

Oversikt over tokt og faste oseanografiske stasjoner tatt i 2009

Report on cruises and fixed oceanographic data stations, 2009

Vigdis Rong

Charts made by Karen Gjertsen and Svein Erik Enersen ("G. M. Dannevig")



PROSJEKTRAPPORT



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Rapporten gir en oversikt over tokt i regi av Havforskningsinstituttet og Universitetet i Bergen. Toktene er utført med forskningsfartøylene "G. O. Sars", "Johan Hjørt", "Håkon Mosby", "G. M. Dannevig", "Jan Mayen" samt noen innleide fiskefartøyer i 2009. 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. Toktene 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 Hjørt", "Håkon Mosby", "G. M. Dannevig", "Jan Mayen" and some hired commercial fishing vessels on behalf of the Institute of Marine Research and the University of Bergen during 2009. 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 cruises 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 Data centre at the Institute of Marine Research.

Emneord (norsk):

1. Kurskart
2. Stasjonskart
3. Toktmetadata

Subject heading (English):

1. Cruise track chart
2. Station chart
3. Cruise metadata


Prosjektleder


Faggruppeleder

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1 Cruises 2009

1.1 G. O. Sars (Ship code no. 10)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End			Start	End	Start	End		
2009101	13 Jan	18 Jan	Fishing technology, managed by TRG ECO Harvesting.	Western Norway	-	-	1	8	20	
2009102	20 Jan	03 Feb	Project "HARVEST" (Harvesting at lower trophic levels).	Western Norway	1	23	9	19	20	
2009103	5 Feb	01 Mar	IBTS (International Bottom Trawl Survey), oceanographic sections, spawning cod survey.	North Sea	24	136	20	79	21-22	
2009104	12 Mar	17 Mar	HERMES Lander 1 project, sea current measurement in Moskenesstraumen.	Lofoten/Vesterålen	137	138	-	-	22	
2009106	18 Mar	31 Mar	Fishing technology, managed by TRG ECO Harvesting.	Coast of Finnmark	-	-	80	93	23	
2009105	2 Apr	28 Apr	Sea bottom habitat mapping, project "MAREANO" and "HERMIONE" (Hotspot Ecosystem Research and Man's Impact on European Seas).	Barents Sea	139	191	-	-	23-27	
2009107	3 May	24 May	Plankton /sandeel survey.	North Sea	192	204	94	123	28-29	
2009108	28 May	11 Aug	Project CARBOOCEAN (Marine carbon sources and sinks assessment), recovery and replacement of moorings, transects, project H2DEEP (Ultraslow spreading and hydrogen based deep biosphere).	Norwegian Sea, Jan Mayen, North Sea	205	440	124	133	30-33	
2009115	13 Aug	18 Aug	HERMES Lander 1 project.	Lofoten/Vesterålen	441	442	-	-	33	
2009114	15 Aug	18 Aug	Oceanographic sections, environmental monitoring near Komsomolets (sunk Russian nuclear submarine).	Barents Sea	-	-	-	-	-	Cancelled
2009109	20 Aug	05 Sep	0-group fish and capelin survey, environmental studies.	Barents Sea, Norw. Sea	443	497	135	226	34-35	
2009110	12 Sep	14 Sep	Educational cruise (GEOL 201, University of Bergen).	Bergen	498	499	-	-	35	
2009111	18 Sep	11 Oct	Sea bottom habitat mapping project "MAREANO".	Barents Sea	500	517	-	-	36-38	
-	11 Oct	14 Oct	Geological investigations by Geological Survey of Norway (NGU) on behalf of the Norwegian Petroleum Directorate.	Barents Sea	-	-	-	-	-	
2009112	28 Oct	10 Nov	Pelagic trawling for cod, haddock and saithe.	Barents Sea	518	520	227	251	39	
2009116	11 Nov	19 Nov	Herring shoals, quantitative measurements and behavior studies. HERMES Lander 2 project. The project "1AkuSat".	Norwegian Sea	521	543	252	266	40	
2009117	15 Nov	16 Nov	HERMES Lander 2 project.	Lofoten/Vesterålen	-	-	-	-	-	Cancelled
2009118	17 Nov	19 Nov	Project "1AkuSat".	Lofoten/Vesterålen	-	-	-	-	-	Cancelled
2009113	20 Nov	26 Nov	Oceanographic transects Gimsøy and Svinøy.	Norwegian Sea	544	574	-	-	41	

1.2 Johan Hjort (Ship code no 12)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End			Start	End	Start	End		
2009201	31 Jan	5 Feb	Oceanographic transect Fugløya–Bjørnøya.		1	9	-	-	42	
2009202	6 Feb	13 Mar	Demersal fish survey, oceanographic sections.	Barents Sea	10	117	1	152	42-43	
2009203	15 Mars	30 Mar	Spawning cod survey.	Lofoten	118	218	153	178	43-44	
2009204	02 Apr	27 Apr	Herring larvae survey, the project "1 AkuSat", oceanographic sections.	Bergen - Malangsgrunnen, Lofoten/Vesterålen	219	376	179	197	44-46	
2009206	29 Apr	2 June	Ecosystem survey. Project PGNAPES ((<i>Planning Group on Northeast Atlantic Pelagic Ecosystem Surveys</i>), ICES.	Norwegian Sea	377	444	198	244	46-47	
2009205	30 Apr	12 May			-	-	-	-	-	Cancelled
2009216	25 June	12 July	Whale counting.	North Sea	-	-	-	-	47	
2009207	13 July	21 July	International acoustic stock estimation of North Sea herring, environmental investigations.	North Sea	445	478	245	278	48	
2009218	22 July	31 July	Whale counting.		-	-	-	-	49	
2009217	15 Aug	18 Aug	Oceanographic sections, environmental monitoring near Komsomolets (sunken Russian nuclear submarine).	The transect Fugløya–Bjørnøya	479	502	-	-	49	
2009208	23 Aug	03 Oct	Capelin /0-group fish survey, environmental studies.	Barents Sea	503	639	279	505	50	
2009209	5 Oct	30 Oct	Ecosystem survey, coastal areas from Varanger to Stadt, the transect Fugløya–Bjørnøya.	Varanger–Stadt	640	698	507	587	51	
2009210	1 Nov	09 Nov			-	-	-	-	-	Cancelled
2009211	12 Nov	21 Nov	Oceanographic survey.	North Sea	699	777	-	-	52	
2009212	23 Nov	04 Dec	Testing of broadband acoustic methods on zooplankton.	Western Norway	778	790	588	597	52-53	
2009213	11 Dec	12 Dec	HERMES Lander 2 project.	Lofoten/Vesterålen	-	-	-	-	-	Cancelled. Carried out by "G. O. Sars"
2009214	13 Dec	15 Dec	Project "1 AkuSat".	Lofoten/Vesterålen	-	-	-	-	-	Cancelled. Carried out by "G. O. Sars"
2009215	16 Dec	20 Dec	Herring investigations, quantity measurement and behavior.	Norwegian Sea	-	-	-	-	-	Cancelled. Carried out by "G. O. Sars"

1.3 Håkon Mosby (Ship code no 1)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End			Start	End	Start	End		
2009601	16 Jan	18 Jan	Environmental monitoring in the vicinity of a whale carcass.	Western Norway	-	-	-	-	-	Cancelled
2009602	19 Jan	23 Jan	Educational cruise (GEOF 332, University of Bergen).	Fjords in the Western Norway near Bergen, included Hardangerfjorden	1	57	-	-	54	
2009603	24 Jan	12 Feb	Shrimp survey.	North Sea/Skagerrak	58	169	1	107	54-55	
2009604	23 Feb	2 Mar	Educational cruise (GEOF 332, University of Bergen).	Western Norway, mainly Hardangerfjorden	170	218	-	-	55	
2009605	11 Mar	13 Mar	Project GEOTEK 2009. Test of prototype equipment for coring of soft sediments using hydrostatically driven tools and multiple re-entry of hole.	The Salhus bridge, Western Norway	-	-	-	-	56	No CTD
2009606	14 Mar	16 Mar	Educational cruise (GEOF 231, University of Bergen).	Western Norway, mainly Sognefjorden	219	257	-	-	56	
2009607	17 Mar	22 Mar	Monitoring of the Gulf Stream (deployment and replacement of moorings).	Norwegian Sea near the Svinøy transect	258	259	-	-	57	
2009608	27 Mar	29 Mar	Environmental monitoring in the vicinity of a whale carcass.	Western Norway	260	261	-	-	57	
2009609	30 Mar	31 Mar	Educational cruise (GEOF 130, University of Bergen).	Western Norway	262	273	-	-	58	
2009610	3 Apr	8 Apr	Ecosystem Hardangerfjorden.	Hardangerfjorden	274	297	108	118	58-59	
2009630	8 Apr	12 Apr	Monitoring of the Gulf Stream.	Svinøy transect, Station M	298	298	-	-	59	
2009611	14 Apr	24 Apr	Measuring the quantity of plankton.	North Sea	299	409	-	-	60	
2009613	11 May	22 May	BIOSKAG 2, benthic fauna.	Skagerrak	410	419	-	-	60-61	
2009612	20 May	22 May	Environmental monitoring in the vicinity of a whale carcass.	Western Norway	-	-	-	-	-	Cancelled Carried out by cruise no. 2009613
2009614	24 May	9 June	Project TOPO (<i>Topo Scandia Deep</i>).	Coast off Møre	-	-	-	-	61	No CTD
2009615	10 June	20 June	Project "CoralFISH" (<i>Assessment of the interactions between corals, fish and fisheries</i>).	Lofoten/Vesterålen	420	424	119	126	62	
2009616	21 June	11 July	Effects of seismic activities on fishing catch rates.	Lofoten/Vesterålen	425	451	135	188	63-64	
2009617	12 July	16 July	Oceanographic transect Vardø-N.		452	469	-	-	64	

Håkon Mosby (cont.)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End			Start	End	Start	End		
2009618	17 July	29 July	HUGIN		-	-	-	-	-	Cancelled
2009619	2 Aug	18 Aug	Projects "BIAC"/"DAMOCLES" (<i>Bipolar Atlantic Thermohaline Circulation / Developing Arctic Modeling and Observing Capabilities for Long-term Environmental Studies</i>), tomography.	Svalbard, the western part	470	616	-	-	65	
2009620	20 Aug	4 Sep	Project "SVALEX".	Svalbard	-	-	-	-	65	
2009621	5 Sep	15 Sep	Educational cruise (AGF 214, University of Svalbard).	Svalbard	617	863	-	-	66	
2009631	17 Sep	20 Sep	Transit Longyearbyen - Bergen, ROV.		-	-	-	-	67	
2009622	27 Sep	1 Oct	Moorings at the Svinøy transect.	Norwegian Sea	-	-	-	-	67	No CTD
2009623	1 Oct	3 Oct	Environmental monitoring in the vicinity of a whale carcass.	Western Norway	-	-	-	-	-	Cancelled
2009624	4 Oct	10 Oct	Educational cruise (MAR 230, University of Bergen).	North Sea, Sognefjorden and Hardangerfjorden	864	899	189	900	68	
2009625	12 Oct	13 Oct	Educational cruise (GEOF 130, University of Bergen).	Western Norway	900	911	-	-	69	
2009626	15 Oct	18 Oct	Educational cruise (MAR 310, University of Bergen).	Western Norway	912	917	200	232	69-70	
2009627	15 Oct	29 Oct			-	-	-	-	-	Cancelled
2009628	30 Oct	1 Nov			-	-	-	-	-	Cancelled
2009629	21 Nov	7 Dec	Ecosystem survey at the coast, habitat Hardangerfjord.	Norwegian coast	918	960	233	285	70-71	

1.4 Jan Mayen (Ship code no 19)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End			Start	End	Start	End		
2009701	1 Feb	8 Mar	Demersal fish survey.	Barents Sea	62	140	1	174	72	
2009702	10 Sep	27 Sep	0-group fish and capelin survey, environmental studies.	Barents Sea	526	579	489	617	73-74	
2009703	28 Sep	18 Oct	Ecosystem survey, the coastal areas from Varanger to Stadt.	Varanger-Stadt	580	622	618	697	74-75	

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

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2009301	20 Jan	25 Jan	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	1	36	77	
2009302	01 Feb	05 Feb	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	37	69	77	
2009303	09 Mar	13 Mar	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	70	93	78	
2009304	16 Mar	05 Apr	Habitat mapping (spawning grounds). Long-term environmental monitoring on a near-shore station outside Arendal.	Norwegian coast of Skagerrak	94	126	78	
2009305	21 Apr	10 May	Environmental investigation in the eastern North Sea, the Skagerrak and Kattegat after the spring bloom. Long-term environmental monitoring on a near-shore station outside Arendal and in the fjords along the Norwegian Skagerrak coast.	Eastern North Sea/ Skagerrak/ Kattegat	127	263	79	
2009306	21 Jun	30 Jun	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. Beach seine studies.	Skagerrak, Norwegian coast of Skagerrak	264	299	79	
2009311	01 Jul	12 Jul	Hydrographic standard sections. Long-term environmental monitoring on a near-shore station outside Arendal.	Skagerrak and North Sea	300	381	80	
2009307	08 Aug	12 Aug	Collecting data on phytoplankton and environmental conditions, to be used in relation to studies on growth and detoxification of blue mussels in an area with upwelling of nutrient-rich deep water.	Rogaland-Lysefjord	-	-	80	No CTD

G.M. Dannevig (cont.)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2009308	13 Aug	28 Aug	Monitoring lobster/MPA. 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	382	428	80	
2009309	13 Sep	25 Sep	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. Beach seine studies.	Skagerrak, Norwegian coast of Skagerrak	429	468	81	
2009310	24 Nov	10 Dec	Contaminants in seafood – Greenland. 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	469	511	81	

1.6 Some cruises carried out by hired fishing vessels

CRUISE NO	PERIOD OF CRUISES		VESSEL	PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End				Start	End	Start	End		
2009804	20 Jan	14 Feb	Eros	Quantitative acoustic measurements of spawning capelin.	The northern (until 75° N) and western parts of the Norwegian economic zone	1	52	1	37	82	
2009803	20 Jan	14 Feb	Libas	Quantitative acoustic measurements of spawning capelin.	Russian economic zone and the eastern part along the Norwegian coast in the Norwegian economic zone	1	63	1	32	83	
2009814	17 Mar	7 Apr	Atlantic Star	Acoustic survey to investigate horizontal and vertical distribution of deep-sea redfish and greater argentine to do quantity calculations and investigate population composition. Information on other deep sea species is also collected. All trawl hauls made by multi-sampler with 3 codends. Bottom trawling on until 30 predetermined stations and pelagic trawling on registrations on until 20 stations.		-	-	1	67	84	
2009833	23 Mar	6 Apr	Brennholm	Quantitative acoustic measurements of spawning blue whiting. Cooperation cruise in the project PGNAPES (<i>Planning Group on Northeast Atlantic Pelagic Ecosystem Surveys</i>), ICES.	West of the British Isles	1	11	1	12	84-85	
2009813	11 June	22 June	Øyfisk	Project "CoralFISH" (<i>Assessment of the interactions between corals, fish and fisheries</i>) with longline fishing vessel. Exploratory fishing with longline for demersal fish on and near selected coral reefs in Northern Norway to investigate availability and species composition of fish in relation to coral.		-	-	-	-	85	

Some cruises carried out by hired fishing vessels (cont.)

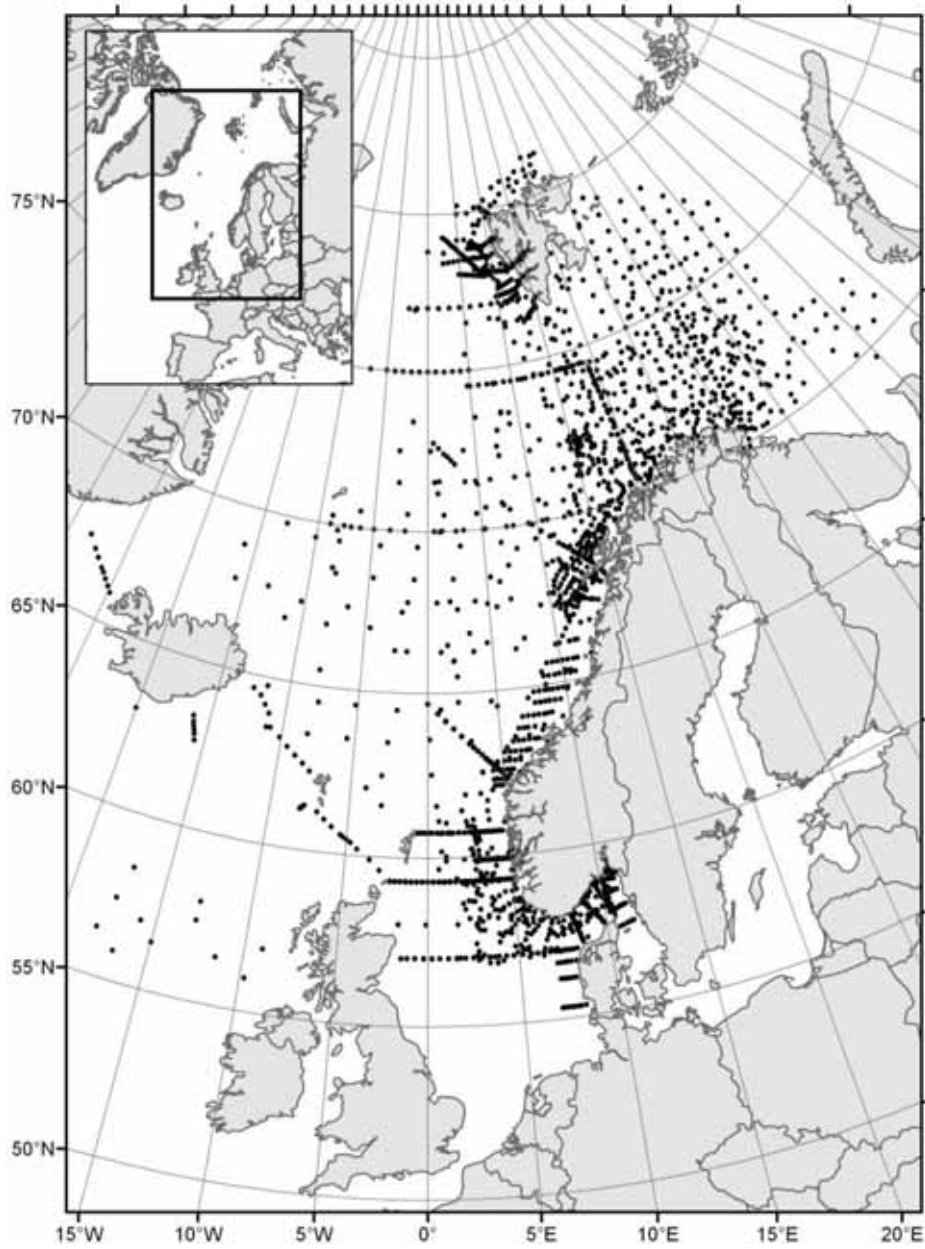
CRUISE NO	PERIOD OF CRUISES		VESSEL	PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End				Start	End	Start	End		
2009824	15 June	10 July	Eggums-væring Ekenborg Hersleb Klotind Nytun Eros	Effects of seismic activity on fish catches.	Nordland VII (Vesterålen)	-	-	-	-	86	The cruise was carried out by several vessels
	17 June	31 Aug				-	-	-	-		
	"	"				-	-	-	-		
	"	"				-	-	-	-		
	"	"				-	-	-	-		
	6 Aug	10 Aug				-	-	105	114		
2009820	15 July	6 Aug	Eros	Study the quantity, distribution, migration, food-ecology and spatial overlap of mackerel, herring, blue whiting and salmon in the south-eastern part of the Greenland Sea and the northern Norwegian Sea in relation to oceanographic conditions and food availability. The EU project SALSEA (<i>Advancing understanding of Atlantic Salmon at Sea: Merging Genetics and Ecology to Resolve Stock-specific Migration and Distribution patterns</i>) with mapping of salmon in the Norwegian Sea.	South-eastern part of the Greenland Sea, Northern Norwegian Sea	54	100	38	104	87	
2009818	15 July	6 Aug	Libas	Ecosystem survey.	Norwegian Sea and coastal waters off western Norway and northeastern Iceland. Exclusive Economic Zones (EEZ) of UK, Faroe Island, Iceland and Norway. International waters in the Norwegian Sea. Jan Mayen fishery protection zone.	2	45	1	58	88	
2009825	27 July	11 Aug	Atlantic Star	Deep sea survey, deep-sea redfish.	From 70°40'N to 76°00N and from 1°00W to 17°18E	*	*	1	29	89	* 3 Ctd stations
2009823	27 July	17 Aug	Ramoen	Deep sea species in Eggakanten - Greenland halibut survey.	Eggakanten	-	-	1	198	89	

Some cruises carried out by hired fishing vessels (cont.)

CRUISE NO	PERIOD OF CRUISES		VESSEL	PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End				Start	End	Start	End		
2009815	7 Sep	15 Sep	Nordstar	Document catch, species- and size composition in pelagic saithe trawl fishing.	North Sea	-	-	*	*	90	*8pel/8bottom trawl st.

2 Charts – overview

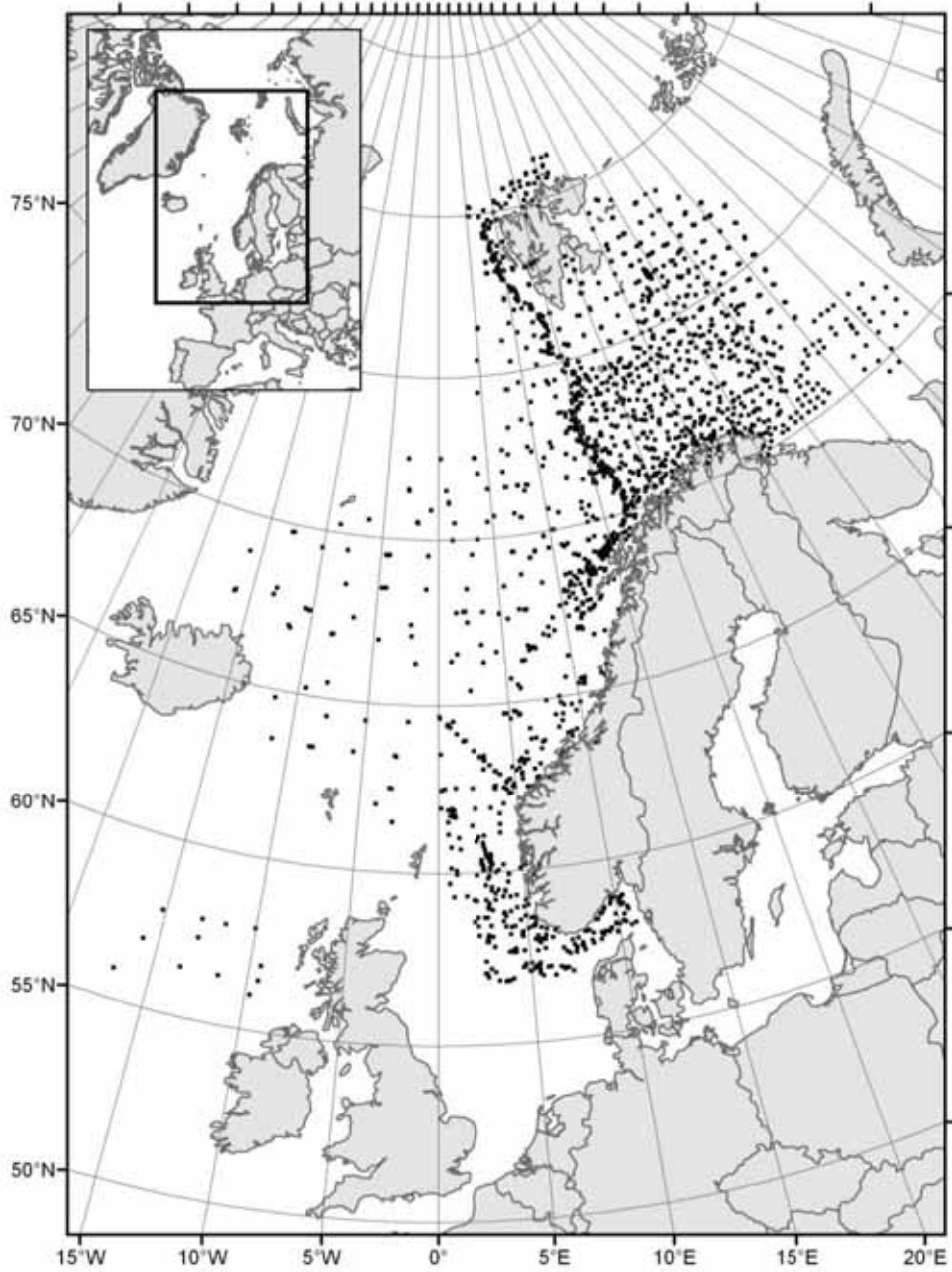
2.1 CTD stations 2009



• CTD stations

	Ship	Stations
Research vessels	G.O. Sars	574
	Johan Hjort	790
	Håkon Mosby	960
	G. M. Dannevig	511
	Jan Mayen	176
Hired fishing vessels	Atlantic Star	3
	Brennholm	11
	Eros	99
	Libas	107
	3.231	

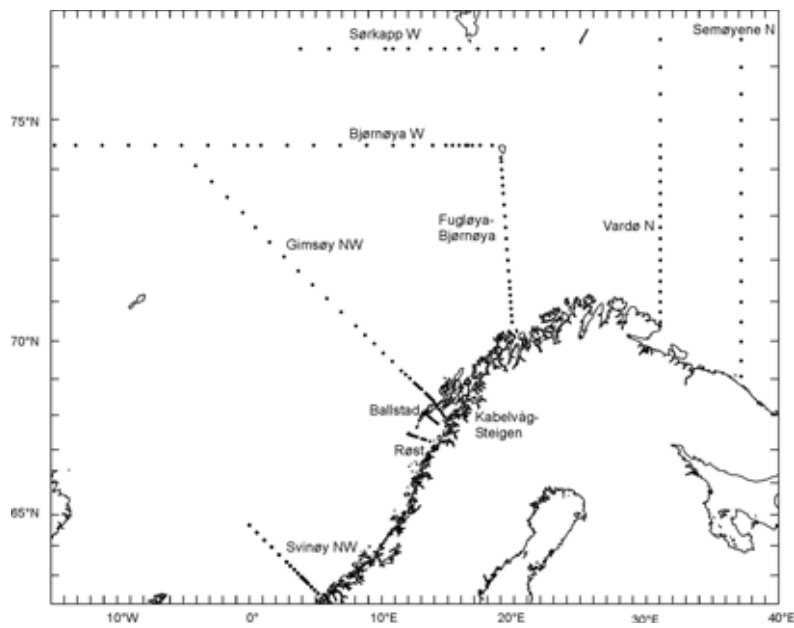
2.2 Trawl stations 2009



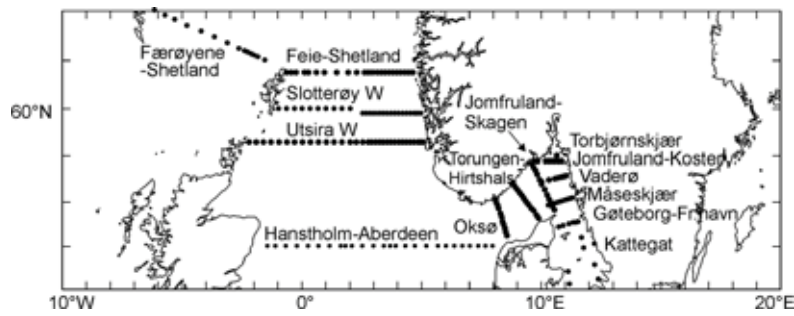
- Trawl stations

	Ship	Stations
Research vessels	G.O. Sars	265
	Johan Hjort	595
	Håkon Mosby	277
	Jan Mayen	382
Hired fishing vessels	Atlantic Star	96
	Brennholm	12
	Eros	114
	Libas	90
	Nordstar	16
	Ramoen	198
	2045	

2.3 Oceanographic sections



Norwegian Sea and Barents Sea



North Sea, Skagerrak and Kattegat

2.4 Fixed oceanographic stations



3 Tables – Observations in 2009

3.1 Standard oceanographic sections 2009 (Cruise no./ship)

Area	Standard sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
North Sea, Skagerrak	Fedje–Shetland		2009103		2009611							2009211		
	Slottøy–West										2009624			
	Utsira–West		2009103		2009611			2009108 2009311				2009211		
	Jærens Rev-SW and W				2009611									
	Egerøya-SW				2009611									
	Lista-SW				2009611									
	Lindesnes-SSW				2009611									
	Hanstholm–Aberdeen		2009103		2009611			2009311					2009211	
	Okseøy–Hanstholm		2009603		2009305			2009311					2009211	
	Torungen–Hirtshals	2009301	2009302	2009303	2009305	2009305	2009305	2009306	2009311	2009308	2009309			2009310
	Jomfruland–Skagen						2009305							
	Jomfruland–Koster						2009305							
	Torbjørnskjær						2009305							
Väderø					2009305									
Måseskjær					2009305									
Gøteborg–Fredrikshavn					2009305									
Kattegat														

Area	Standard sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Vest- flord	Røst-Tennholmen			2009203									
	Ballstad-Måløy/Skarholmen			2009203									
The Norwegian Sea	Svinøy-North/West	2009102			2009204	2009206		2009108				2009113	
	Gimseøy-North/West				2009204		2009108	2009108				2009113	
	Bjørnøya-West						2009108						
	Sørkapp-West												
	Fugløya-Bjørnøya		2009201 2009202				2009108		2009217		2009209		
	Vardø-North			2009202				2009617		2009208			
The Barents Sea	Semøyene-North												
	Bjørnøya-Sørkapp												
	Nordkapp-North												

3.2 Other oceanographic sections 2009 (Cruise no/ship)

Sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Færøyene-Shetland												
Kabelvåg-Steigen			2009203									

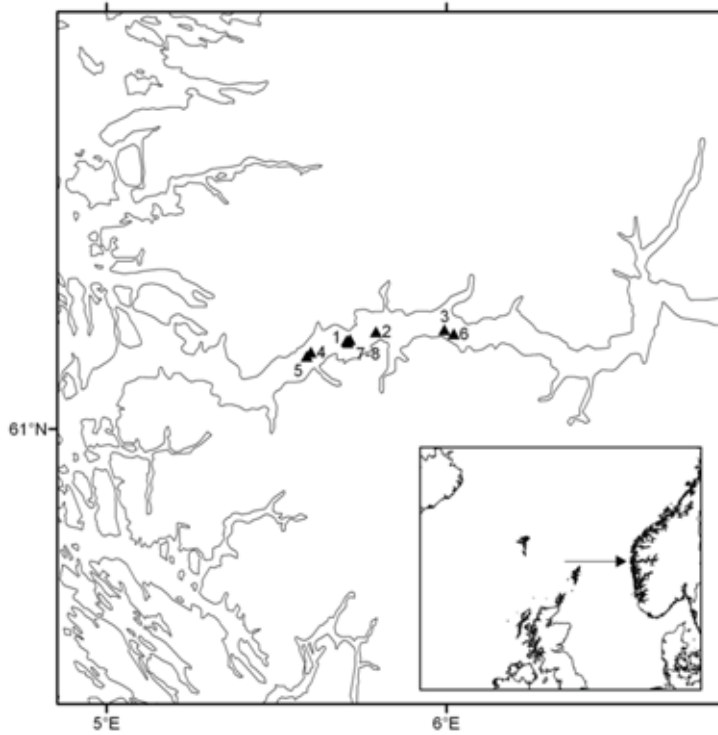
3.3 Fixed oceanographic stations 2009

(No of observations)

Fixed stations	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
LISTA N58° 05,1' E06° 32,5'	3	3	3	3	3	2	3	3	3	3	3	3	35
UTSIRA Y N59° 19' E04° 44'	1	3	1	2	2	2	2	2	2	2	1	3	23
UTSIRA I N59° 19' E04° 59'	1	3	1	1	2	2	2	2	2	1	1	2	20
SOGNESJØEN N61° 01' E04° 50'	1	2	2	3	3	2	3	3	2	3	2	1	27
BUD N62° 56' E06° 47'	1	0	1	2	1	1	0	1	0	1	2	1	11
SKROVA N68° 07' E14° 39'	3	3	4	6	3	4	4	4	3	4	4	4	46
EGGUM N68° 23' E13° 38'	3	3	2	3	2	3	4	2	1	2	3	3	31
INGØY N71° 08' E24° 01'	3	3	3	1	4	3	2	3	4	2	5	2	35

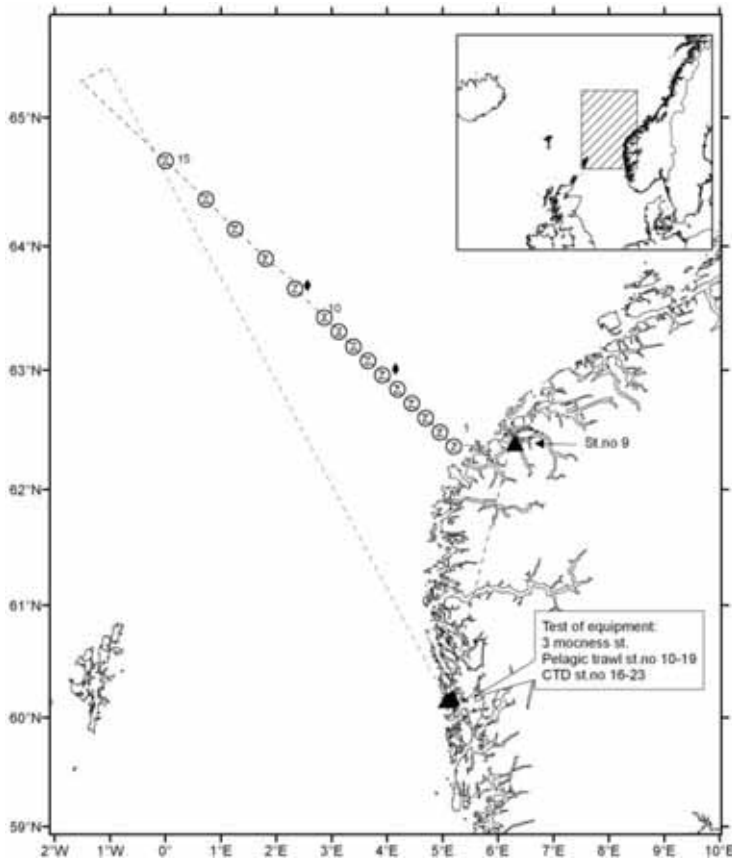
4 Charts for cruises 2009

4.1 G.O. Sars



Cruise no 2009101
“G.O. Sars”

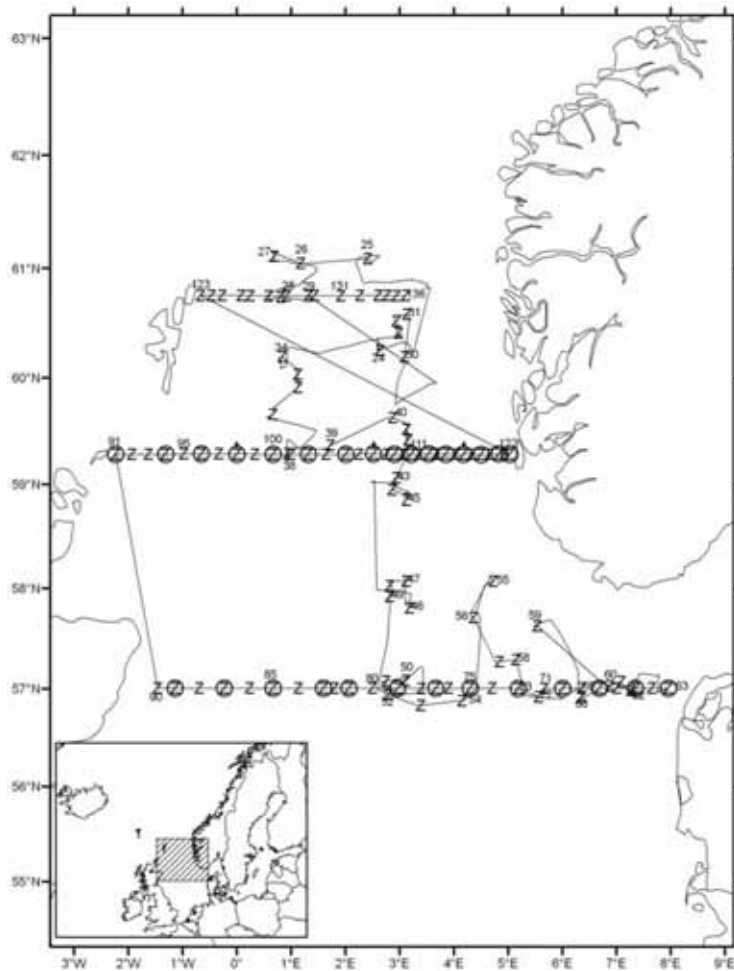
13 Jan –18 Jan 2009
▲ Pelagic trawl st.no 1–8



Cruise no 2009102
“G.O. Sars”
20 Jan–3 Feb 2009

z CTD st.no 1–23
o Plankton st. (WP-II-net)
◆ Plankton st. (Mocness)
▲ Pelagic trawl st.no 9–19

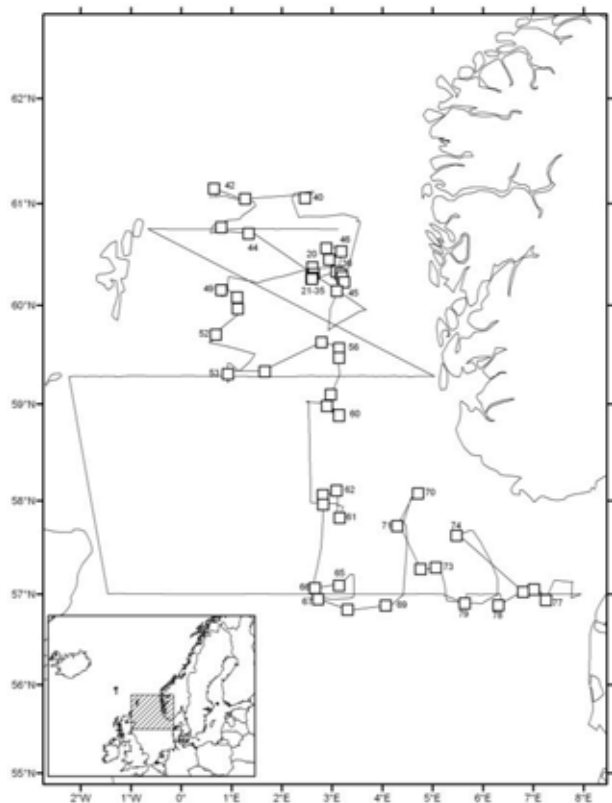
Standard section
Svinøy-NW st.no 1–19



Cruise no 2009103
 "G.O. Sars"
 5 Feb–1 Mar 2009

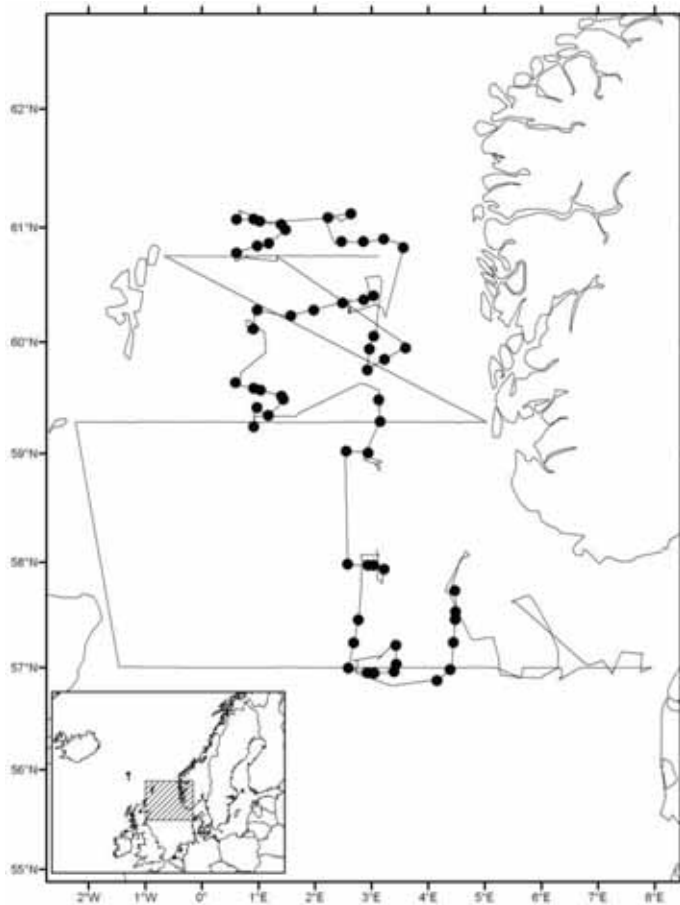
z CTD st.no 24–136
 o Plankton st. (WP-II-net)
 ◆ Plankton st. (Mocness)

Standard section
 Utsira-W st.no 91–112
 Hanstholm–Aberdeen st.no 63–90
 Fedje–Shetland (partly) st.no 123–136



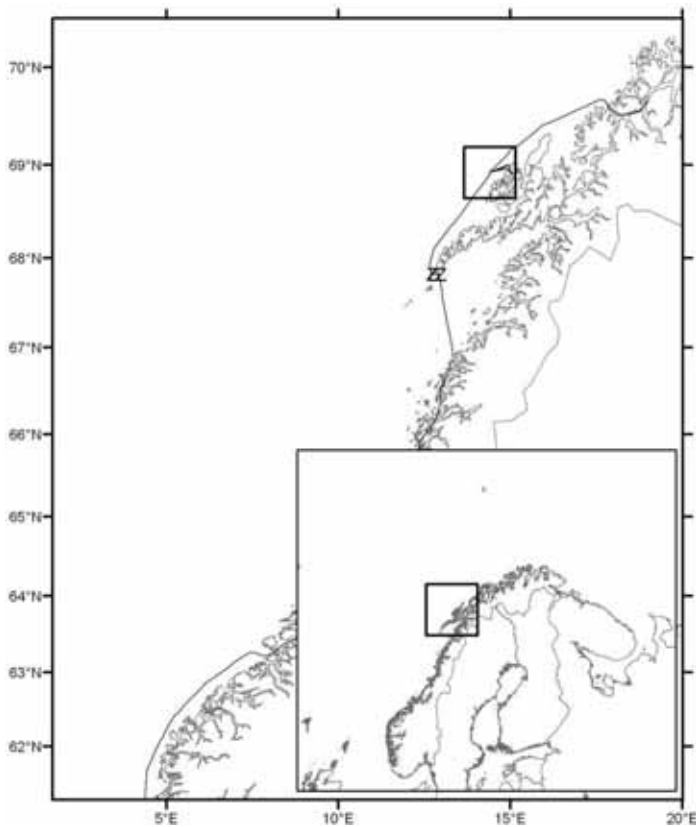
Cruise no 2009103
 "G.O. Sars"
 5 Feb–1 Mar 2009

□ Bottom trawl st.no 20–79



Cruise no 2009103
 "G.O. Sars"
 5 Feb–1 Mar 2009

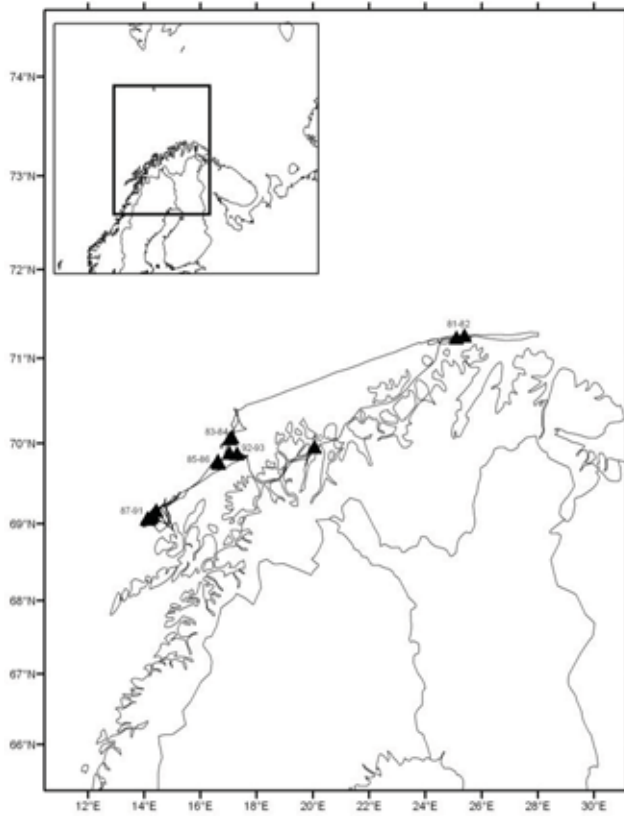
● Mik stations



Cruise no 2009104
 "G.O. Sars"
 12–17 Mar 2009

z CTD st.no 137–138

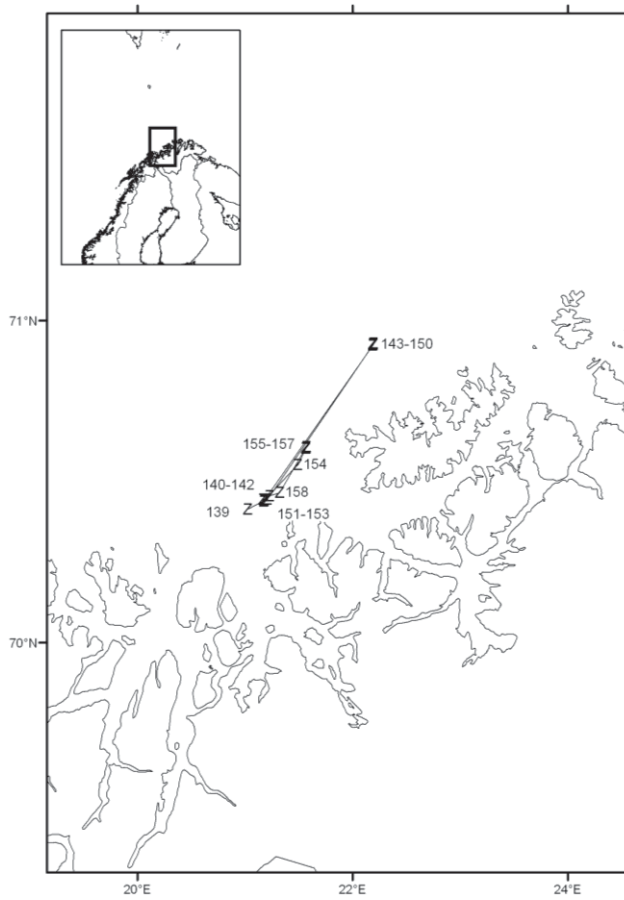
□ Observatory lander system
 with acoustic and optic
 instruments, still photos, ADCP



Cruise no 2009106

“G.O. Sars”
18–31 Mar 2009

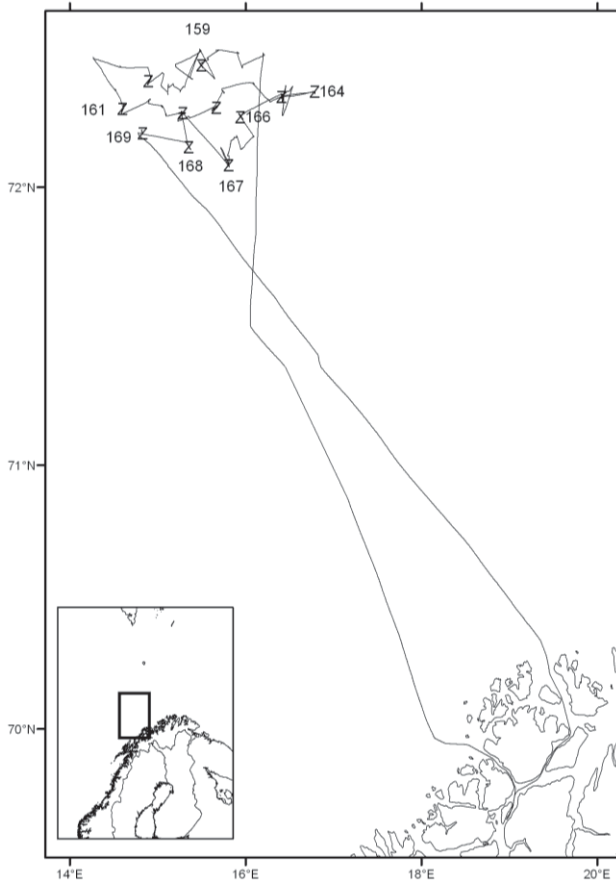
▲ Pelagic trawl st.no 80–93



Cruise no 2009105

“G.O. Sars”
2–28 Apr 2009

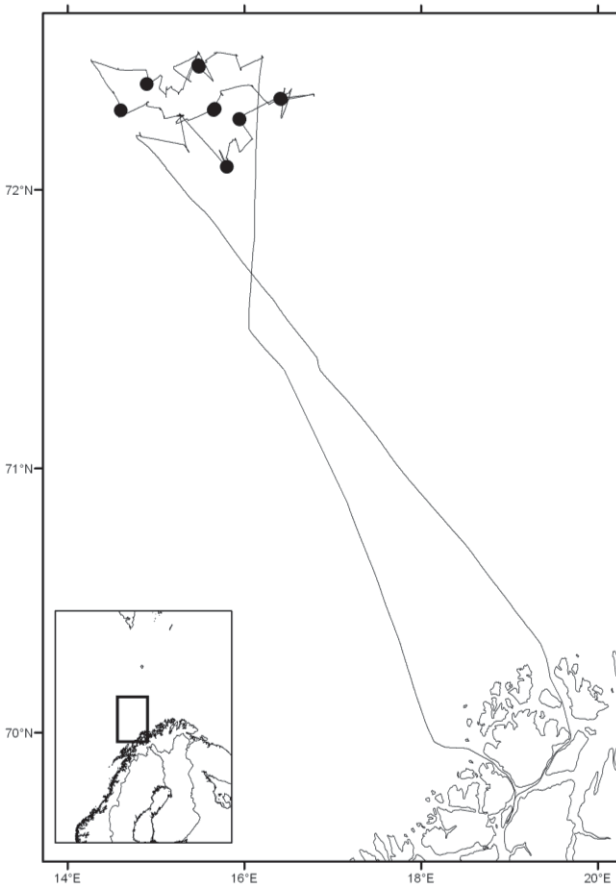
Part 1 - Hermione - 2–6 Apr
z CTD st.no 139–158



Cruise no 2009105

“G.O. Sars”
2–28 Apr 2009

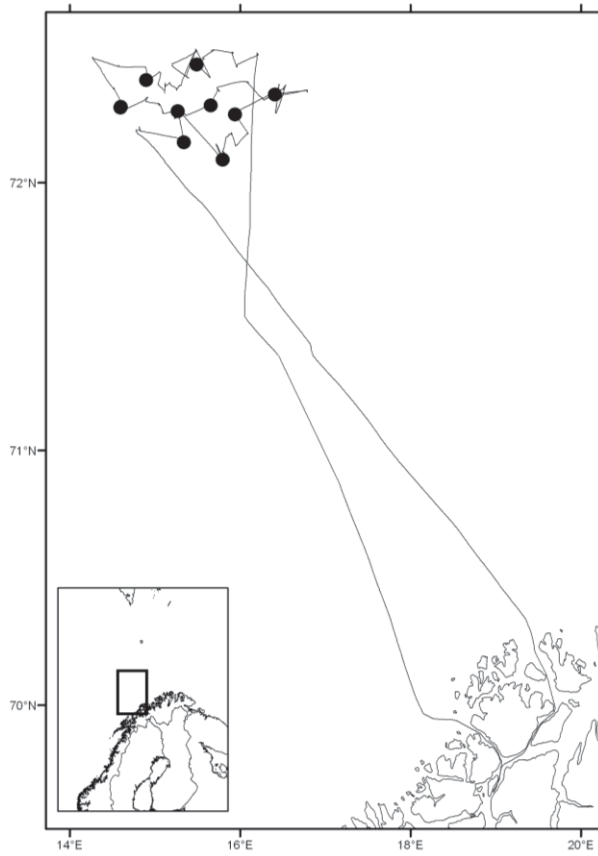
Part 2 - Mareano I - 6–18 Apr
z CTD st.no 159–169



Cruise no 2009105

“G.O. Sars”
2–28 Apr 2009

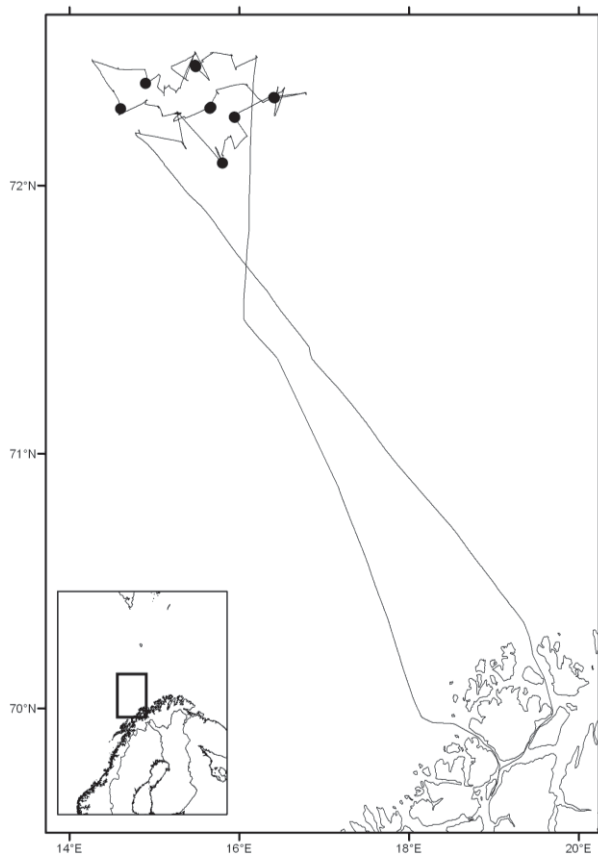
Part 2 - Mareano I - 6–18 Apr
● Grab stations



Cruise no 2009105

“G.O. Sars”
2–28 Apr 2009

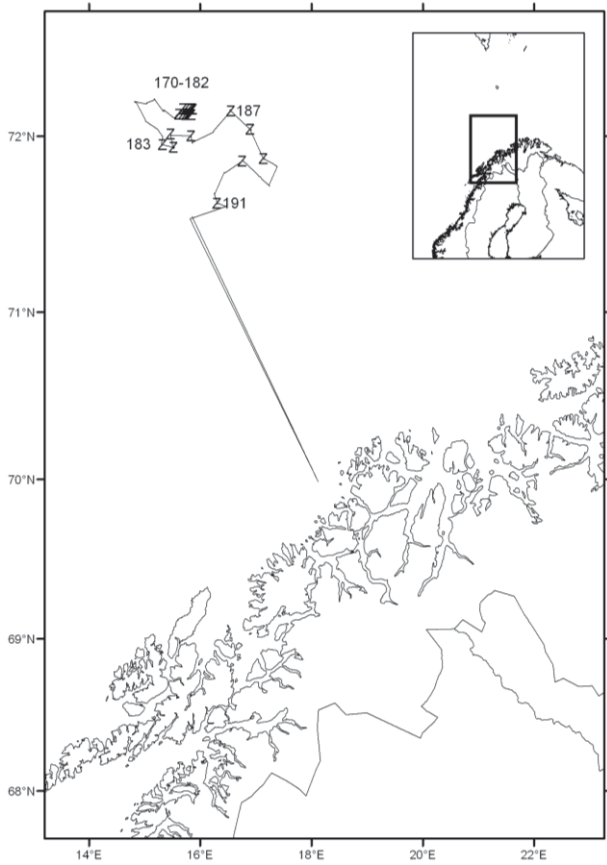
Part 2 - Mareano I - 6–18 Apr
● Beam trawl stations



Cruise no 2009105

“G.O. Sars”
2–28 Apr 2009

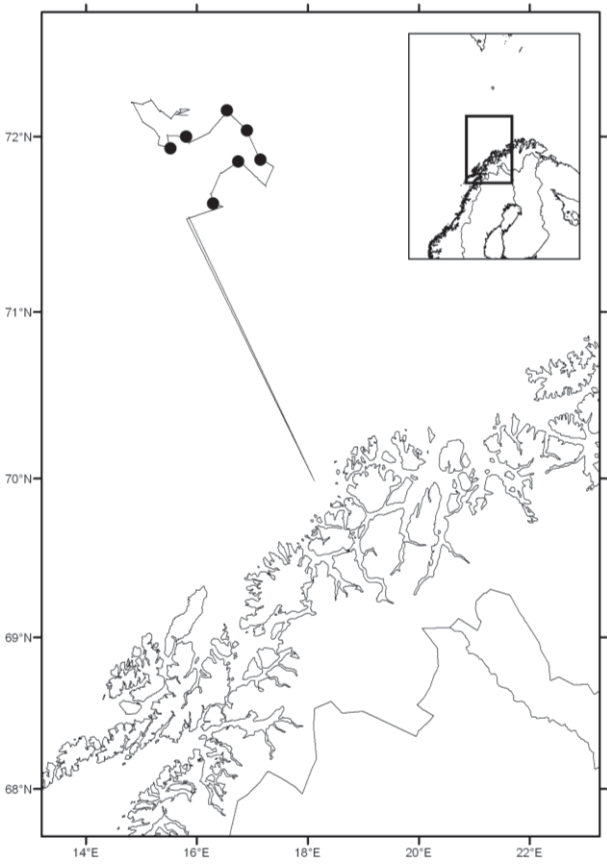
Part 2 - Mareano I - 6–18 Apr
● Sledge stations



Cruise no 2009105

“G.O. Sars”
2–28 Apr 2009

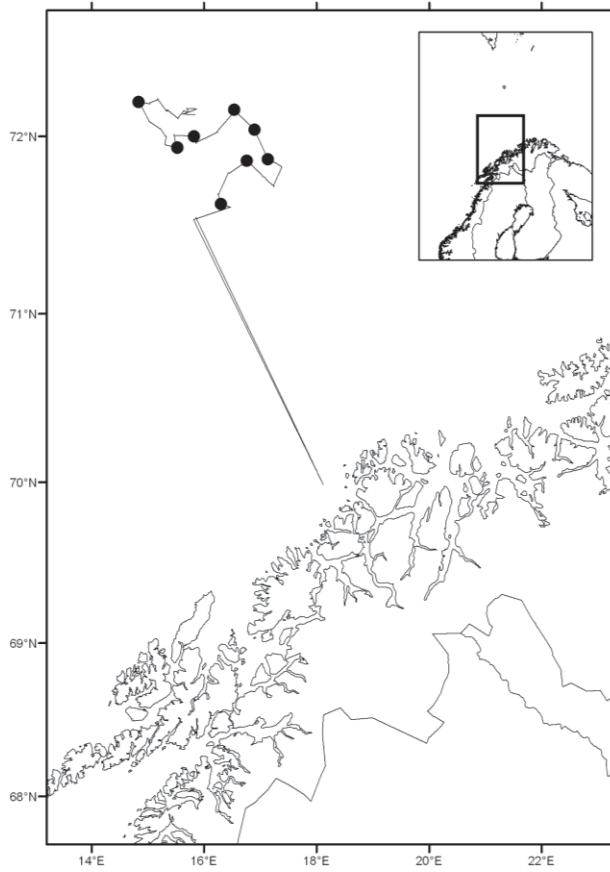
Part 3 - Mareano II - 18–28 Apr
z CTD st.no 170–191



Cruise no 2009105

“G.O. Sars”
2–28 Apr 2009

Part 3 - Mareano II - 18–28 Apr
● Grab stations

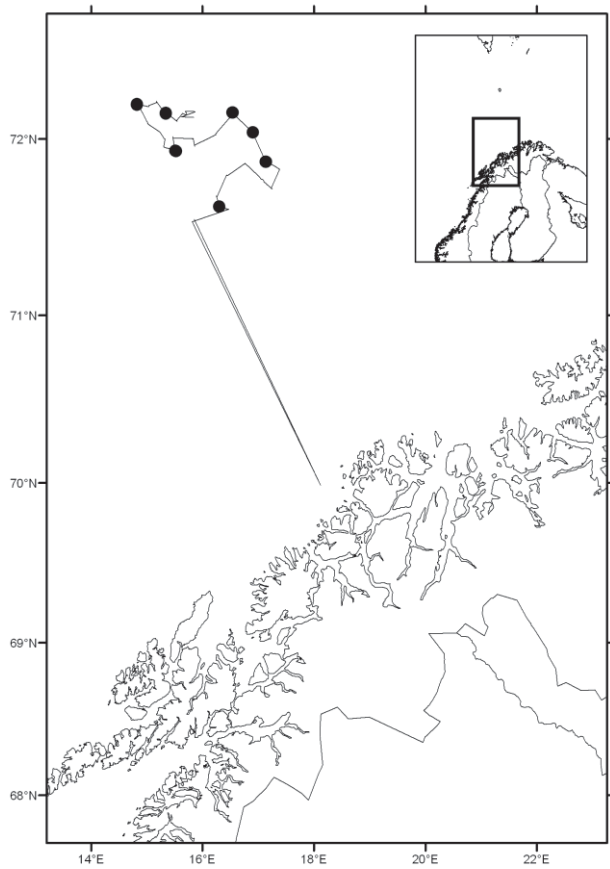


Cruise no 2009105

“G.O. Sars”
2–28 Apr 2009

Part 3 - Mareano II - 18–28 Apr

● Beam stations

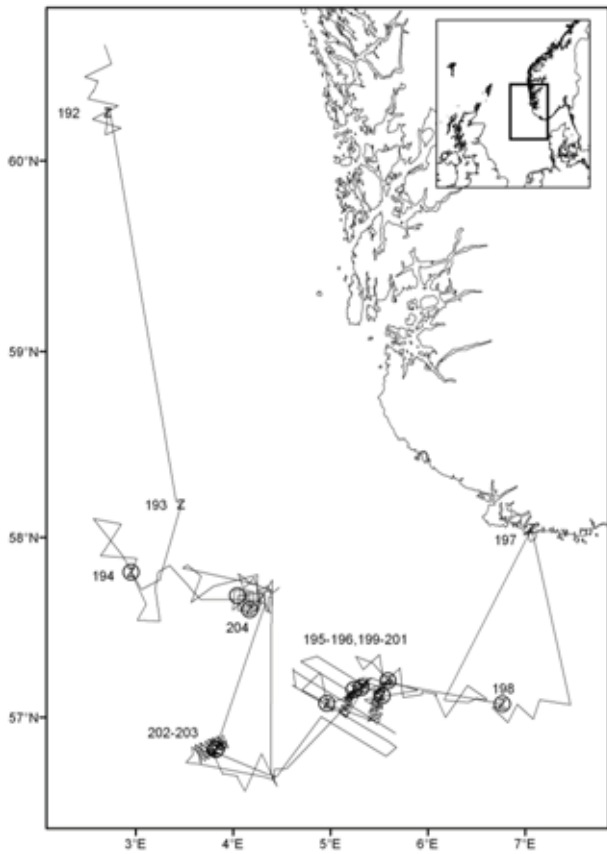


Cruise no 2009105

“G.O. Sars”
2–28 Apr 2009

Part 3 - Mareano II - 18–28 Apr

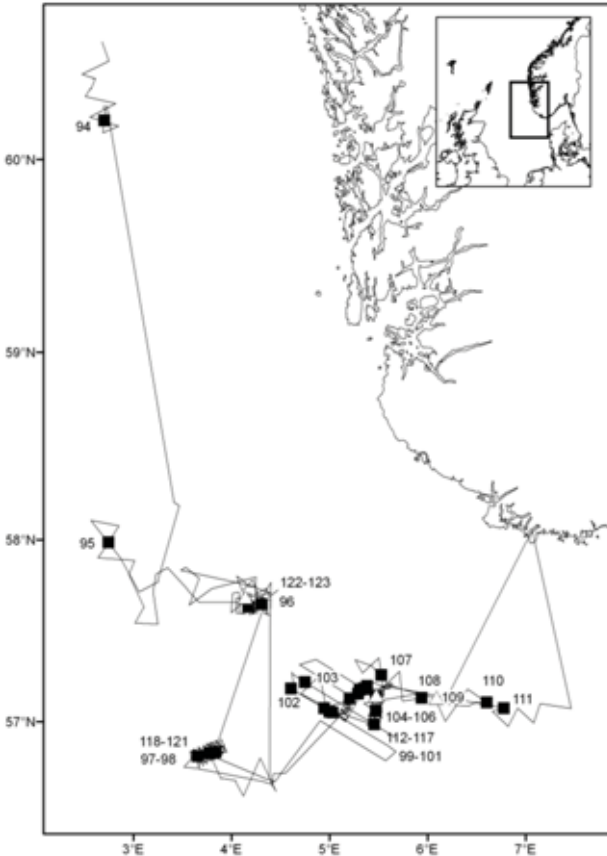
● Sledge stations



Cruise no 2009107

“G.O. Sars”
3–24 May 2009

z CTD st.no 192–204
o Plankton st. (WP-II-net)



Cruise no 2009107

“G.O. Sars”
3–24 May 2009

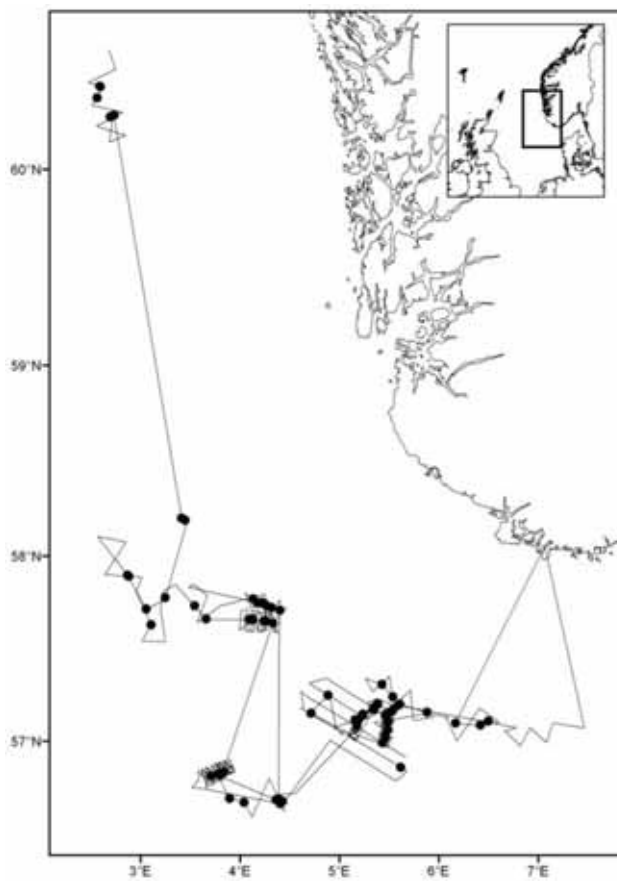
Trawl st.no 94–123
■ Bottom trawl
△ Pelagic trawl



Cruise no 2009107

“G.O. Sars”
3–24 May 2009

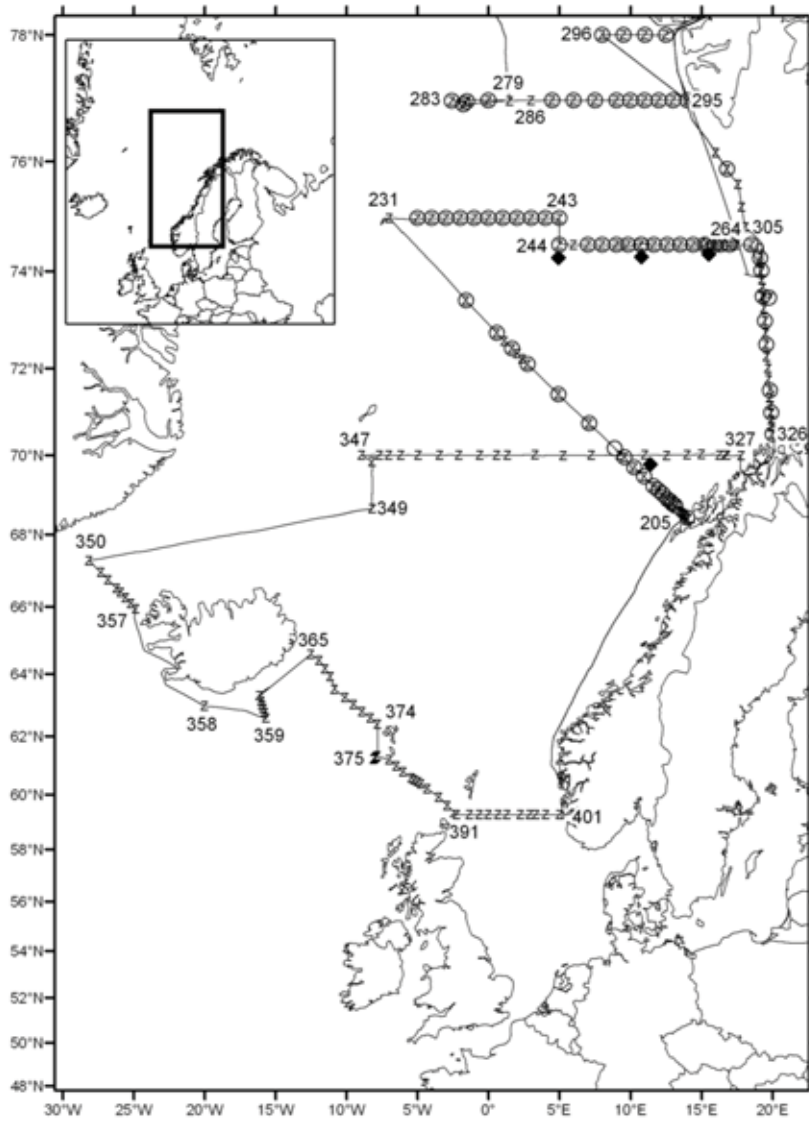
● Grab stations



Cruise no 2009107

“G.O. Sars”
3–24 May 2009

● Dredge

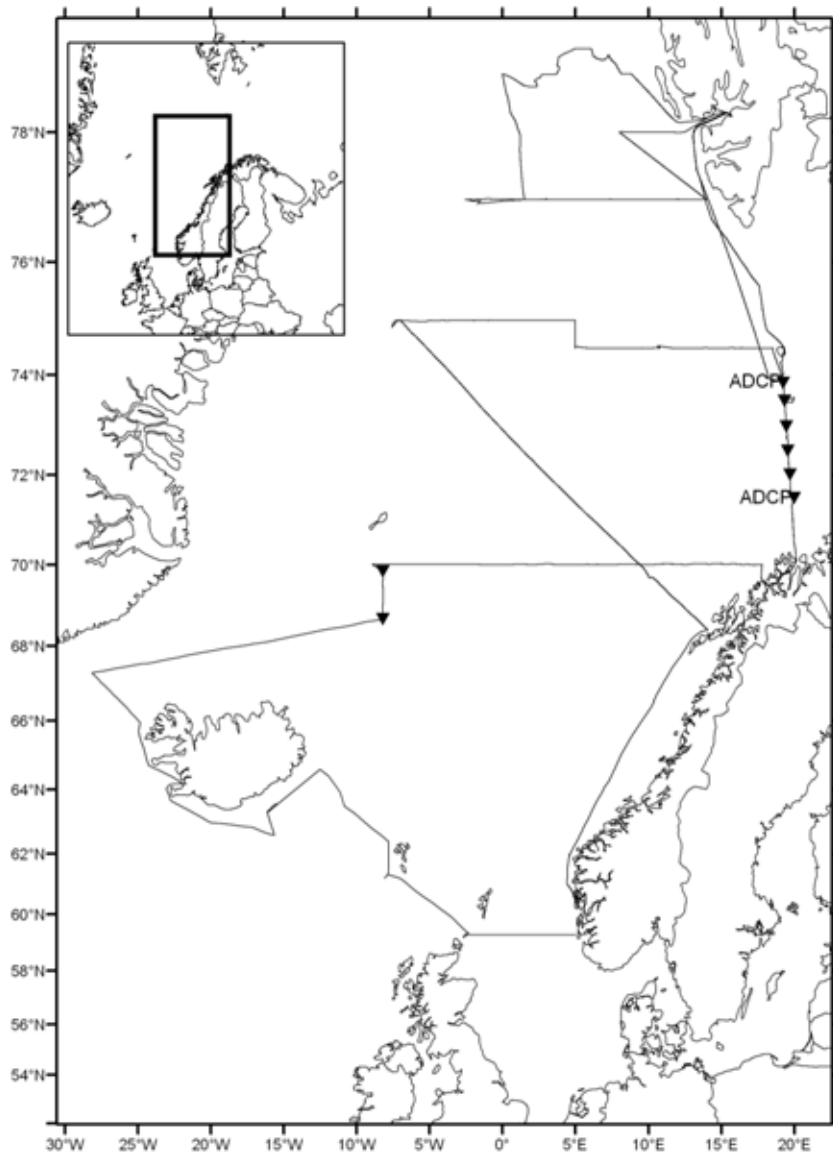


Cruise no 2009108

“G.O. Sars”
28 May–11 Aug 2009

Part I 28 May–20 July
z CTD st.no 205–401
o Plankton st. (WP-II-net)
◆ Plankton st. (Mocness)

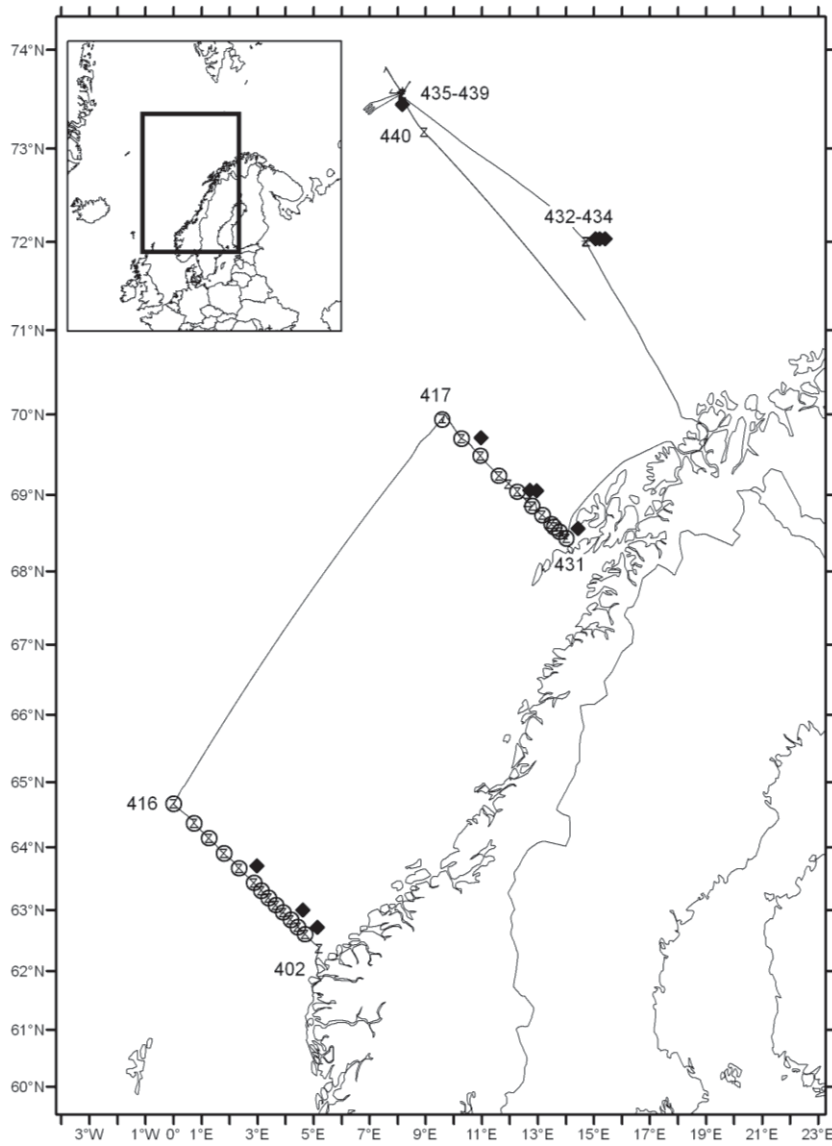
Standard sections:
Gimsøy-NW st.no 205–231
Fugløya–Bjørnøya st.no 305–326
Bjørnøya-W st.no 244–264
Utsira W st.no 391–401



Cruise no 2009108

"G.O. Sars"
28 May–11 Aug 2009

Part I 28 May–20 July
Deployment and recovery of
current meters and bottom ADCP



Cruise no 2009108

“G.O. Sars”

28 May–11 Aug 2009

Part II 22 July–11 Aug

z CTD st.no 402–440

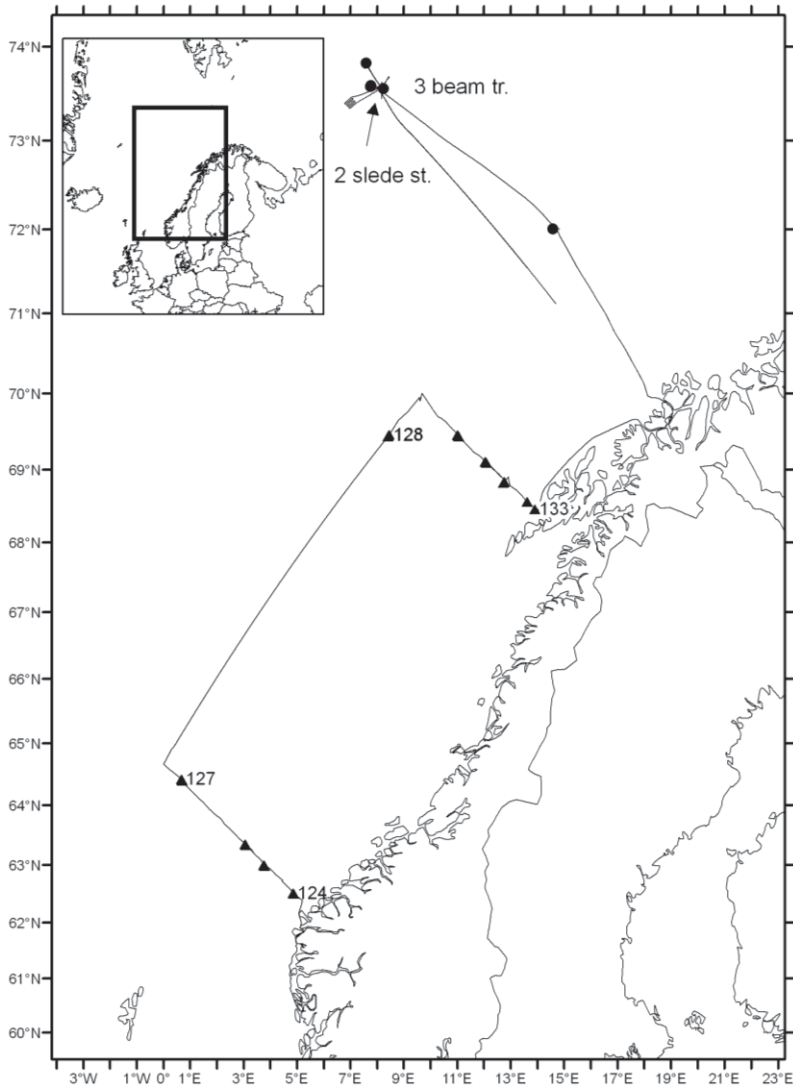
o Plankton st. (WP-II-net)

◆ Plankton st. (Mocness)

Standard sections:

Svinøy-NW st.no 402–416

Gimsøy-NW st.no 417–431

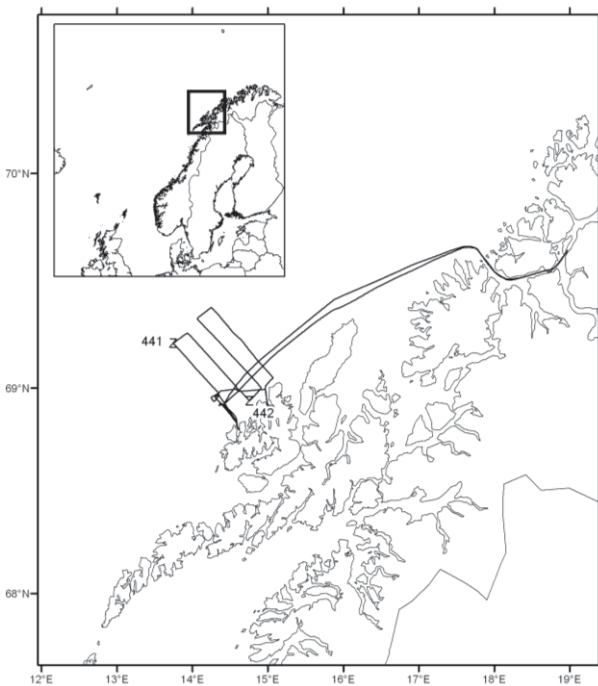


Cruise no 2009108

“G.O. Sars”
28 May–11 Aug 2009

Part II 22 July–11 Aug

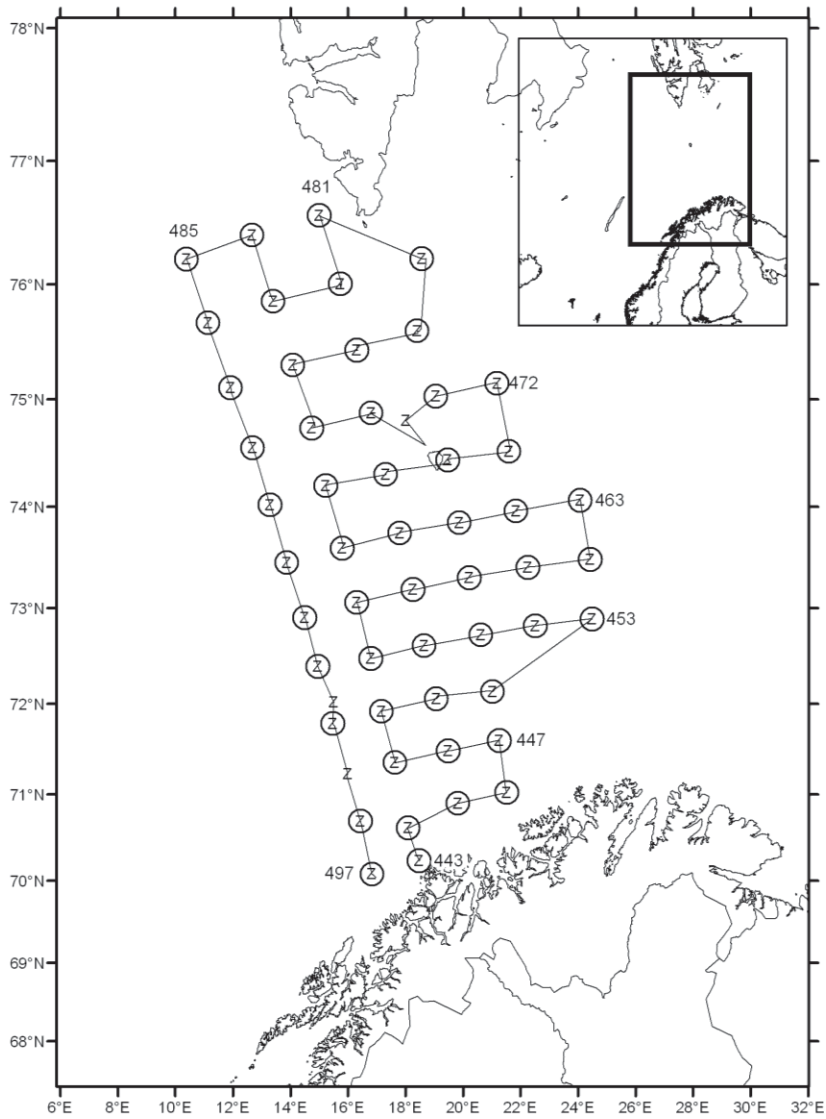
▲ Pelagic trawl st.no 124–133
● Beam trawl and sledge st.



Cruise no 2009115

“G.O. Sars”
13–18 Aug 2009

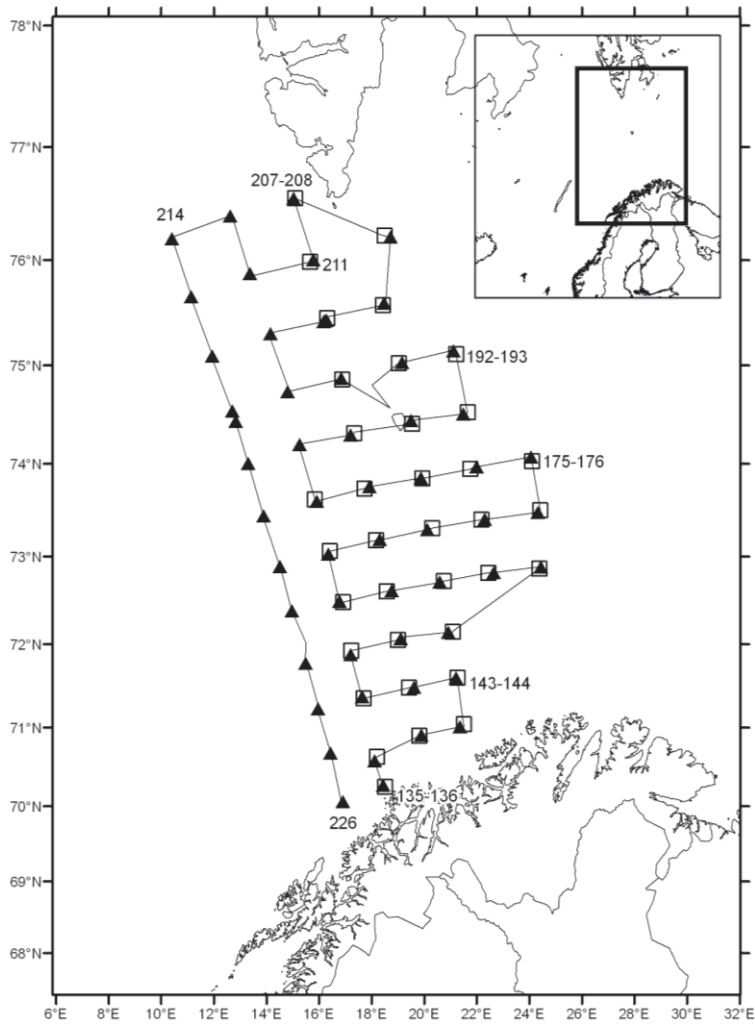
z CTD st.no 441–442



Cruise no 2009109

“G.O. Sars”
20 Aug–5 Sep 2009

z CTD st.no 443–497
o Plankton st. (WP-II-net)

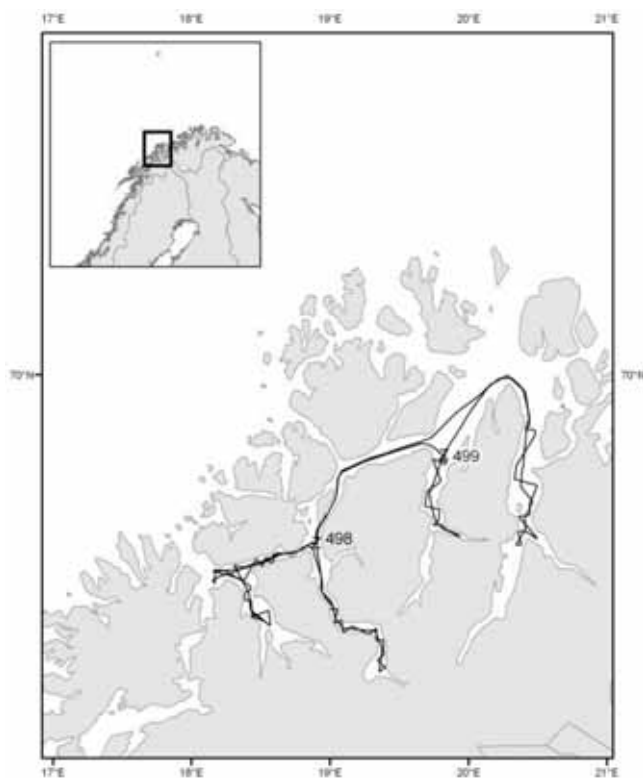


Cruise no 2009109

“G.O. Sars”
20 Aug–5 Sep 2009

Trawl st.no 135–226

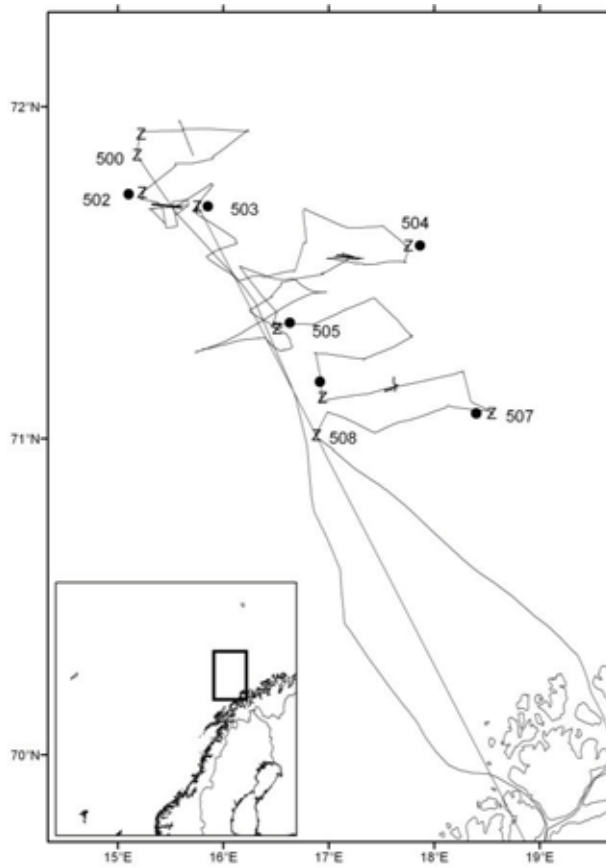
▲ Pelagic trawl
□ Bottom trawl



Cruise no 2009110

“G.O. Sars”
12–14 Sep 2009

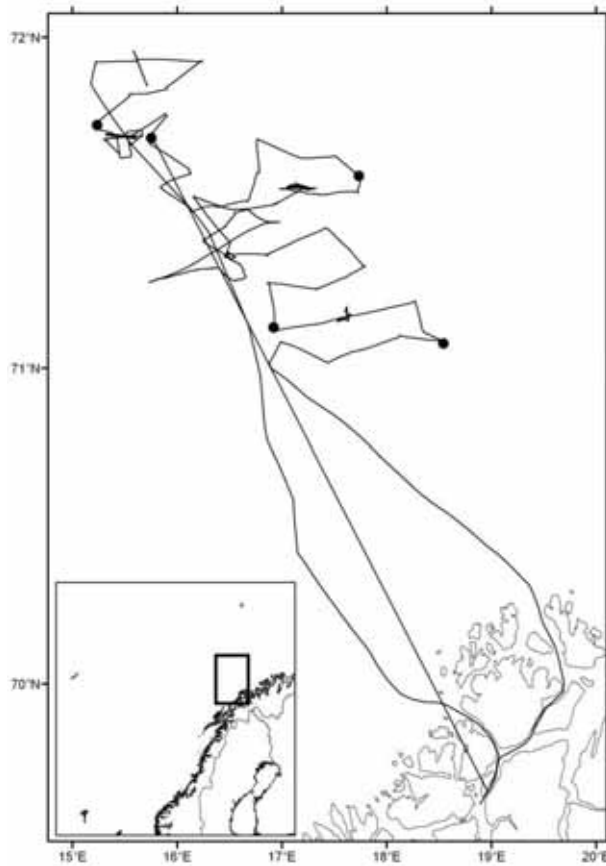
z CTD st.no 498–499



Cruise no 2009111

“G.O. Sars”
18 Sep–11 Oct 2009

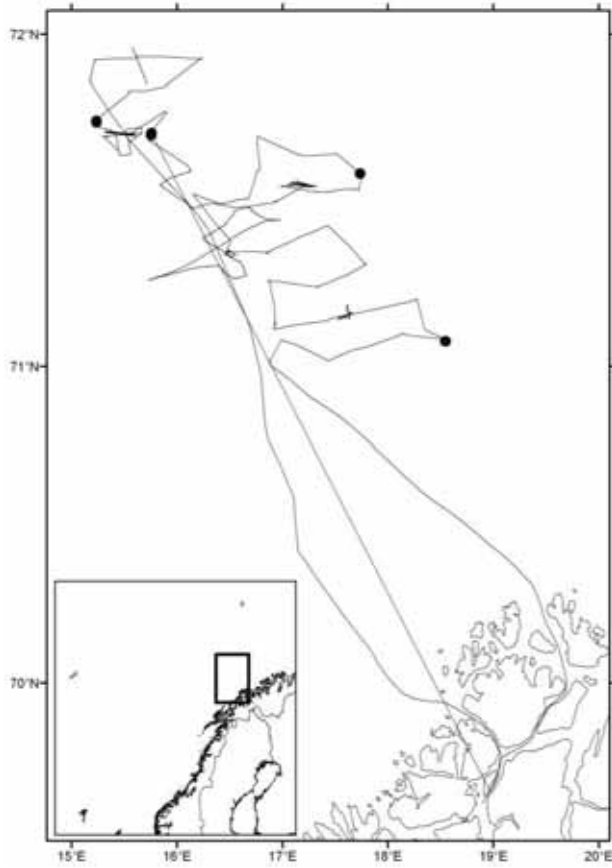
Part I 18–30 Sep 2009
z CTD st.no 500–508
● Grab stations



Cruise no 2009111

“G.O. Sars”
18 Sep–11 Oct 2009

Part I 18–30 Sep 2009
● Beam trawl stations



Cruise no 2009111

“G.O. Sars”
18 Sep–11 Oct 2009

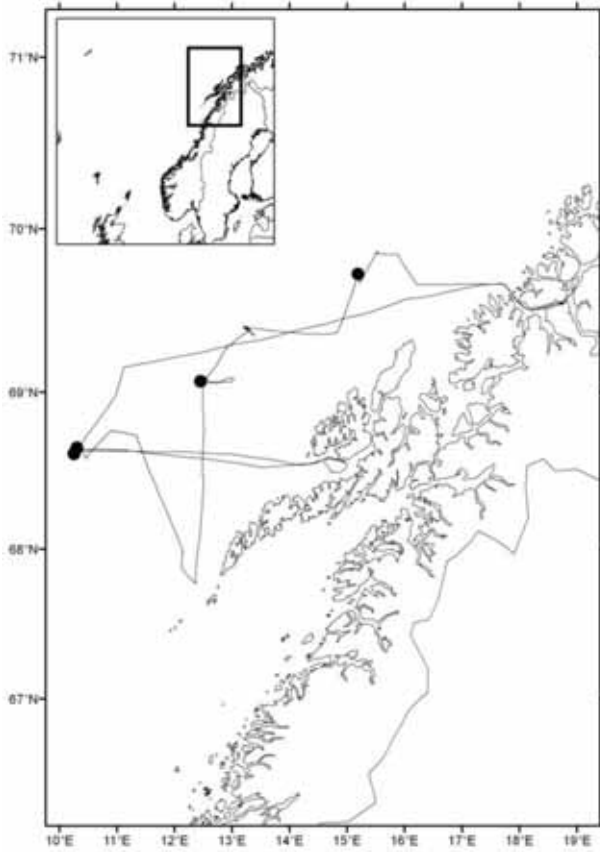
Part I 18–30 Sep 2009
● Sledge stations



Cruise no 2009111

“G.O. Sars”
18 Sep–11 Oct 2009

Part II 30 Sep–11 Oct 2009
z CTD st.no 509–517
● Grab stations

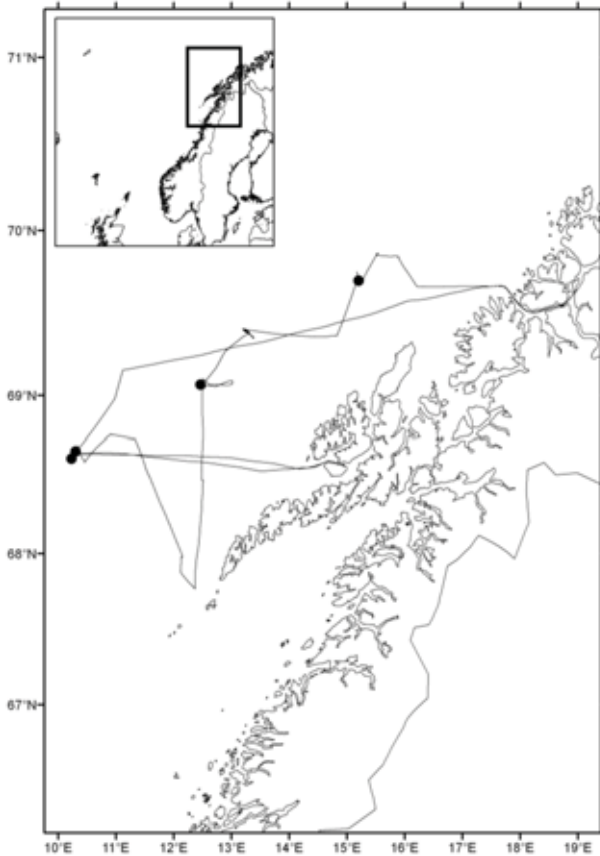


Cruise no 2009111

“G.O. Sars”
18 Sep–11 Oct 2009

Part II 30 Sep–11 Oct 2009

● Beam trawl stations

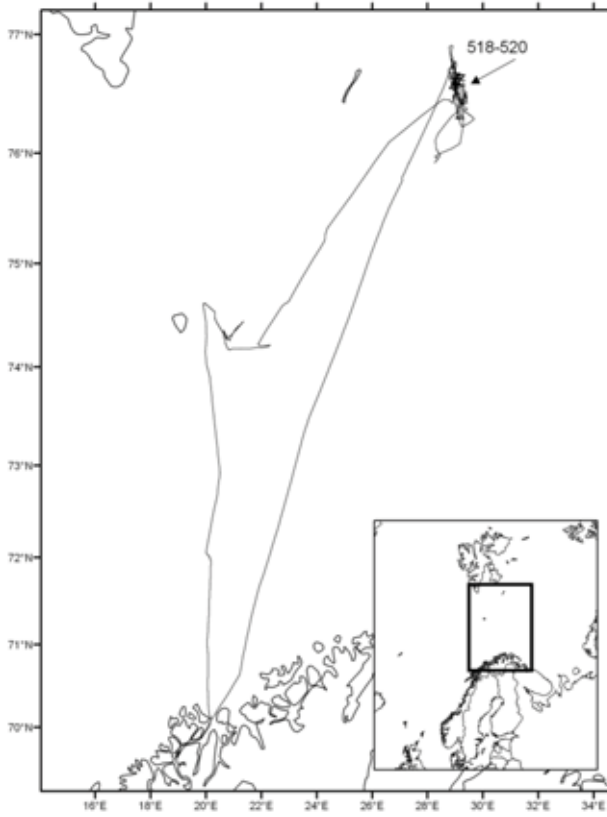


Cruise no 2009111

“G.O. Sars”
18 Sep–11 Oct 2009

Part II 30 Sep–11 Oct 2009

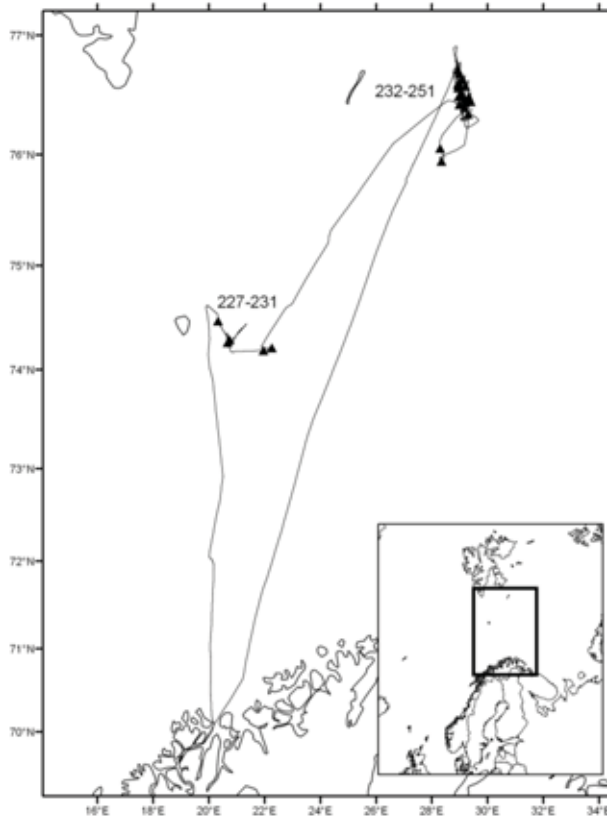
● Sledge stations



Cruise no 2009112

“G.O. Sars”
28 Oct–10 Nov 2009

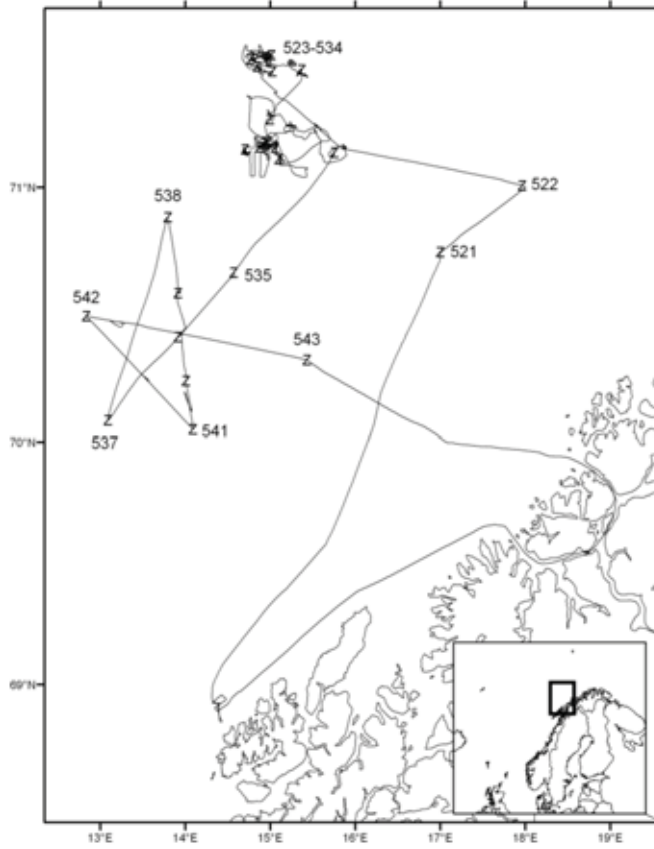
z CTD st.no 518–520



Cruise no 2009112

“G.O. Sars”
28 Oct–10 Nov 2009

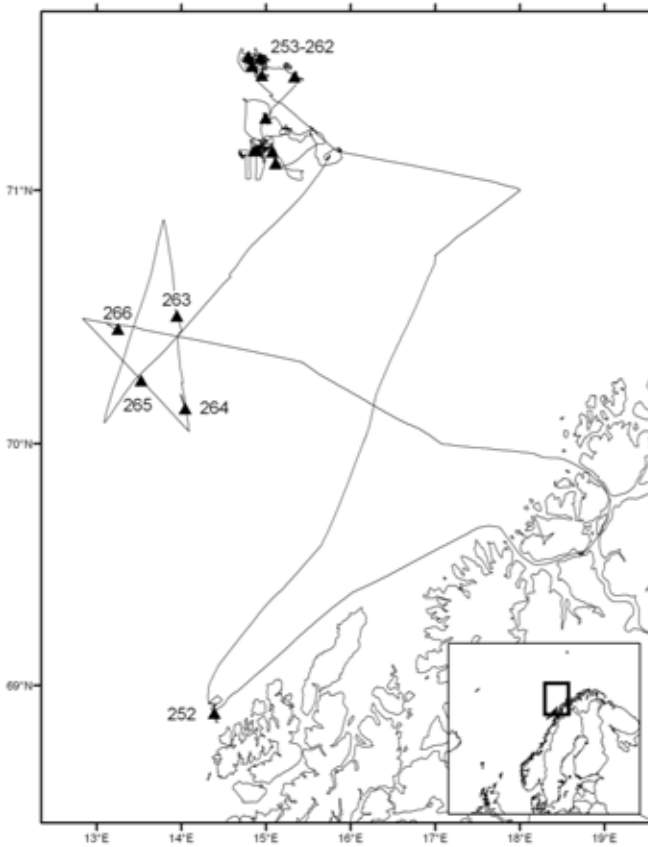
▲ Pelagic trawl st.no 227–251



Cruise no 2009116

“G.O. Sars”
11–19 Nov 2009

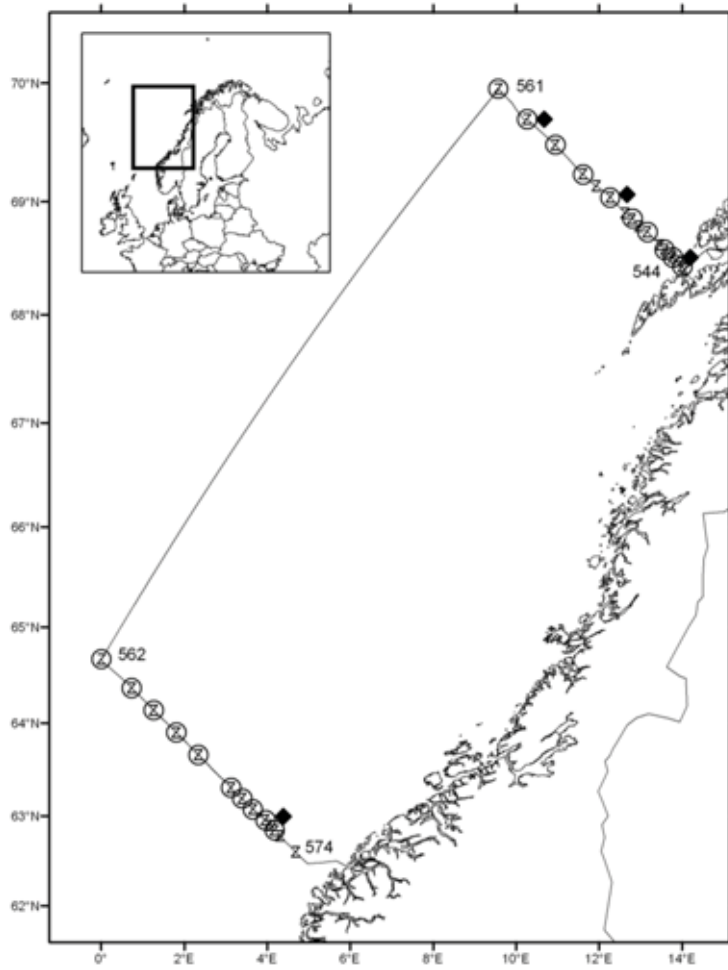
z CTD st.no 521–543



Cruise no 2009116

“G.O. Sars”
11–19 Nov 2009

▲ Pelagic trawl st.no 252–266



Cruise no 2009113

“G.O. Sars”

20–26 Nov 2009

z CTD st.no 544–574

o Plankton st. (WP-II-net)

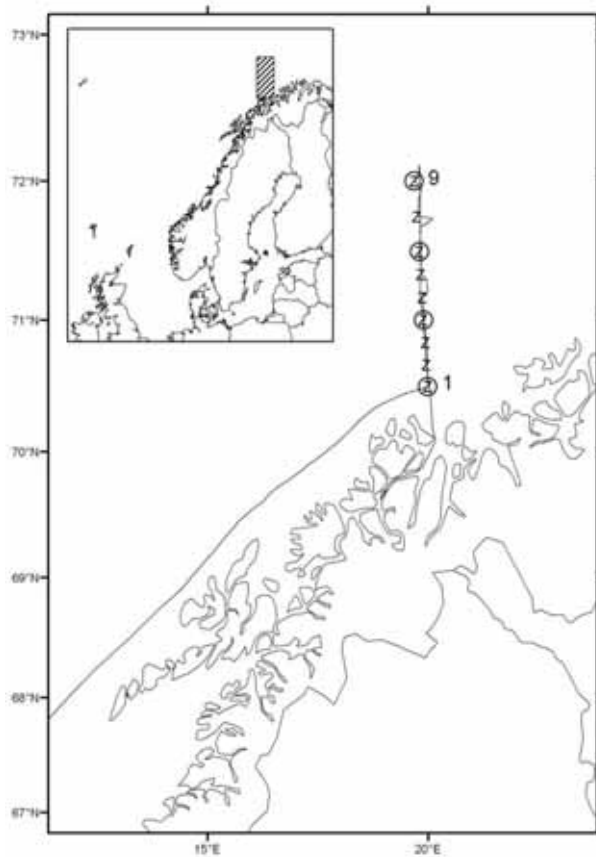
◆ Plankton st. (Mocness)

Standard sections:

Gimsøy-NW st.no 544–561

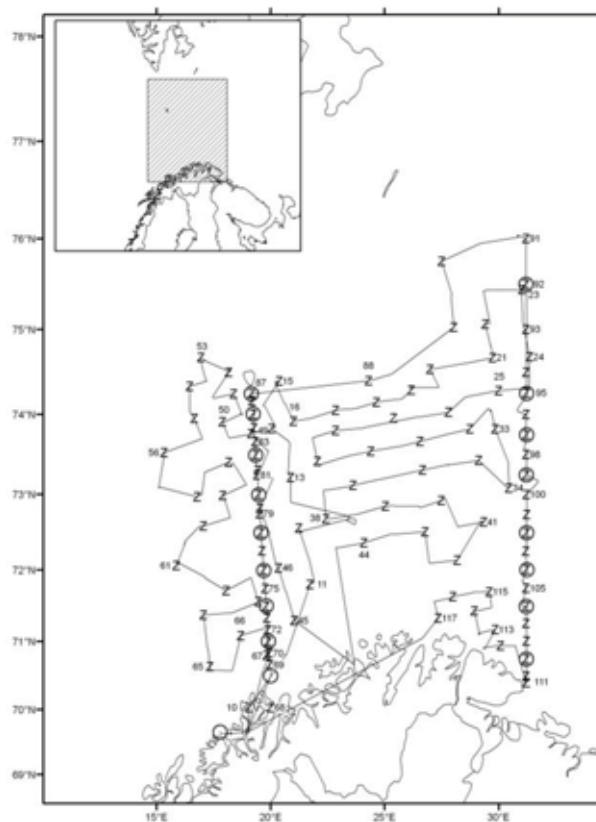
Svinøy-NW st.no 562–574

4.2 Johan Hjort



Cruise no 2009201
"Johan Hjort"
31 Jan–5 Feb 2009

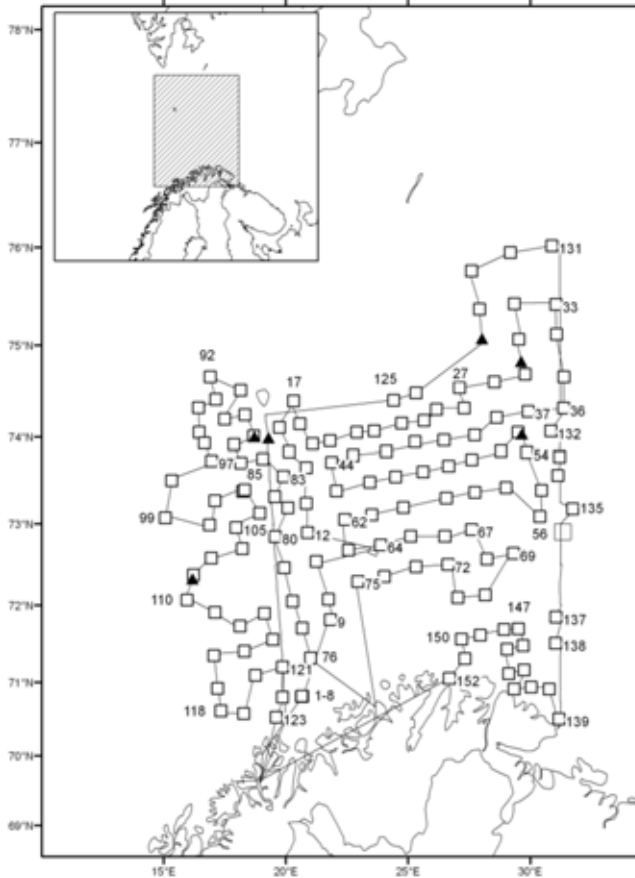
z CTD st.no 1–9
o Plankton st. (WP-II-net)



Cruise no 2009202
"Johan Hjort"
6 Feb–13 Mar 2009

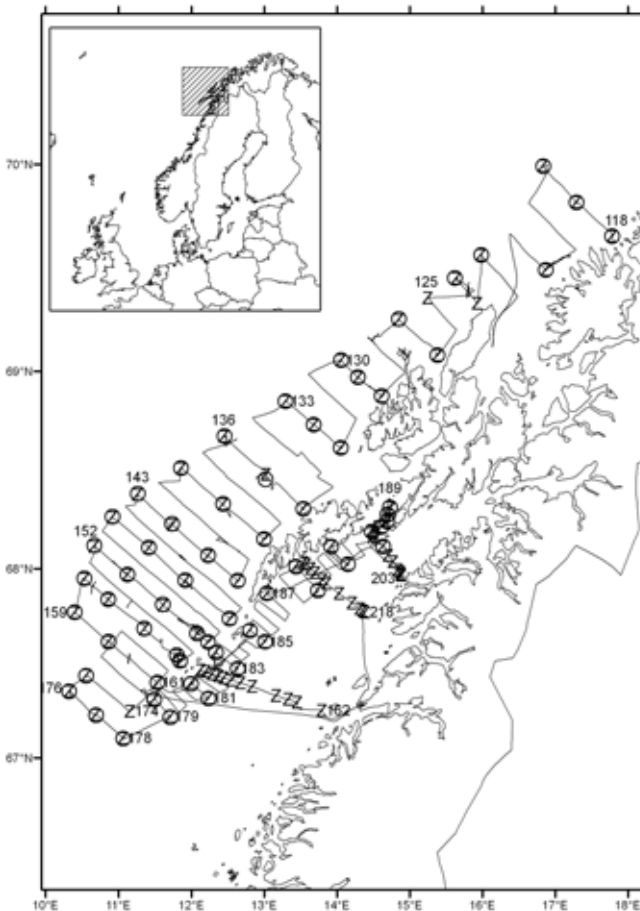
z CTD st.no 10–117
o Plankton st. (WP-II-net)

Standard sections:
Fugløya–Bjørnøya st.no 69–87
Vardø-N st.no 91–111



Cruise no 2009202
 “Johan Hjort”
 6 Feb–13 Mar 2009

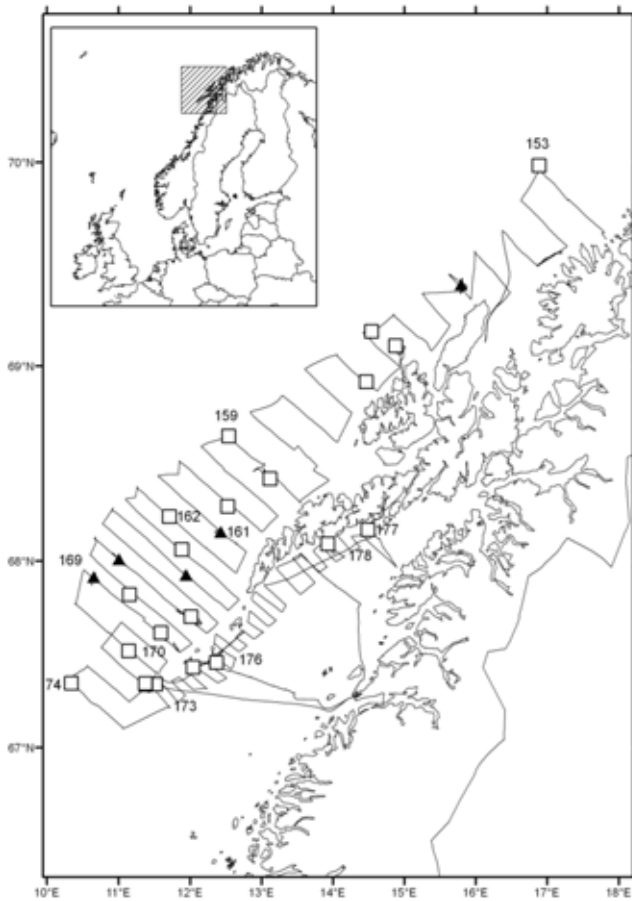
Trawl st.no 1–152
 □ Bottom trawl
 ▲ Pelagic trawl



Cruise no 2009203
 “Johan Hjort”
 15–30 Mar 2009

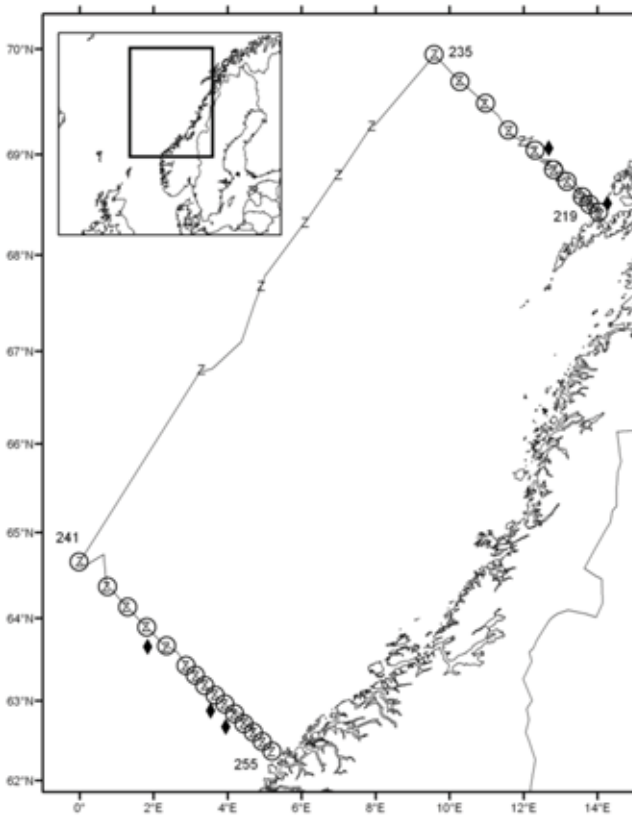
z CTD st.no 118–218
 o Egg survey (WP-II-net)

Hydrographic sections:
 Tennholm–Røst
 Ballstad–Måløy/Skarholmen
 Kabelvåg–Steigen



Cruise no 2009203
 "Johan Hjort"
 15–30 Mar 2009

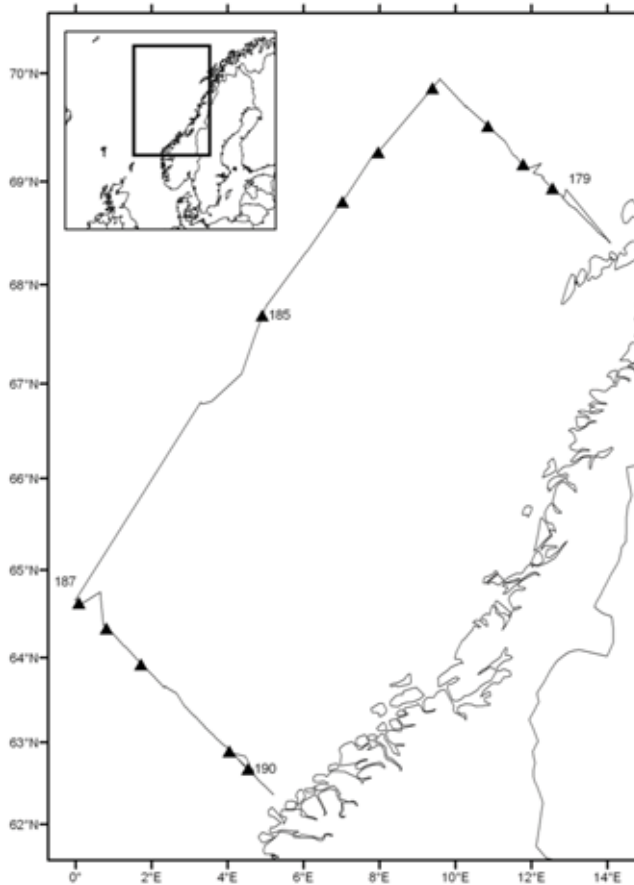
Trawl st.no 153–178
 □ Bottom trawl
 ▲ Pelagic trawl



Cruise no 2009204
 "Johan Hjort"
 2–27 Apr 2009

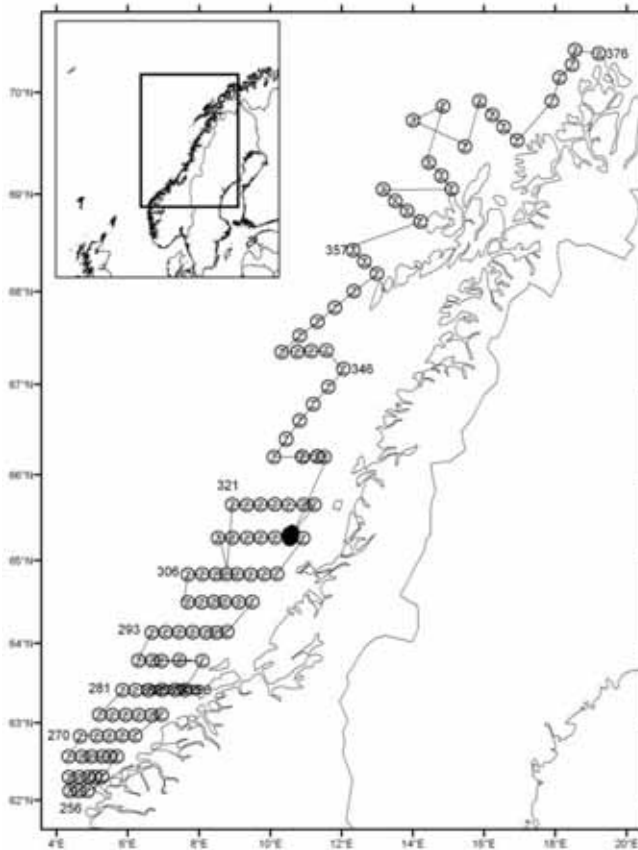
Part I 2–11 Apr 2009
 z CTD st.no 219–255
 o Plankton st. (WP-II-net)
 ◆ Plankton st. (Mocness)

Standard sections:
 Gimsøy-NW st.no 219–235
 Svinøy-NW st.no 241–255



Cruise no 2009204
 “Johan Hjort”
 2–27 Apr 2009

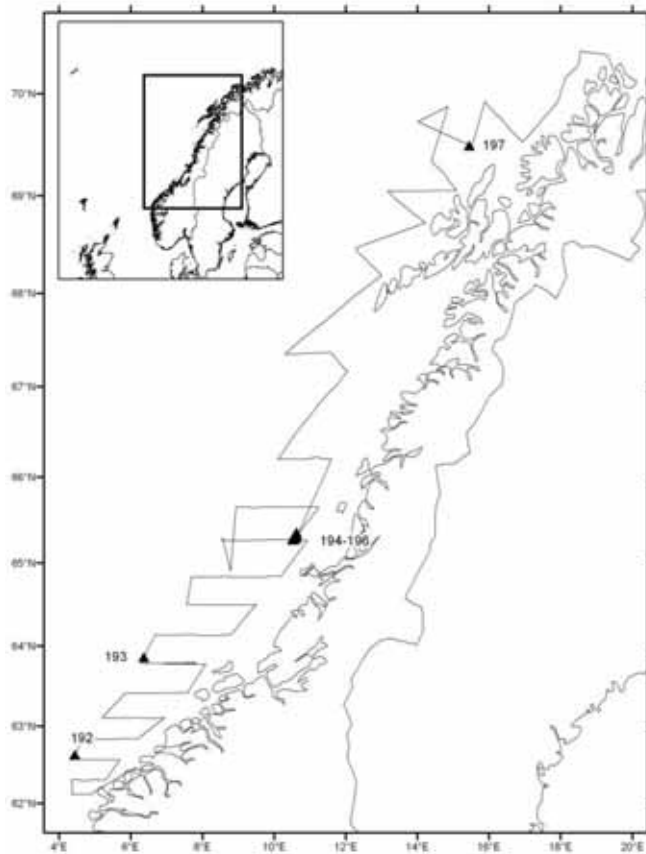
Part I 2–11 Apr 2009
 ▲ Pelagic trawl st.no 179–191



Cruise no 2009204
 “Johan Hjort”
 2–27 Apr 2009

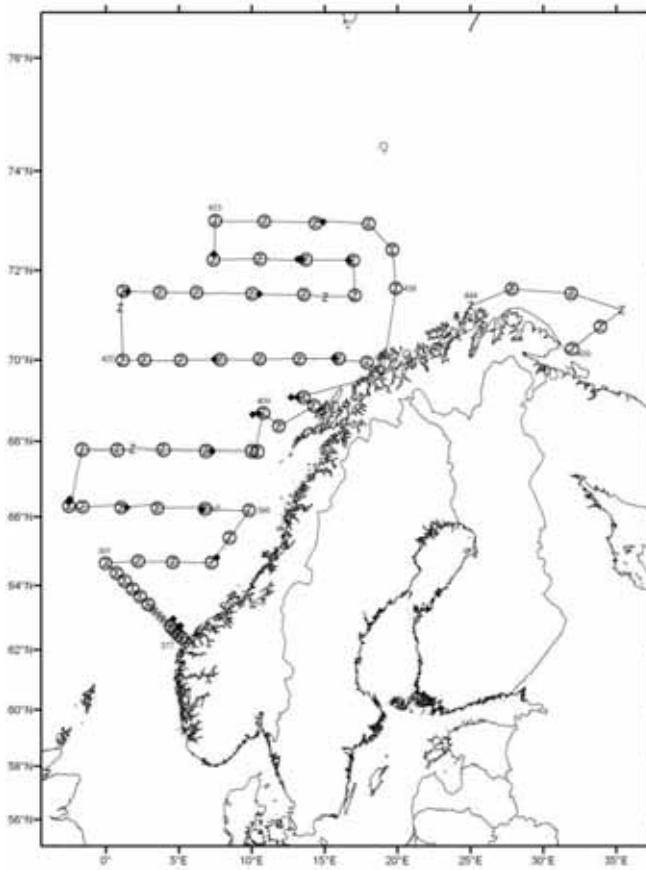
Part II 12–27 Apr 2009
 z CTD st.no 256–376
 o Plankton and fish larvae st.
 (WP-II-net/Gulf III and T-80 net)
 ◆ Plankton st. (Mocness)

Fish larvae were sampled with two different nets: during daytime, Gulf III sampler was used while during nighttime, T-80 net was used. On every third station, a WP-II-net was used to sample zooplankton.



Cruise no 2009204
 “Johan Hjort”
 2–27 Apr 2009

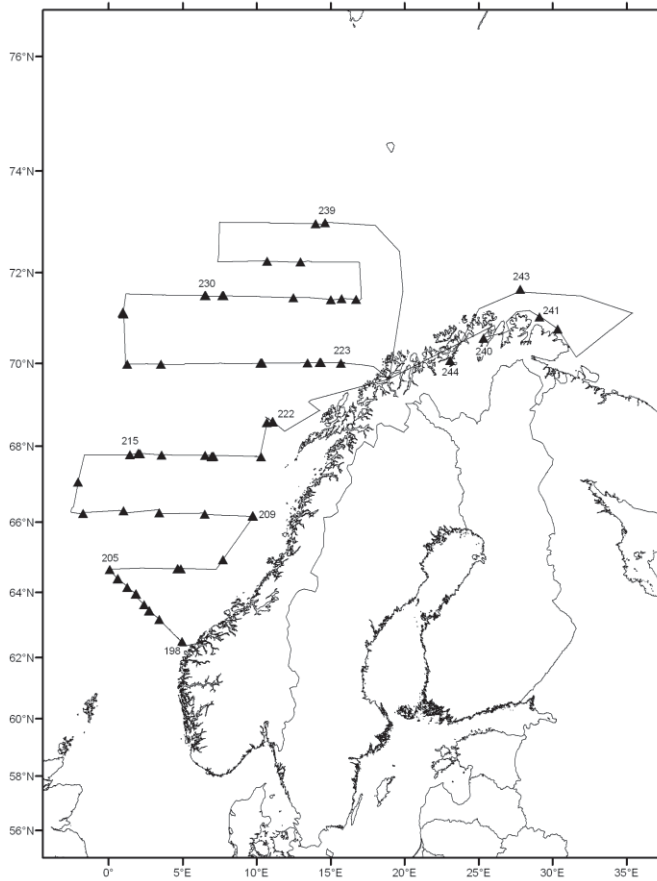
Part II 12–27 Apr 2009
 ▲ Pelagic trawl st.no 192–197



Cruise no 2009206
 “Johan Hjort”
 29 Apr–2 June 2009

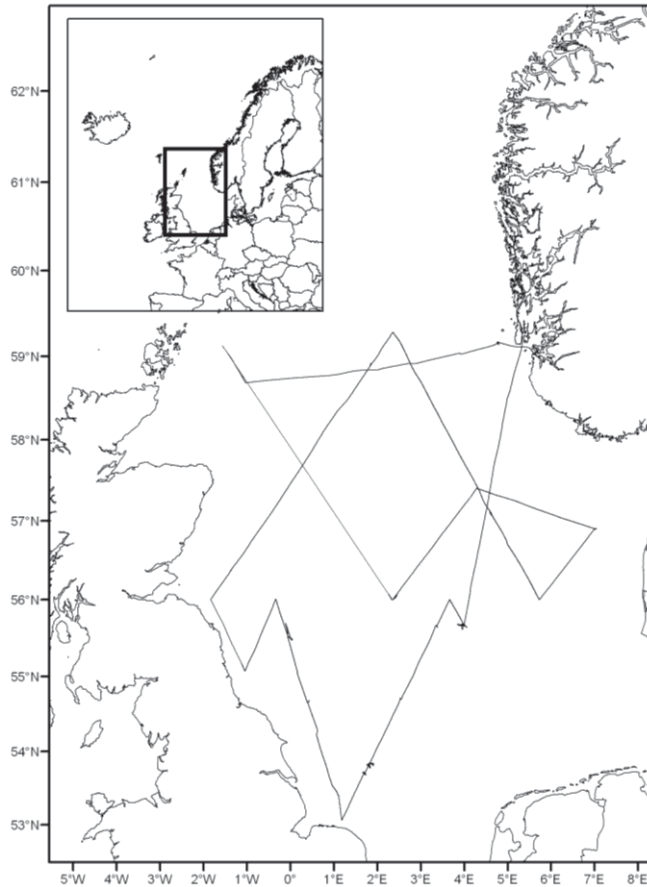
z CTD st.no 377–444
 o Plankton st. (WP-II-net/
 ◆ Plankton st. (Mocness)

Standard section:
 Svinøy-NW st.no 377–391



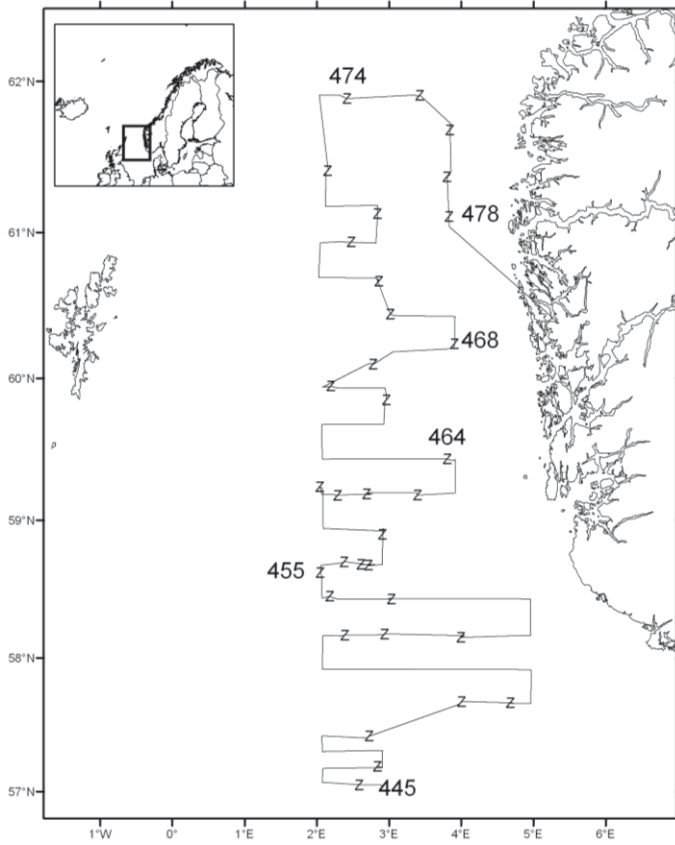
Cruise no 2009206
 “Johan Hjort”
 29 Apr–2 June 2009

▲ Pelagic trawl st.no 198–244



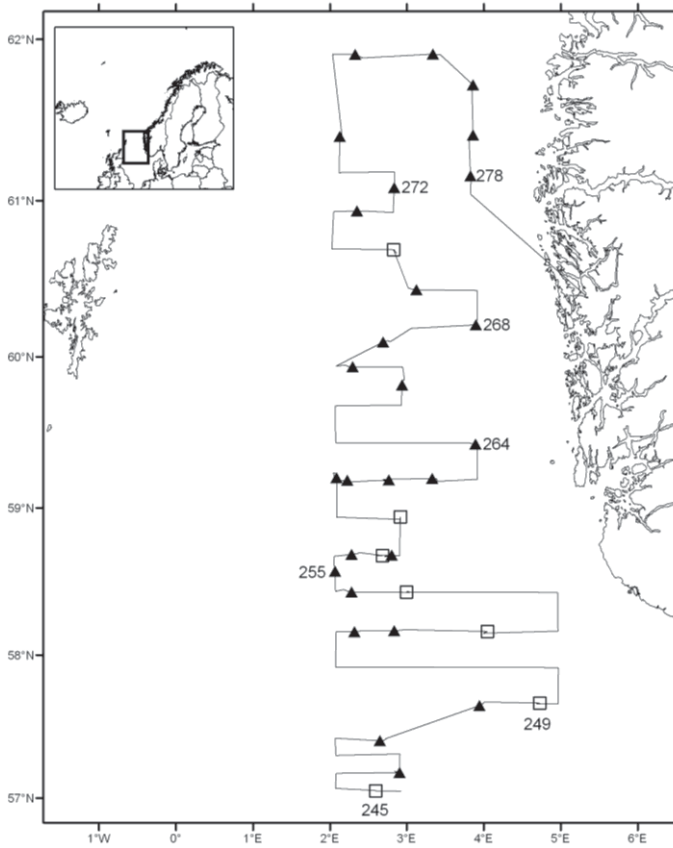
Cruise no 2009216
 “Johan Hjort”
 25 June–12 July 2009

Cruise track (Whale observations)



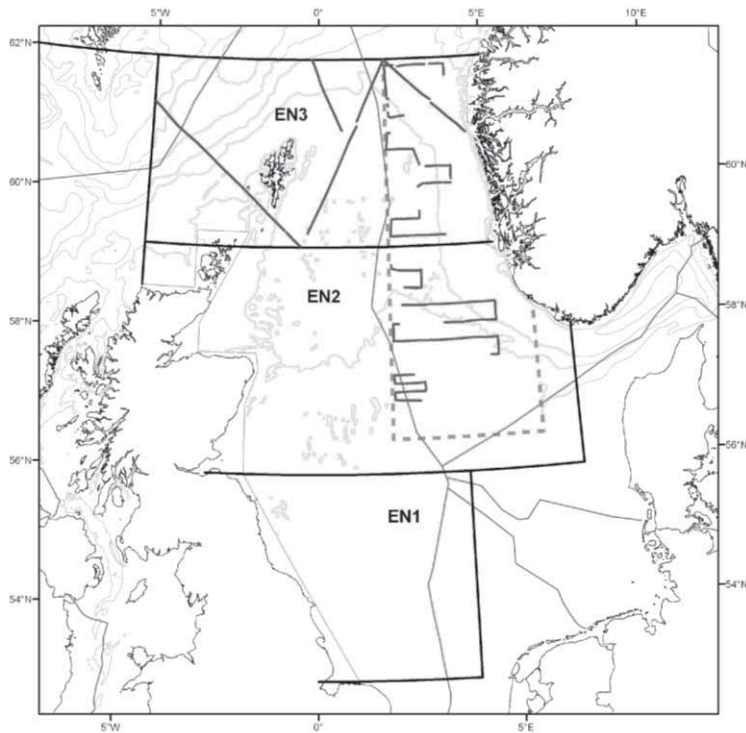
Cruise no 2009207
 "Johan Hjort"
 13–21 July 2009

z CTD st.no 445–478



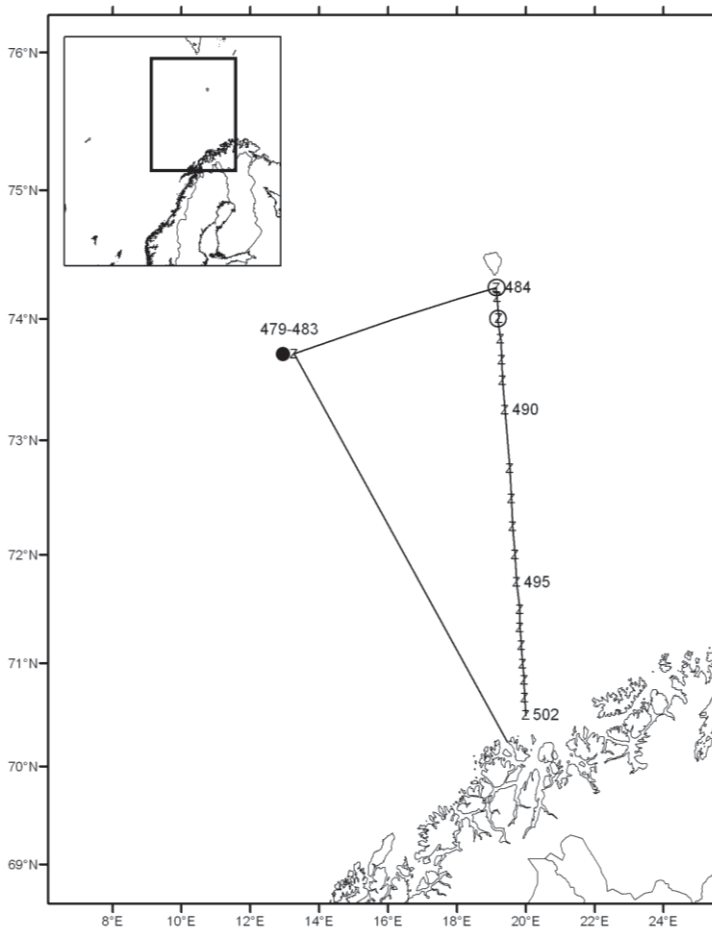
Cruise no 2009207
 "Johan Hjort"
 13–21 July 2009

Trawl st.no 245–278
 ▲ Pelagic trawl
 □ Bottom trawl



Cruise no 2009218
 "Johan Hjort"
 22–31 July 2009

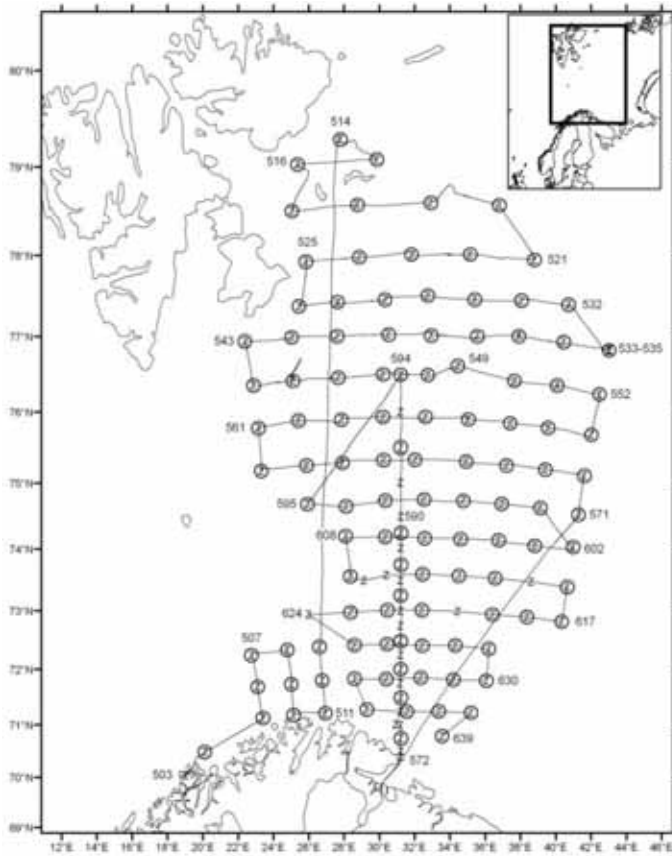
Cruise track (Whale observations)



Cruise no 2009217
 "Johan Hjort"
 15–18 Aug 2009

- z CTD st.no 479–502
- o Plankton st. (WP-II-net)
- Grab stations (Komsomolets)

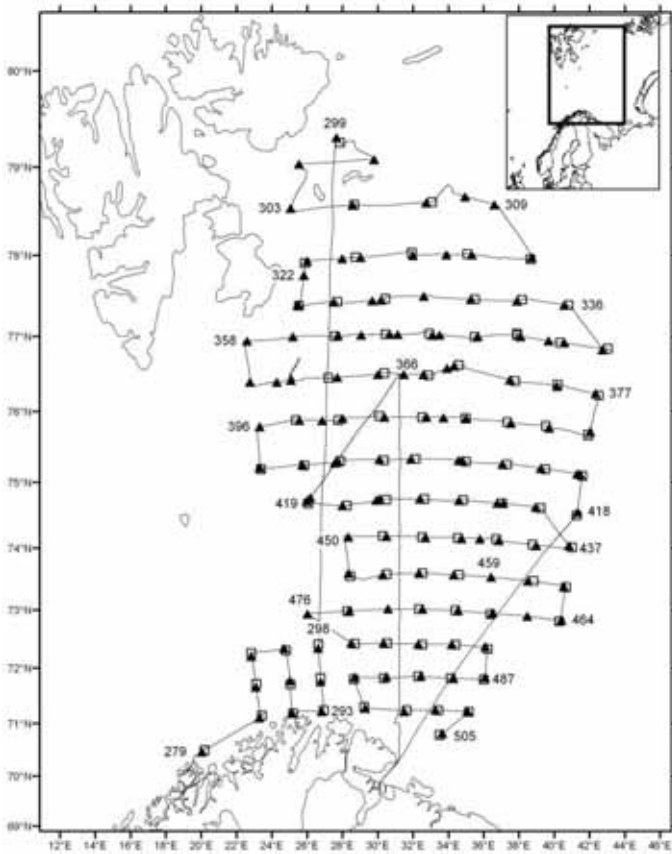
Standard sections:
 Fugløya–Bjørnøya st.no 484–502



Cruise no 2009208
 “Johan Hjort”
 23 Aug–3 Oct 2009

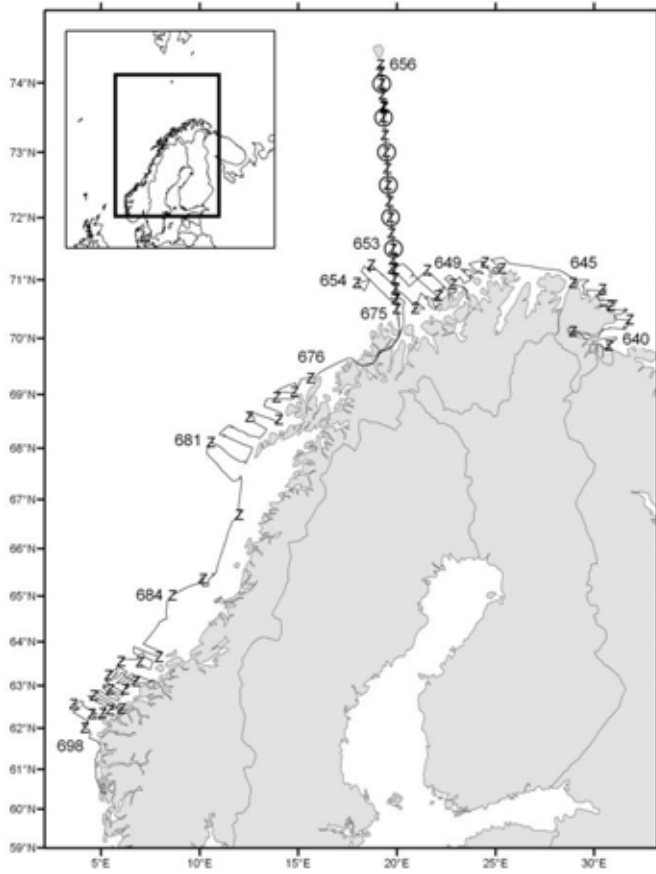
z CTD st.no 503–639
 o Plankton st. (WP-II-net)

Standard sections:
 Vardø-N st.no 572–594



Cruise no 2009208
 “Johan Hjort”
 23 Aug–3 Oct 2009

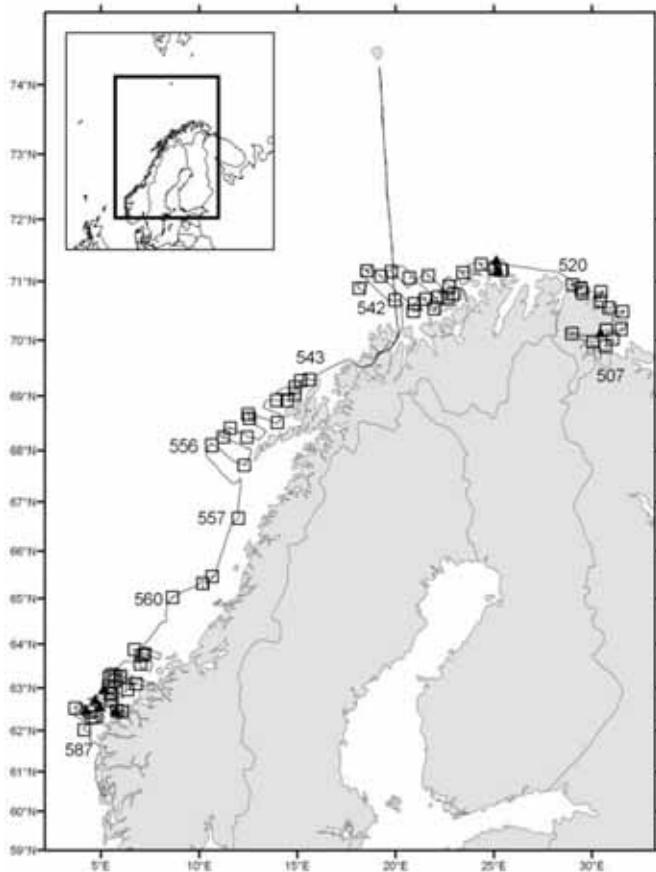
Trawl st.no 279–505
 ▲ Pelagic trawl
 □ Bottom trawl



Cruise no 2009209
 “Johan Hjort”
 5–30 Oct 2009

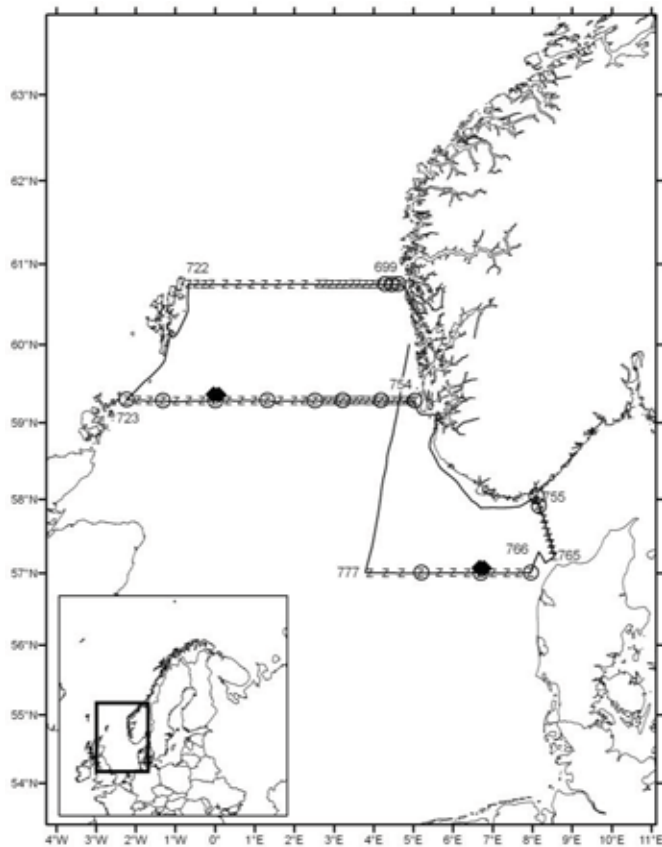
z CTD st.no 640–698
 o Plankton st. (WP-II-net)

Standard sections:
 Fugløya–Bjørnøya st.no 656–675



Cruise no 2009209
 “Johan Hjort”
 5–30 Oct 2009

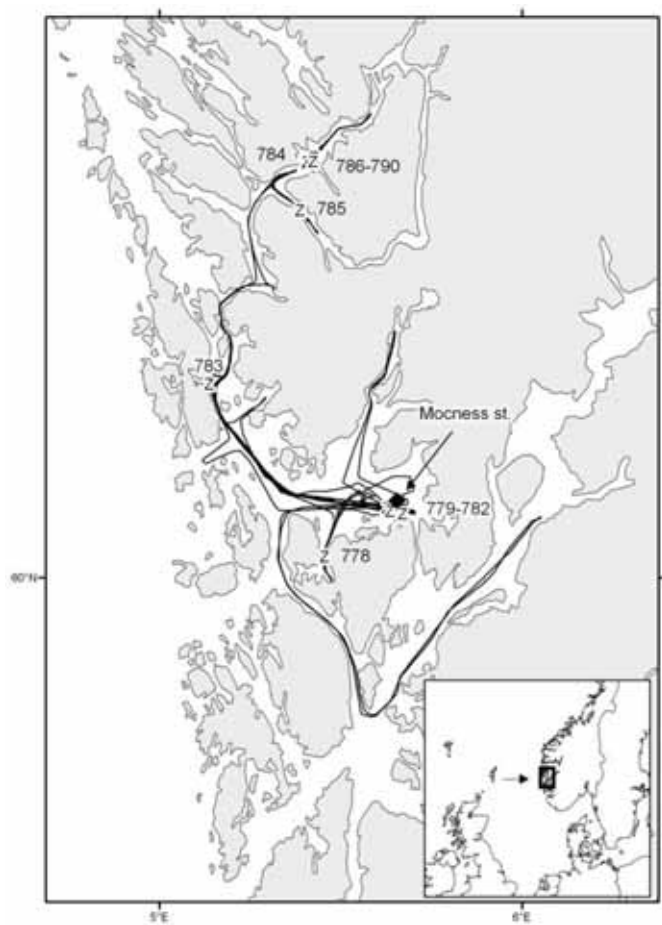
Trawl st.no 507–587
 ▲ Pelagic trawl
 □ Bottom trawl



Cruise no 2009211
 "Johan Hjort"
 12–21 Nov 2009

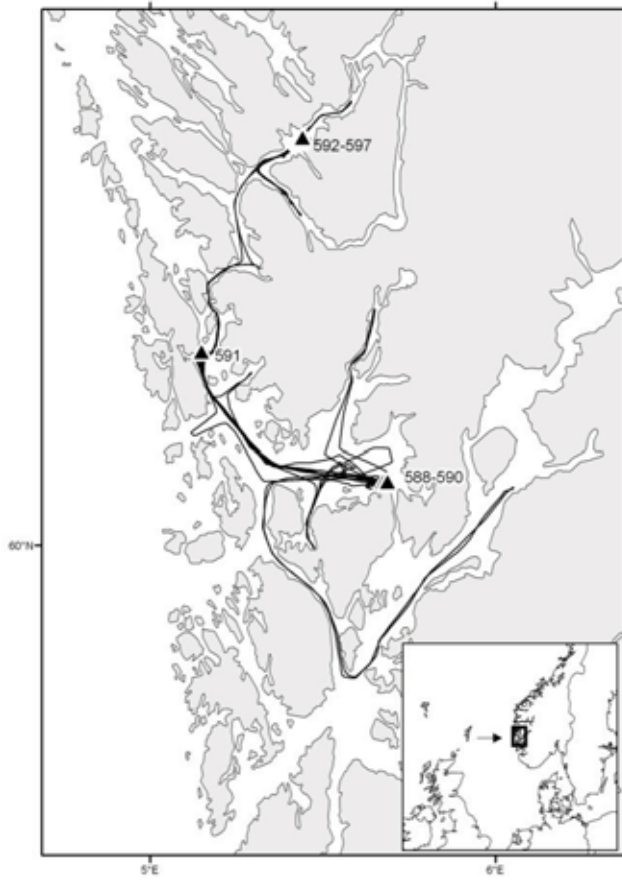
- z CTD st.no 699–777
- o Plankton st. (WP-II and WP-II)
- ◆ Plankton st. (Mocness)

Standard sections:
 Fedje–Shetland st.no 699–722
 Utsira–W st.no 723–754
 Oksøy–Hanstholm st.no 755–765
 Hanstholm–Aberdeen (partly) st.no 766–777



Cruise no 2009212
 "Johan Hjort"
 23 Nov–4 Dec 2009

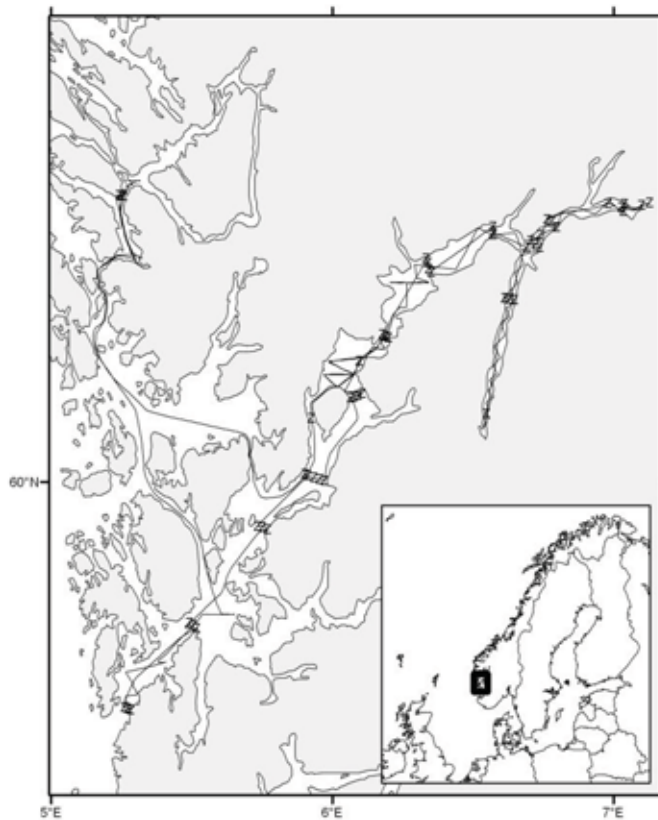
- z CTD st.no 778–790
- ◆ Plankton st. (Mocness)



Cruise no 2009212
"Johan Hjort"
23 Nov–4 Dec 2009

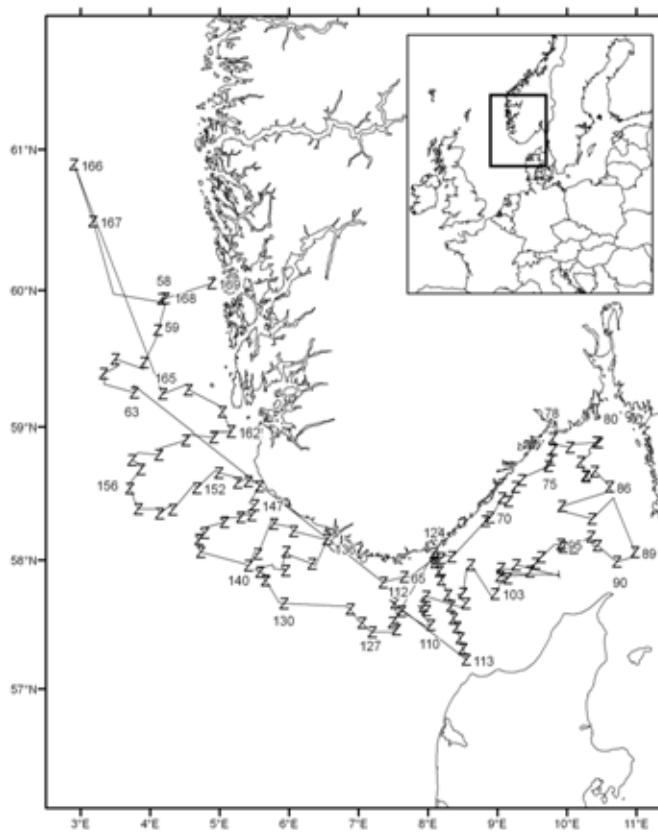
▲ Pelagic trawl st.no 588–597

4.3 Håkon Mosby



Cruise no 2009602
“Håkon Mosby”
19–23 Jan 2009

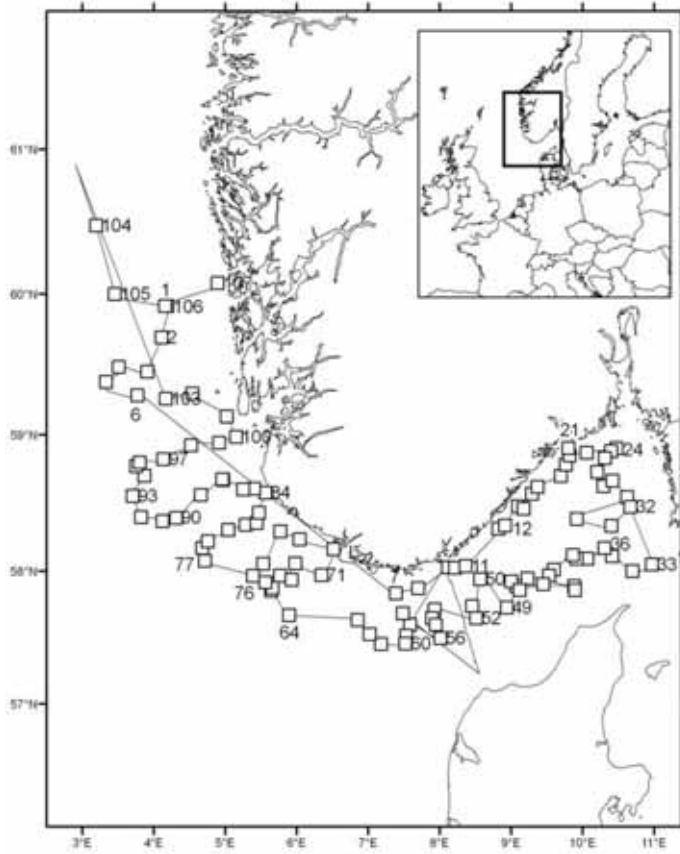
z CTD st.no 1–57



Cruise no 2009603
“Håkon Mosby”
24 Jan–12 Feb 2009

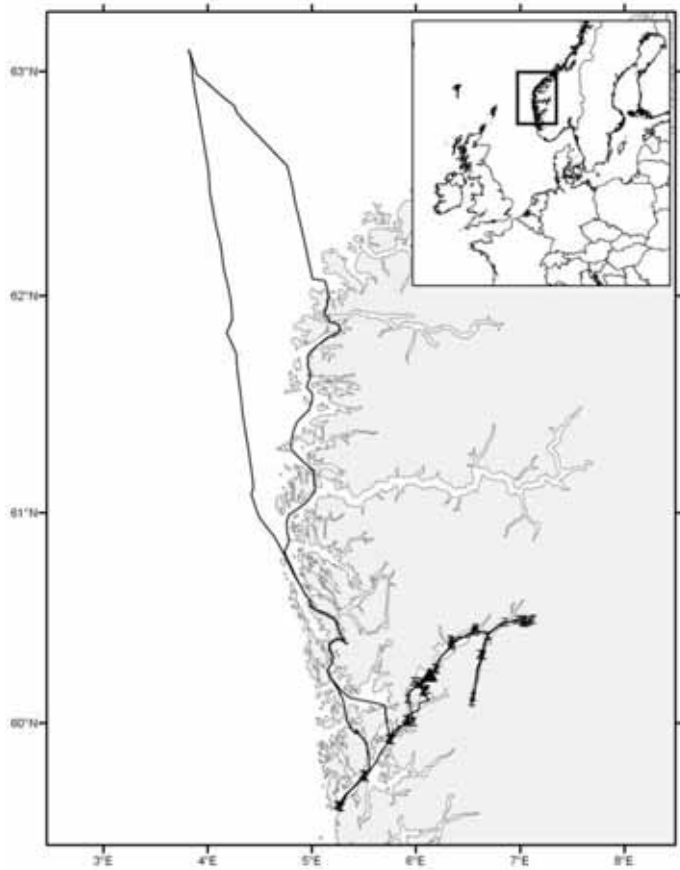
z CTD st.no 58–169

Standard section:
Oksøy–Hanstholm st.no 113–124



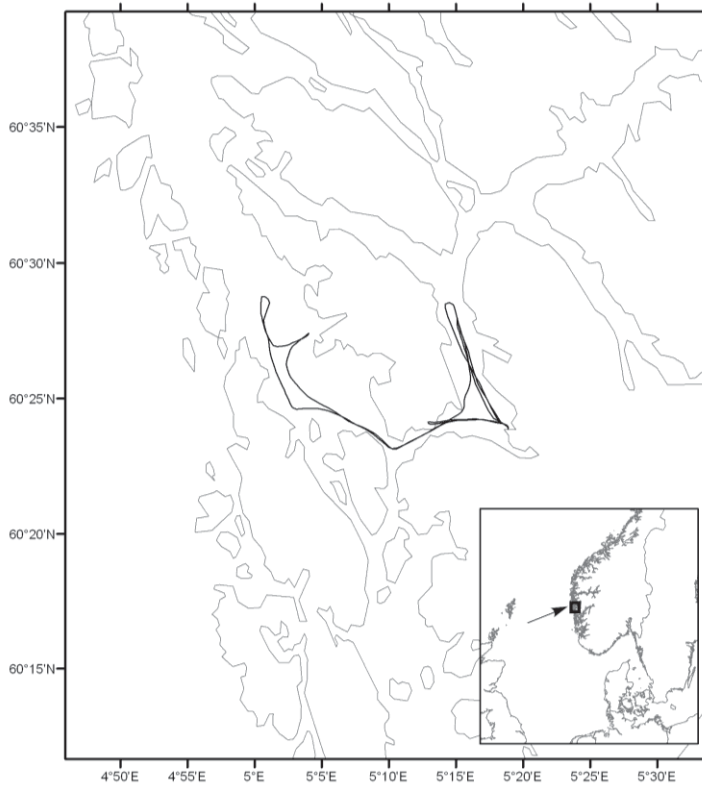
Cruise no 2009603
 “Håkon Mosby”
 24 Jan–12 Feb 2009

□ Bottom trawl st.no 1–107



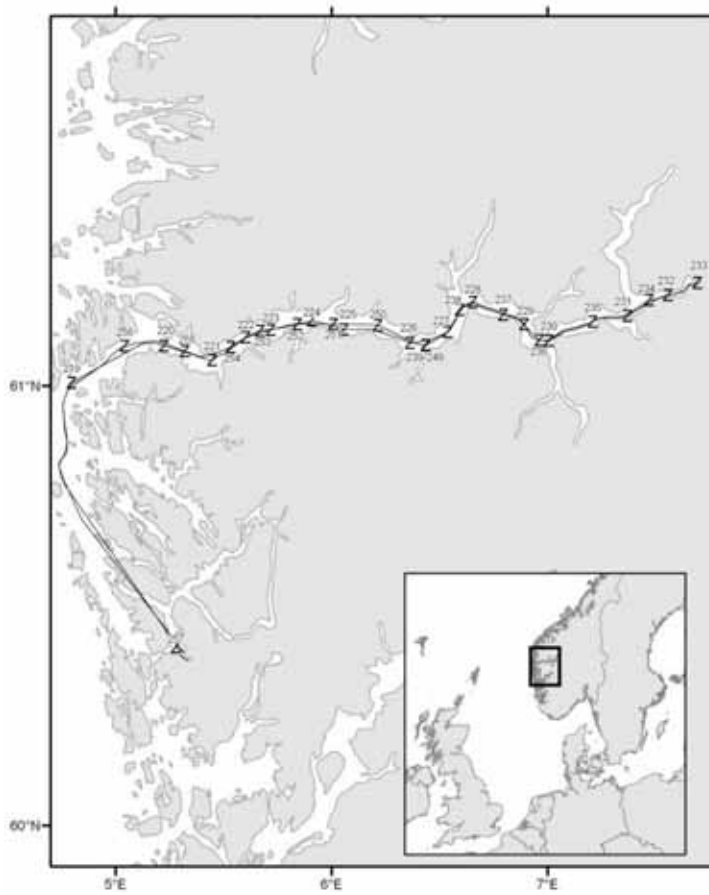
Cruise no 2009604
 “Håkon Mosby”
 23 Feb–2 Mar 2009

z CTD st.no 170–218
 ▲ Recovery of one current meter



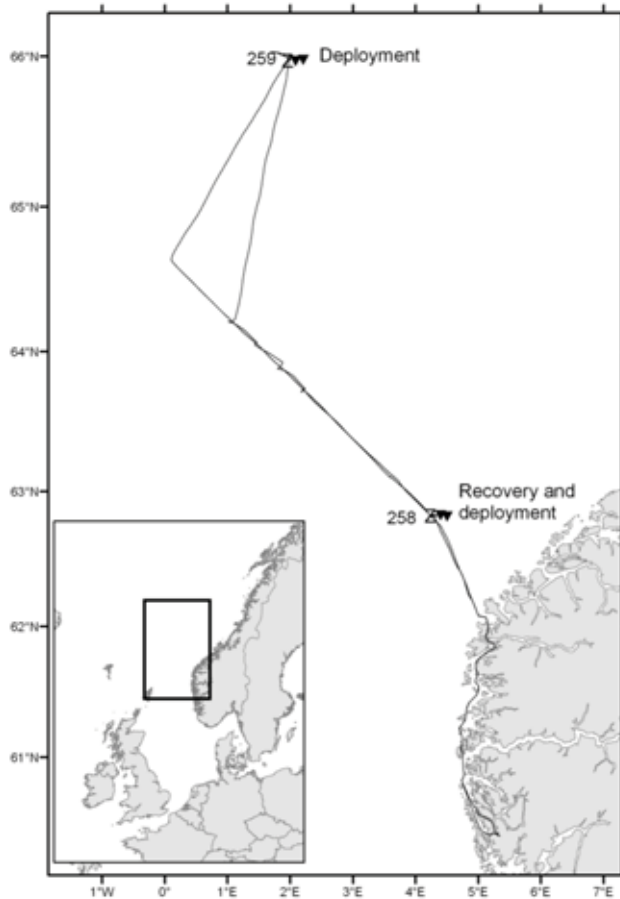
Cruise no 2009605
 “Håkon Mosby”
 11–13 Mar 2009

Cruise track



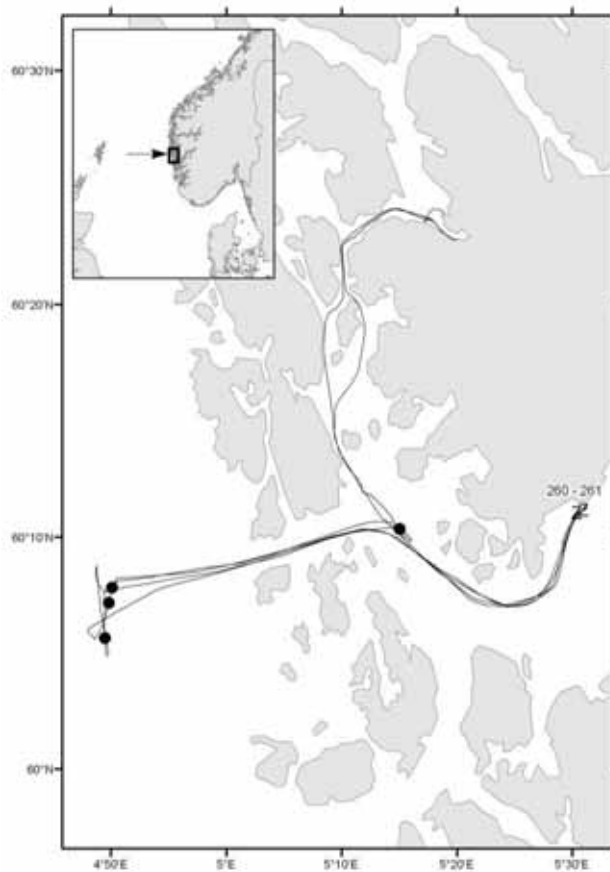
Cruise no 2009606
 “Håkon Mosby”
 14–16 Mar 2009

z CTD st.no 219–257



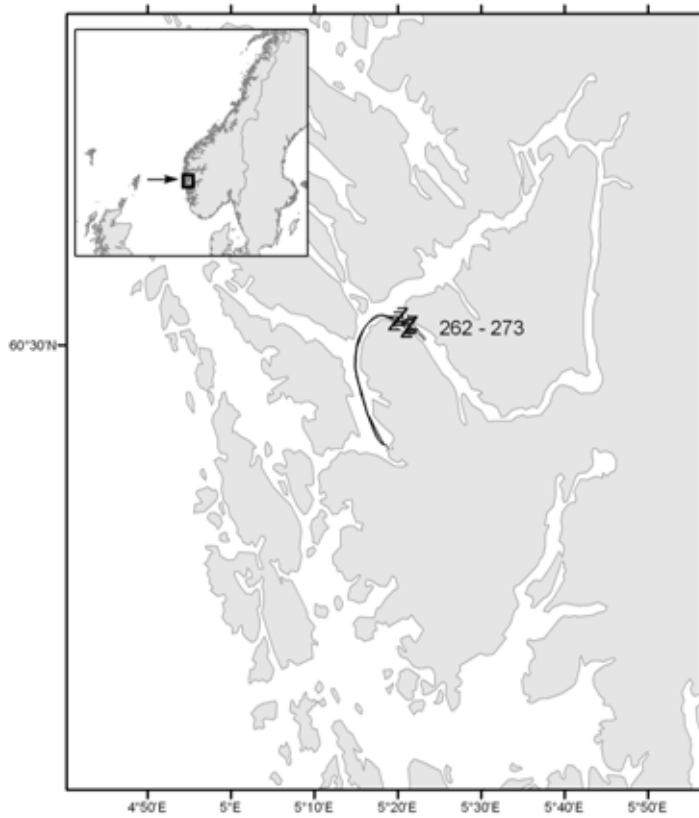
Cruise no 2009607
 “Håkon Mosby”
 17–22 Mar 2009

z CTD st.no 258–259
 ▼ Deployment and recovery
 of moorings



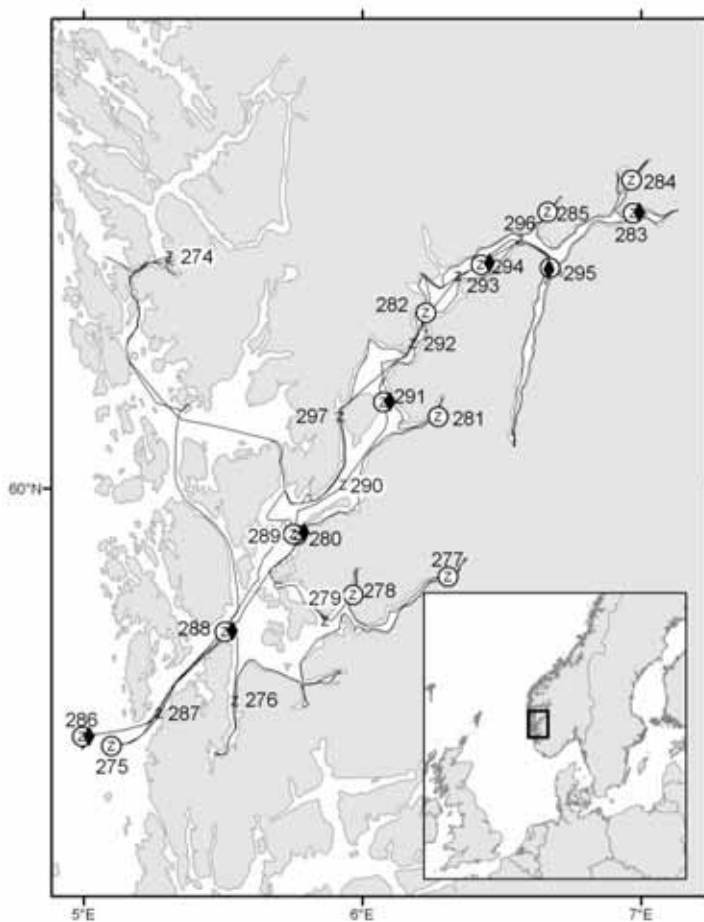
Cruise no 2009608
 “Håkon Mosby”
 27–29 Mar 2009

z CTD st.no 260–261
 ● Agassiz trawl



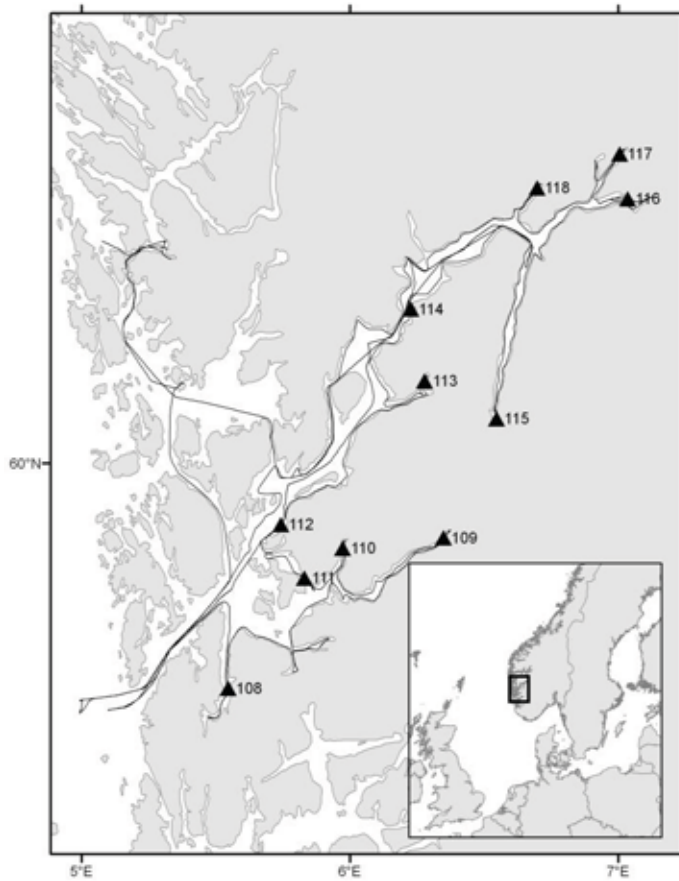
Cruise no 2009609
 “Håkon Mosby”
 30–31 Mar 2009

z CTD st.no 262–273



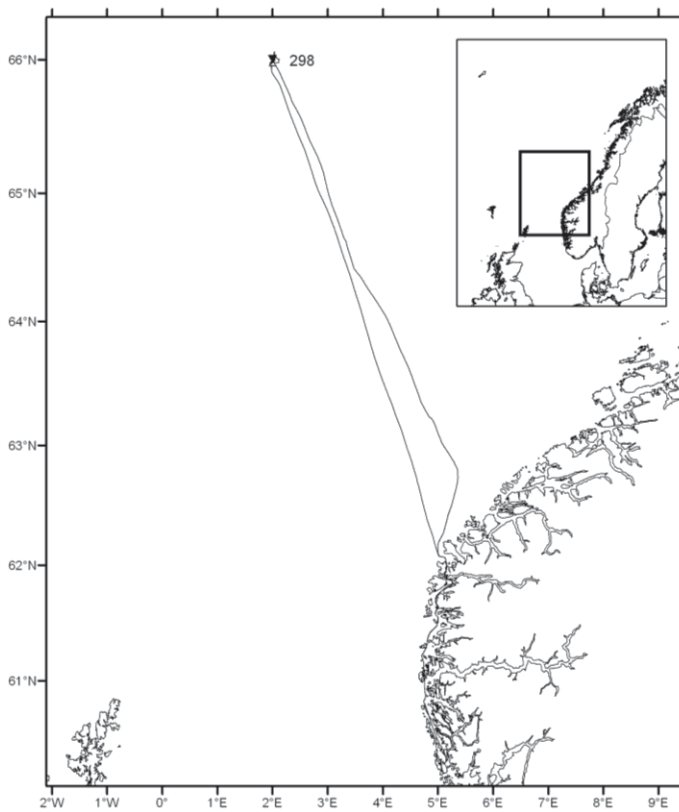
Cruise no 2009610
 “Håkon Mosby”
 3–8 Apr 2009

z CTD st.no 274–297
 o Plankton st. (WP-II-net)
 ◆ Plankton st. (Mocness)



Cruise no 2009610
 “Håkon Mosby”
 3–8 Apr 2009

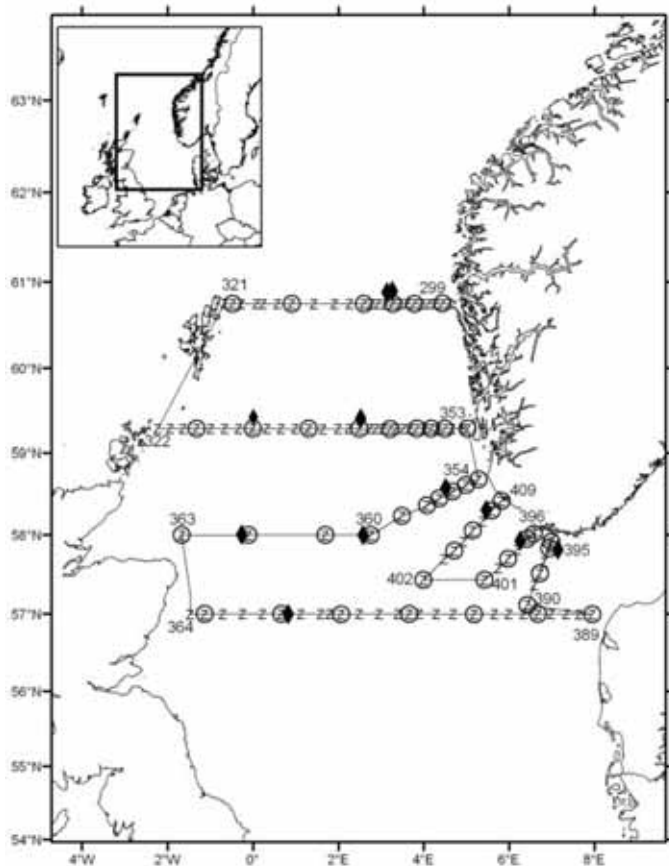
▲ Pelagic trawl st.no 108–118



Cruise no 2009630
 “Håkon Mosby”
 8–12 Dec 2009

z CTD st.no 298

▼ Recovery of the monitoring-
 Mooring ans MMP-mooring

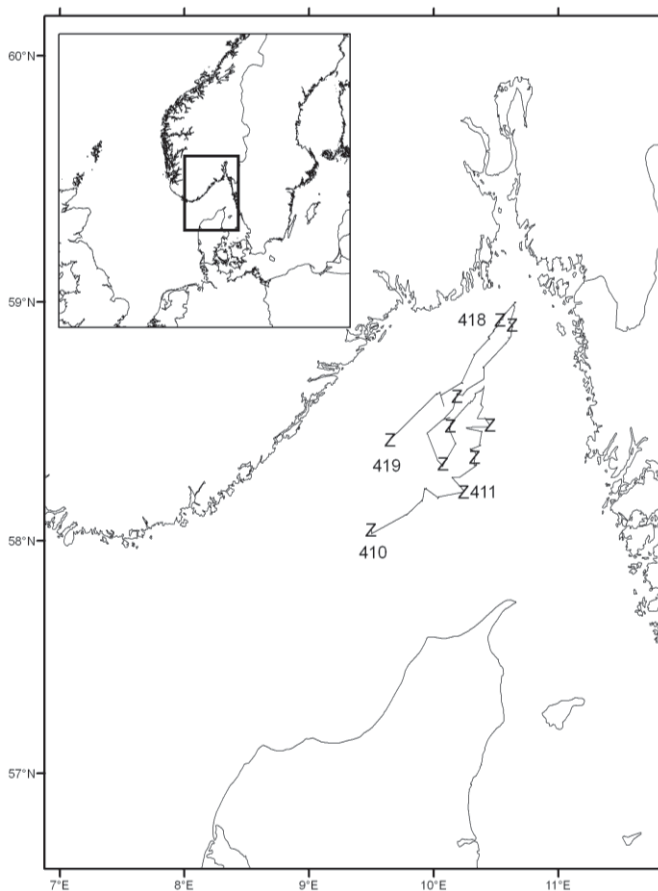


Cruise no 2009611
 “Håkon Mosby”
 14–24 Apr 2009

- z CTD st.no 299–409
- o Plankton st. (WP-II-net)
- ♦ Plankton st. (Mocness)

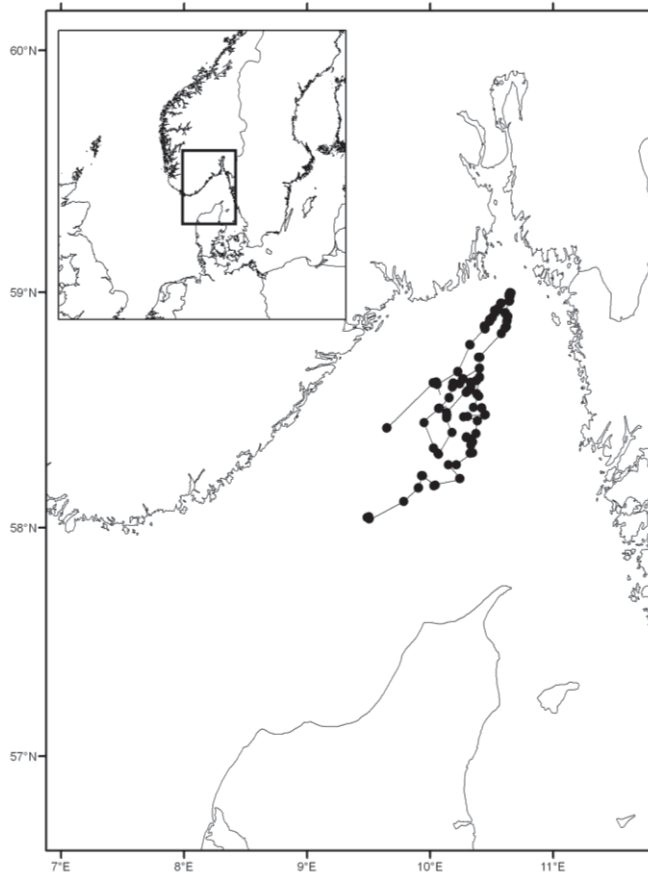
Standard sections:

Fedje–Shetland	st.no 299–321
Utsira–W	st.no 322–353
Jærens Rev SW	st.no 354–363
Hanstholm–Aberdeen	st.no 364–389
Egerøya SW	st.no 402–409
Lista SW	st.no 396–401
Lindesnes SSW	st.no 390–395



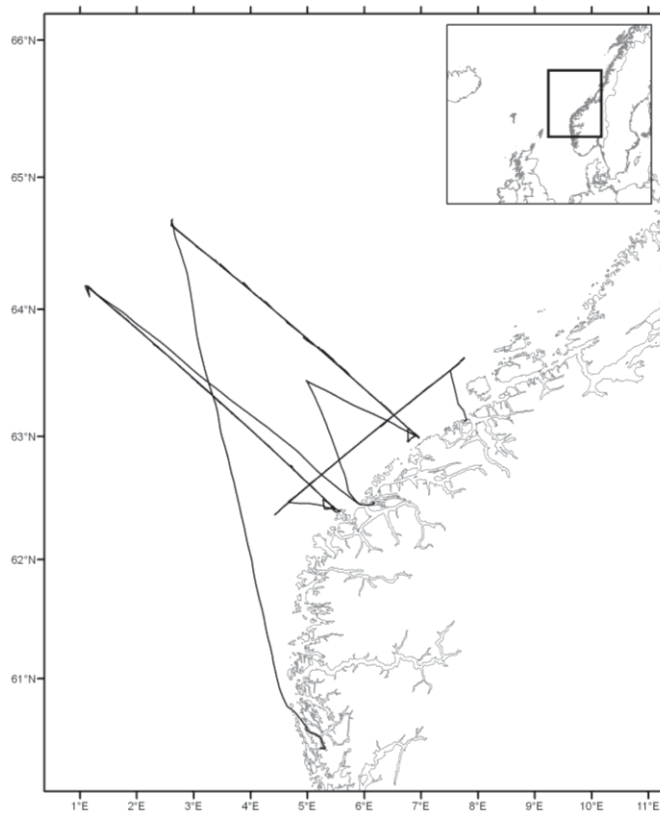
Cruise no 2009613
 “Håkon Mosby”
 11–22 May 2009

- z CTD st.no 410–419



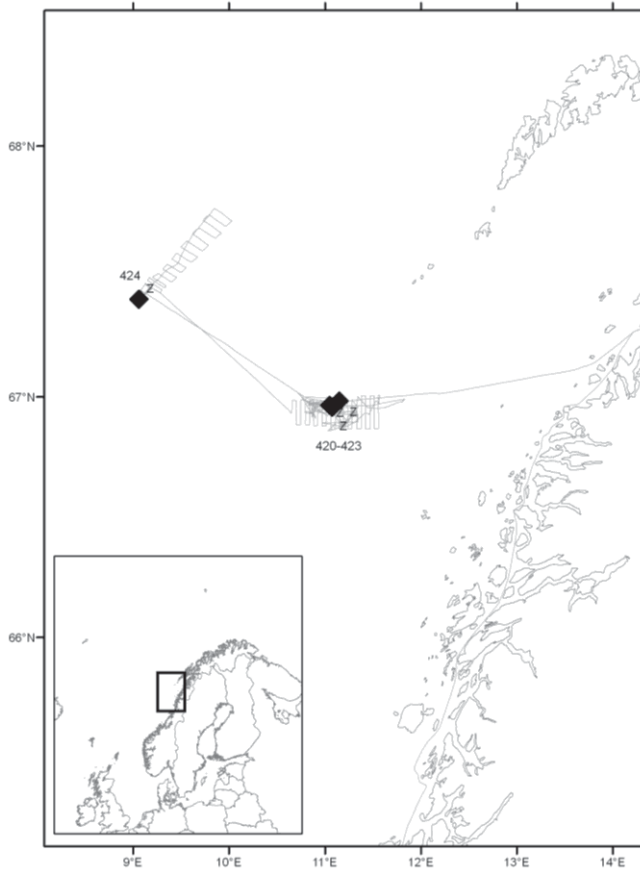
Cruise no 2009613
 “Håkon Mosby”
 11–22 May 2009

● Sledge stations



Cruise no 2009614
 “Håkon Mosby”
 24 May–9 June 2009

Crustal scale ocean bottom
 seismic survey

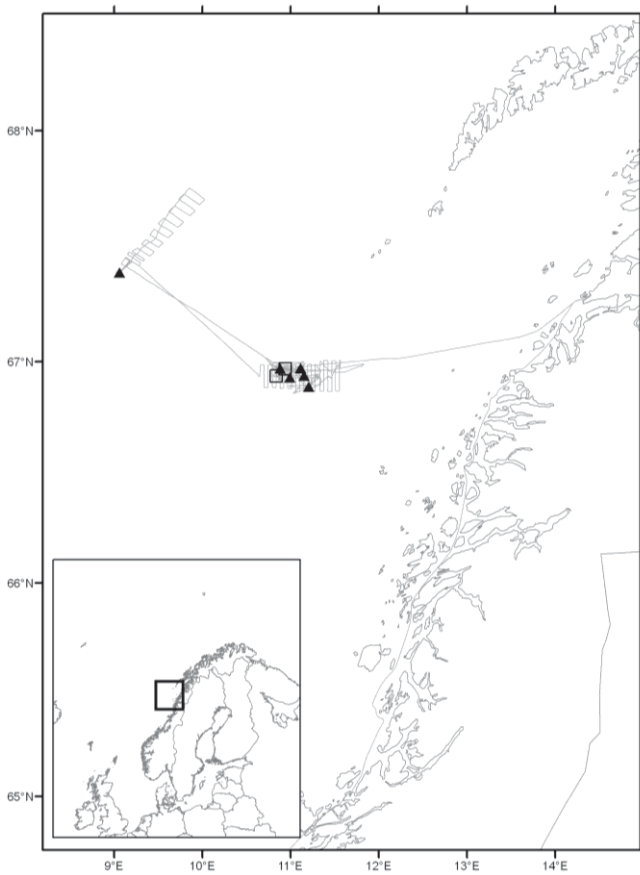


Cruise no 2009615
 “Håkon Mosby”
 10–20 June 2009

Video transects on and off reef
 habitats

z CTD st.no 420–424

◆ Plankton st. (Mocness)

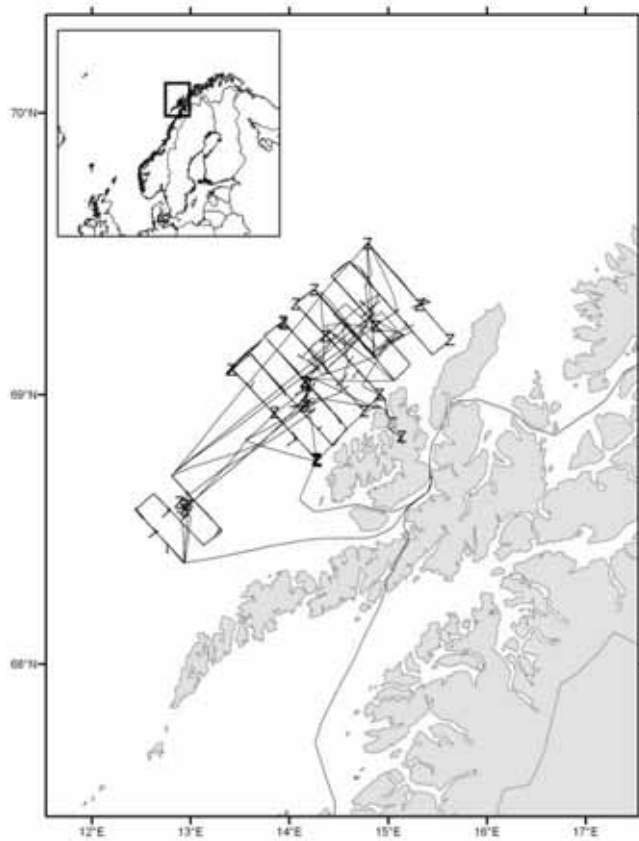


Cruise no 2009615
 “Håkon Mosby”
 10–20 June 2009

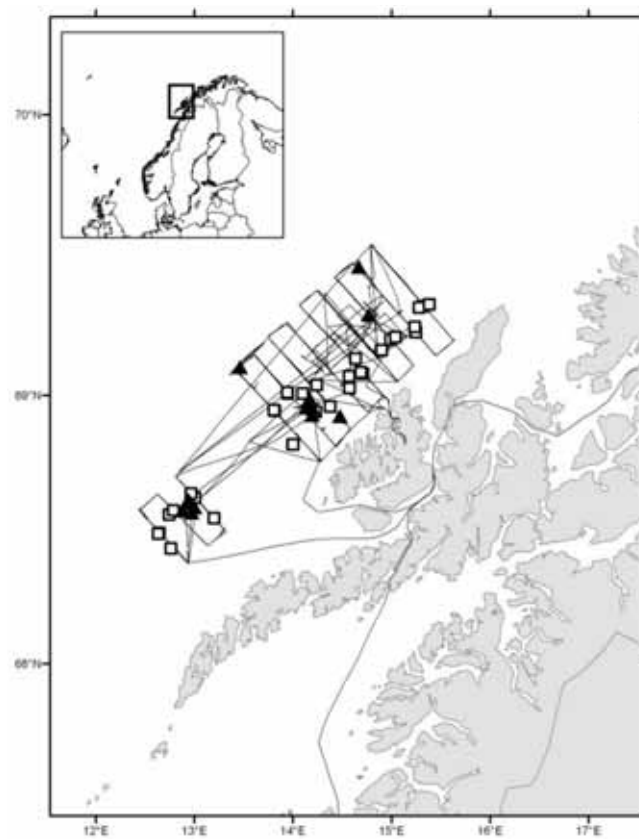
Trawl st.no 119–126

□ Bottom trawl

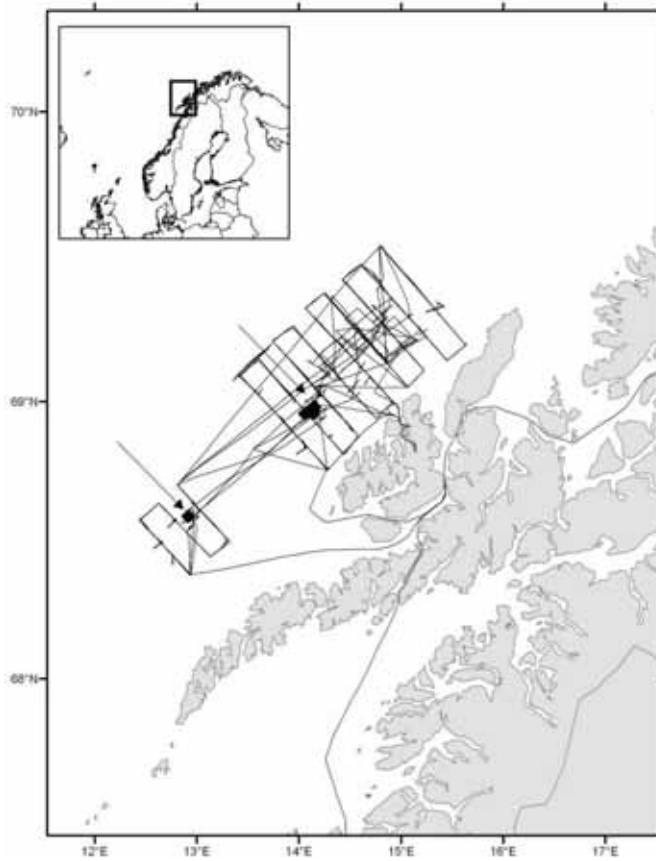
▲ Pelagic trawl



Cruise no 2009616
 “Håkon Mosby”
 21 June–11 July 2009
 z CTD st.no 425–451

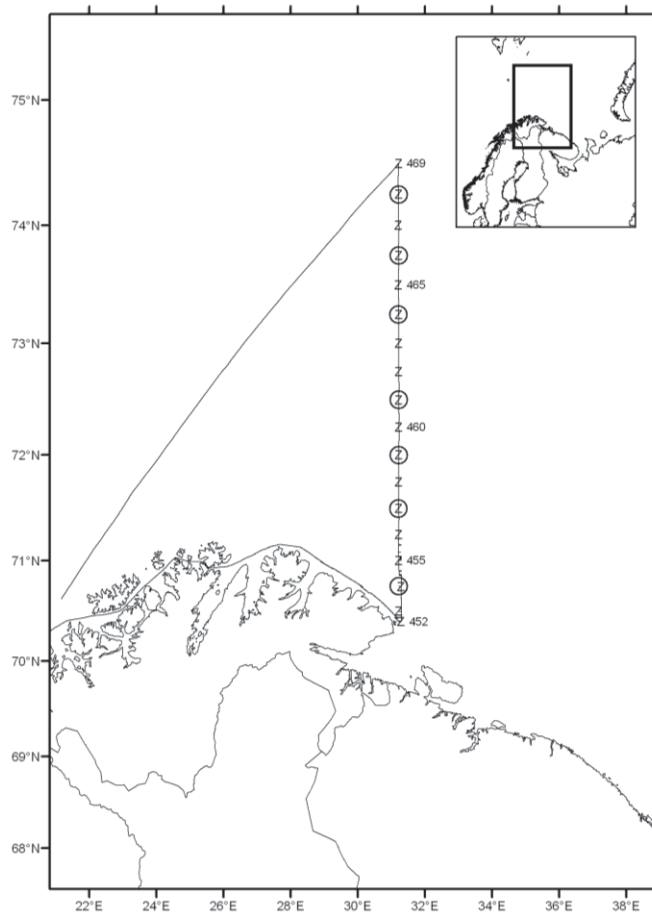


Cruise no 2009616
 “Håkon Mosby”
 21 June–11 July 2009
 Trawl st.no 135–188
 ▲ Pelagic trawl
 ◻ Bottom trawl



Cruise no 2009616
 “Håkon Mosby”
 21 June–11 July 2009

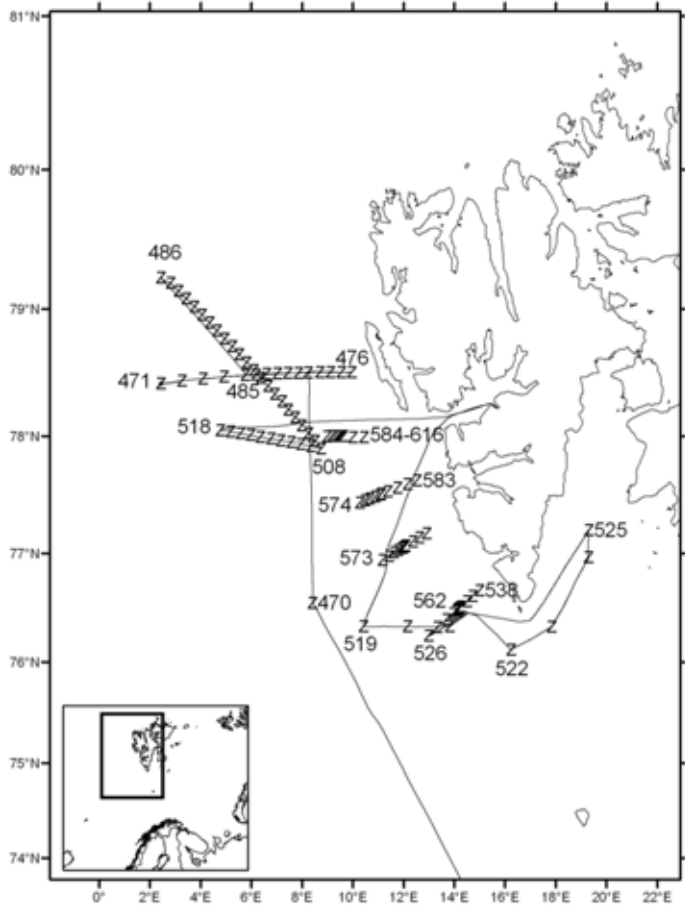
◆ Plankton stations (Mocness)



Cruise no 2009617
 “Håkon Mosby”
 12–16 July 2009

z CTD st.no 452–469
 o Plankton st. (WP-II-net)

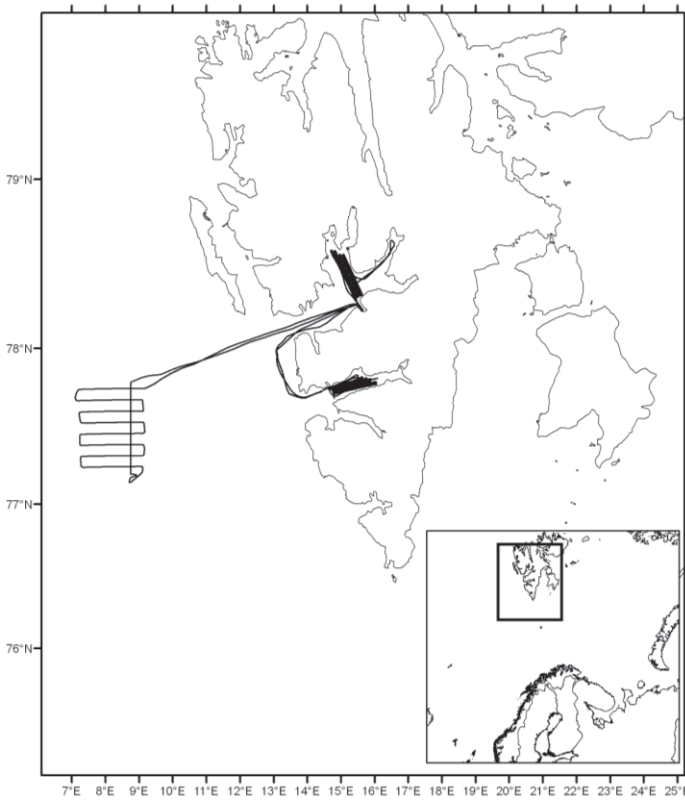
Standard section:
 Vardø-N st.no 452–469



Cruise no 2009619
 "Håkon Mosby"
 2–18 Aug 2009

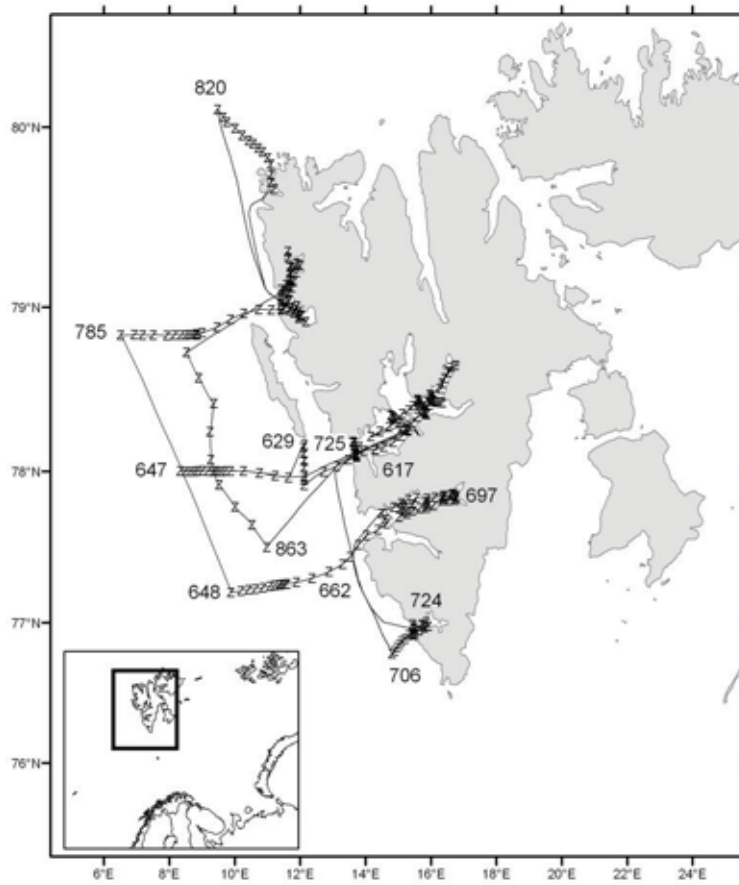
z CTD st.no 470–616

Standard section:
 Sørkapp-W st.no 519-521 and 527



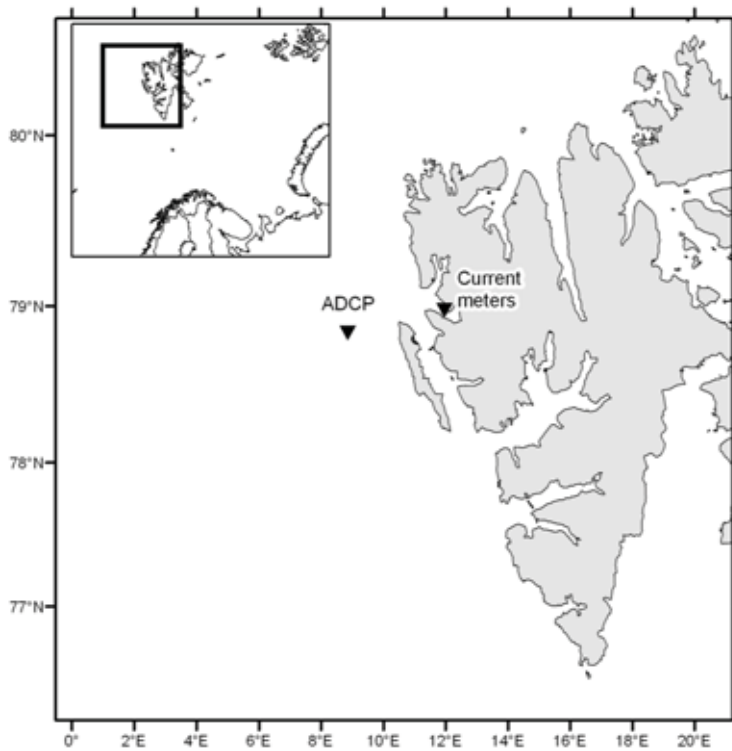
Cruise no 2009620
 "Håkon Mosby"
 20 Aug–4 Sep 2009

Education cruise



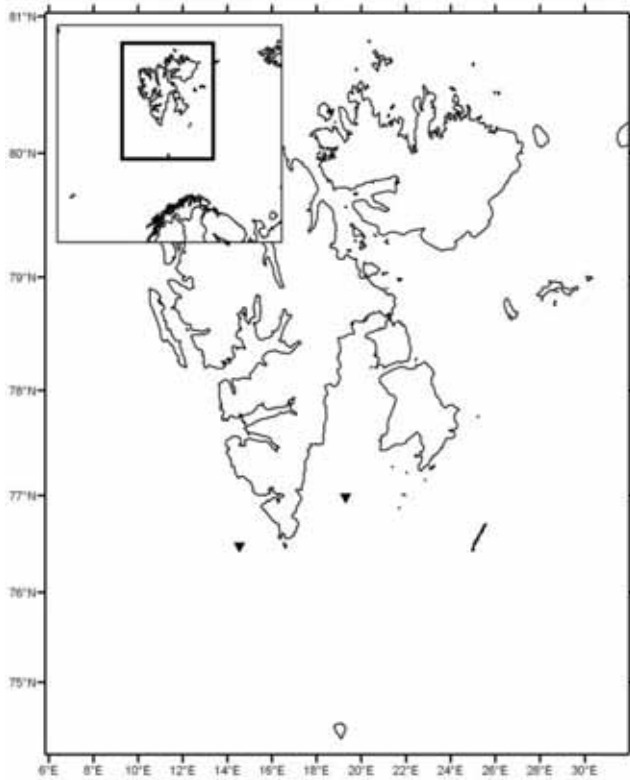
Cruise no 2009621
 “Håkon Mosby”
 5–15 Sep 2009

z CTD st.no 617–863



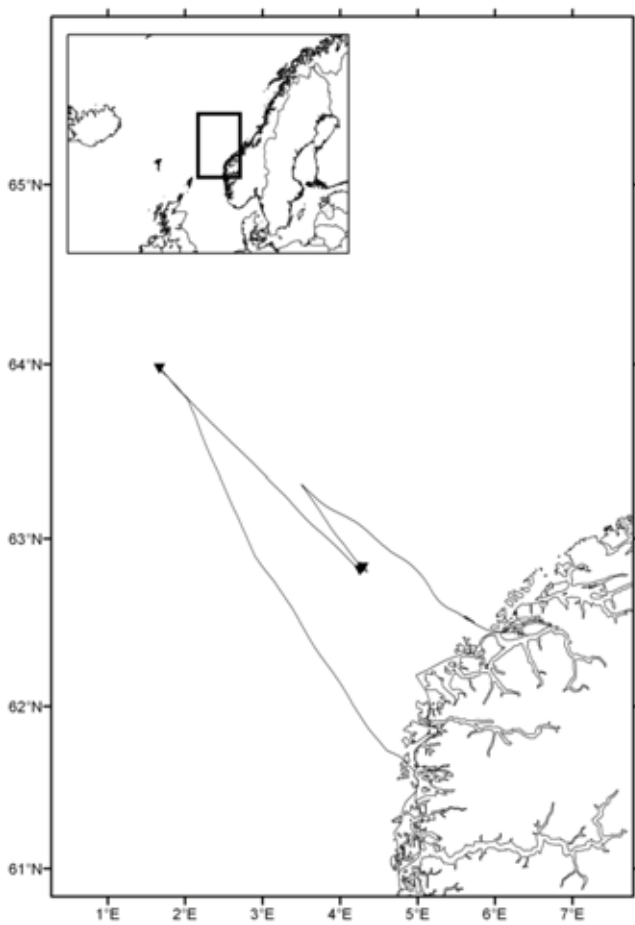
Cruise no 2009621
 “Håkon Mosby”
 5–15 Sep 2009

3 current meters speed
 direction temperature 1
 ADCP covering 220–60 m
 and CT in 84 and 152 m



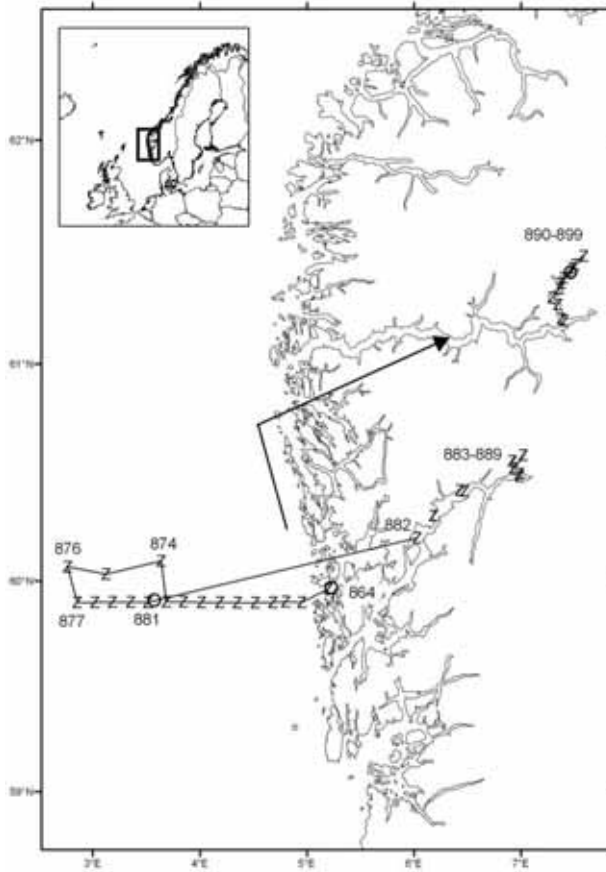
Cruise no 2009631
 “Håkon Mosby”
 17–20 Sep 2009

▼ Attempts to retrieve two
 moored bottom-frames



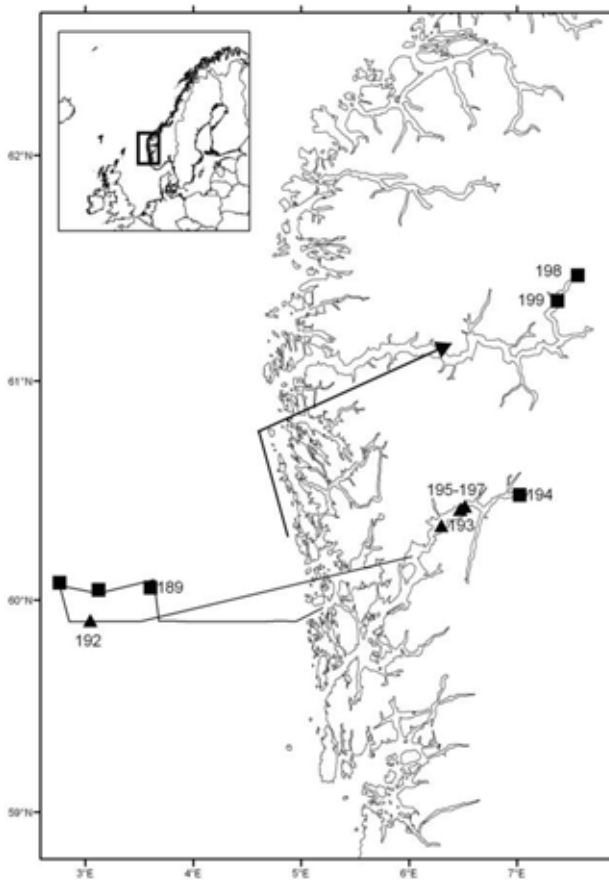
Cruise no 2009622
 “Håkon Mosby”
 27 Sep–1 Oct 2009

▼ Recovery and redeployment
 of mooring



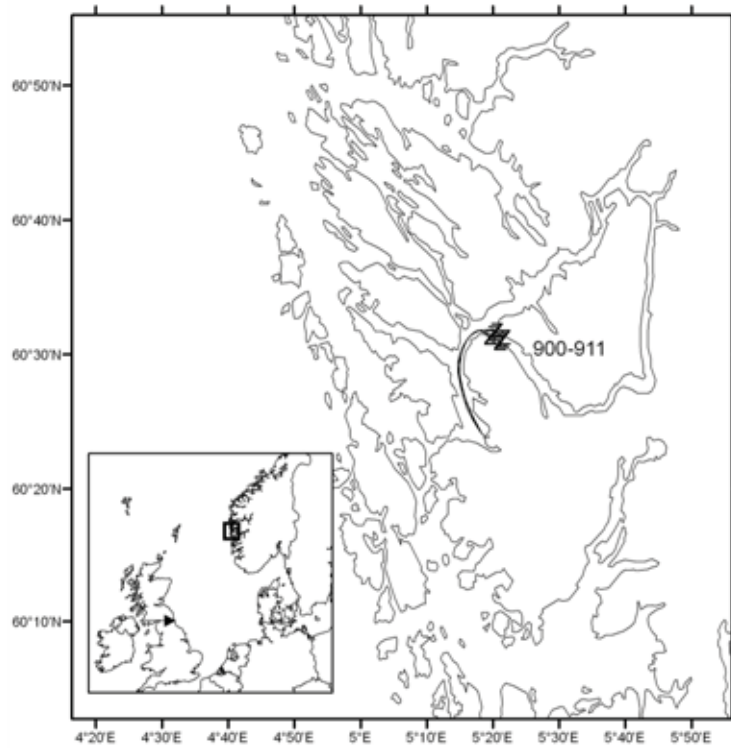
Cruise no 2009624
 "Håkon Mosby"
 4–10 Oct 2009

z CTD st.no 864–899
 o 3 Mik st. (Jivenile midwater
 pelagic trawl)
 Standard section:
 Slotterøy-W st.no 865–877



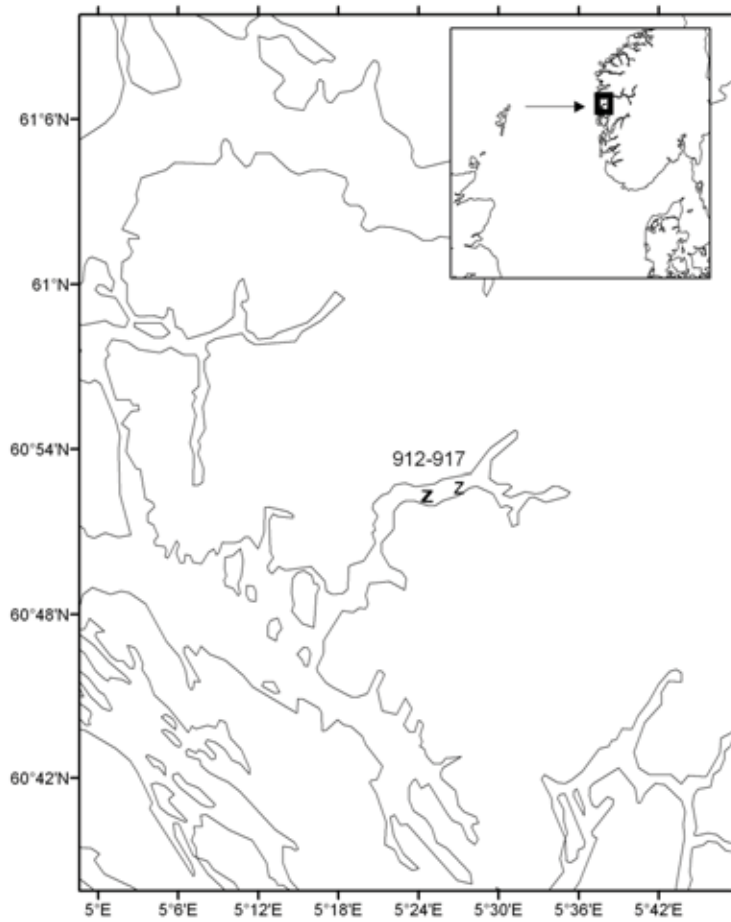
Cruise no 2009624
 "Håkon Mosby"
 4–10 Oct 2009

Trawl st.no 189–900
 ▲ Pelagic trawl
 ■ Bottom trawl



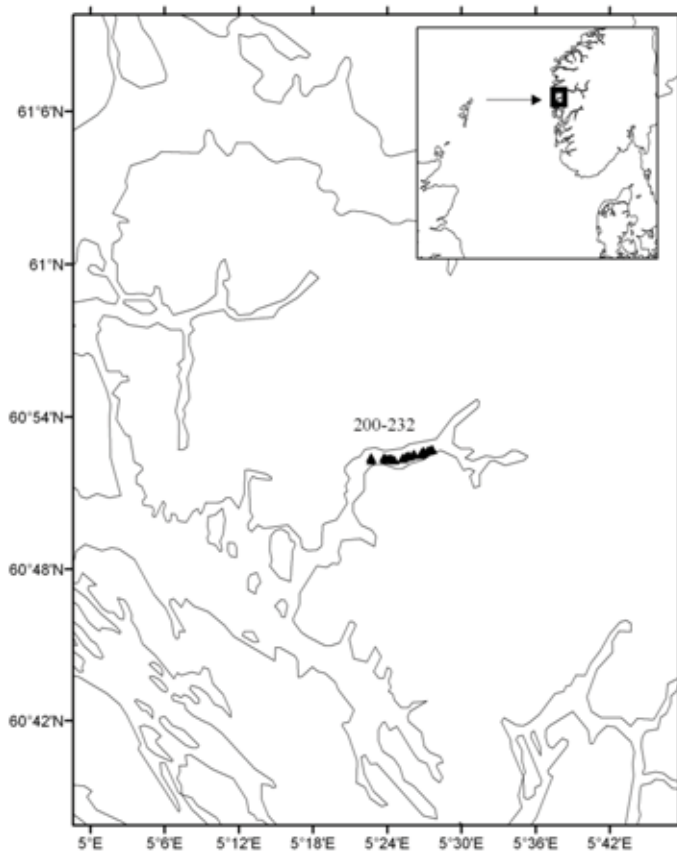
Cruise no 2009625
 “Håkon Mosby”
 12–13 Oct 2009

z CTD st.no 900–911



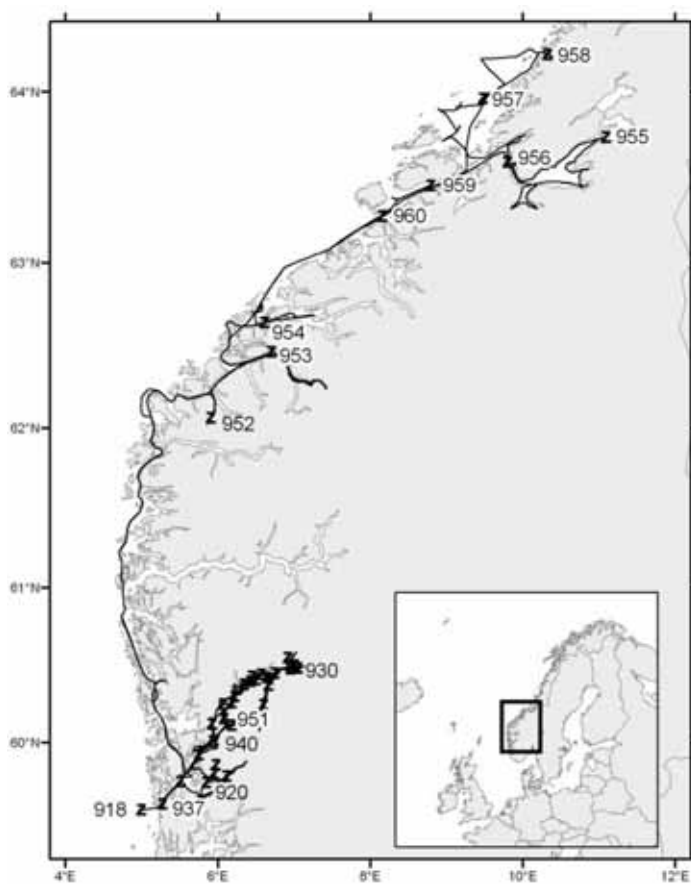
Cruise no 2009626
 “Håkon Mosby”
 15–18 Oct 2009

z CTD st.no 912–917



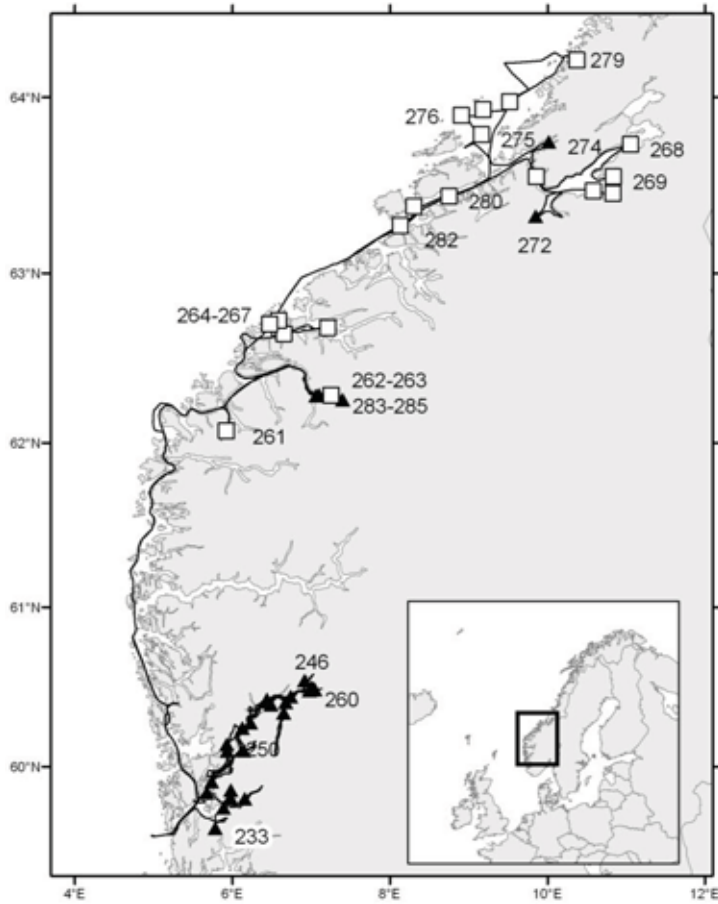
Cruise no 2009626
 "Håkon Mosby"
 15–18 Oct 2009

▲ Pelagic trawl st.no 200–232



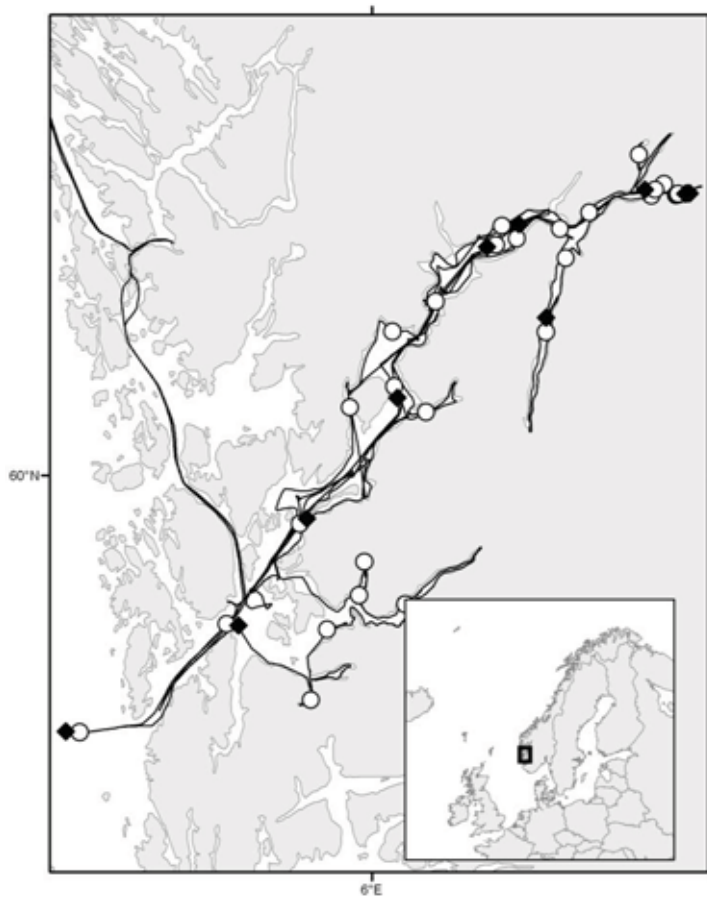
Cruise no 2009629
 "Håkon Mosby"
 21 Nov–7 Dec 2009

z CTD st.no 918–960



Cruise no 2009629
 “Håkon Mosby”
 21 Nov–7 Dec 2009

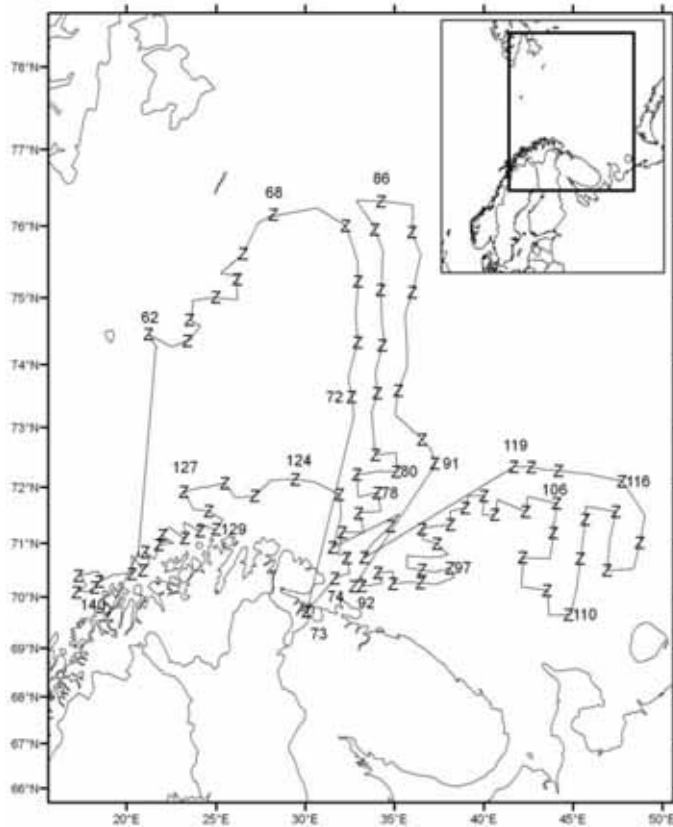
Trawl st.no 233–285
 ▲ Pelagic trawl
 □ Bottom trawl



Cruise no 2009629
 “Håkon Mosby”
 21 Nov–7 Dec 2009

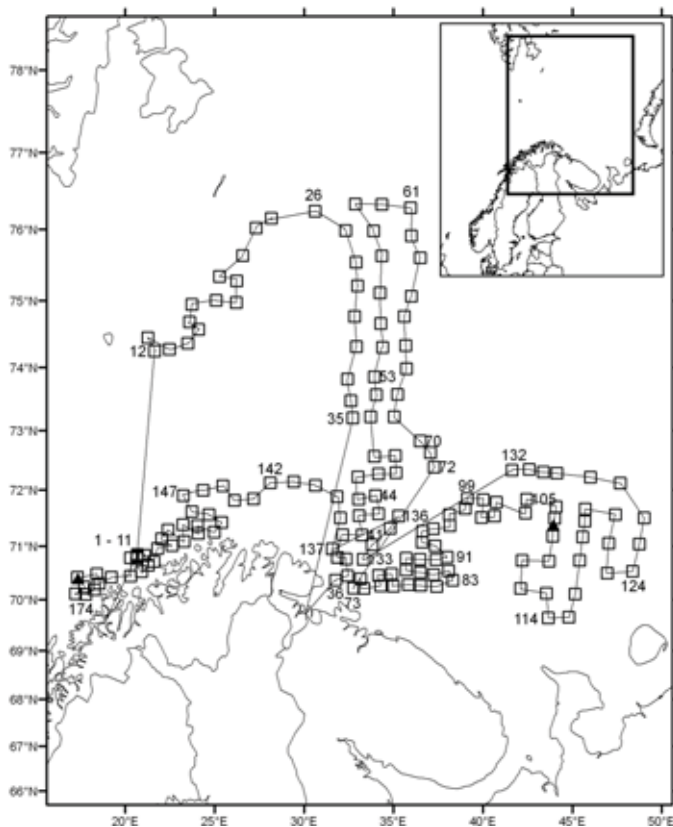
○ Plankton st. (WP-II-net)
 ◆ Plankton st. (Mocness)

4.4 Jan Mayen



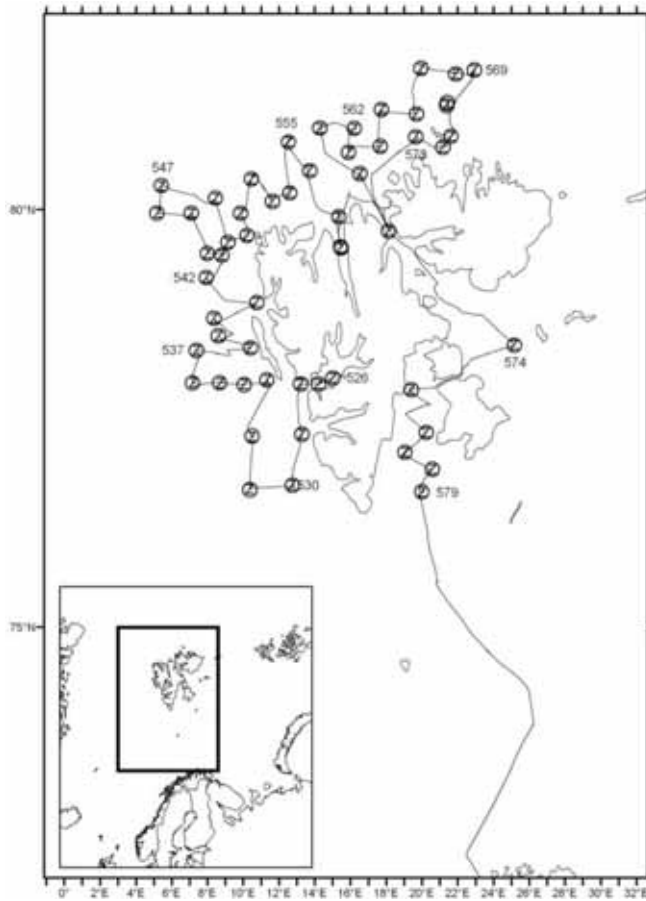
Cruise no 2009701
 “Jan Mayen”
 1 Feb–8 Mar 2009

z CTD st.no 62–140



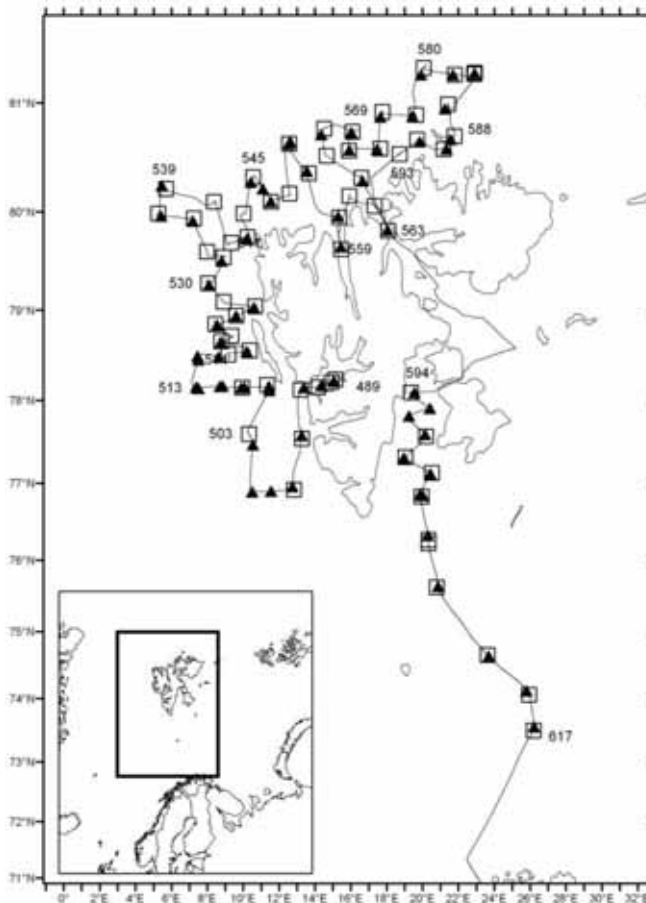
Cruise no 2009701
 “Jan Mayen”
 1 Feb–8 Mar 2009

Trawl st.no 1–174
 □ Bottom trawl
 ▲ Pelagic trawl



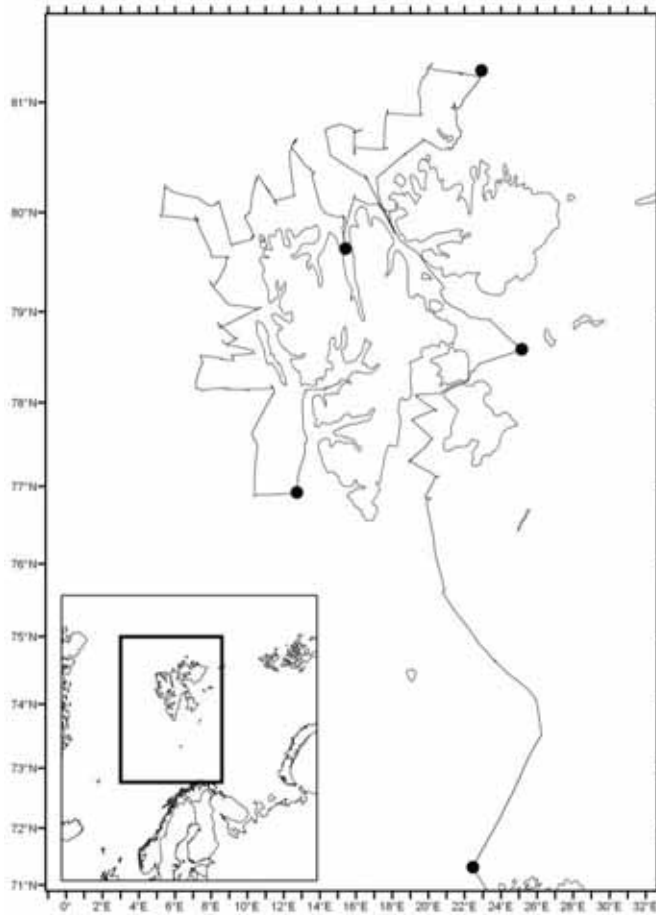
Cruise no 2009702
 “Jan Mayen”
 10–27 Sep 2009

z CTD st.no 526–579
 o Plankton (WP-II-net)



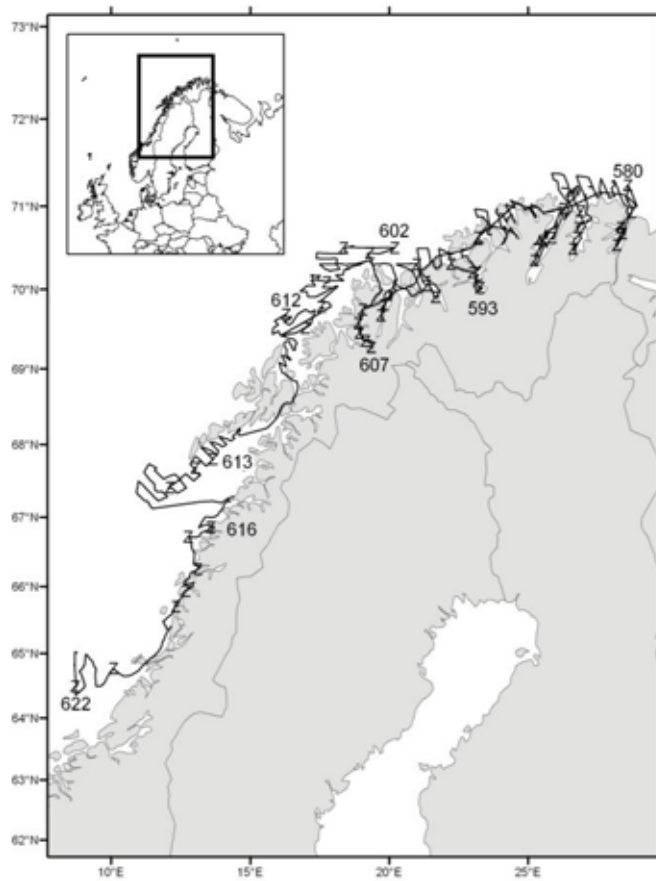
Cruise no 2009702
 “Jan Mayen”
 10–27 Sep 2009

Trawl st.no 489–617
 ▲ Pelagic trawl
 ◻ Bottom trawl



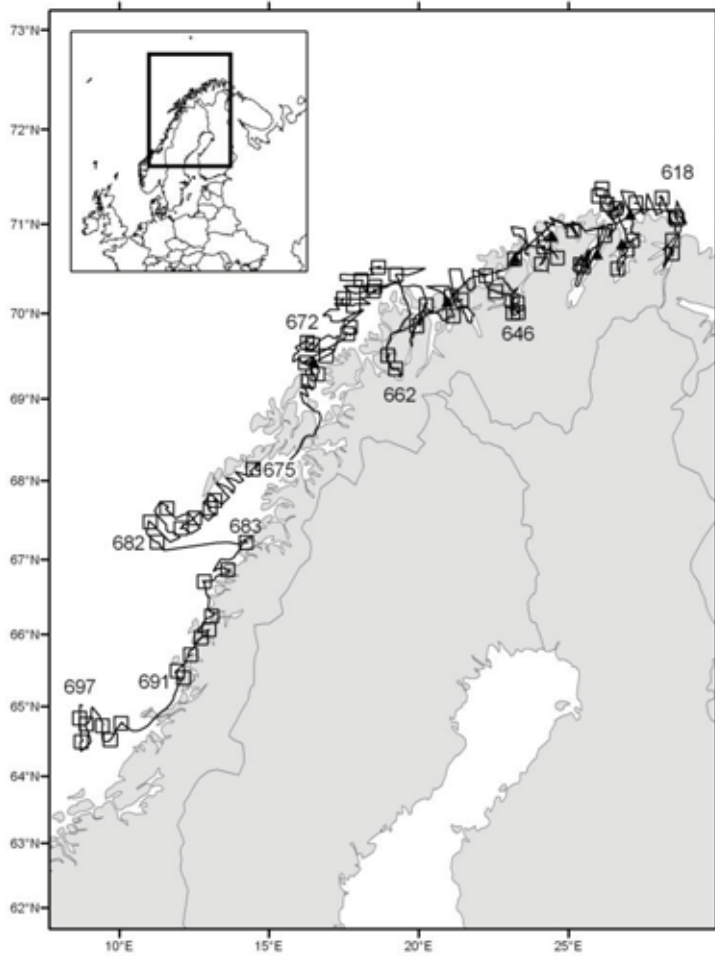
Cruise no 2009702
 “Jan Mayen”
 10–27 Sep 2009

● Grab stations



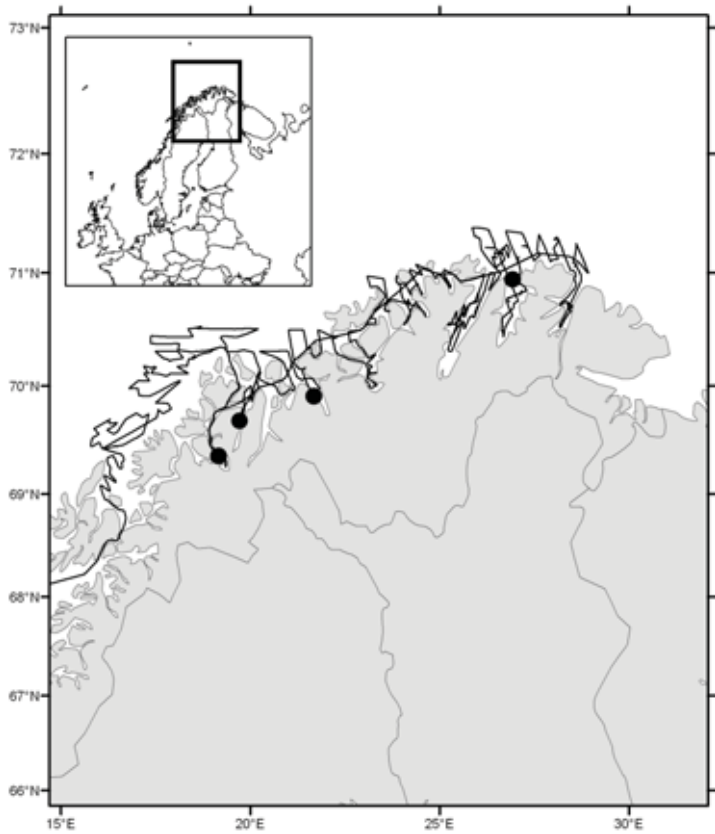
Cruise no 2009703
 “Jan Mayen”
 28 Sep–18 Oct 2009

z CTD st.no 580–622



Cruise no 2009703
 “Jan Mayen”
 28 Sep–18 Oct 2009

Trawl st.no 618–697
 ▲ Pelagic trawl
 □ Bottom trawl

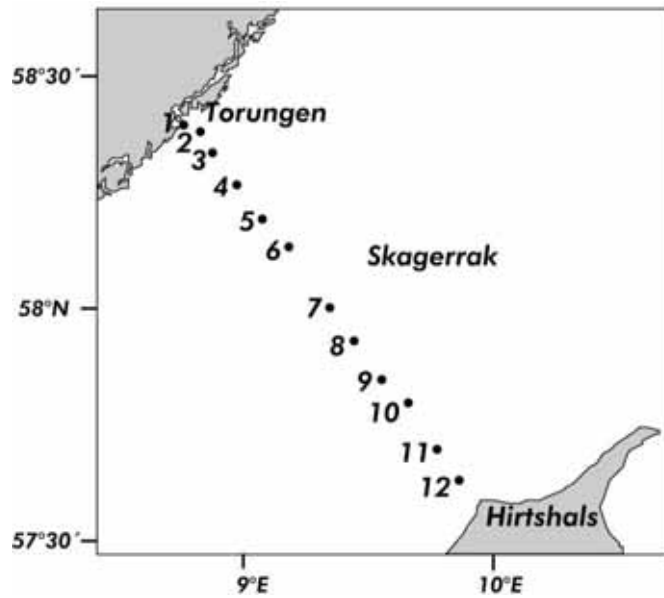


Cruise no 2009703
 “Jan Mayen”
 28 Sep–18 Oct 2009

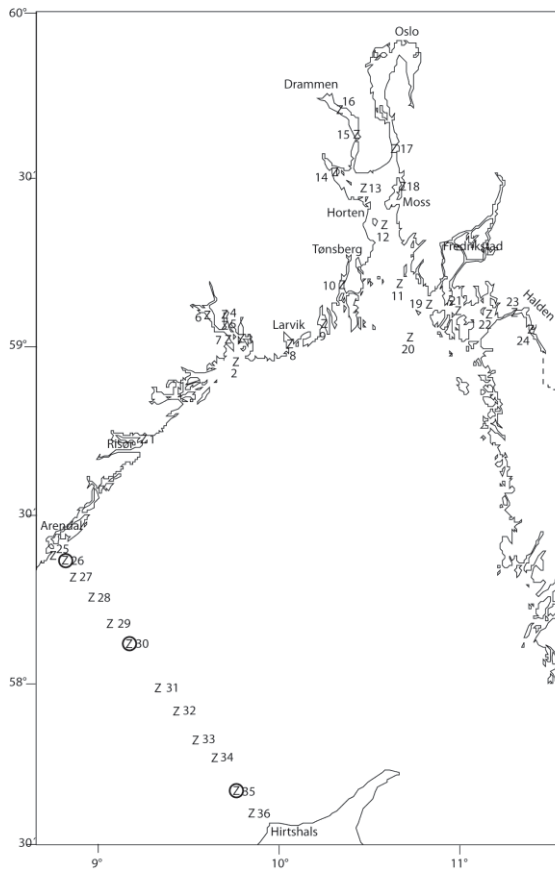
● Grab stations

4.5 G.M. Dannevig

Standard section Torungen–Hirtshals 2009

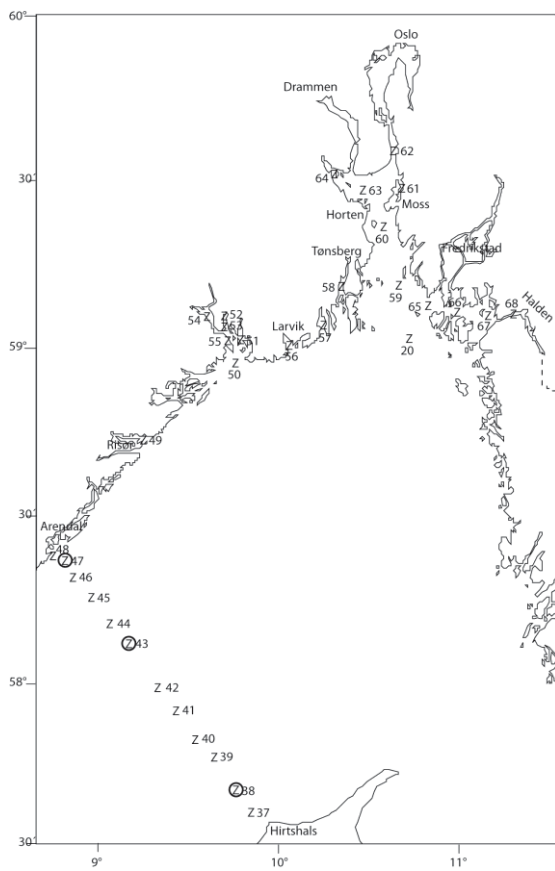


Month	Cruise no	CTD st. no	Comment
January	2009301	25 – 36	
February	2009302	37 - 48	
March	2009303	70 - 81	
April	2009305	127 - 138	
May	2009305	252 - 263	
June	2009306	264 - 275	
July	2009311	300 - 311	
August	2009308	417 - 428	
September	2009309	429 - 440	
October	2009309	-	Cancelled
November	2009310	-	Cancelled
December	2009310	499 - 510	



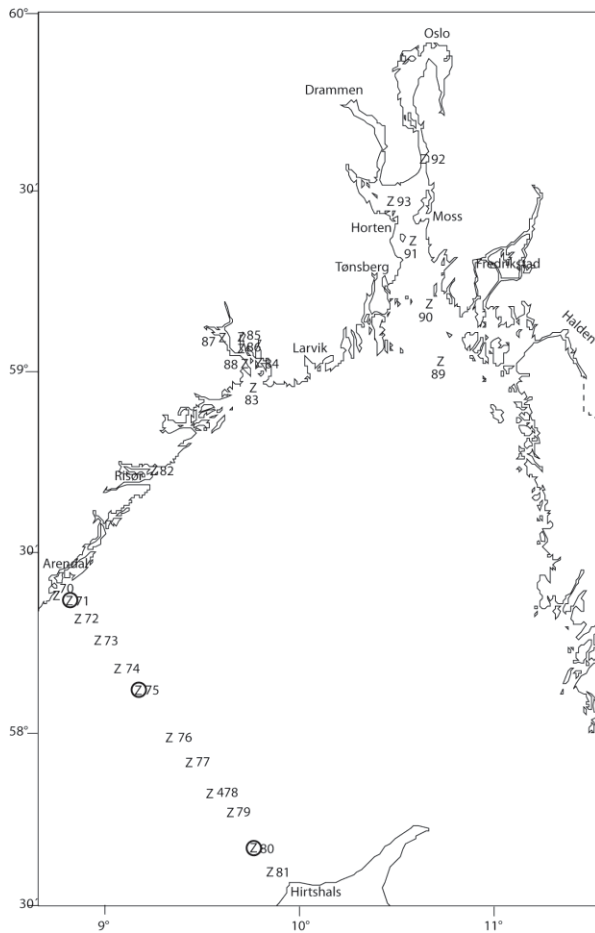
Cruise no 2009301
 “G.M. Dannevig”
 20–25 Jan 2009

z CTD st.no 1–36
 o Plankton st. (WP-II-net)



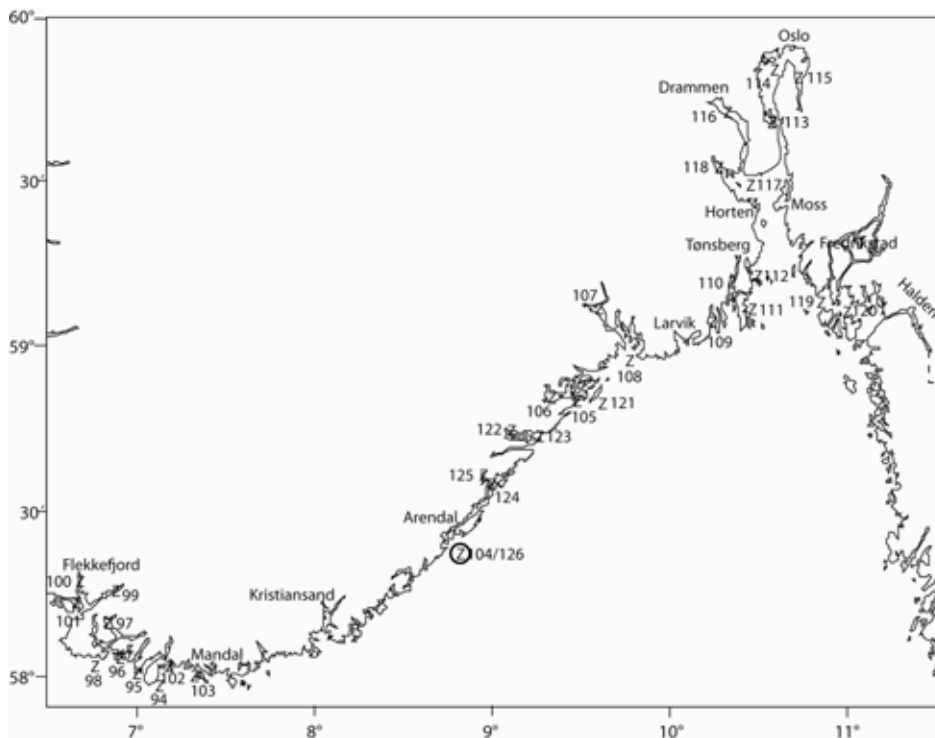
Cruise no 2009302
 “G.M. Dannevig”
 1–5 Feb 2009

z CTD st.no 37–69
 o Plankton st. (WP-II-net)



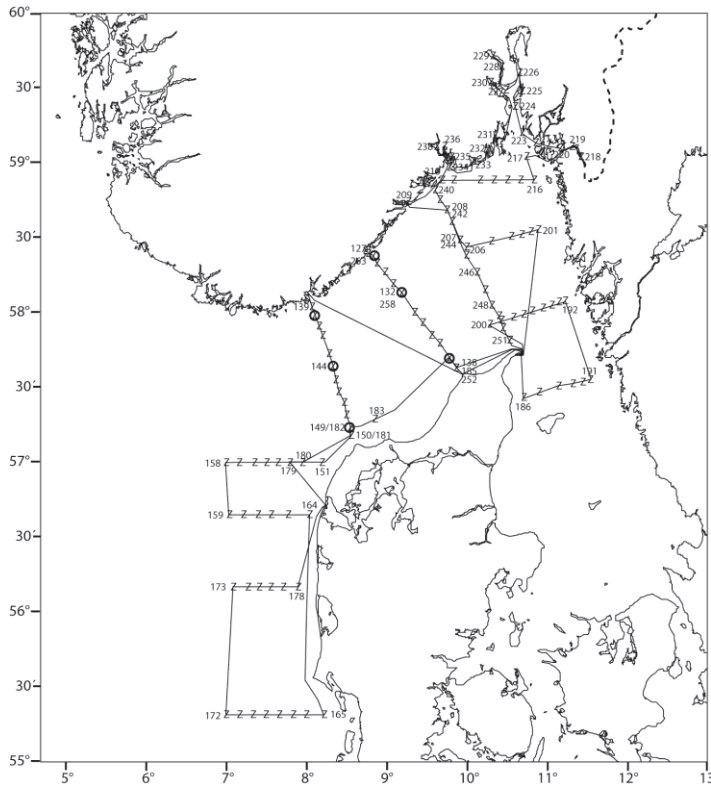
Cruise no 2009303
 “G.M. Dannevig”
 9–13 Mar 2009

z CTD st.no 70–93
 o Plankton st. (WP-II-net)



Cruise no 2009304
 “G.M. Dannevig”
 16 Mar–5 Apr 2009

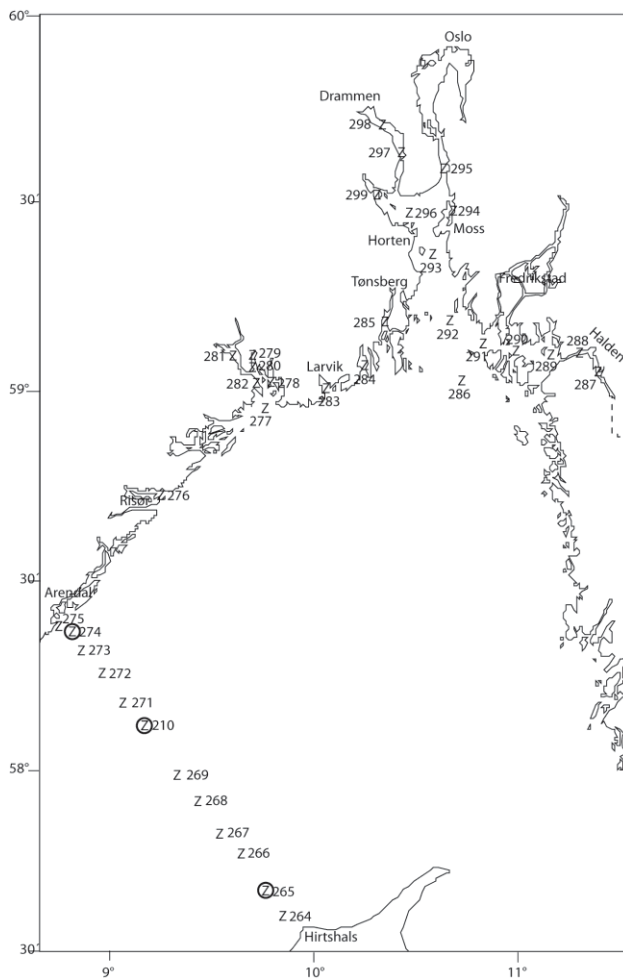
z CTD st.no 94–126
 o Plankton st. (WP-II-net)



Cruise no 2009305
 “G.M. Dannevig”
 21 Apr–10 May 2009

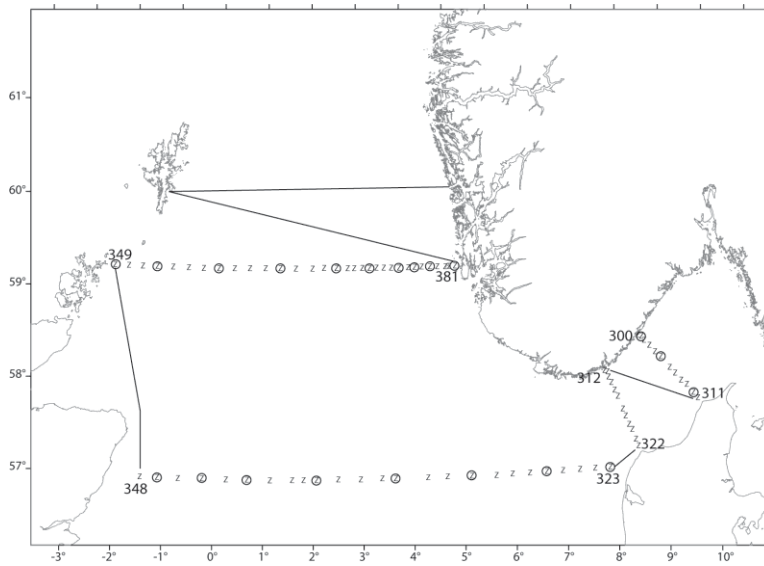
z CTD st.no 127–263
 o Plankton st. (WP-II-net)

Standard sections:
 Oksø–Hansthalm st.no 139–150
 Torungen–Hirtshals st.no 127–138,
 st.no 252–263
 Jomfruland–Skagen st.no 240–251
 Jomfruland–Koster st.no 210–216
 Torbjørnskjær st.no 217
 Väderø st.no 201–206
 Måseskjær st.no 192–200
 Göteborg–Fredrikshavn st.no 186–191



Cruise no 2009306
 “G.M. Dannevig”
 21–30 June 2009

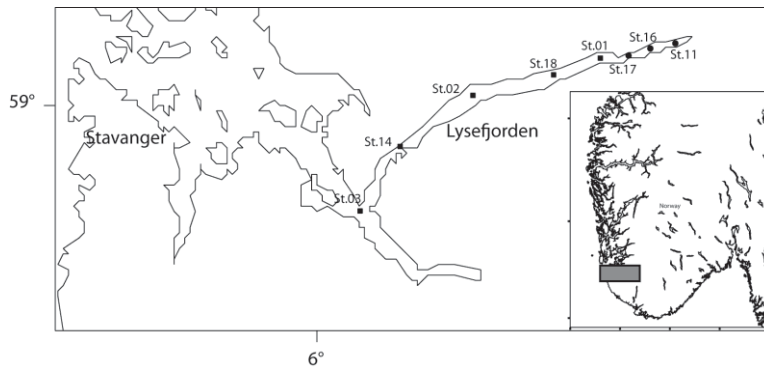
z CTD st.no 264–299
 o Plankton st. (WP-II-net)



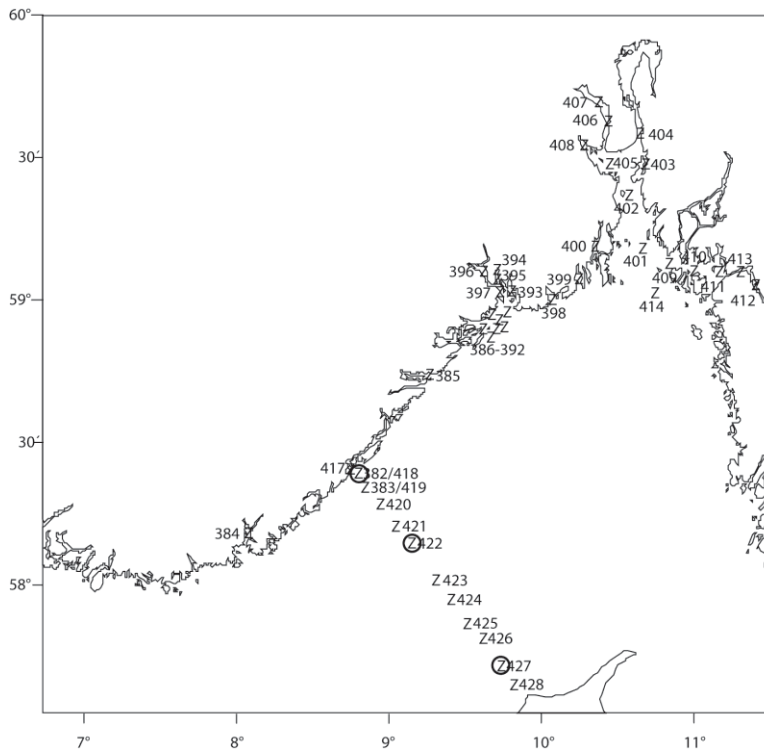
Cruise no 2009311
 “G.M. Dannevig”
 1–12 July 2009

z CTD st.no 300–381
 o Plankton st. (WP-II-net)

Standard sections:
 Torungen Hirtshals st.no 300–311
 Oksø–Hansthalm st.no 312–322
 Hansthalm–Aberdeen st.no 323–348
 Utsira-W st.no 349–381

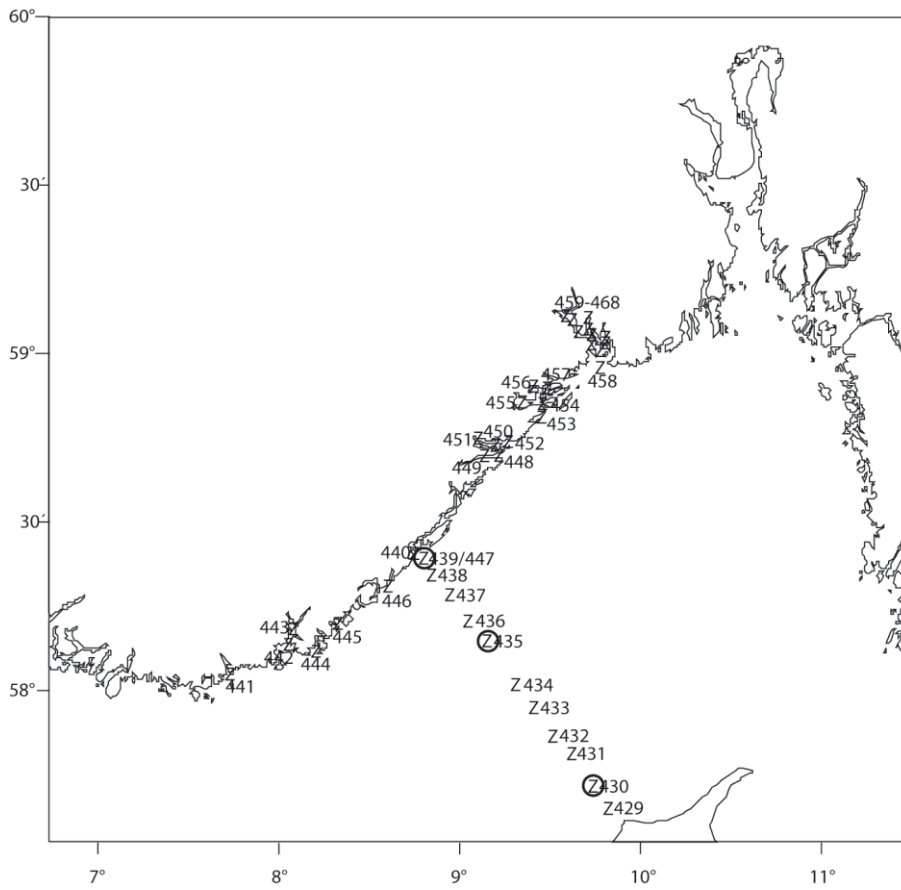


Cruise no 2009307
 “G.M. Dannevig”
 8–12 Aug 2009



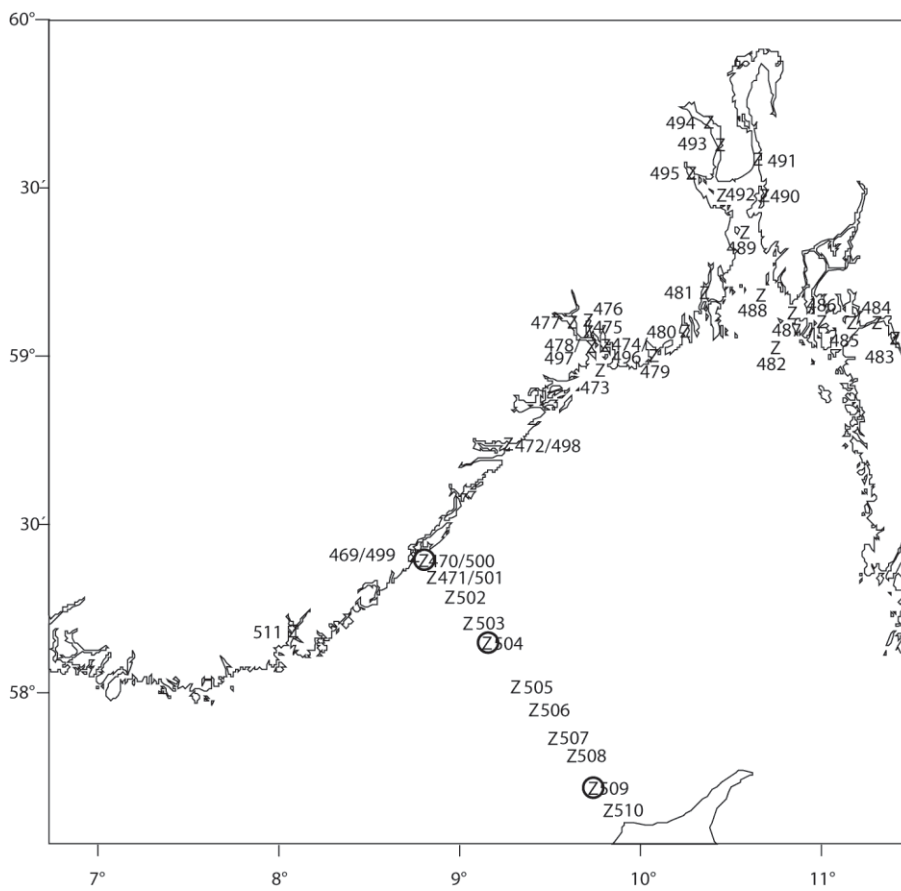
Cruise no 2009308
 “G.M. Dannevig”
 13–28 Aug 2009

z CTD st.no 382–428
 o Plankton st. (WP-II-net)



Cruise no 2009309
 “G.M. Dannevig”
 13–25 Sep 2009

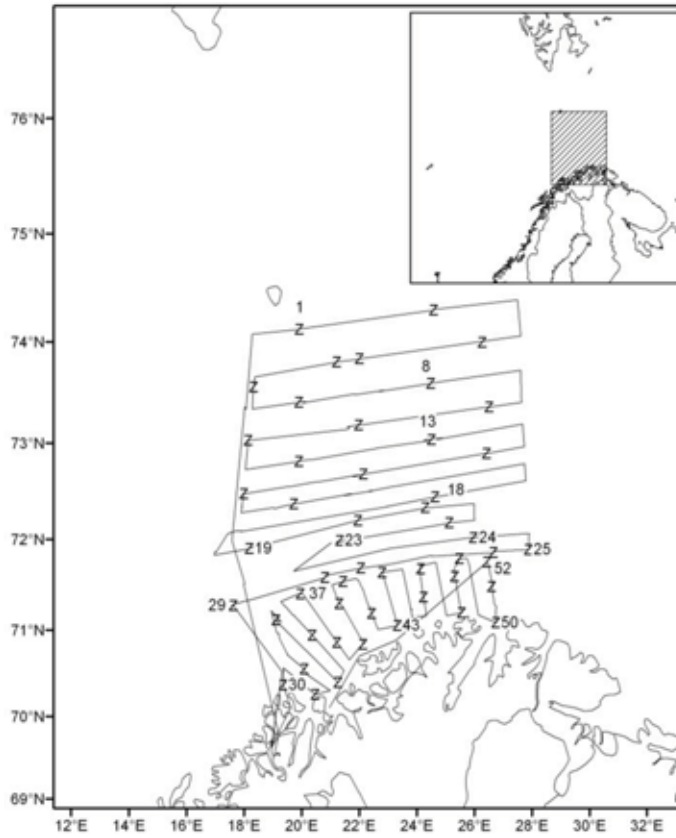
z CTD st.no 429–468
 o Plankton st. (WP-II-net)



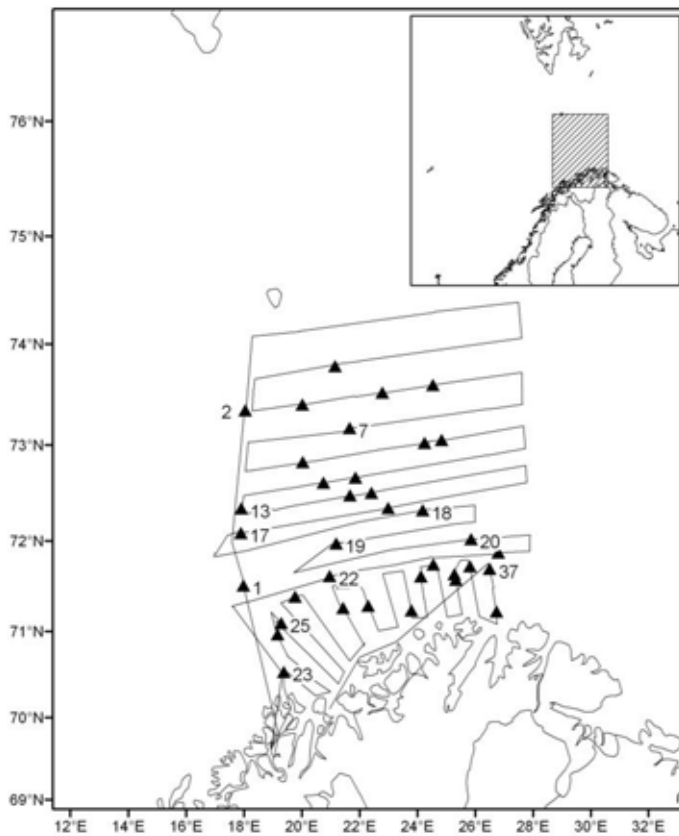
Cruise no 2009310
 “G.M. Dannevig”
 24 Nov–10 Dec 2009

z CTD st.no 469–511
 o Plankton st. (WP-II-net)

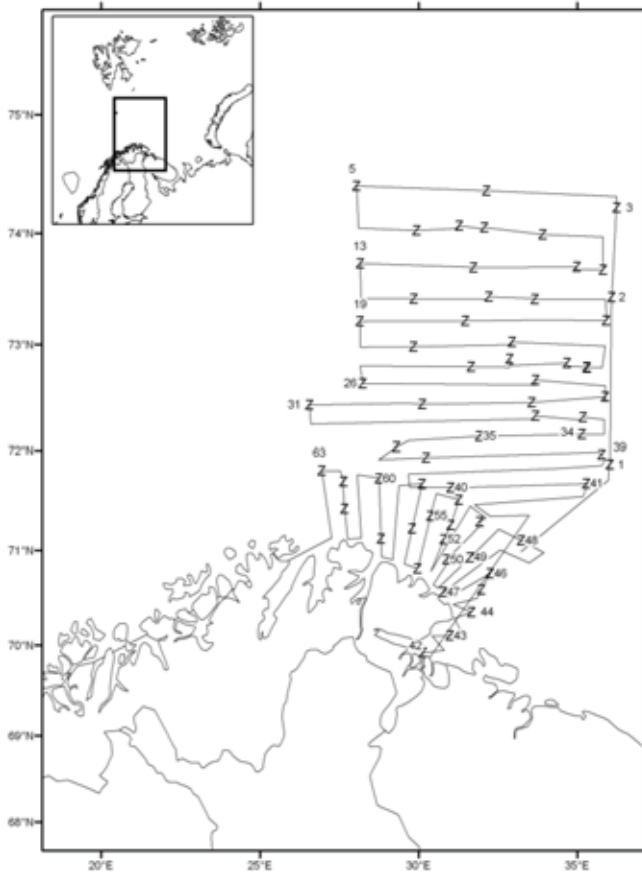
4.6 Some cruises carried out by hired fishing vessels



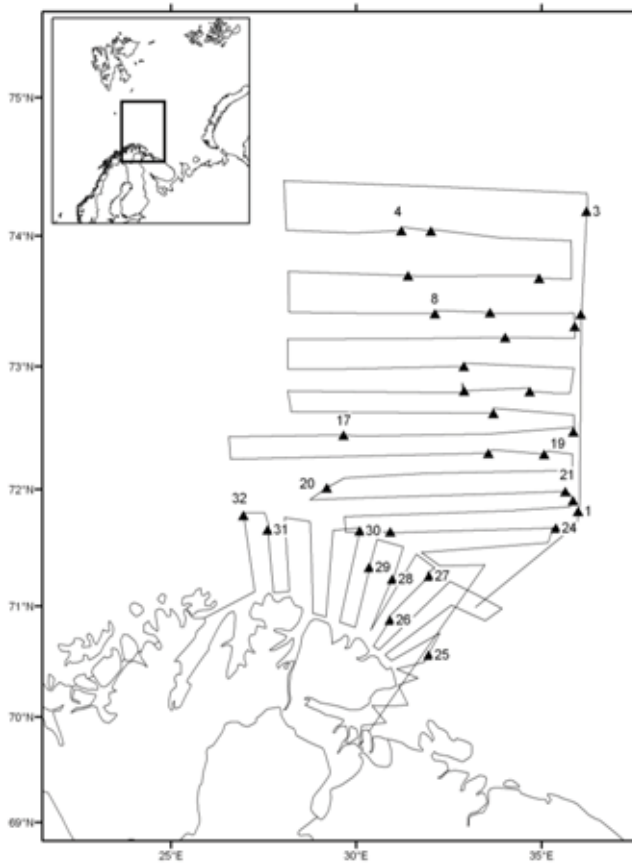
Cruise no 2009804
 “Eros”
 20 Jan–14 Feb 2009
 z CTD st.no 1–52



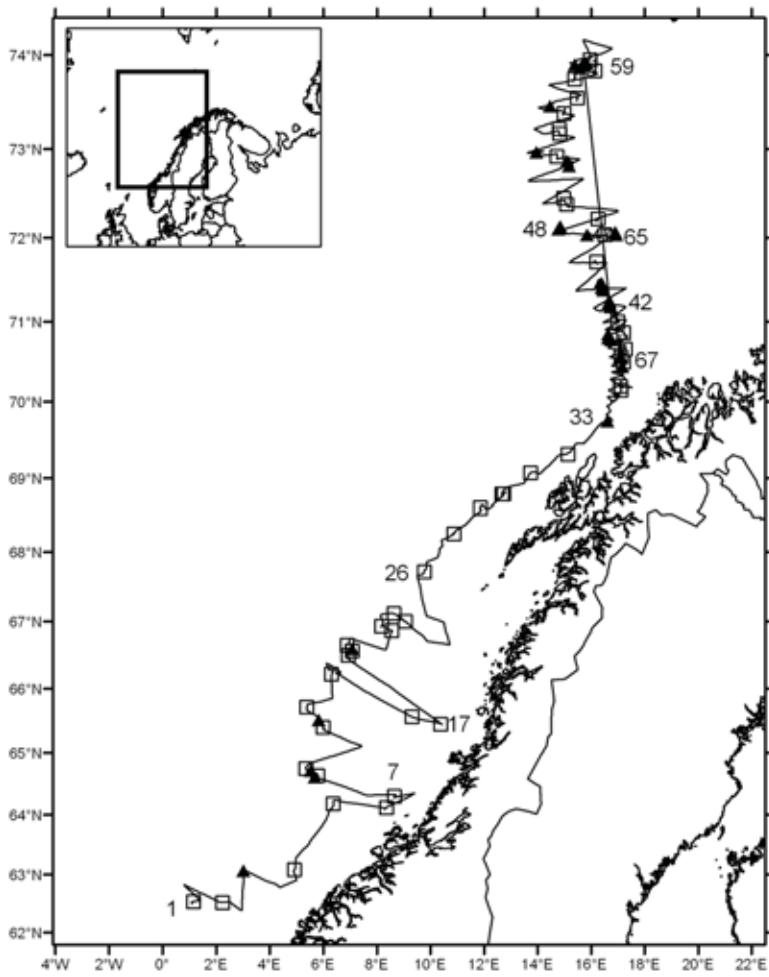
Cruise no 2009804
 “Eros”
 20 Jan–14 Feb 2009
 ▲ Pelagic trawl st.no 1–37



Cruise no 2009803
 “Libas”
 20 Jan–14 Feb 2009
 z CTD st.no 1–63

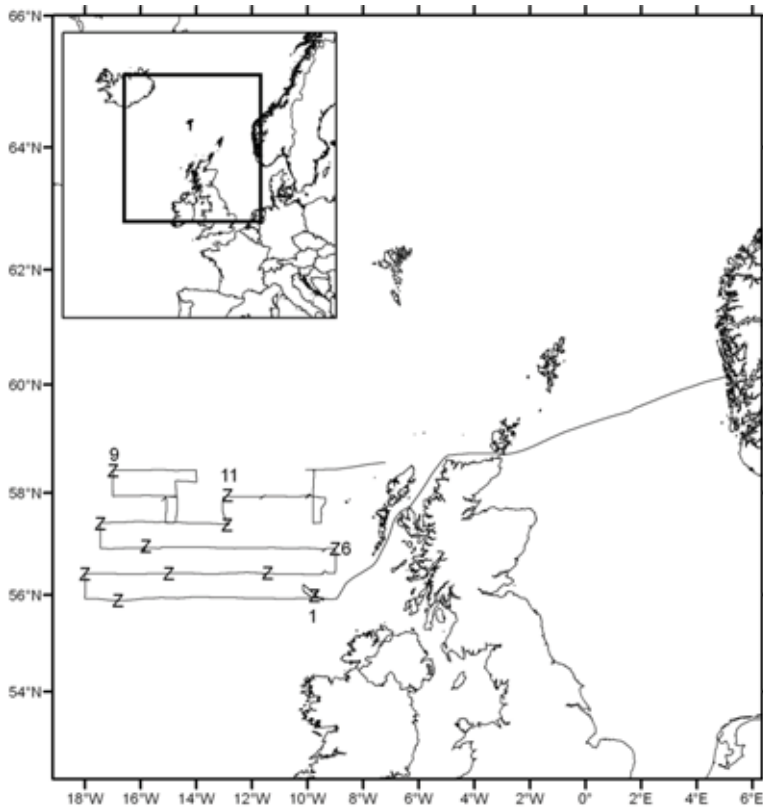


Cruise no 2009803
 “Libas”
 20 Jan–14 Feb 2009
 ▲ Pelagic trawl st.no 1–32



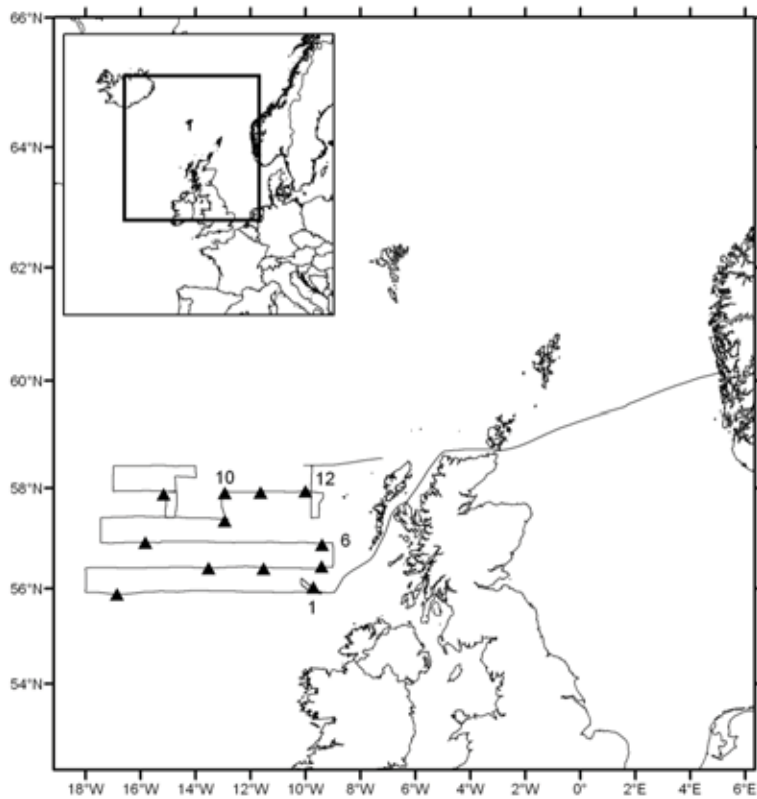
Cruise no 2009814
 "Atlantic Star"
 17 Mar–7 Apr 2009

Trawl st. no 1–67
 ▲ Pelagic trawl
 □ Bottom trawl



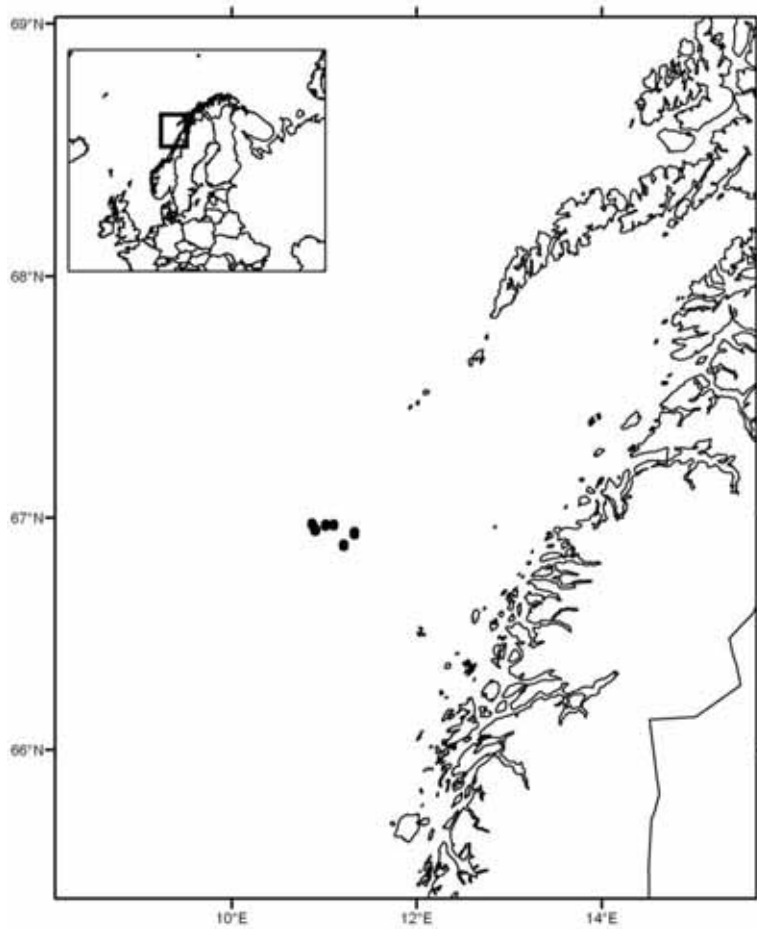
Cruise no 2009833
 "Brennholm"
 23 Mar–6 Apr 2009

z CTD st.no 1–11



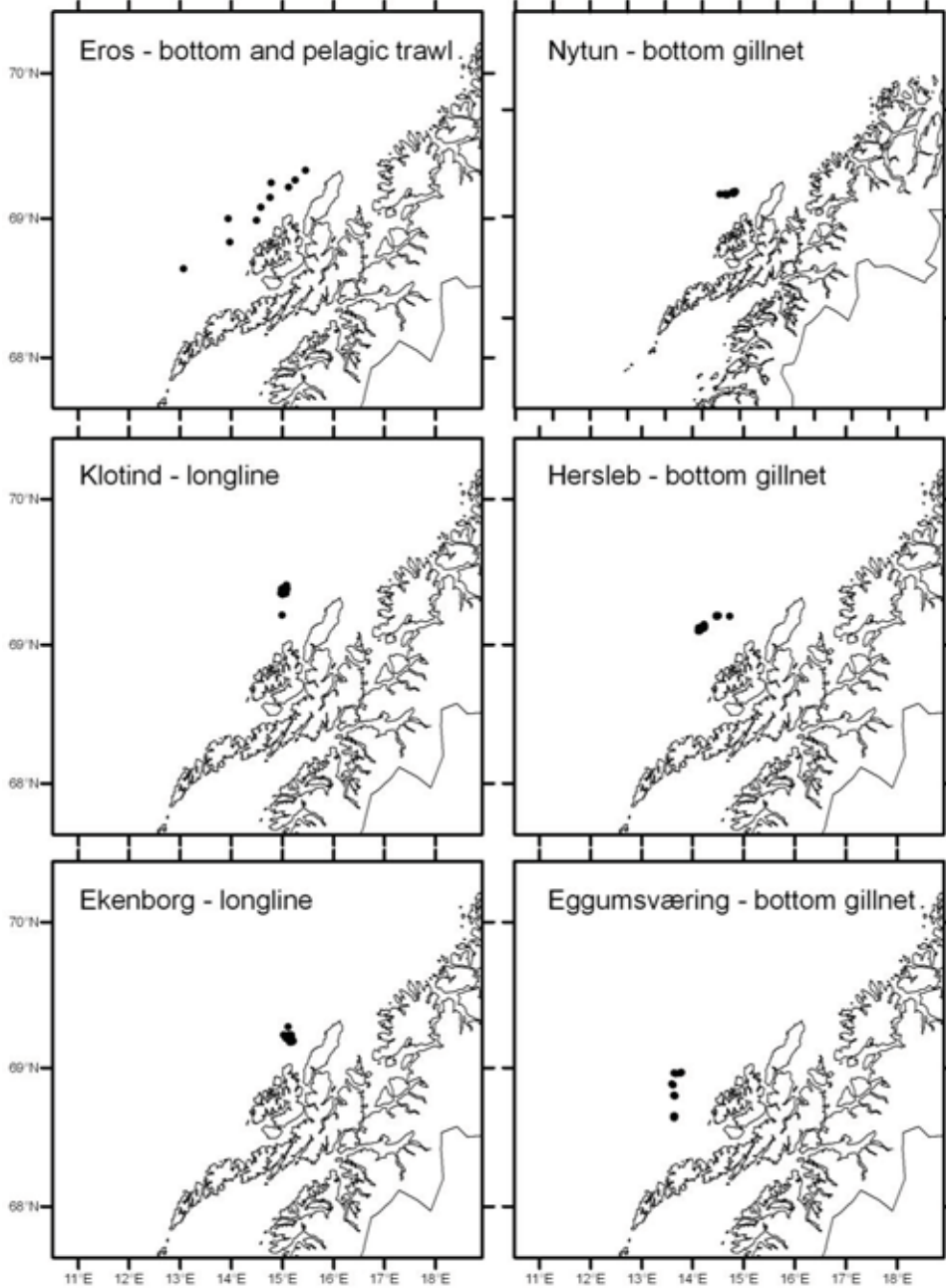
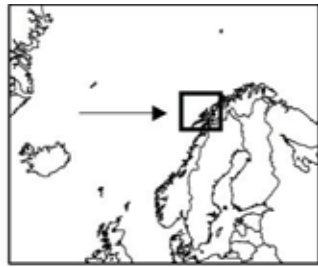
Cruise no 2009833
 “Brennholm”
 23 Mar–6 Apr 2009

▲ Pelagic trawl st.no 1–12



Cruise no 2009813
 “Øyfisk”
 11–22 June 2009

22 stations auto line

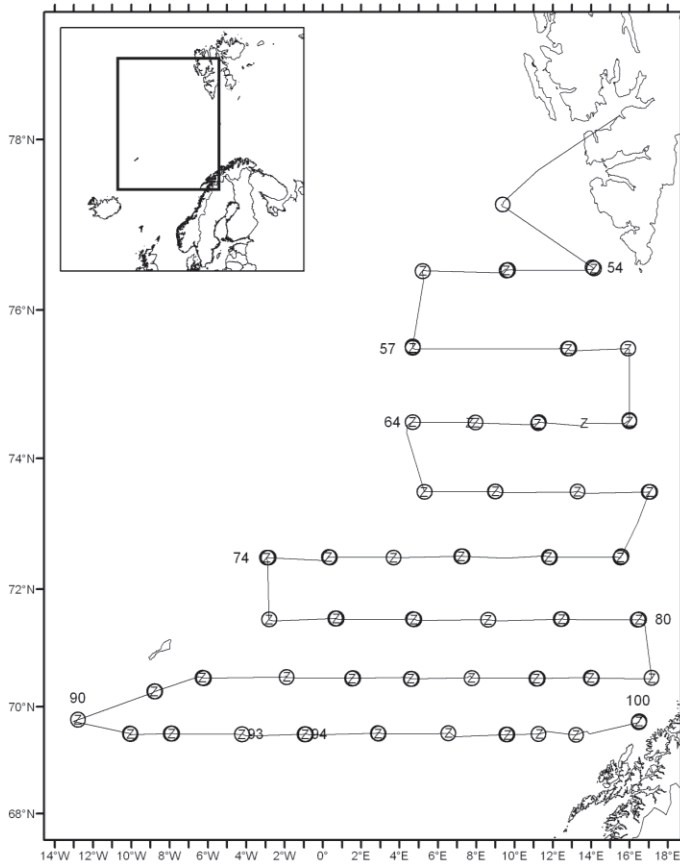


Cruise no 2009824

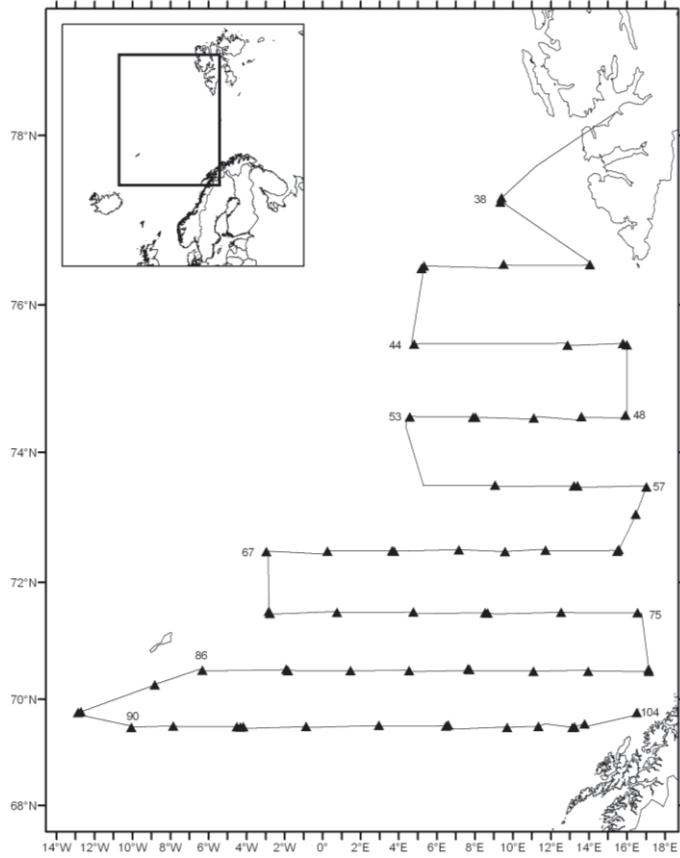
“Eros”,
 ”Nytun”,
 “Klotind”,
 “Hersleb”,
 “Ekenborg”
 “Eggumsværing”

15 June–31 Aug 2009

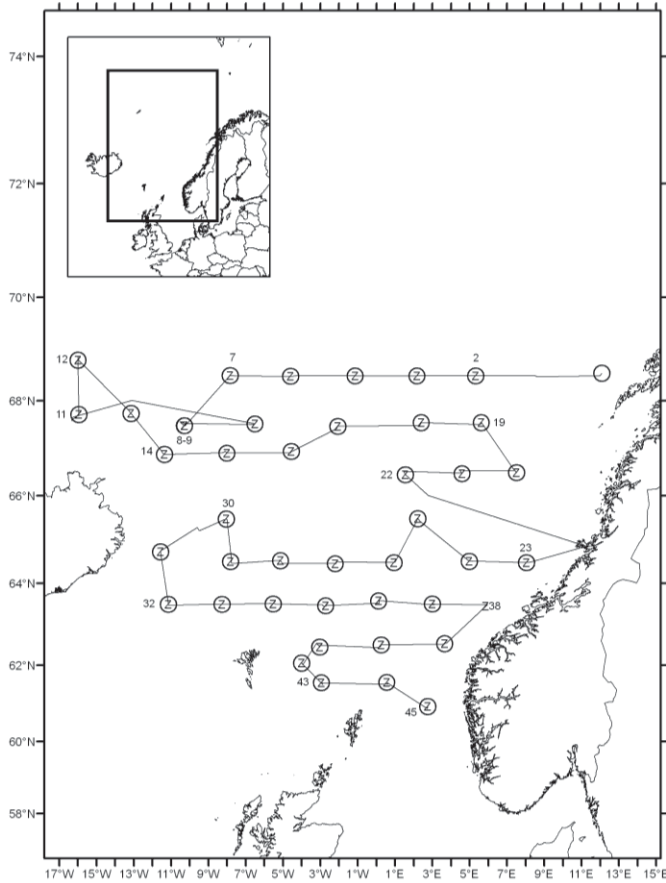
● Stations taken by 6
 different vessels



Cruise no 2009820
 “Eros”
 15 July–6 Aug 2009
 z CTD st.no 54–100
 o Plankton st. (WP-II-net)

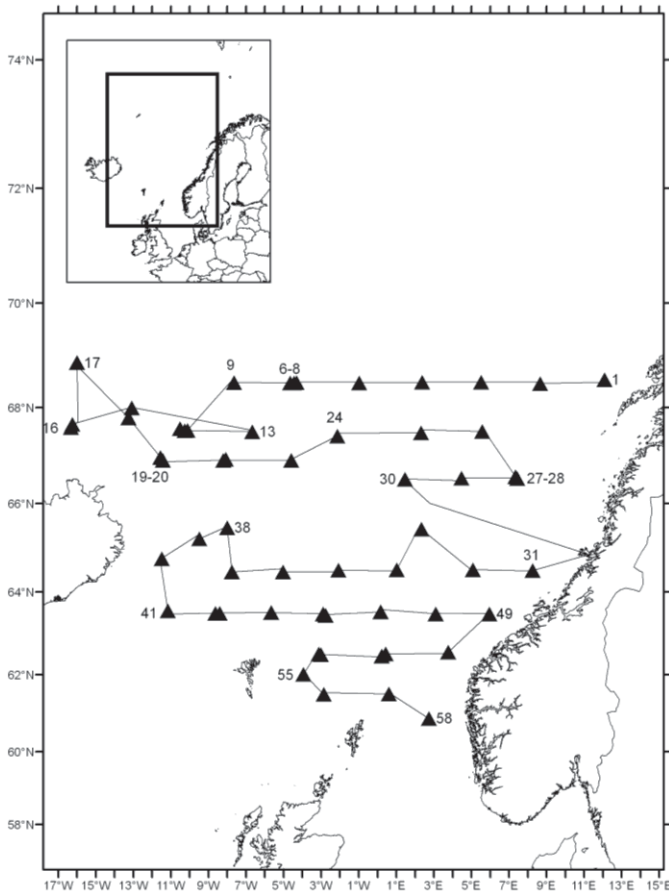


Cruise no 2009820
 “Eros”
 15 July–6 Aug 2009
 ▲ Pelagic trawl st.no 38–104



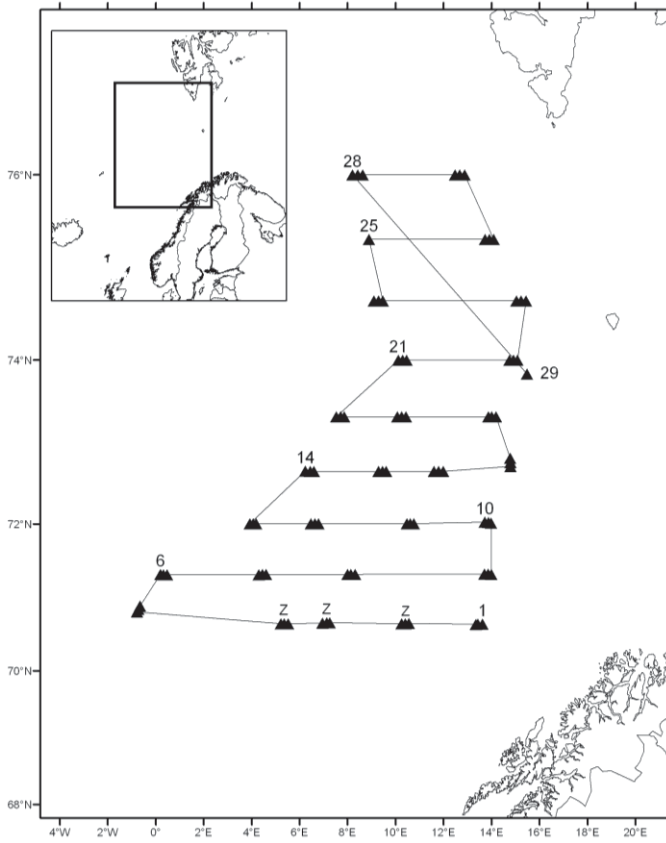
Cruise no 2009818
 “Libas”
 15 July–6 Aug 2009

z CTD st.no 2–45
 o Plankton st. (WP-II-net)



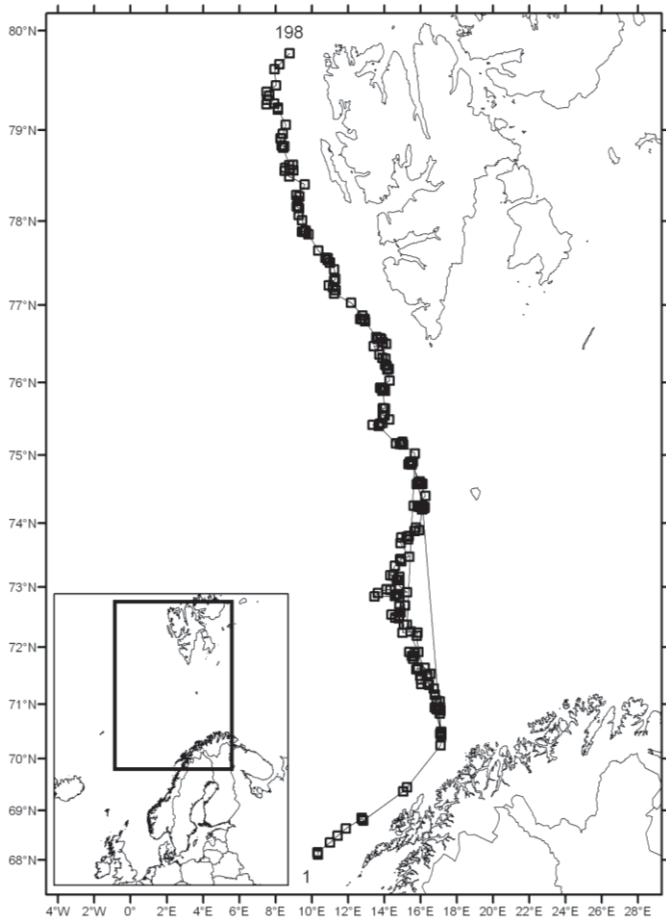
Cruise no 2009818
 “Libas”
 15 July–6 Aug 2009

▲ Pelagic trawl st.no 1–58



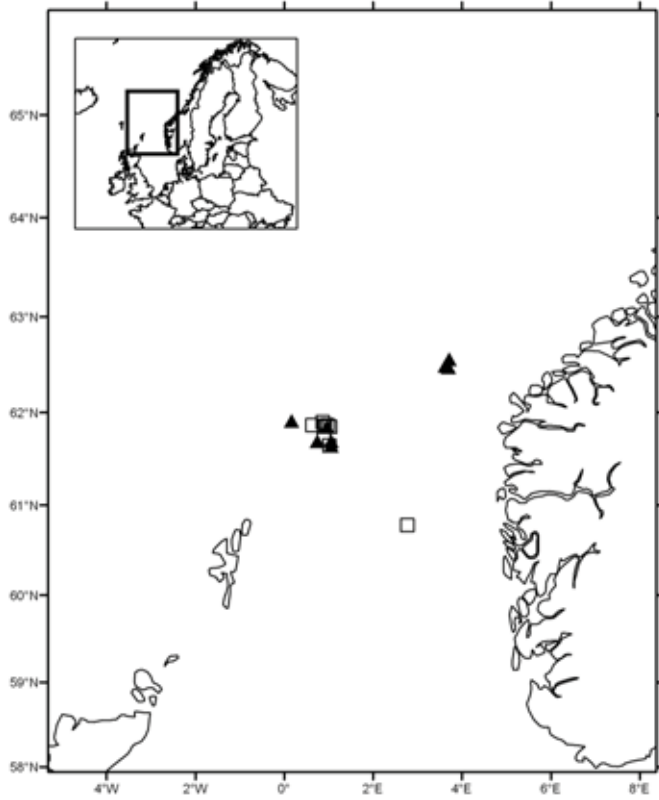
Cruise no 2009825
 "Atlantic Star"
 27 July–11 Aug 2009

z 3 CTD stations
 ▲ Pelagic trawl st.no 1–29 (3 per st.)



Cruise no 2009823
 "Ramoen"
 27 July–17 Aug 2009

□ Bottom trawl st.no 1–198



Cruise no 2009815
"Nordstar"
7-15 Sep 2009

8 Pelagic trawl stations
8 Bottom trawl stations

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