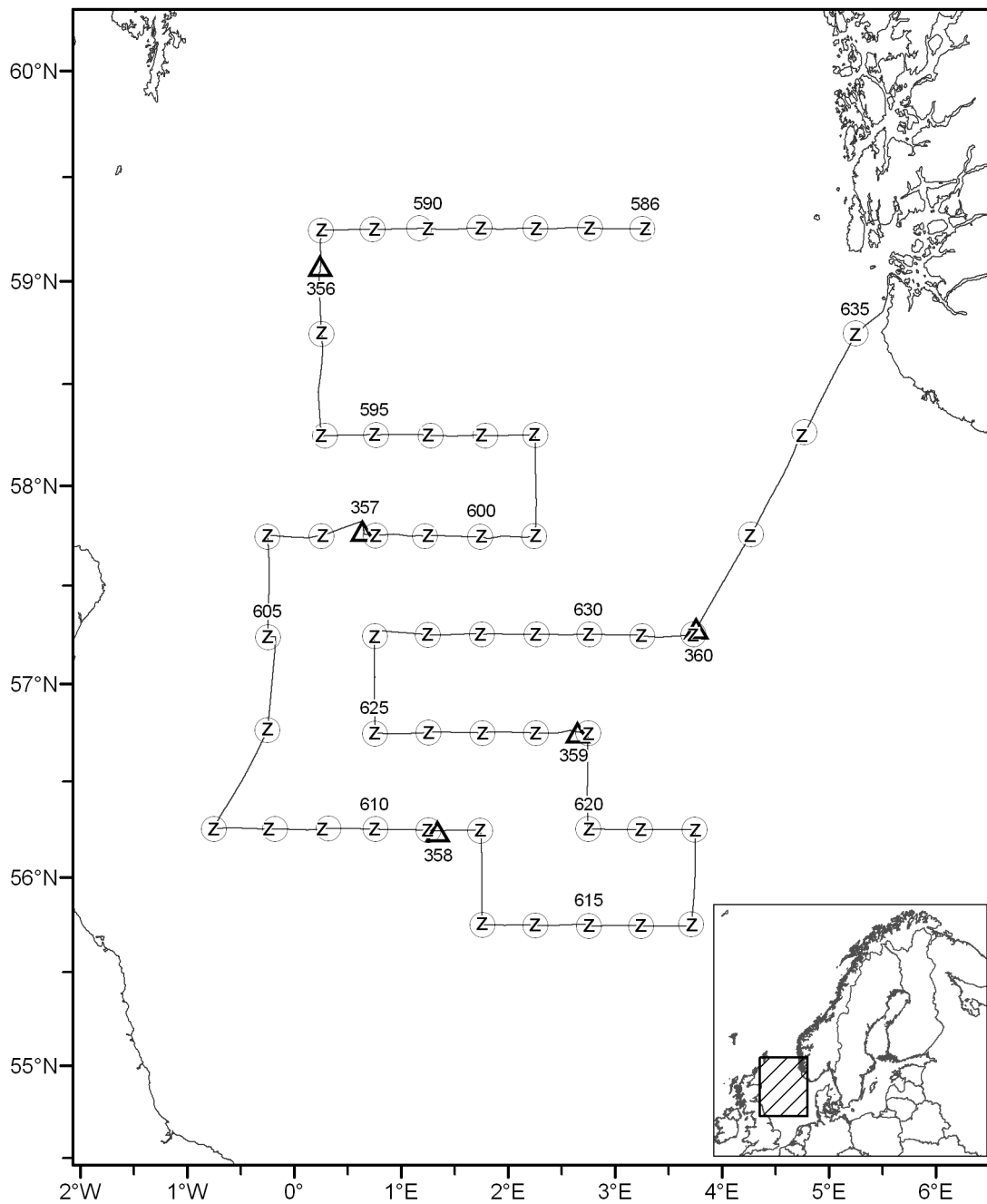
“Johan Hjort”



13 May – 8 June 2005  
Cruise no 2005206

Trawl st. no 336-355  
 Δ Pelagic trawl  
 □ Bottom trawl

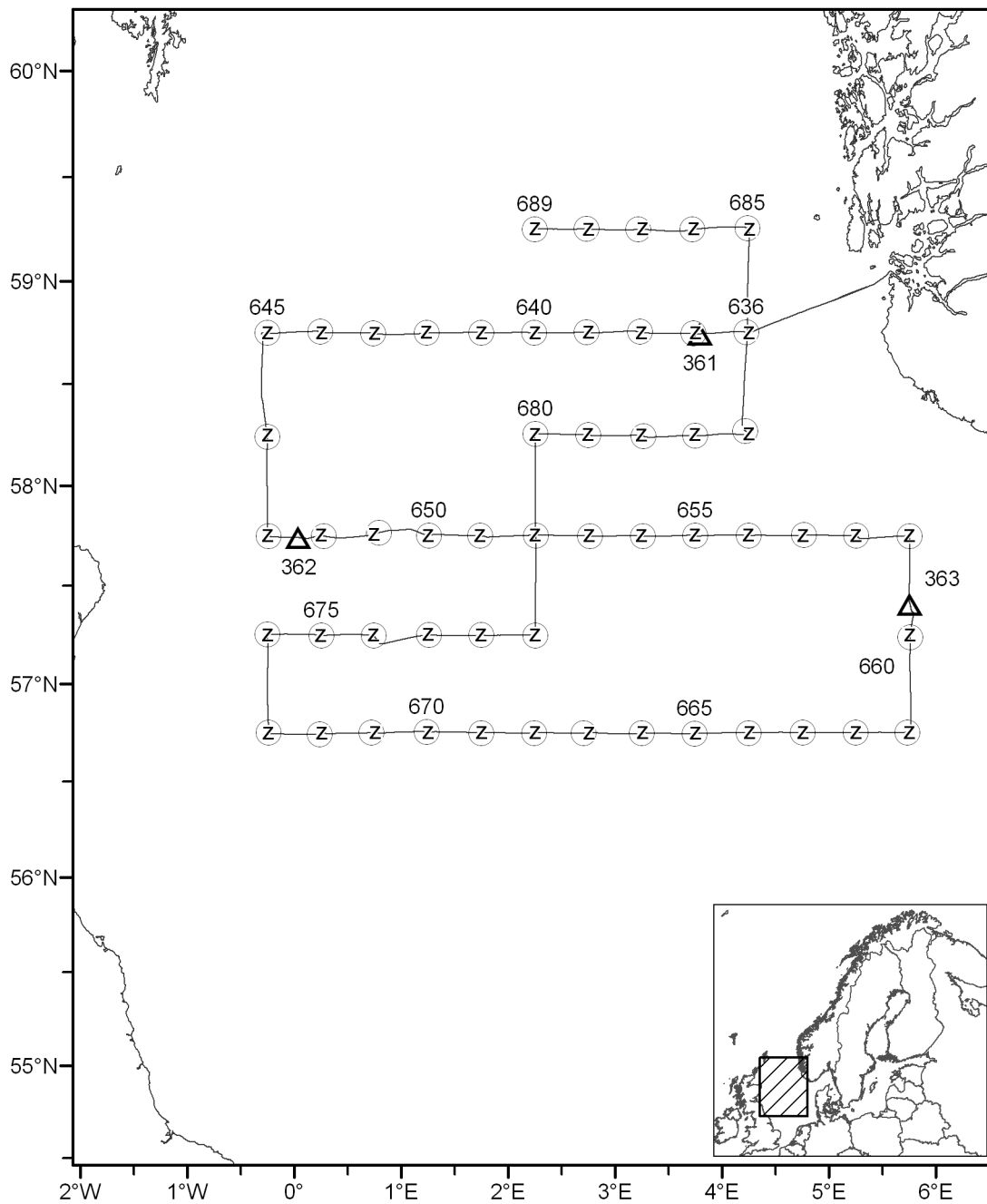
“Johan Hjort”



13 June – 3 July 2005  
Cruise no 2005207 Part I

z CTD st.no 586-635  
o Gulf III st.no 586-635  
Δ Pelagic trawl st.no 356-360  
Standard section:  
Utsira W (partly) st.no 586-592

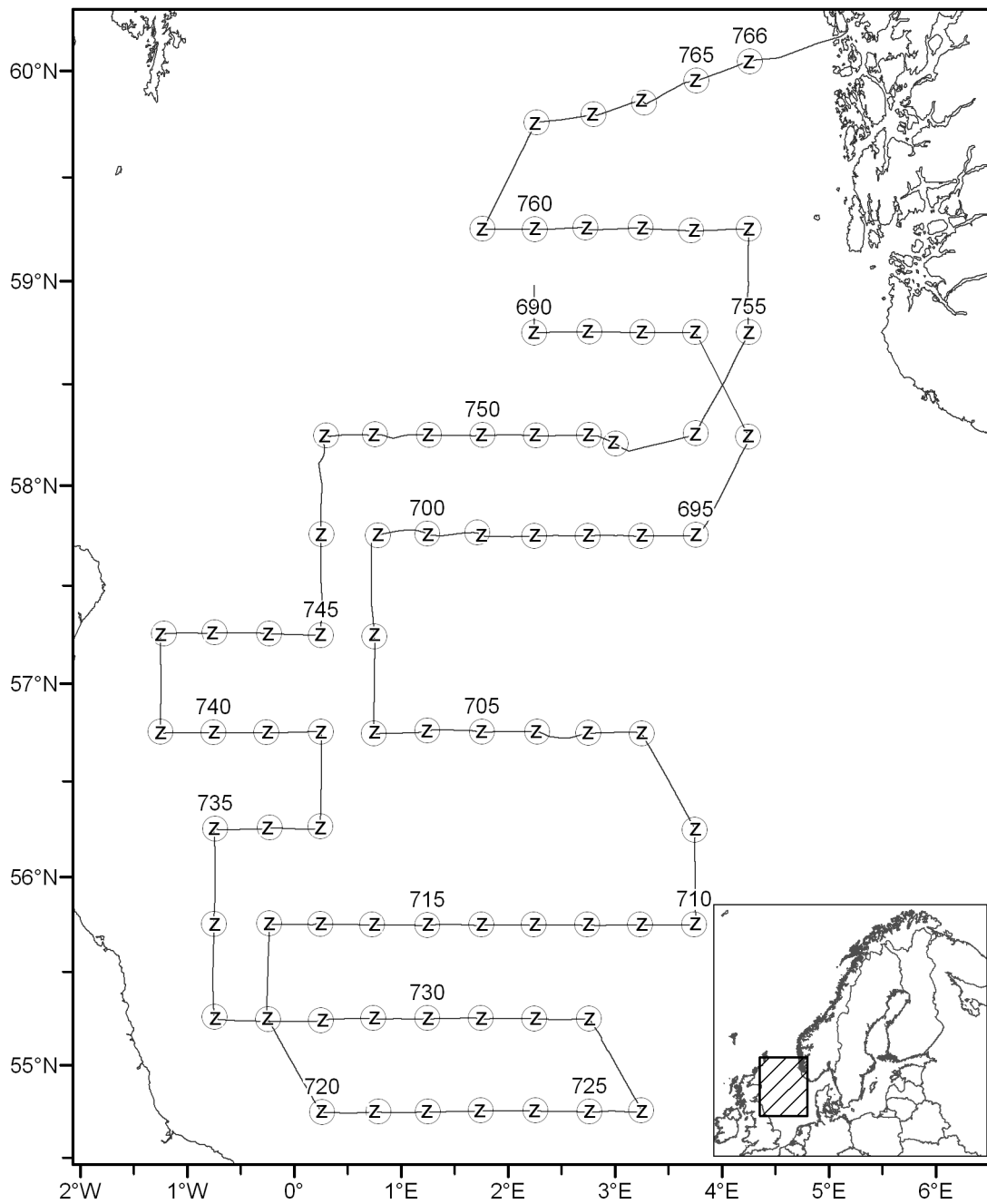
“Johan Hjort”



13 June – 3 July 2005  
 Cruise no 2005207 Part II

z CTD st.no 636-689  
 o Gulf III st.no 636-689  
 Δ Pelagic trawl st.no 361-363  
 Standard section:  
 Utsira-W (partly) st.no 685-689

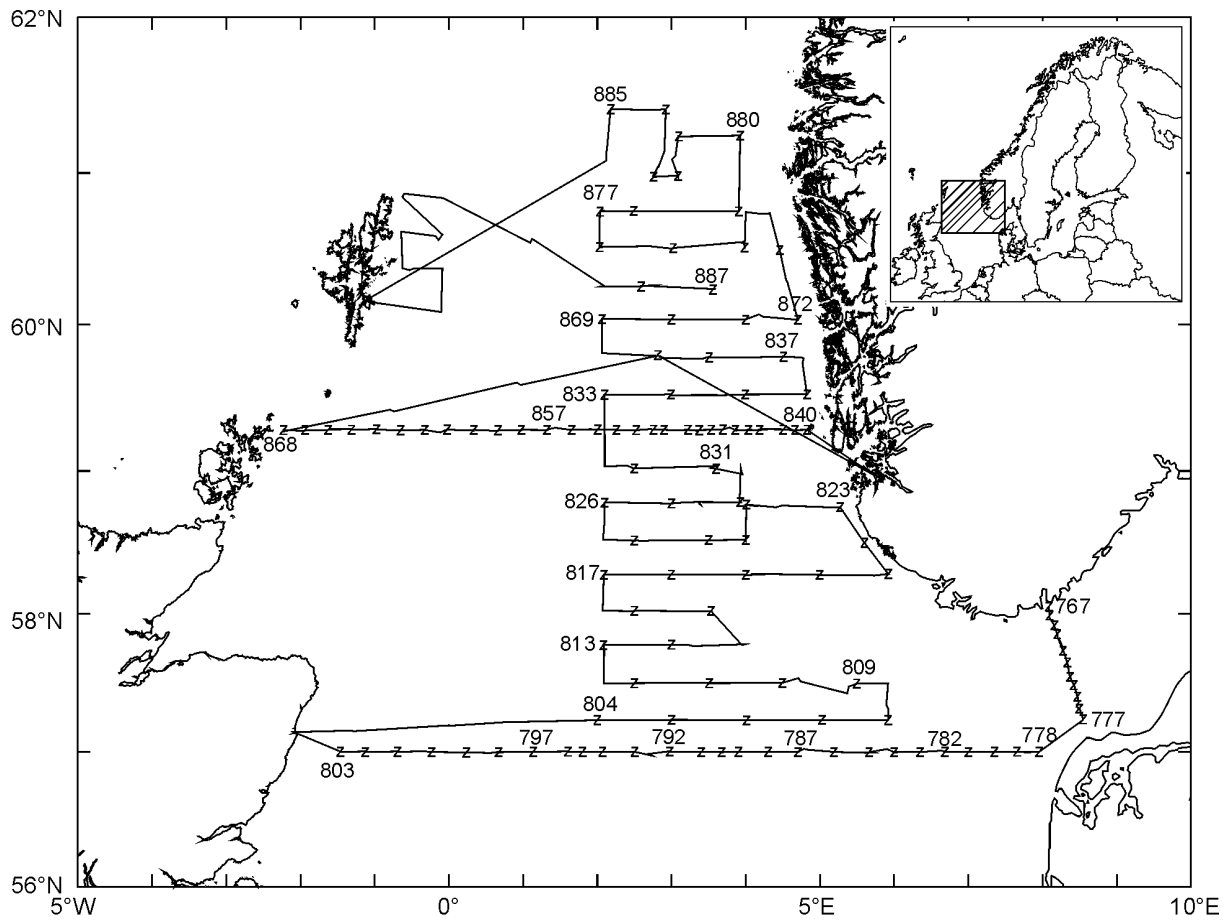
“Johan Hjort”



13 June – 3 July 2005  
 Cruise no 2005207 Part III

z CTD st.no 690-766  
 o Gulf III st.no 690-766  
 Standard section:  
 Utsira-W (partly) st.no. 756-761

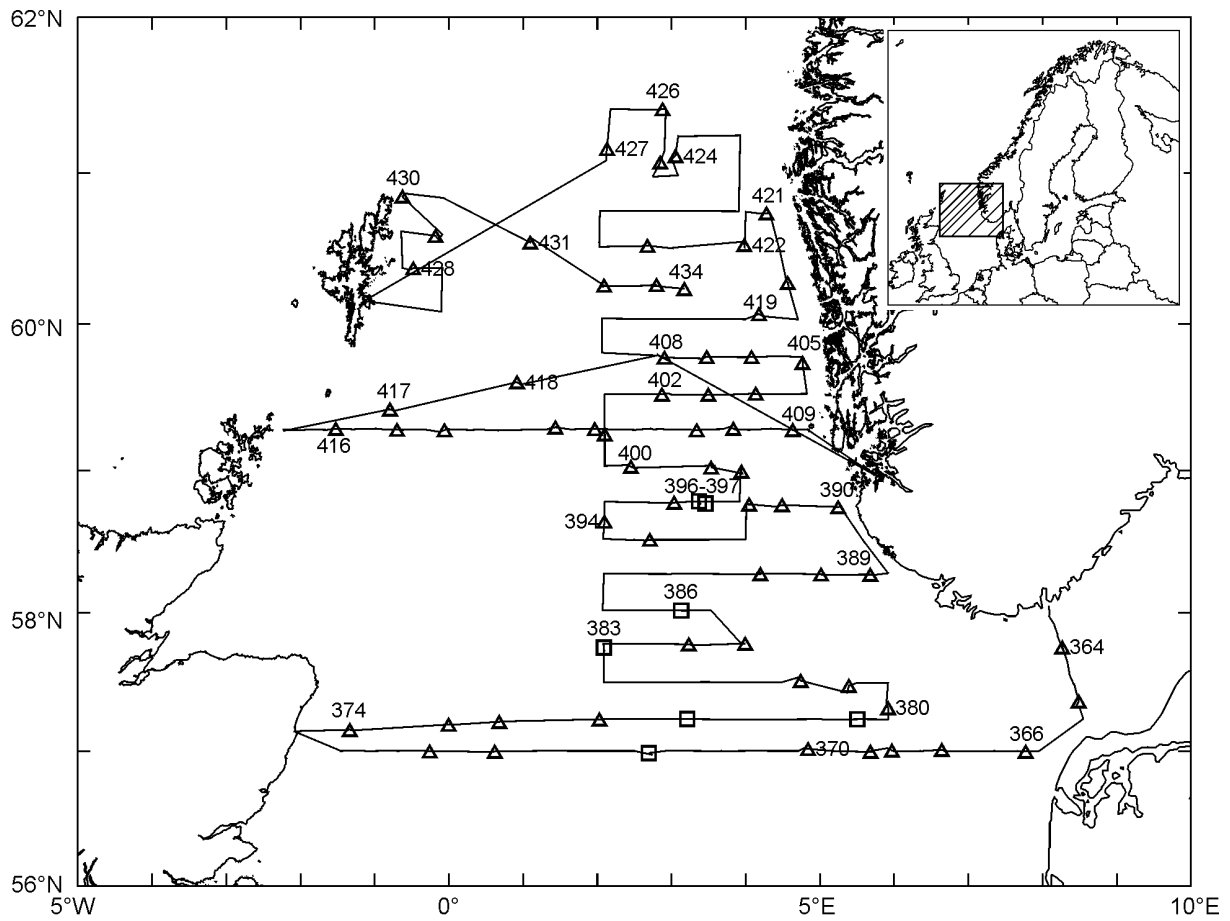
“Johan Hjort”



4-27 July 2005  
Cruise no 2005208

z CTD st.no 767-887  
Standard sections:  
Oksø-Hanstholmen st.no 767-777  
Hanstholmen-Aberdeen st.no 778-803  
Utsira W st.no 840-868

“Johan Hjort”

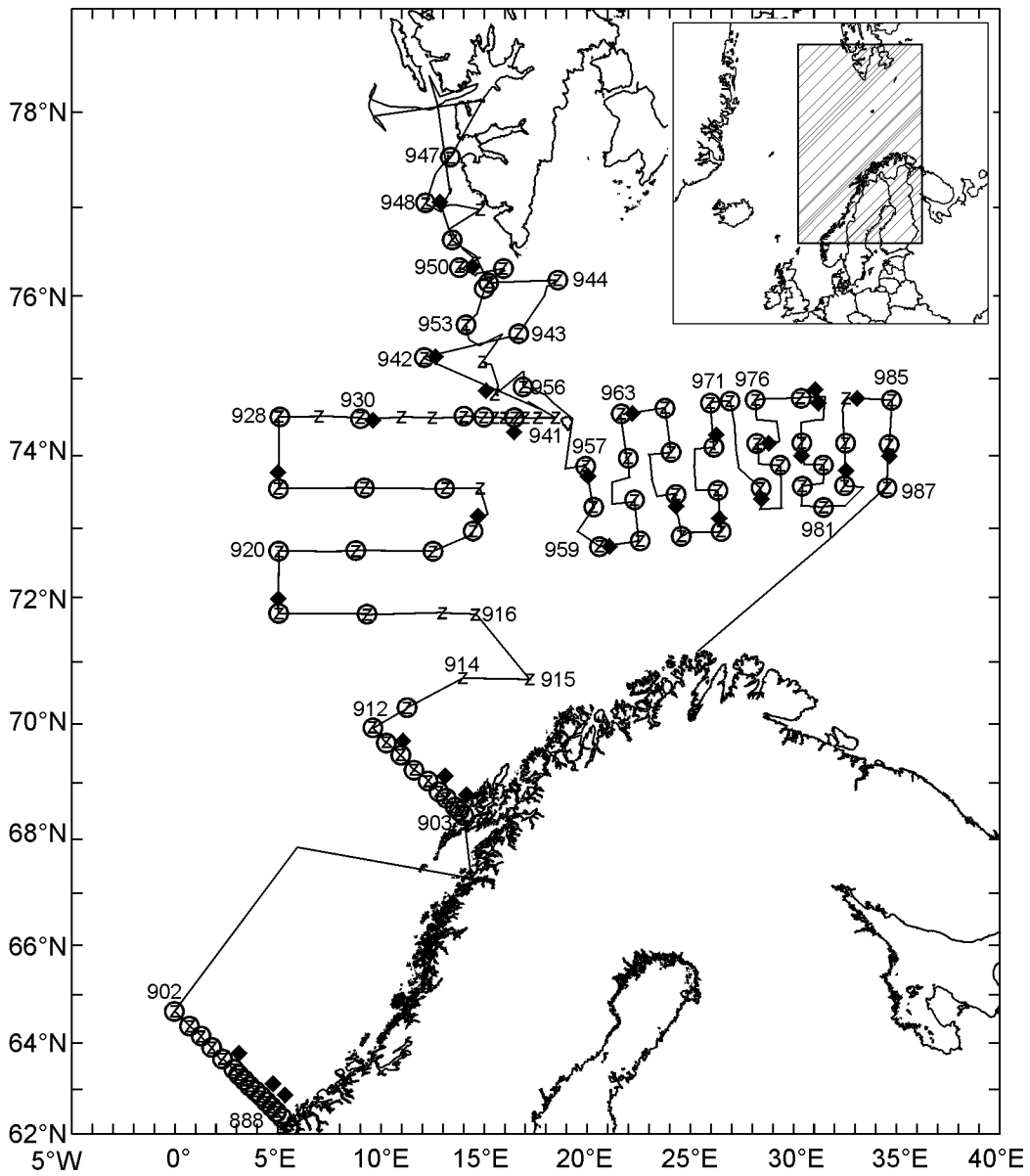


4-27 July 2005  
Cruise no 2005208

Trawl st.no 364-434  
 Δ Pelagic trawl  
 □ Bottom trawl

"Johan Hjort"

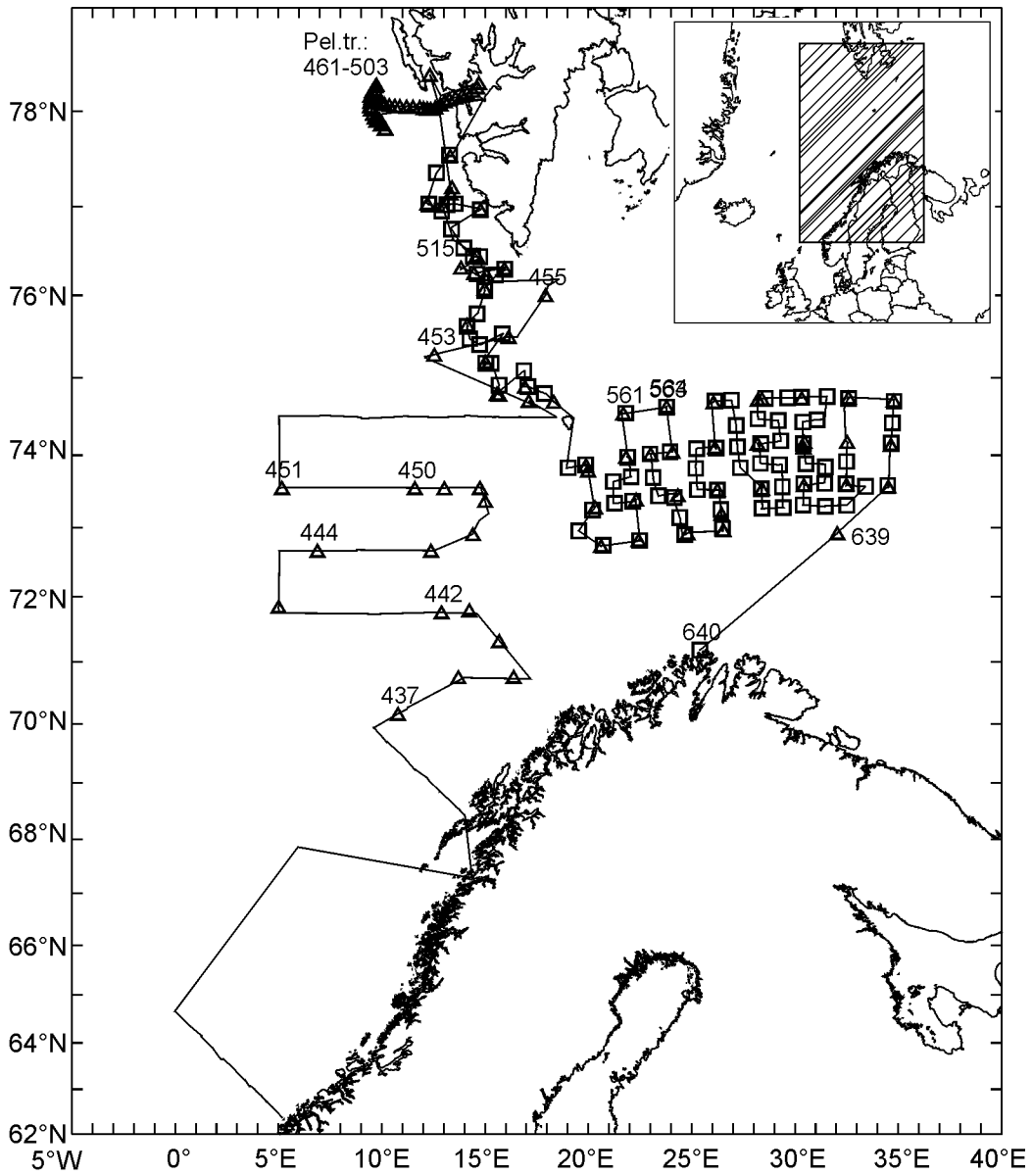




28 July – 8 Sep 2005  
 Cruise no 2005209

z CTD st.no 888-987  
 Standard sections:  
 Svinøy-NW st.no 888-902  
 Gimsøy-NW st.no 903-912  
 Bjørnøya-W st.no 928-941

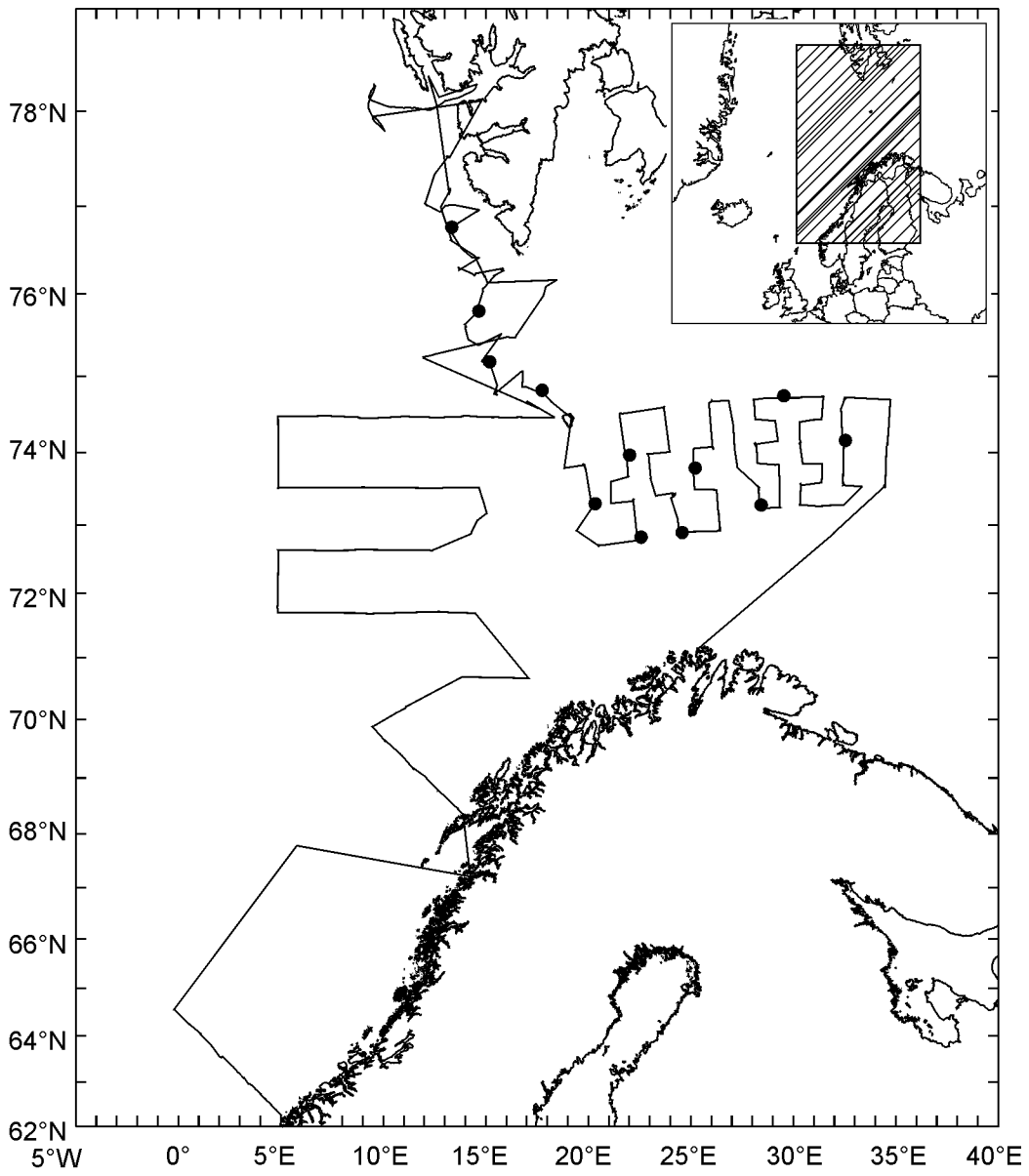
“Johan Hjort”



28 July – 8 Sep 2005  
 Cruise no 2005209

Trawl st.no 437-639  
 □ Bottom trawl  
 △ Pelagic trawl

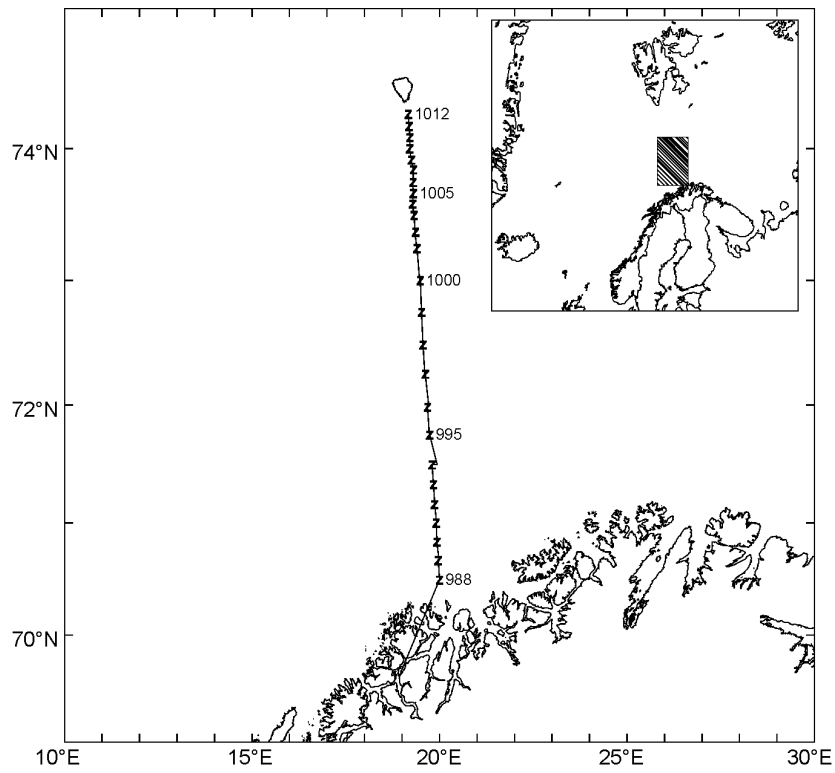
“Johan Hjort”



28 July – 8 Sep 2005  
Cruise no 2005209

● Grab st.

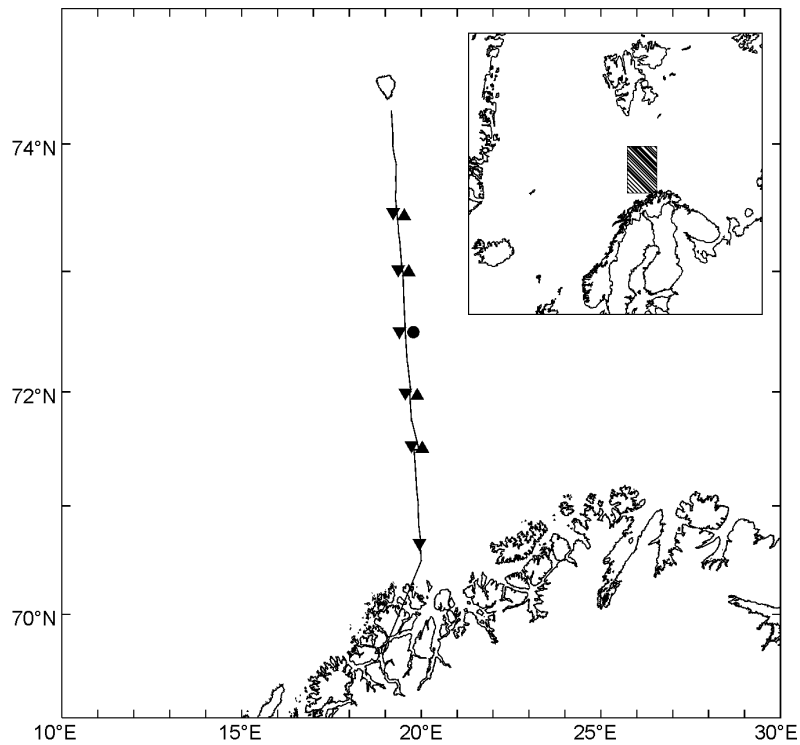
“Johan Hjort”



13-17 Sep 2005  
Cruise no 2005210

z CTD st.no 988-1012  
Standard section:  
Fugløya-Bjørnøya st.no 988-1012

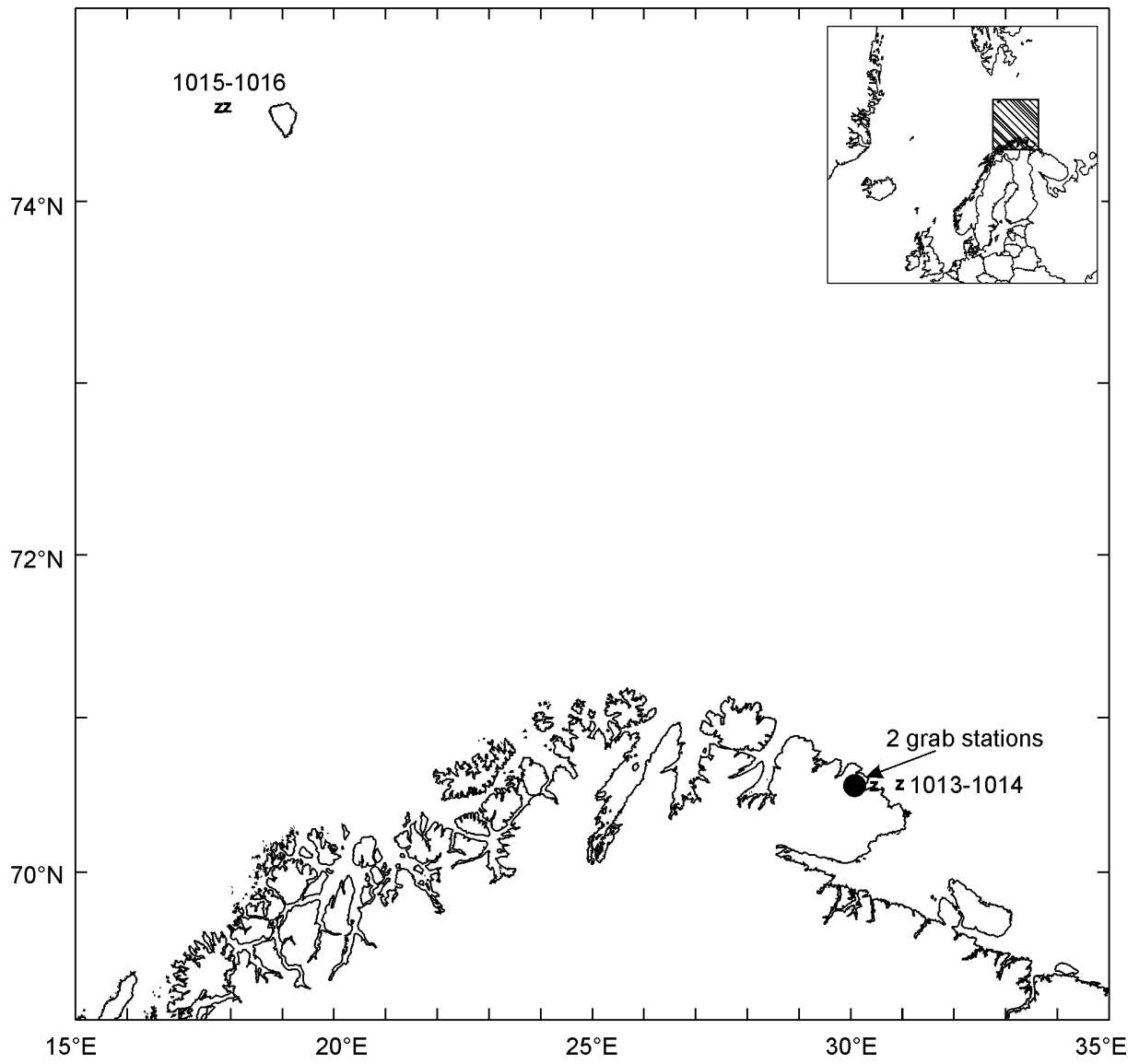
“Johan Hjort”



13-17 Sep 2005  
Cruise no 2005210

▼ Deployed current meter mooring  
▲ Recovered current meter mooring  
● CO<sub>2</sub>-sampler recovered

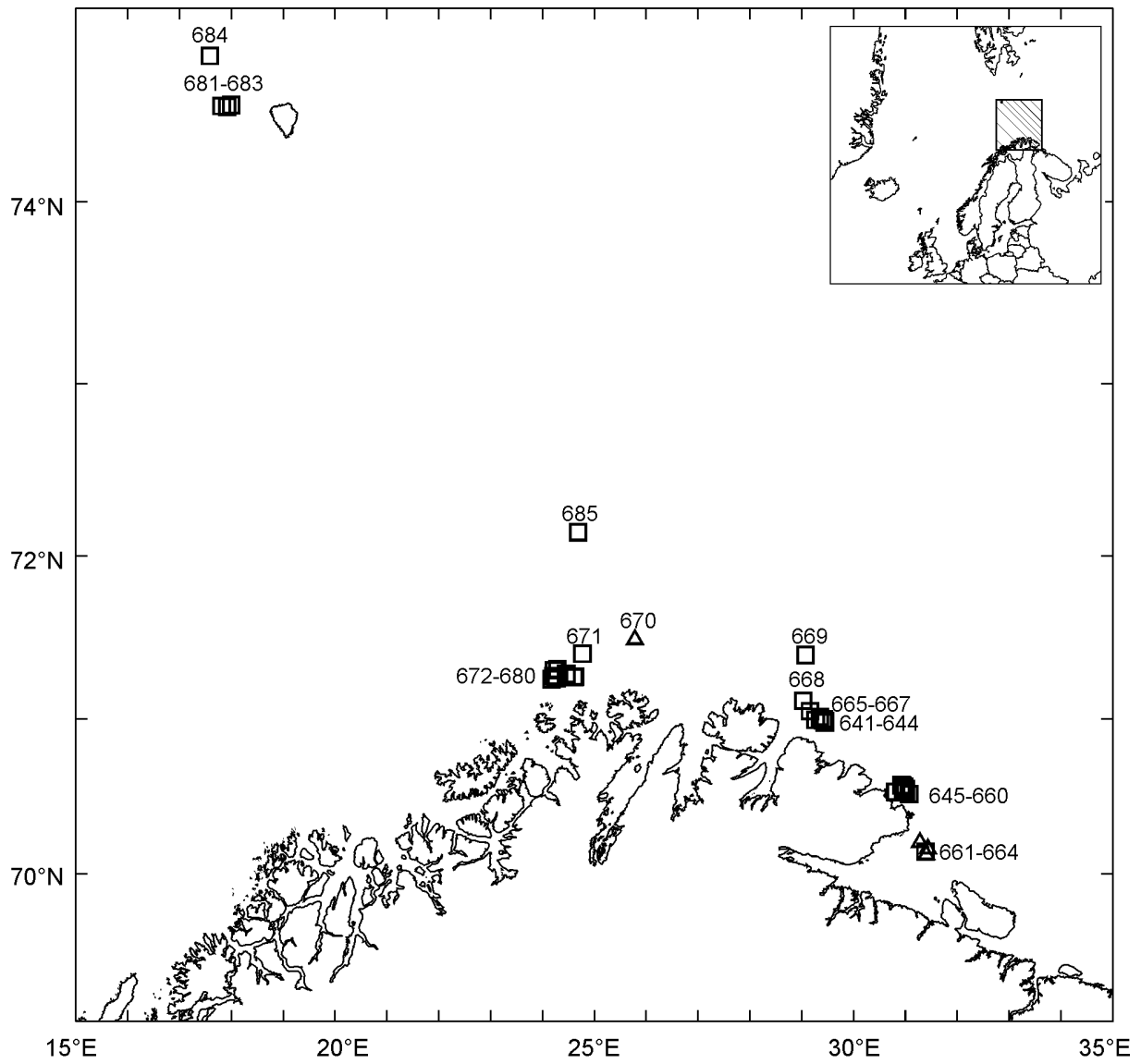
“Johan Hjort”



19 Sep – 8 Oct 2005  
Cruise no 2005211

z CTD st.no 1013-1016  
● Grab stations

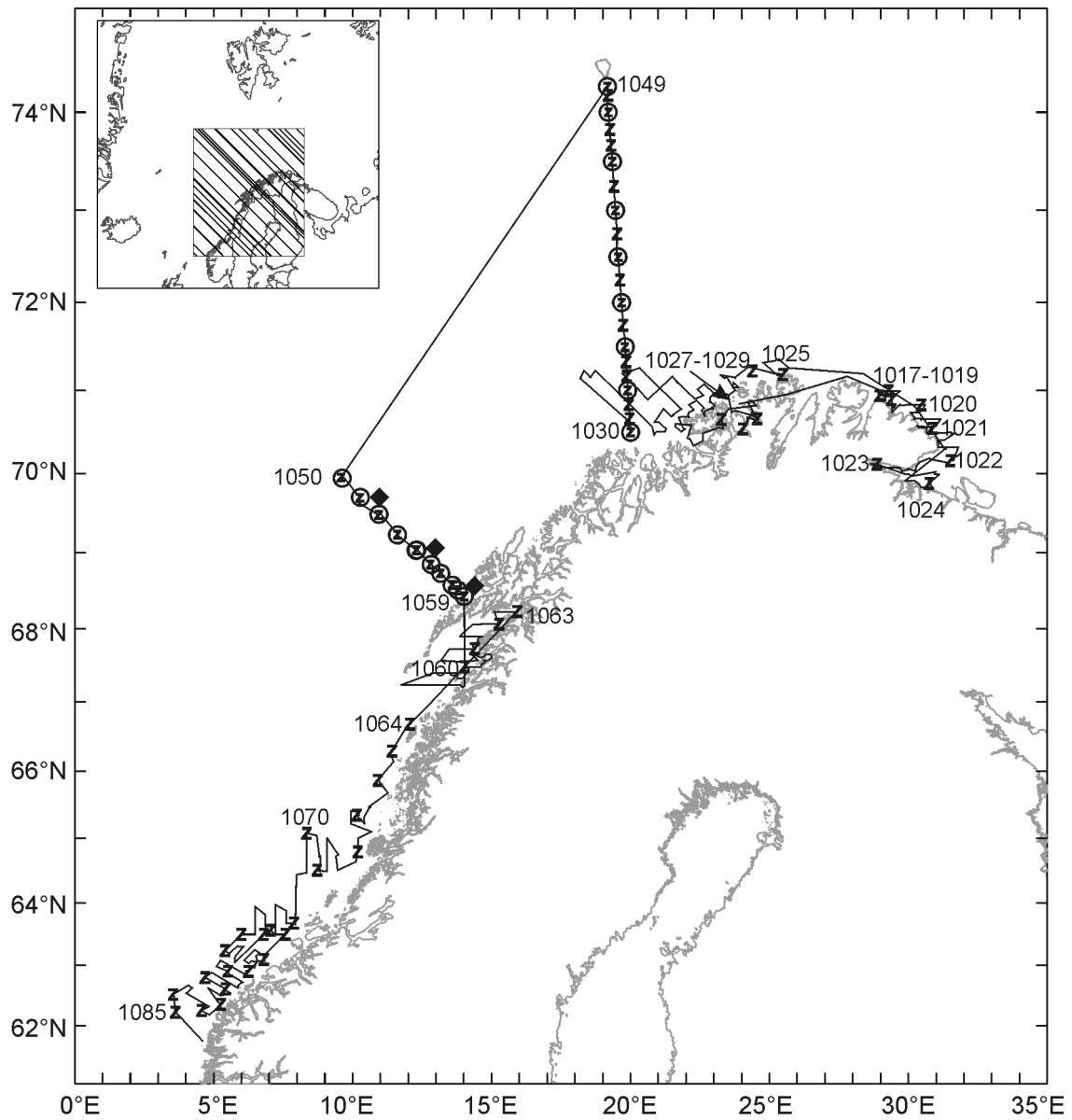
“Johan Hjort”



19 Sep – 8 Oct 2005  
Cruise no 2005211

Trawl st.no 641-685  
□ Bottom trawl  
△ Pelagic trawl

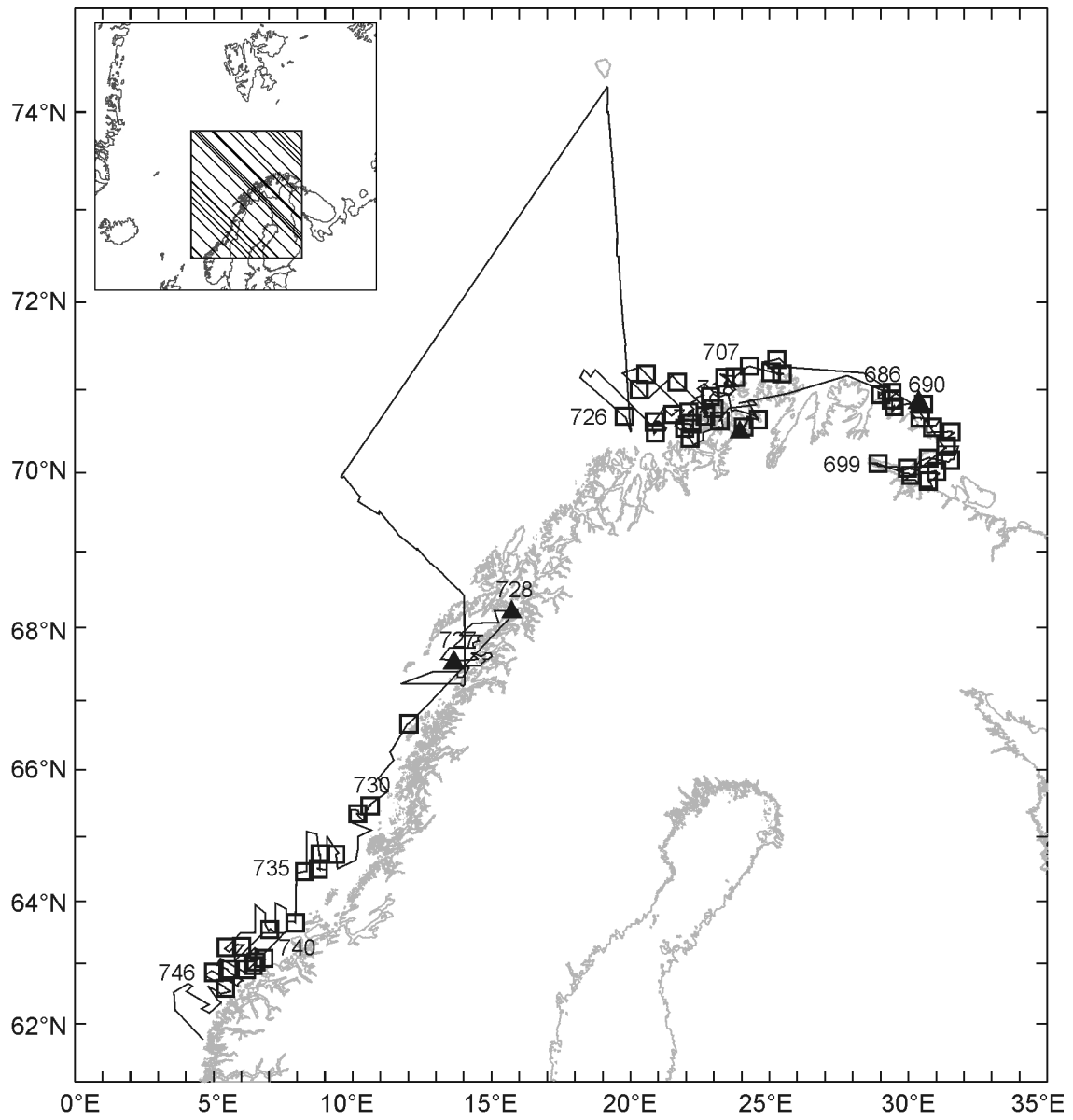
“Johan Hjort”



11 Oct – 8 Nov 2005  
Cruise no 2005212

z CTD st.no 1017-1085  
o Plankton st. (WP-II-net)  
◆ Plankton st. (Mocness)  
Standard sections:  
Gimsøy-NW st.no 1050-1059  
Fugløya-Bjørnøya st.no 1030-1049

“Johan Hjort”

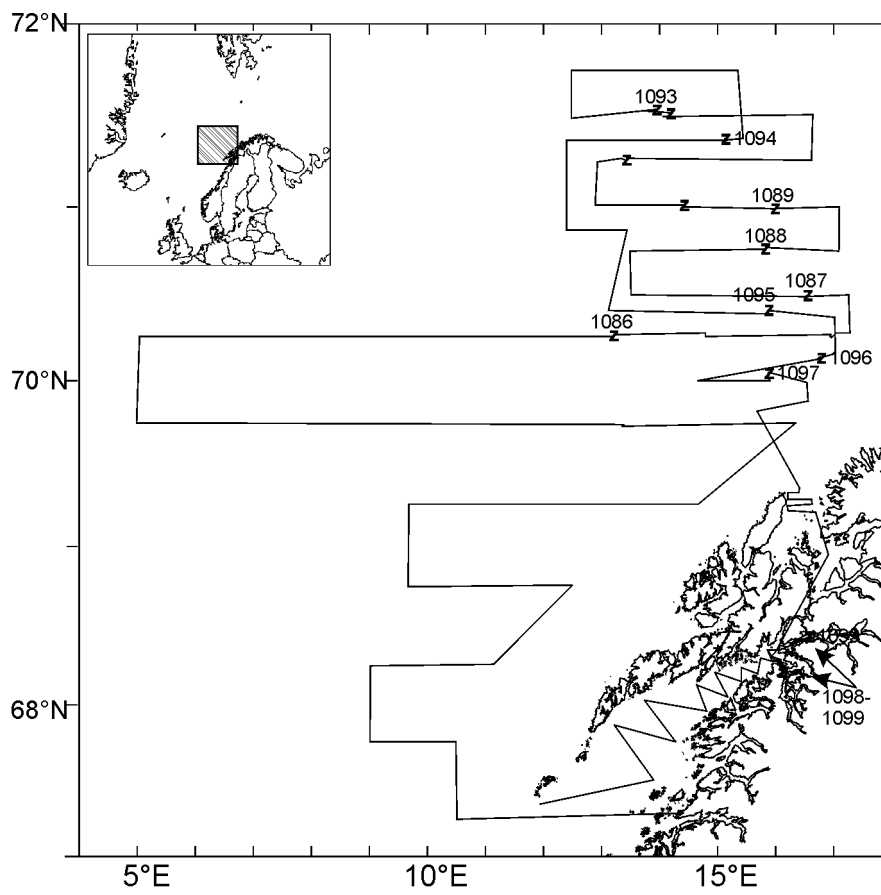


11 Oct – 8 Nov 2005  
 Cruise no 2005212

Trawl st.no 686-746  
 □ Bottom trawl  
 ▲ Pelagic trawl

“Johan Hjort”

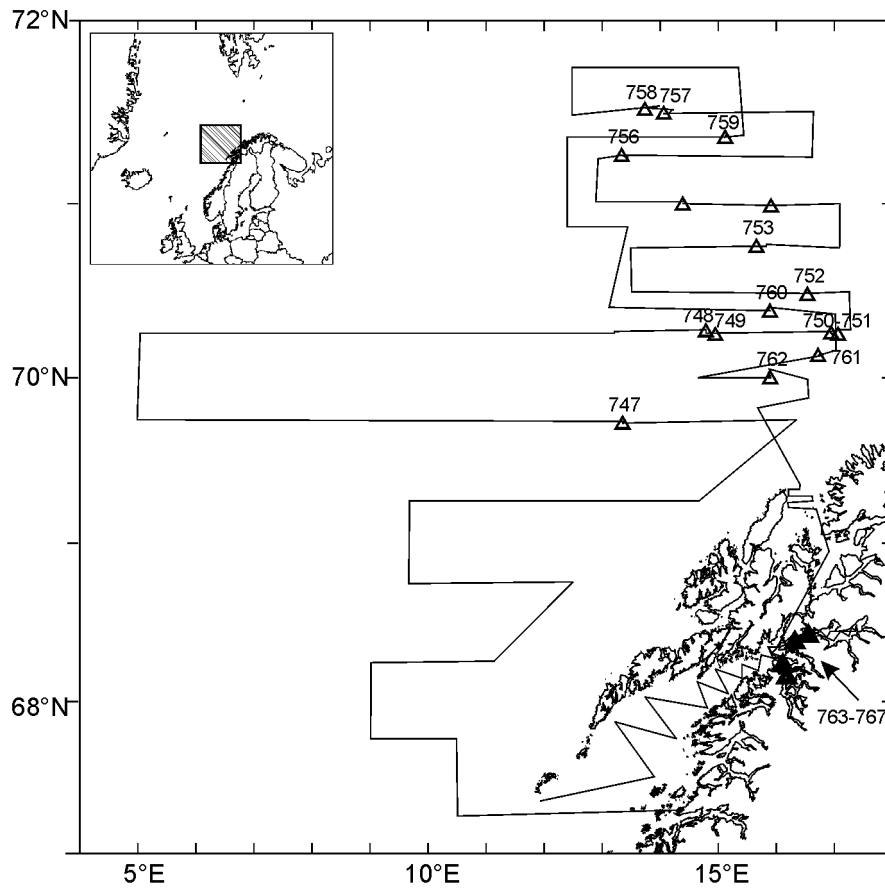




11-28 Nov 2005  
Cruise no 2005213

z CTD st.no 1086-1099

“Johan Hjort”

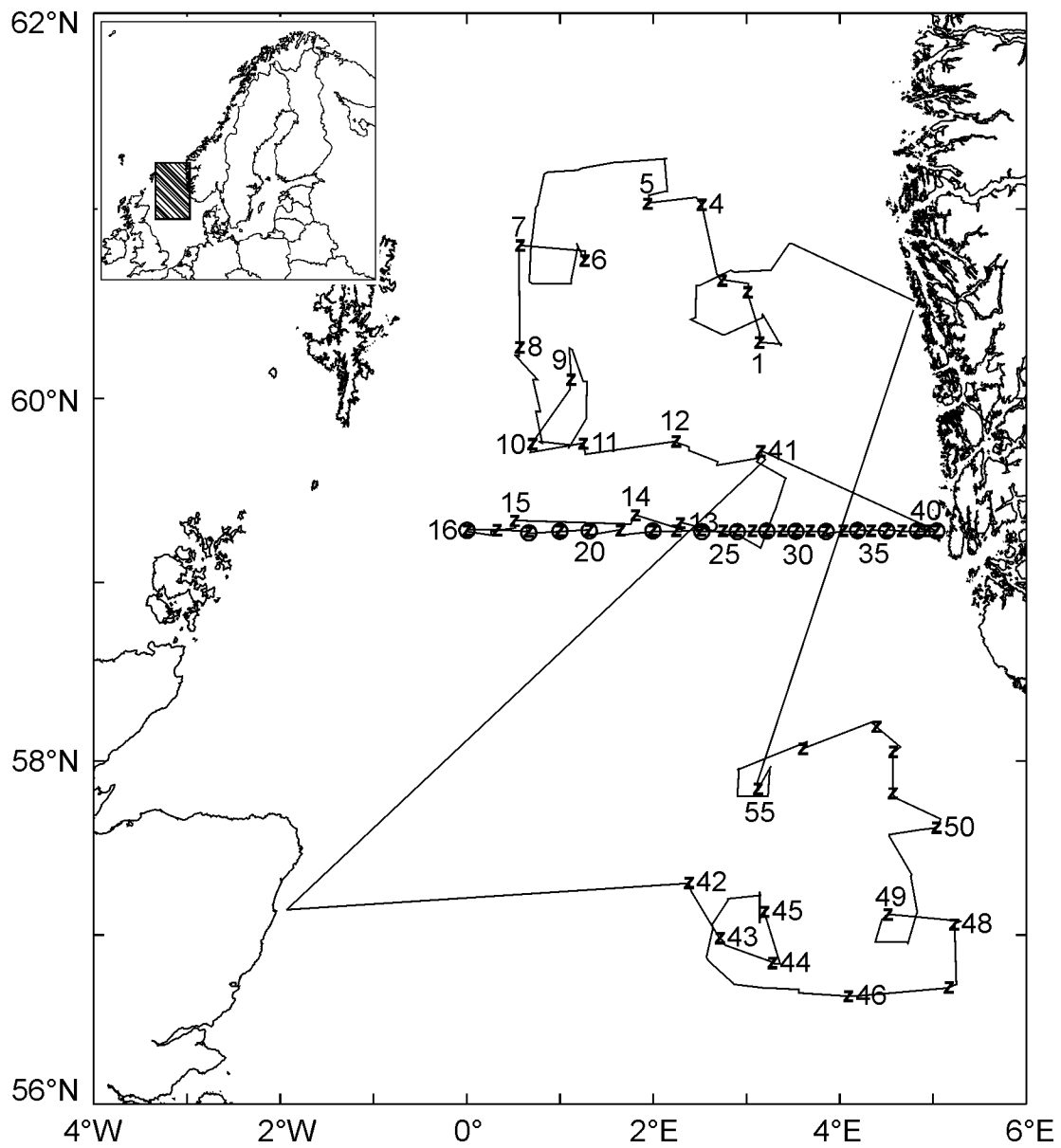


11-28 Nov 2005  
Cruise no 2005213

Δ Pelagic trawl st.no 747-767

“Johan Hjort”

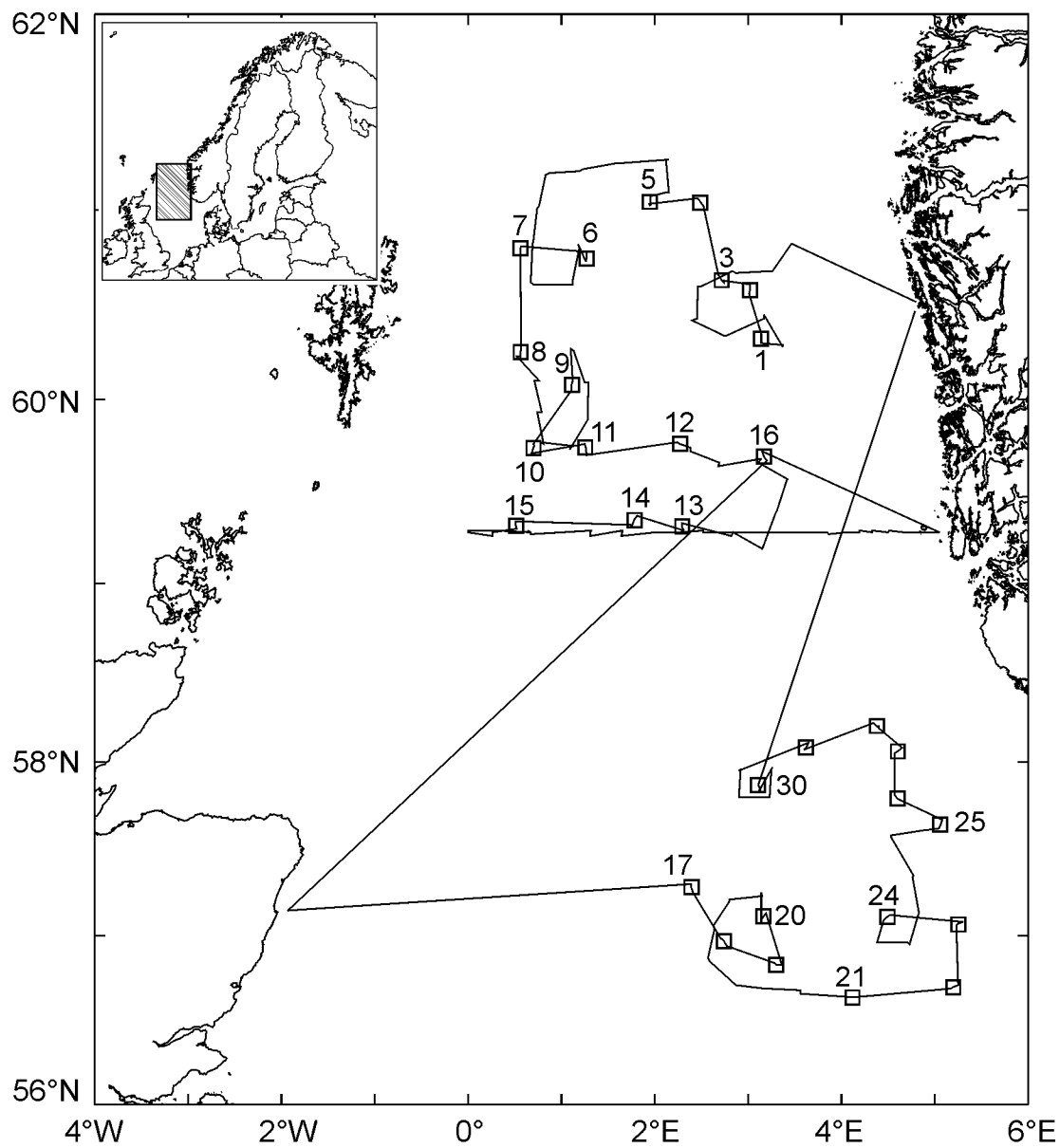
### 4.3 Håkon Mosby



17 Jan – 6 Feb 2005  
Cruise no 2005602

z CTD st.no 1-55  
o Plankton st. (WP-II-net)  
Standard section  
Utsira W st.no 16-40

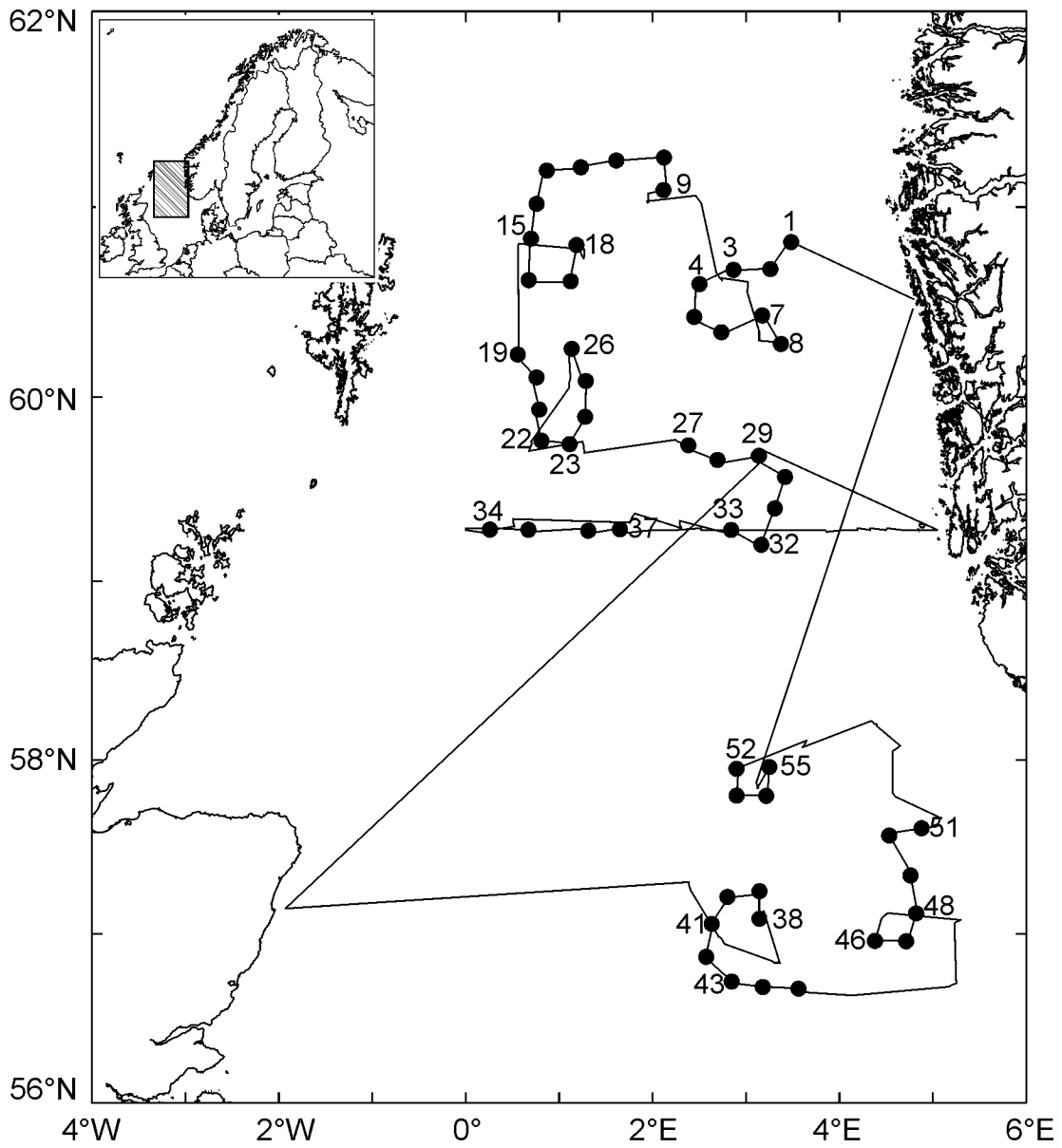
“Håkon Mosby”



17 Jan – 6 Feb 2005  
Cruise no 2005602

□ Bottom trawl st.no 1-30

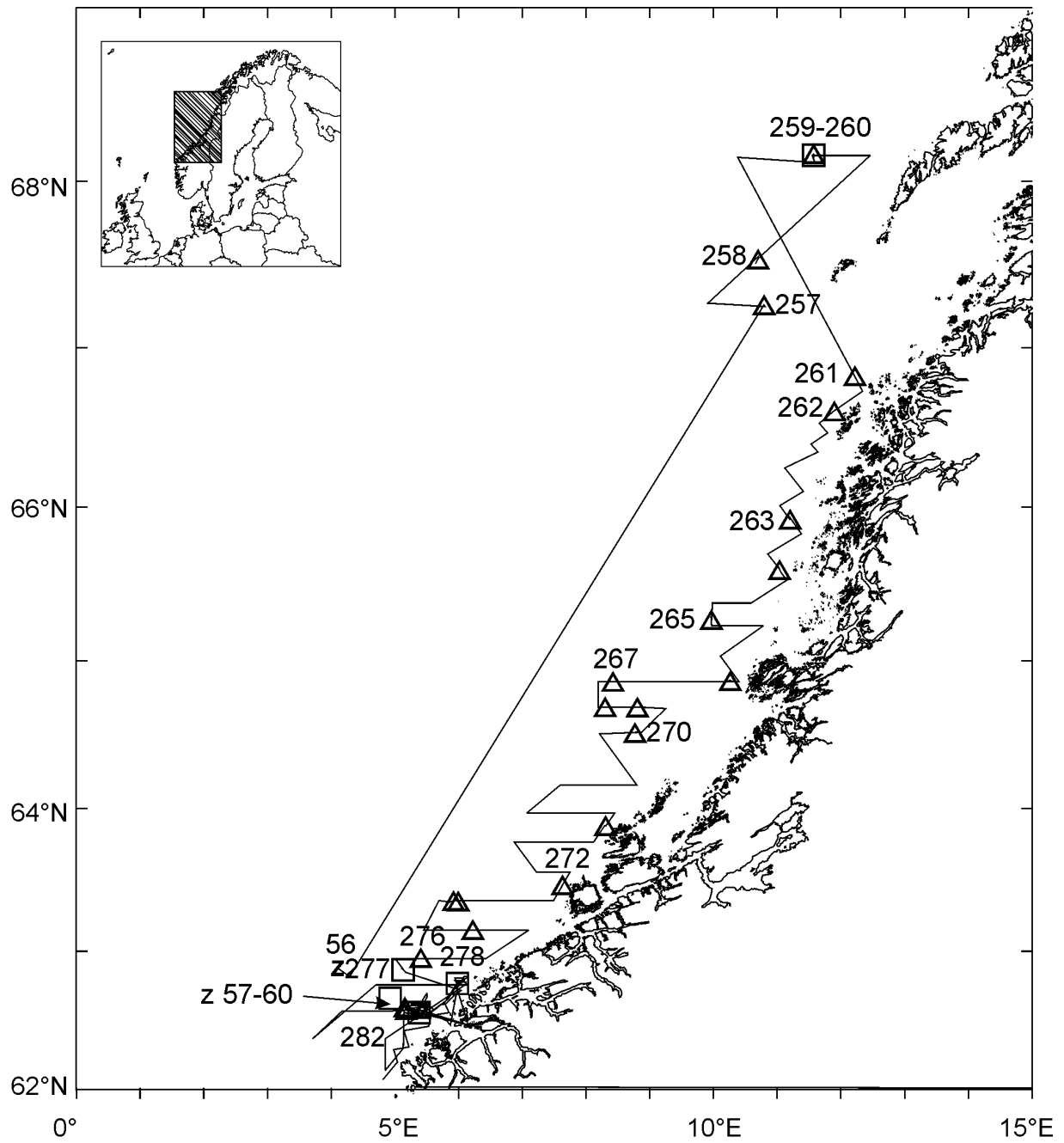
“Håkon Mosby”



17 Jan – 6 Feb 2005  
Cruise no 2005602

● MIK st.no 1-55

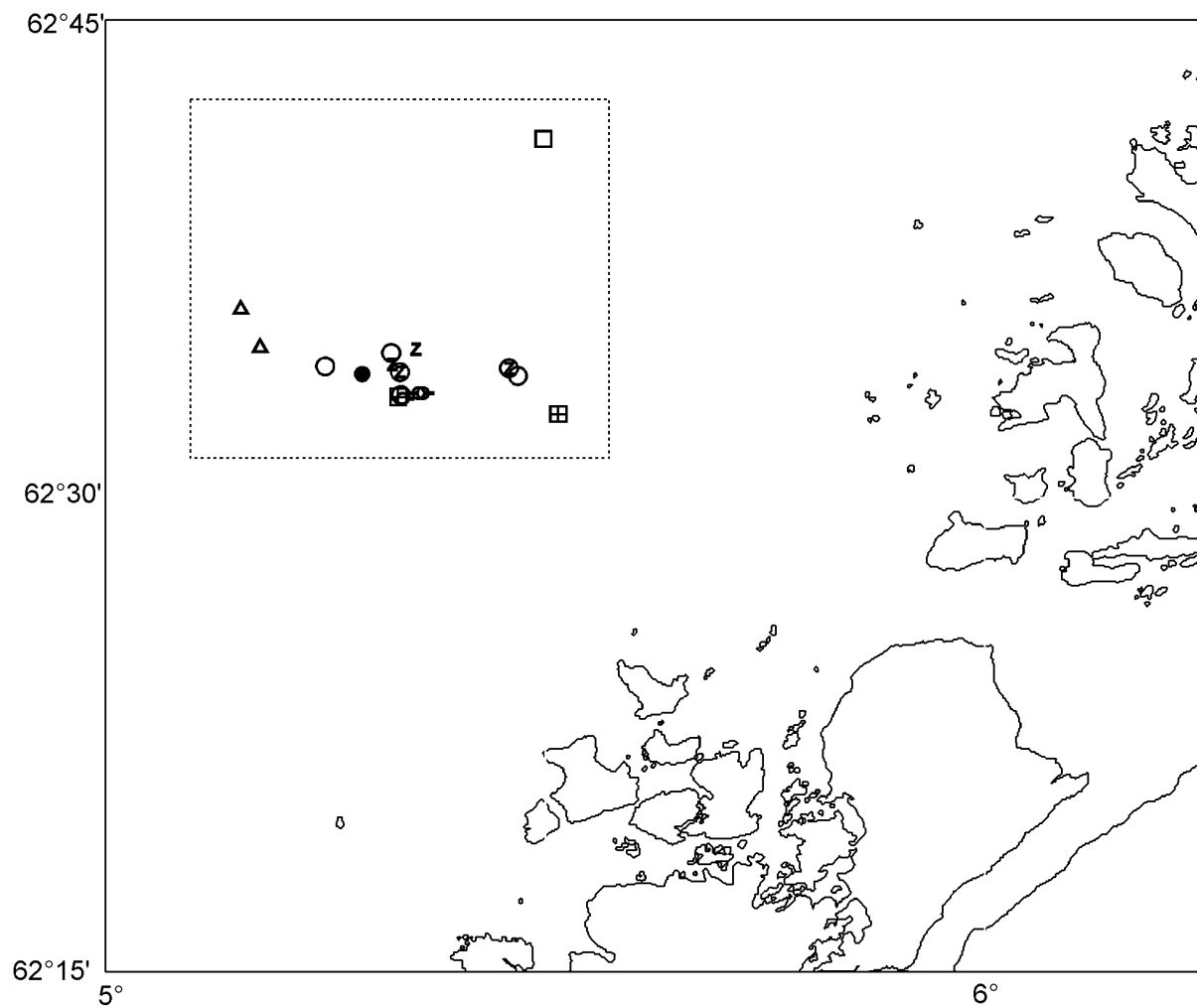
“Håkon Mosby”



14 Feb – 6 Mar 2005  
Cruise no 2005605

z CTD st.no 56-60  
Trawl st.no 257-282  
□ Bottom trawl  
△ Pelagic trawl

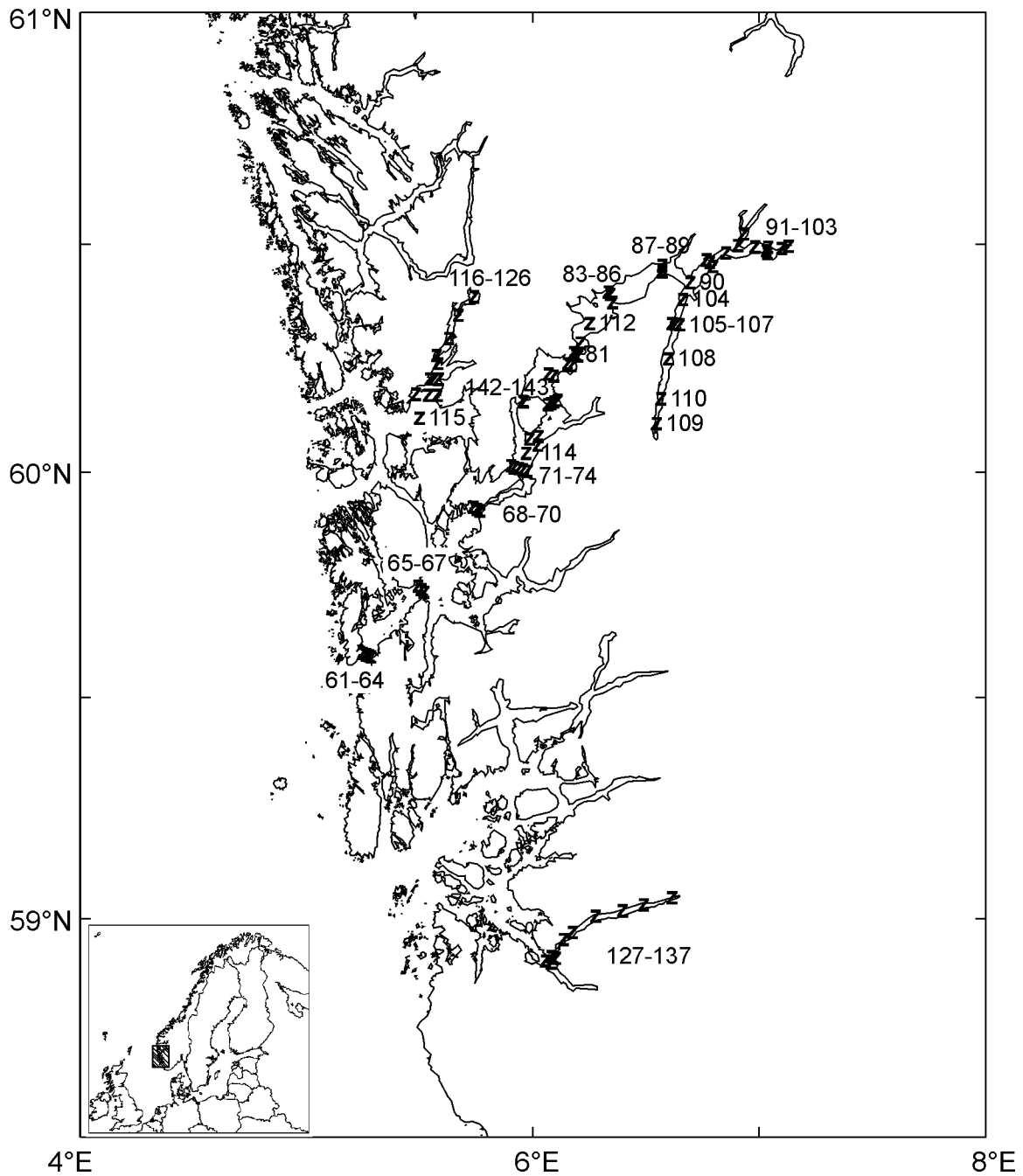
“Håkon Mosby”



14 Feb – 6 Mar 2005  
Cruise no 2005605

- Video camera at bottom
- Bottom trawl
- △ Pelagic trawl
- z CTD stations
- ▣ Gillnet stations
- Purse seine catch

“Håkon Mosby”

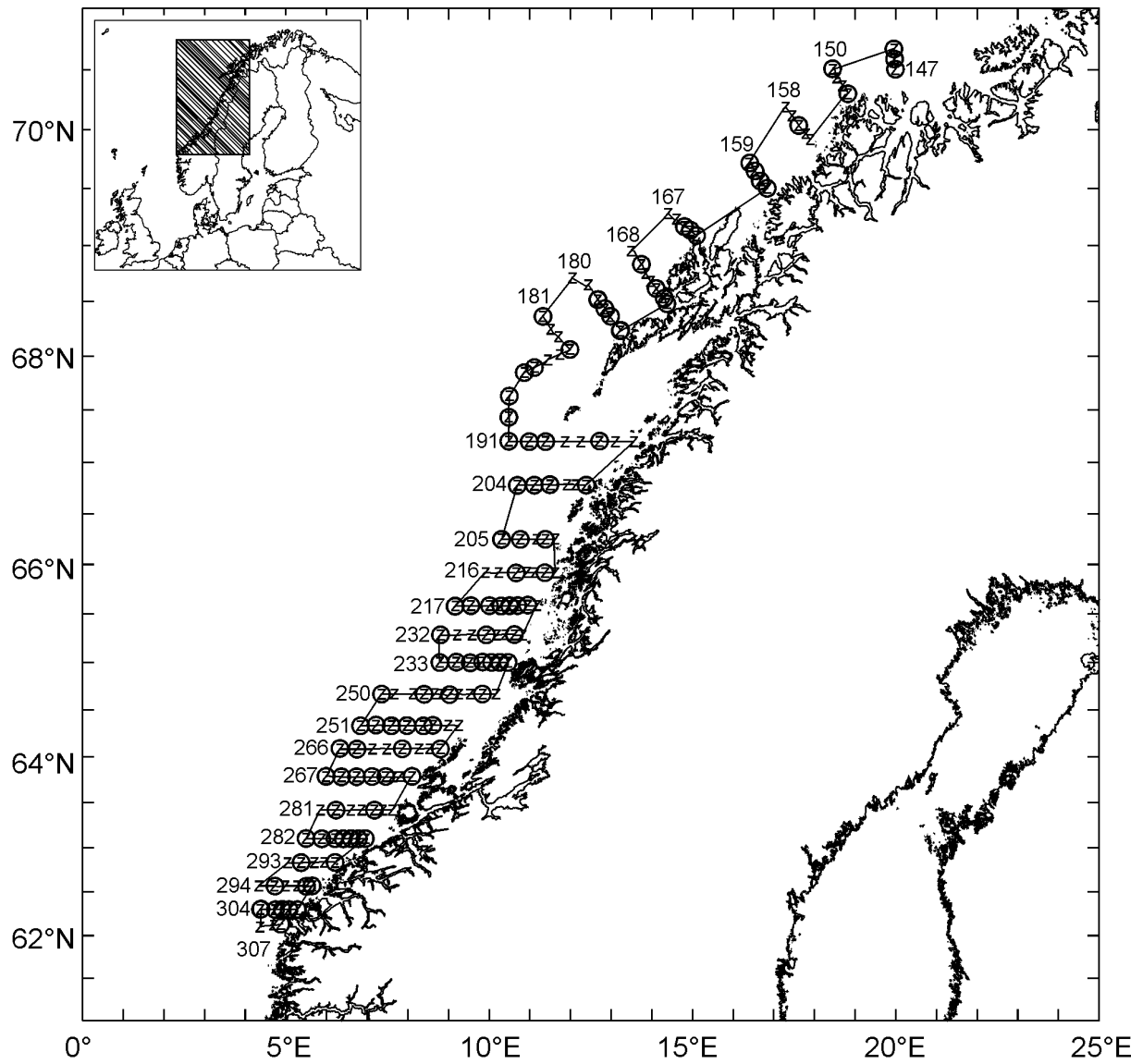


8-16 Mar 2005  
Cruise no 2005606

z CTD st.no 61-146

“Håkon Mosby”

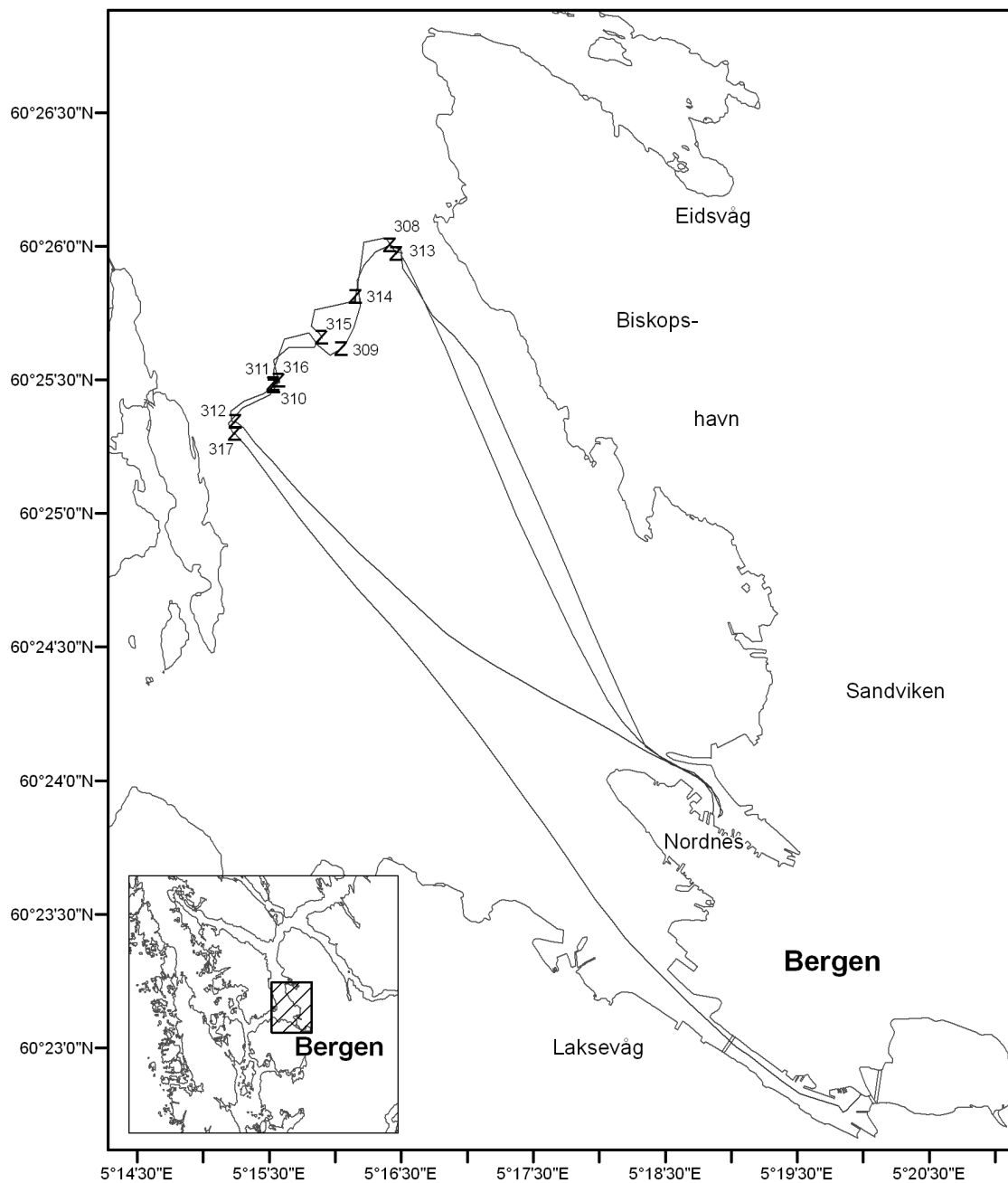




18 Mar – 2 April 2005  
Cruise no 2005607

z CTD st.no 147-307  
and fish larvae collected with Gulf III  
○ Plankton st. (WP-II-net)

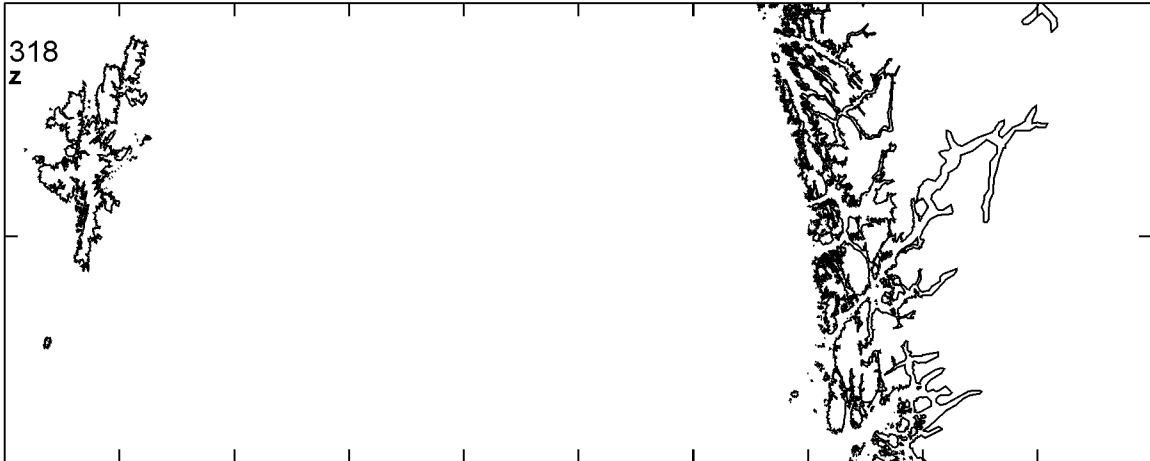
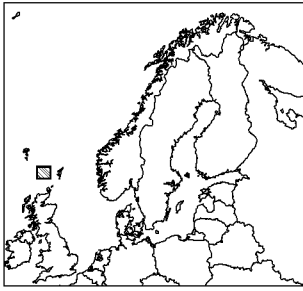
“Håkon Mosby”



5 April 2005  
Cruise no 2005608

z CTD st.no 308-317

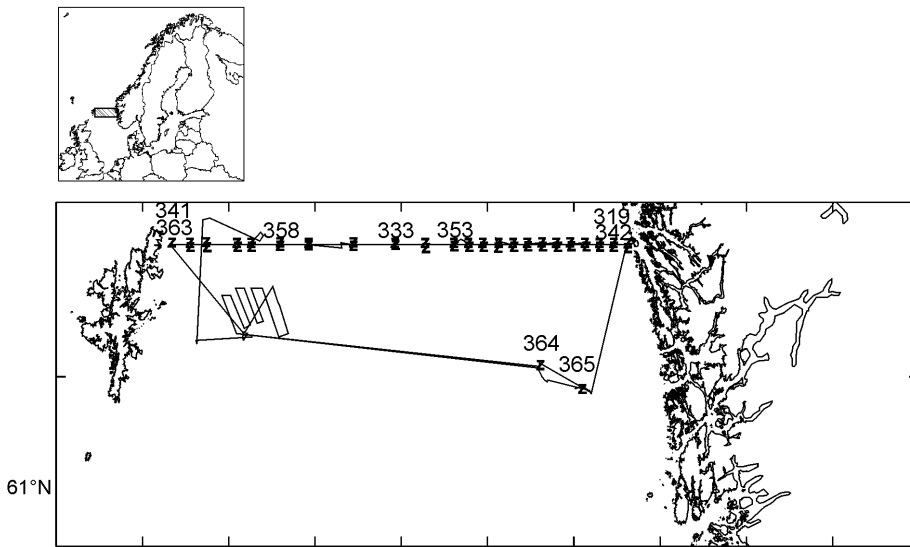
“Håkon Mosby”



8-14 April 2005  
Cruise no 2005610

z CTD st.no 318

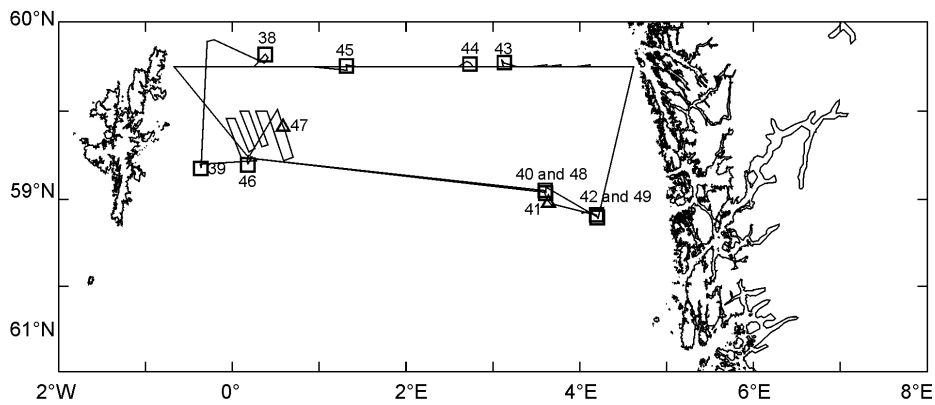
“Håkon Mosby”



15-28 April 2005  
Cruise no 2005611

z CTD st.no 319-365  
Standard section:  
Feie-Shetland st.no 319-363

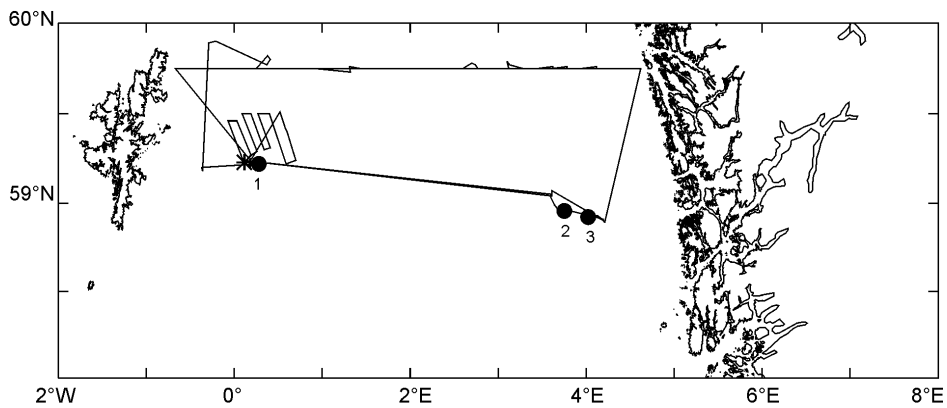
“Håkon Mosby”



15-28 April 2005  
Cruise no 2005611

Trawl st.no 38-49  
□ Bottom trawl  
△ Pelagic trawl

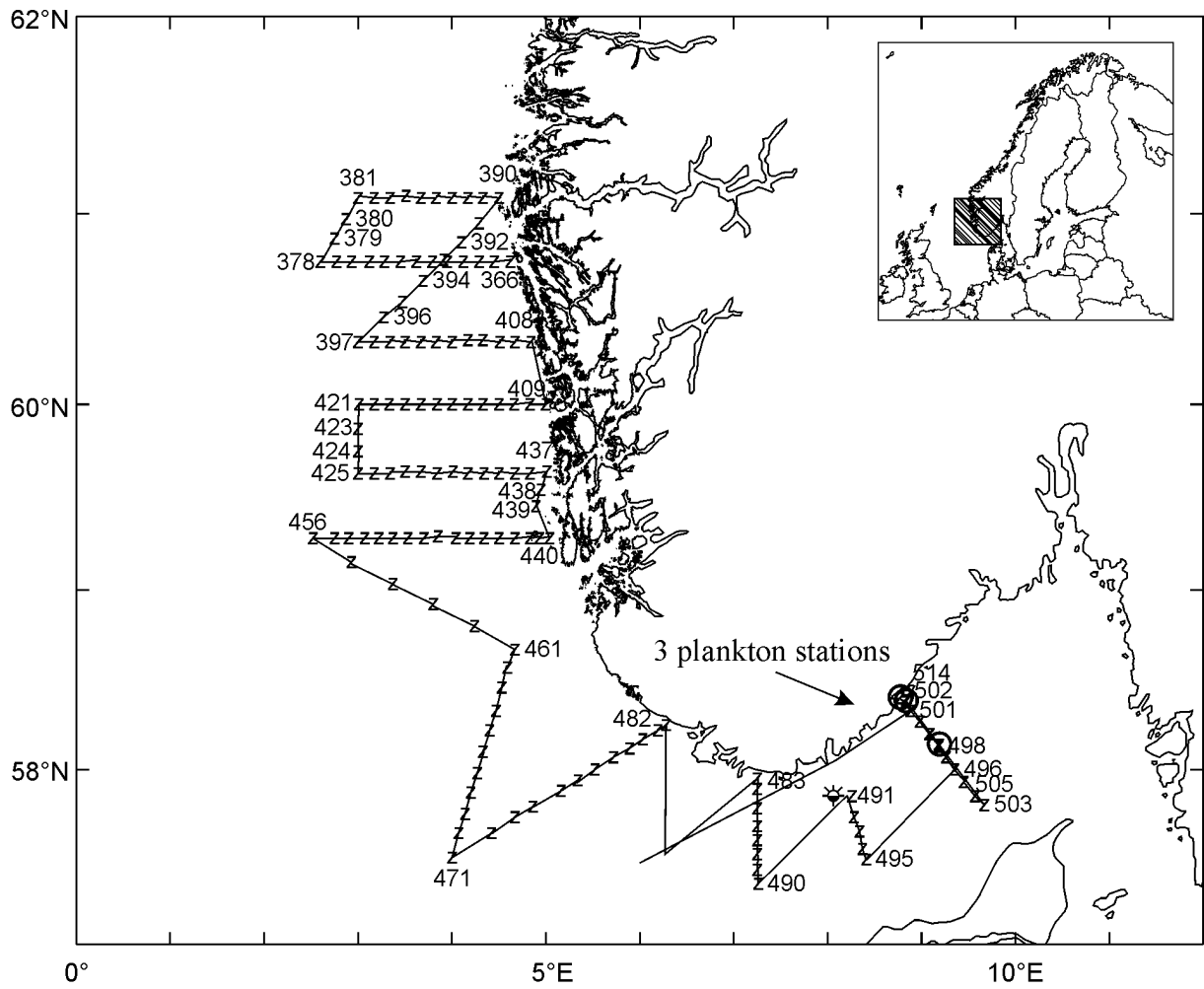
“Håkon Mosby”



15-28 April 2005  
Cruise no 2005611

● Mik stations  
\* Beam trawling

“Håkon Mosby”



30 April – 10 May 2005  
Cruise no 2005612

z CTD st.no 366-514  
○ Plankton st. (WP-II-net)  
\* Three drifting Argos buoys

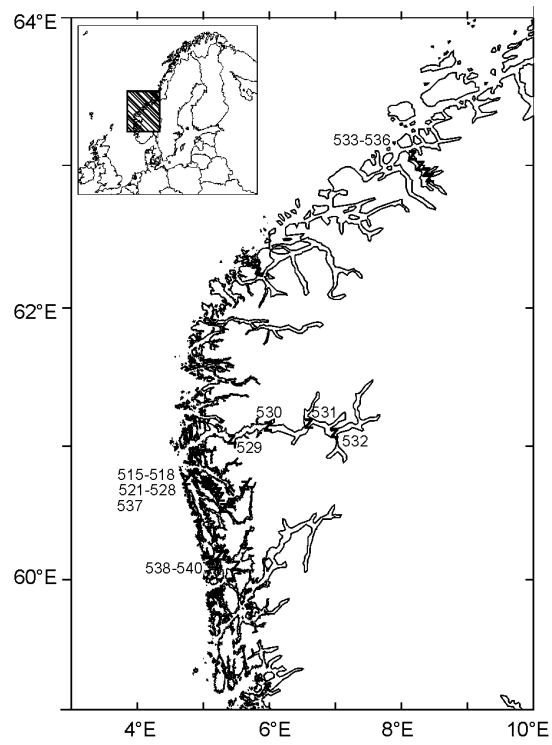
“Håkon Mosby”

Standard sections:

Feie-Shetland (partly) st.no 366-378

Utsira W (partly) st.no 440-456

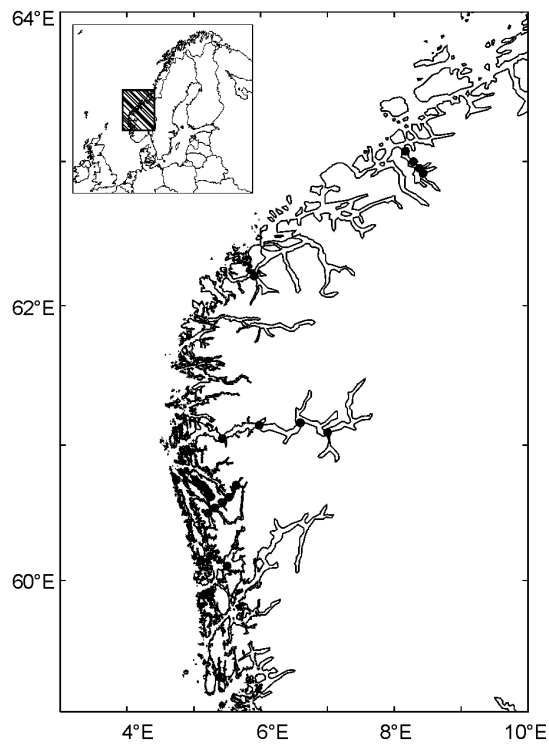
Torungen-Hirtshals st.no 496-505



11-22 May 2005  
Cruise no 2005613

z CTD st.no 515-540

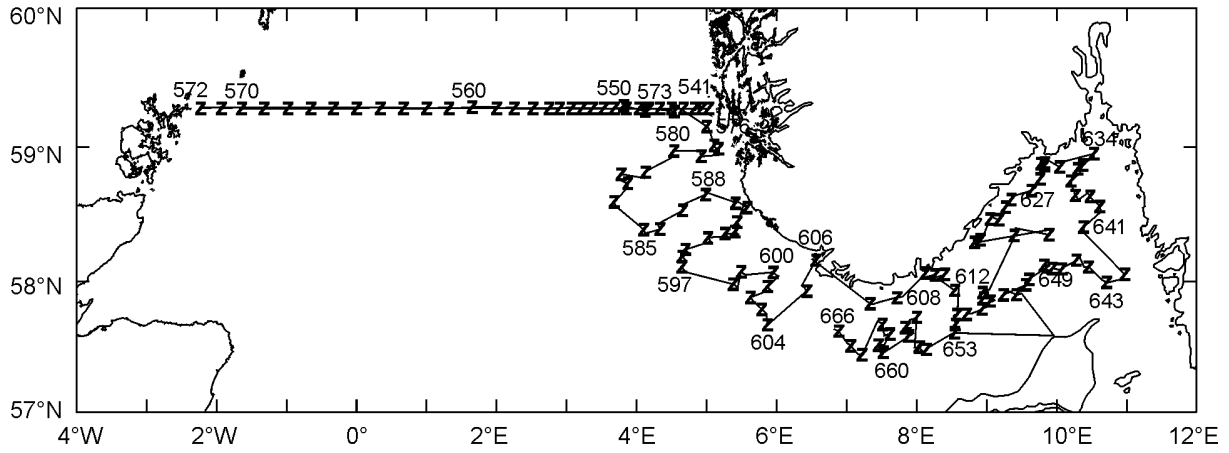
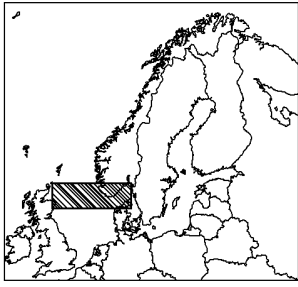
“Håkon Mosby”



11-22 May 2005  
Cruise no 2005613

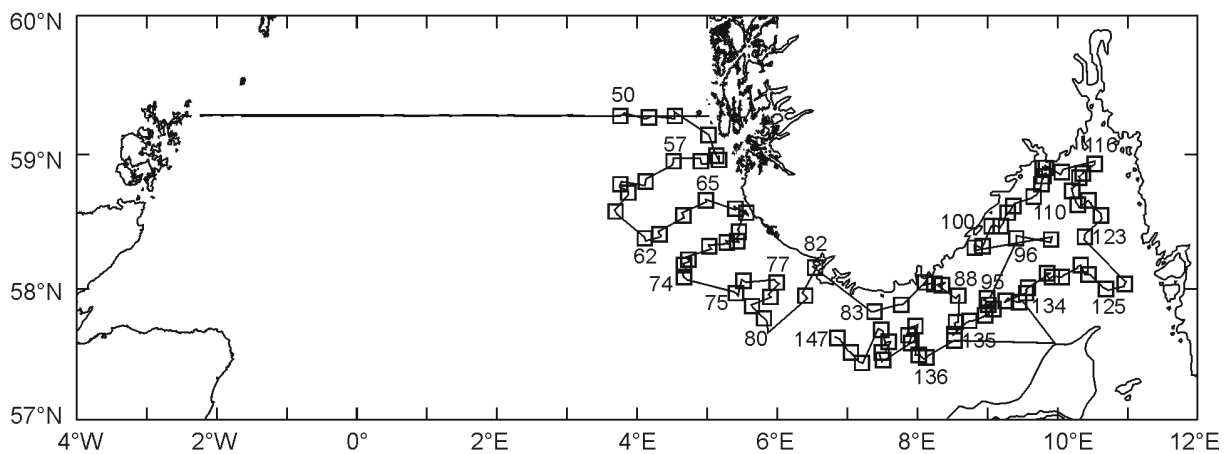
● Mik stations

“Håkon Mosby”



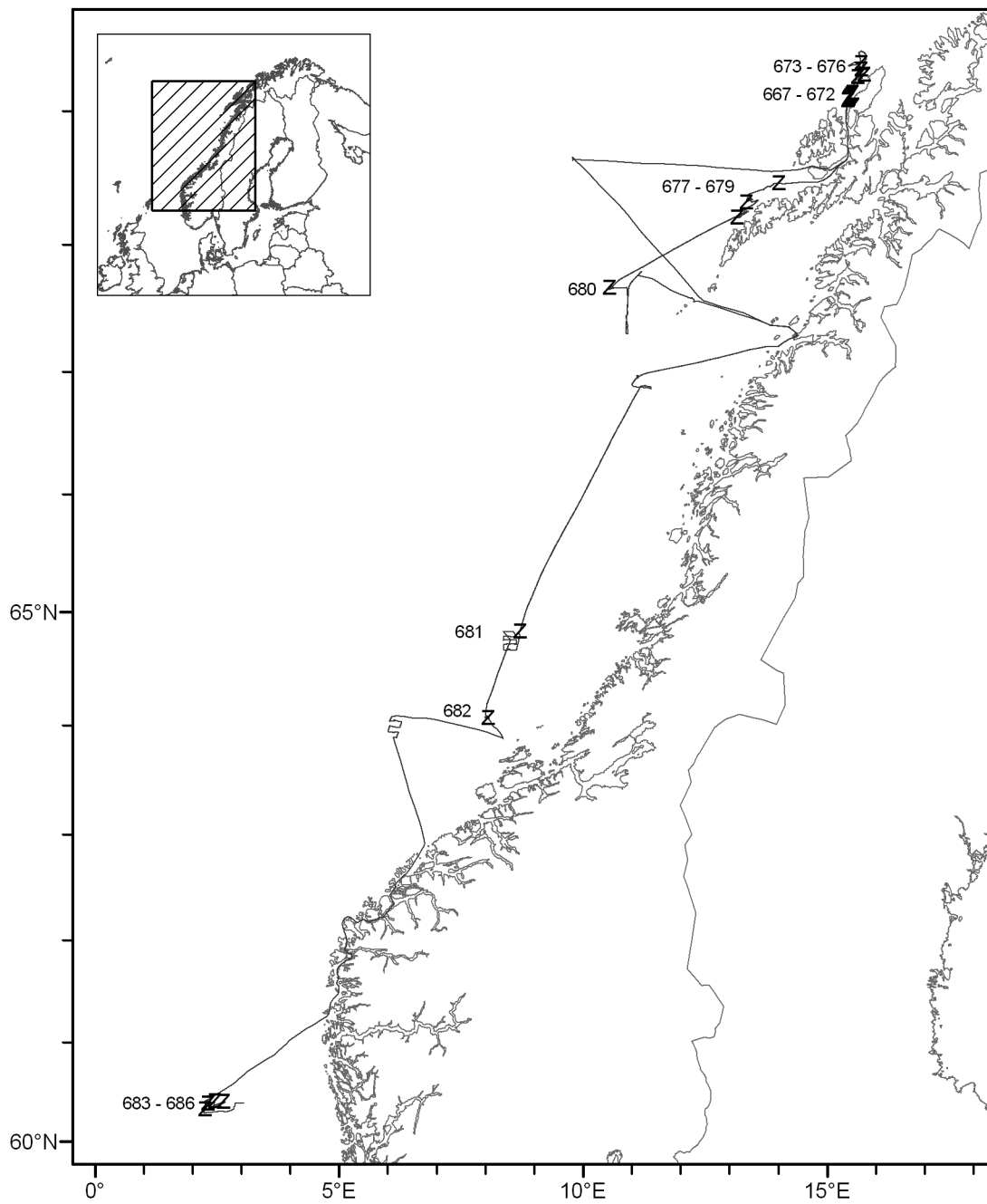
24 May – 11 June 2005 z CTD st.no 541-666  
 Cruise no 2005614 Standard section:  
 Utsira W st.no 541-572

“Håkon Mosby”



24 May – 11 June 2005 □ Bottom trawl st.no 50-147  
 Cruise no 2005614

“Håkon Mosby”

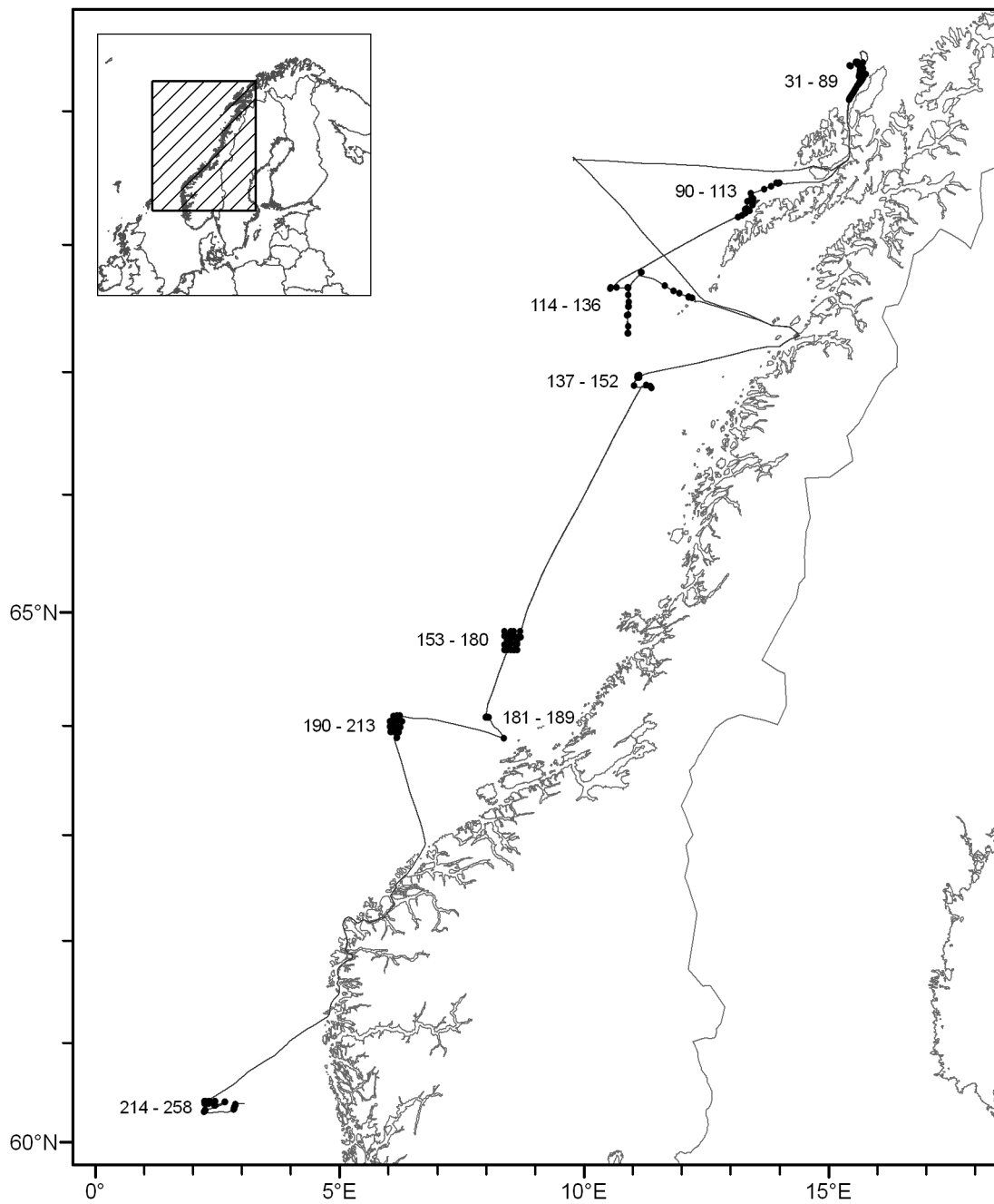


27 June – 8 July 2005  
Cruise no 2005616

z CTD st.no 667-686

“Håkon Mosby”

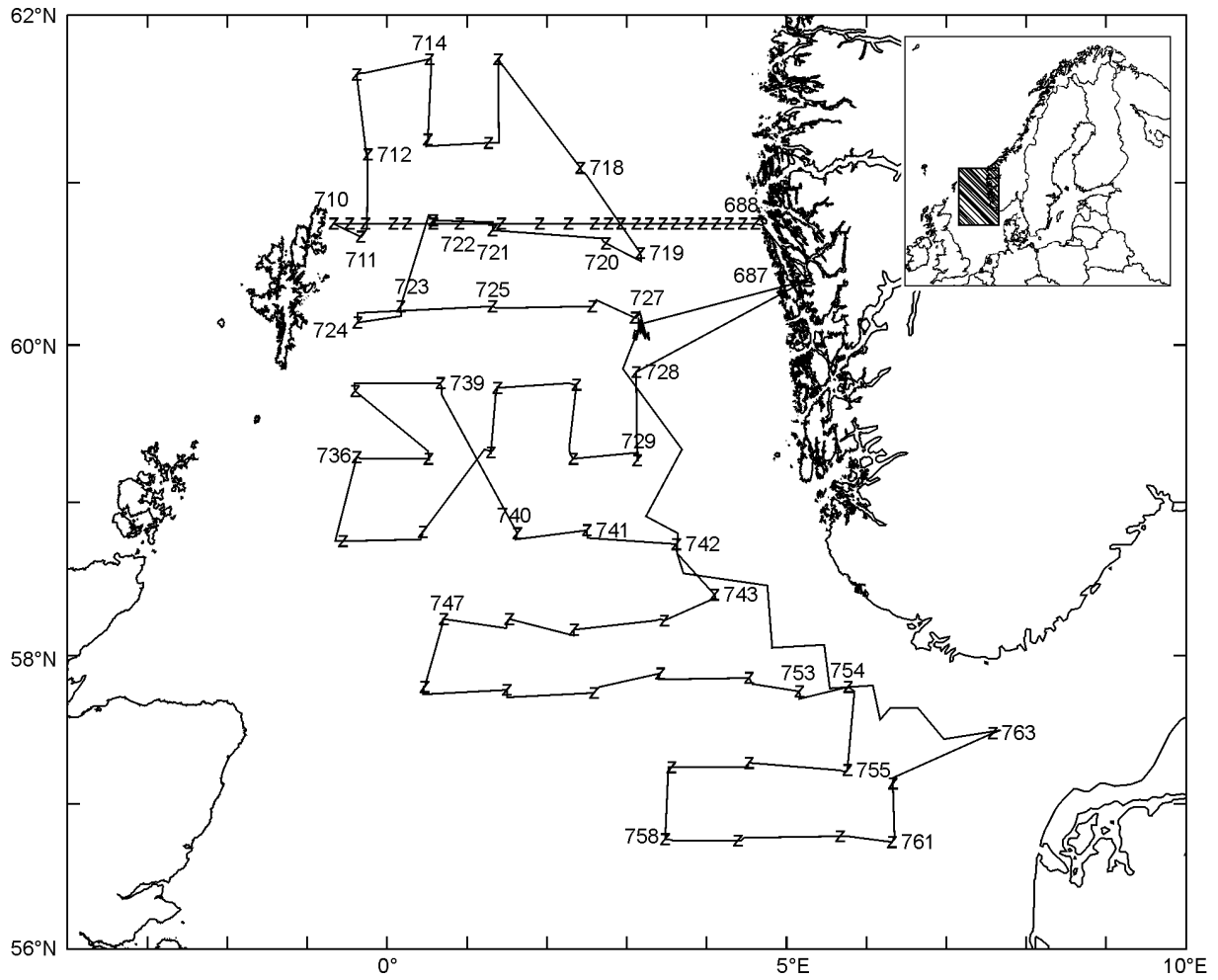




27 June – 8 July 2005  
Cruise no 2005616

● Grab or dredge st.no 31-258

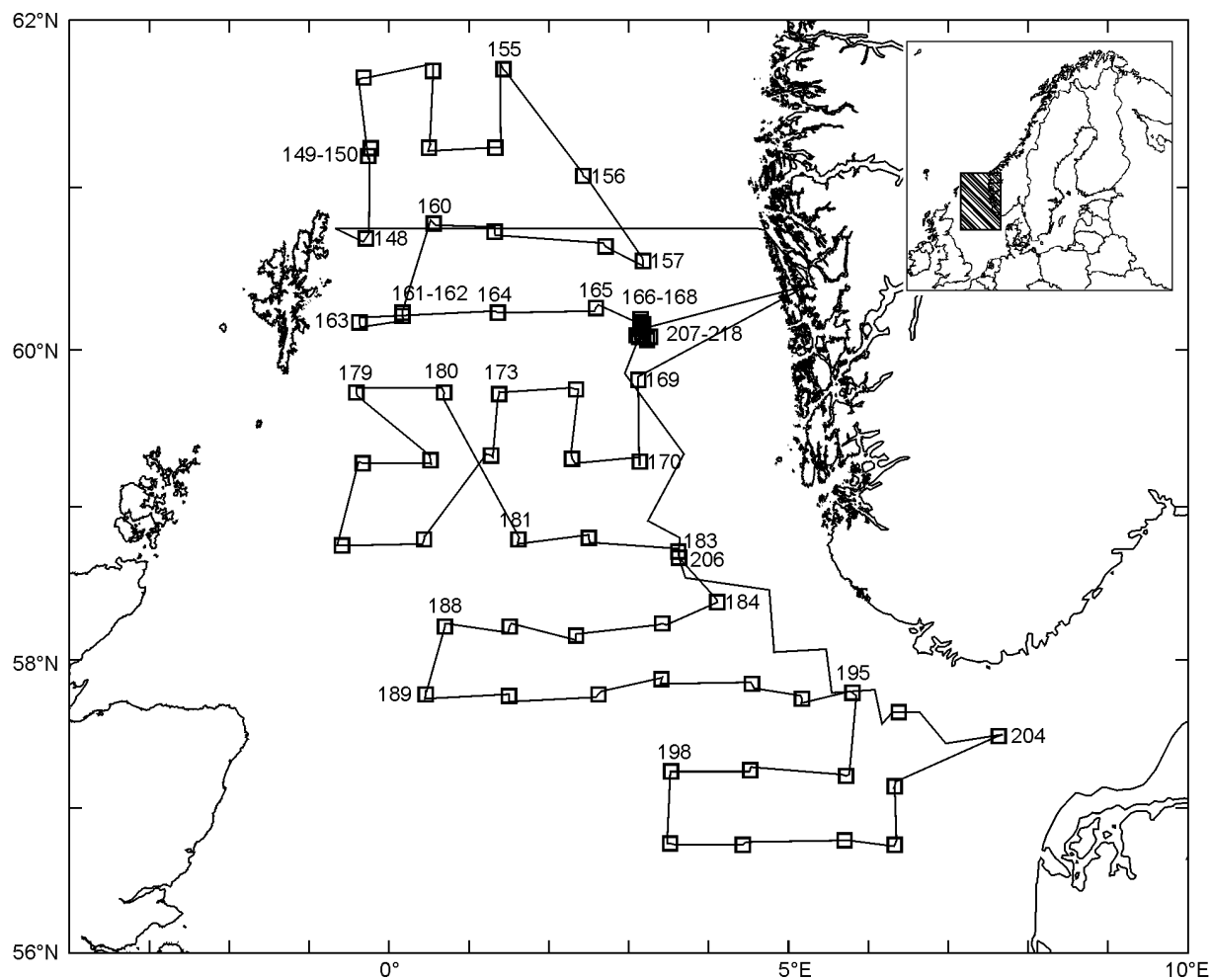
“Håkon Mosby”



11-31 July 2005  
Cruise no 2005617

z CTD st.no 687-763  
Standard section:  
Feie-Shetland st.no 688-710

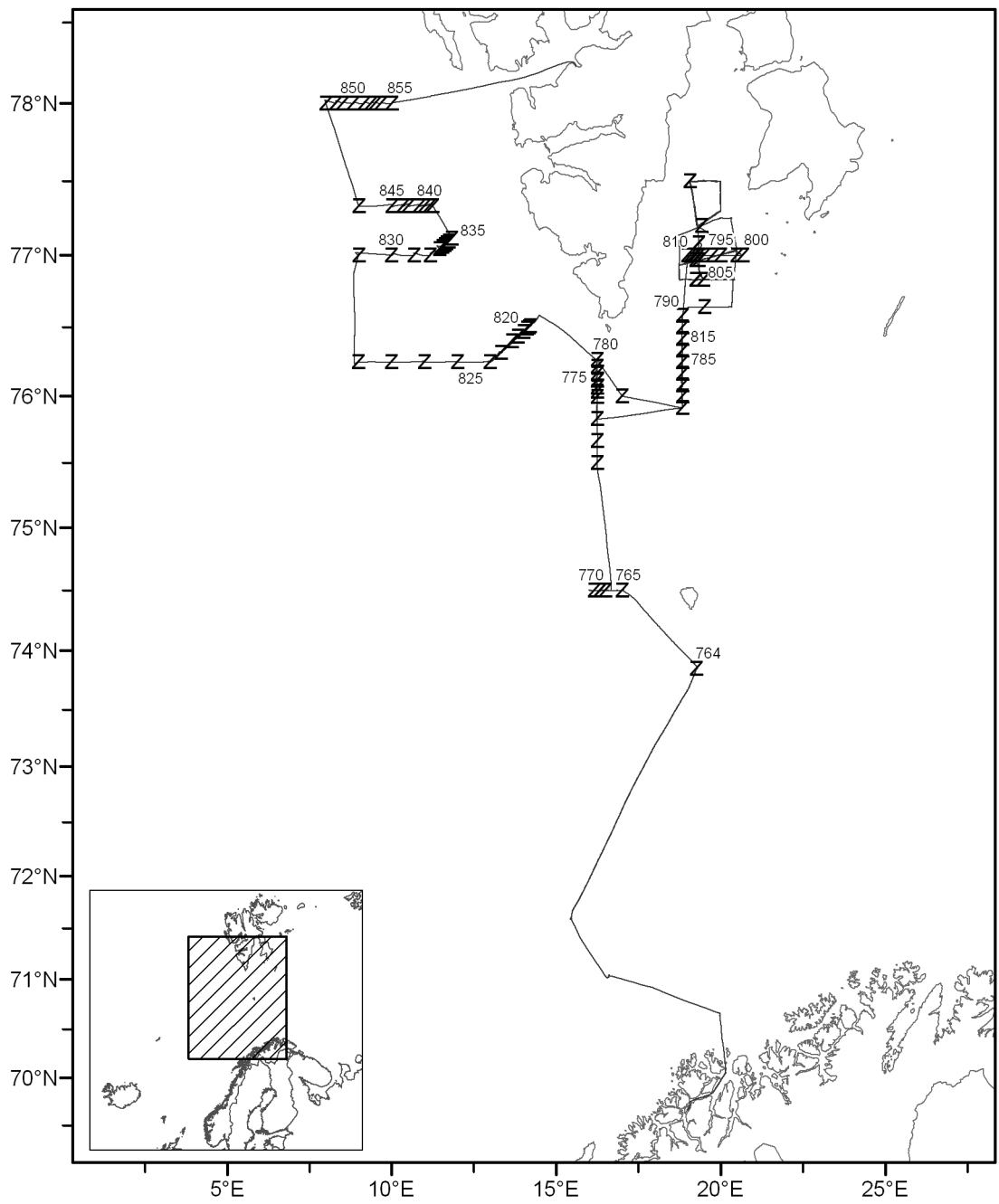
“Håkon Mosby”



11-31 July 2005  
Cruise no 2005617

□ Bottom trawl st.no 148-218

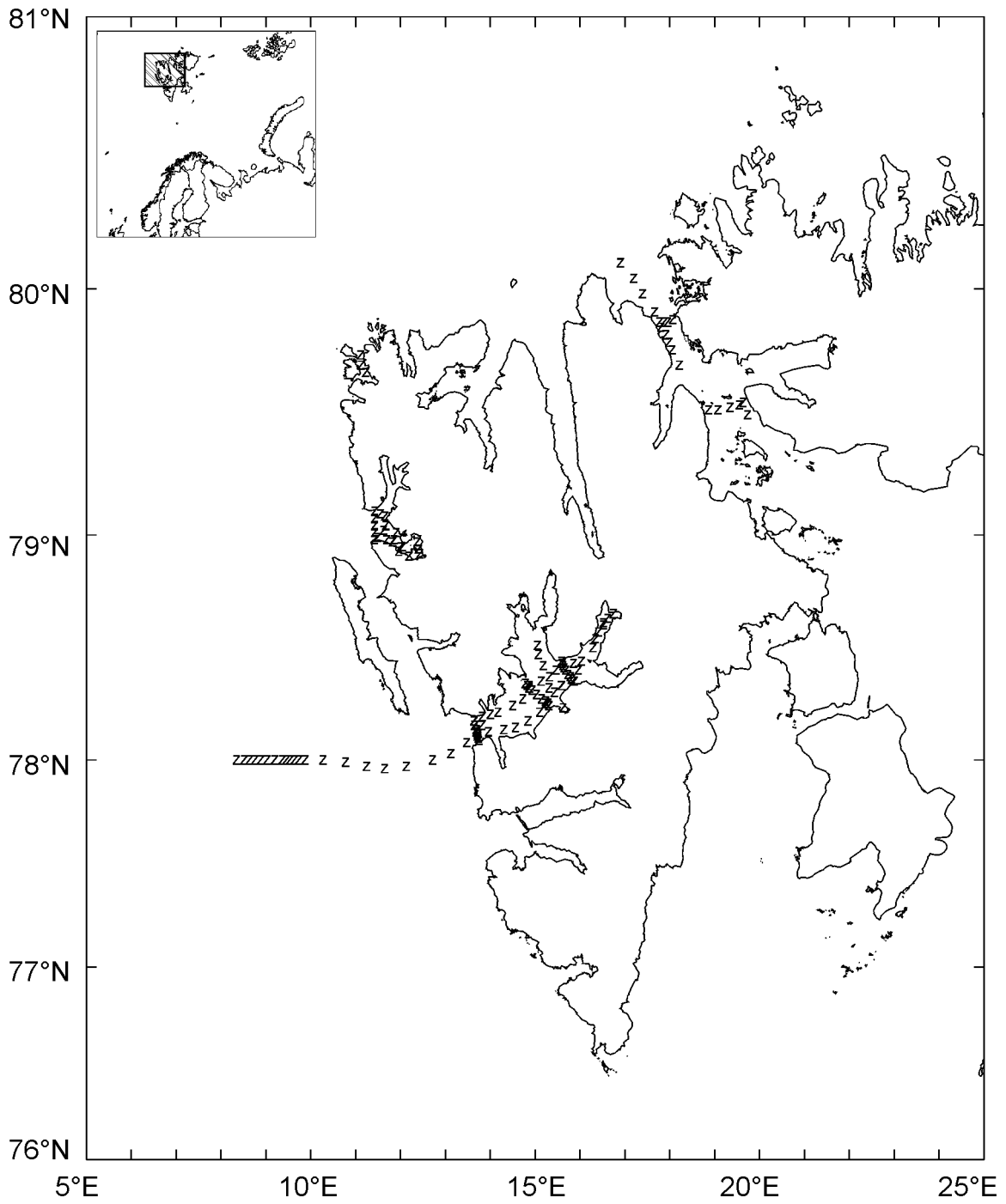
“Håkon Mosby”



5-18 Aug 2005  
Cruise no 2005618

z CTD st.no 764-855

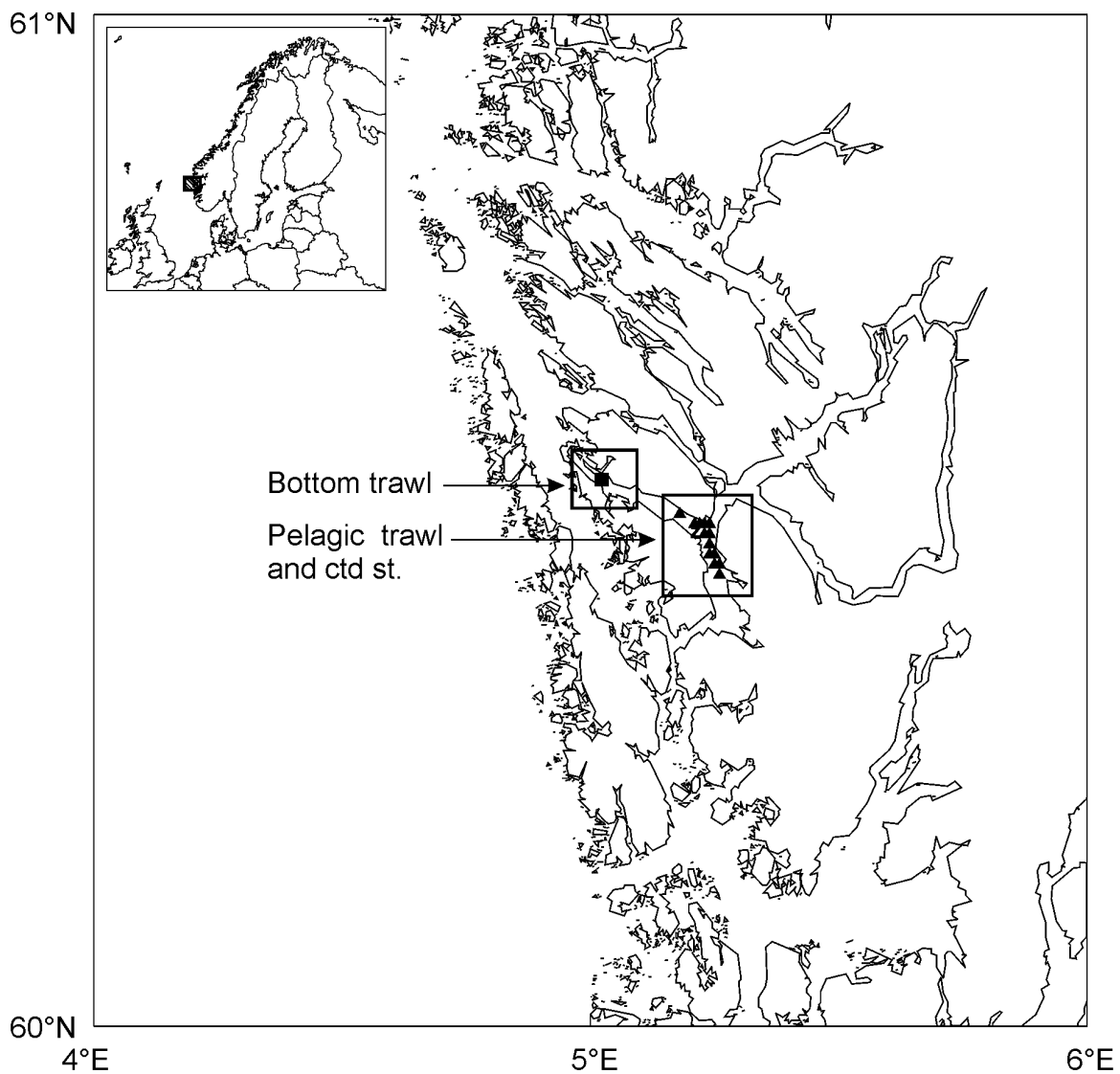
“Håkon Mosby”



9-19 Sep 2005  
Cruise no 2005620

z CTD st.no 856-1053

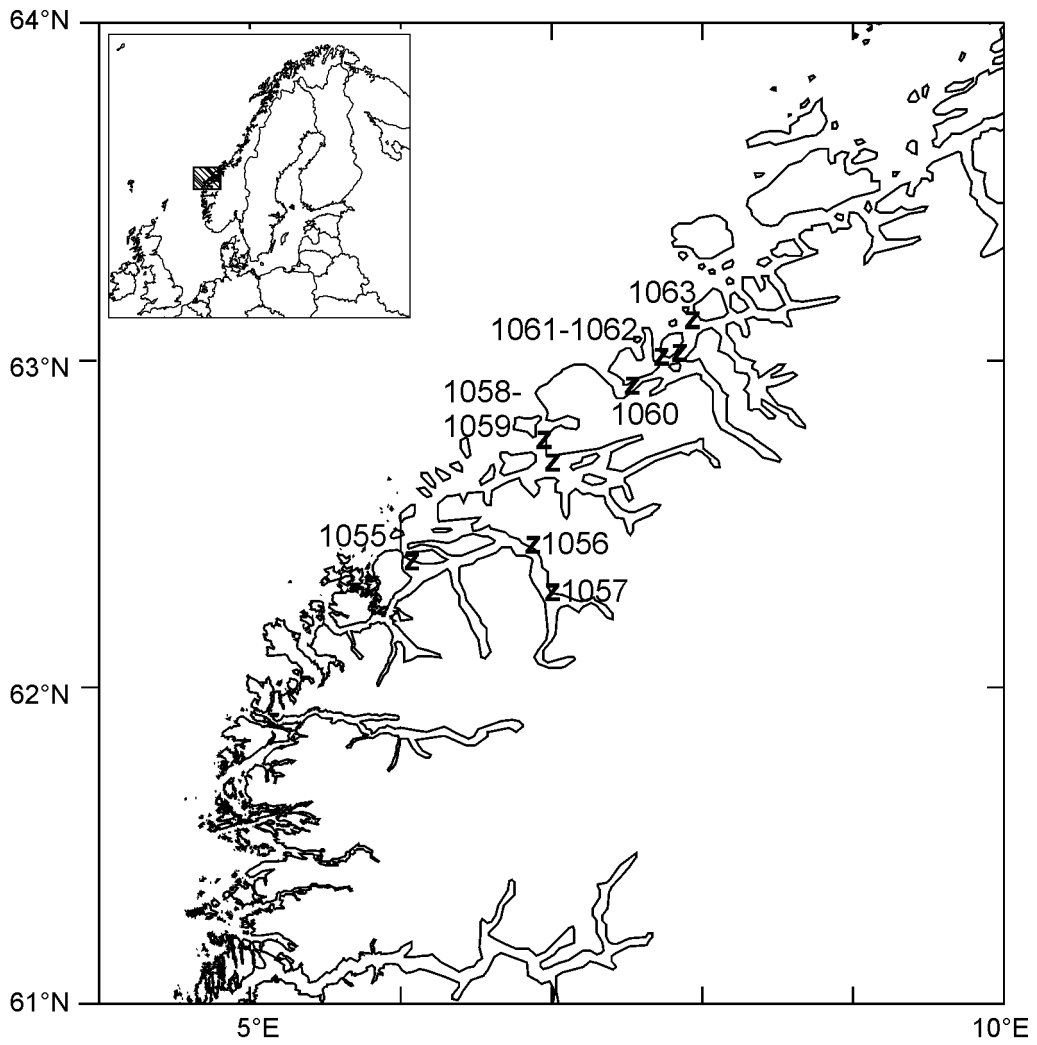
“Håkon Mosby”



27-30 Sep 2005  
Cruise no 2005622

z CTD st.no 1054  
▲ Pelagic trawl st.no 219-242, 244-264, 266-274  
■ Bottom trawl st.no 243 and 265

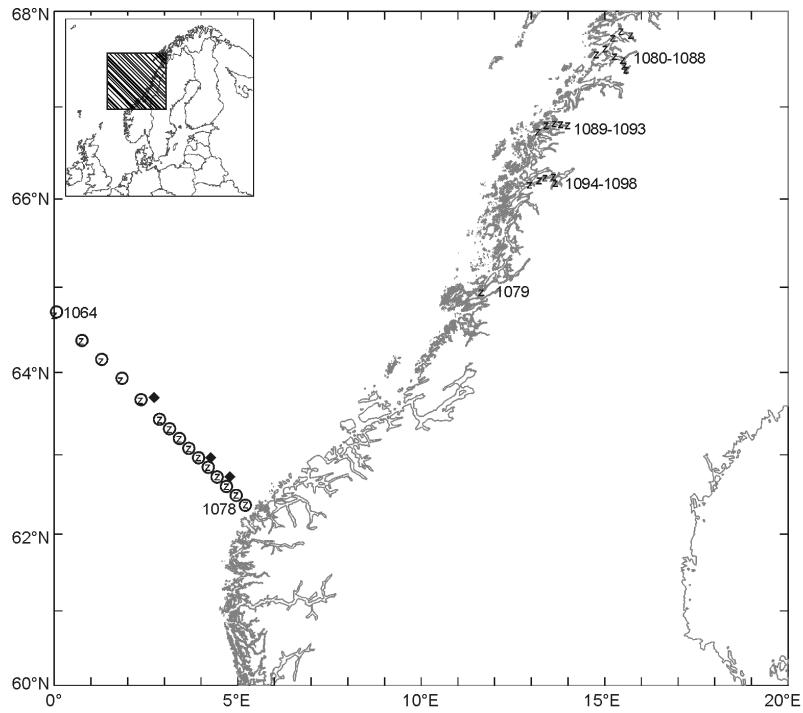
“Håkon Mosby”



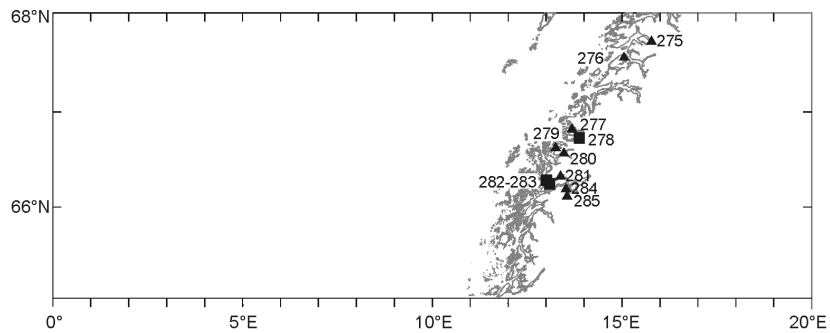
9-14 Oct 2005  
Cruise no 2005624

z CTD st.no 1055-1063

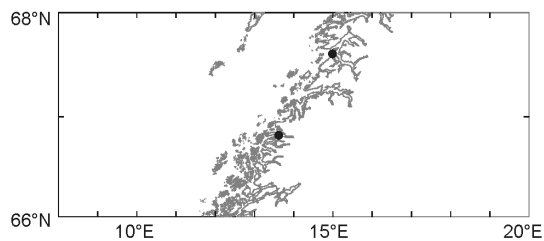
“Håkon Mosby”



15-24 Oct 2005 z CTD st.no 1064-1098 "Håkon Mosby"  
 Cruise no 2005625 Part I ○ Plankton st.  
 ◆ Plankton st. (Mocness)  
 Standard section:  
 Svinøy-NW st.no 1064-1078

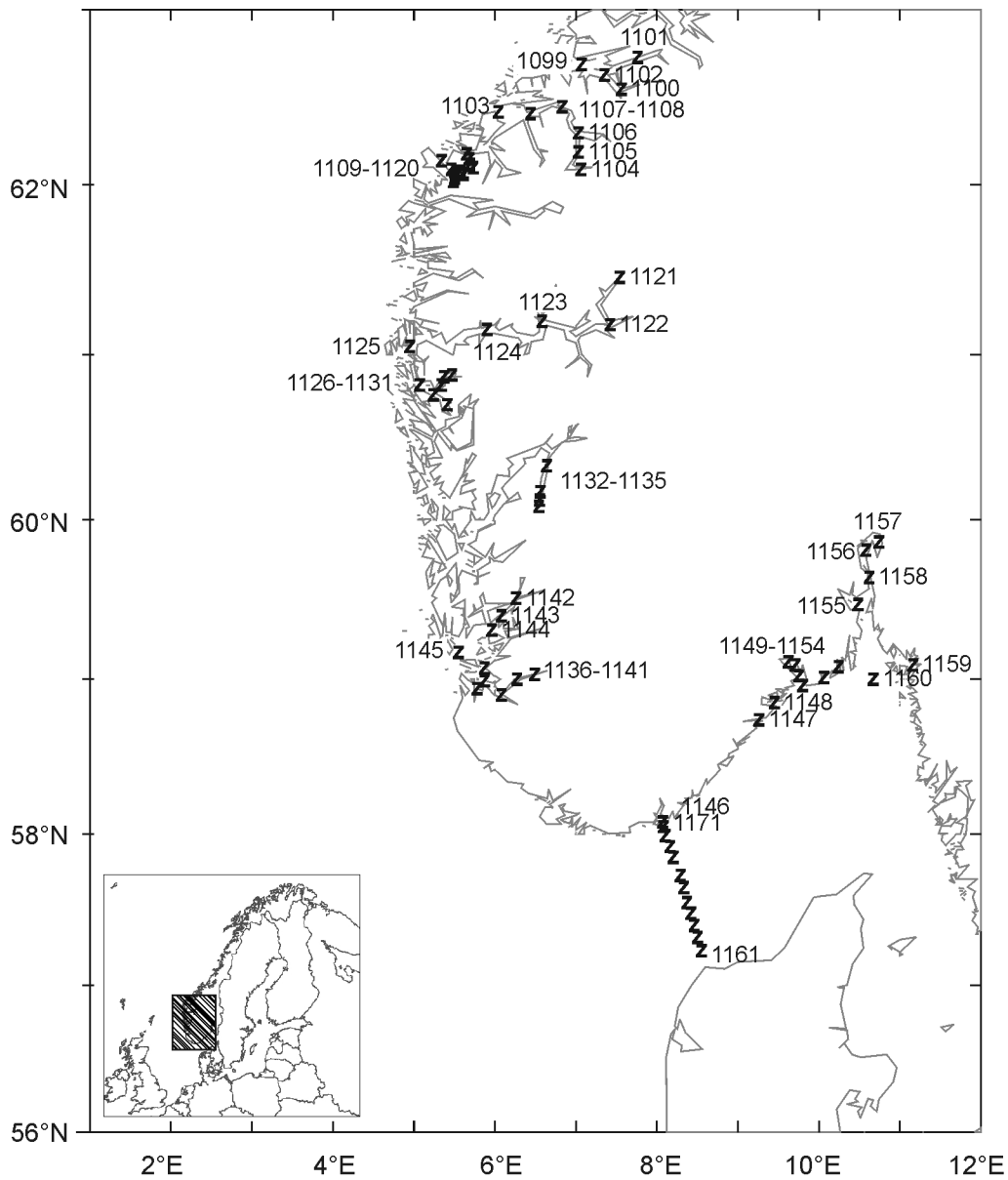


15-24 Oct 2005 Trawl st.no 275-285 "Håkon Mosby"  
 Cruise no 2005625 Part I ▲ Pelagic trawl  
 ■ Bottom trawl



15-24 Oct 2005 ● Grab stations "Håkon Mosby"  
 Cruise no 2005625 Part I





7-23 Nov 2005

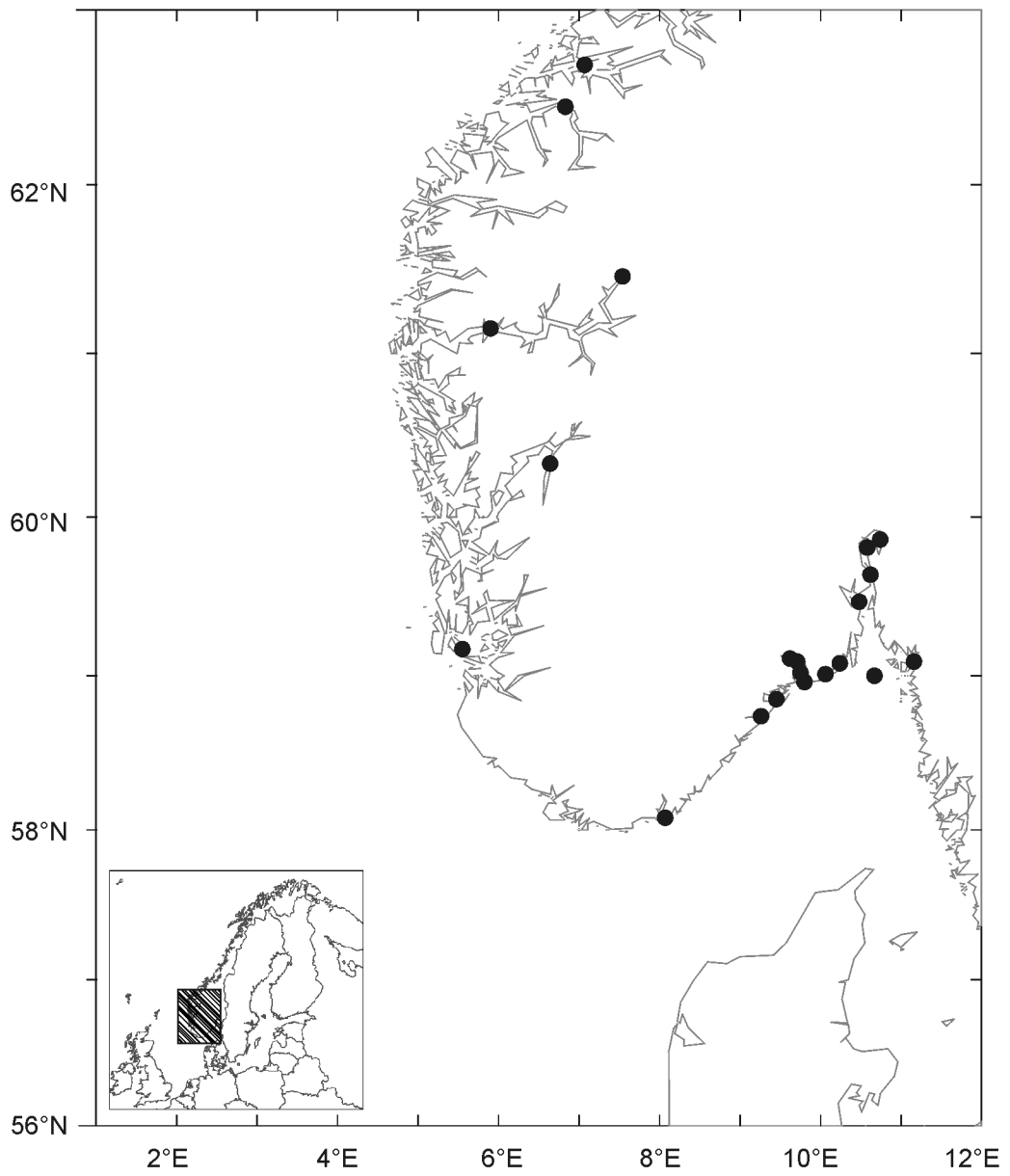
Cruise no 2005625 Part II

z CTD st.no 1099-1171

Standard section:

Oksø-Hanstholm st.no 1161-1171

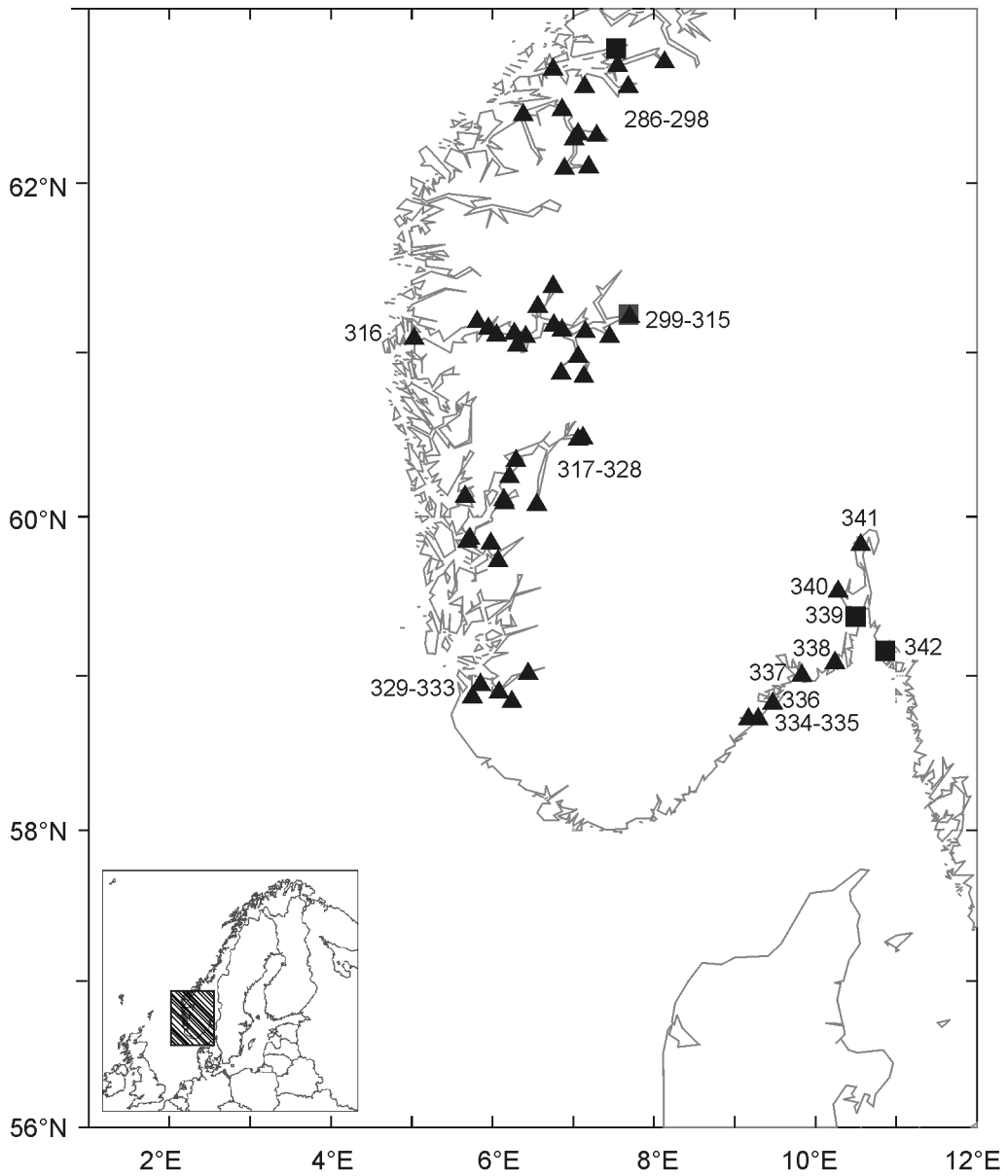
“Håkon Mosby”



7-23 Nov 2005  
Cruise no 2005625 Part II

● Grab stations

“Håkon Mosby”



7-23 Nov 2005

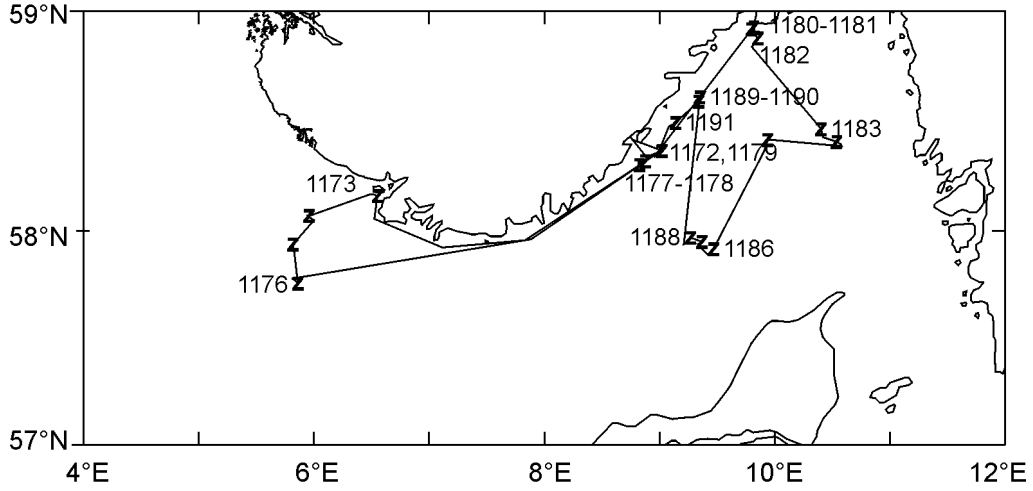
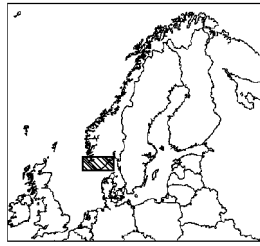
Cruise no 2005625 Part II

Trawl st.no 286-342

▲ Pelagic trawl

■ Bottom trawl

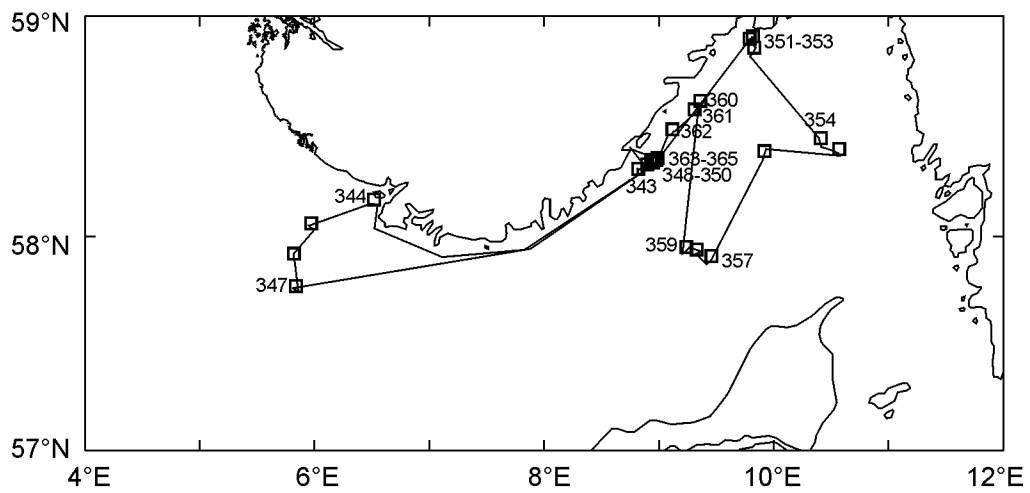
“Håkon Mosby”



24-30 Nov 2005  
Cruise no 2005626

z CTD st.no 1172-1191

“Håkon Mosby”

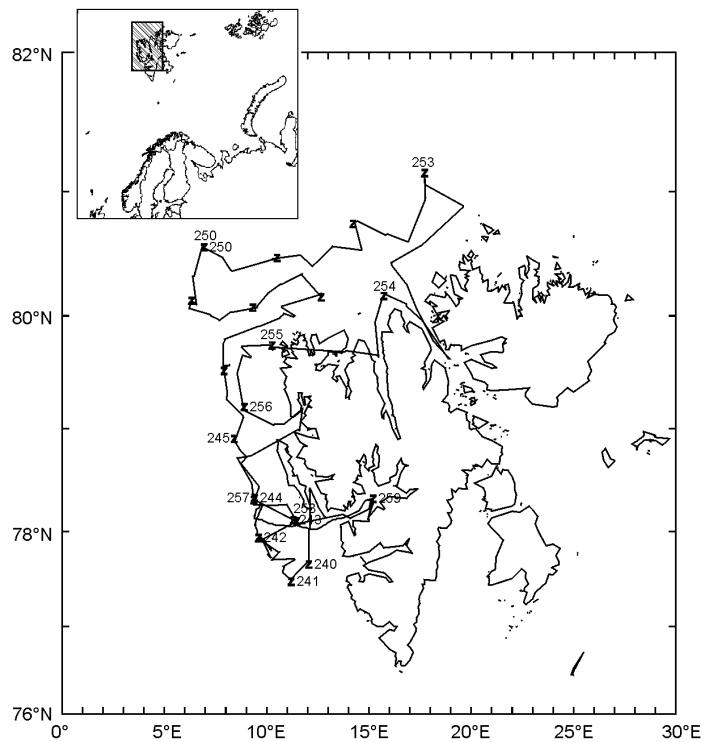


24-30 Nov 2005  
Cruise no 2005626

□ Bottom trawl st.no 343-365

“Håkon Mosby”

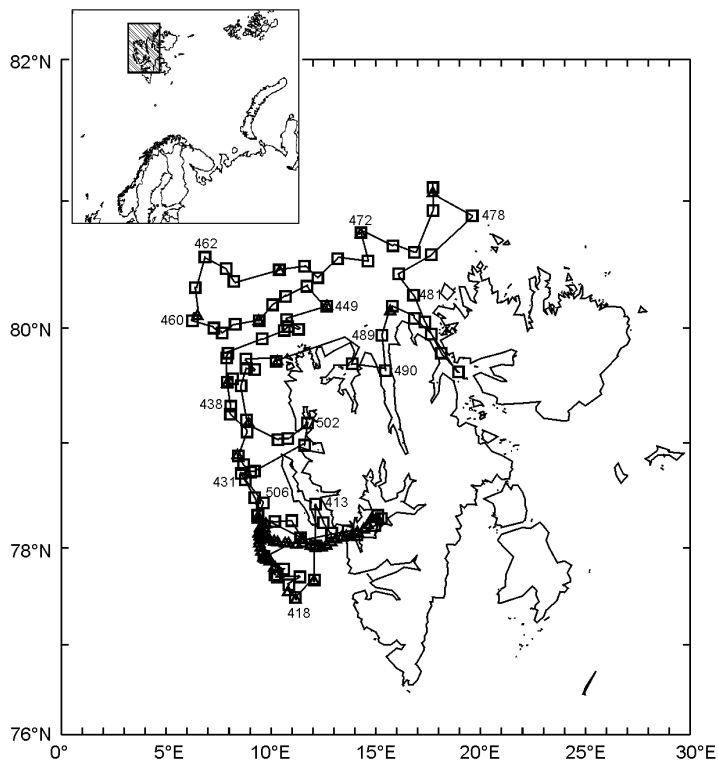
## 4.4 Jan Mayen



3-20 Aug 2005  
Cruise no 2005702

z CTD st.no 240-259

“Jan Mayen”

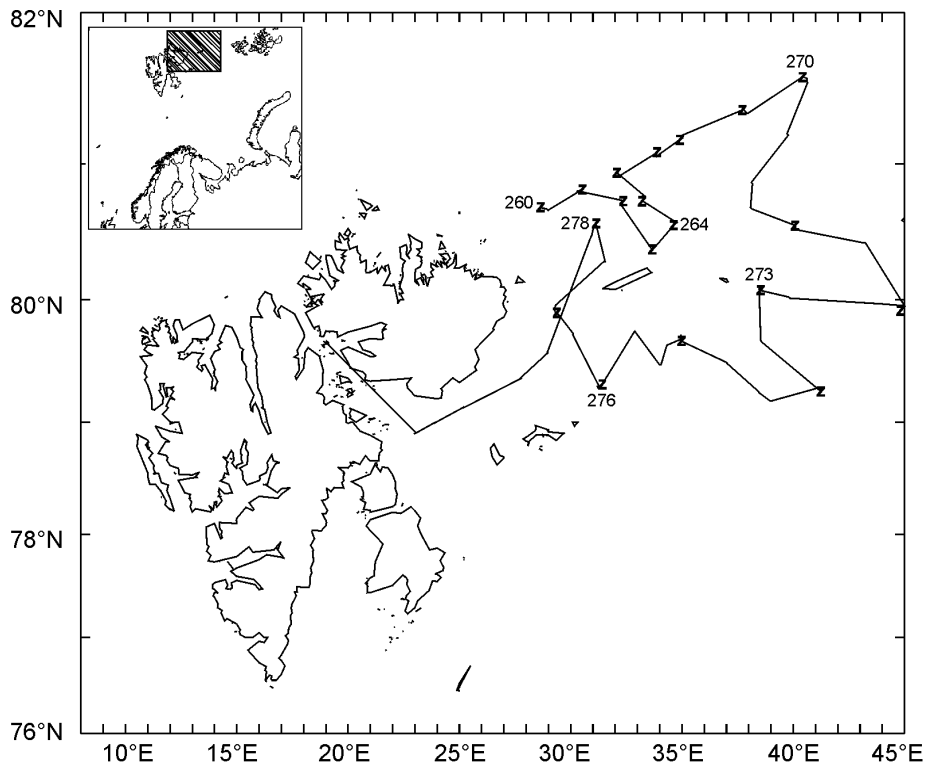


3-20 Aug 2005  
Cruise no 2005702

Trawl st.no 411-578

□ Bottom trawl  
△ Pelagic trawl

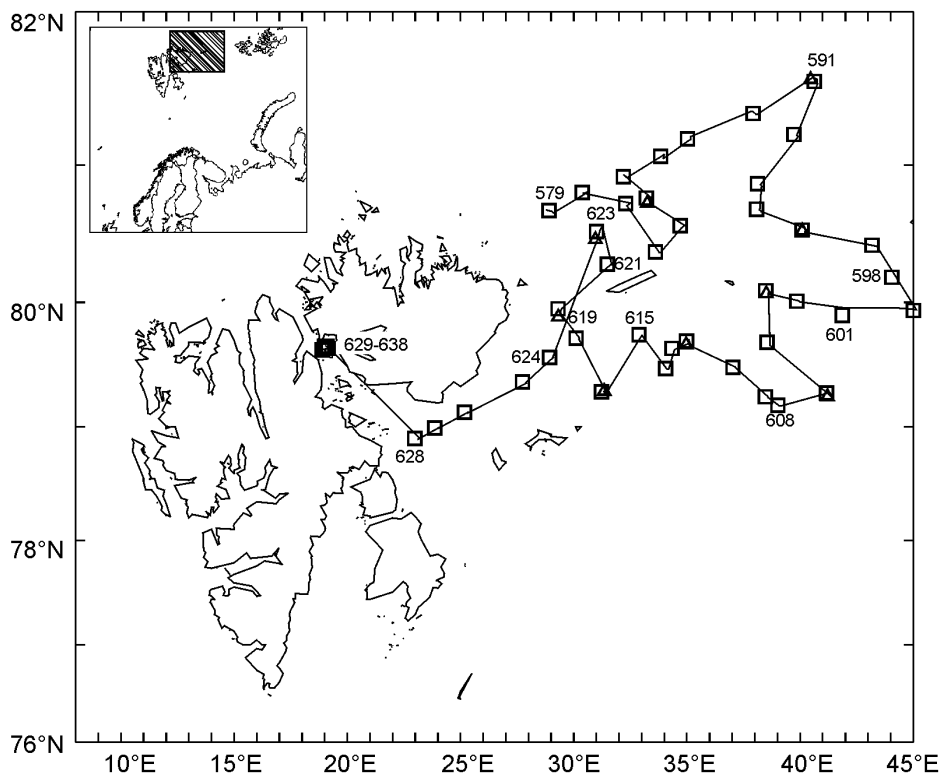
“Jan Mayen”



12-25 Sep 2005  
Cruise no 2005703

z CTD st.no 260-278

“Jan Mayen”

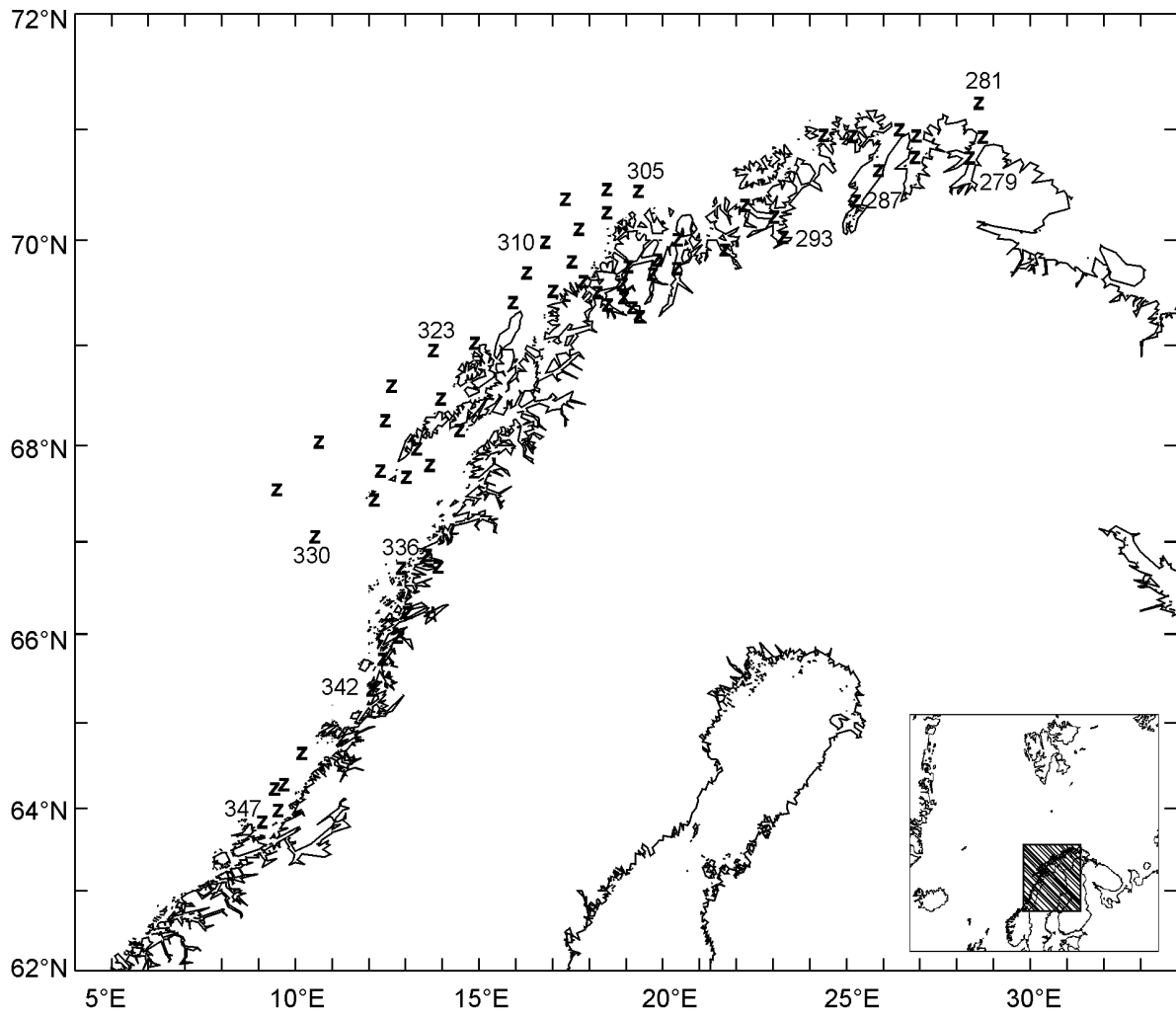


12-25 Sep 2005  
Cruise no 2005703

Trawl st.no 579-638

□ Bottom trawl  
△ Pelagic trawl

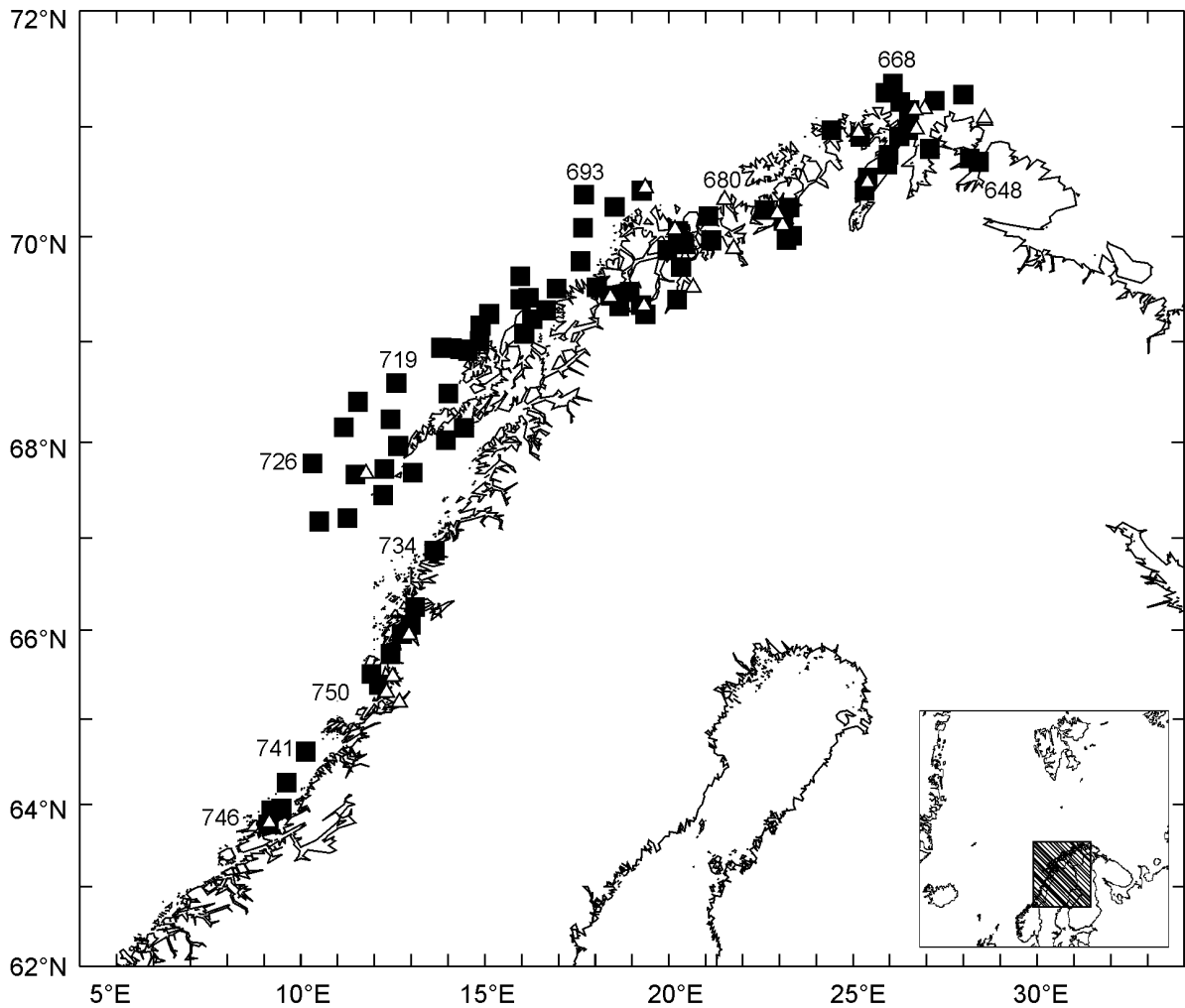
“Jan Mayen”



13 Oct – 13 Nov 2005  
Cruise no 2005704

z CTD st.no 279-347

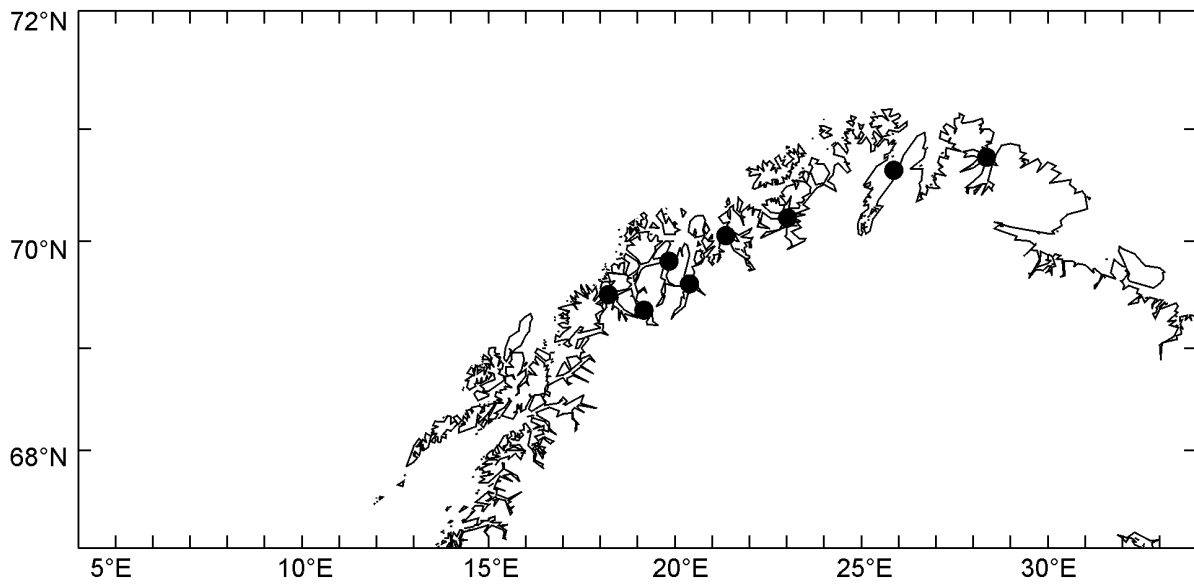
“Jan Mayen”



13 Oct – 13 Nov 2005  
Cruise no 2005704

Trawl st.no 648-750  
 ■ Bottom trawl  
 Δ Pelagic trawl

“Jan Mayen”



13 Oct – 13 Nov 2005  
Cruise no 2005704

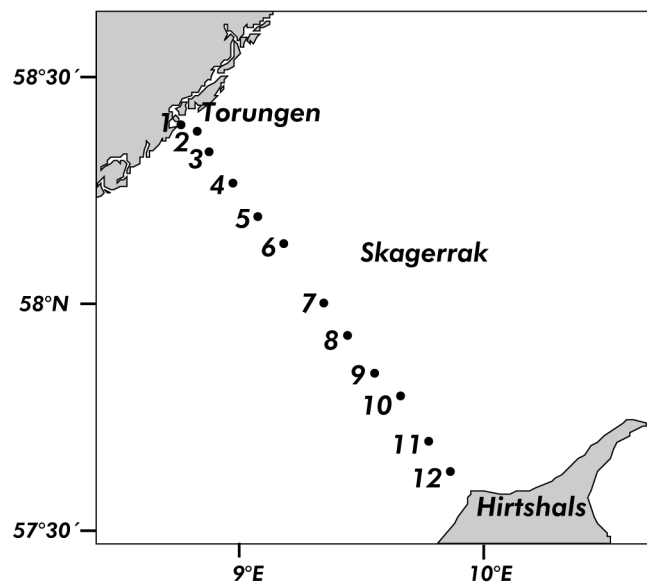
● Grab stations

“Jan Mayen”

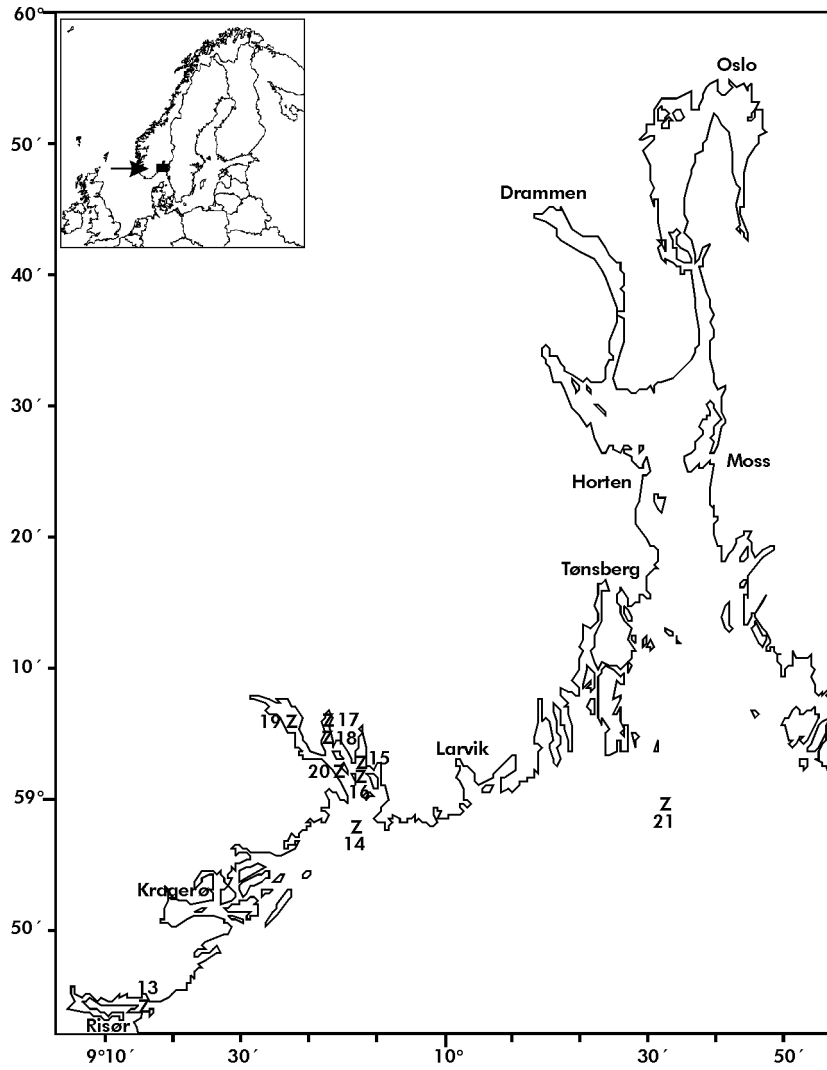


## 4.5 G. M. Dannevig

### Standard section Torungen-Hirtshals 2005



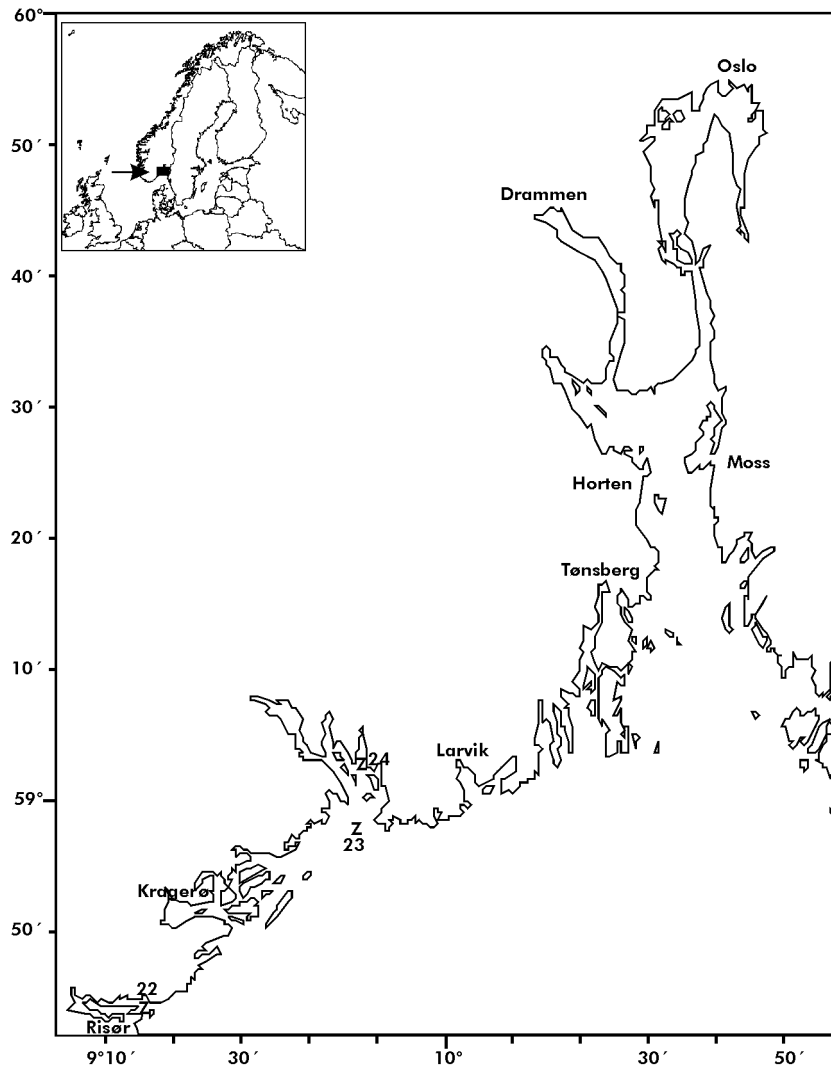
Month	Cruise no	CTD st. no	Comment
January	2005301	1-12	
February		-	Sensor error
Mars		-	Sensor error
April	2005307	48-59	
May	2005307	162-163	The rest done by "H. Mosby", cruise no 2005612
June	2005310	173-184	
July	2005312	185-196	
August	2005313	211-222	
September	2005315	240-251	
October	2005317	297-308	
November		-	Not done, due to weather conditions
December		-	Done by "G. O. Sars, cruise no 2005114



27-30 January 2005  
Cruise no 2005301

z CTD st.no 1-21  
Standard section:  
Torungen-Hirtshals st.no 1-12  
(see page 101)

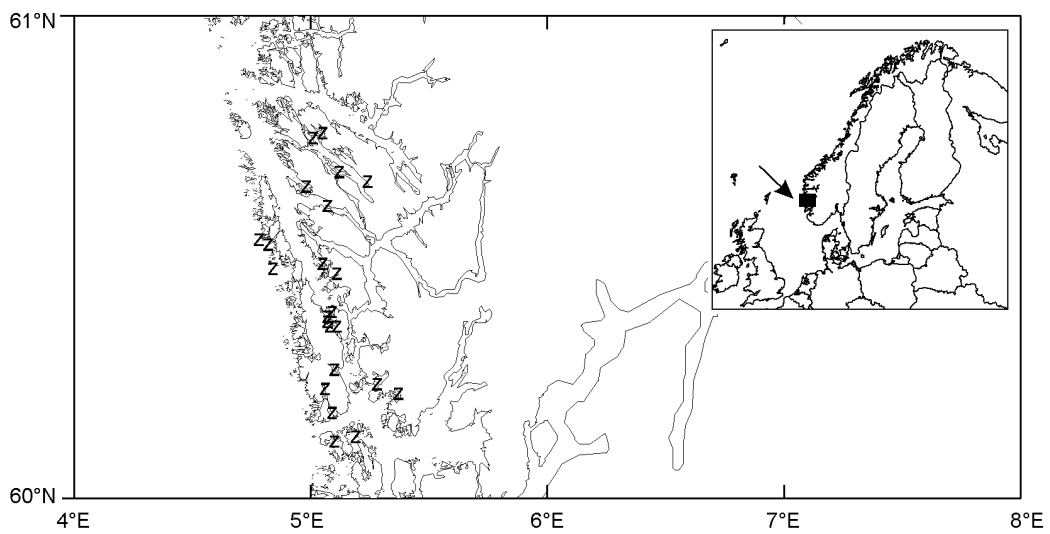
“G. M. Dannevig”



18-19 February 2005  
Cruise no 2005303

z CTD st.no 22-24

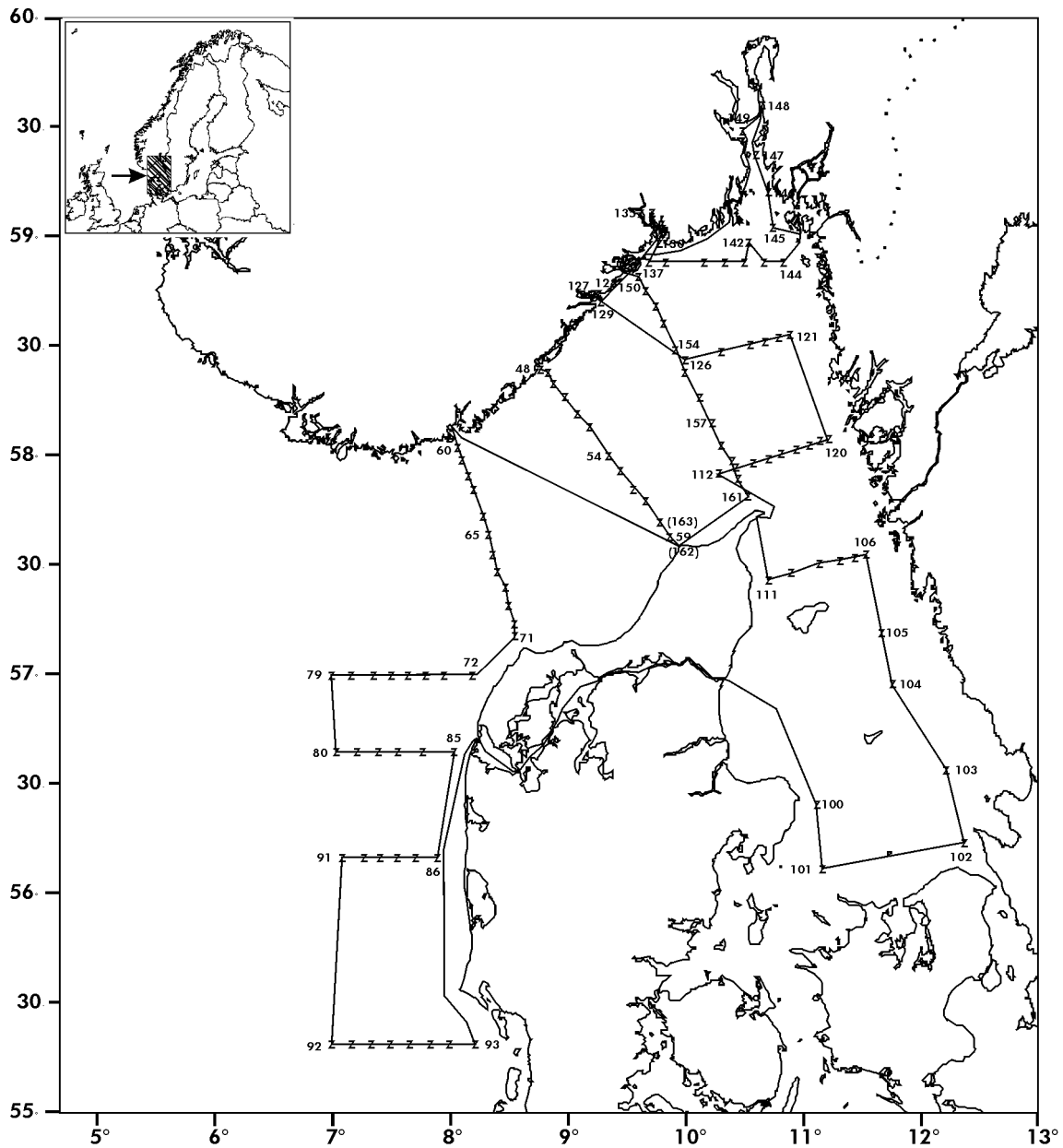
“G. M. Dannevig”



31 March – 17 April 2005  
Cruise no 2005306

z CTD st.no 25-47

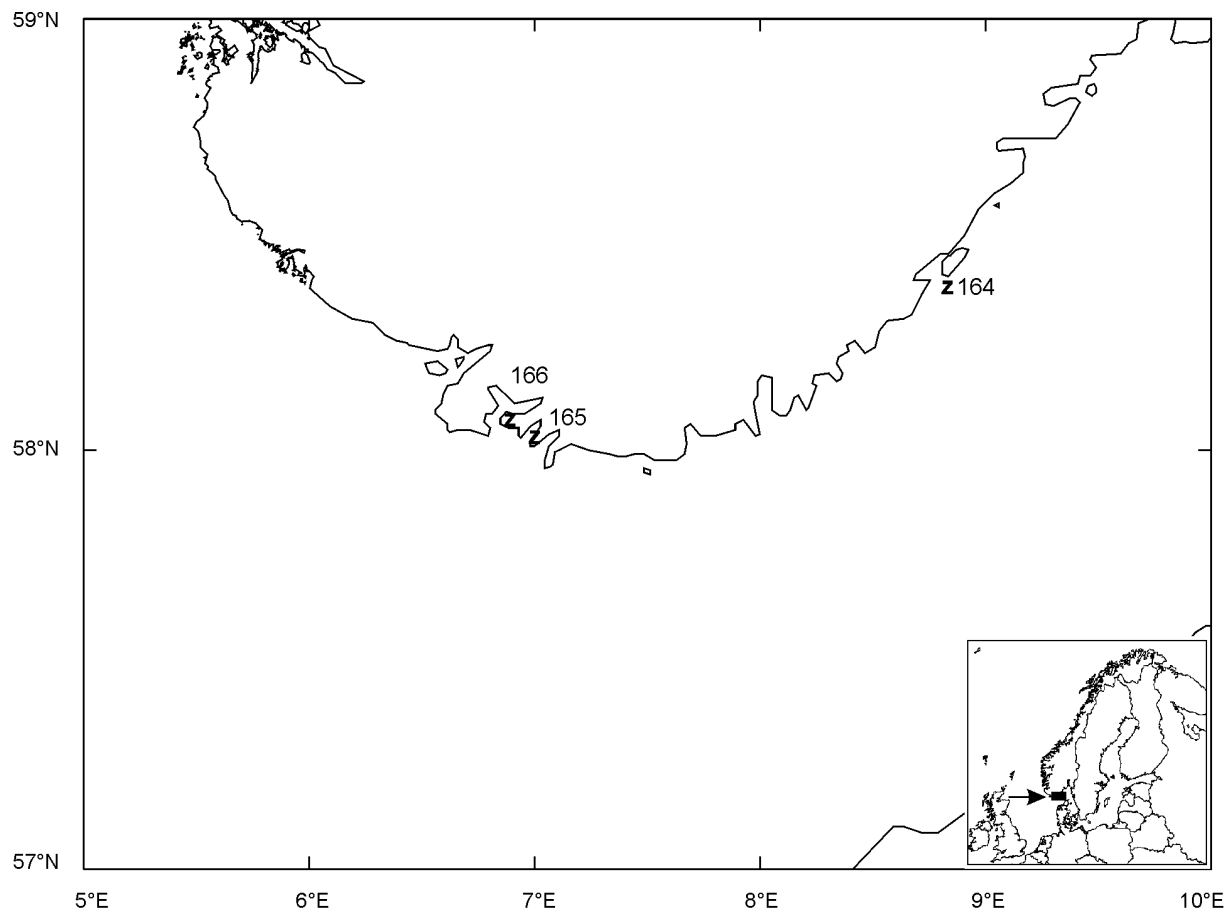
“G. M. Dannevig”



19 April – 8 May 2005  
Cruise no 2005307

z CTD st.no 48-163  
Standard sections:  
Oksø-Hanstholmen st.no 60-71  
Torungen-Hirtshals st.no 48-59, 162-163  
Jomfruland-Skagen st.no 150-161  
Jomfruland-Koster st.no 137-141, 143-144  
Torbjørnskjær st.no 142  
Väderø st.no 121-126  
Måseskjær st.no 112-120  
Gøteborg-Fredrikshavn st.no 106-111  
Kattegat st.no 100-105

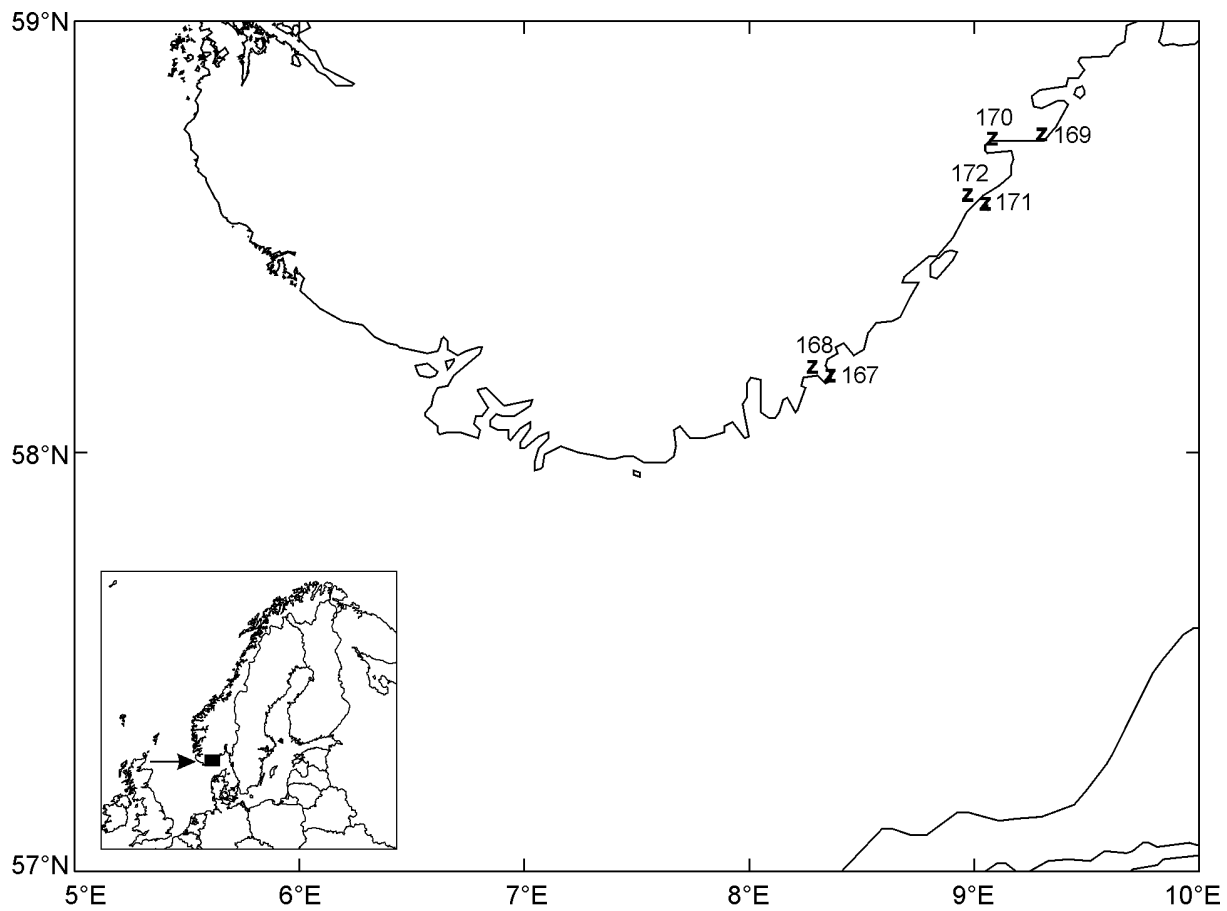
“G. M. Dannevig”



1-10 June 2005  
Cruise no 2005308

z CTD st.no 164-166

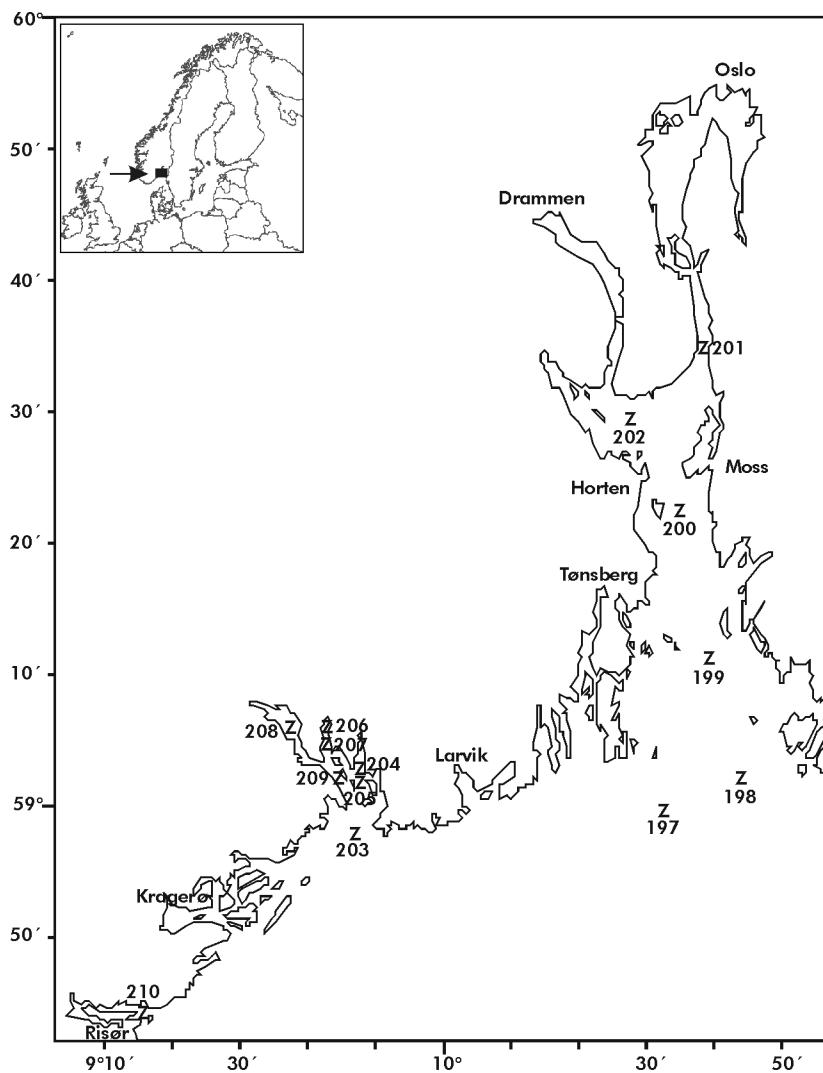
“G. M. Dannevig”



11-17 June 2005  
Cruise no 2005309

z CTD st.no 167-172

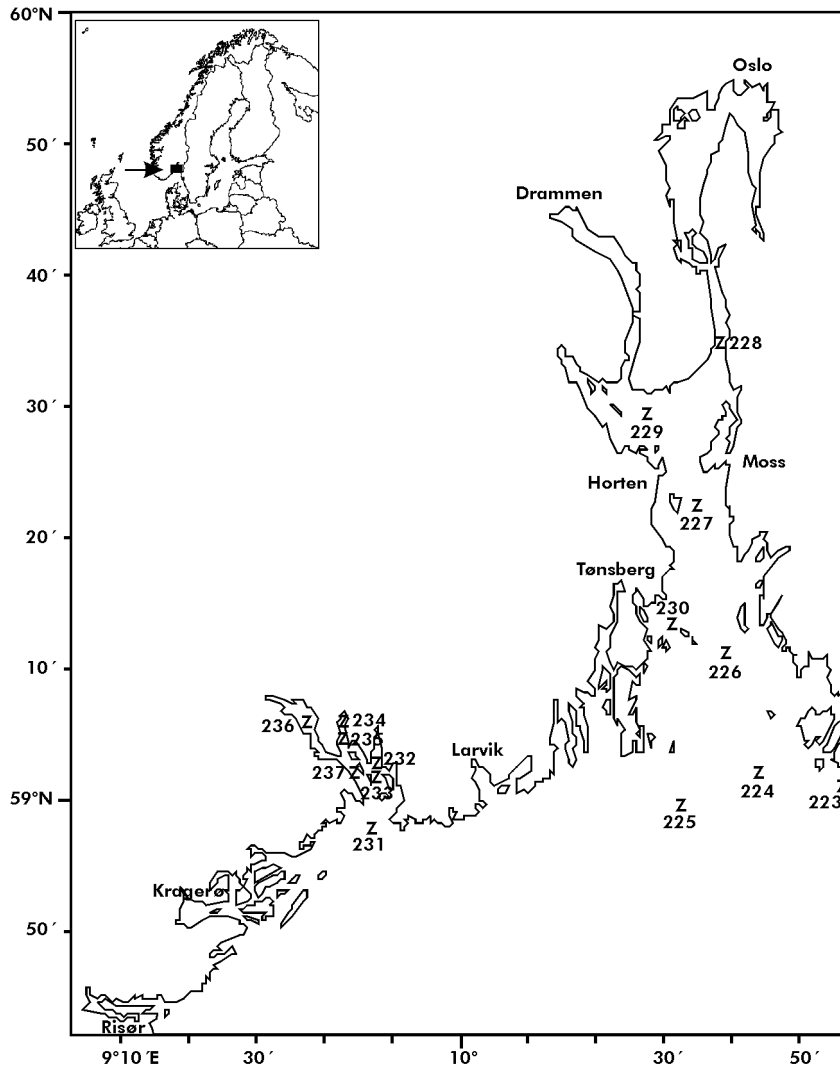
“G. M. Dannevig”



1-5 July 2005  
Cruise no 2005312

z CTD st.no 185-210  
Standard sections:  
Torungen-Hirtshals st.no 185-196  
(See page 101)

“G. M. Dannevig”

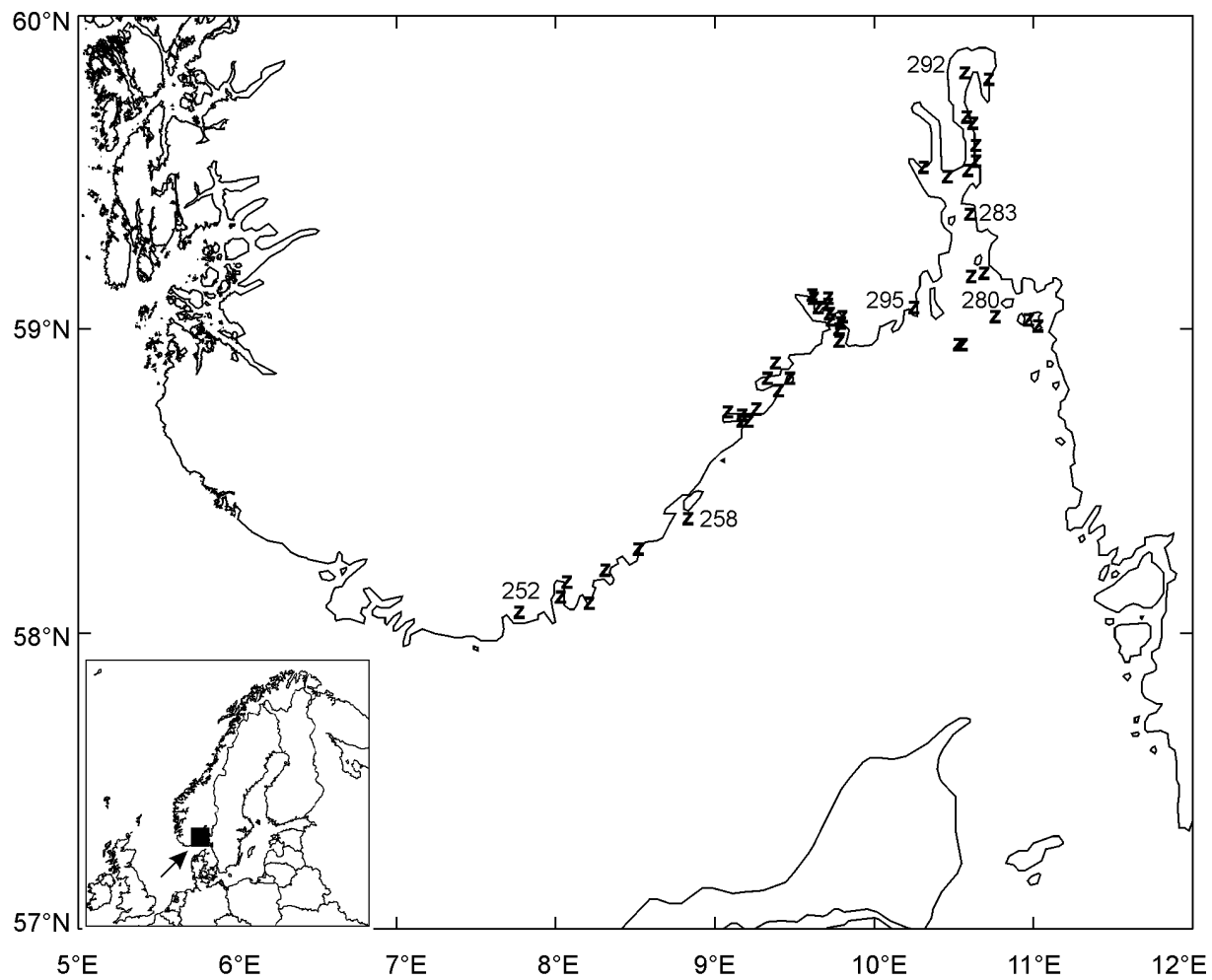


20-29 Aug 2005  
Cruise no 2005314

z CTD st.no 223-239

“G. M. Dannevig”

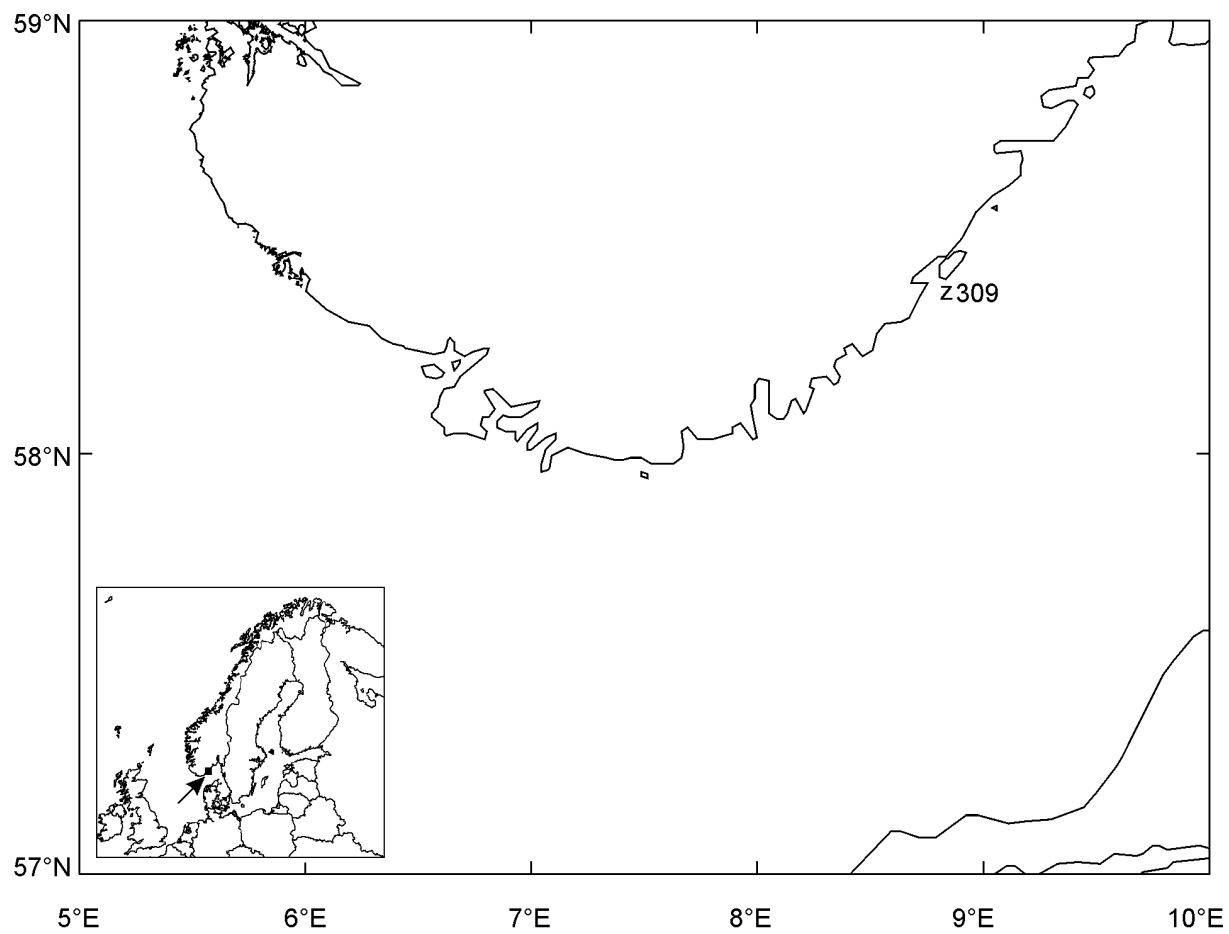




16 Sep – 5 Oct 2005  
Cruise no 2005316

z CTD st.no 252-296

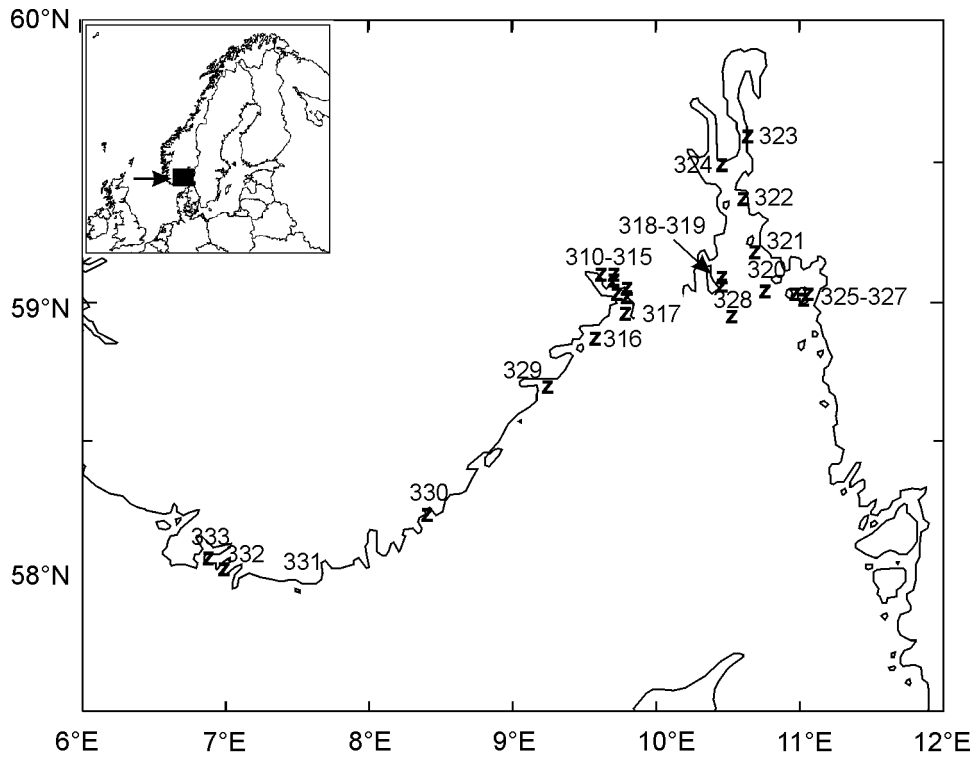
“G. M. Dannevig”



9 Nov 2005  
Cruise no 2005318

z CTD st.no 309

“G. M. Dannevig”



9 Nov – 6 Dec 2005  
Cruise no 2005319

z CTD st.no 310-333

“G. M. Dannevig”