

Oversikt over tokt og faste oseanografiske stasjoner tatt i 2010

Report on cruises and fixed oceanographic data stations, 2010

Vigdis Rong

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



PROSJEKTRAPPORT



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Sammendrag (norsk):

Rapporten gir en oversikt over tokt i regi av Havforskningsinstituttet og Universitetet i Bergen. Toktene er utført med forskningsfartøyene "G. O. Sars", "Johan Hjort", "Håkon Mosby", "G. M. Dannevig", "Jan Mayen" samt noen innleide fiskefartøyer i 2010. 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 Hjort", "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 2010. The charts mainly show CTD and trawl stations, but 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
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Prosjektleder



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1 Cruises 2010

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		
2010101	29 Jan	31 Jan	Educational cruise (GEOL 201, University of Bergen).	Fjords in the Western Norway near Bergen	1	3	-	-	19	
2010102	04 Feb	26 Feb	ICES IBTS Q1 (<i>International Bottom Trawl Survey</i>).	North Sea	4	131	1	50	19-20	
2010103	04 Mars	16 Mars	Project "CoralFISH" (<i>Assessment of the interactions between corals, fish and fisheries</i>).	Lofoten/Vesterålen	132	140	51	54	20-21	
2010104	18 Mars	05 Apr	ICES coordinated Survey on blue whiting spawning areas.	Atlantic Ocean	141	173	55	67	21-22	
2010105	06 Apr	23 Apr	Herring larvae survey. PROMUS (<i>course for the interpretation of acoustic data</i>).	Norwegian coast	174	338	-	-	23	
2010106	24 Apr	05 May	Ecosystem survey.	North Sea	339	445	-	-	23	
2010107	06 May	02 June	Ecosystem survey.	Norwegian Sea	446	509	68	117	24	
2010108	12 June	15 June	BIOSKAG 3 (<i>Inventory of the marine bottom fauna of the Norwegian Skagerrak</i>). Pogonofor survey.	Skagerrak	510	513	-	-	25	
2010109	16 June	02 July	Calypso core sample surveys. Autonomous underwater vehicle HUGIN. Project NORGOCE (<i>Gravity Field and steady-state Ocean Circulation Explorer</i>).	Norwegian Sea	514	520	-	-	25	
2010117	10 July	20 July	Autonomous underwater vehicle HUGIN. Project NORGOCE (<i>Gravity Field and steady-state Ocean Circulation Explorer</i>).	Greenland Sea	521	527	-	-	26	
2010110	24 July	13 Aug	Sea bottom habitat mapping project MAREANO (<i>Marine AREA Database for Norwegian waters</i>).	Barents Sea	528	546	-	-	26-28	
2010111	23 Aug	14 Sep	Ecosystem survey.	Barents Sea	547	624	118	249	28-29	
2010112	17 Sep	12 Oct	Sea bottom habitat mapping project MAREANO (<i>Marine AREA Database for Norwegian waters</i>).	Barents Sea	625	640	-	-	29-31	
2010113	14 Oct	17 Oct	Coral survey, project HERMIONE (<i>Hotspot Ecosystem Research and Man's Impact on European Seas</i>).	Troms/Finmark	641	644	-	-	31	
2010114	19 Oct	31 Oct	More environmentally friendly trawling.	Barents Sea	645	648	252	268	32	
2010118	01 Nov	06 Nov	Project Hermes Lander (<i>Hotspot Ecosystem Research on the Margins of the European Seas</i>). Data logger. Project OFEG (<i>Ocean Facilities Exchange Group</i>).		-	-	-	-	-	Cancelled

G. O. Sars (cont.)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End			Start	End	Start	End		
2010115	02 Nov	09 Nov	Oceanographic sections.	Norwegian Sea	649	682	-	-	33	
2010116	11 Nov	15 Nov	Oceanographic sections in the North Sea.	North Sea	-	-	-	-	-	Cancelled. Carried out by cruise no. 2010214
2010119	17 Nov	01 Dec	Project WESTZOO (<i>Exploiting new wideband echo sounder technology for zooplankton characterization, sizing and abundance estimation</i>). Testing of sampling equipment.	Western Norway	683	691	269	282	34	

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		
2010201	18 Jan	01 Feb	Oceanographic sections. Environmental monitoring.	Norwegian Sea, Barents Sea	1	65	-	-	35	
2010202	04 Feb	17 Mars	Demersal fish/capelin survey.	Barents Sea	66	181	1	159	35-36	
2010203	18 Mars	09 Apr	Spawning cod survey. Oceanographic sections. Mixing of water masses.	Lofoten	182	307	160	189	36-38	
2010204	12 Apr	14 Apr	Recovery of acoustic cables in Ofotfjord.	Ofotfjord	-	-	-	-	-	Canselled
2010205	18 Apr	10 May	Methodology for quantitative measurement of sandeels.	North Sea	308	335	190	215	39-40	
2010206	11 May	05 June	ICES. Mackerel egg survey. Oceanographic sections.	Norwegian Sea	336	496	216	237	41	
2010207	03 July	02 Aug	Acoustic stock estimation of herring and saithe. IBTS-3Q (<i>International Bottom Trawl Survey</i>). Oceanographic sections. Environmental monitoring.	Norwegian Sea	497	627	238	343	42-43	
2010208	03 Aug	09 Aug	Oceanographic sections Svinøy and Gimsøy. Observations at the weather station MIKE.	Norwegian Sea	628	654	-	-	43	
2010209	10 Aug	17 Aug	Autumn spawning herring.	Lofoten/Vesterålen	655	686	344	376	44	
2010210	23 Aug	25 Sep	Ecosystem survey. Oceanographic sections.	Barents Sea	687	805	377	536	45	
2010211	27 Sep	09 Nov	Ecosystem survey, the coast. Oceanographic sections. Environmental monitoring in fjords.	Norwegian coast, Varanger, Trøndelag	806	911	537	701	46-47	
2010214	11 Nov	15 Nov	North Sea sections.	North Sea	912	966	-	-	47	
2010212	19 Nov	21 Nov	Deployment of cables in Hardangerfjord.	Hardangerfjord	-	-	-	-	-	Canselled
2010213	19 Nov	02 Dec	Project WESTZOO (<i>Exploiting new wideband echo sounder technology for zooplankton characterization, sizing and abundance estimation</i>).	Western Norway	-	-	-	-	-	Canselled Carried out by cruise no. 2010119

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		
2010601	14 Jan	31 Jan	Shrimp survey. Oceanographic sections.	Skagerrak/North Sea	2	121	1	98	48	
2010602	05 Feb	06 Feb	Environmental monitoring in the vicinity of a whale carcass.	Western Norway	122	122	-	-	49	
2010603	07 Feb	10 Feb	Crown jellyfish survey.	Western Norway / Lurefjord	123	126	99	118	49-50	
2010604	11 Feb	20 Feb	Educational cruise (GEOF 332, University of Bergen).	Western Norway	127	272	-	-	50-51	
2010605	24 Feb	02 Mars	Project iAOOS (<i>Integrated Arctic Ocean Observing System</i>). Monitoring of the Gulf Stream in the Svinøy section average. Observations at the weather station MIKE.	Norwegian Sea	273	297	-	-	51-52	
2010606	01 Mars	05 Mars	Educational cruise (GEOF 231, University of Bergen).	Norwegian coast/ Western Norway	-	-	-	-	-	Cancelled
2010607	09 Mars	30 Mars	Survey for coastal cod.	SørTroms- Nordland / Norwegian Sea	298	687	127	132	53-54	Less st. 128, 129 and 131
2010608	01 Apr	06 Apr	Project EpiGraph (<i>Ecological Processes and Impacts Governing the Resilience and Alternations in the Porsangerfjord and the Hardangerfjord</i>).	Hardangerfjord	688	714	133	156	55-56	
2010609	14 May	16 May	Environmental monitoring in the vicinity of a whale carcass.	Western Norway	-	-	-	-	57	No CTD
2010610	17 May	25 May	Herring larvae survey.	Norwegian coast	716	759	157	173	57-58	
2010611	27 May	14 June	Project Aegir Ridge Geology. Observations at the weather station MIKE.	Norwegian Sea	760	760	-	-	59	
2010612	15 June	05 July	Project IBEX (<i>Inter Basin Exchange</i>). Oceanographic sections.	Barents Sea, Norwegian Sea	761	818	-	-	59-60	
2010613	06 July	17 July	Mesoscale. Project "AkuSat". Project "MyOcean".	Lofoten/Vesterålen	819	853	174	201	60-61	
2010623	18 July	20 July	Recovery of cables.	Ofofjord	-	-	-	-	61	No CTD
2010614	31 July	17 Aug	Process studies & Acoustic Tomography.	Svalbard	854	1128	-	-	62	
2010615	18 Aug	02 Sep	Project SVALEX (<i>Svalbard Expedition</i>).	Svalbard	-	-	-	-	63	No CTD
2010616	03 Sep	14 Sep	Educational cruise (AGF 214, University of Svalbard). Project "Polar Ocean Climate".	Svalbard	1129	1341	-	-	63	
2010618	24 Sep	30 Sep	Educational cruise (MAR 230, University of Bergen).	North Sea	1342	1365	*	*	64	*Trawl stations only for teaching

Håkon Mosby (cont.)

CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End			Start	End	Start	End		
2010620	01 Oct	05 Oct	Project iAOOS (<i>Integrated Arctic Ocean Observing System</i>). Monitoring of the Gulf Stream in the Svinøy section area. Observations at the weather station MIKE.	Norwegian Sea, North Sea	1366	1367	-	-	65	
2010619	07 Oct	08 Oct	Educational cruise (GEOF 130, University of Bergen).	Norwegian coast / Western Norway	1368	1379	-	-	65	
2010621	11 Oct	15 Oct	Educational cruise (MAR 310, University of Bergen).	Western Norway	1380	1384	203	207	66	
2010617	18 Oct	19 Oct	Environmental monitoring in the vicinity of a whale carcass.	Western Norway			-	-	67	
2010625	20 Oct	24 Oct	Sponge survey. Ecology.	Western Norway	1385	1385	-	-	67	
2010622	25 Oct	30 Oct	Ecosystem survey, the coastal areas from Swedish border to Stadt.	Swedish border to Stadt	1386	1414	209	231	68-69	
2010626	01 Nov	08 Nov	Deployment of buoys near Frøya.	Trondheimsfjord/Frøya	-	-	-	-	69	No CTD
2010624	15 Nov	19 Nov	Deployment of cables in Hardangerfjord.	Hardangerfjord	-	-	-	-	-	Cancelled

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		
2010701	01 Feb	05 Mars	Demersal fish and capelin survey. Oceanographic sections.	Barents Sea	92	145	1	180	70	Only a few stations near the sections Fugløya-Bjørnøya and Vardø-N were taken.
2010702	30 June	18 July	Hooded seal survey.	Vesterisen	-	-	-	-	71	No CTD
2010703	26 Aug	14 Sep	Arctic ecosystem survey. Oceanographic sections.	Barents Sea	146	216	1	116	71-72	
2010704	08 Nov	12 Nov	Educational cruise. Abundance estimation of cod and Saithe nutrients in Lyngneufjord and Kvænangen.	Lyngneufjord and Kvænangen	598	600	556	567	73	

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		
2010301	04 Jan	11 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	28	75	
2010302	13 Feb	19 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	-	-	-	Cancelled
2010303	22 Feb	11 Mars	Mapping distribution area of coastal cod.	Bergen - Florø	-	-	-	No CTD
2010304	17 Mars	22 Mars	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	29	59	75	
2010306/ 2010307	11 Apr	01 May	Environmental investigation in the eastern North Sea, the Skagerrak and Cattegat 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/ Cattegat	60	187	76	
2010308	02 May	06 May	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	188	188	76	
2010309	07 May	22 May	Trawl survey for juvenile salmon	Hardangerfjord	189	191	76	
2010311	14 June	19 June	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	192	226	77	
2010312	02 July	03 July	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a near-shore station outside Arendal.	Skagerrak, Norwegian coast of Skagerrak	227	238	-	

G.M. Dannevig (cont.)

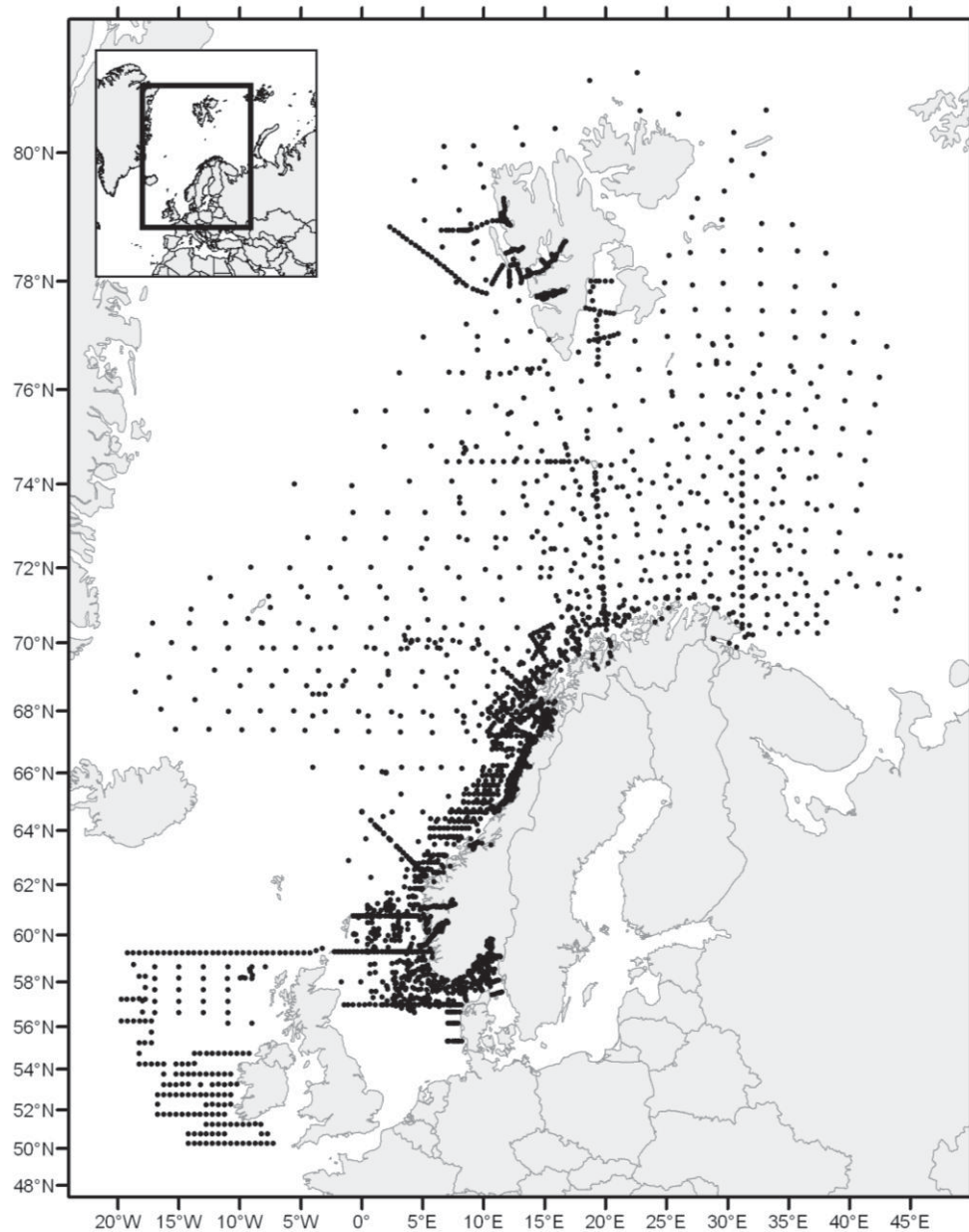
CRUISE NO	PERIOD OF CRUISES		PURPOSE	AREA	CTD NO		PAGE OF CHART	COMMENT
	Start	End			Start	End		
2010313/ 2010314	10 Aug	25 Aug	Monitoring lobster/MPA. Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a near-shore station outside Arendal and in the fjords along the Norwegian Skagerrak coast.	Skagerrak, Norwegian coast of Skagerrak	239	276	-	
2010315/ 2010316/ 2010317	13 Sep	05 Oct	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	277	358	77	
2010318	12 Nov	13 Nov	Hydrographic standard section "Torungen-Hirtshals", environmental investigation. Long-term environmental monitoring on a near-shore station outside Arendal.	Skagerrak, Norwegian coast of Skagerrak	359	370	-	
2010319/ 2010320	14 Nov	13 Dec	Contaminants in seafood. Fish community studies in marine protected area and resource studies in coastal cod. Long-term environmental monitoring on a nearshore station outside Arendal and in the fjords along the Norwegian Skagerrak coast.	Skagerrak, Norwegian coast of Skagerrak, Western Norway	371	393	78	
2010321	14 Dec	16 Dec	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	394	408	-	

1.6 Selected cruises carried out by fishing vessels hired by IMR

CRUISE NO	PERIOD OF CRUISES		VESSEL	PURPOSE	AREA	CTD ST		TRAWL ST		PAGE OF CHART	COMMENT
	Start	End				Start	End	Start	End		
2010807	15 July	06 Aug	Brennholm	Study abundance, spatiotemporal distribution, aggregation and feeding ecology of Northeast Atlantic mackerel, Norwegian spring-spawning herring and blue whiting in relation to oceanographic conditions, prey communities and marine mammals.	The survey covered an area between Iceland, Greenland and Norway in Norwegian Sea.	1	64	1	67	79	
2010810	15 July	06 Aug	Libas	Main purpose: Study abundance, spatiotemporal distribution, aggregation and feeding ecology of Northeast Atlantic mackerel, Norwegian spring-spawning herring, blue whiting and other pelagic species in relation to oceanographic conditions, prey communities and marine mammals.	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.	1	54	1	59	80	
2010811	7 Aug	20 Aug	Libas	Study the abundance, distribution, migration, feeding ecology and overlap between mackerel, Norwegian spring spawning herring and blue whiting in the Norwegian Sea in relation to oceanography and food availability. Conduct whale observations.	Norwegian Sea	58	92	60	95	81	

2 Charts – overview

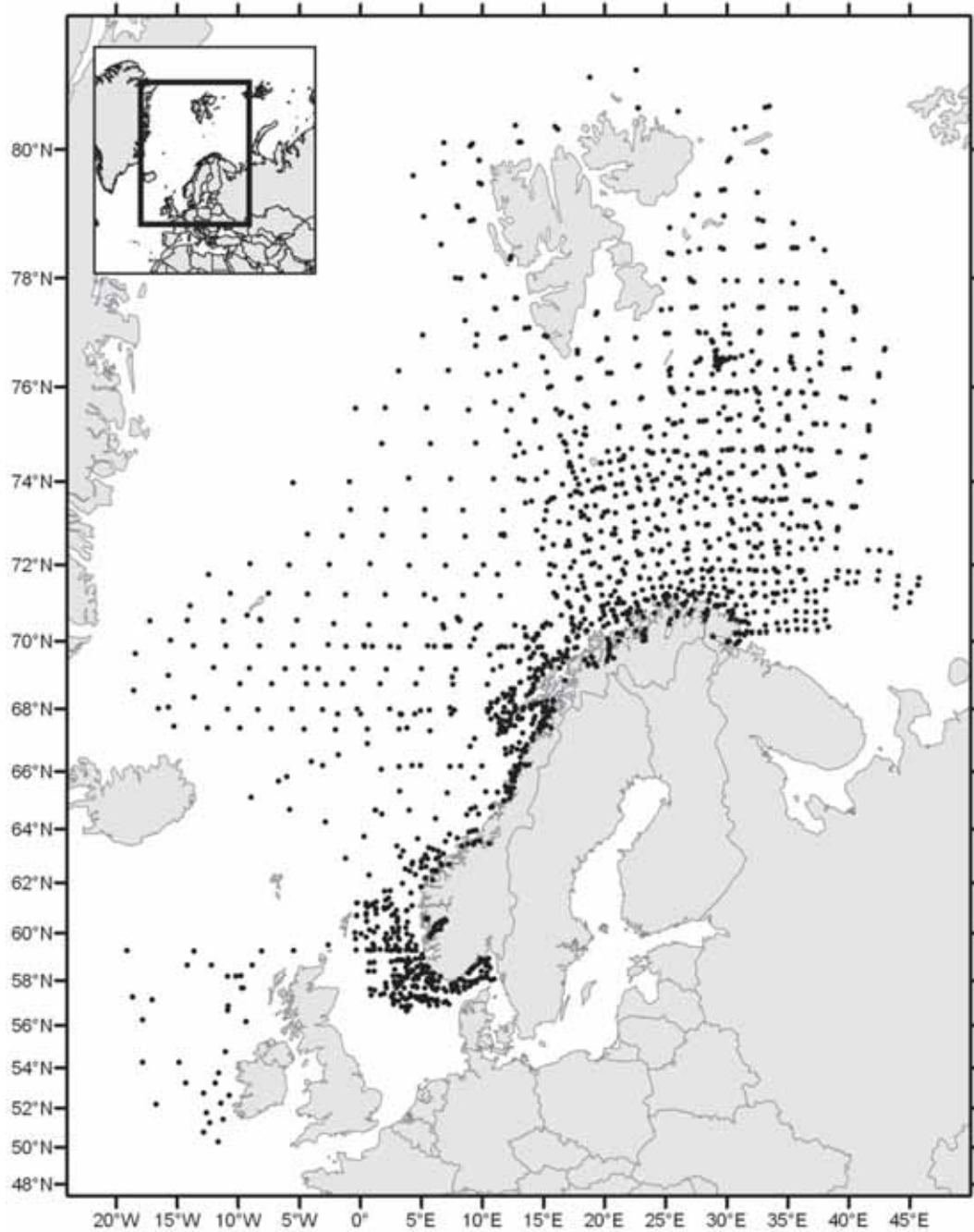
2.1 CTD stations 2010



• CTD stations

	Ship	Stations
Research vessels	G.O. Sars	691
	Johan Hjort	966
	Håkon Mosby	1 414
	G. M. Dannevig	408
Hired fishing vessels	Jan Mayen	131
	Brennholm	64
	Libas	91
		3 765

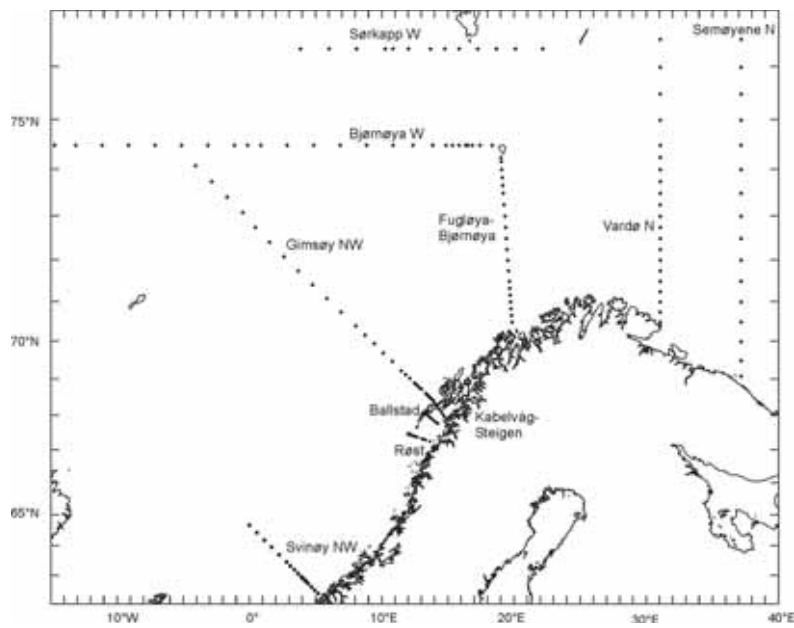
2.2 Trawl stations 2010



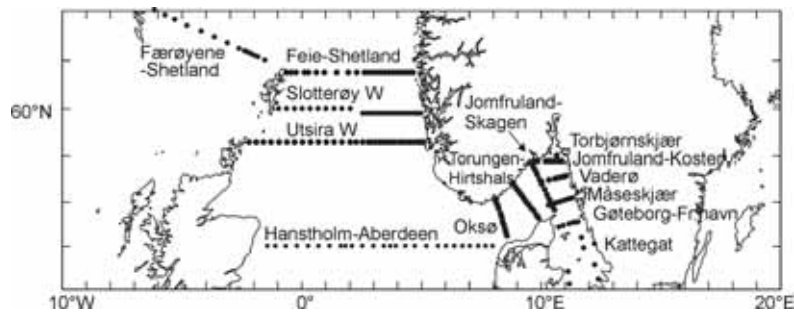
• Trawl stations

	Ship	Stations
Research vessels	G.O. Sars	280
	Johan Hjort	701
	Håkon Mosby	218
	Jan Mayen	308
Hired fishing vessels	Brennholm	67
	Libas	95
		1 669

2.3 Oceanographic sections



Norwegian Sea and Barents Sea



North Sea, Skagerrak and Kattegat

2.4 Fixed oceanographic stations



3 Tables – Observations in 2010

3.1 Standard oceanographic sections 2010 (Cruise no./ship)

Area	Standard sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
North Sea, Skagerrak	Fedje–Shetland		2010102			2010106				2010618		2010214	
	Slottøy–West												
	Utsira–West		2010102		2010106		2010207					2010214	
	Jærens Rev–SW and W				2010106								
	Egerøya–SW												
	Lista–SW				2010106								
	Lindesnes–SSW												
	Hanstholm–Aberdeen	2010601				2010106							
	Oksøy–Hanstholm	2010601											
	Torungen–Hirtshals												
	Jomfruland–Skagen												
	Jomfruland–Koster												
	Torbjørnskjær												
	Väderø												
Måseskjær													
Gøteborg–Fredrikshavn													
Kattegat													

Area	Standard sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Vest- flord	Røst-Tennholmen			2010203									
	Ballstad-Måløy/Skarholmen			2010203									
The Norwegian Sea	Svinøy-North/West	2010201	2010605			2010107			2010208			2010115	
	Gimsøy-North/West	2010201				2010107			2010208			2010115	
The Barents Sea	Bjørnøya-West									2010210			
	Sørkapp-West												
The Barents Sea	Fugløya-Bjørnøya	2010201		2010202			2010612		2010210	2010211			
	Vardø-North	2010201		2010202			2010612		2010111				
	Semøyene-North												
	Bjørnøya-Sørkapp												
	Nordkapp-North												

3.2 Other oceanographic sections 2010 (Cruise no/ship)

Sections	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Færøyene-Shetland												
Kabelvåg-Steigen			2010203									

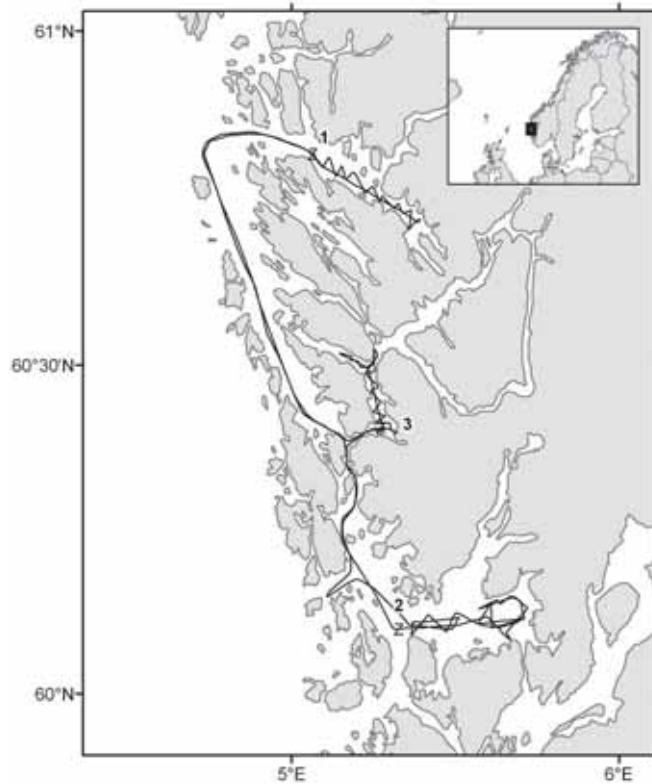
3.3 Fixed oceanographic stations 2010

(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	1	2	2	3	2	2	1	2	2	2	1	21
UTSIRA I N59° 19' E04° 59'	1	1	2	2	3	2	2	1	2	2	2	1	21
SOGNESJØEN N61° 01' E04° 50'	2	1	2	2	3	2	2	3	3	2	3	2	27
BUD N62° 56' E06° 47'				1	1	2	1	1	2		1		9
SKROVA N68° 07' E14° 39'	4	4	5	4	4	4	3	4	5	4	4	4	49
EGGUM N68° 23' E13° 38'	3	3	3	3	3	2	3	2	3	3	2	3	33
INGØY N71° 08' E24° 01'	2	3	4	2	3	2	2	4	4	3	2	3	34

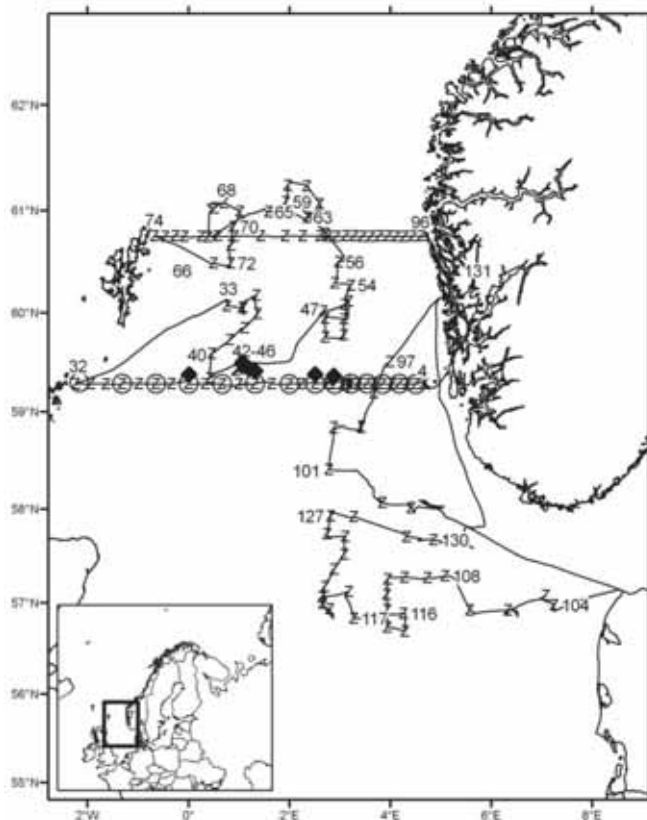
4 Charts for cruises 2010

4.1 G.O. Sars



Cruise no 2010101
“G.O. Sars”
29–31 Jan 2010

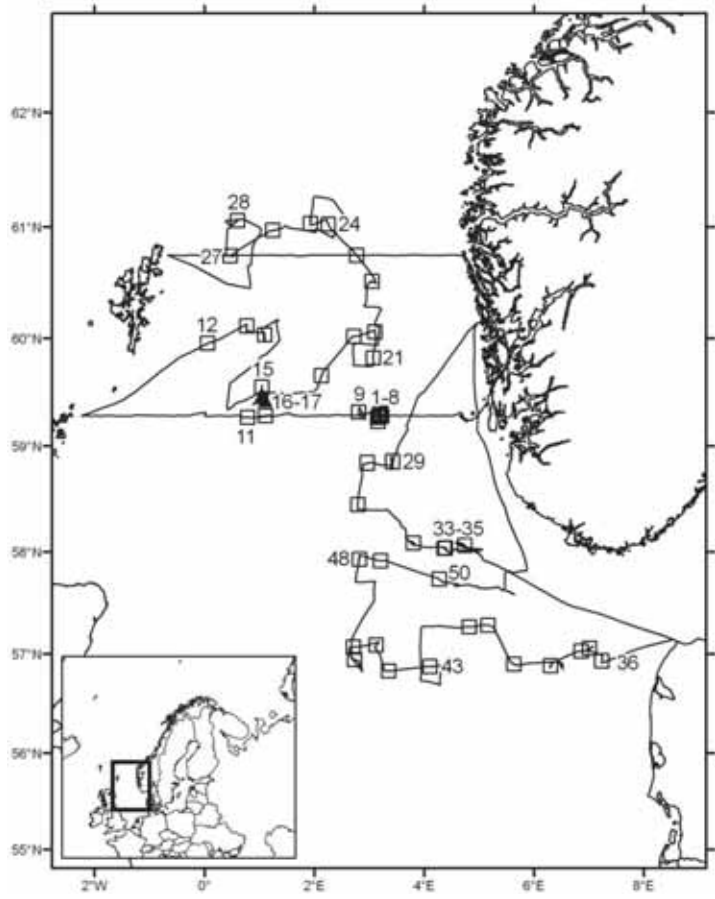
z CTD st.no 1–3



Cruise no 2010102
“G.O. Sars”
4–26 Feb 2010

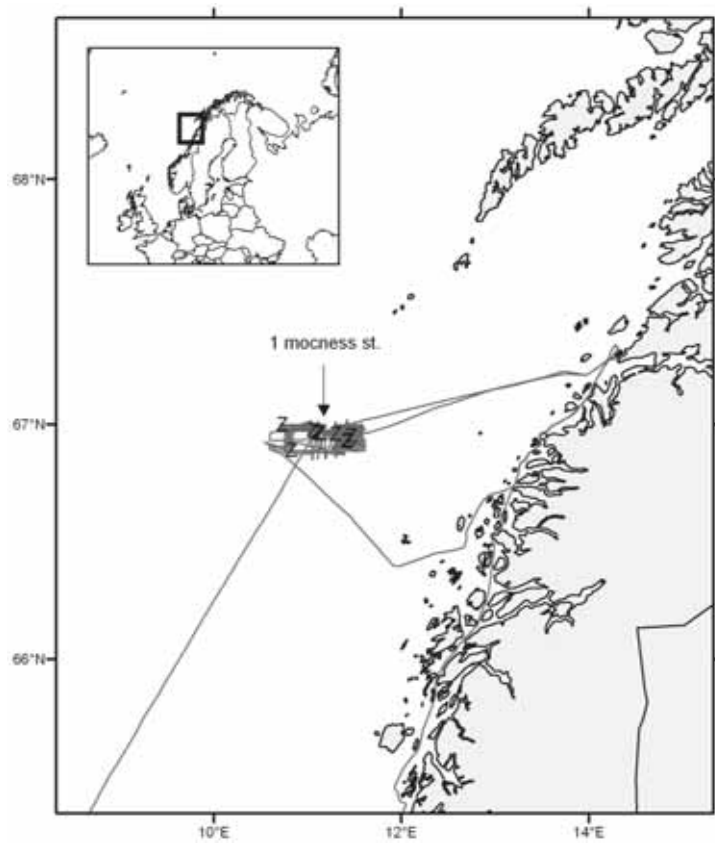
z CTD st.no 4–131
○ Plankton st. (WP-II-net)
◆ Plankton st. (Mocness)

Standard sections:
Utsira-W st.no 4–32
Fedje–Shetland st.no 74–96



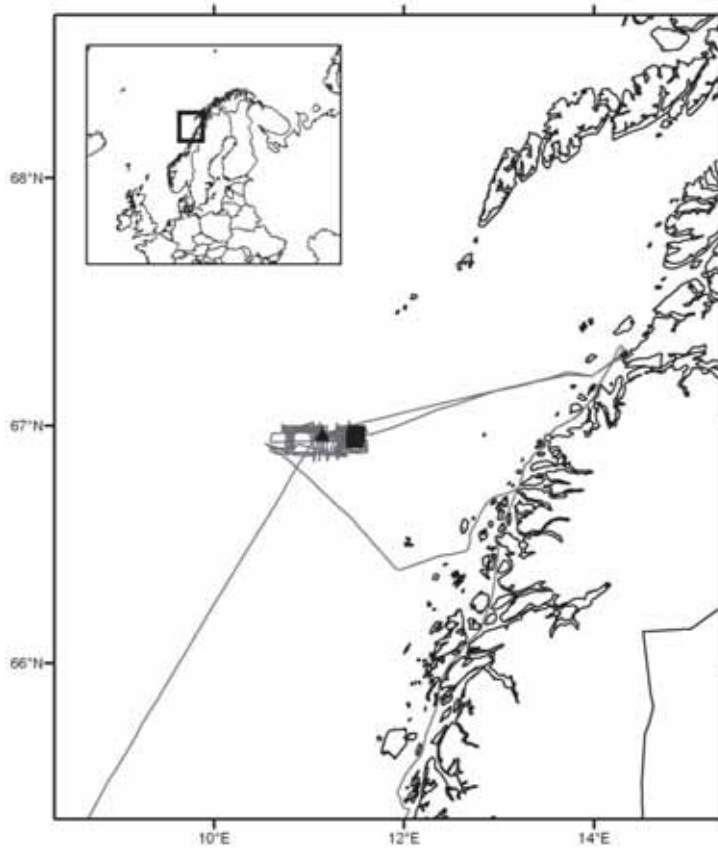
Cruise no 2010102
 "G.O. Sars"
 4-26 Feb 2010

Trawl st.no 1-50
 □ Bottom trawl
 ▲ Pelagic trawl



Cruise no 2010103
 "G.O. Sars"
 4-16 Mar 2010

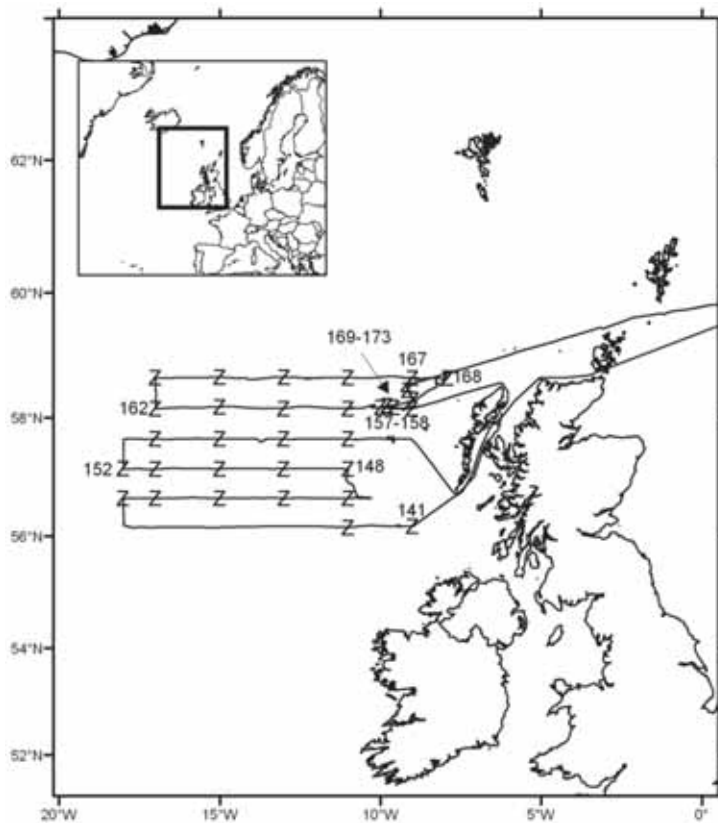
z CTD st.no 132-140
 ◆ Plankton st. (Mocness)



Cruise no 2010103
 "G.O. Sars"
 4-16 Mar 2010

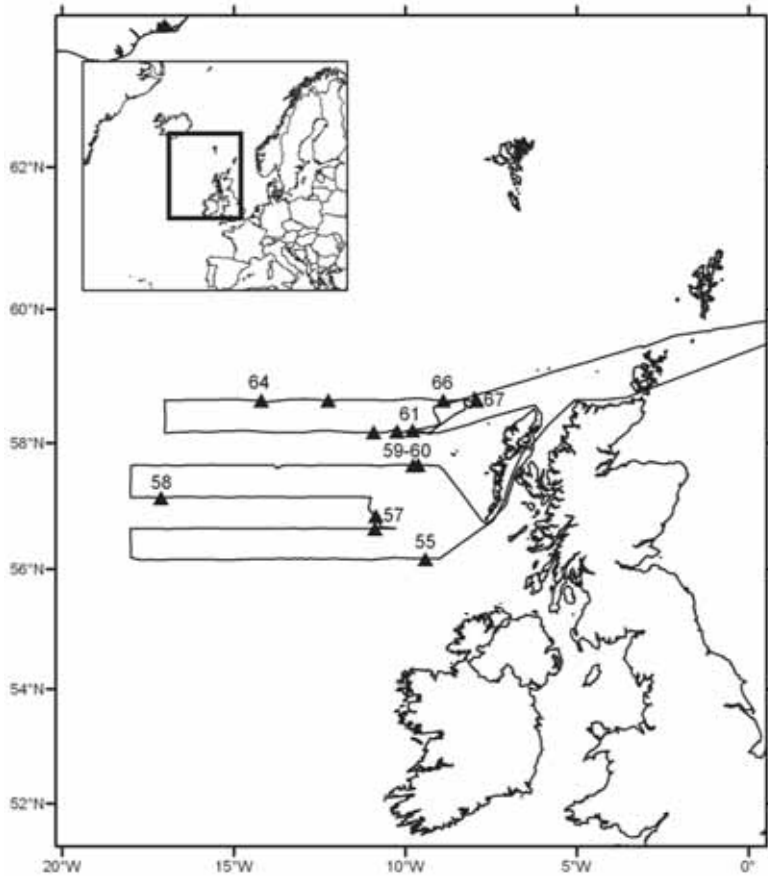
Trawl st.no 51-54

- Bottom trawl (st.no 51-52)
- ▲ Pelagic trawl (st.no 53-54)



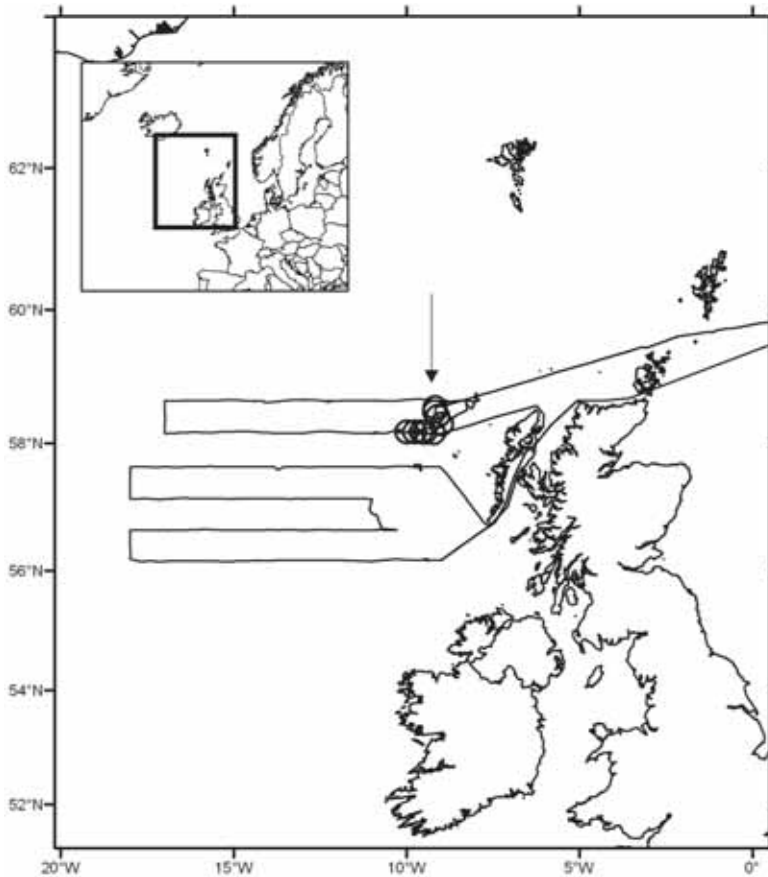
Cruise no 2010104
 "G.O. Sars"
 18 Mar-5 Apr 2010

z CTD st.no 141-173



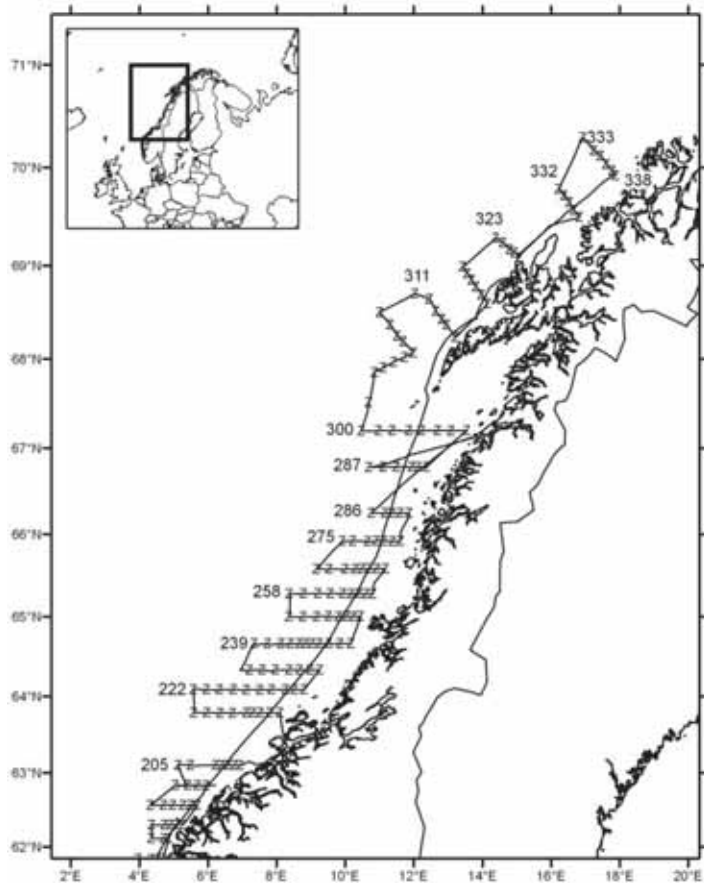
Cruise no 2010104
 "G.O. Sars"
 18 Mar–5 Apr 2010

▲ Pelagic trawl st.no 55–67



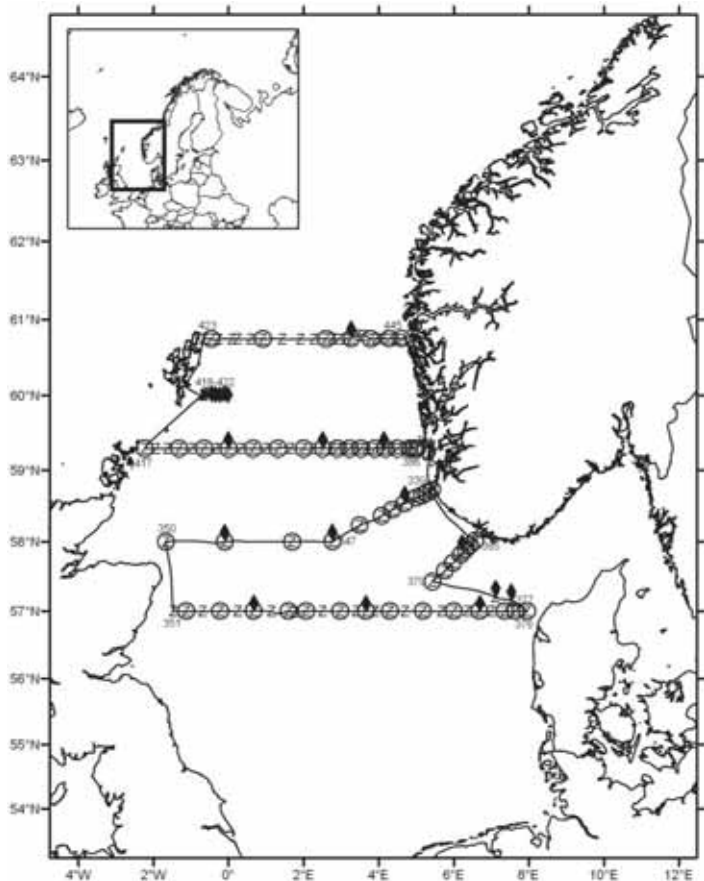
Cruise no 2010104
 "G.O. Sars"
 18 Mar–5 Apr 2010

○ Plankton st. (WP-II-net)



Cruise no 2010105
 “G.O. Sars”
 6–23 Apr 2010

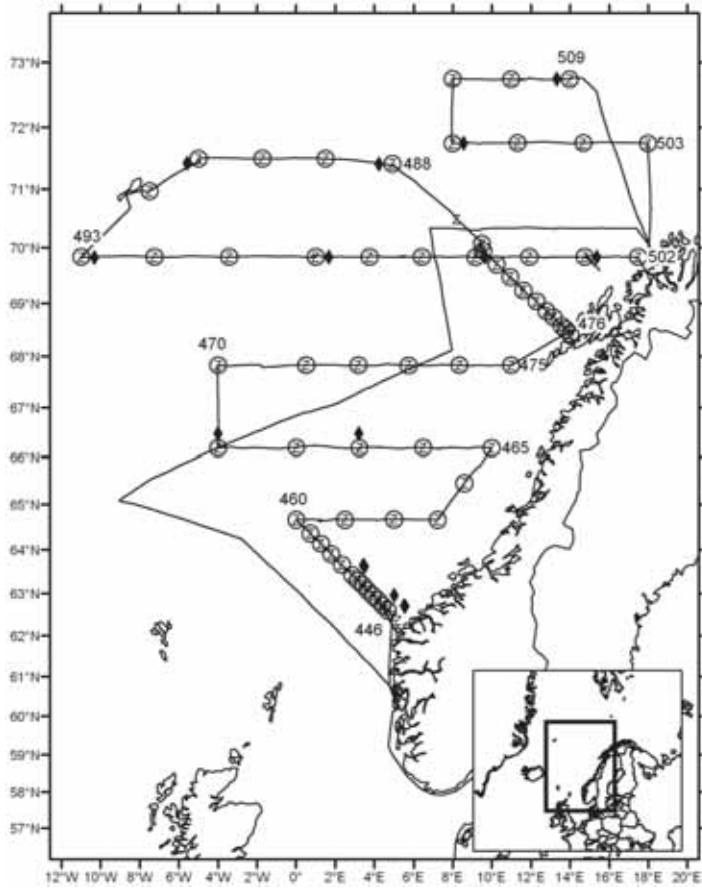
z CTD st.no 174–338
 Plankton and larvae st. at every ctd
 station: Gulf-III, T-80 plankton net,
 WP-II plankton net



Cruise no 2010106
 “G.O. Sars”
 24 Apr–5 May 2010

z CTD st.no 339–445
 O Plankton, egg and larvae st. WP-II-net
 ◆ Mocness

Standard sections:
 Jærens Rev st.no 339–350
 Lista-SW st.no 379–385
 Utsira-W st.no 386–417
 Fedje–Shetland st.no 423–445



Cruise no 2010107
 "G.O. Sars"
 6 May–2 June 2010

z CTD st.no 446–509

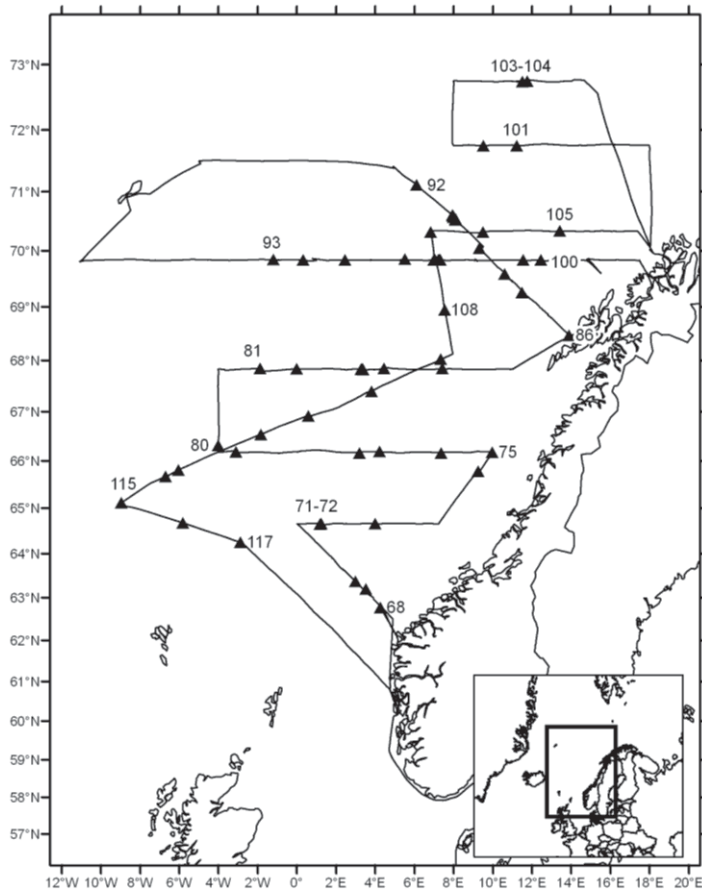
○ WP-II-net

◆ MOCNESS

Standard sections:

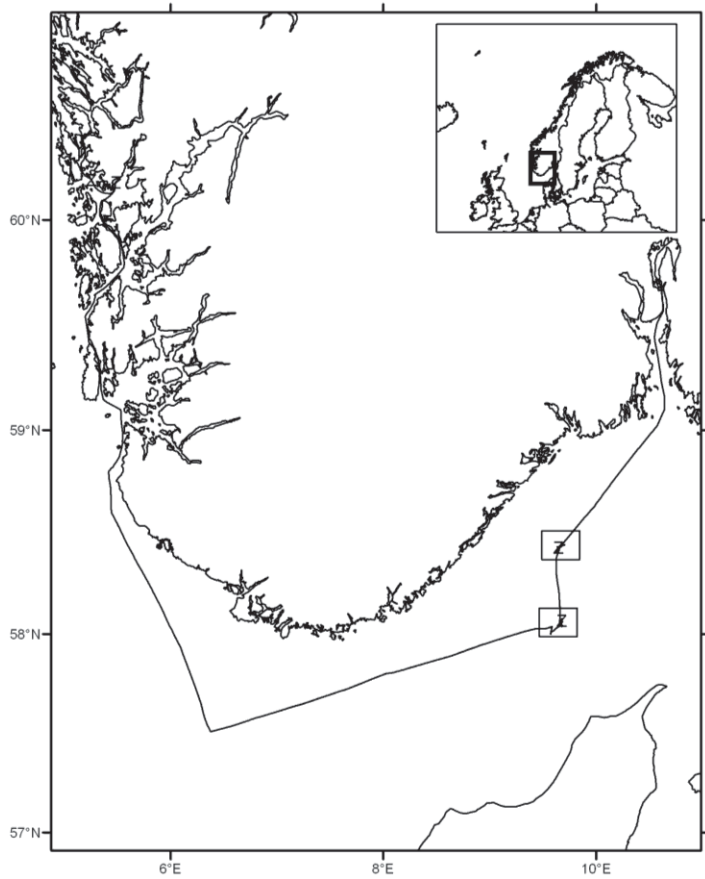
Svinøy-NW st.no 446–460

Gimsøy-NW st.no 476–488



Cruise no 2010107
 "G.O. Sars"
 6 May–2 June 2010

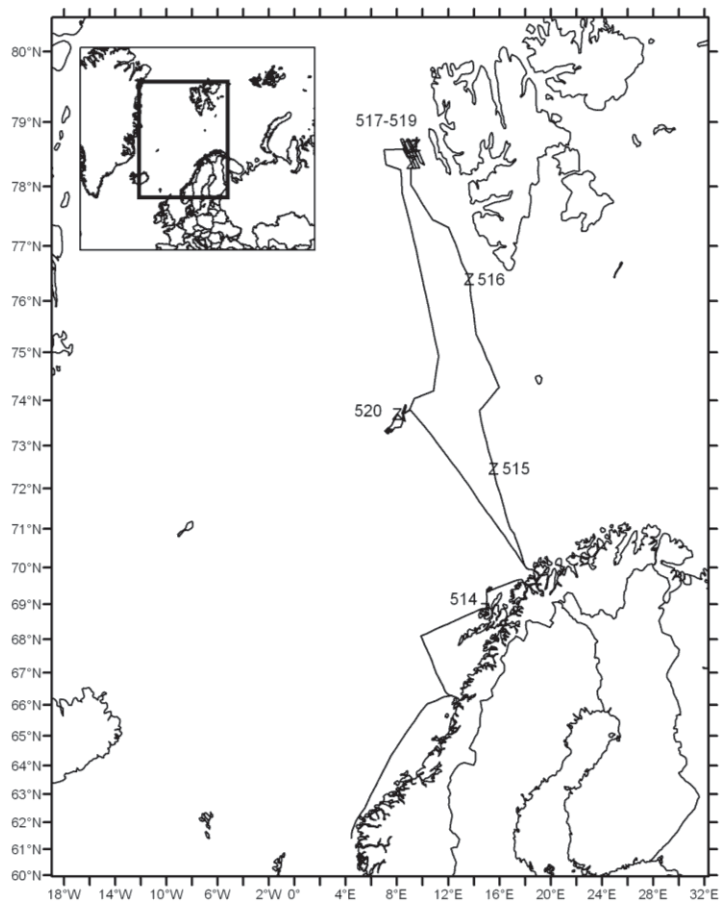
▲ Pelagic trawl st.no 68–117



Cruise no 2010108
 "G.O. Sars"
 12–15 June 2010

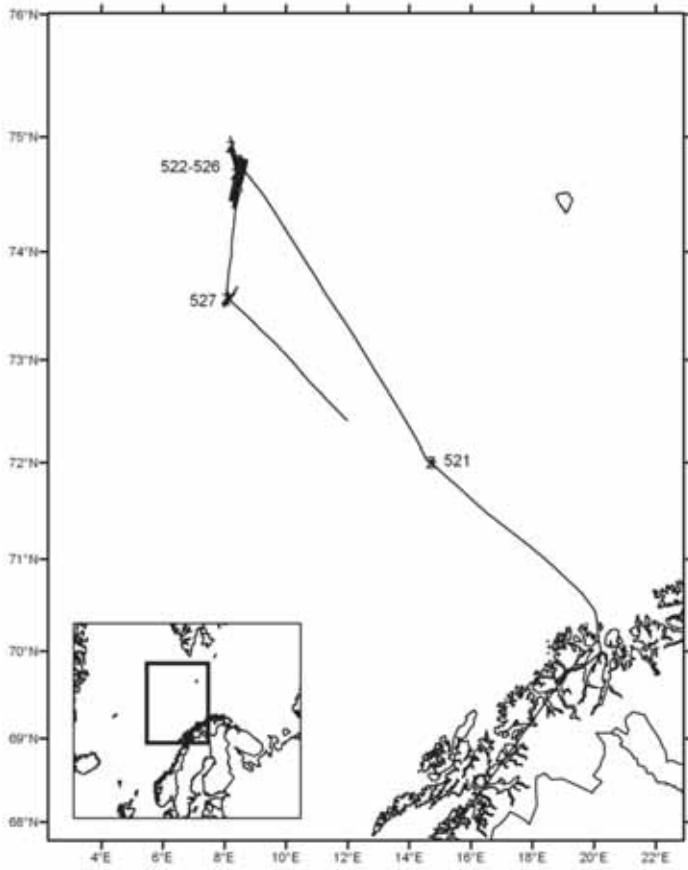
z CTD st.no 510–513

□ Area for 2 sledge stations
 and 5 agassiz trawl stations



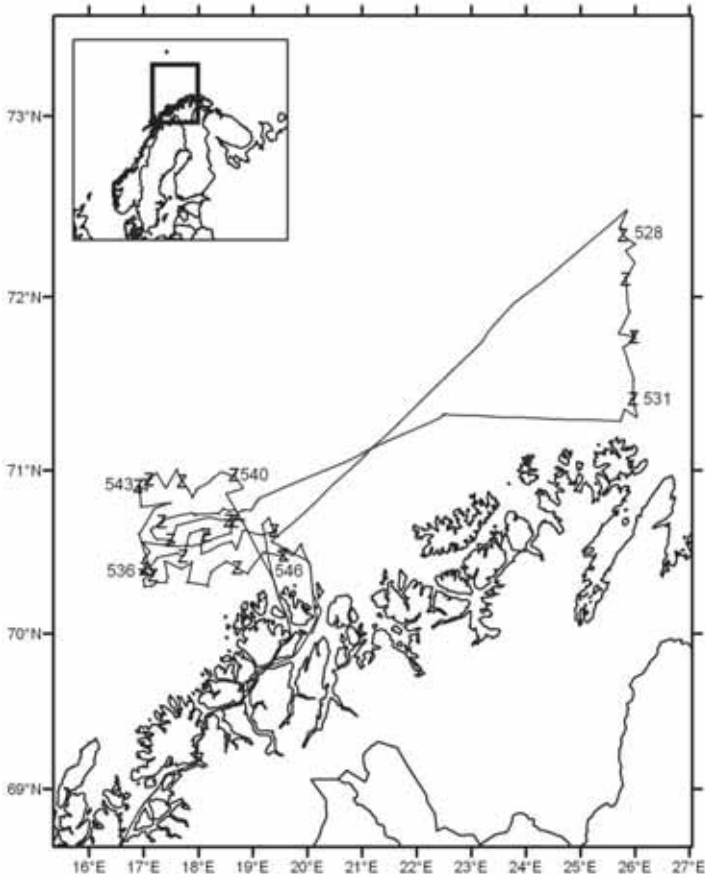
Cruise no 2010109
 "G.O. Sars"
 16 June–2 July 2010

z CTD st.no 514–520



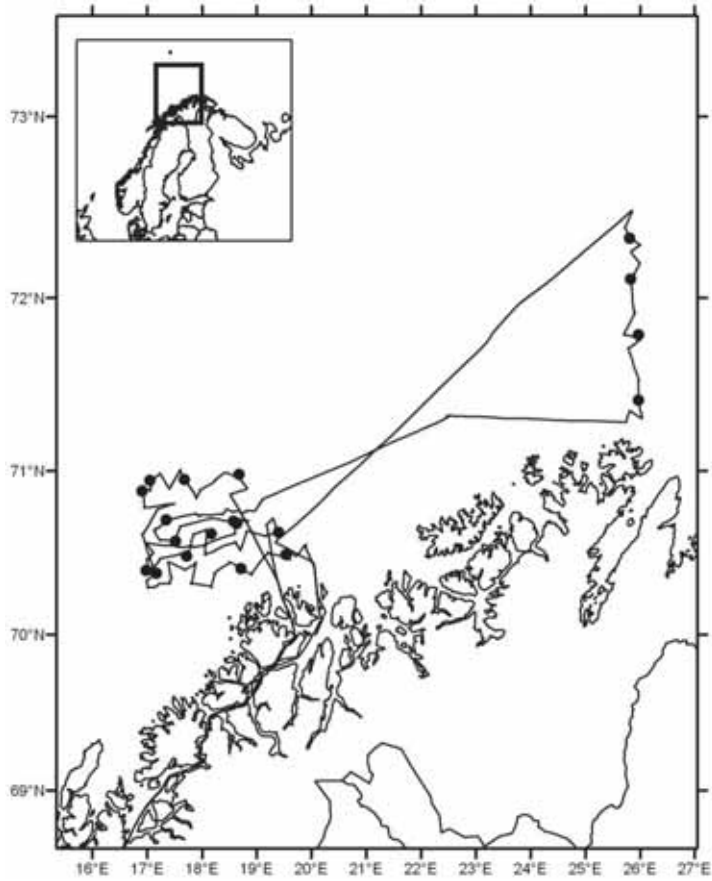
Cruise no 2010117
 "G.O. Sars"
 10–20 July 2010

z CTD st.no 521–527



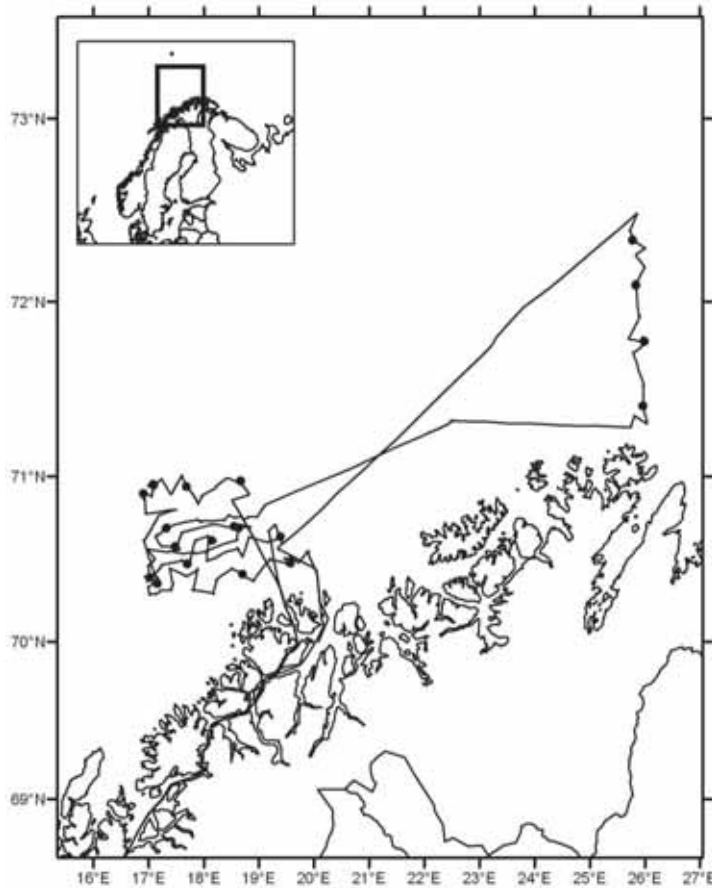
Cruise no 2010110
 "G.O. Sars"
 24 July–13 Aug 2010

z CTD st.no 528–546



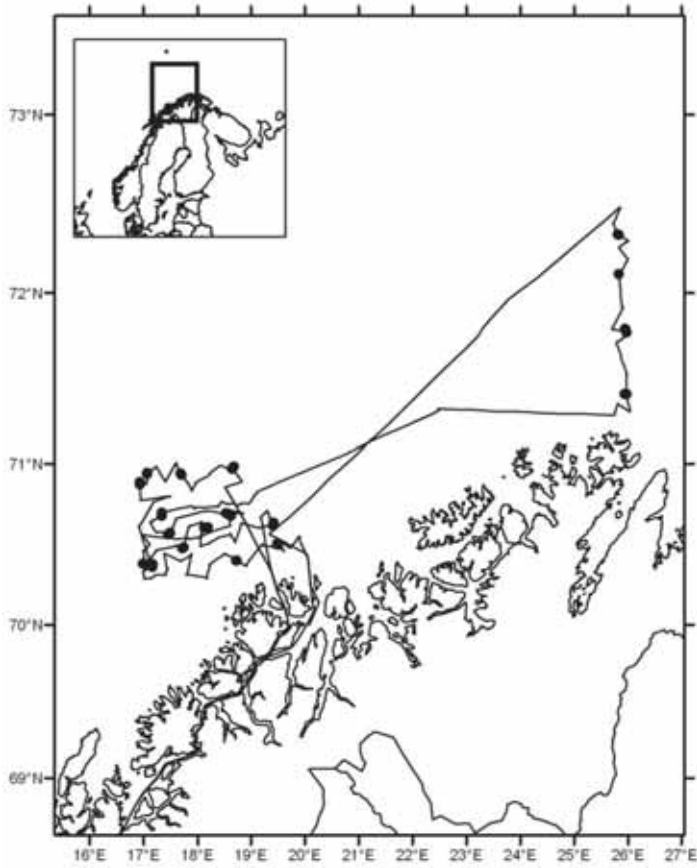
Cruise no 2010110
 "G.O. Sars"
 24 July–13 Aug 2010

● Beam trawl stations



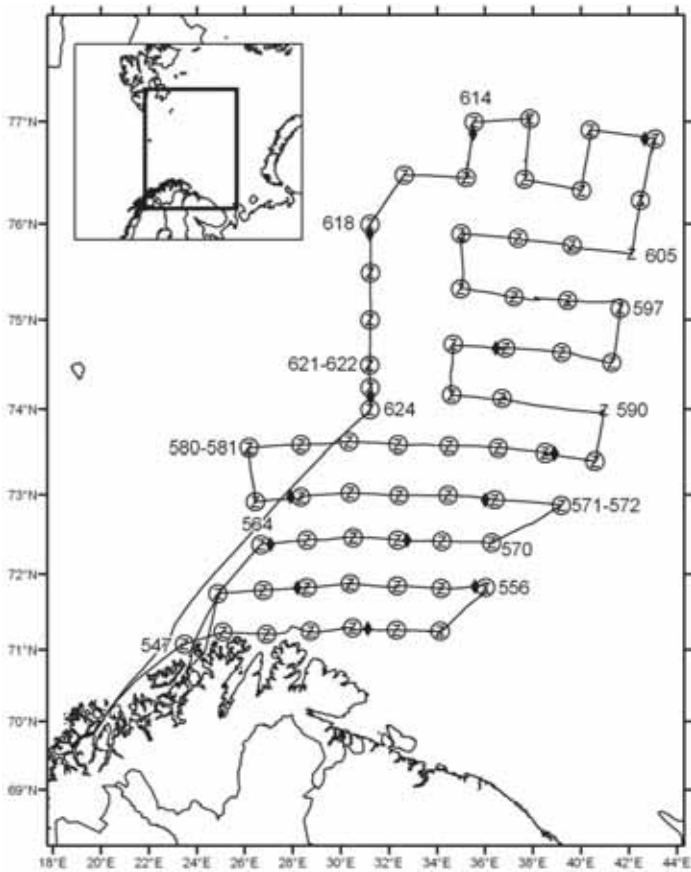
Cruise no 2010110
 "G.O. Sars"
 24 July–13 Aug 2010

● Grab stations



Cruise no 2010110
 "G.O. Sars"
 24 July–13 Aug 2010

● Sledge stations



Cruise no 2010111
 "G.O. Sars"
 23 Aug–14 Sep 2010

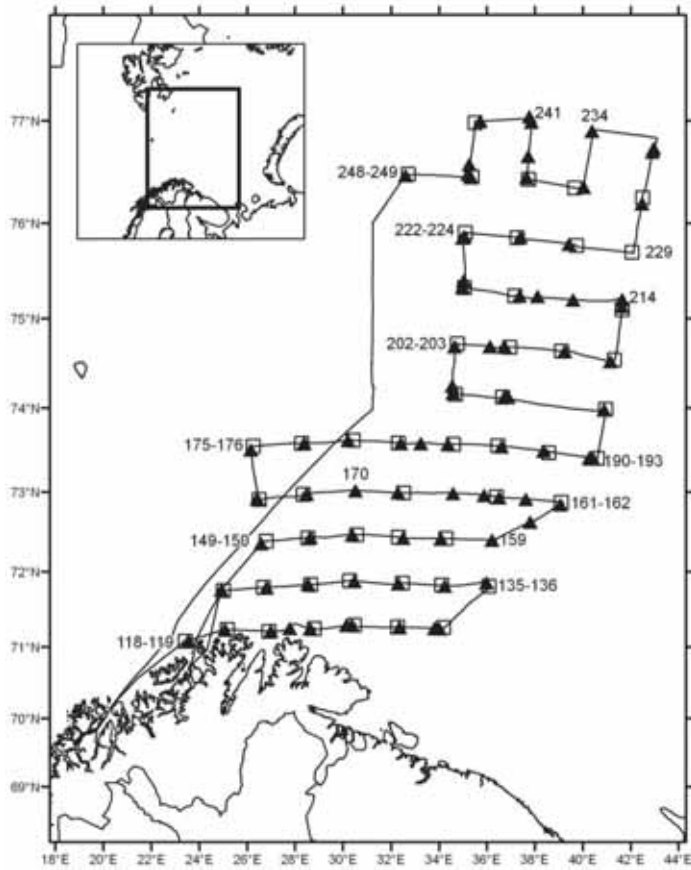
z CTD st.no 547–624

○ Plankton st. (WP-II-net)

◆ Plankton st. (Mocness)

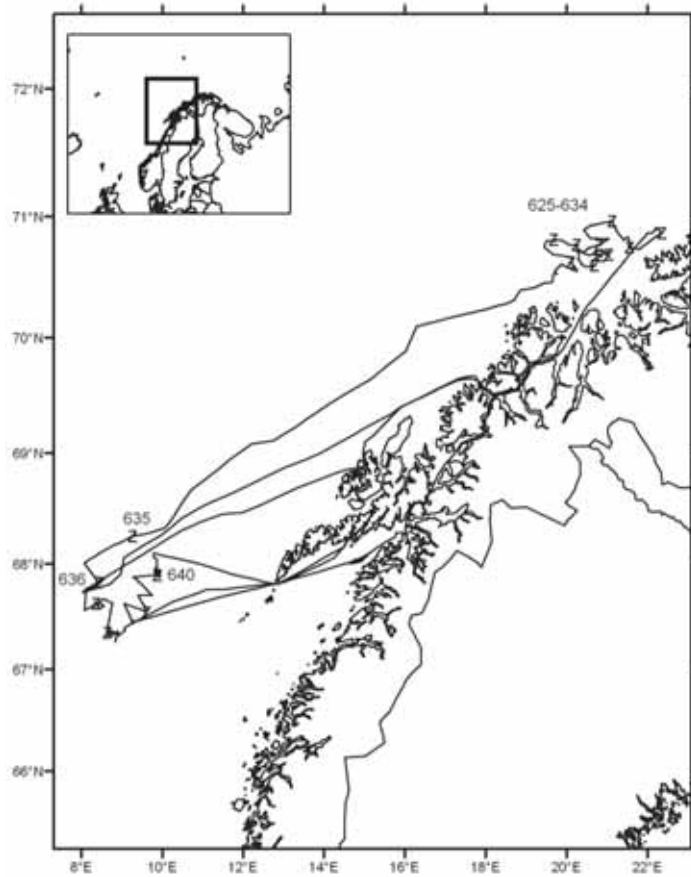
Standard section:

Vardø-N (partly) st.no 618–624



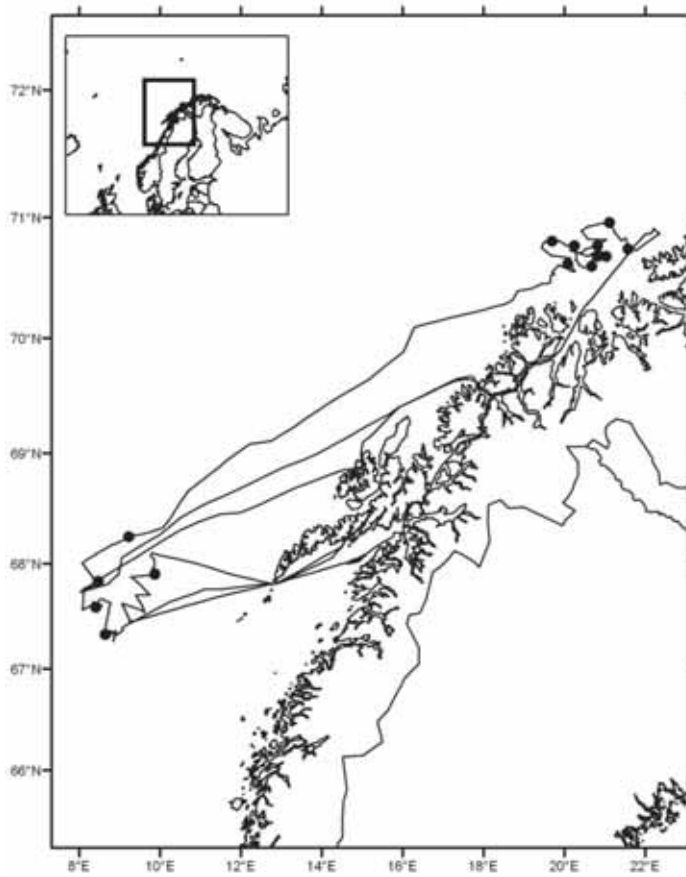
Cruise no 2010111
 "G.O. Sars"
 23 Aug–14 Sep 2010

Trawl st.no 118–249
 ▲ Pelagic trawl
 □ Bottom trawl



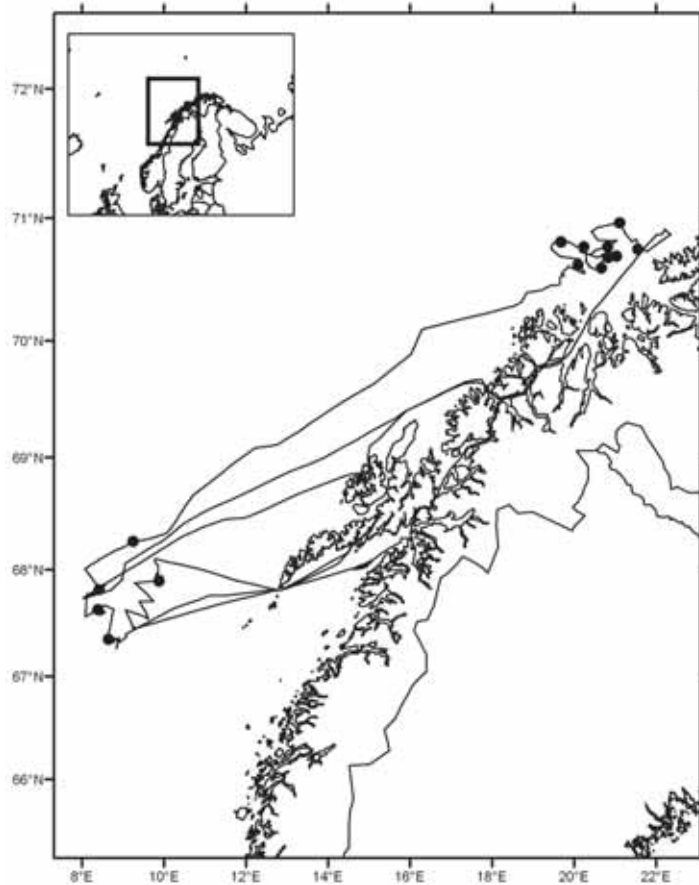
Cruise no 2010112
 "G.O. Sars"
 17 Sep–12 Oct 2010

z CTD st.no 625–640



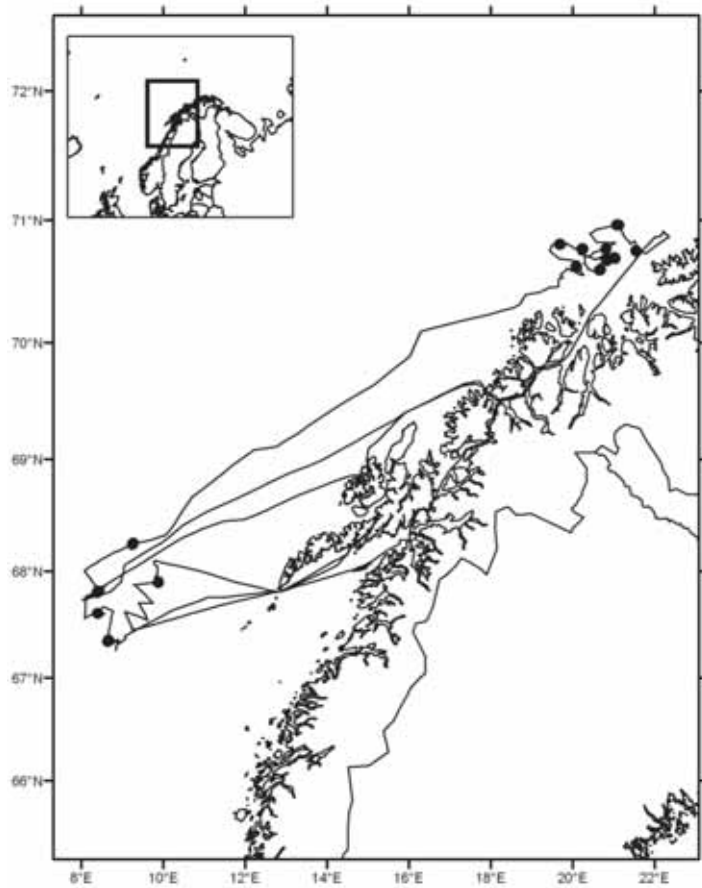
Cruise no 2010112
 "G.O. Sars"
 17 Sep–12 Oct 2010

- Beam trawl st.no 368–381



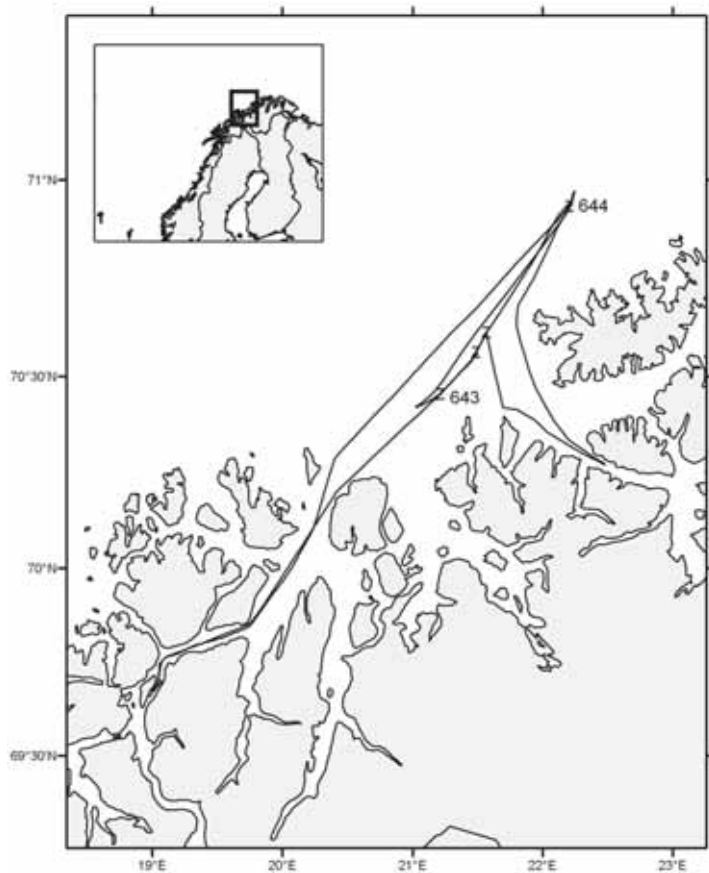
Cruise no 2010112
 "G.O. Sars"
 17 Sep–12 Oct 2010

- Grab stations st.no 422–457



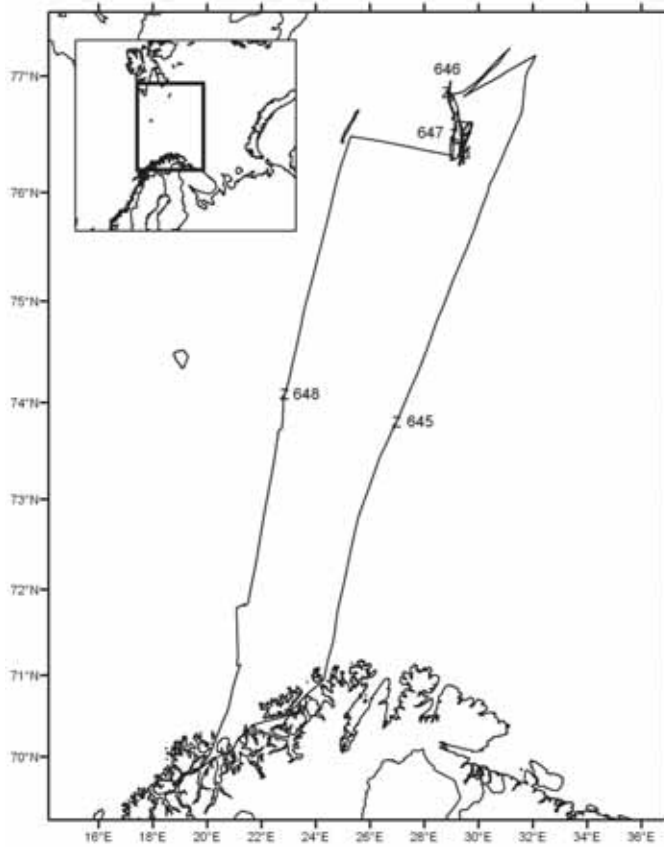
Cruise no 2010112
 "G.O. Sars"
 17 Sep–12 Oct 2010

● Sledge stations st.no 84–111



Cruise no 2010113
 "G.O. Sars"
 14–17 Oct 2010

z CTD st.no 641–644

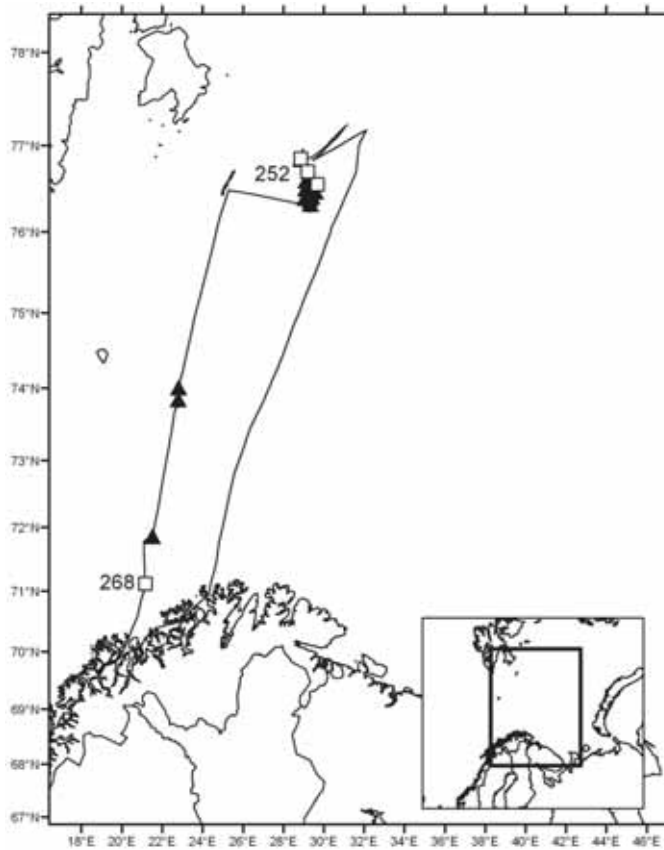


Cruise no 2010114

“G.O. Sars”

19–31 Oct 2010

z CTD st.no 645–648



Cruise no 2010114

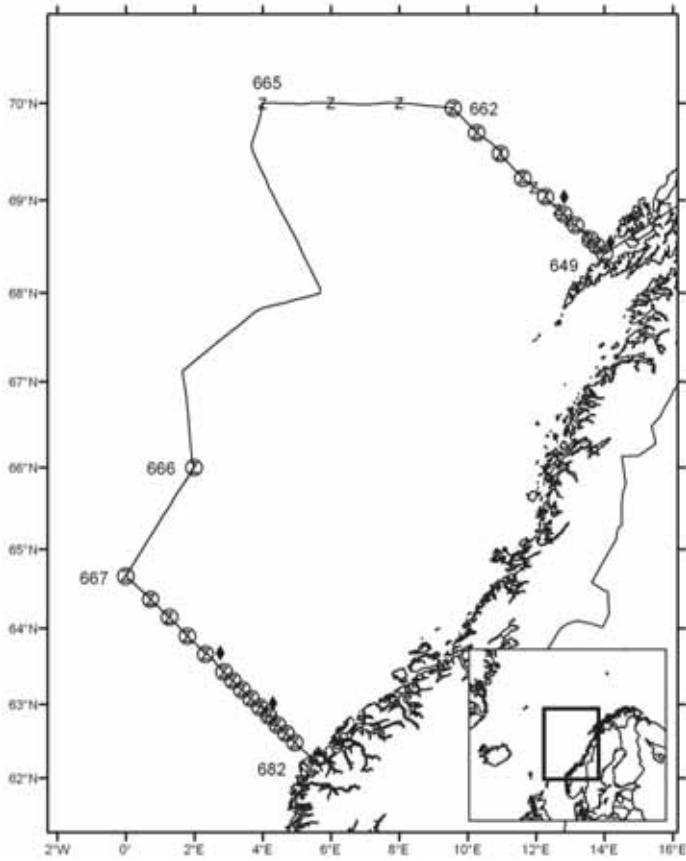
“G.O. Sars”

19–31 Oct 2010

Trawl st.no 252–268

▲ Pelagic trawl st.

□ Bottom trawl st.



Cruise no 2010115

“G.O. Sars”

2–9 Nov 2010

z CTD st.no 649–682

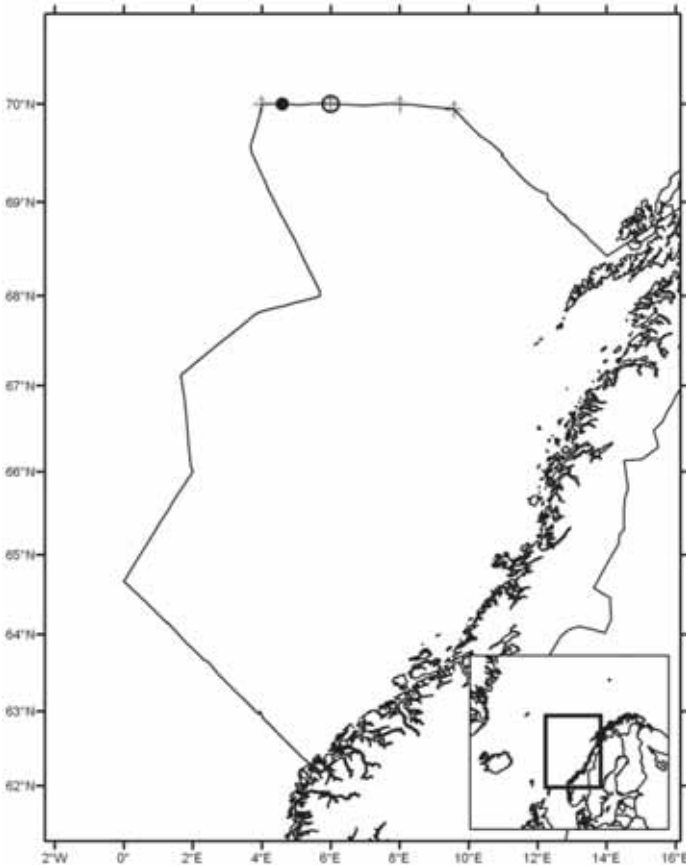
○ Plankton st. (WP-II-net)

◆ Plankton st. (Mocness)

Standard sections:

Gimsøy-NW st.no 648–662

Svinøy-NW st.no 667–682



Cruise no 2010115

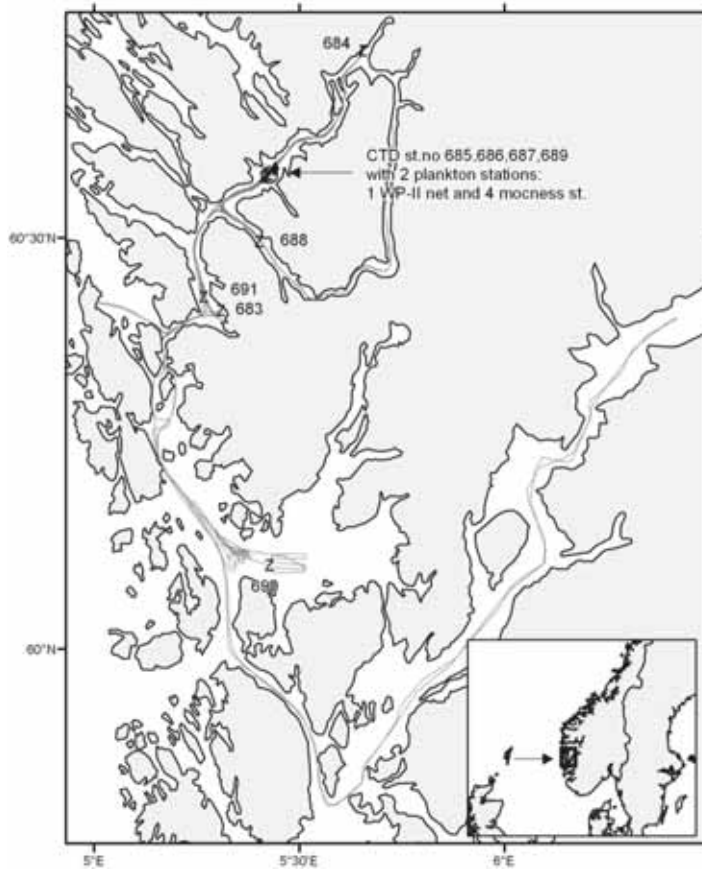
“G.O. Sars”

2–9 Nov 2010

● RAFOS sound source mooring

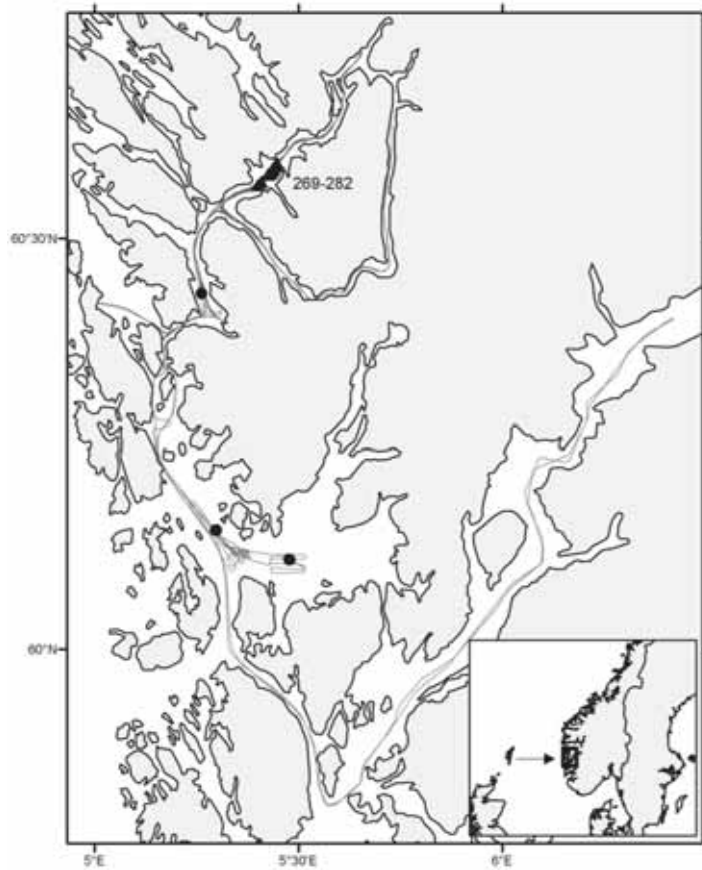
⊕ RAFOS floats, ocean current velocity

○ ARGO float



Cruise no 2010119
 "G.O. Sars"
 17 Nov–1 Dec 2010

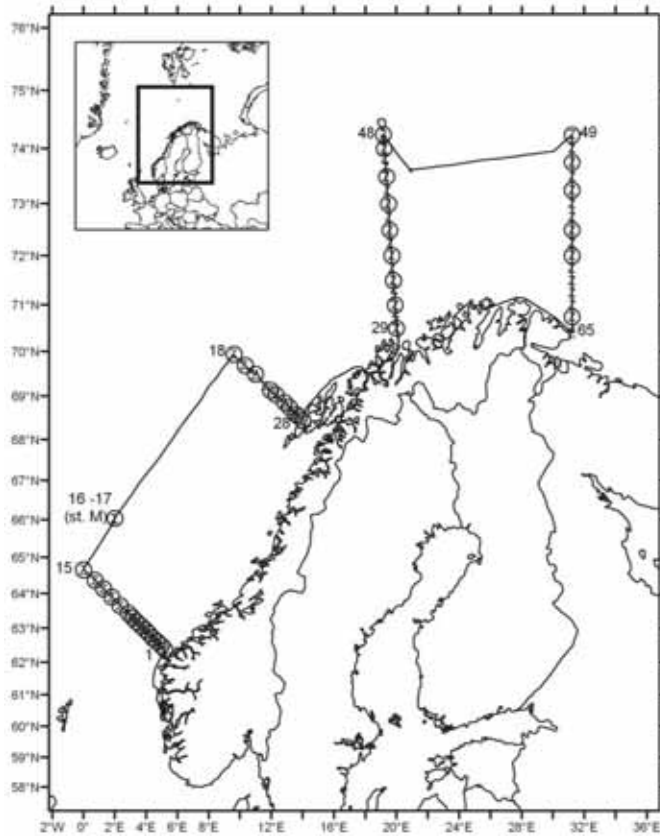
- z CTD st.no 683–691
- 1 Plankton st. (WP-II-net)
- ◆ 4 Plankton st. (Mocness)



Cruise no 2010119
 "G.O. Sars"
 17 Nov–1 Dec 2010

- ▲ Pelagic trawl st.no 269–282
- Grab stations

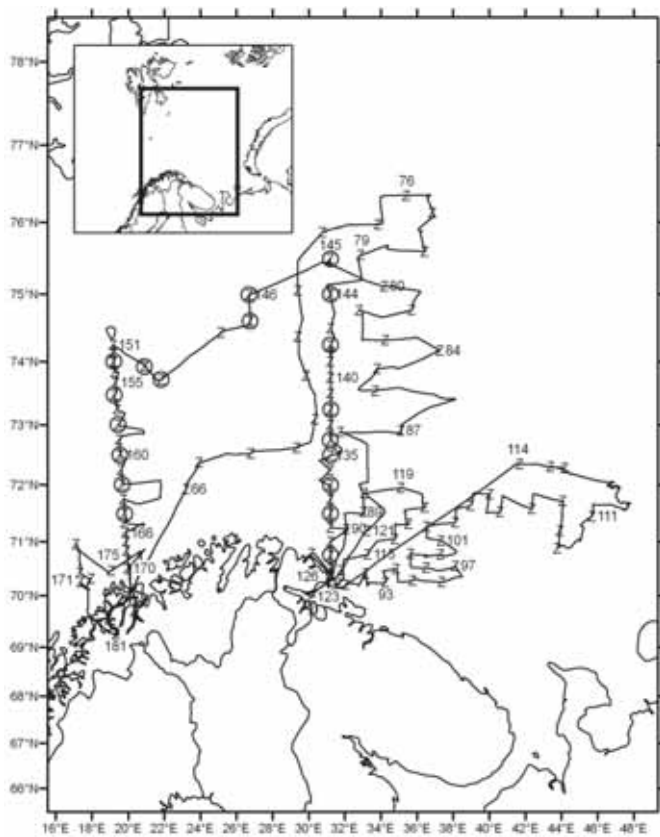
4.2 Johan Hjort



Cruise no 2010201
“Johan Hjort”
18 Jan–1 Feb 2010

z CTD st.no 1–65
o Plankton st. (WP-II-net)

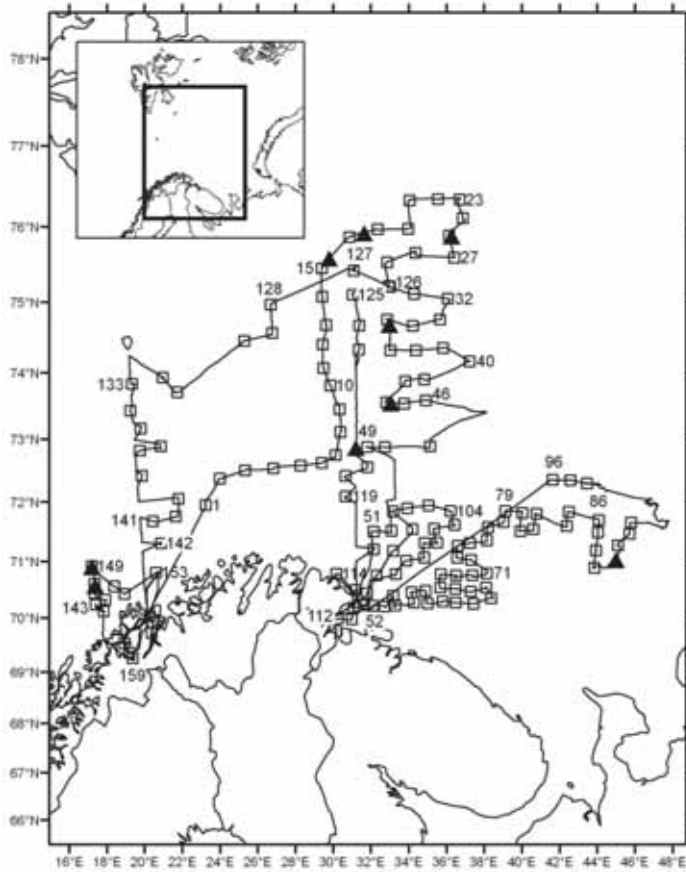
Standard sections:
Svinøy-NW st.no 1–15
Gimsøy-NW st.no 18–28
Fugløya–Bjørnøya st.no 29–48
Vardø-N st.no 49–65



Cruise no 2010202
“Johan Hjort”
4 Feb–17 Mar 2010

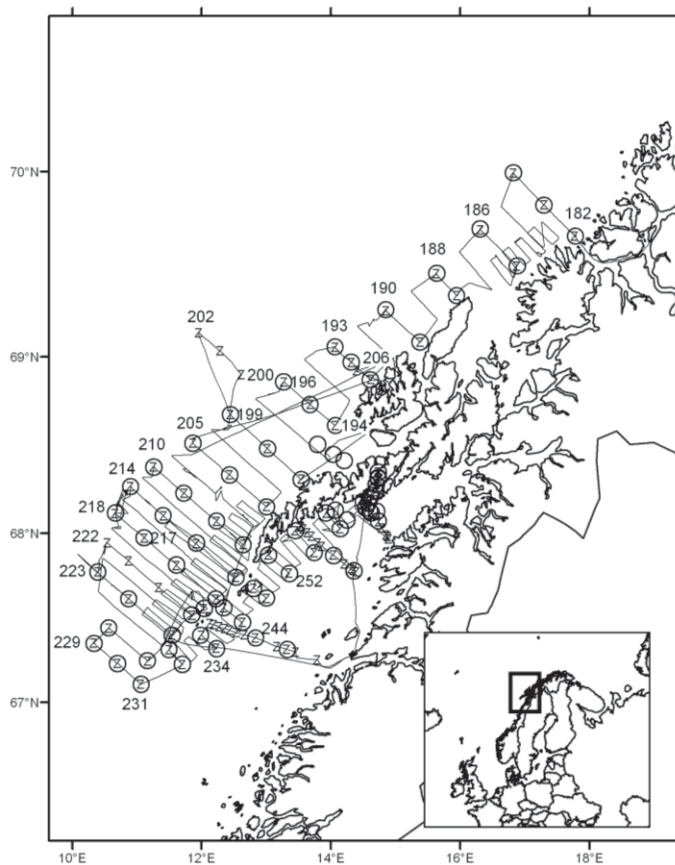
z CTD st.no 66–181
o Plankton st.

Standard sections:
Vardø-N st.no 151–170
Fugløya–Bjørnøya st.no 151–170



Cruise no 2010202
 “Johan Hjort”
 4 Feb–17 Mar 2010

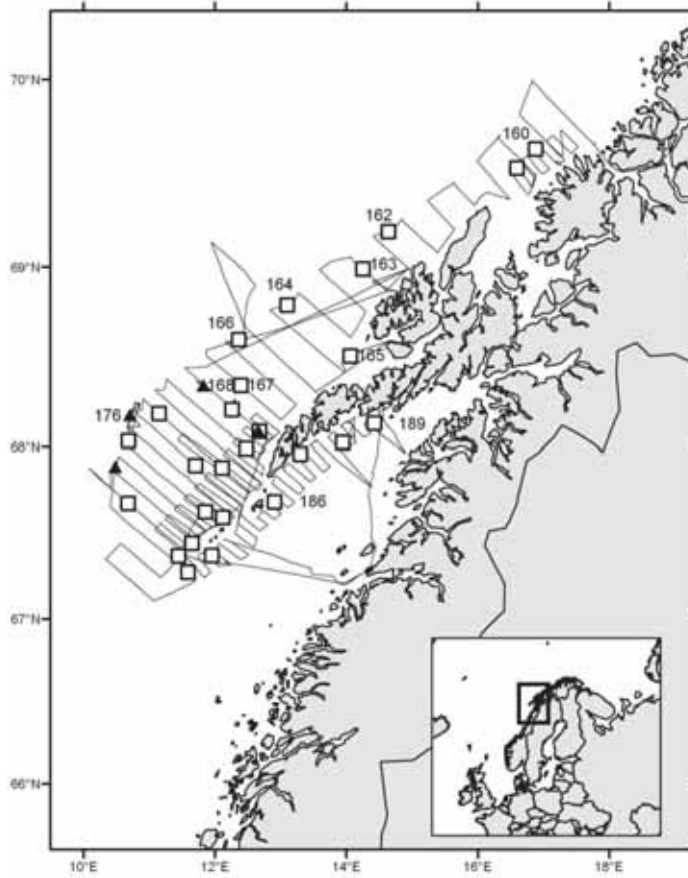
Trawl st.no 1–159
 □ Bottom trawl
 ▲ Pelagic trawl



Cruise no 2010203
 “Johan Hjort”
 18 Mar–9 Apr 2010

Part 1 18 Mar–5 Apr
 z CTD st.no 182–285
 o Egg survey (WP-II-net)

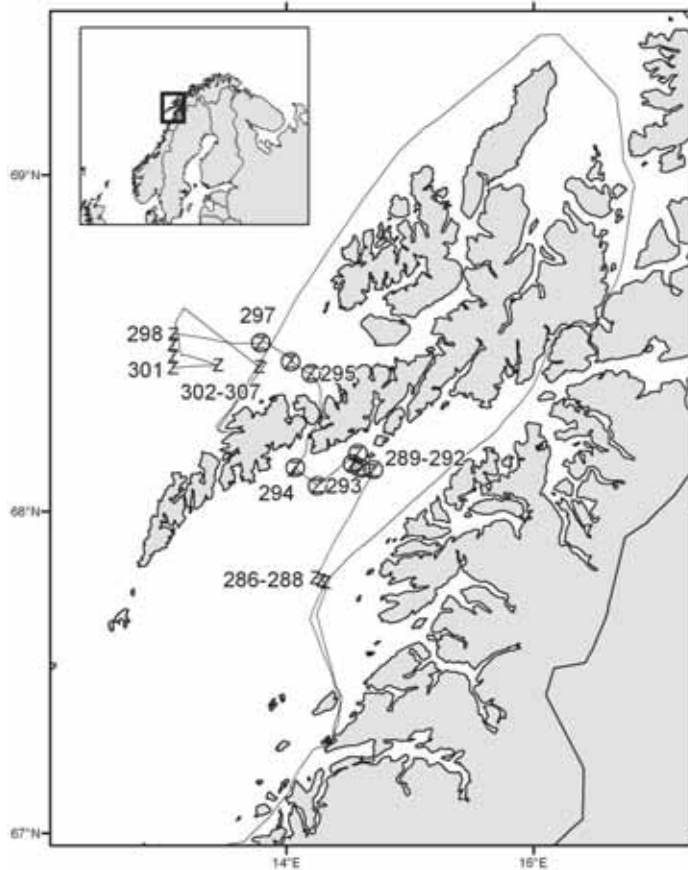
Oceanographic sections:
 Røst–Tennholmen
 Ballstad–Måløy/Skarholmen
 Kabelvåg–Steigen



Cruise no 2010203
 “Johan Hjort”
 18 Mar–9 Apr 2010

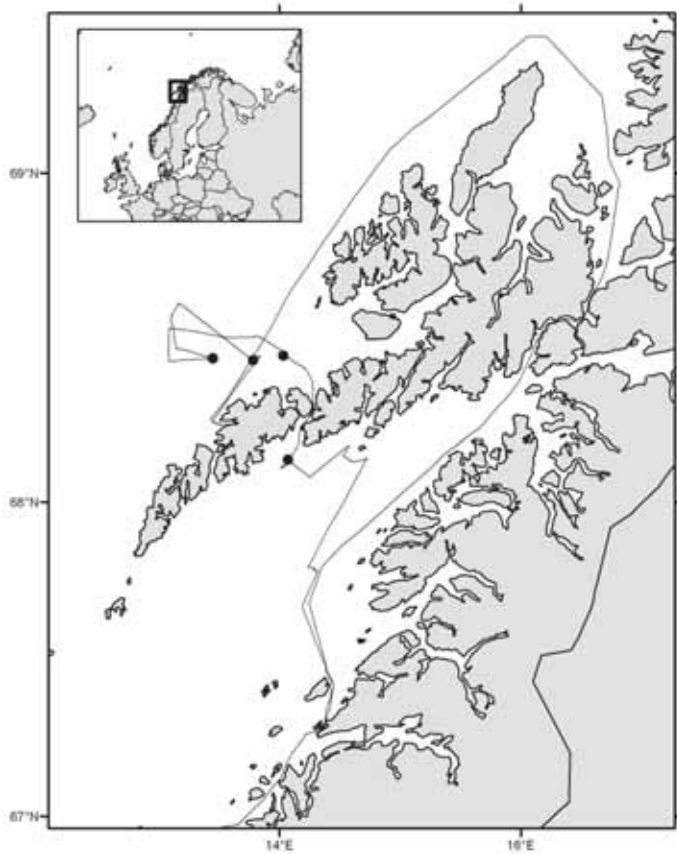
Part 1 18 Mar–5 Apr
 Trawl st.no 160–189

- Bottom trawl
- ▲ Pelagic trawl



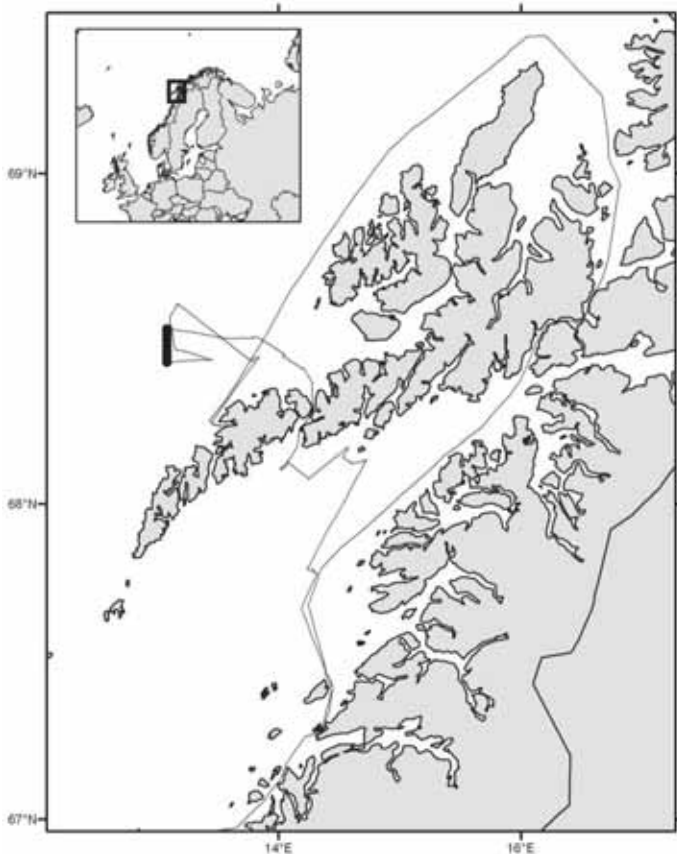
Cruise no 2010203
 “Johan Hjort”
 18 Mar–9 Apr 2010

Part 2 6–9 Apr
 z CTD st.no 286–307
 o Plankton stations



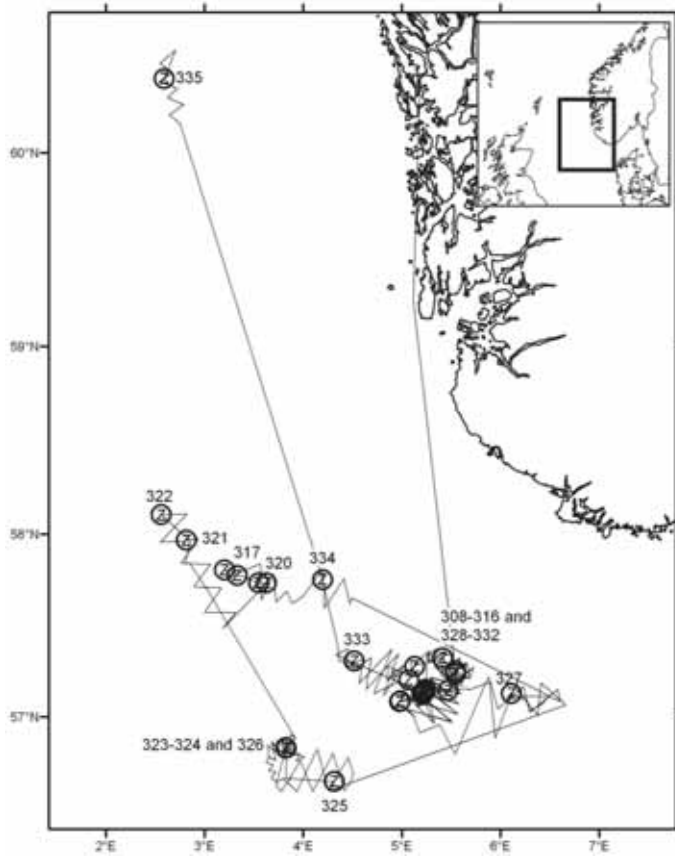
Cruise no 2010203
 "Johan Hjort"
 18 Mar–9 Apr 2010

Part 2 6–9 Apr
 ● Dropsonde



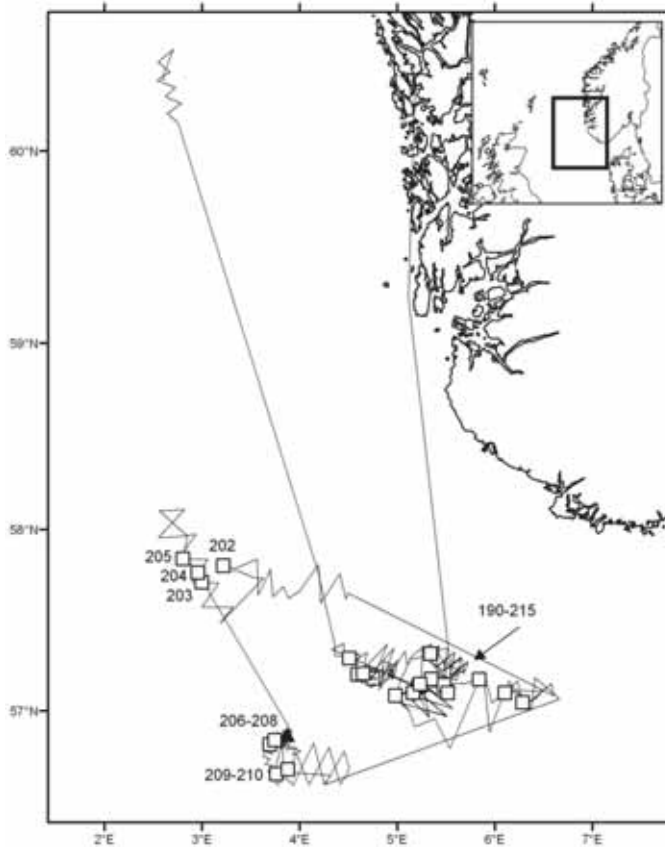
Cruise no 2010203
 "Johan Hjort"
 18 Mar–9 Apr 2010

Part 2 6–9 Apr
 ● Surface buoy without drougue and
 surface buoy drogued at 3 m depth



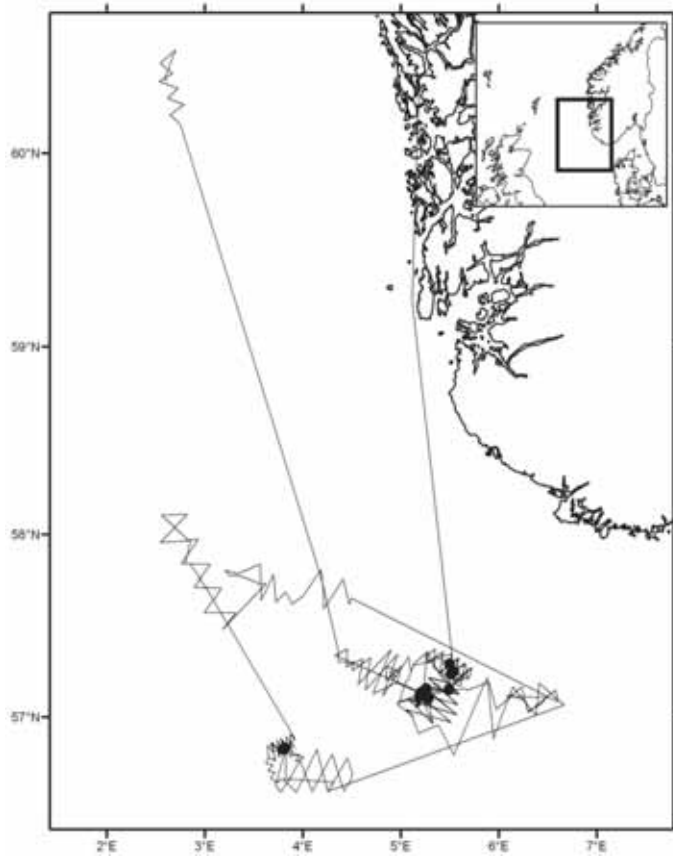
Cruise no 2010205
 "Johan Hjort"
 18 Apr–10 May 2010

z CTD st.no 308–335
 o Plankton stations (WP-(II-net))



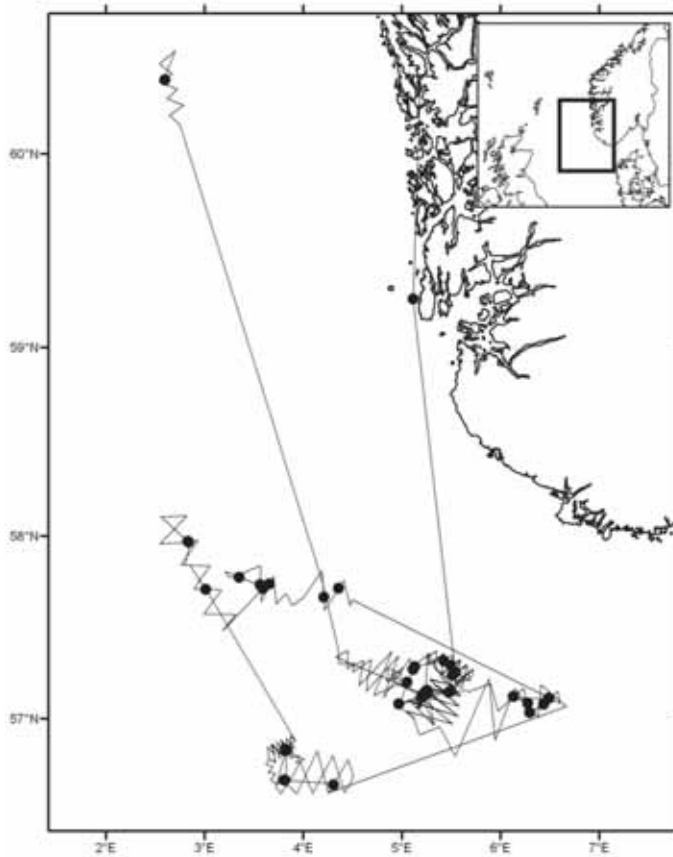
Cruise no 2010205
 "Johan Hjort"
 18 Apr–10 May 2010

Trawl st.no. 190–215
 □ Bottom trawl
 ▲ Pelagic trawl



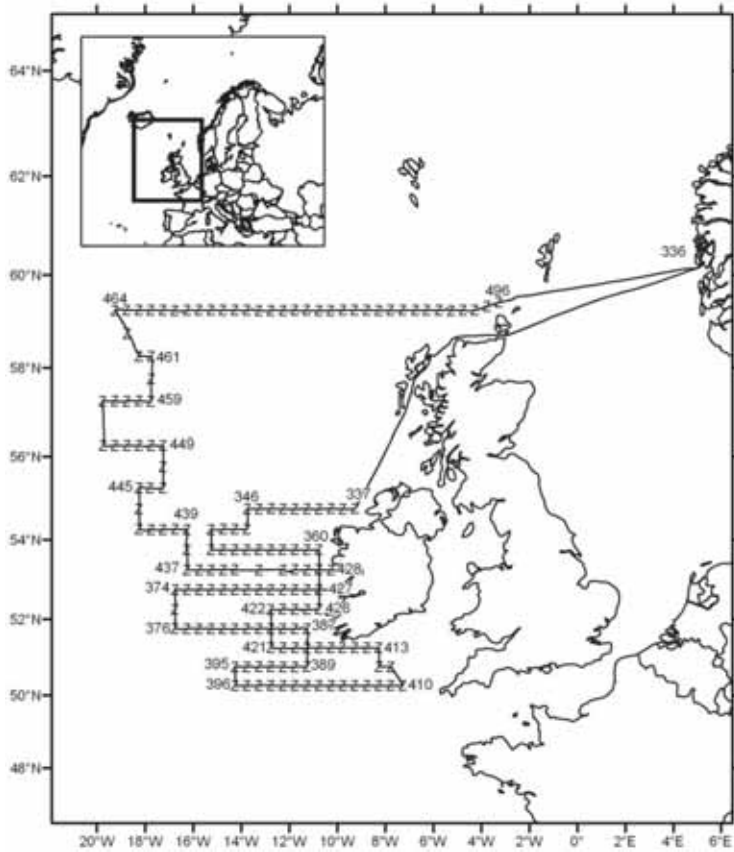
Cruise no 2010205
 "Johan Hjort"
 18 Apr–10 May 2010

- Grab stations (43 st.)



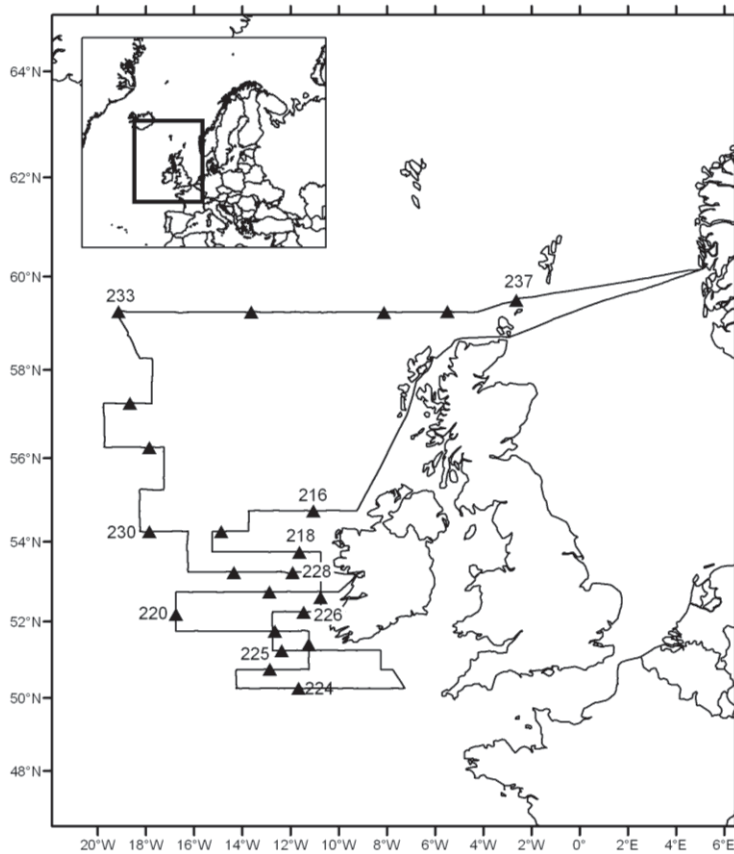
Cruise no 2010205
 "Johan Hjort"
 18 Apr–10 May 2010

- Sledge stations (63 st.)



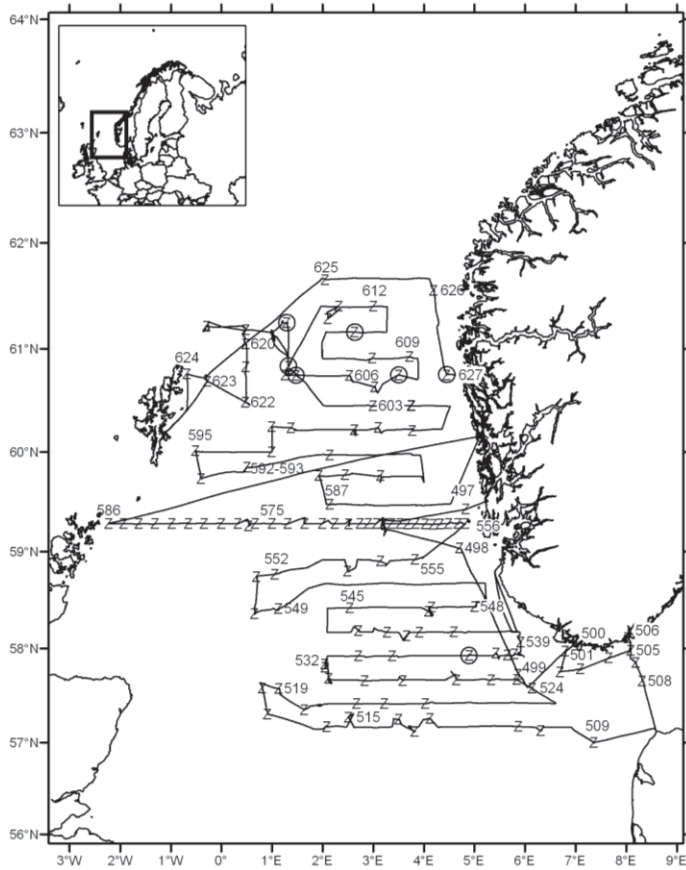
Cruise no 2010206
 "Johan Hjort"
 11 May–5 June 2010

z CTD st.no 336–496
 Gulf III - egg and larvae stations
 at every ctd station (except for st. 454)



Cruise no 2010206
 "Johan Hjort"
 11 May–5 June 2010

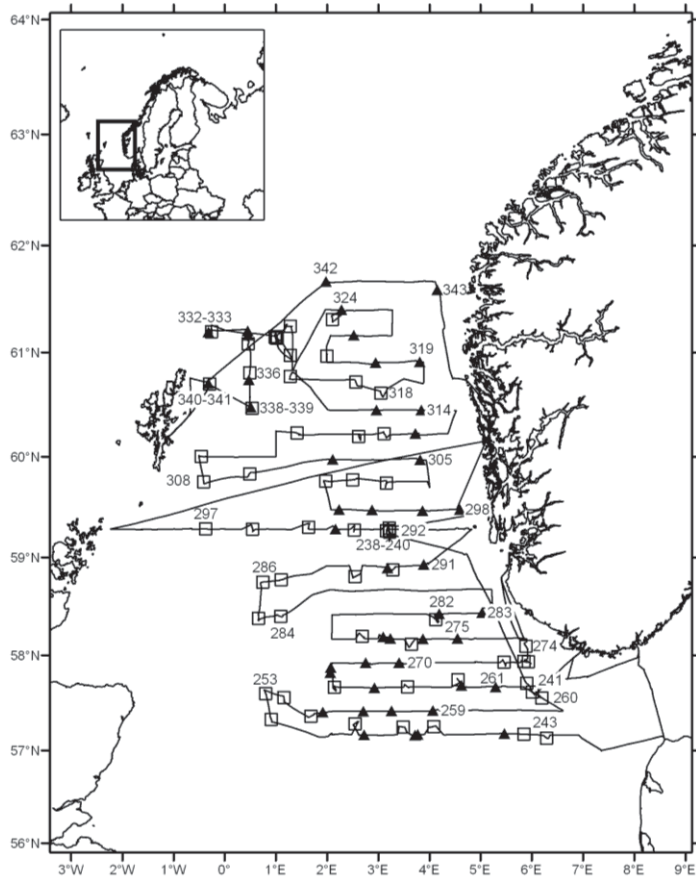
▲ Pelagic trawl st.no 216–237



Cruise no 2010207
 “Johan Hjort”
 3 July–2 Aug 2010

z CTD st.no 497–627
 O Plankton st. (WP-II-net)

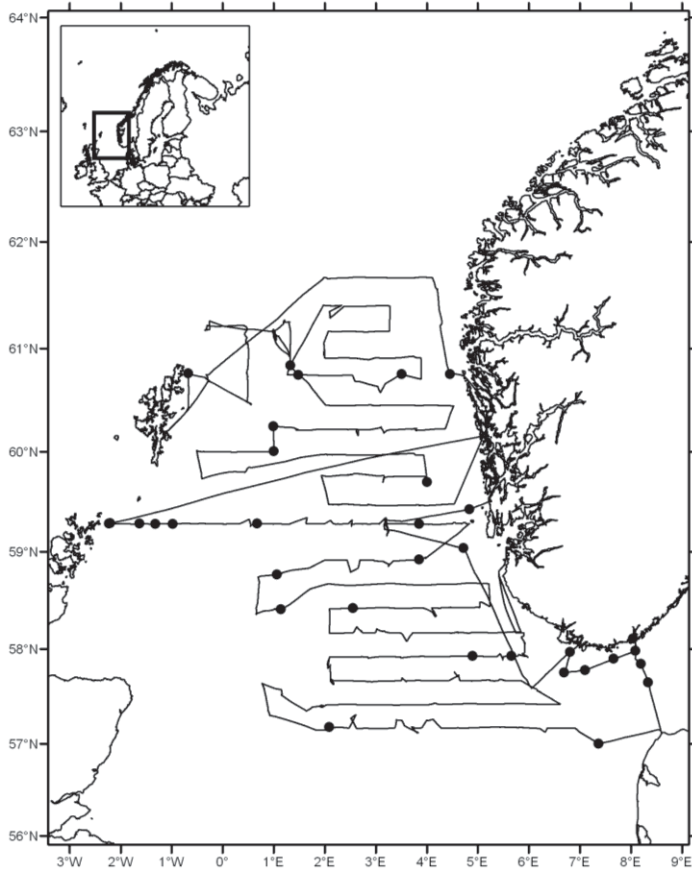
Standard section:
 Utsira-W st.no 556–586



Cruise no 2010207
 “Johan Hjort”
 3 July–2 Aug 2010

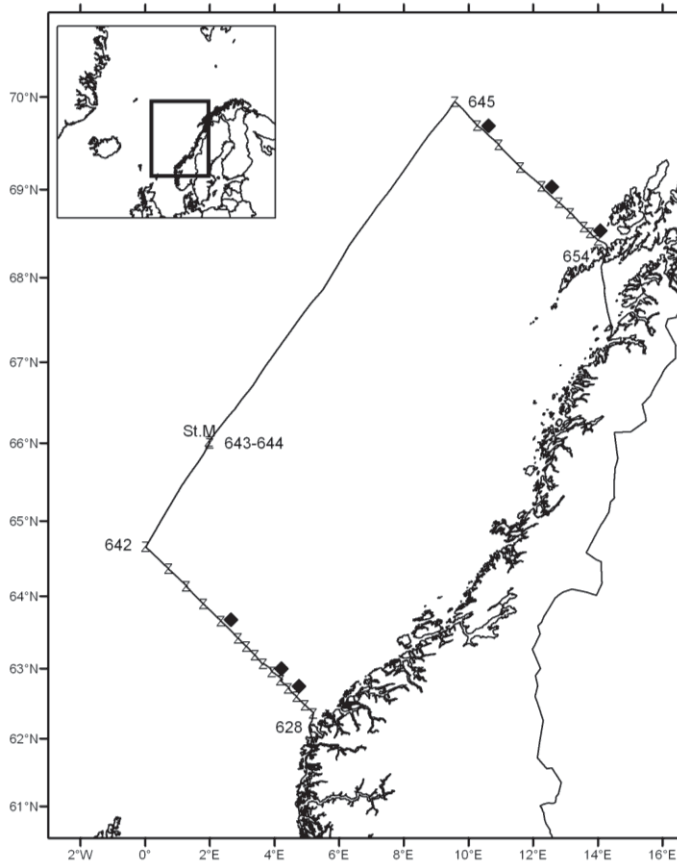
Trawl st.no 238–343

□ Bottom trawl
 ▲ Pelagic trawl



Cruise no 2010207
 "Johan Hjort"
 3 July–2 Aug 2010

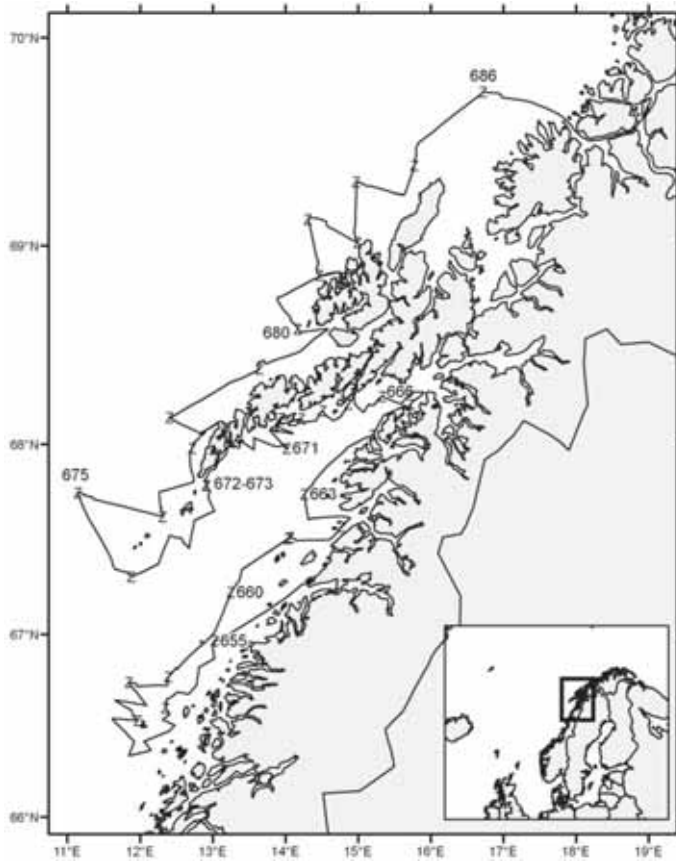
- Grab stations



Cruise no 2010208
 "Johan Hjort"
 3–9 Aug 2010

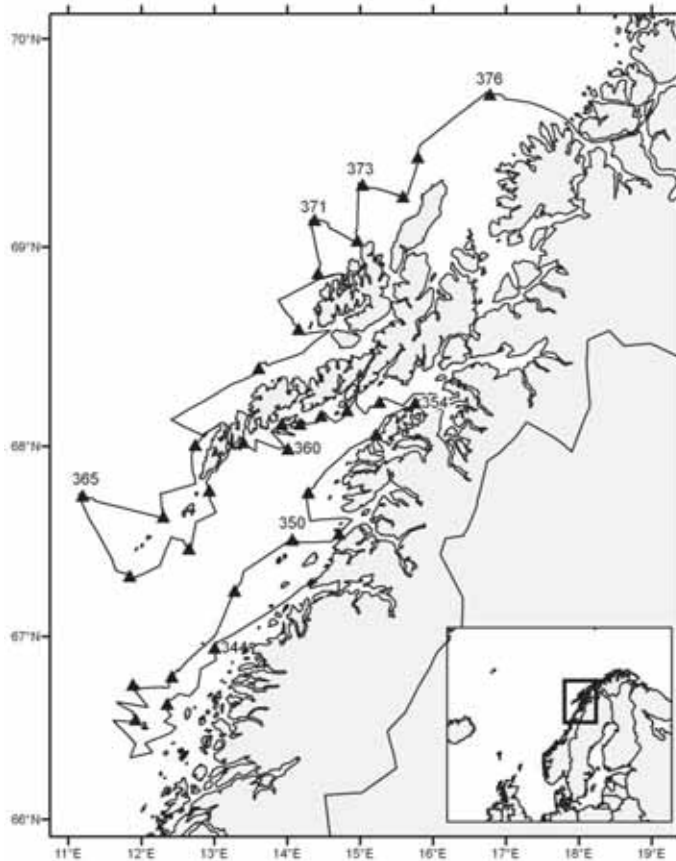
z CTD st.no 628–654
 Plankton st. (WP-II-net) at every ctd st.

Standard section:
 Svinøy-NW st.no 628–642
 Gimsøy-NW st.no 645–654



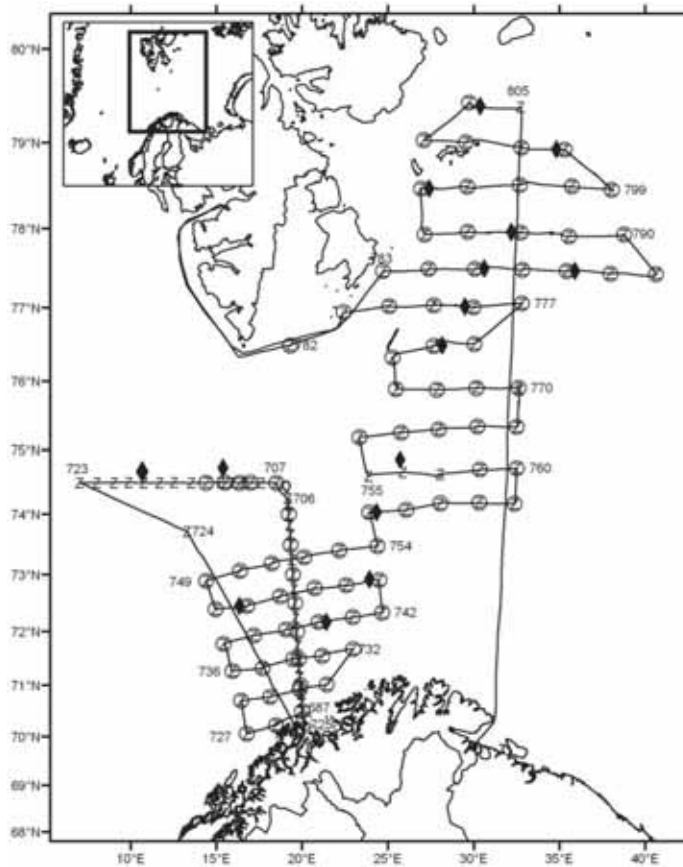
Cruise no 2010209
 "Johan Hjort"
 10–17 Aug 2010

z CTD st.no 655–686



Cruise no 2010209
 "Johan Hjort"
 10–17 Aug 2010

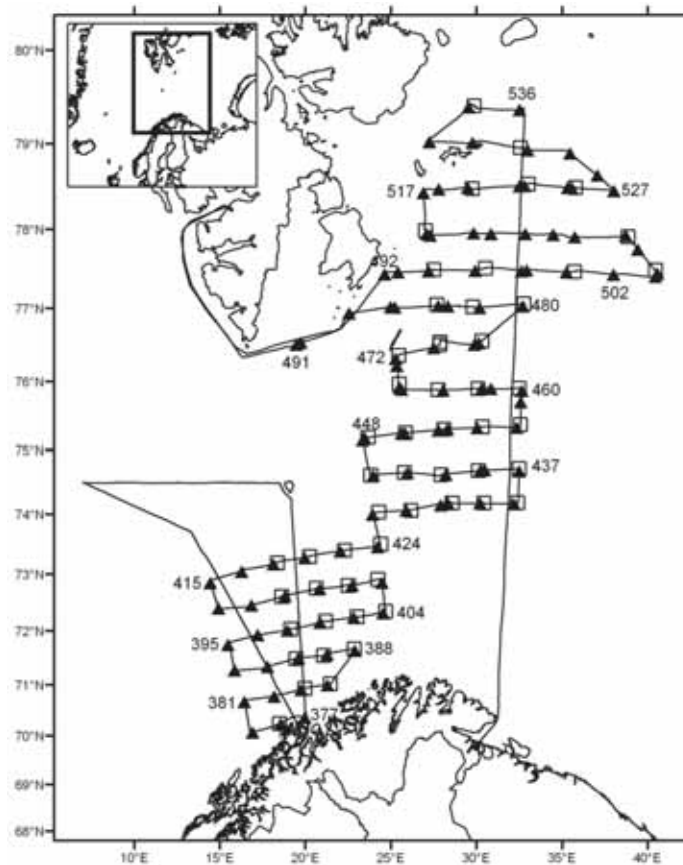
▲ Pelagic trawl st.no 344–376



Cruise no 2010210
 "Johan Hjort"
 23 Aug–25 Sep 2010

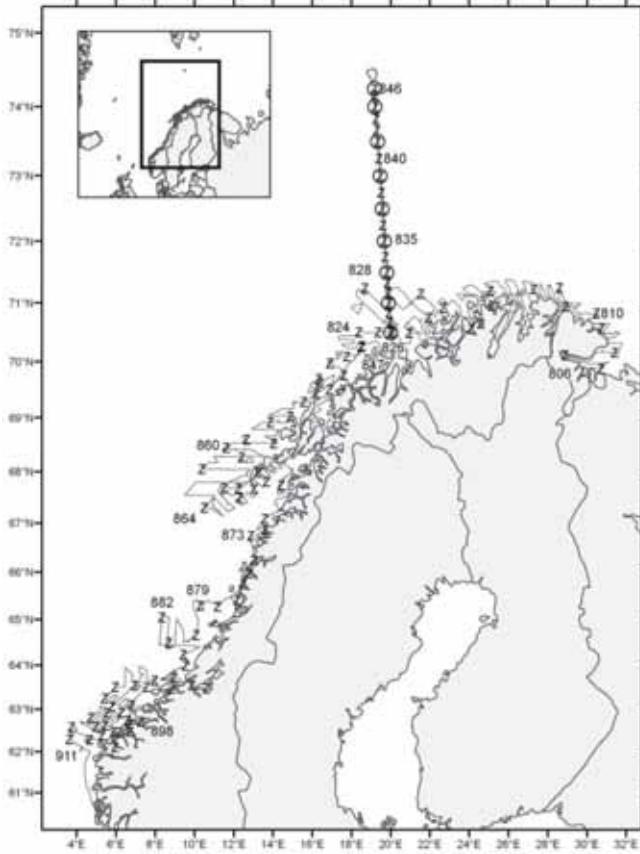
z CTD st.no 687–805
 o Plankton st. (WP-II-net)
 ◆ Plankton st. (Mocness)

Standard sections:
 Fugløya–Bjørnøya st.no 687–706
 Bjørnøya-W st.no 707–723



Cruise no 2010210
 "Johan Hjort"
 23 Aug–25 Sep 2010

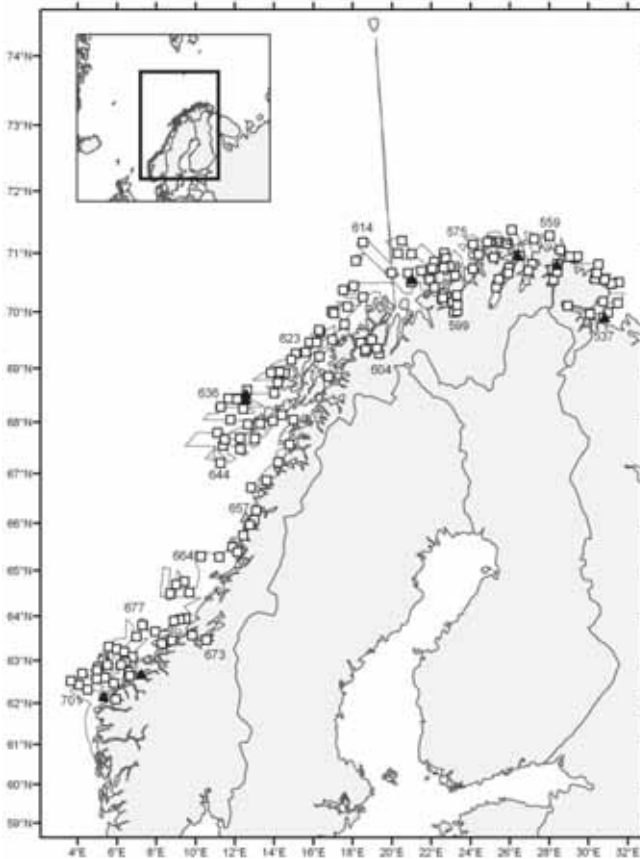
Trawl st.no 377–536
 ▲ Pelagic trawl
 □ Bottom trawl



Cruise no 2010211
 “Johan Hjort”
 27 Sep–9 Nov 2010

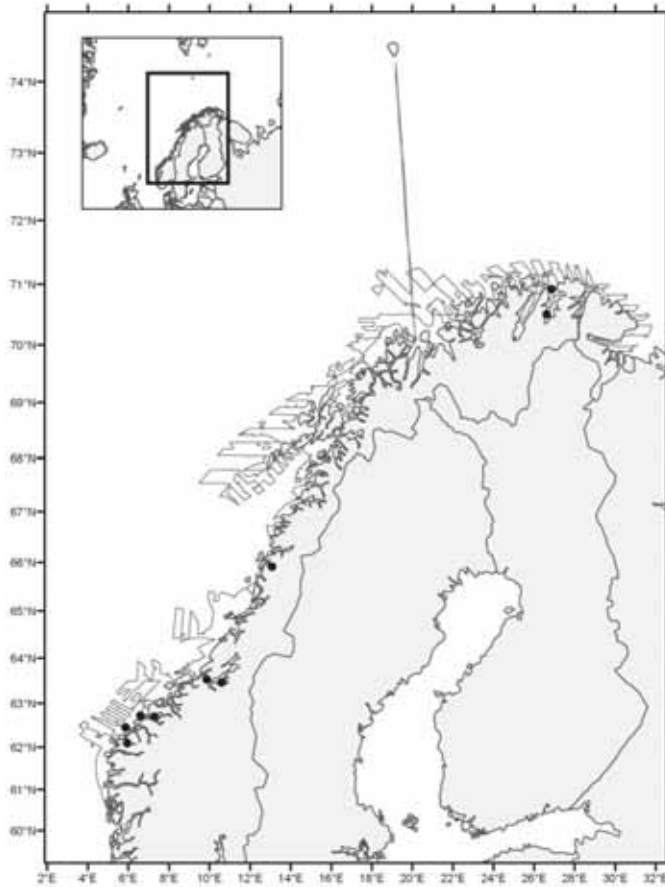
z CTD st.no 806–911
 o Plankton st. (WP-II-net)

Standard sections:
 Fugløya–Bjørnøya st.no 826–846



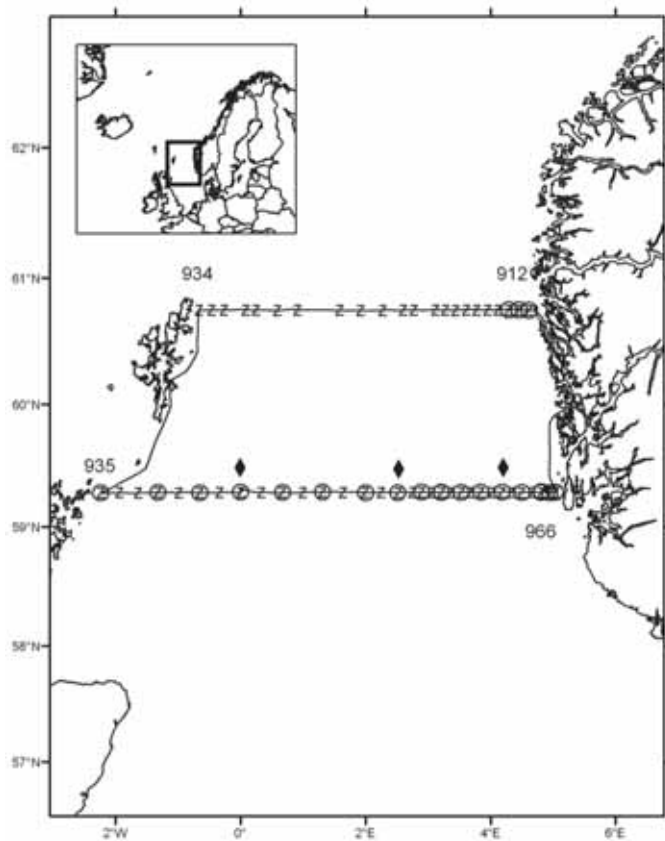
Cruise no 2010211
 “Johan Hjort”
 27 Sep–9 Nov 2010

Trawl st.no 537–701
 □ Bottom trawl
 ▲ Pelagic trawl



Cruise no 2010211
 "Johan Hjort"
 27 Sep–9 Nov 2010

- Grab stations

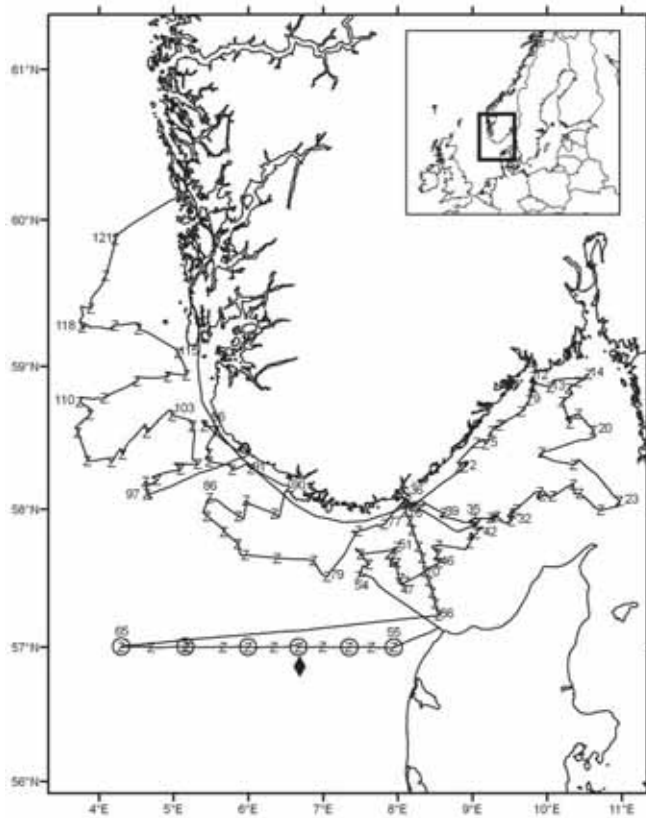


Cruise no 2010214
 "Johan Hjort"
 11–15 Nov 2010

- z CTD st.no 912–966
- o Plankton st. (WP-II-net)
- ◆ Plankton st. (Mocness)

Standard sections:
 Fedje–Shetland st.no 912–934
 Utsira–W st.no 935–966

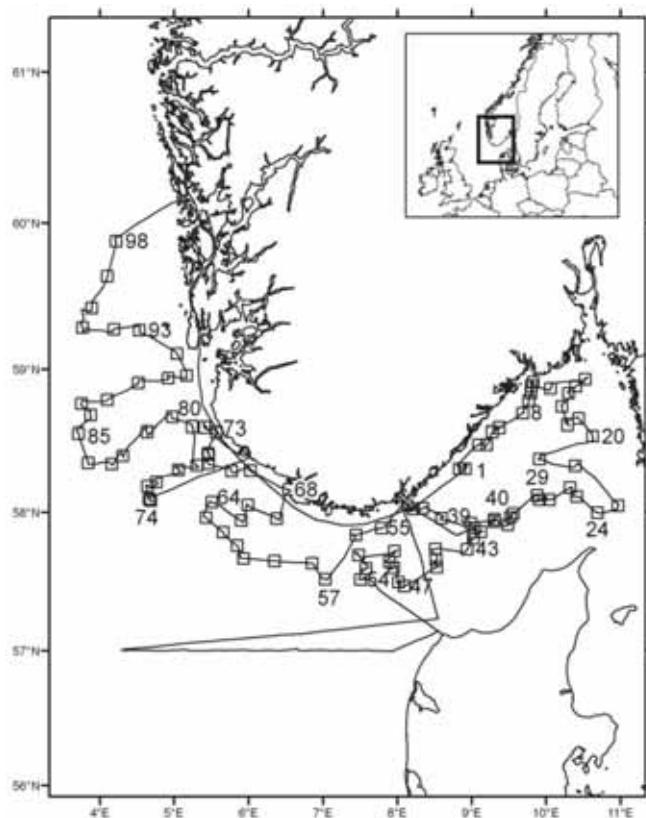
4.3 Håkon Mosby



Cruise no 2010601
 "Håkon Mosby"
 14–31 Jan 2010

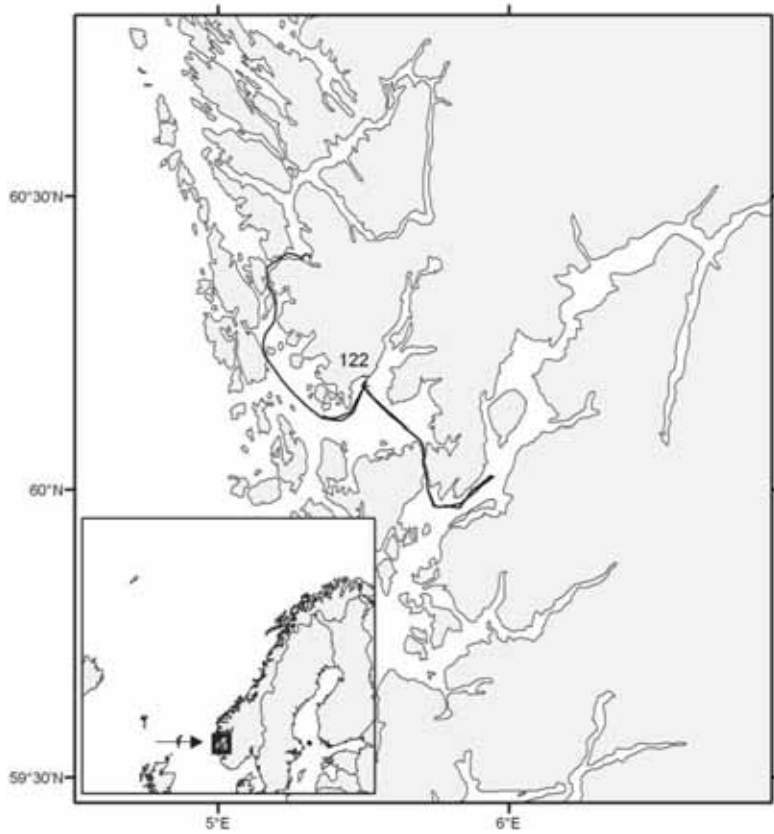
- z CTD st.no 2–121
- o Plankton st. (WP-II-net)
- ◆ Plankton st. (Mocness)

Standard sections:
 Oksøy–Hanstholm st.no 66–76
 Hanstholm–Aberdeen (partly) st.no 55–65



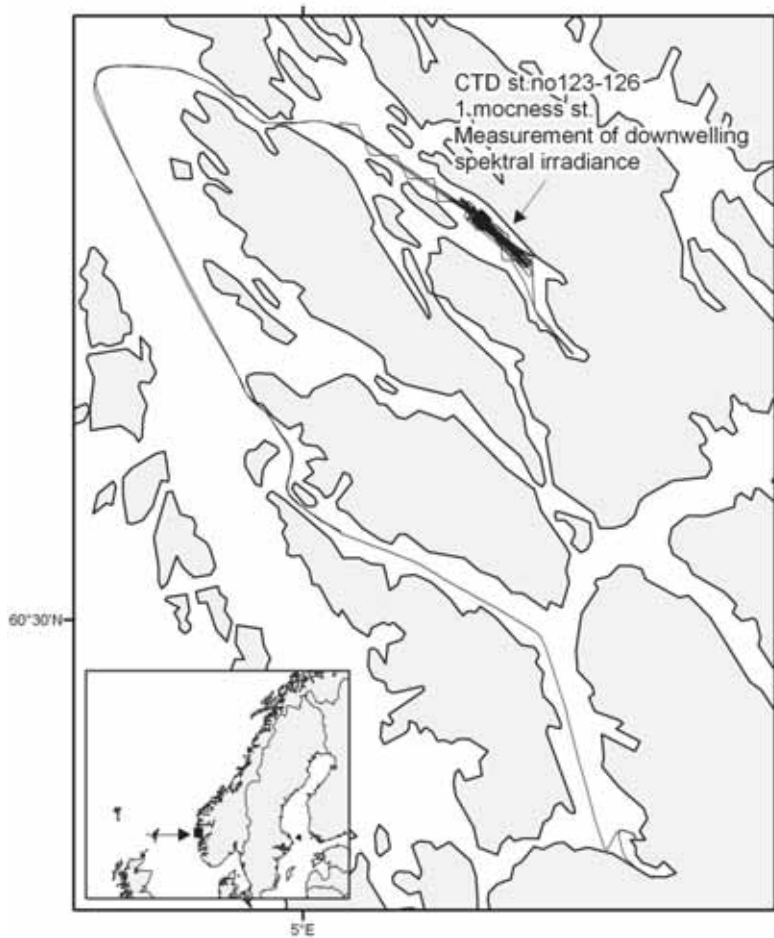
Cruise no 2010601
 "Håkon Mosby"
 14–31 Jan 2010

- Bottom trawl st.no 1–98



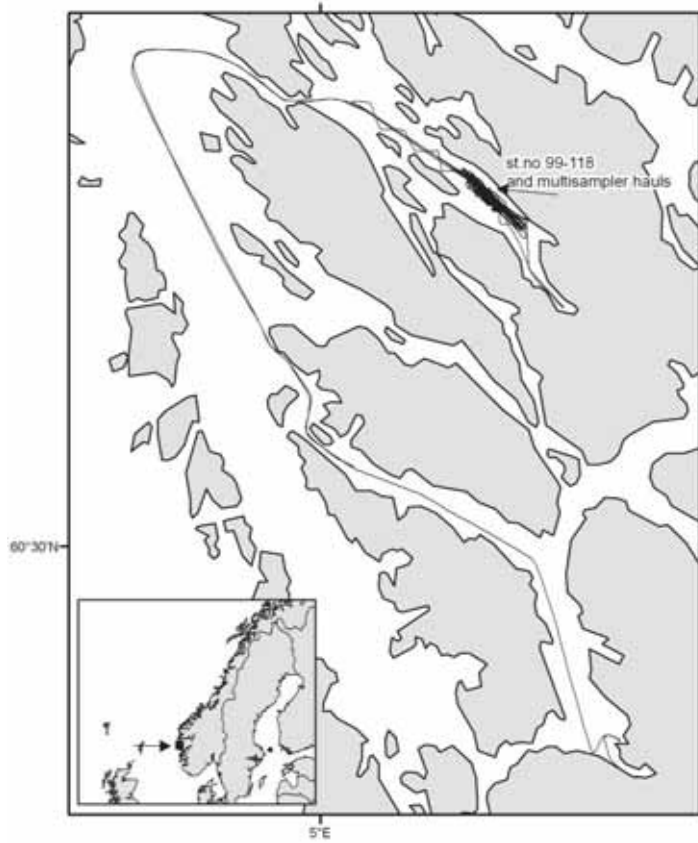
Cruise no 2010602
 "Håkon Mosby"
 5-6 Feb 2010

z CTD st.no 122



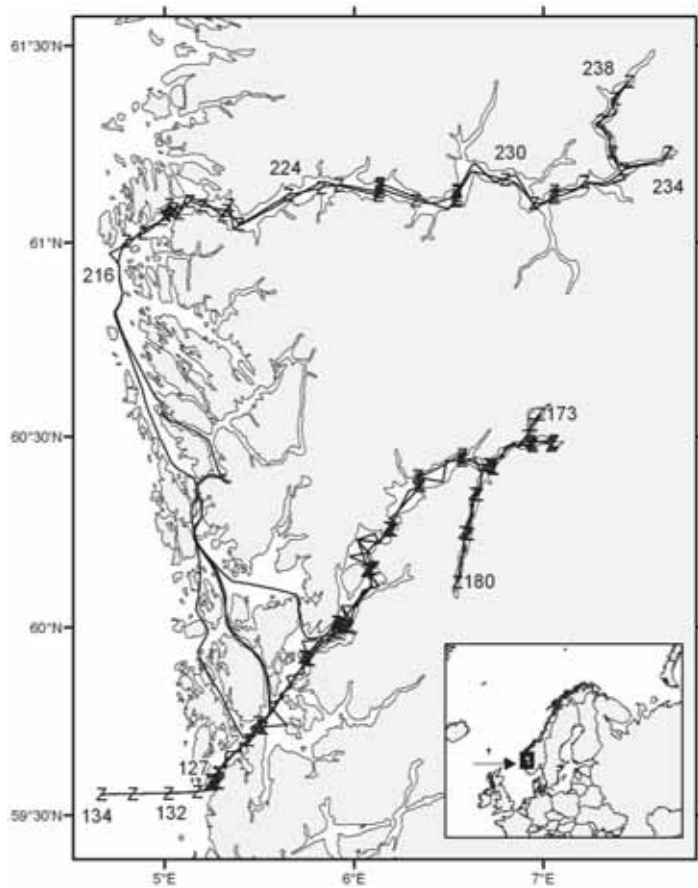
Cruise no 2010603
 "Håkon Mosby"
 7-10 Feb 2010

z CTD st.no 123-126



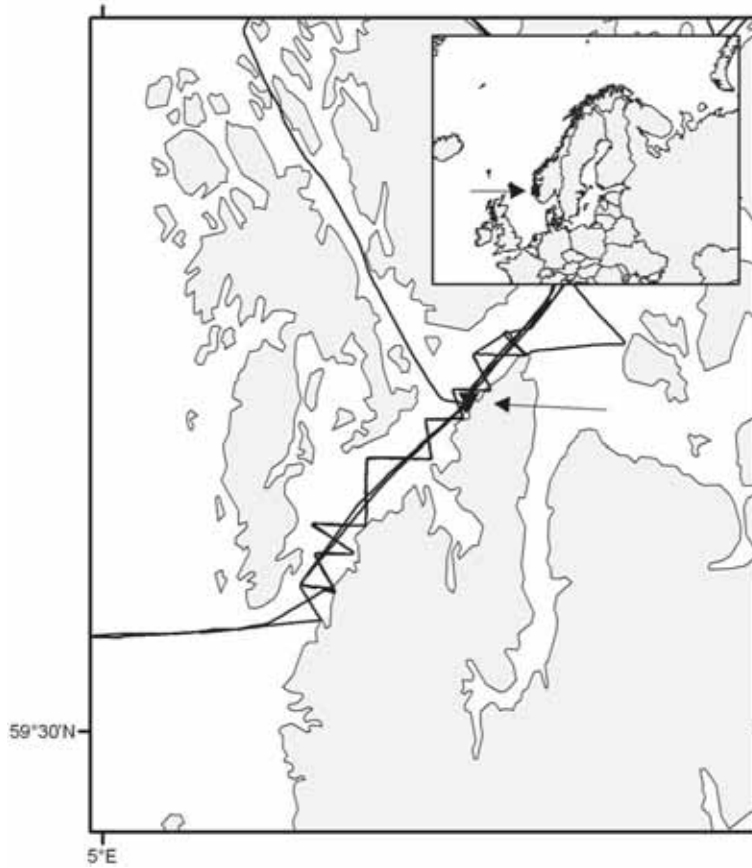
Cruise no 2010603
 "Håkon Mosby"
 7–10 Feb 2010

▲ Pelagic trawl st.no 99–118
 and multisampler hauls



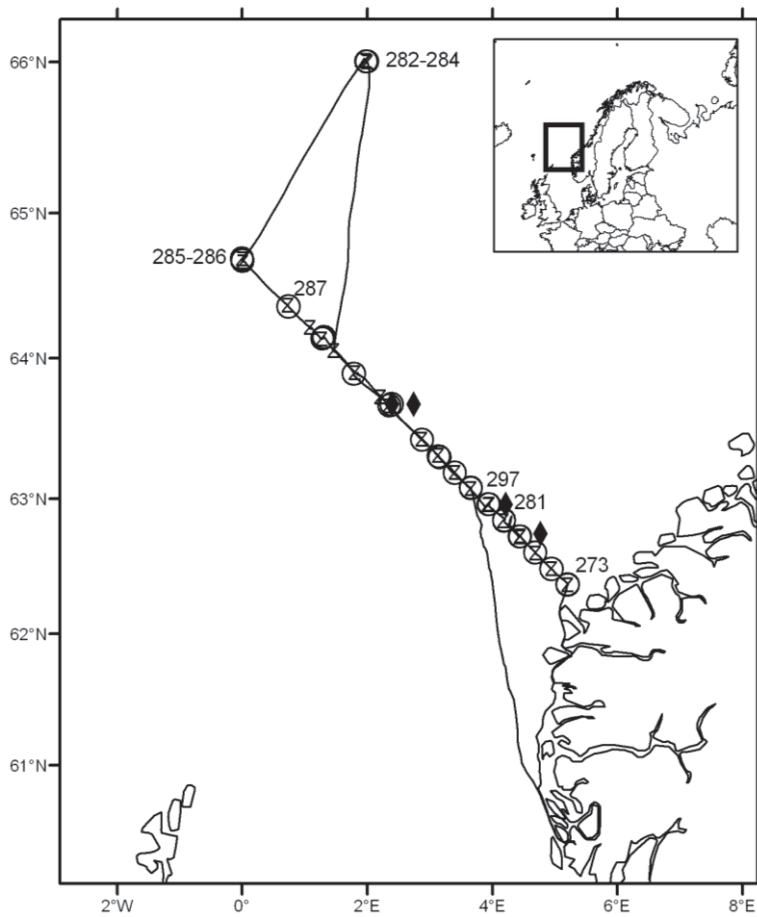
Cruise no 2010604
 "Håkon Mosby"
 11–20 Feb 2010

z CTD st.no 127–272



Cruise no 2010604
 "Håkon Mosby"
 11–20 Feb 2010

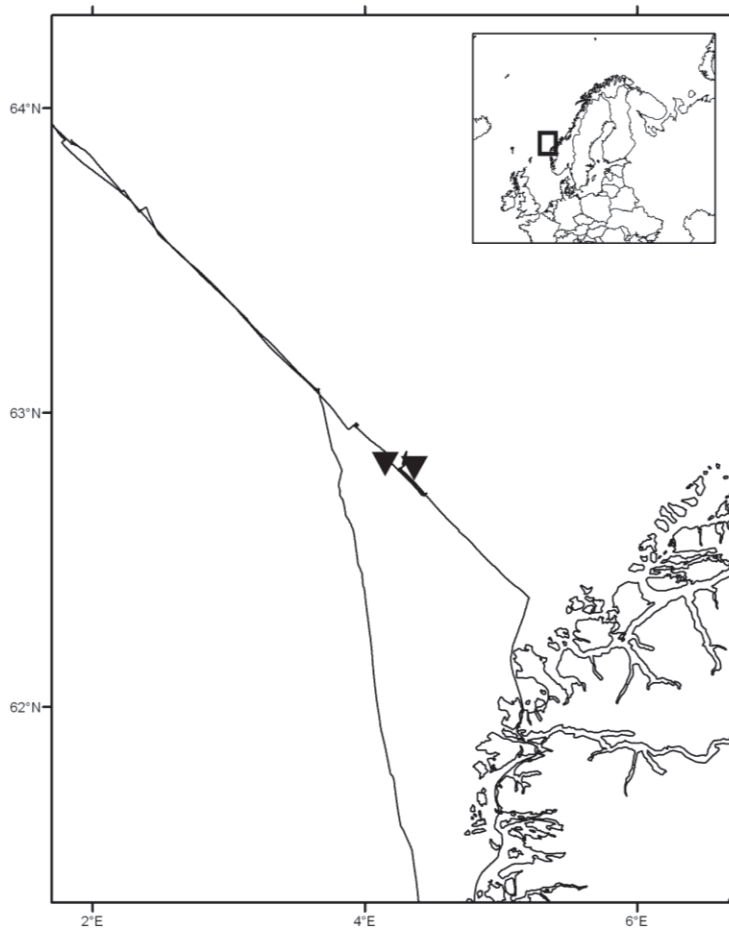
▼ Current meters deployed



Cruise no 2010605
 "Håkon Mosby"
 24 Feb–2 Mar 2010

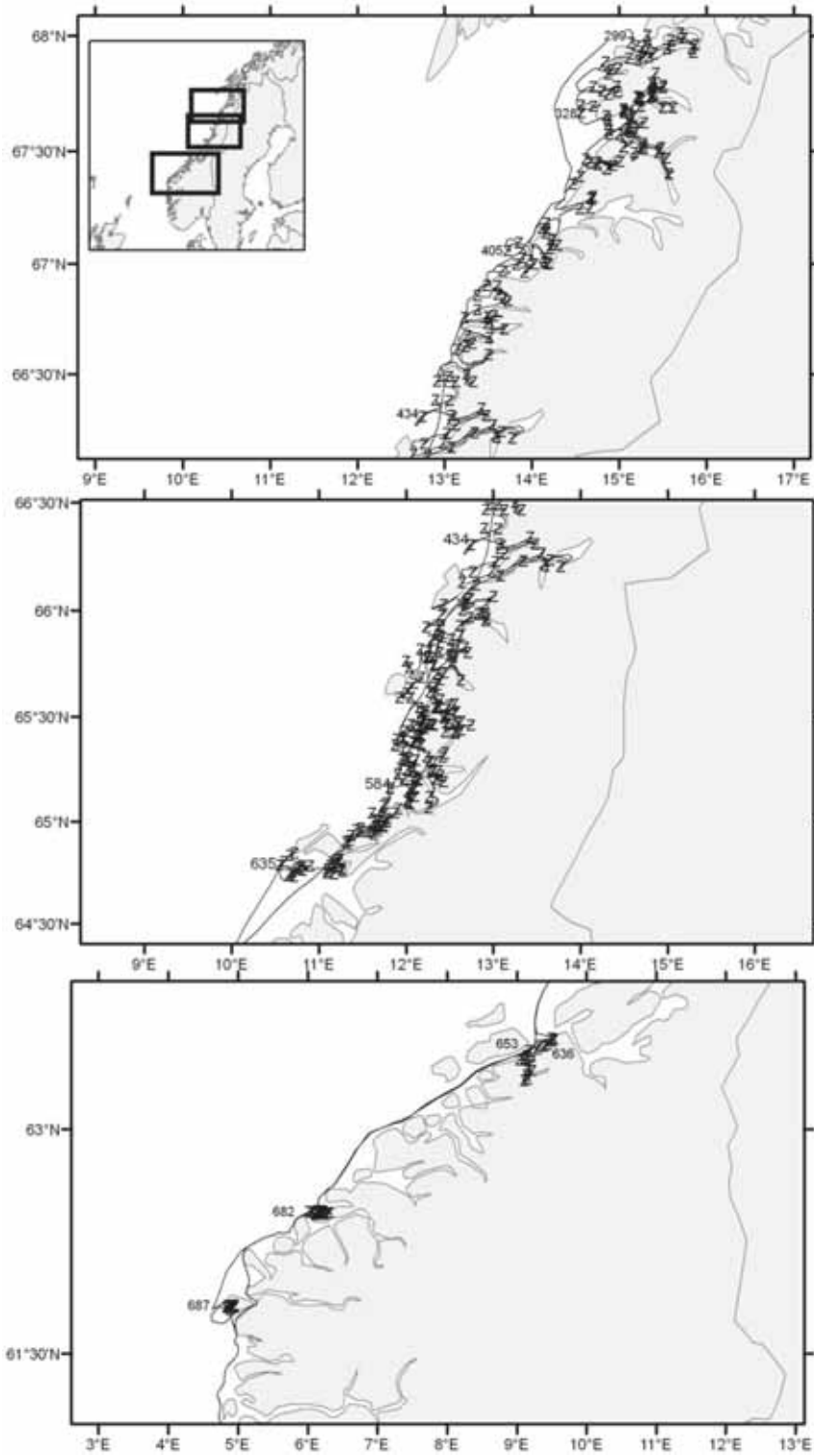
z CTD st.no 273–297
 o Plankton st. (WP-II-net)
 ◆ Plankton st. (Mocness)

Standard sections:
 Svinøy-NW st.no 273–281 and
 285–297



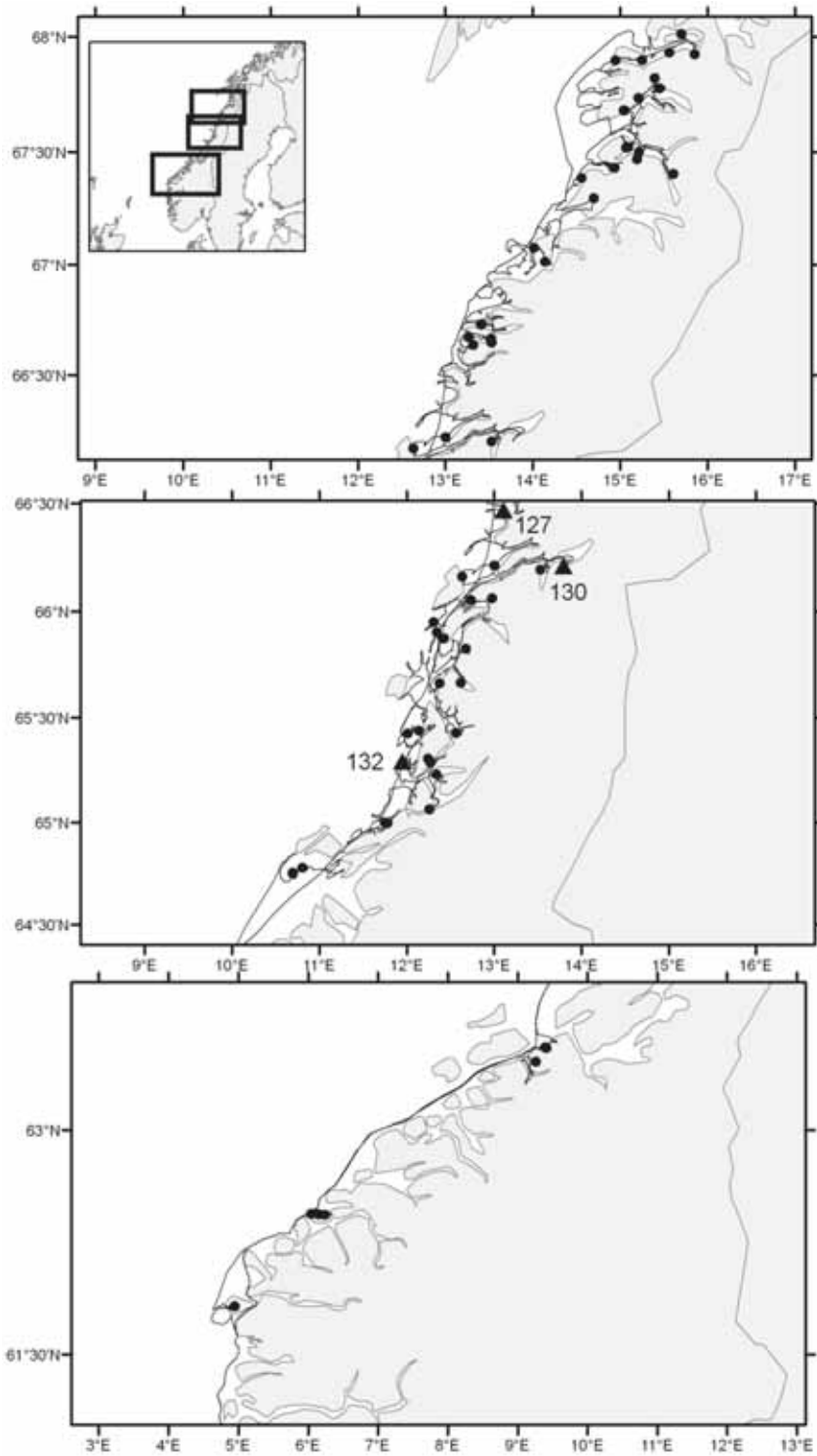
Cruise no 2010605
"Håkon Mosby"
24 Feb–2 Mar 2010

▼ Recovery and redeployment
of moorings



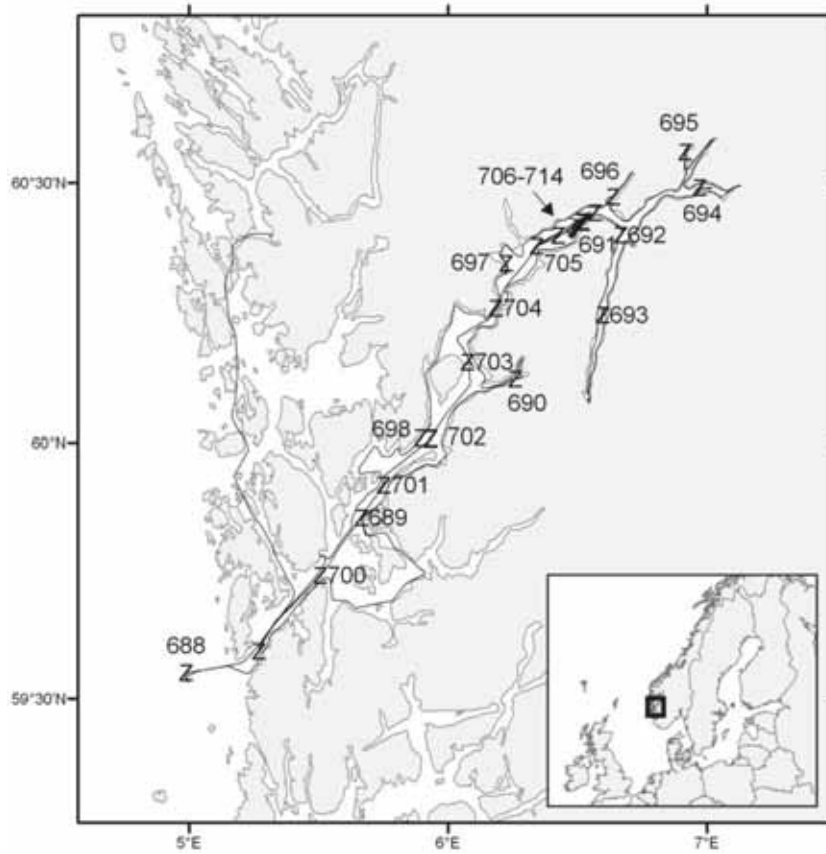
Cruise no 2010607
 “Håkon Mosby”
 9–30 Mar 2010

z CTD st.no 298–687
 Egg samples with WP-II-net at every station



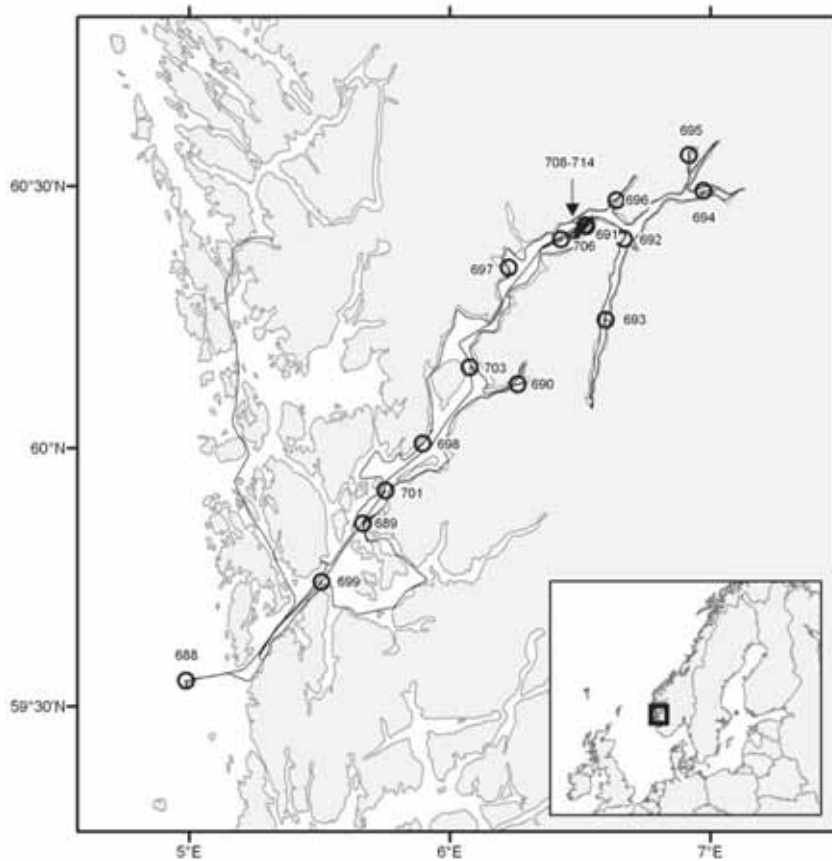
Cruise no 2010607
 "Håkon Mosby"
 9–30 Mar 2010

- ▲ Pelagic trawl st.no 127, 130 and 132
- Automatic jigging machine



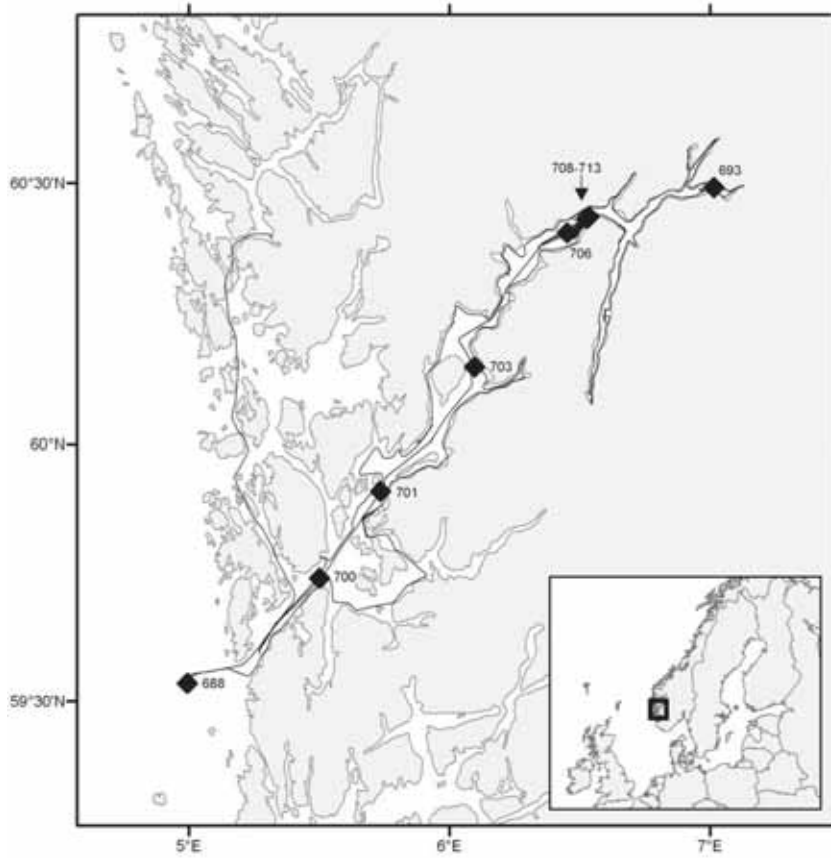
Cruise no 2010608
 “Håkon Mosby”
 1–6 Apr 2010

z CTD st.no 688–714



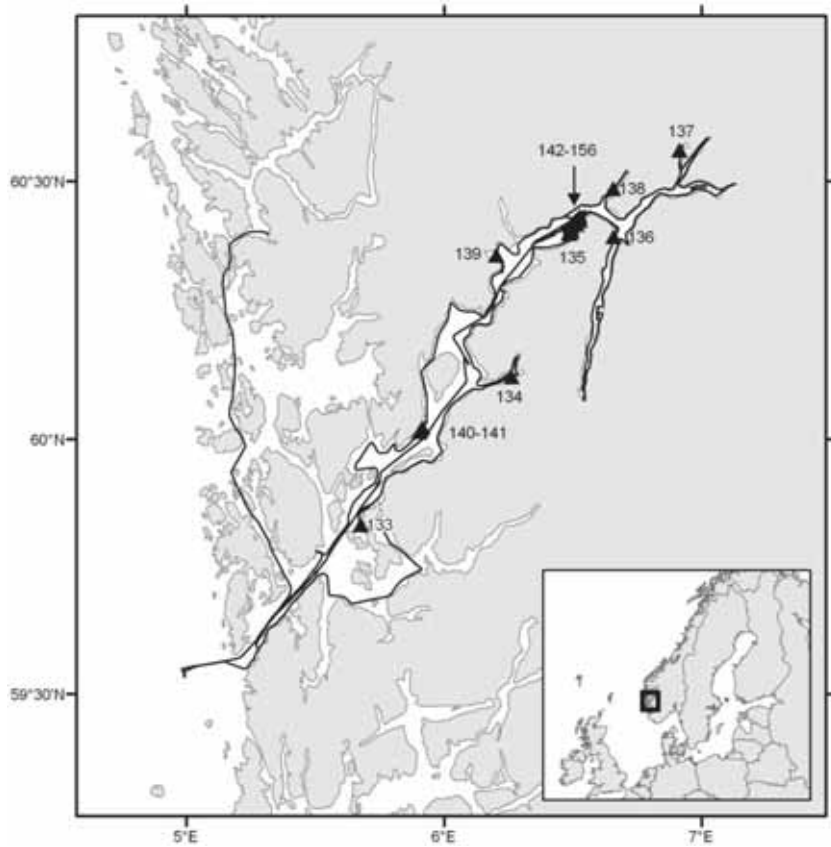
Cruise no 2010608
 “Håkon Mosby”
 1–6 Apr 2010

o Plankton st. (WP-II-net)



Cruise no 2010608
 “Håkon Mosby”
 1–6 Apr 2010

◆ Plankton st. (Mocness)



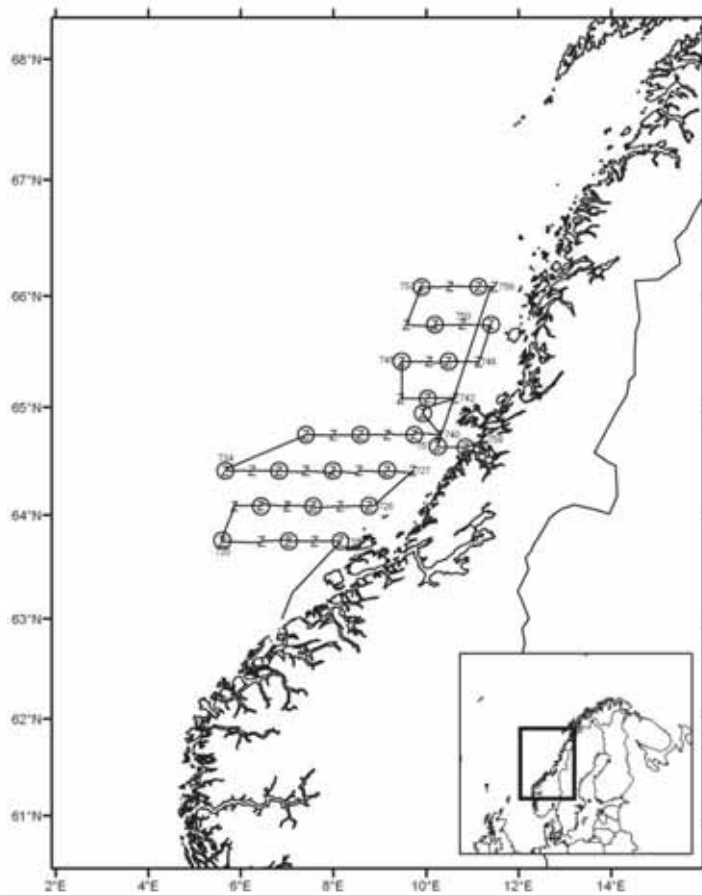
Cruise no 2010608
 “Håkon Mosby”
 1–6 Apr 2010

▲ Pelagic trawl st.no 133–156



Cruise no 2010609
 “Håkon Mosby”
 14–16 May 2010

- 2 hauls Warèn sled
- 1 haul Agassiz trawl

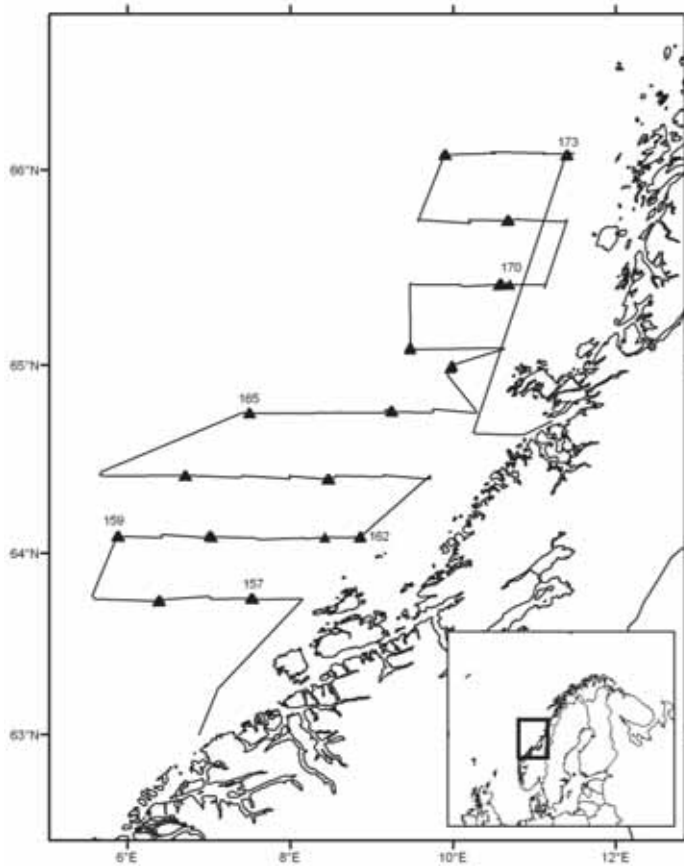


Cruise no 2010610
 “Håkon Mosby”
 17–25 May 2010

- z CTD st.no 716–759
- o Vertical hauls with Juday

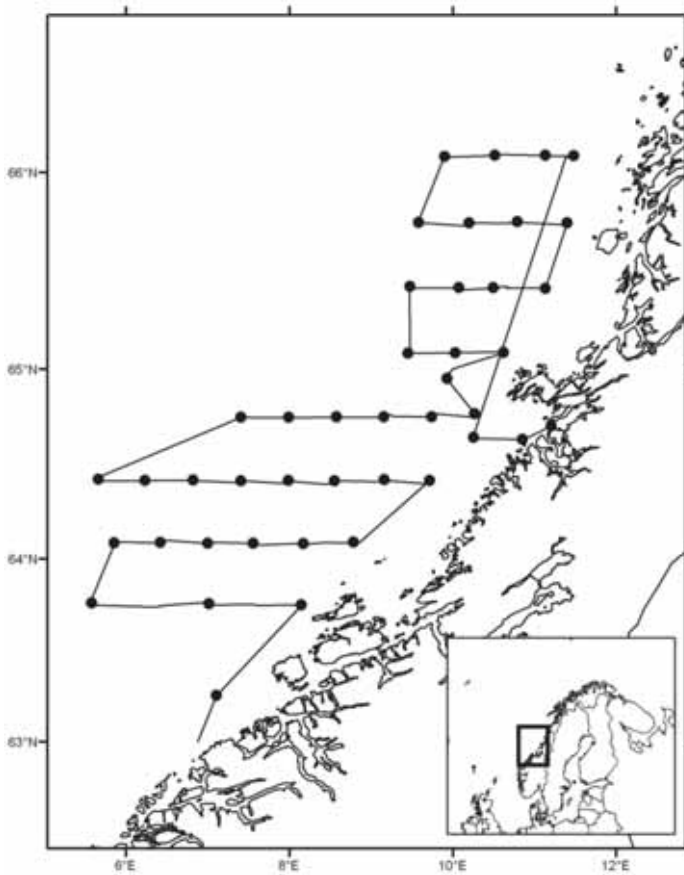
Cruise no 2010610
“Håkon Mosby”
17–25 May 2010

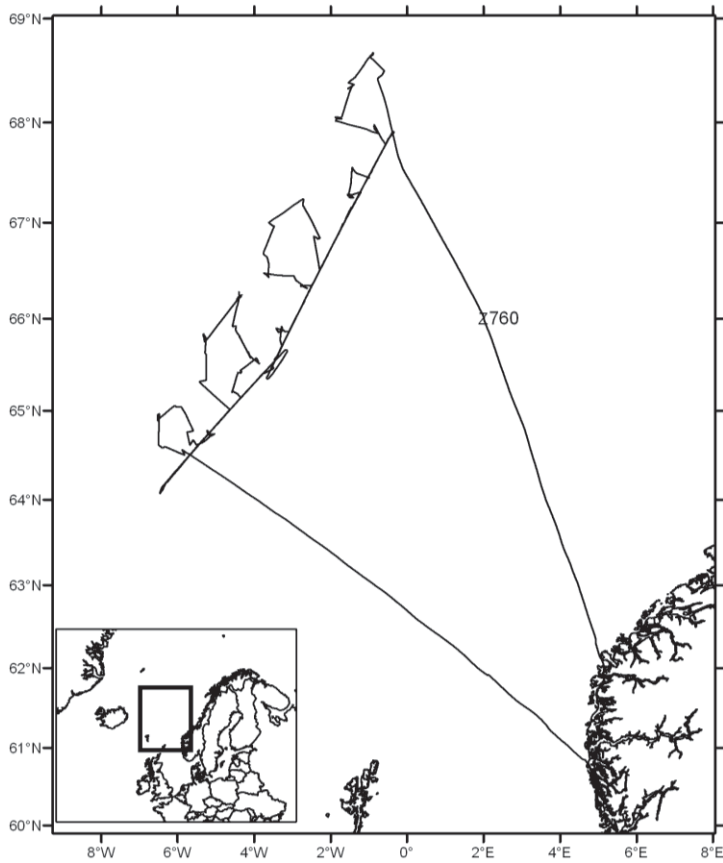
▲ Pelagic trawl st.no 157–173



Cruise no 2010610
“Håkon Mosby”
17–25 May 2010

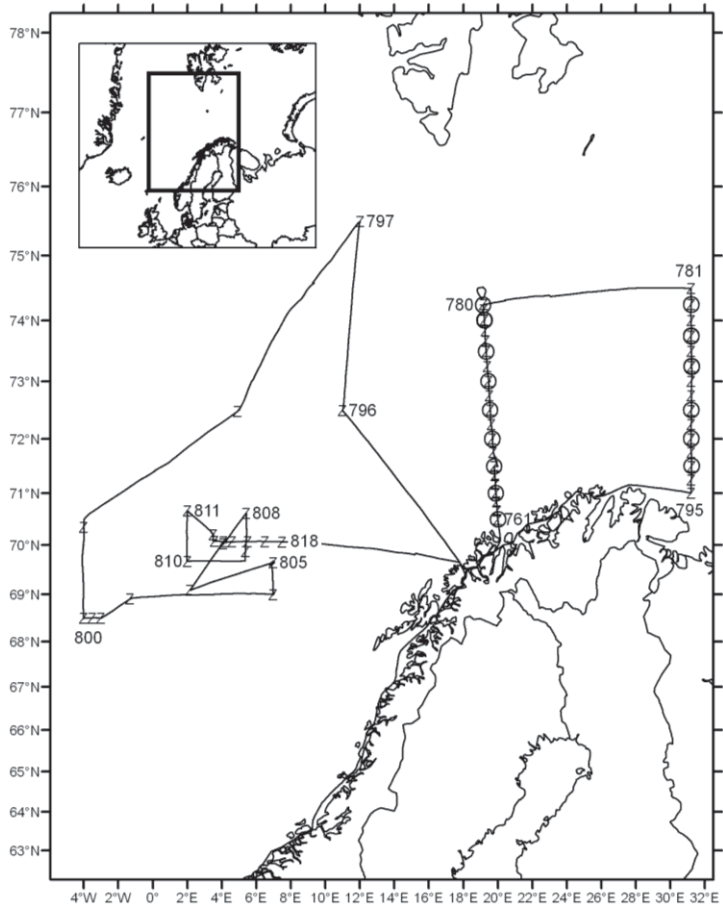
● Mik stations





Cruise no 2010611
 “Håkon Mosby”
 27 May–14 June 2010

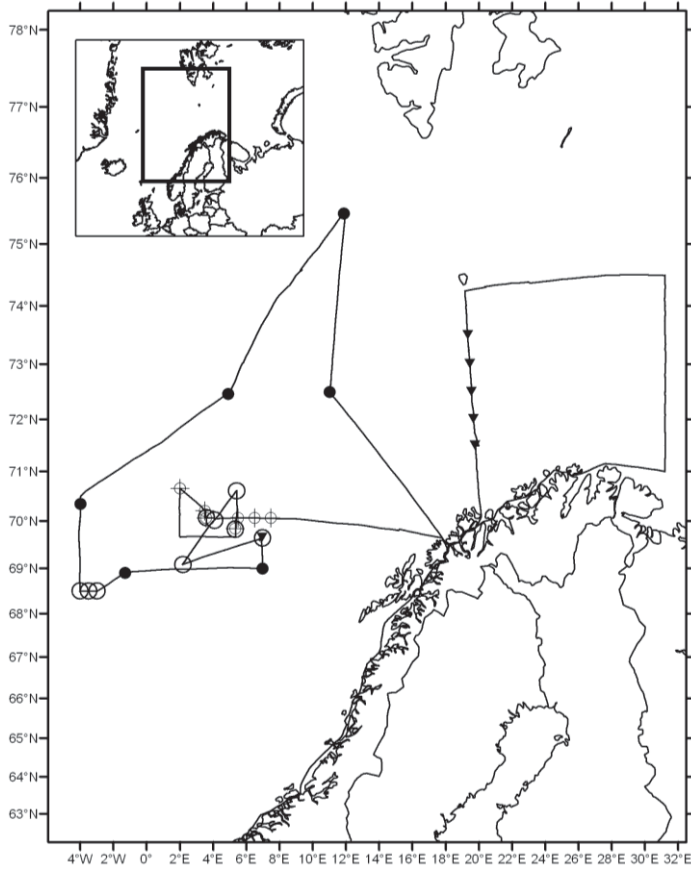
Collection of wide-angle seismic
 data along the Aegir ridge
 z CTD st.no 760



Cruise no 2010612
 “Håkon Mosby”
 15 June–5 July 2010

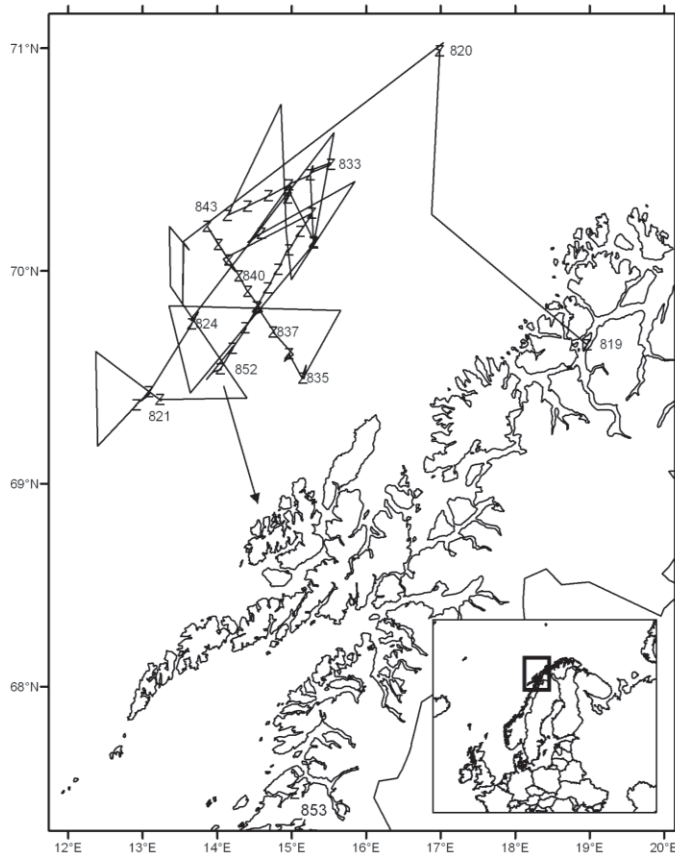
z CTD st.no 761–818
 o Plankton st. (WP-II-net)

Standard sections:
 Fugløya–Bjørnøya st.no 761–780
 Vardø-N st.no 781–795



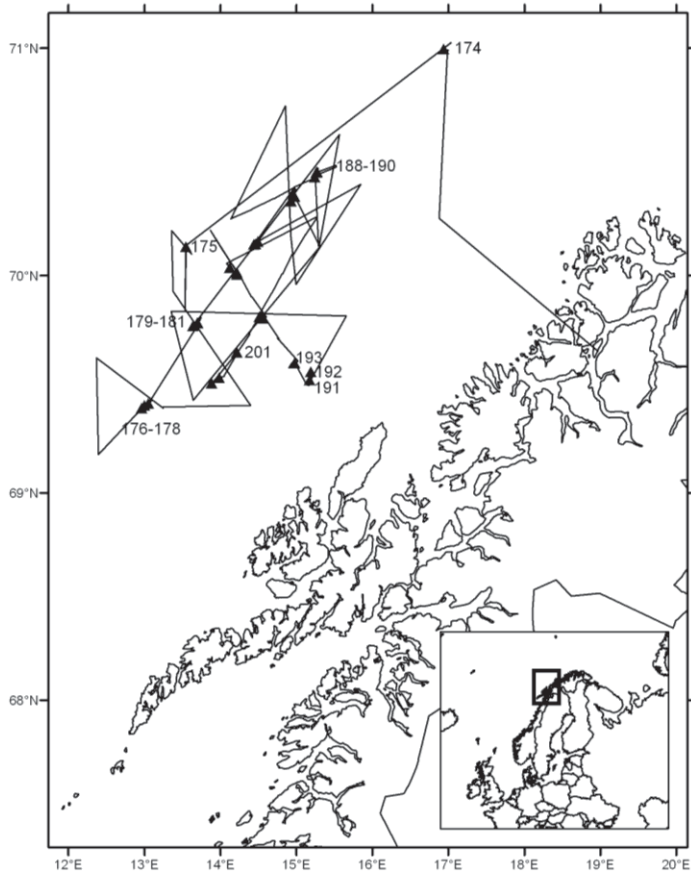
Cruise no 2010612
 “Håkon Mosby”
 15 June–5 July 2010

- ▼ Current meter mooring
- RAFOS sound source mooring
- ⊕ RAFOS floats, ocean current velocity
- ARGO float



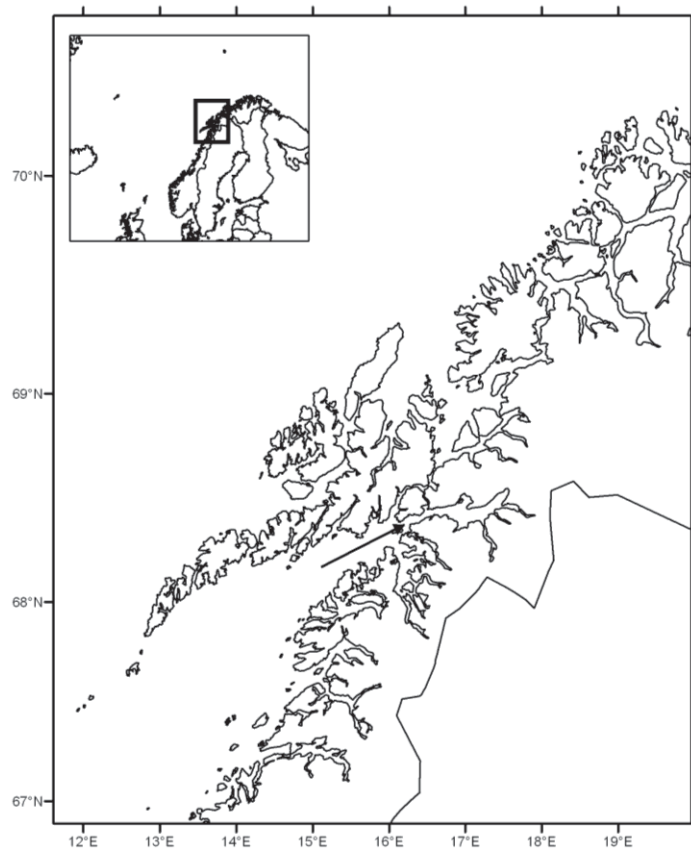
Cruise no 2010613
 “Håkon Mosby”
 6–17 July 2010

z CTD st.no 819–853



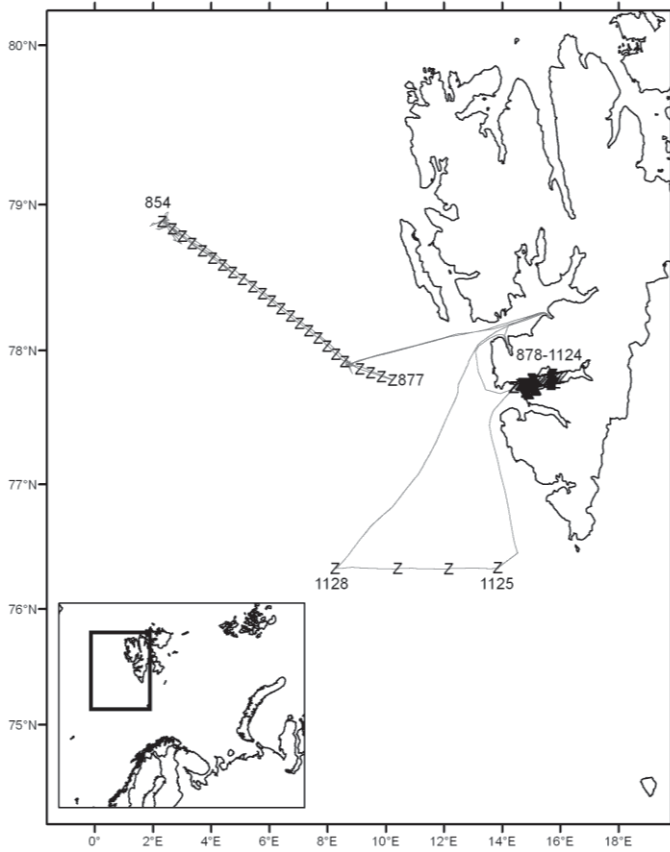
Cruise no 2010613
 "Håkon Mosby"
 6–17 July 2010

▲ Pelagic trawl st.no 174–201



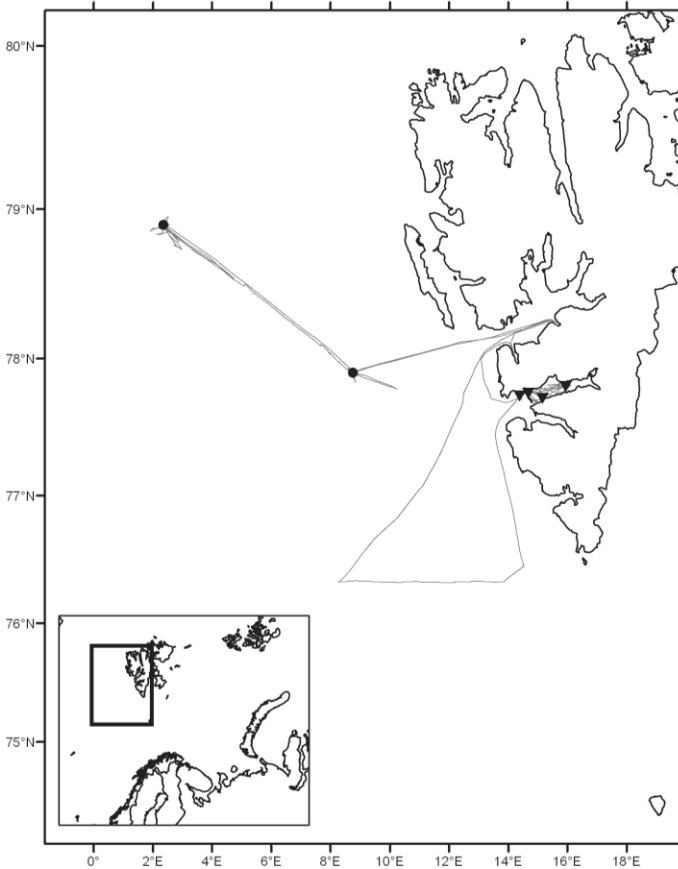
Cruise no 2010623
 "Håkon Mosby"
 18–20 July 2010

Trying to recover echosounders in
 Ofotfjord. The recovery failed.



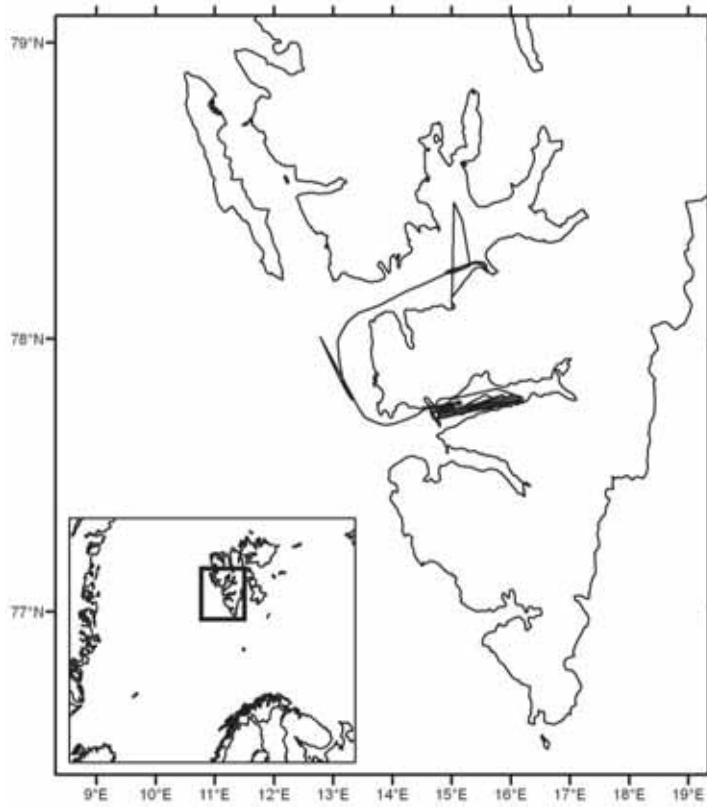
Cruise no 2010614
 "Håkon Mosby"
 31 July–17 Aug 2010

z CTD st.no 854–1128



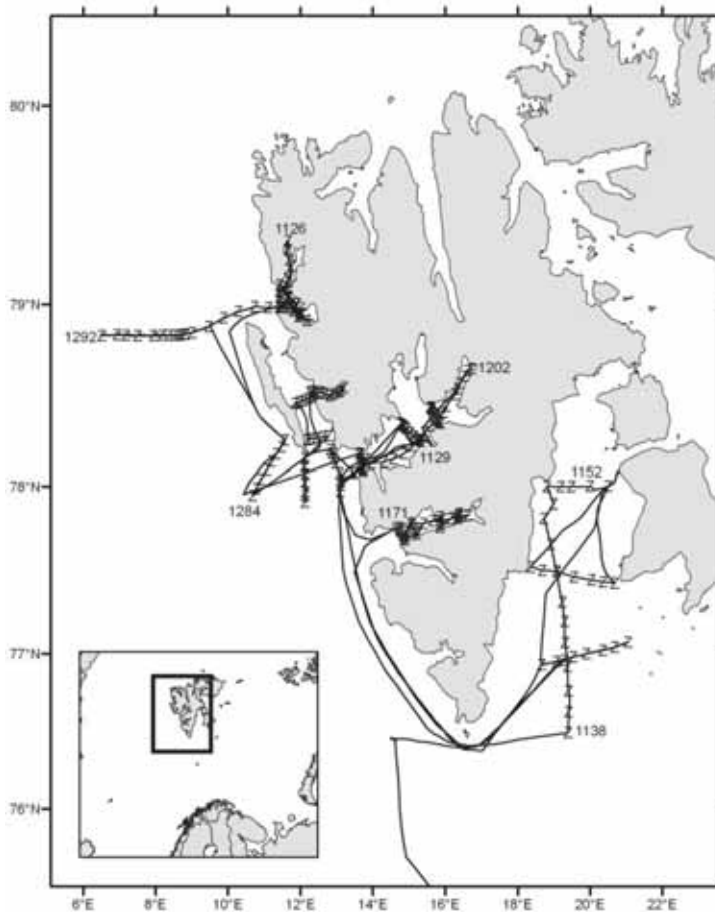
Cruise no 2010614
 "Håkon Mosby"
 31 July–17 Aug 2010

- Tomographic receiver moorings
- ▼ CTD and current meter moorings



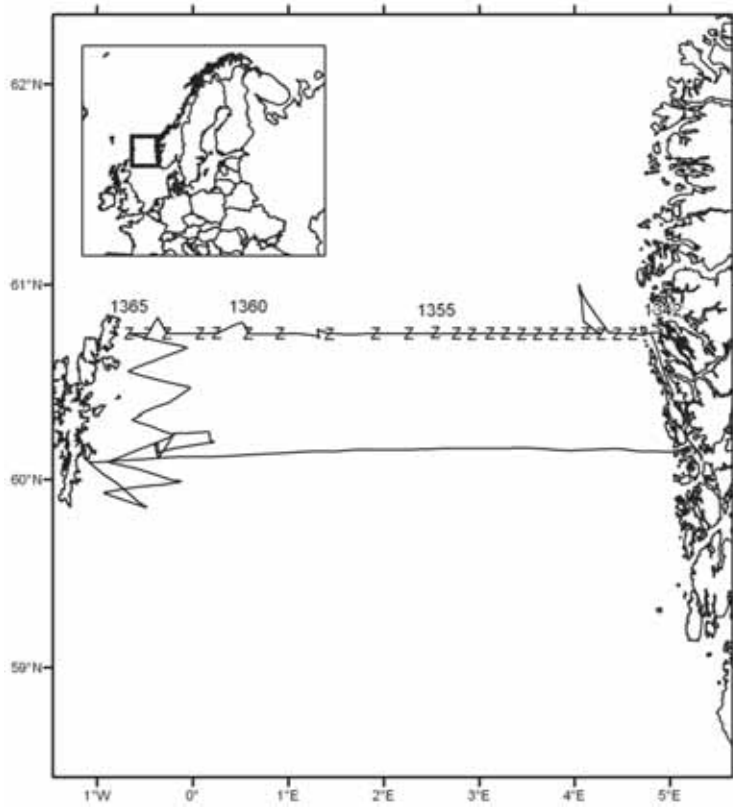
Cruise no 2010615
 “Håkon Mosby”
 18 Aug–2 Sep 2010

Acquisition of multichannel seismic data in Van Mijenfjord and Isfjord



Cruise no 2010616
 “Håkon Mosby”
 3–14 Sep 2010

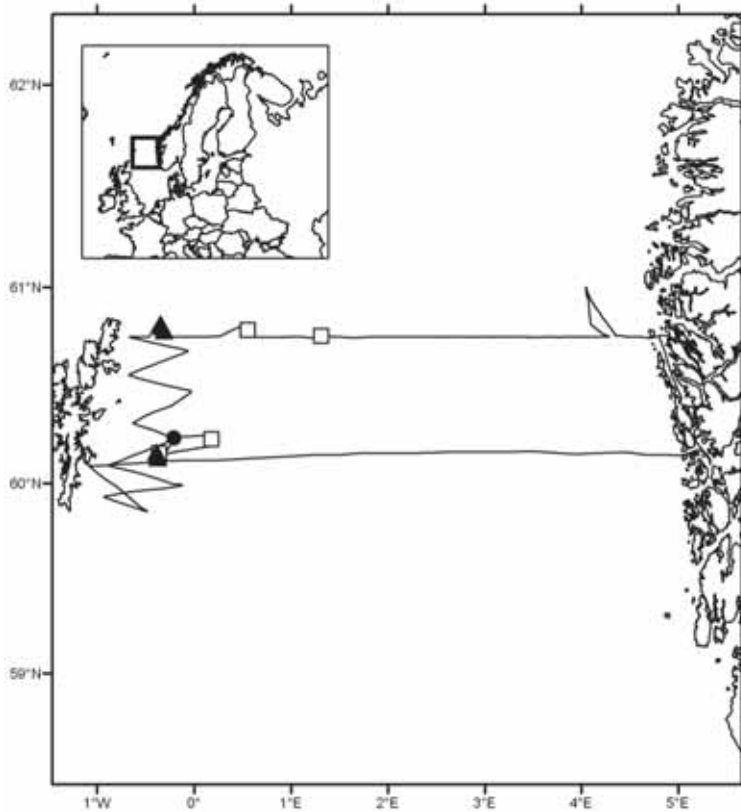
z CTD st.no 1129–1341



Cruise no 2010618
 “Håkon Mosby”
 24–30 Sep 2010

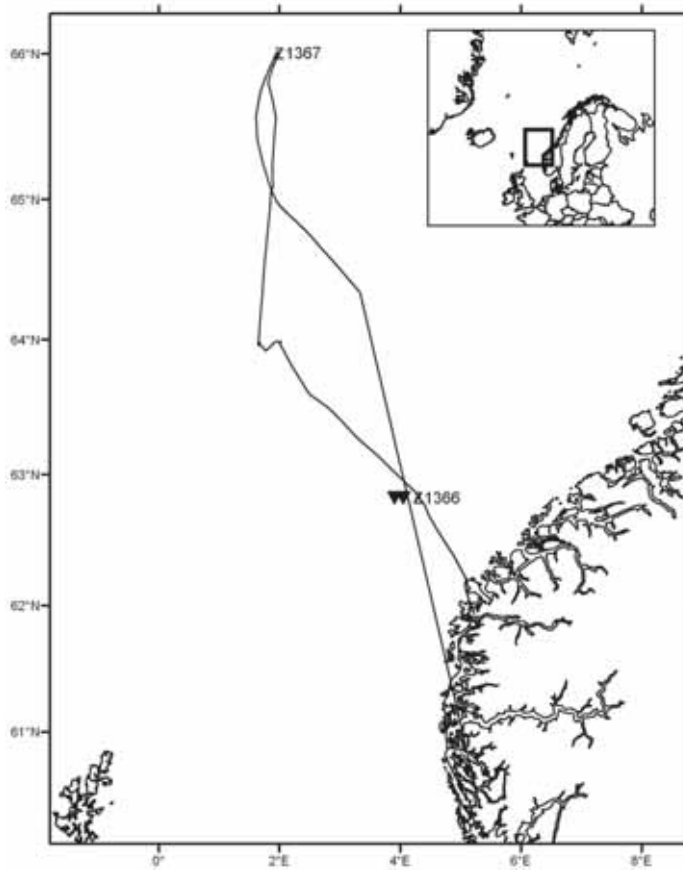
z CTD st.no 1342–1365

Standard sections:
 Fedje–Shetland st.no 1342–1365



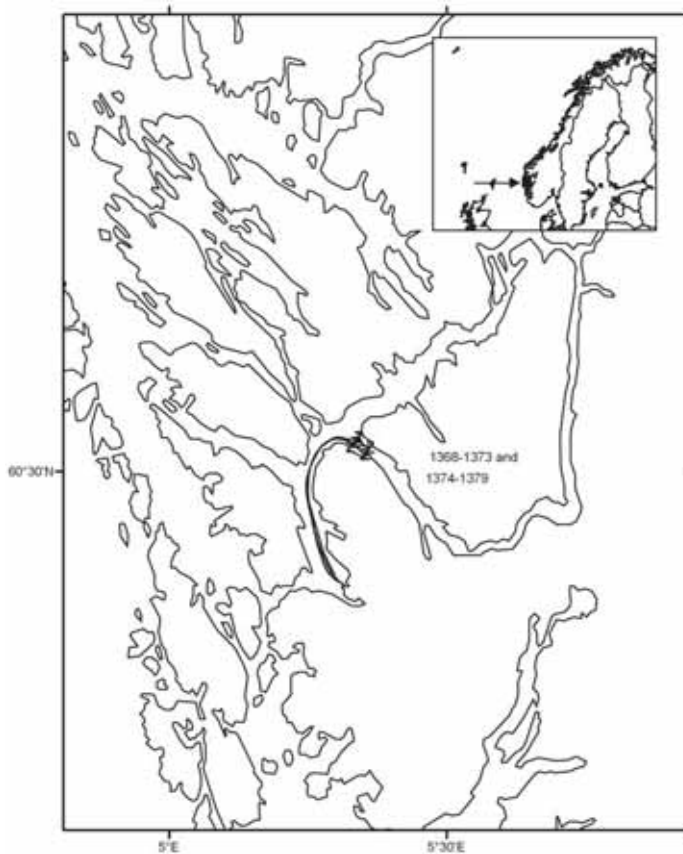
Cruise no 2010618
 “Håkon Mosby”
 24–30 Sep 2010

- Beam trawl st.
- Bottom trawl st.
- ▲ Pelagic trawl st.



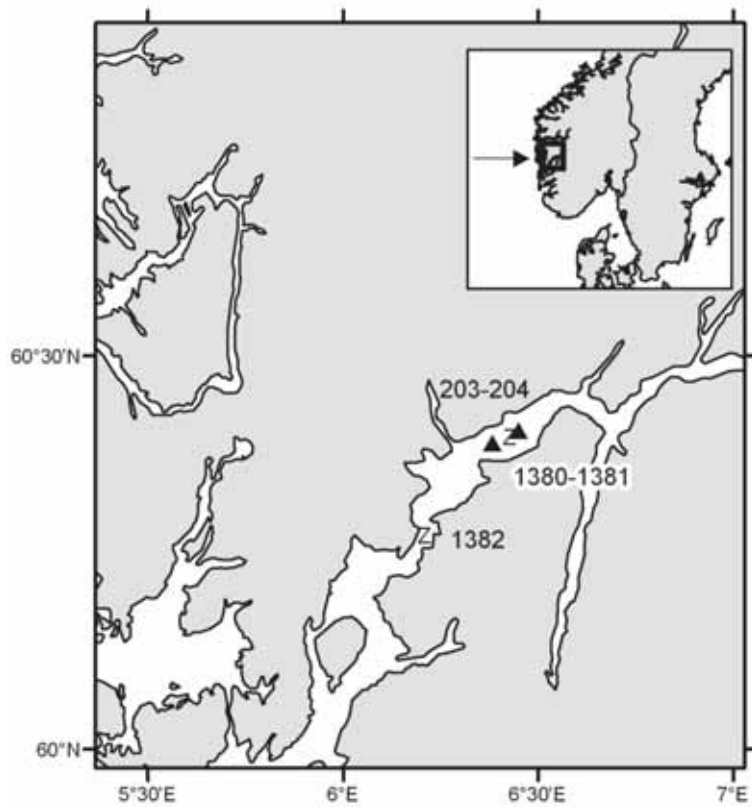
Cruise no 2010620
 “Håkon Mosby”
 1–5 Oct 2010

z CTD st.no 1366–1367
 ▼ Current meters



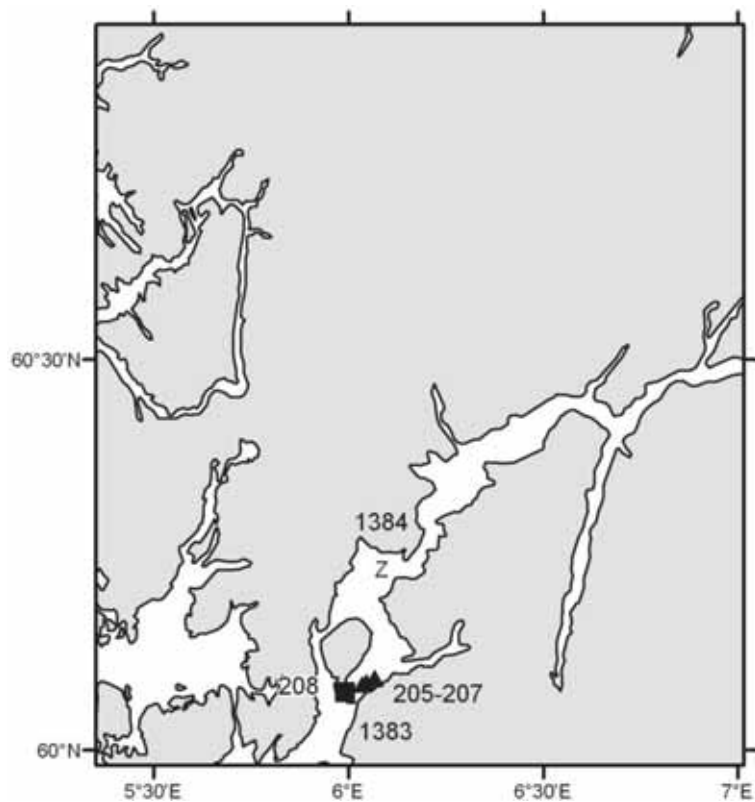
Cruise no 2010619
 “Håkon Mosby”
 7–8 Oct 2010

z CTD st.no 1368–1379



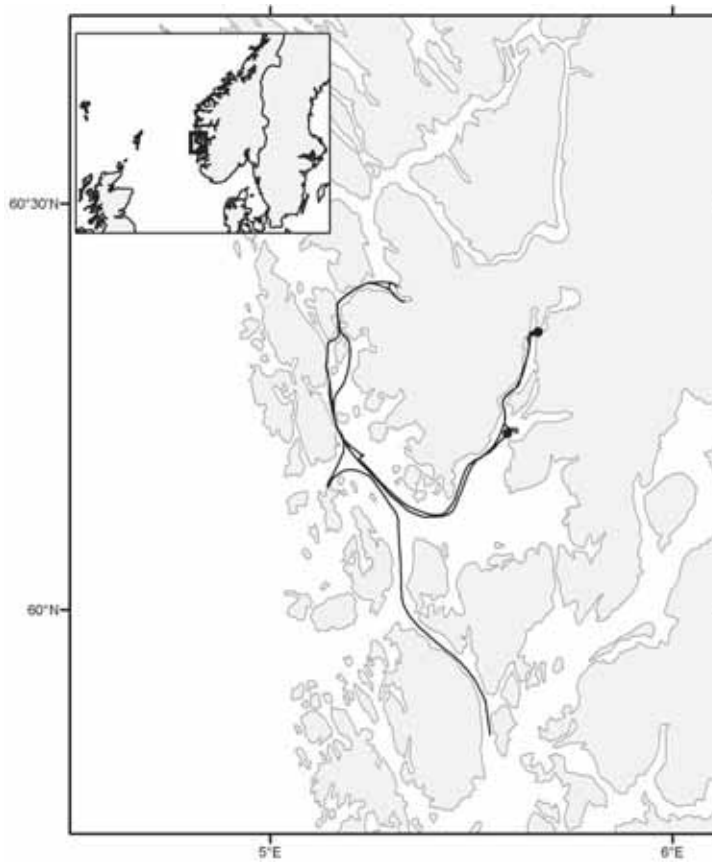
Cruise no 2010621
 "Håkon Mosby"
 11–15 Oct 2010

Part 1 11–12 Oct
 z CTD st.no 1380–1382
 ▲ Pelagic trawl st.no 203–204



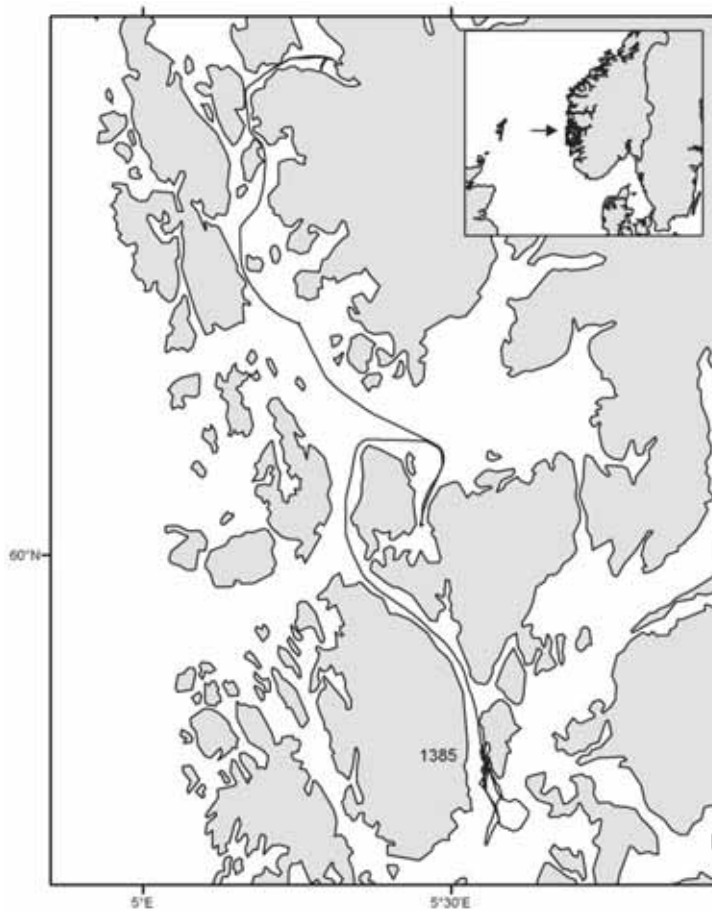
Cruise no 2010621
 "Håkon Mosby"
 11–15 Oct 2010

Part 2 14–15 Oct
 z CTD st.no 1383–1384
 ▲ Pelagic trawl st.no 205–207
 ■ Bottom trawl st.no 208



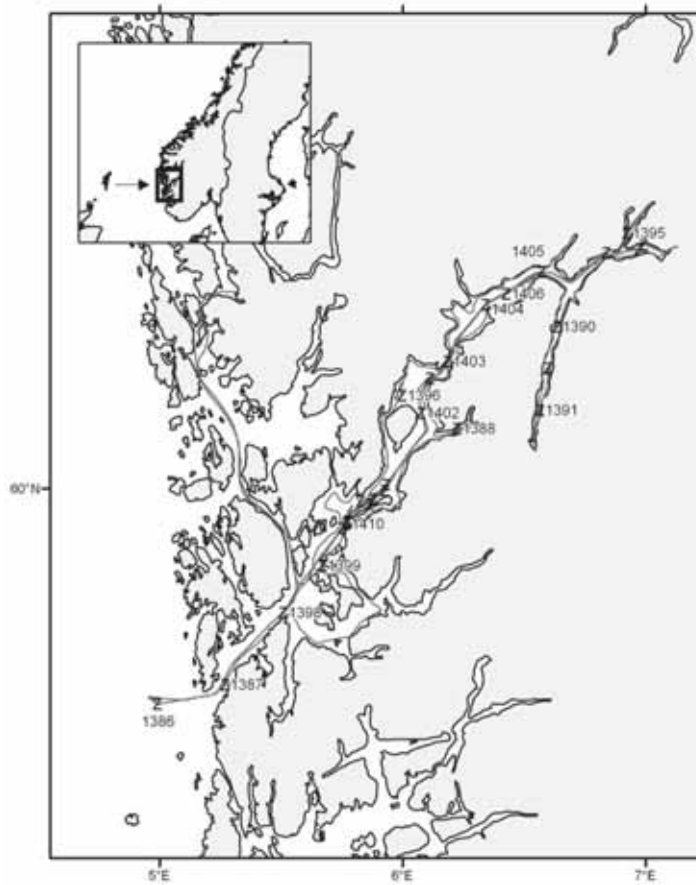
Cruise no 2010617
"Håkon Mosby"
18–19 Oct 2010

2 sledge stations (ROV Aglantha)



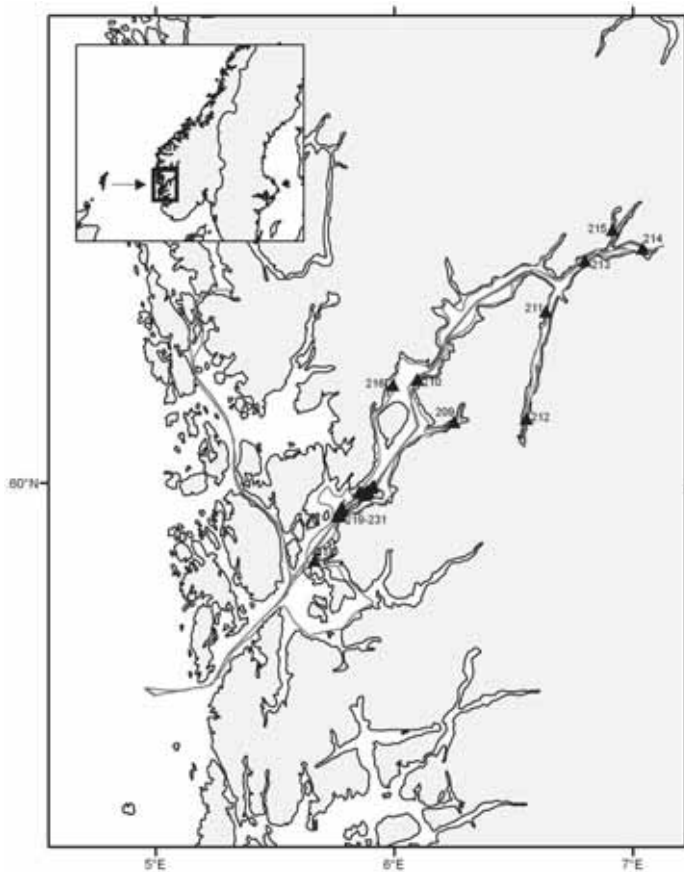
Cruise no 2010625
"Håkon Mosby"
20–24 Oct 2010

z CTD st.no 1385



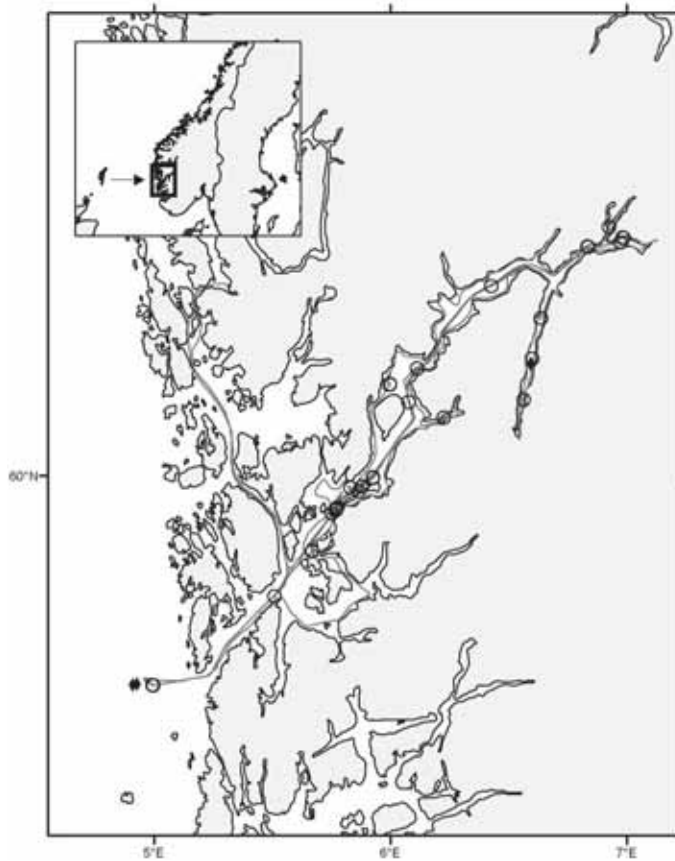
Cruise no 2010622
 "Håkon Mosby"
 25–30 Oct 2010

z CTD st.no 1386–1414



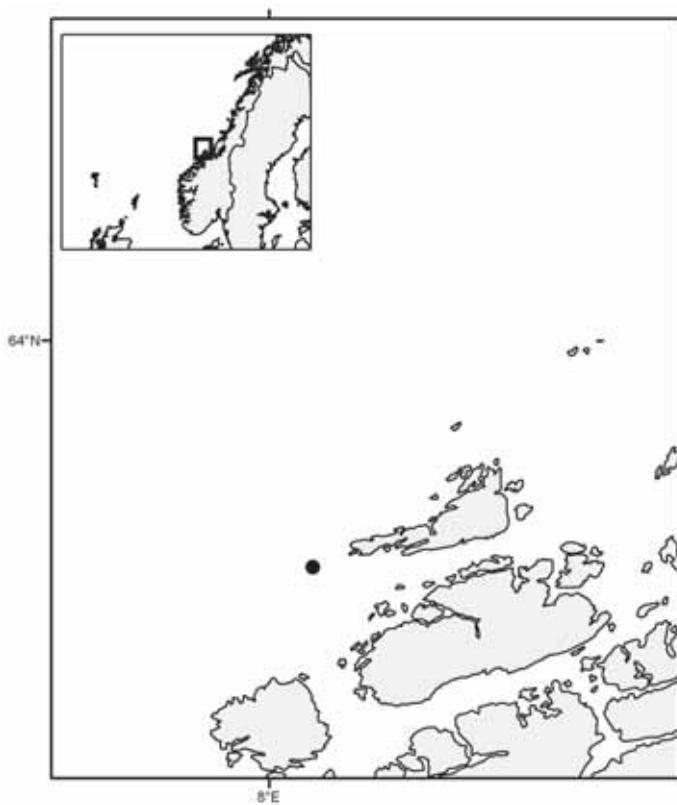
Cruise no 2010622
 "Håkon Mosby"
 25–30 Oct 2010

▲ Pelagic trawl st.no 209–231



Cruise no 2010622
 "Håkon Mosby"
 25–30 Oct 2010

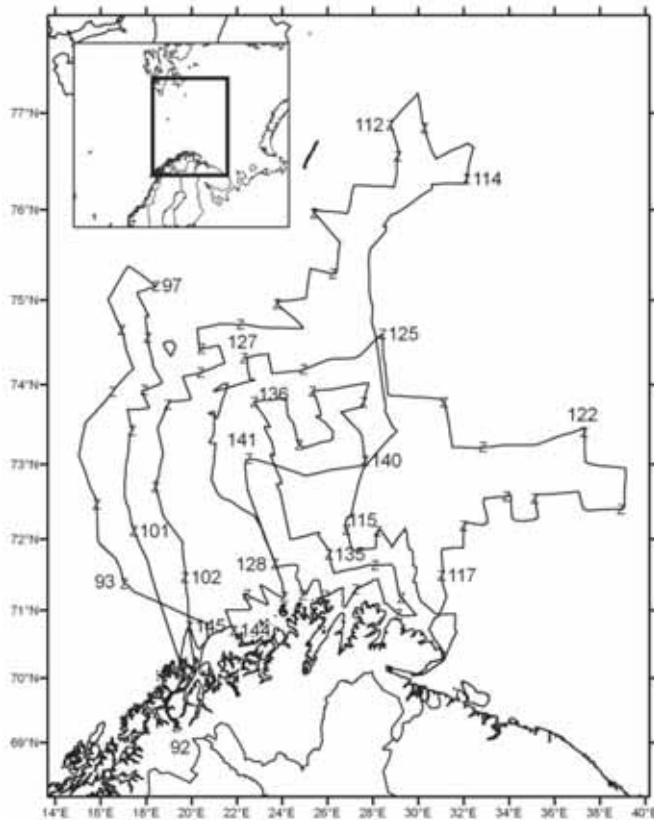
- ◆ Plankton st. (WP-II-net)
- Plankton st. (Mocness)



Cruise no 2010626
 "Håkon Mosby"
 1–8 Nov 2010

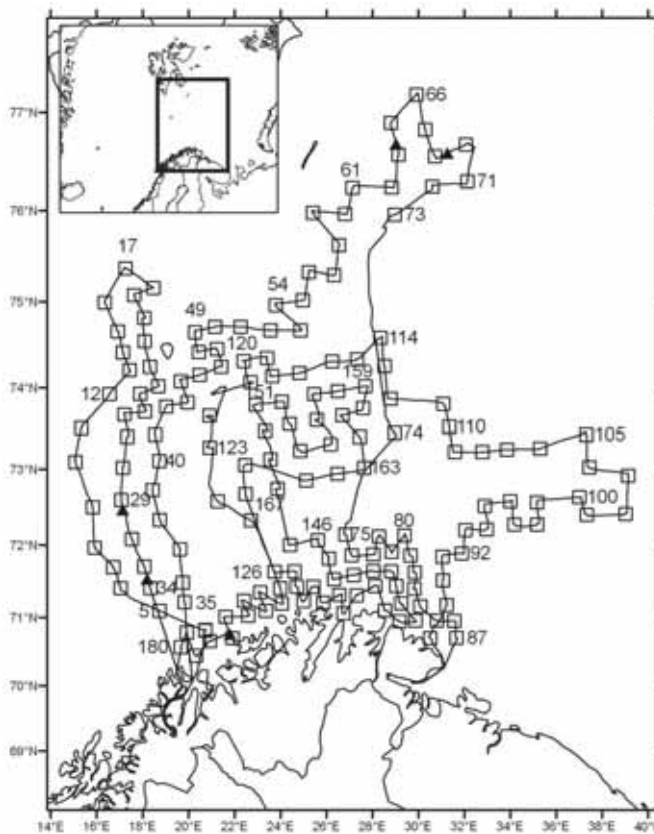
- Deployment of a large surface scientific buoy with meteorological and oceanographic instrumentation

4.4 Jan Mayen



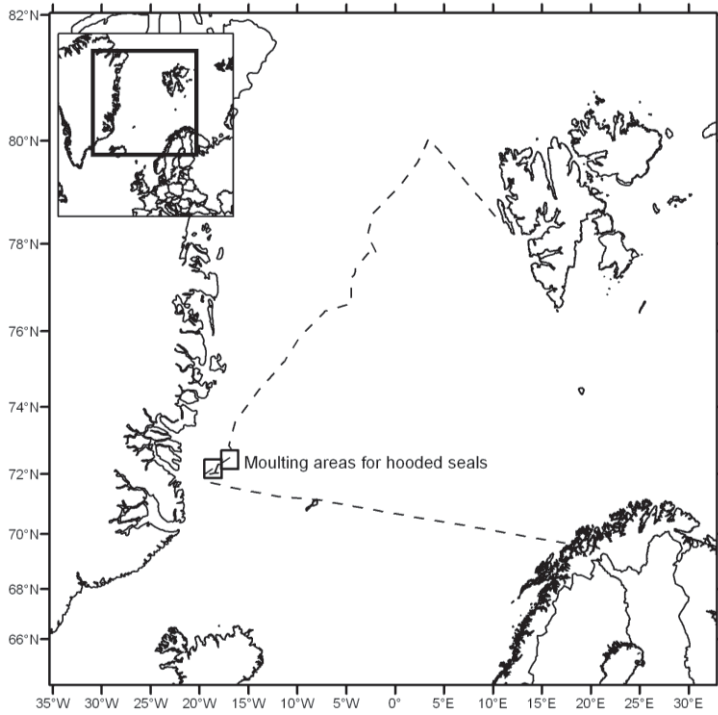
Cruise no 2010701
“Jan Mayen”
1 Feb–5 Mar 2010

z CTD st.no 92–145



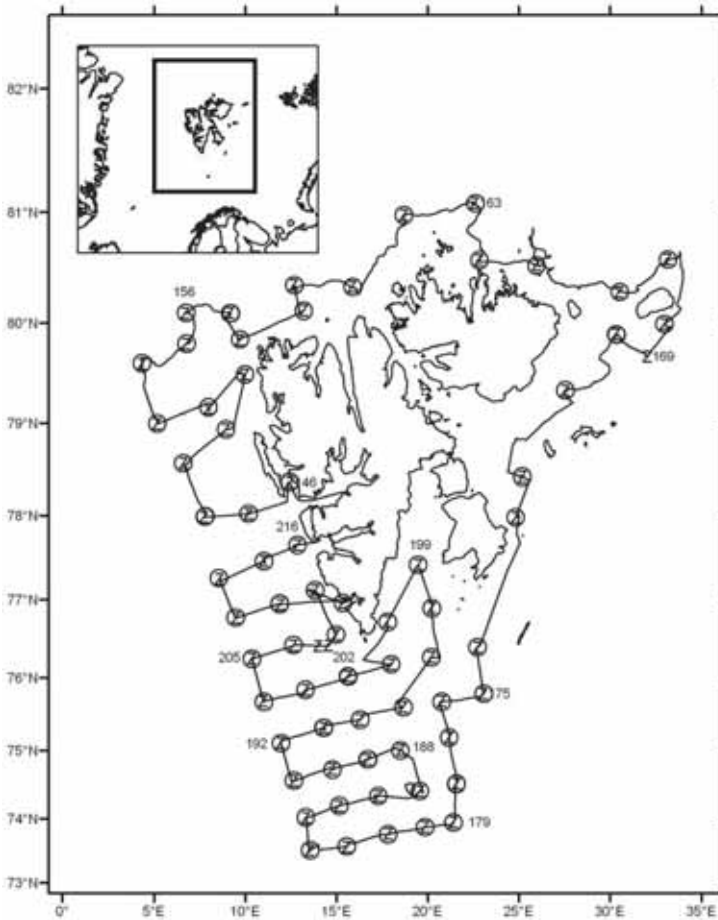
Cruise no 2010701
“Jan Mayen”
1 Feb–5 Mar 2010

Trawl st.no 1–180
□ Bottom trawl
▲ Pelagic trawl



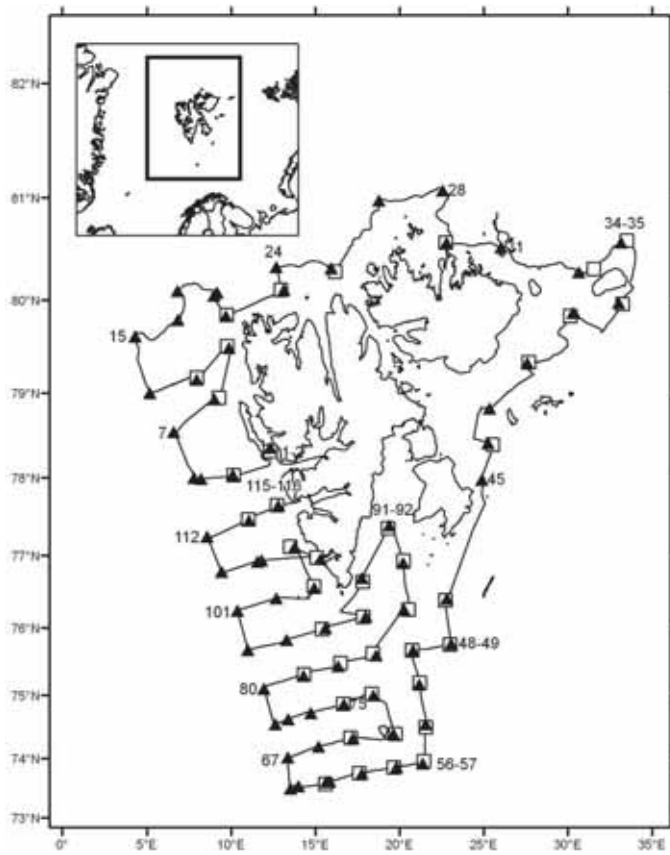
Cruise no 2010702
 “Jan Mayen”
 30 June–18 July 2010

Collection of samples from ice associated seals. The ice edge was used as a “transect” where the search for seals were conducted.



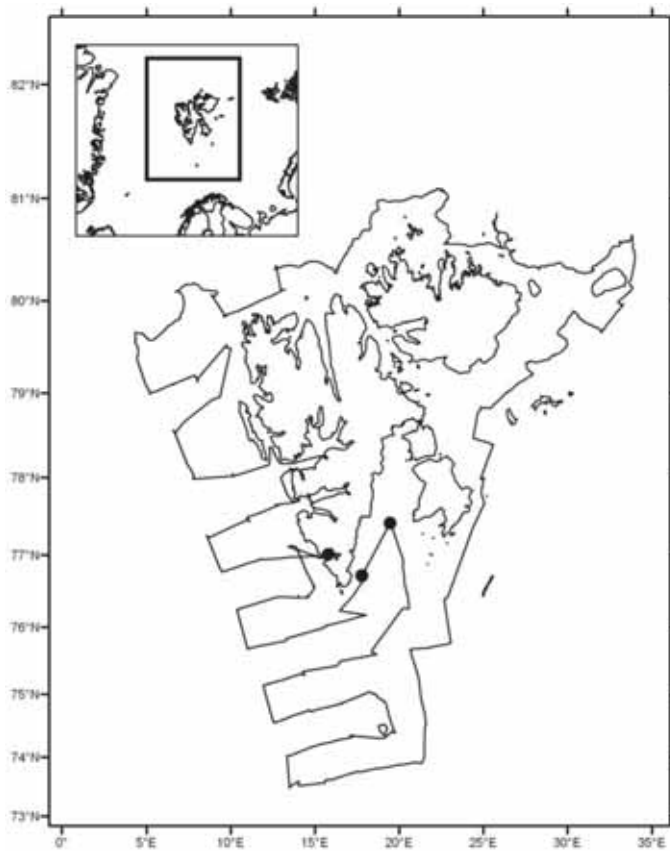
Cruise no 2010703
 “Jan Mayen”
 26 Aug–14 Sep 2010

z CTD st.no 146–216
 o Plankton st. (WP-II-net)



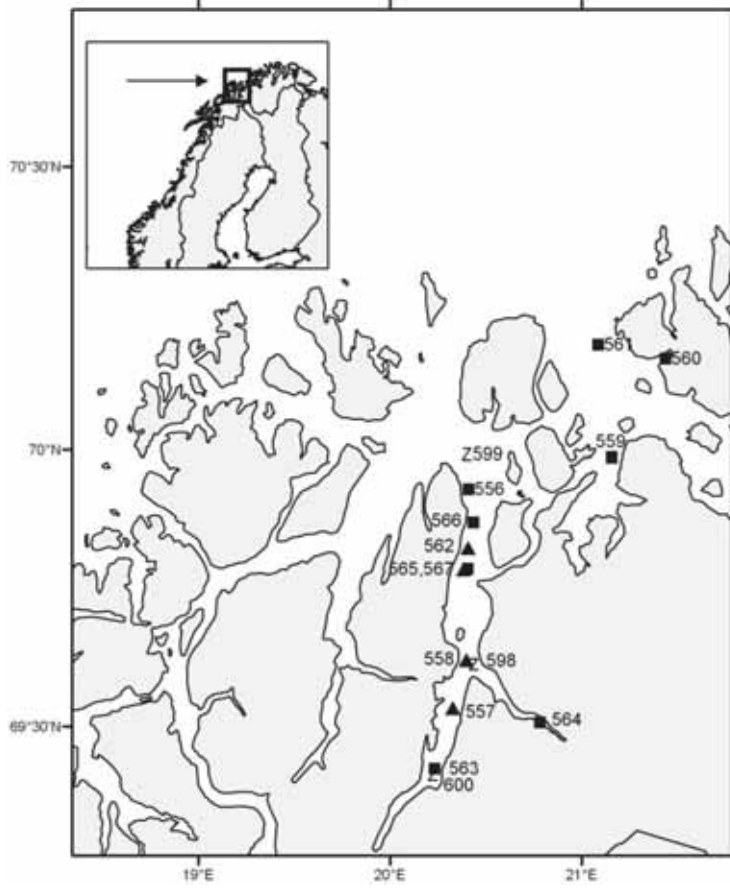
Cruise no 2010703
 “Jan Mayen”
 26 Aug–14 Sep 2010

Trawl st.no 1–116
 ▲ Pelagic trawl
 □ Bottom trawl



Cruise no 2010703
 “Jan Mayen”
 26 Aug–14 Sep 2010

● Grab stations

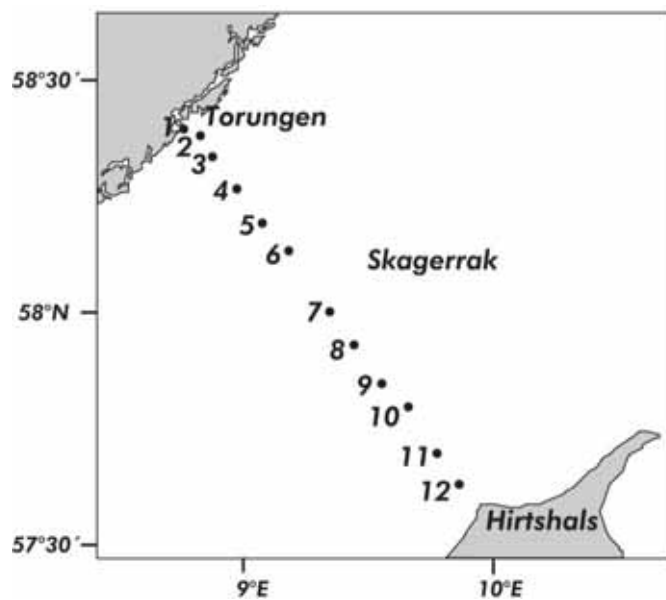


Cruise no 2010704
 “Jan Mayen”
 8–12 Nov 2010

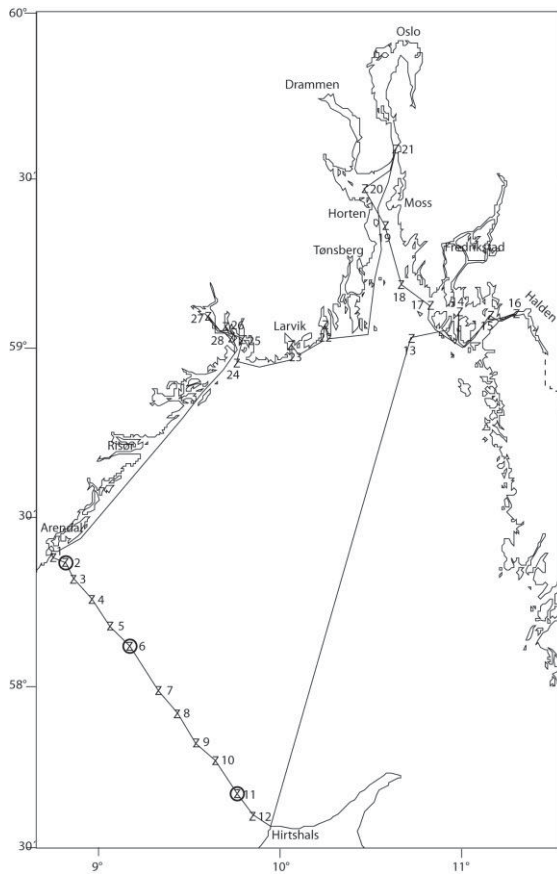
z CTD st.no 598–600
 Trawl st.no 556–567
 ■ Bottom trawl
 ▲ Pelagic trawl

4.5 G.M. Dannevig

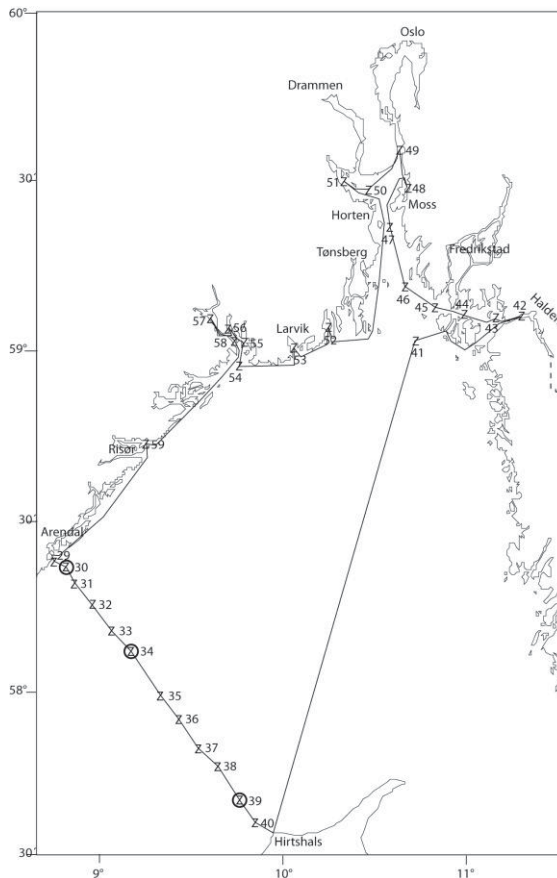
Standard section Torungen–Hirtshals 2010



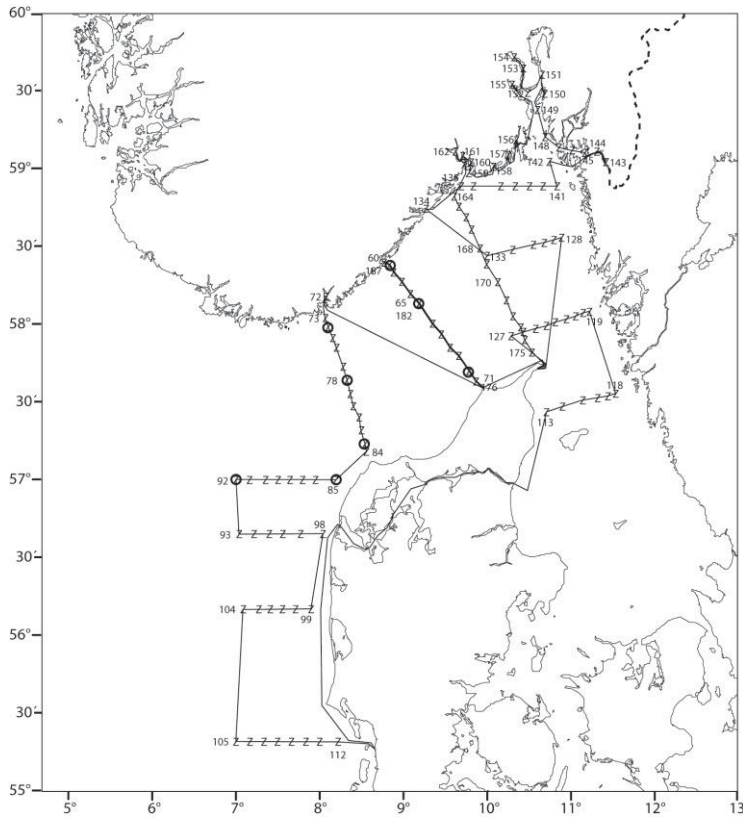
Month	Cruise no	CTD st. no	Comment
January	2010301	2010301	1 - 12
February	2010302	2010302	-
March	2010303	2010304	29 - 40
April	2010304	2010306	60 - 71
May	2010305	2010307	176 - 187
June	2010306	2010311	192 - 203
July	2010307	2010312	227 - 238
August	2010308	2010313	239 - 250
September	2010309	2010315	277 - 288
October	2010310	2010317	347 - 358
November	2010311	2010318	359 - 370
December	2010312	2010321	394 - 405



Cruise no 2010301
 "G.M. Dannevig"
 4–11 Jan 2010
 z CTD st.no 1–28
 o Plankton st. (WP-II-net)



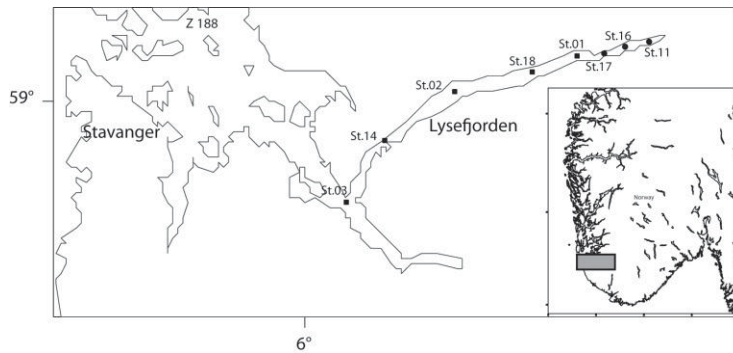
Cruise no 2010304
 "G.M. Dannevig"
 17–22 Mar 2010
 z CTD st.no 29–59
 o Plankton st. (WP-II-net)



Cruise no 2010306 / 2010307
 “G.M. Dannevig”
 11 Apr–1 May 2010

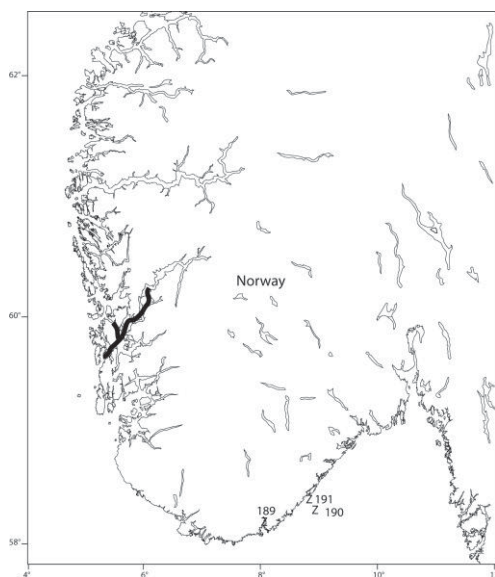
z CTD st.no 60–187
 o Plankton st. (WP-II-net)

Standard sections:
 Oksøy–Hanstholm st.no 73–84
 Torungen–Hirtshals st.no 60–71,
 176–187
 Jomfruland–Skagen st.no 164–175
 Jomfruland–Koster st.no 135–141
 Torbjørnskjær st.no 142
 Väderø st.no 128–133
 Måseskjær st.no 119–127
 Gøteborg–Fredrikshavn st.no 113–118



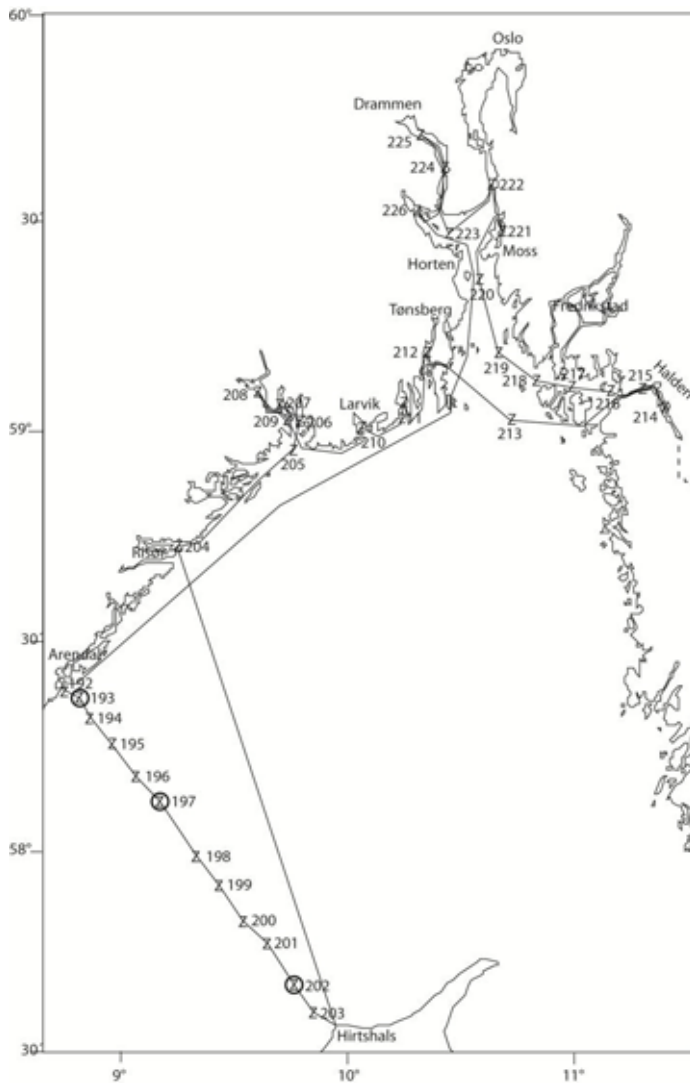
Cruise no 2010308
 “G.M. Dannevig”
 2–6 May 2010

z CTD st.no 188



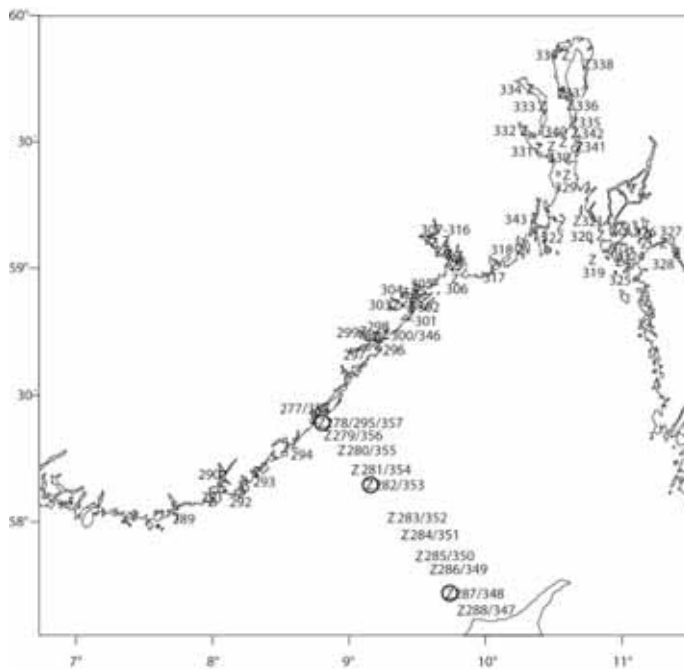
Cruise no 2010309
 “G.M. Dannevig”
 7–22 May 2010

z CTD st.no 189–191



Cruise no 2010311
 "G.M. Dannevig"
 14–19 June 2010

z CTD st.no 192–226
 o Plankton st. (WP-II-net)

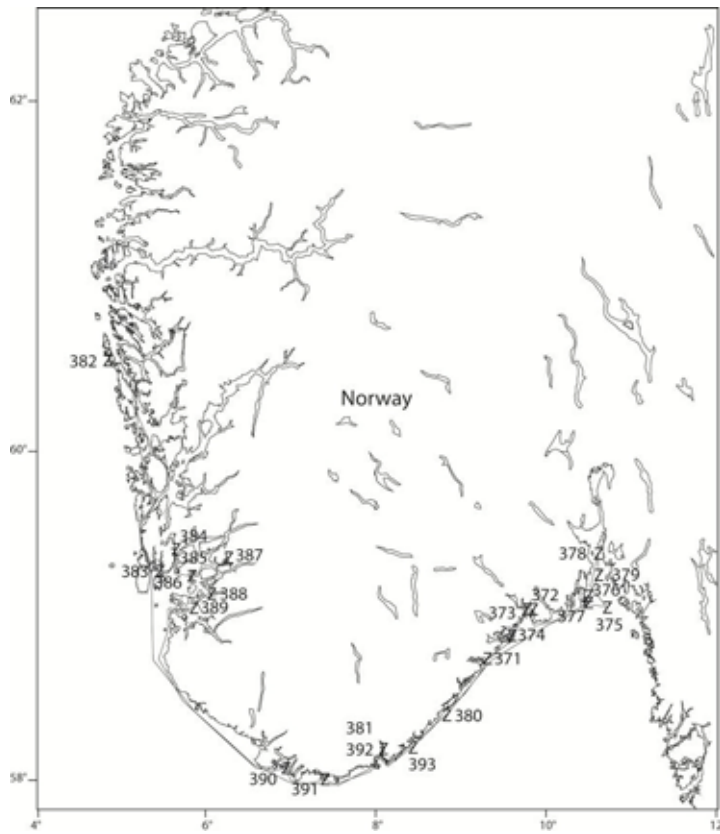


Cruise no 2010315 / 2010316 / 2010317
 "G.M. Dannevig"
 13 Sep–5 Oct 2010

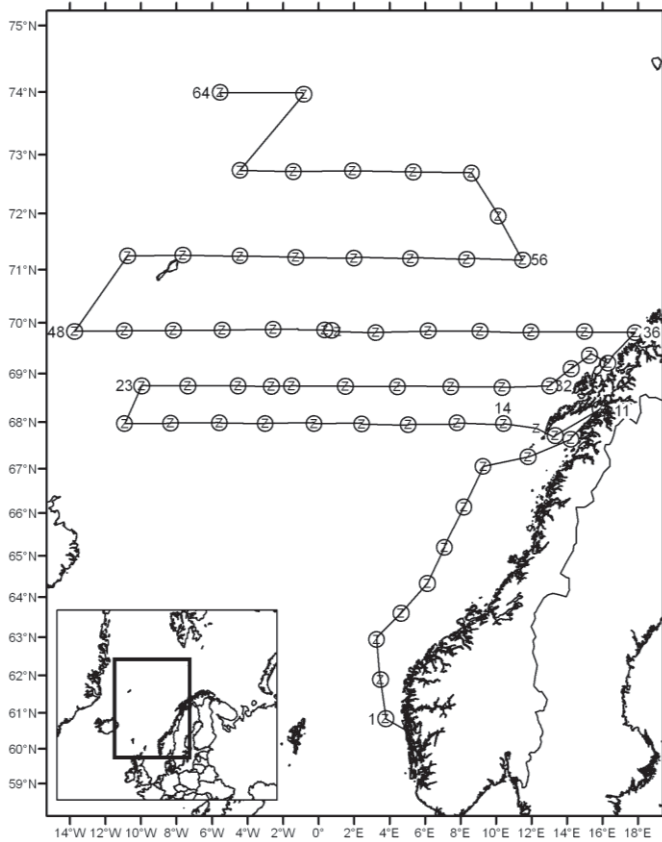
z CTD st.no 277–358
 o Plankton st. (WP-II-net)

Cruise no 2010319 / 2010320
“G.M. Dannevig”
14 Nov–13 Dec 2010

z CTD st.no 371–393

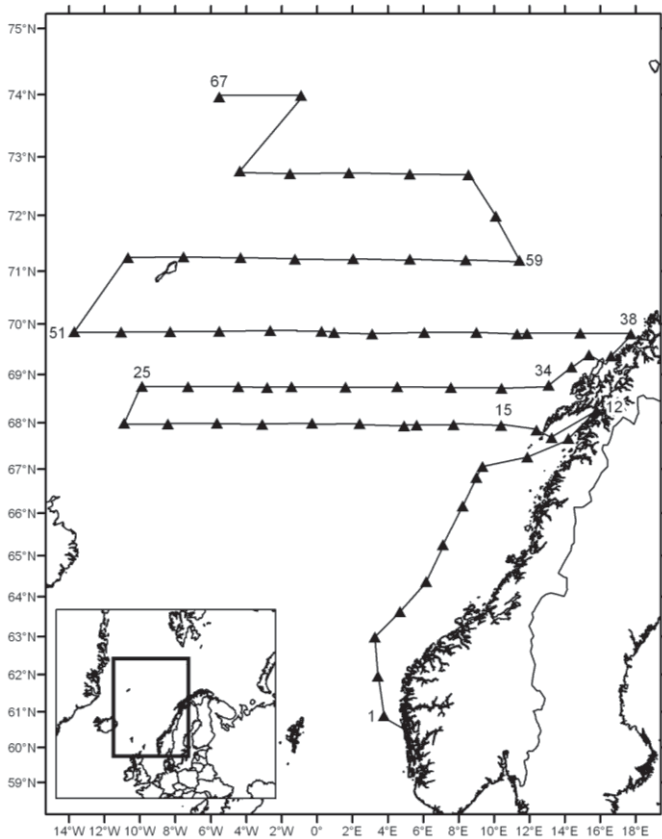


4.6 Selected cruises carried out by fishing vessels hired by IMR



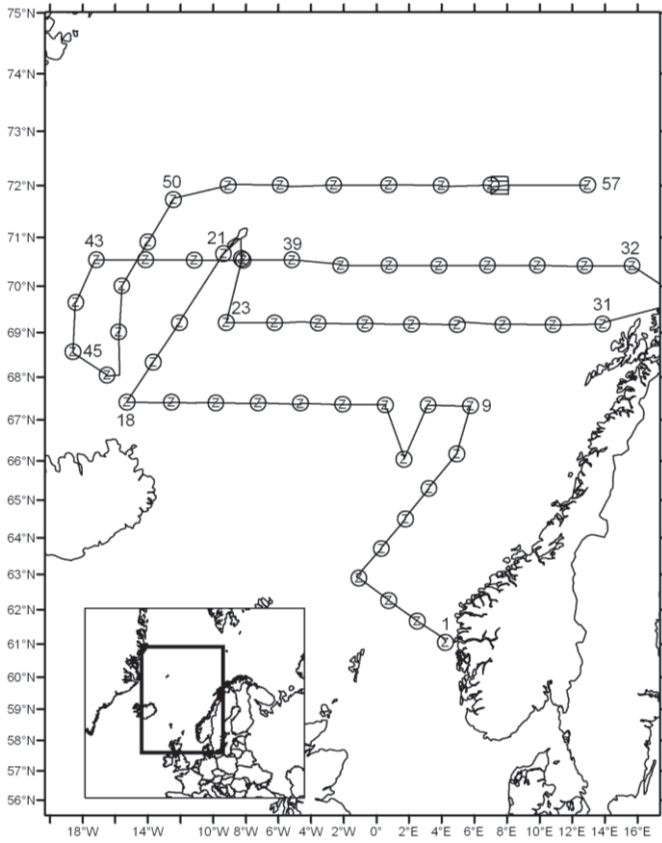
Cruise no 2010807
 "Brennholm"
 15–July–6 Aug 2010

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

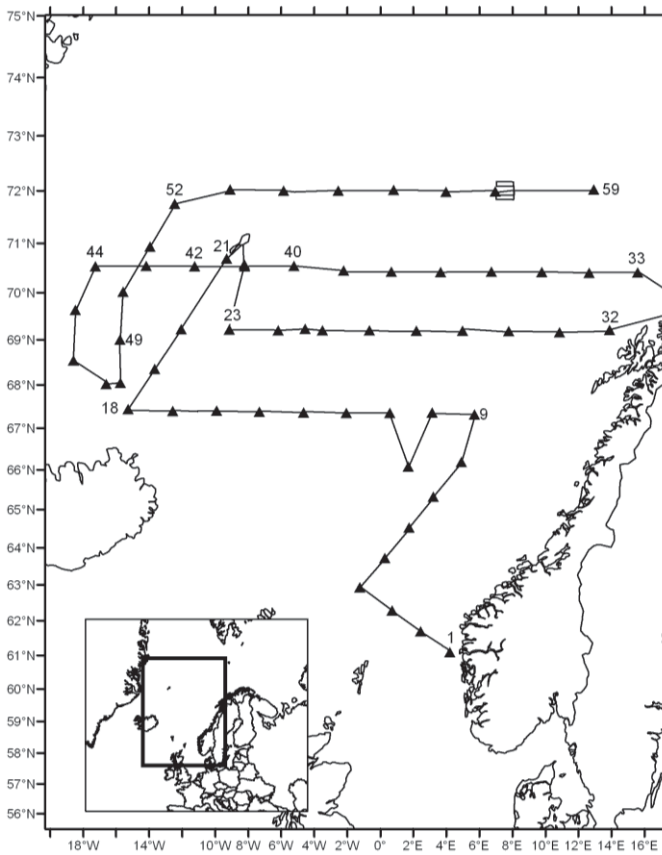


Cruise no 2010807
 "Brennholm"
 15–July–6 Aug 2010

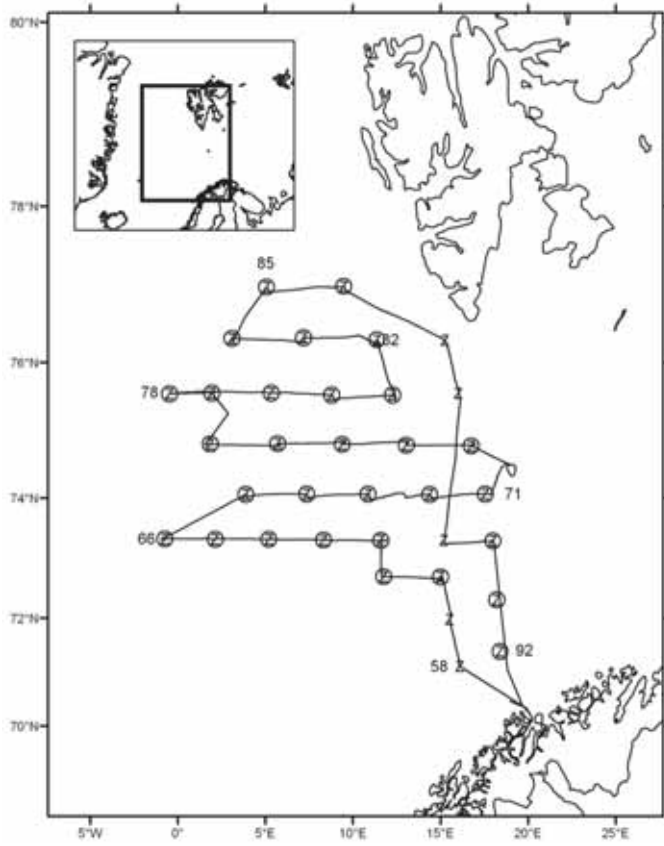
▲ Pelagic trawl st.no 1–67



Cruise no 20108010
 “Libas”
 15 July–6 Aug 2010
 z CTD st.no 1–54
 o Plankton st. (WP-II-net)



Cruise no 2010810
 “Libas”
 15–July–6 Aug 2010
 ▲ Pelagic trawl st.no 1–59



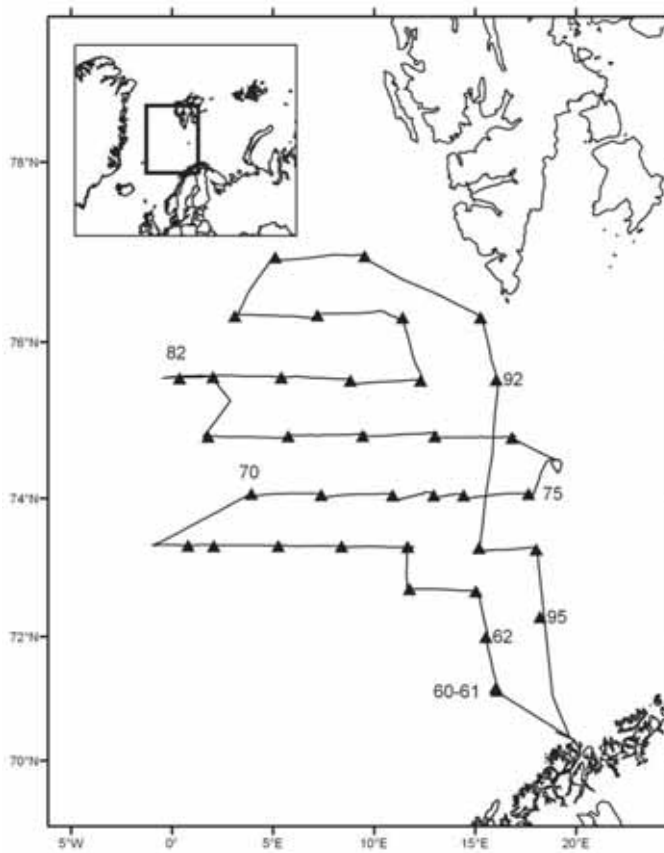
Cruise no 20108011

“Libas”

7–20 Aug 2010

z CTD st.no 58–92

o Plankton st. (WP-II-net)



Cruise no 20108011

“Libas”

7–20 Aug 2010

▲ Pelagic trawl st.no 60–95

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