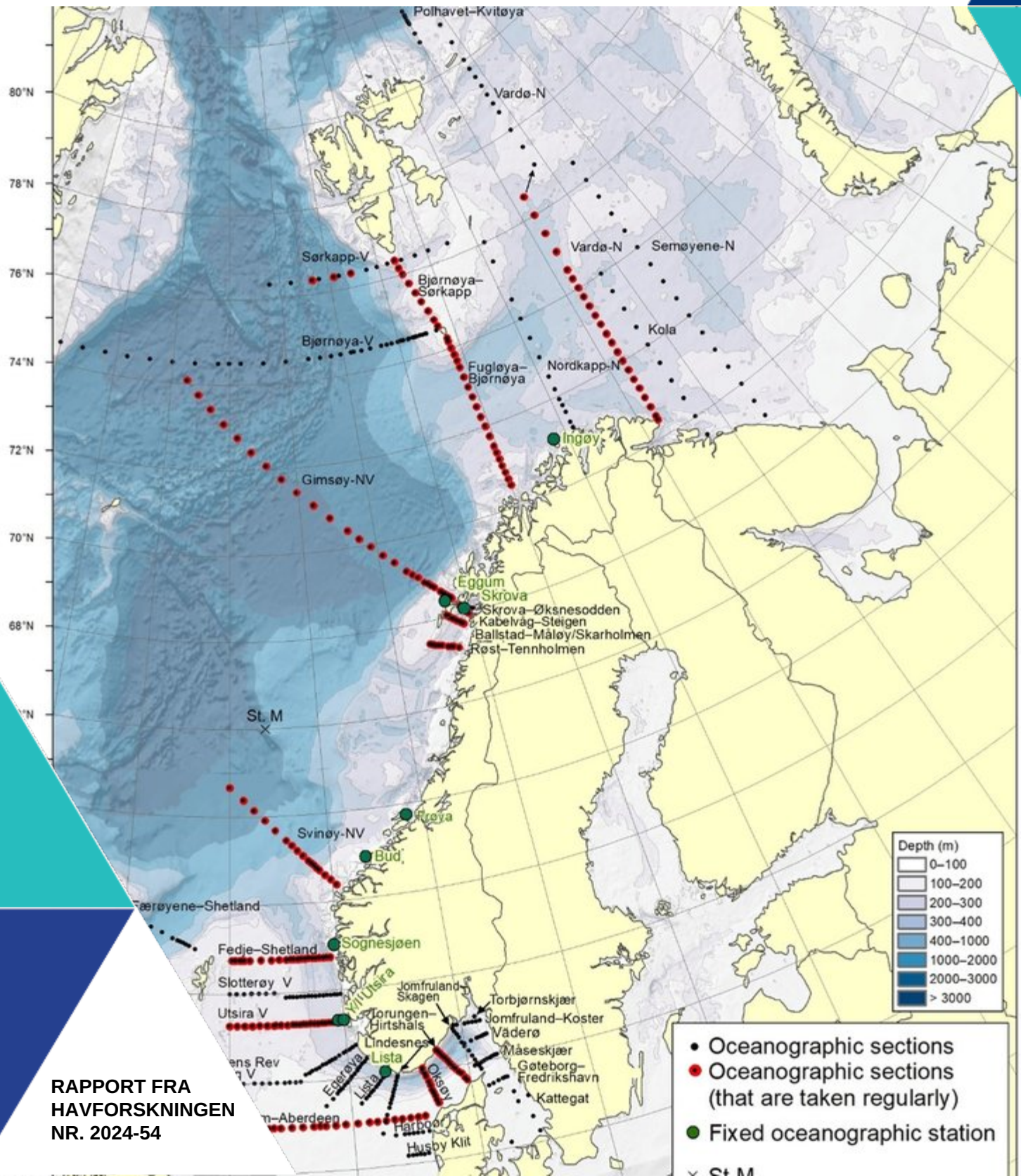
REPORT ON CRUISES AND DATA STATIONS 2023

Silje Smith-Johnsen and Helge Sagen (IMR)



RAPPORT FRA HAVFORSKNINGEN NR. 2024-54

Title (English and Norwegian):

Report on cruises and data stations 2023

Oversikt over tokt og stasjoner tatt i 2023

Report series:	Year - No.:	Date:
Rapport fra havforskningen	2024-54	10.12.2024

ISSN:1893-4536

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Distribution:

Open

Project No.:

4200

Program:

Kystøkosystemer
Norskehavet
Barentshavet og Polhavet
Nordsjøen
Marine prosesser og menneskelig påvirkning
Trygg og sunn sjømat
Miljøeffekter av akvakultur
Fremtidens havbruk

Research group(s):

Bentiske ressurser og prosesser, Bunnfisk, Bunnsamfunn, Bærekraftig utvikling, Oseanografi og klima, Pelagisk fisk, Plankton, Populasjonsgenetikk, Økosystemakustikk, Økosystemprosesser

Number of pages:

205

Summary (English):

The report gives an overview of cruises in 2023, by the Institute of Marine Research, University of Bergen and Tromsø and Norwegian Polar Institute, on board our research vessels and many of the hired commercial vessels. Each cruise has a short description and a track chart showing CTD and trawl stations. A table displaying the coverage of the oceanographic sections in addition to a table showing the number of observations per month for the fixed stations are included at the end of the report. Meta data about the cruises are reported to the International Council for the Exploration of the Sea (ICES) using the form “Cruise Summary Report”: https://www.seadatanet.org/Metadata/CSR-Cruises. Research data are available from the Norwegian Marine Data Centre at Institute of Marine Research (https://www.nmdc.no). Charts are generated by Silje Smith-Johnsen using ggOceanMaps by Mikko Vihtakari (IMR).

Summary (Norwegian):

Rapporten gir en oversikt over tokt i 2023 i regi av Havforskningsinstituttet, Universitetet i Bergen og Tromsø, og Norsk Polarinstitutt, med egne og mange av de innleide fartøyer. Den gir en kort beskrivelse av toktet og viser kurs- og stasjonskart – over CTD og trålstasjoner. Tabeller viser når de faste snittene er tatt og antall observasjoner per måned for de faste stasjonene. Toktene er innrapportert ICES (Det internasjonale råd for havforskning) i skjemaet ”Cruise Summary Report”: https://www.seadatanet.org/Metadata/CSR-Cruises. Data (og kart) fra toktene er tilgjengelig fra Norsk marint datasenter, Havforskningsinstituttet (https://www.nmdc.no). Kartene er generert av Silje Smith-Johnsen ved hjelp av ggOceanMaps av MikkoVihtakari (HI).

Content

1 - Charts overview 2023 – CTD stations and trawl stations.

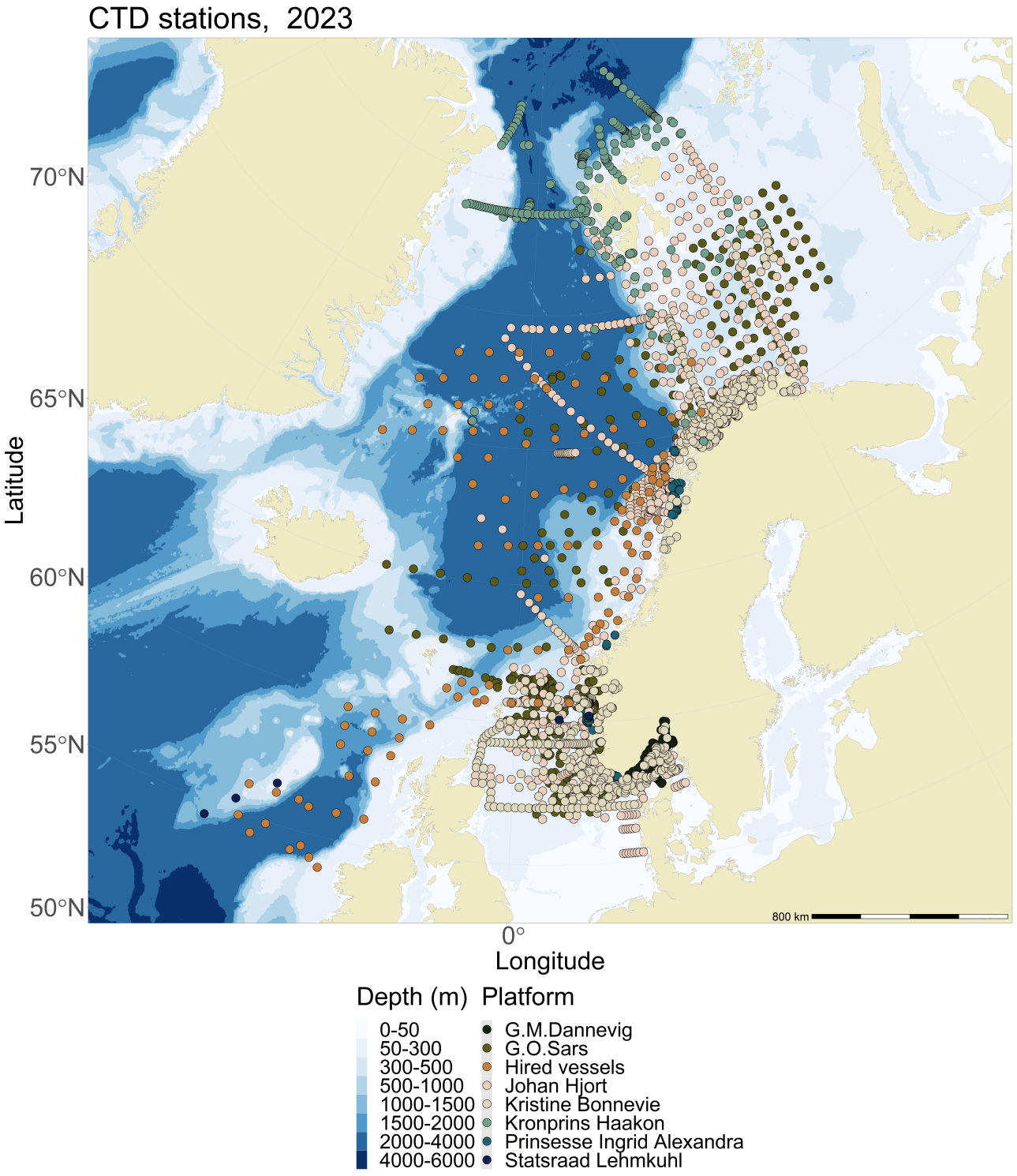


Fig. 1.1 - CTD stations 2023

Fig. 1.2 - Trawl stations 2023

2 - "G. O. Sars" – Cruises 2023

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023001001	02/02 - 28/02	The main objectives of the IBTS Q1 bottom trawl survey coordinated by ICES/IBTSWG are: 1) to determine the distribution and relative abundance of pre recruits of the main commercial species with a view of deriving recruitment indicesto monitor changes in the stocks of commercial fish species independently of commercial fisheries data 2) to monitor the distribution and relative abundance of all fish species and selected invertebratesto collect data for the determination of biological parameters for selected species 3) to collect hydrographical and environmental informationto determine the abundance and distribution of herring and other fish larvae as well as fish eggs	North Sea	1 - 117	4-50
2023001002	02/03 - 05/03	The main objective of the marine geological cruise was to train students for marine geological/geophysical fieldwork, and is part of UoB course GEOV231 at the Department of Earth Science. The scientific aim was to test how Atlantic Water has modulated Norwegian climate on decadal to millennial timescales since the last ice age. There additional objectives related to geohazards identifying slide history in western Norwegian fjords and potential point sources for pollution.	Norwegian Sea	118-130	-
2023001003	06/03 - 09/03	This was a student cruise, with the purpose of teaching students in meteorology and physical oceanography how oceanographic fieldwork is conducted. Data (physical and biogeochemical oceanography, meteorology) were collected within the Osterøy region (Osterfjord, Sørfjord) and on the coast west of Fedje. The data will be used by the students in semester reports.	North Sea	131-174	-

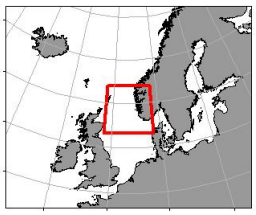
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023001004	13/03 - 24/03	The aim of the cruise was to investigate pelagic and demersal fish, bottom habitat, turbine noise and physical oceanography in and outside the Hywind Tampen floating wind farm. Hywind Tampen is the largest floating wind farm, with its current 7 wind turbines, and four to be added this year (11 in total). It is located between the two oil installations Gullfaks and Snorre to support them with green energy. To look at possible effects of the OWF on the fish distribution.	North Sea	175 - 252	51-60
2023001005	30/03 - 12/04	This cruise was focussed on surveying the coastal belt east of Utsira Nord (Utsira KB) and the two multibeam mapped areas close to Sørlige Nordsjø II (NSJ-1 and NSJ-2). These areas are of interest due to their proximity to the named offshore wind license areas and due to their overlap with særlig verdiful områder (SVO) which are areas of particular scientific and management interest. The MAREANO baseline mapping method was applied, but this cruise was focussed upon completing the video lines in these areas, and testing the munin+ AUV for data uses and the integration of AUVs into the Mareano method.	North Sea	253-260	-
2023001006	27/04 - 01/06	Part of the International Ecosystem Survey of the Nordic Seas (IESNS) where the objectives are (1) to measure the abundance of Norwegian spring-spawing herring and blue whiting using acoustics, (2) collect data on zoo- and phytoplankton, (3) measure the hydrographical conditions.	Norwegian Sea	261-335	61-106
2023001007	02/06 - 03/06	GOS - Kalibrering EM701/EM302 Må gjøres før ROV/AUV tokt	Ukjent	-	-

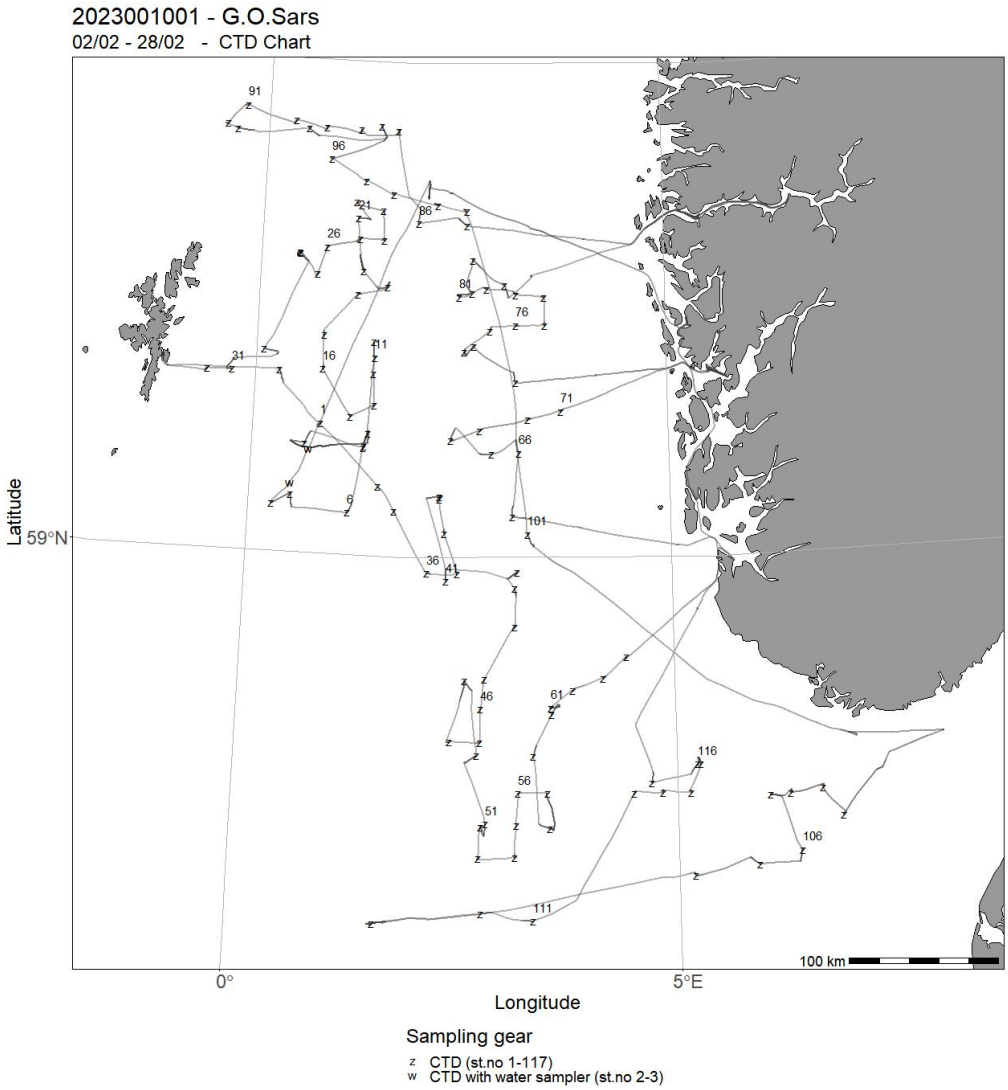
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023001008	06/06 - 27/06	This cruise aims to support research and training activities within the five strategic Thematic Areas of the Centre for Deep-Sea Research at UiB (CDeepSea), including commitments for externally funded projects under the CDeepSea project portfolio. Such projects include NFR funded NorEMSO, Eco-Safe, DeepSeaQuence, as well as Artsdatabanken Vent and Seep Fauna in Norwegian Waters, and ERC Horizon Infra 2022 Tech01.	Norskehavet	336-343	-
2023001009	03/07 - 15/07	Mareano samler og formidler kunnskap om miljø og naturverdier på havbunnen. Kartverket, NGU og HI har siden 2005 samarbeidet om kartlegging, rådgivning og spesielt levert kunnskapsgrunnlag til våre forvaltningsplaner for havområdene. Det søkes her om fartøytid til innsamling av vann og bunnprøver for ny kunnskap om biologisk mangfold og arters utbredelse, miljøkjemi og bunnsedimenter, i havområder prioritert på dep. nivå.	Nordsjøen	344-356	1-13
2023001010	19/07 - 02/08	The project 4SWIND (Advancing seismic seabed survey techniques and optimizing site-selection for offshore wind farms) will improve on methods for integrated surveys for offshore-wind sites both relevant for investigations in the recently glaciated, highly complicated areas off NW Europe, and worldwide. More specifically, 4SWIND will i) create workflows to cost-effectively generate geotechnical models from offshore- wind sites using core, high-resolution seismic data, P-and-S-wave tomography, and geological understanding: ii) generate new understanding of how to anchor offshore-wind sites in the challenging and heterogeneous soils: and iii) investigate how large-scale glacial dynamics influence anchoring conditions of offshore wind across the entire Norwegian Continental Shelf (NCS).	North Sea	357 - 359	-

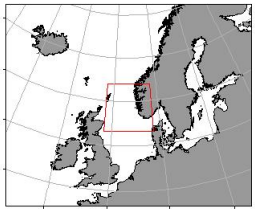
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023001011	03/08 - 14/08	The project 4SWIND (Advancing seismic seabed survey techniques and optimizing site-selection for offshore wind farms) will improve on methods for integrated surveys for offshore-wind sites both relevant for investigations in the recently glaciated, highly complicated areas off NW Europe, and worldwide. More specifically, 4SWIND will i) create workflows to cost-effectively generate geotechnical models from offshore- wind sites using core, high-resolution seismic data, P-and-S-wave tomography, and geological understanding: ii) generate new understanding of how to anchor offshore-wind sites in the challenging and heterogeneous soils: and iii) investigate how large-scale glacial dynamics influence anchoring conditions of offshore wind across the entire Norwegian Continental Shelf (NCS).	North Sea	360	-
2023001012	19/08 - 17/09	The aim of the joint Norwegian/Russian Ecosystem survey in the Barents Sea and adjacent waters, August-October (BESS) is to monitor the status of abiotic and biotic factors and changes of these in the Barents Sea ecosystem. The survey has since 2004 been conducted annually in the autumn, as a collaboration between the Institute of Marine Research (IMR) in Norway and Polar branch of the VNIRO (PINRO) in Russia.	Barents Sea	361-444	107 - 264
2023001013	22/09 - 06/10	2023-BIO-003: Obligatorisk feltkurs i fjordane og Nordsjøen/britisk sone for masterstudentar på BIO325 Havforsking. Kurset går kvart år i september/oktober.	Norskekysten: Vestlandet	445 - 471	265 - 301
2023001014	07/10 - 16/10	Mareano collects and disseminates knowledge about the environment and natural values on the seabed. Since 2005, the Norwegian Mapping Authority (Kartverket), the Geological Survey of Norway (NGU), and the Institute of Marine Research (HI) have collaborated on mapping, advising, and providing essential knowledge for our marine management plans.	Skagerrak	472-474	14-15

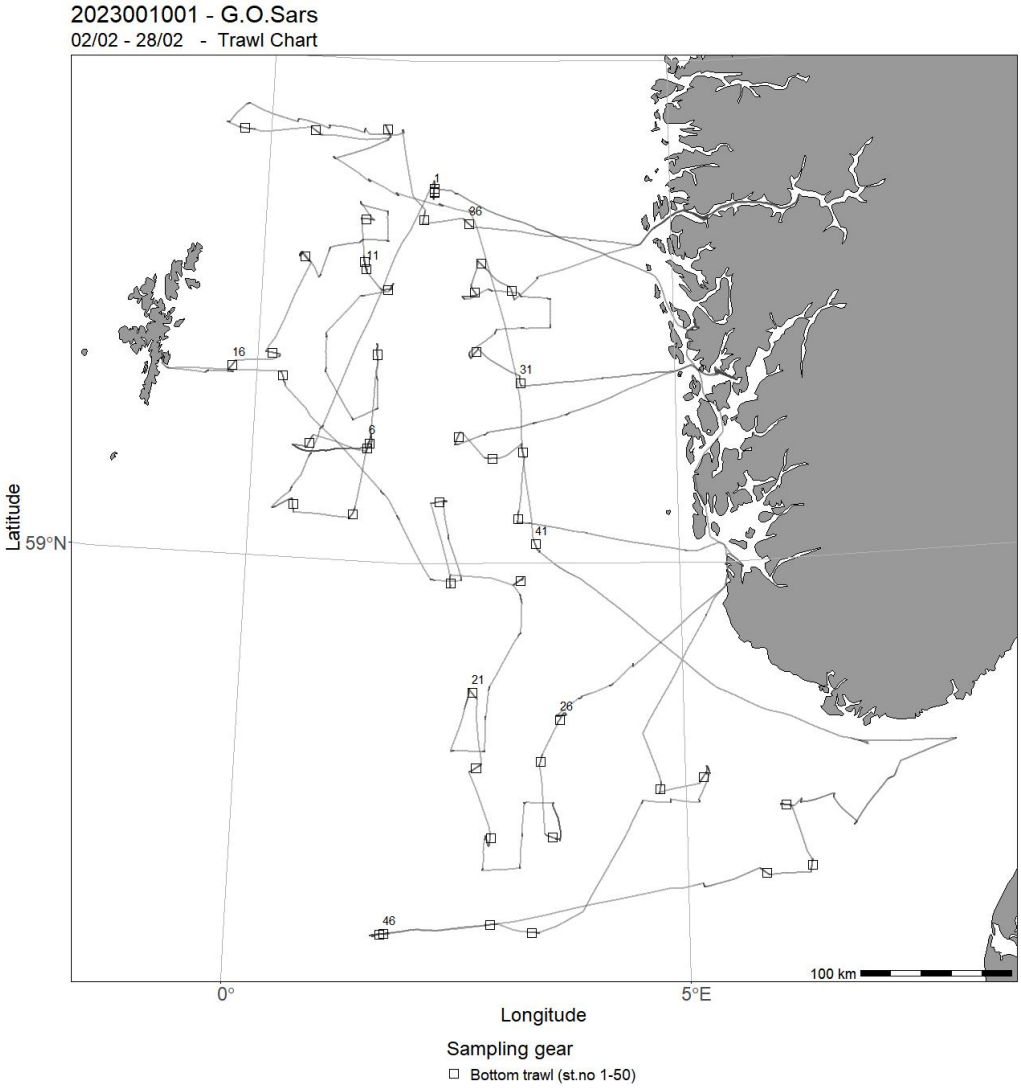
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023001015	21/10 - 13/11	Name of survey series: Norwegian Sea continental slope NOR deep-sea fish cruise in autumn . Bottom trawl survey for deep sea resources on depths 400-1500 along the eastern continental slope of the Norwegian Sea between 68°N and 80°N, included Bear Island trench. Bottom trawl stations primarily for biomass estimation of Greenland halibut (Reinhardtius hippoglossoides), along with registrations on beaked redfish (Sebastes mentella) and other deep-sea fish species.	Norwegian Sea	475-480	302 - 418
2023001016	15/11 - 26/11	This survey supports the following CRIMAC tasks: Survey designs for autonomous platforms, The fine scale frequency spectrum from of fish for the purpose of identification, as well as testing the data quality from the sounder platform . In addition, the survey supports the CRIMAC industry partners for equipment testing, including Simrad sensor testing, Develop active selection system for scientific purposes and DV for commercial fishery and Improved trawl steering and control.	Norskekysten: Troms og Finnmark, Norskekysten: Nordland	481-489	419-420
2023001017	02/12 - 03/12	I tidsrommet 2018-2021 har FG Fangst i samarbeid med Rederiavdelingen gjennomført et årlig «metode- og redskapstokt» i slutten av året. Toktet ble utført som eget tokt 2018-2020 og som en del av CRIMAC toktet i 2021. Ingen metode- og redskapstokt ble/blir utført i 2022. For 2023 foreslås det 4 x 2 dagers tokt om bord instituttets fire fartøyer som driver med tråling (G.O. Sars, Johan Hjort, Kristine Bonnevie, Kronprins Haakon).	Atlanterhavet NØ	-	-
2023001018	08/12 - 17/12	Naturtypekartlegging i Færder og Hvaler nasjonalparker. Målsetningen er helhetlig kunnskap om den marine naturen i nasjonalparkene. Leveransen er bidrag til kunnskapsgrunnlaget for Tiltaksplan for Oslofjorden. Formål er overvåking av korallforekomstene i Oslofjorden/Skagerrak, med utgangspunkt i nasjonalparkene.	Nordsjøen	-	-

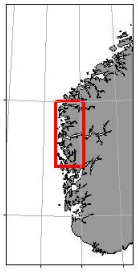
3 - “ G.O. Sars” – Charts for cruises 2023

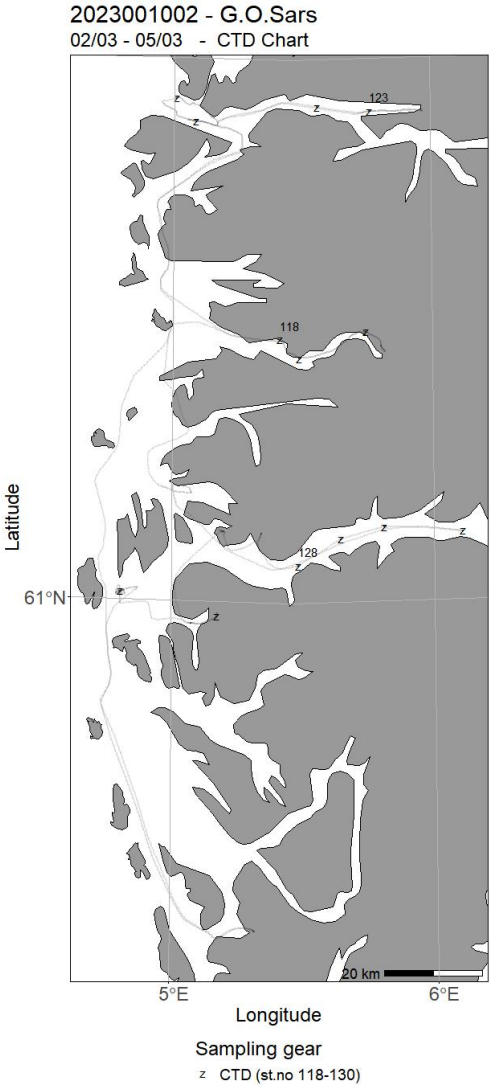


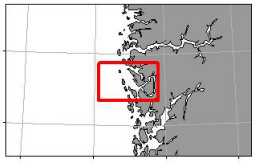


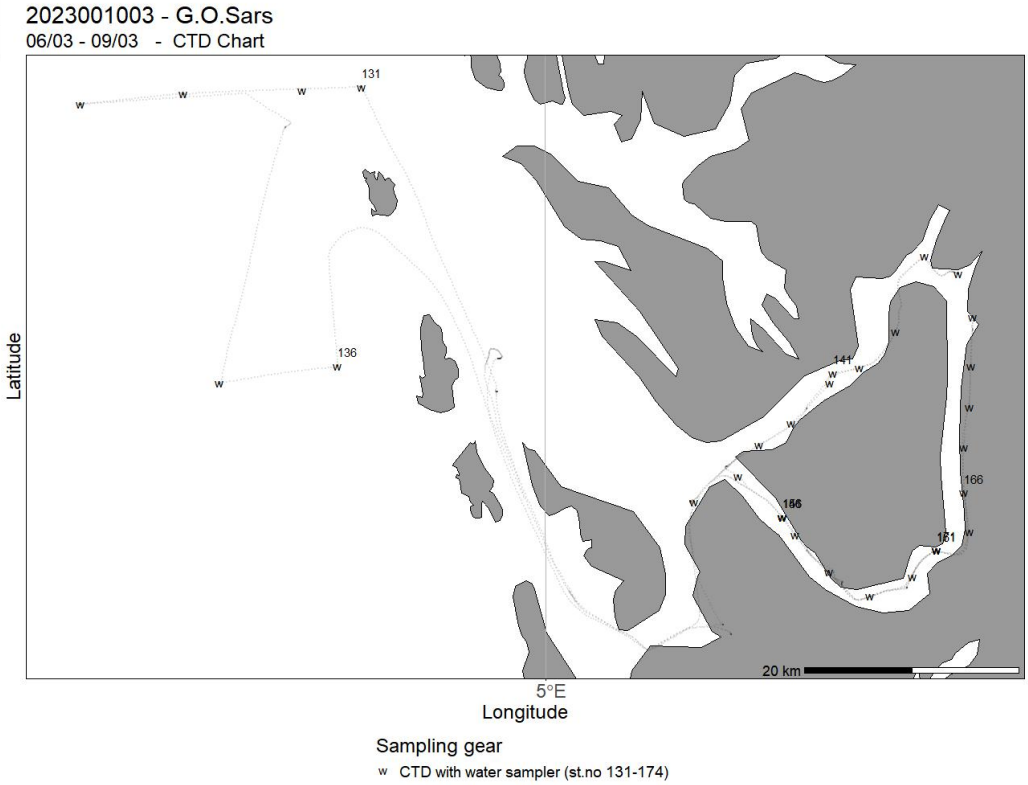


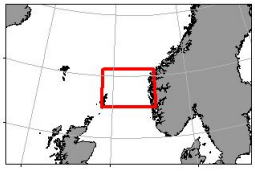

2023001001 - G.O.Sars
02/02 - 28/02 - Trawl Chart
1
96
11
16
31
6
41
21
26
46
Latitude
59°N
0°
5°E
Longitude
100 km
Sampling gear
Bottom trawl (st.no 1-50)

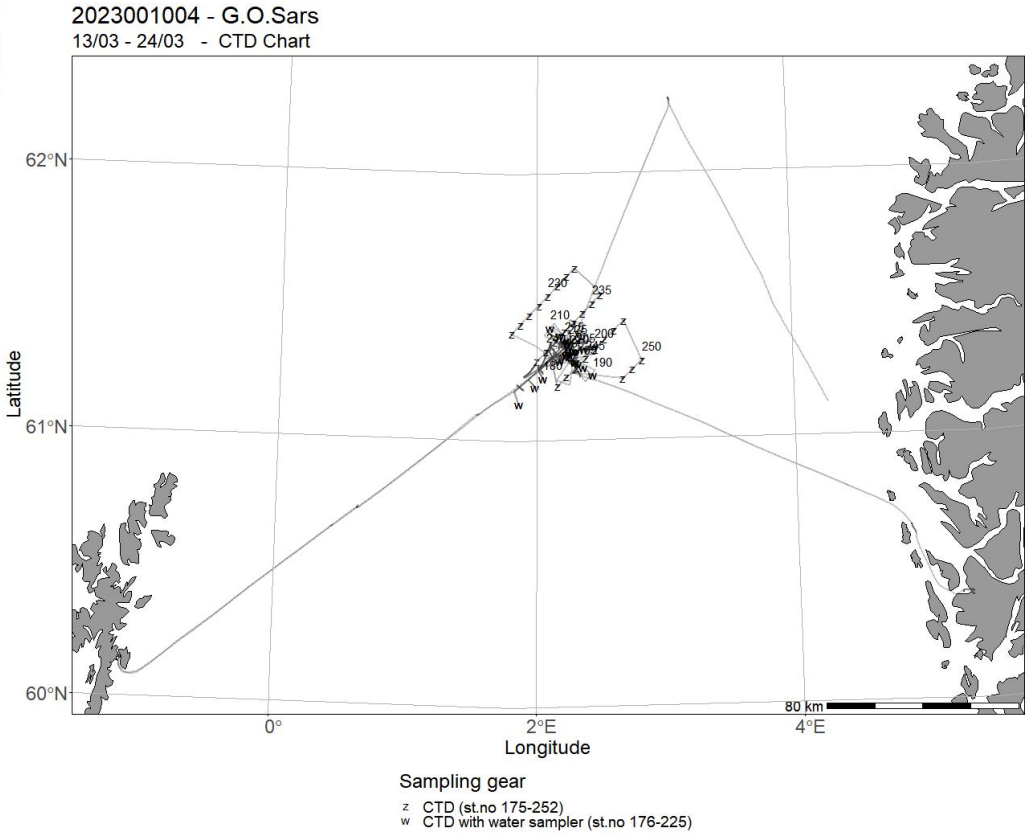


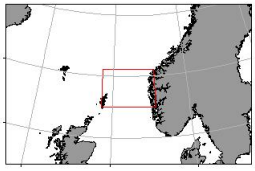

2023001002 - G.O.Sars
02/03 - 05/03 - CTD Chart
123
118
128
Latitude
61°N
20 km
5°E
6°E
Longitude
Sampling gear
z CTD (st.no 118-130)

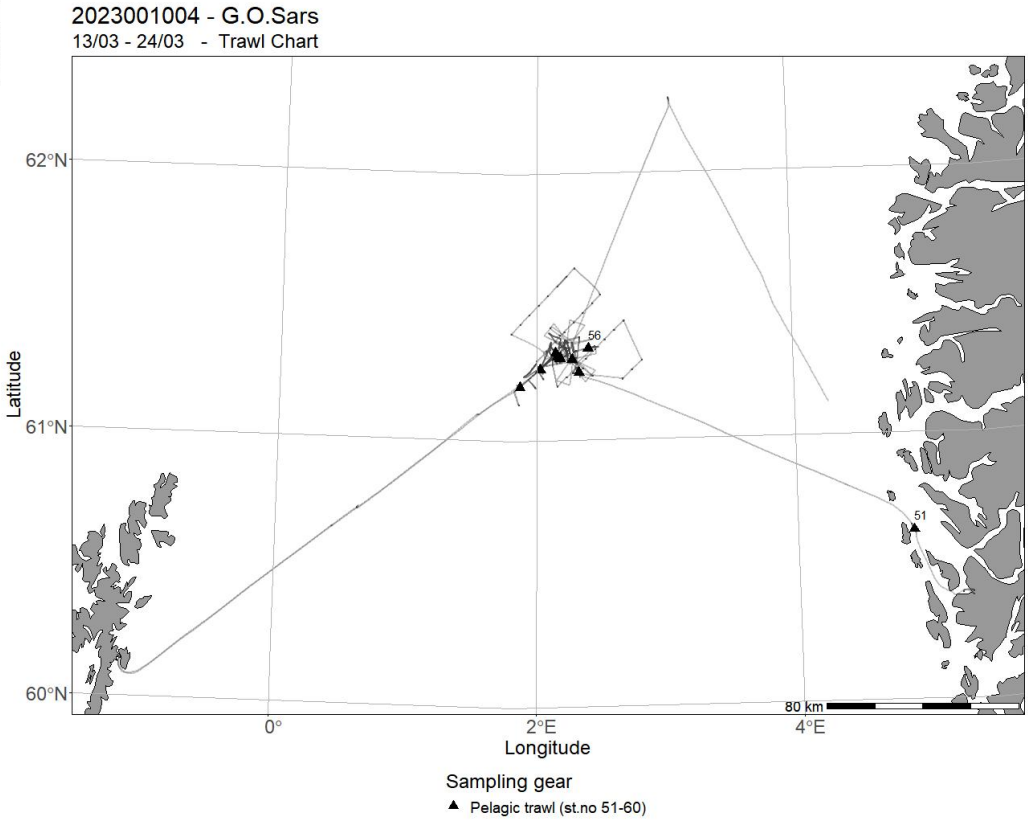


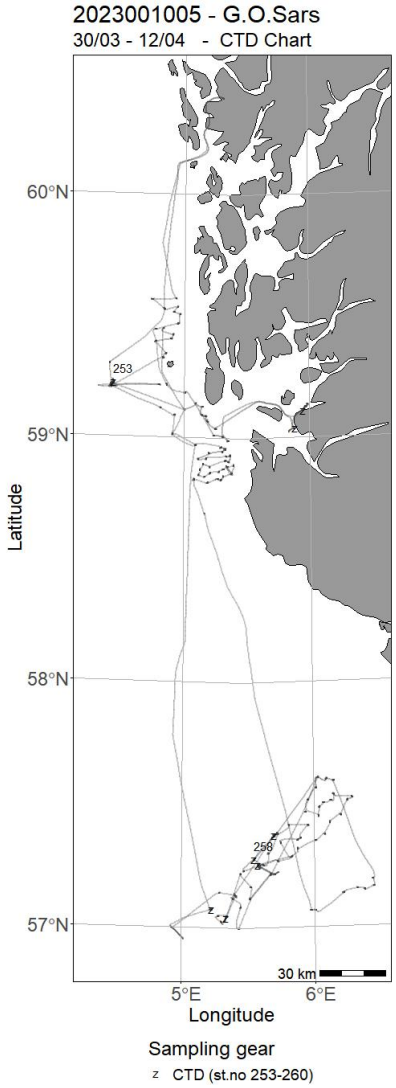

2023001003 - G.O.Sars
06/03 - 09/03 - CTD Chart
131
136
141
166
Latitude
20 km
5°E
Longitude
Sampling gear
w CTD with water sampler (st.no 131-174)

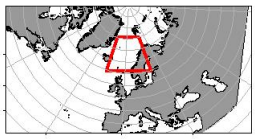


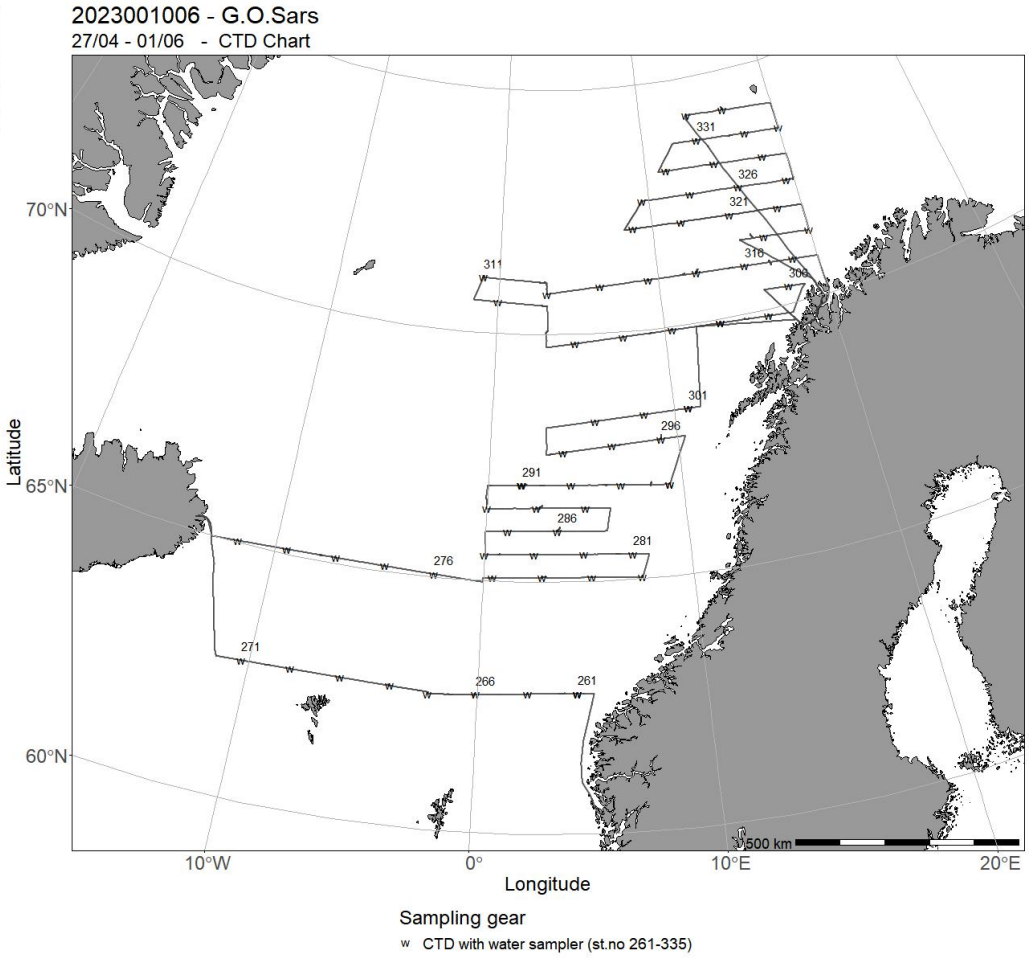

2023001004 - G.O.Sars
13/03 - 24/03 - CTD Chart
62°N
61°N
60°N
Latitude
0°
2°E
4°E
Longitude
80 km
Sampling gear
z CTD (st.no 175-252)
w CTD with water sampler (st.no 176-225)

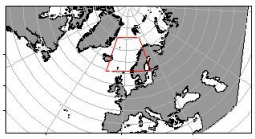


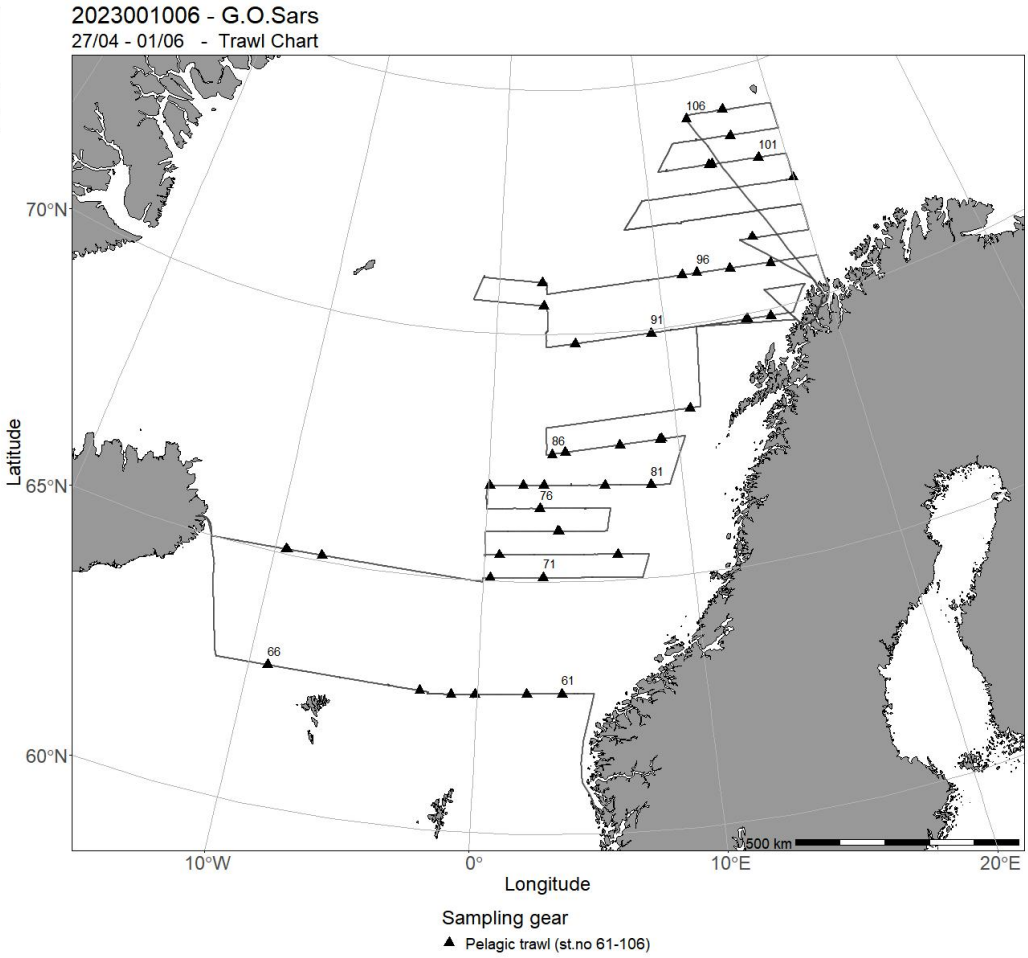

2023001004 - G.O.Sars
13/03 - 24/03 - Trawl Chart
62°N
61°N
60°N
Latitude
0°
2°E
4°E
Longitude
56
51
80 km
Sampling gear
Pelagic trawl (st.no 51-60)

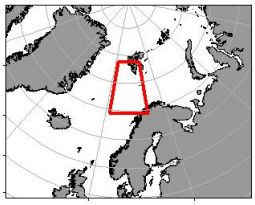

2023001005 - G.O.Sars
30/03 - 12/04 - CTD Chart
60°N
59°N
58°N
57°N
Latitude
253
256
30 km
5°E
6°E
Longitude
Sampling gear
CTD (st.no 253-260)

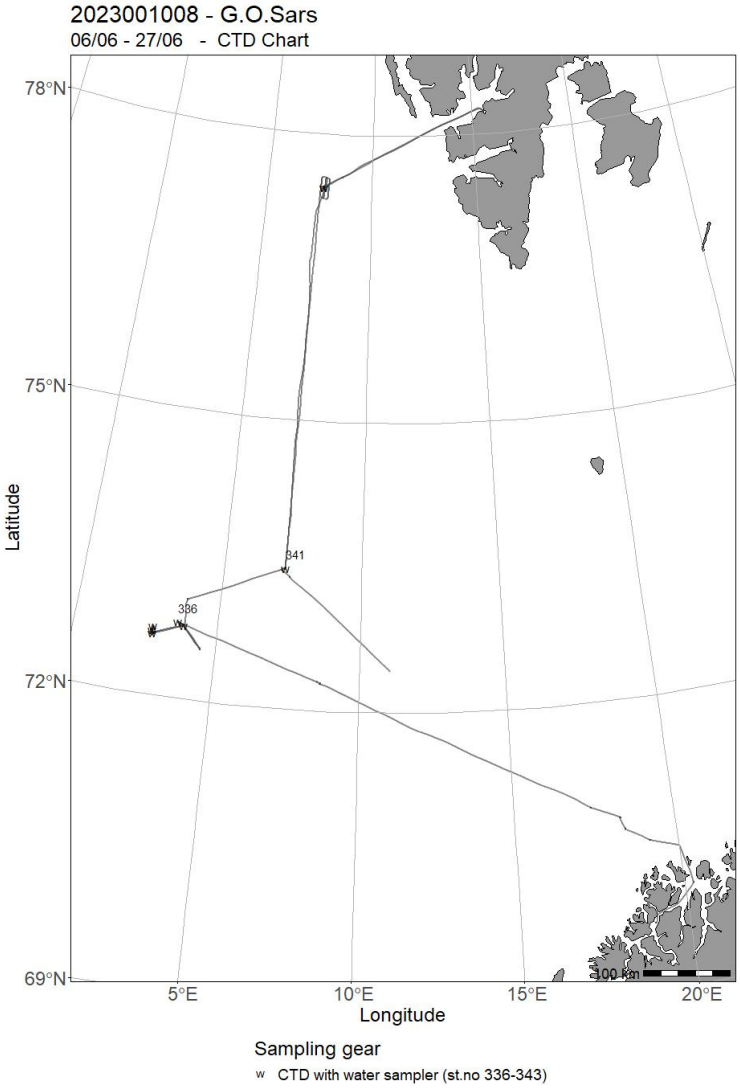


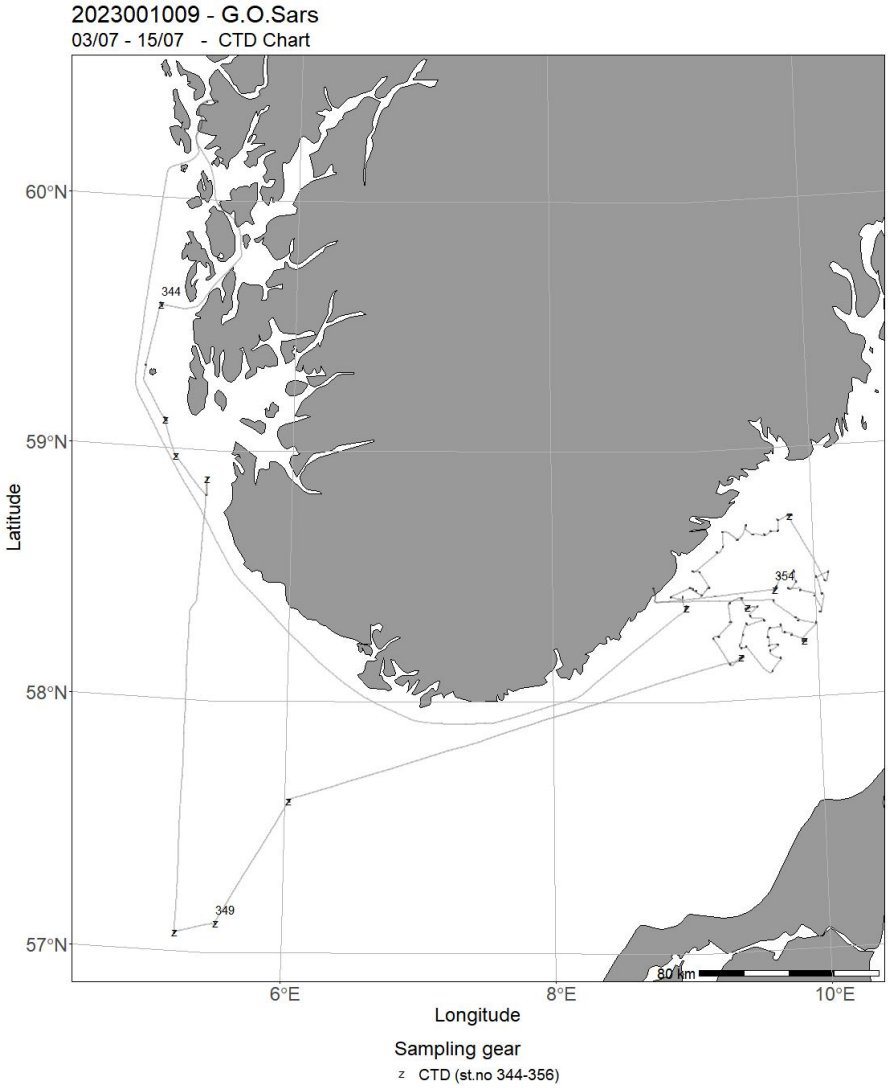

2023001006 - G.O.Sars
27/04 - 01/06 - CTD Chart
331
326
321
316
311
306
301
296
291
286
281
276
271
266
261
70°N
65°N
60°N
Latitude
10°W
0°
10°E
20°E
Longitude
500 km
Sampling gear
w CTD with water sampler (st.no 261-335)

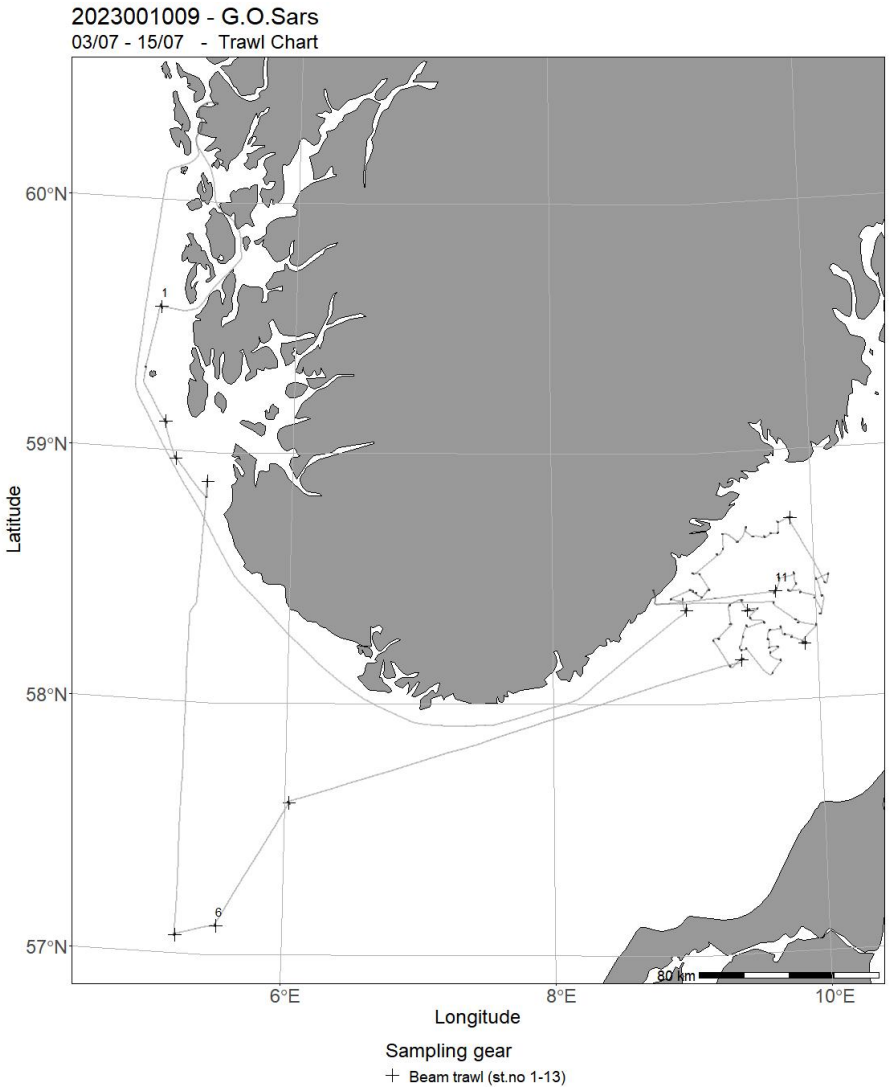


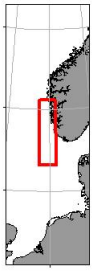

2023001006 - G.O.Sars
27/04 - 01/06 - Trawl Chart
106
101
96
91
86
81
76
71
66
61
70°N
65°N
60°N
Latitude
10°W
0°
10°E
20°E
Longitude
500 km
Sampling gear
Pelagic trawl (st.no 61-106)

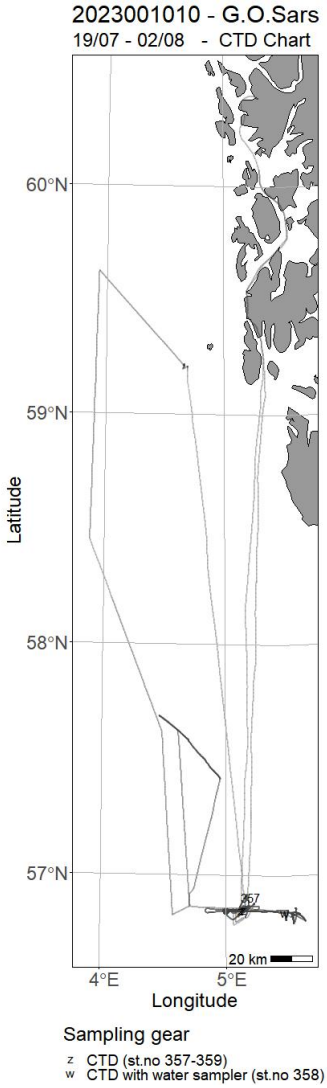


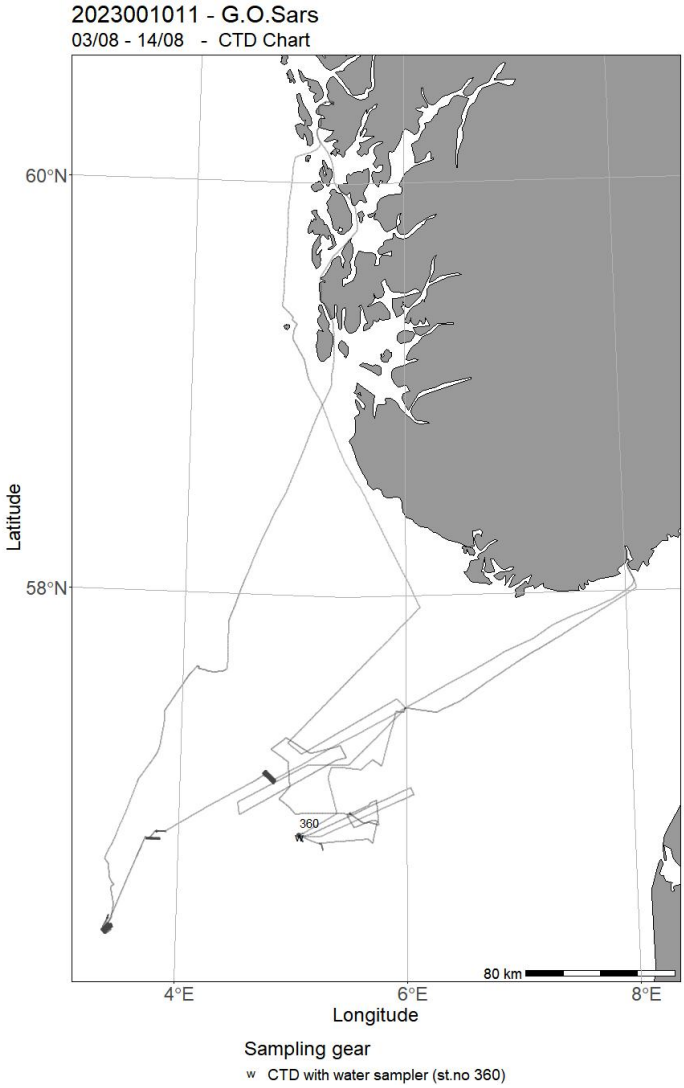

2023001008 - G.O.Sars
06/06 - 27/06 - CTD Chart
78°N
75°N
72°N
69°N
Latitude
5°E
10°E
15°E
20°E
Longitude
100 km
341
336
Sampling gear
w CTD with water sampler (st.no 336-343)

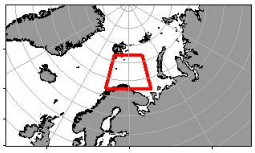

2023001009 - G.O.Sars
03/07 - 15/07 - CTD Chart
60°N
59°N
58°N
57°N
Latitude
344
354
349
6°E
8°E
10°E
Longitude
80 km
Sampling gear
CTD (st.no 344-356)

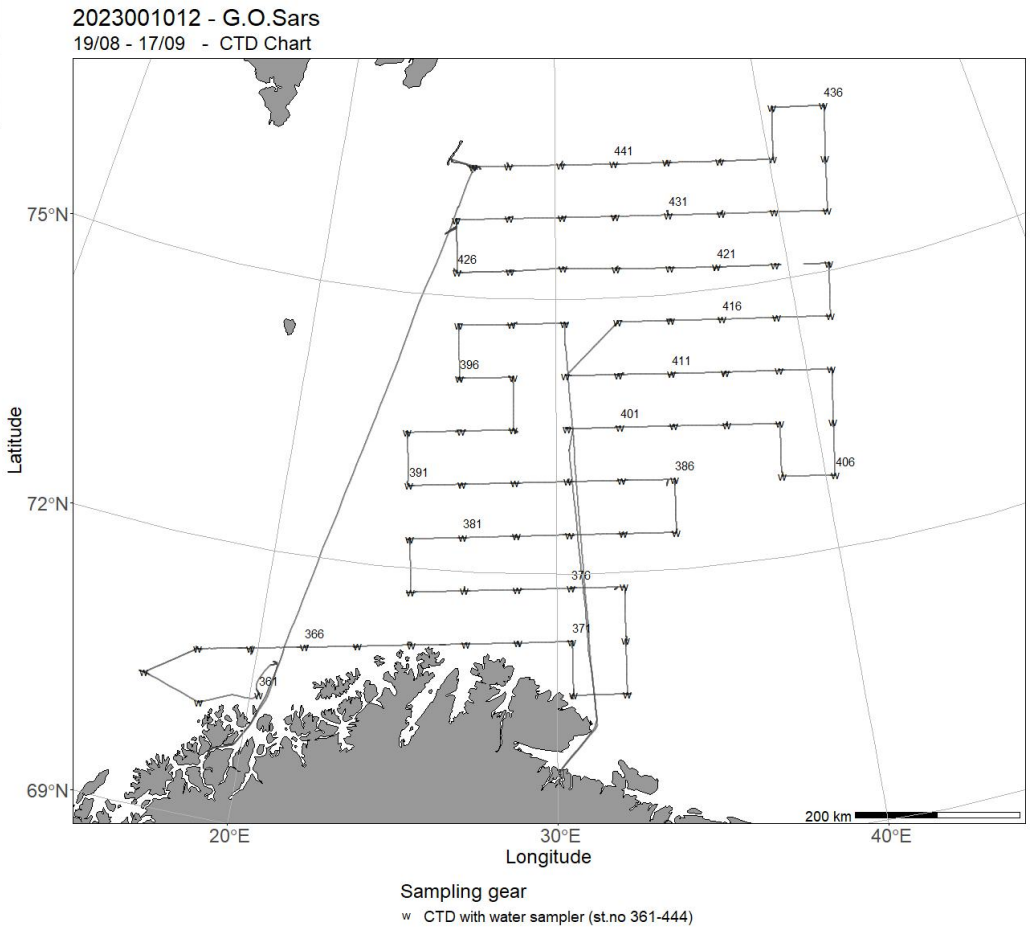

2023001009 - G.O.Sars
03/07 - 15/07 - Trawl Chart
60°N
59°N
58°N
57°N
Latitude
6°E
8°E
10°E
Longitude
80 km
Sampling gear
Beam trawl (st.no 1-13)

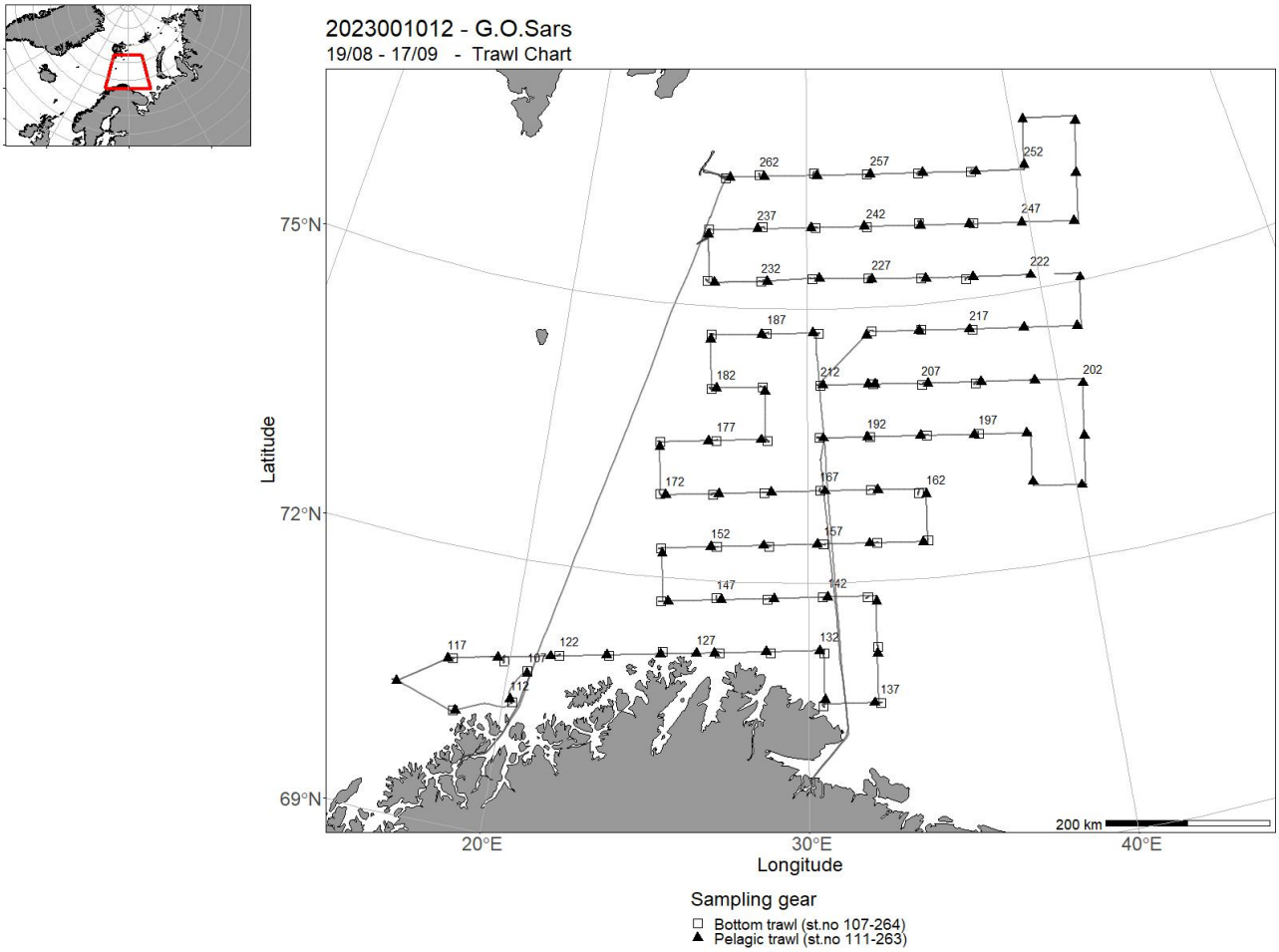


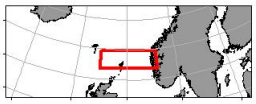

2023001010 - G.O.Sars
19/07 - 02/08 - CTD Chart
60°N
59°N
58°N
57°N
Latitude
357
20 km
4°E
5°E
Longitude
Sampling gear
z CTD (st.no 357-359)
w CTD with water sampler (st.no 358)

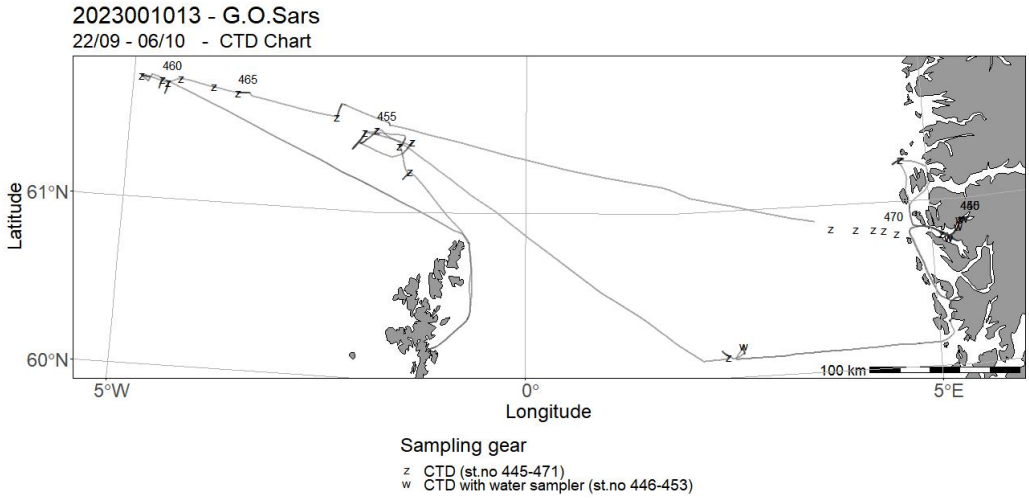

2023001011 - G.O.Sars
03/08 - 14/08 - CTD Chart
60°N
58°N
Latitude
360
80 km
4°E
6°E
8°E
Longitude
Sampling gear
w CTD with water sampler (st.no 360)

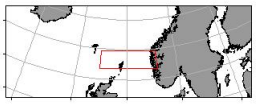


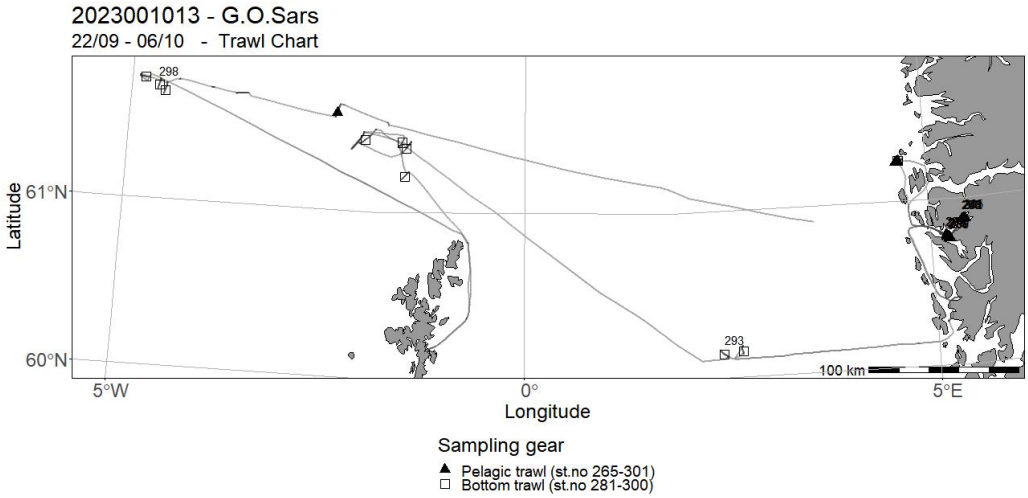

2023001012 - G.O.Sars
19/08 - 17/09 - CTD Chart
436
441
431
426
421
416
396
411
401
391
386
406
381
376
366
371
361
75°N
72°N
69°N
Latitude
20°E
30°E
40°E
Longitude
200 km
Sampling gear
w CTD with water sampler (st.no 361-444)

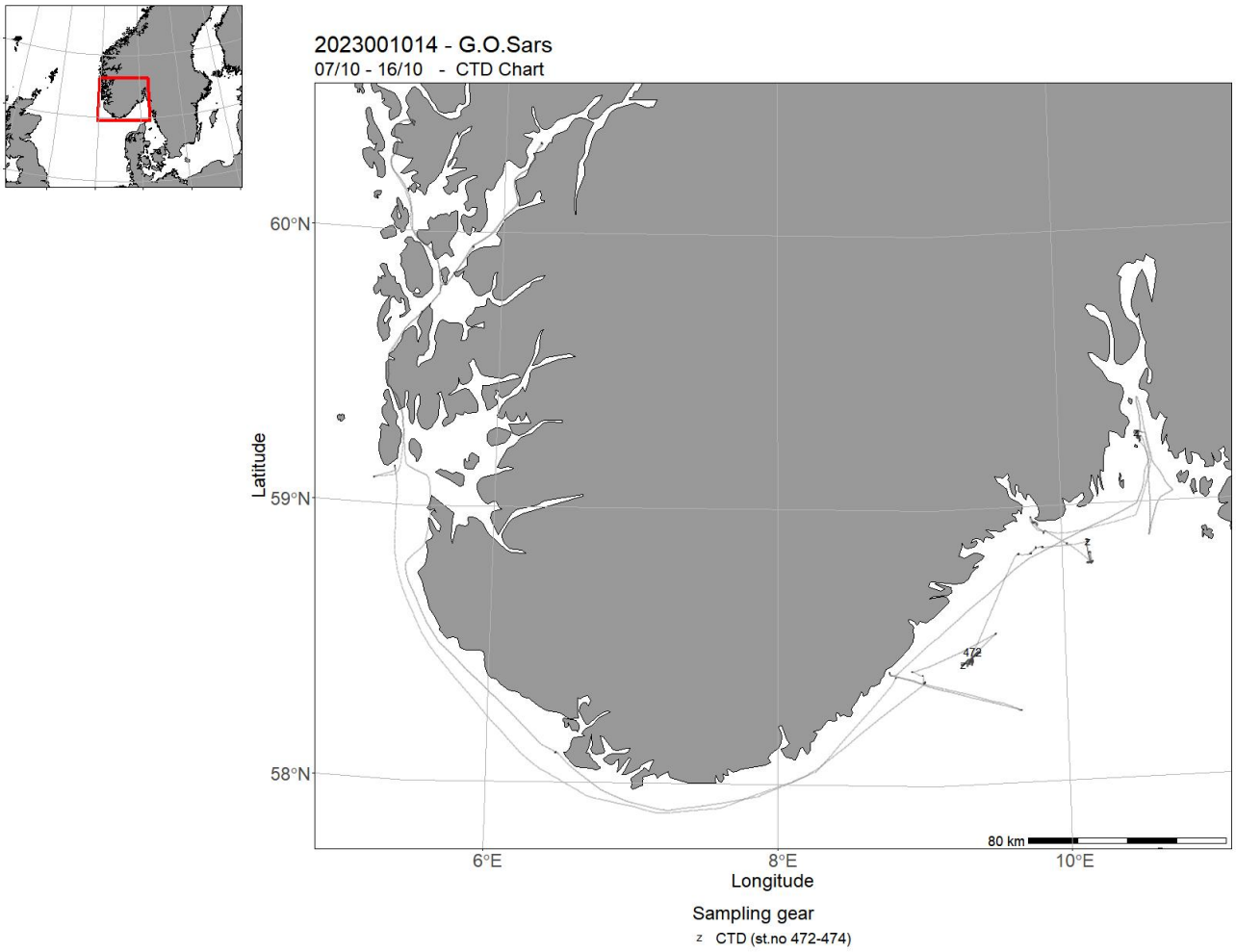

2023001012 - G.O.Sars
19/08 - 17/09 - Trawl Chart
75°N
72°N
69°N
Latitude
20°E
30°E
40°E
Longitude
200 km
Sampling gear
Bottom trawl (st.no 107-264)
Pelagic trawl (st.no 111-263)

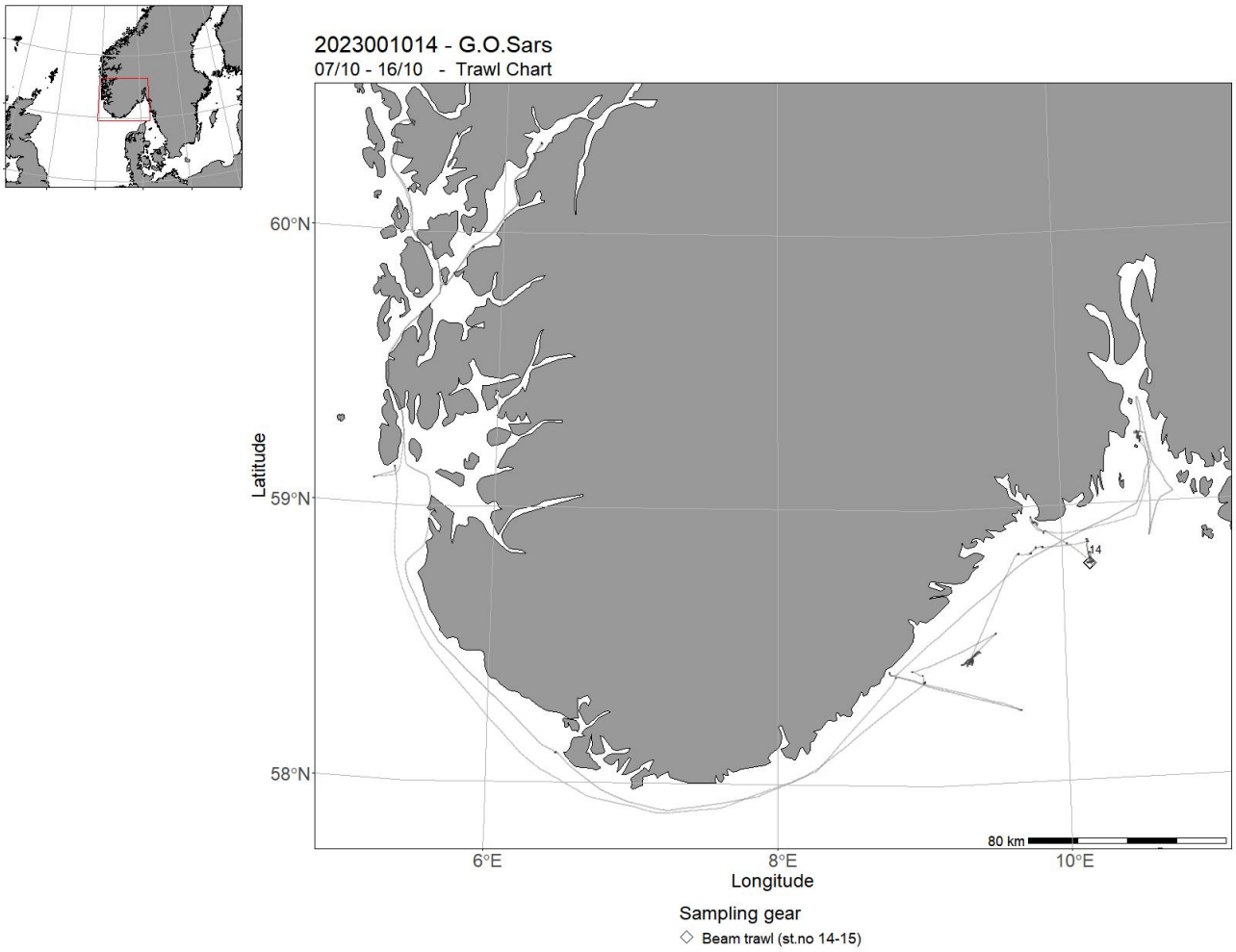


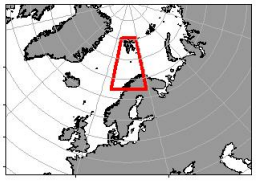

2023001013 - G.O.Sars
22/09 - 06/10 - CTD Chart
460
465
455
470
466
61°N
60°N
Latitude
5°W
0°
5°E
Longitude
100 km
Sampling gear
z CTD (st.no 445-471)
w CTD with water sampler (st.no 446-453)

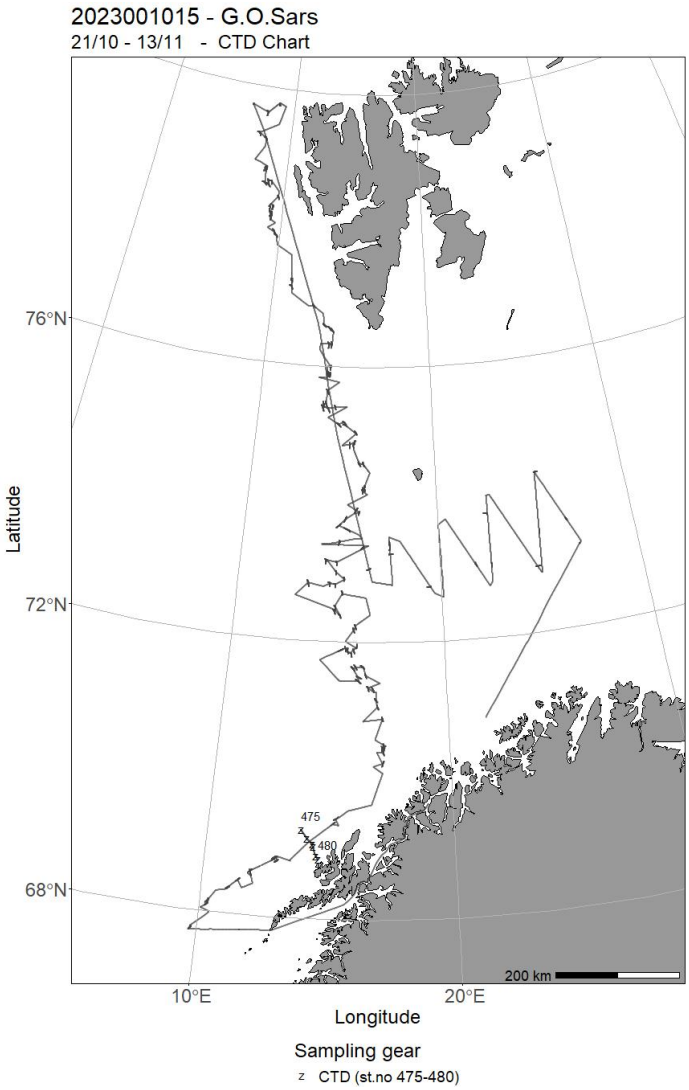


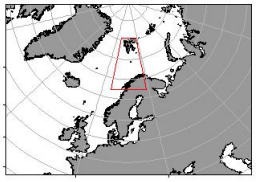

2023001013 - G.O.Sars
22/09 - 06/10 - Trawl Chart
298
293
61°N
60°N
Latitude
5°W
0°
5°E
Longitude
100 km
Sampling gear
Pelagic trawl (st.no 265-301)
Bottom trawl (st.no 281-300)

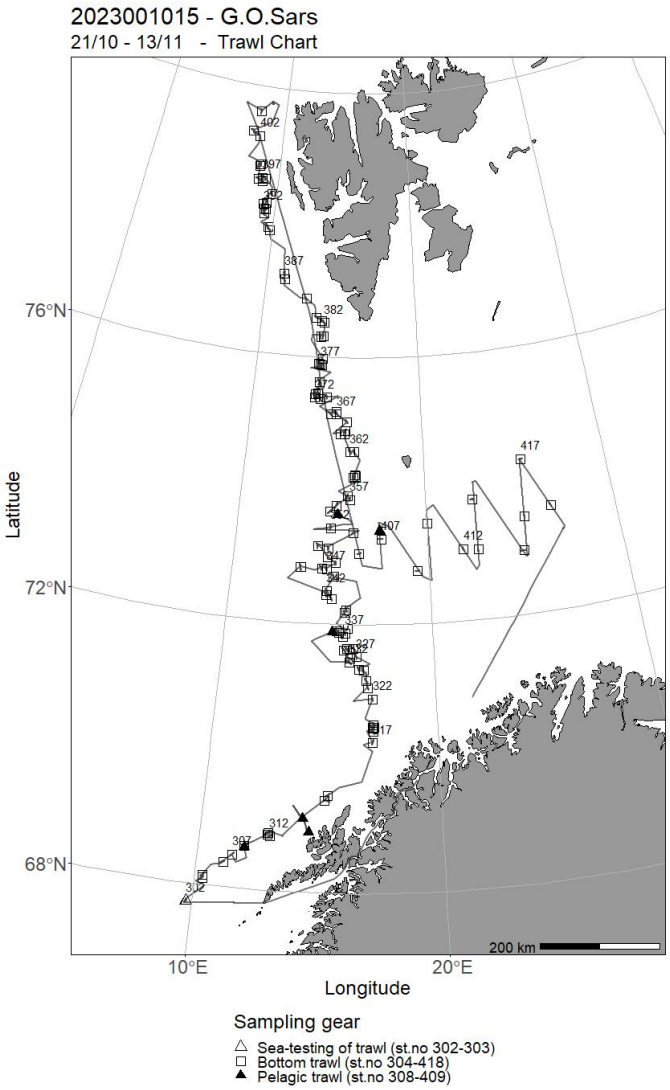

2023001014 - G.O.Sars
07/10 - 16/10 - CTD Chart
60°N
59°N
58°N
Latitude
6°E
8°E
10°E
Longitude
472
80 km
Sampling gear
CTD (st.no 472-474)

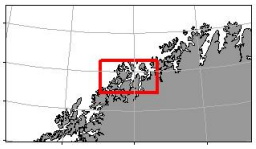

2023001014 - G.O.Sars
07/10 - 16/10 - Trawl Chart
60°N
59°N
58°N
Latitude
6°E
8°E
10°E
Longitude
14
80 km
Sampling gear
Beam trawl (st.no 14-15)

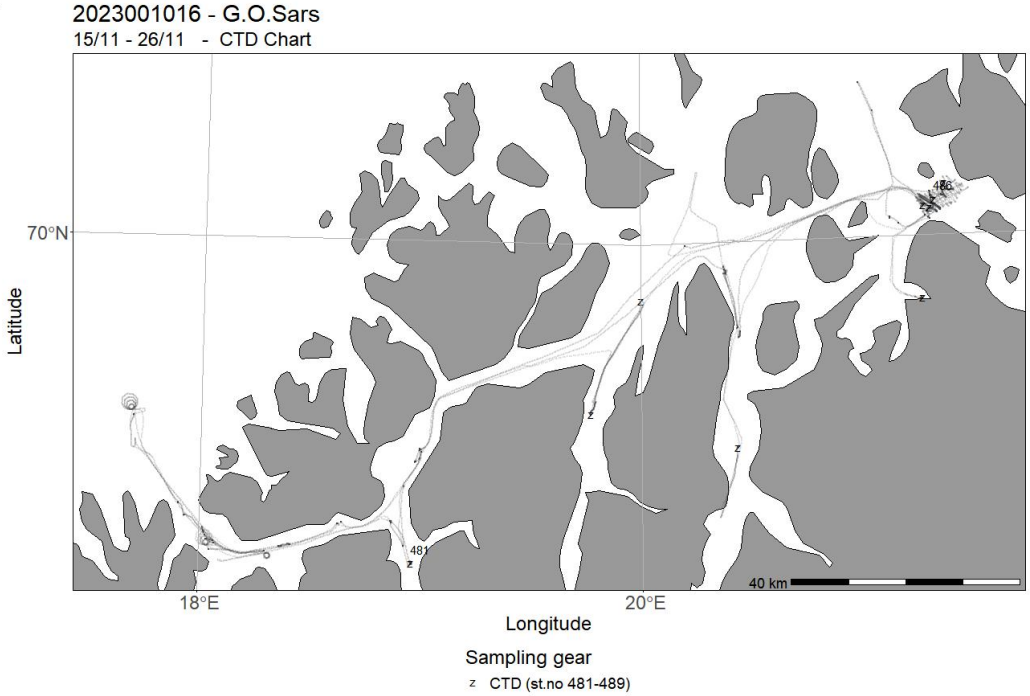


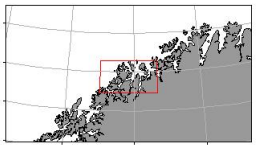

2023001015 - G.O.Sars
21/10 - 13/11 - CTD Chart
76°N
72°N
68°N
Latitude
10°E
20°E
Longitude
475
480
200 km
Sampling gear
CTD (st.no 475-480)

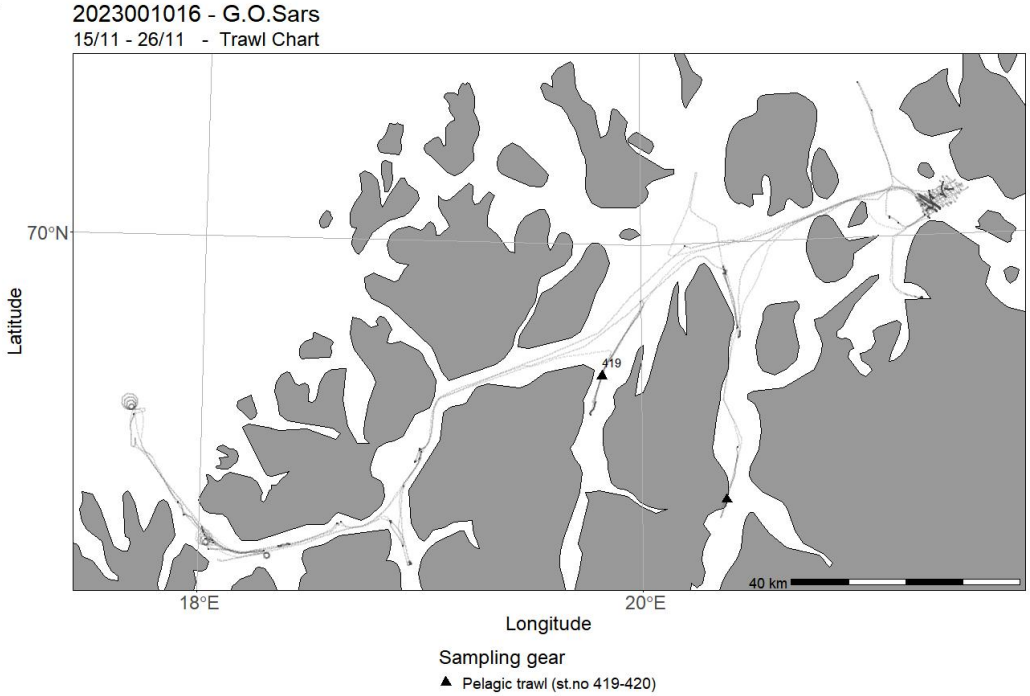



2023001015 - G.O.Sars
21/10 - 13/11 - Trawl Chart
76°N
72°N
68°N
Latitude
10°E
20°E
Longitude
200 km
Sampling gear
Sea-testing of trawl (st.no 302-303)
Bottom trawl (st.no 304-418)
Pelagic trawl (st.no 308-409)




2023001016 - G.O.Sars
15/11 - 26/11 - CTD Chart
70°N
Latitude
18°E
20°E
Longitude
40 km
481
Sampling gear
CTD (st.no 481-489)




2023001016 - G.O.Sars
15/11 - 26/11 - Trawl Chart
70°N
Latitude
419
40 km
18°E
20°E
Longitude
Sampling gear
Pelagic trawl (st.no 419-420)

4 - "Johan Hjort" - Cruises 2023

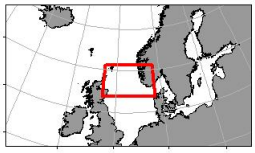
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023002001	05/01 - 13/01	Objectives : To collect data and samples on pre-selected stations. To sample standard transects for physical oceanographic parameters (CTD casts, nutrients and chlorophyll), fish eggs and larvae, and zooplankton in the North Sea. Cruise programme: Utsira-V transect, Scotland East Coast Pentland : Fair Isle Utsira : Start Point.	North Sea	1-77	-
2023002002	15/01 - 25/01	Monitoring of the environment and plankton at the Svinøy-NV, LoVe and Fugløya-Bjørnøya sections and station M in January. Measuring physical, chemical and biological parameters.Ocean acidification samples (UiB) at station M in the Norwegian Sea. Deploy a buoy (Metrologisk institutt) at Svinøy section nr. 17.Deploy a glider (UiB) at Gimsøy section nr.9.	Norwegian Sea	78-117	-
2023002003	26/01 - 17/03	Collect catch and biological data at fixed bottom trawl stations, as well as record acoustic data continuouslySample standard transects on Vardø-N section for physical oceanographic parameters (CTD casts, nutrients and chlorphyll) and zooplankton in the Barents Sea. Ocean Acidification Monitoring sampling. Cruise: Vintertokt	Barents Sea	118 - 192	1 - 263
2023002004	18/03 - 23/03	CTD-survey of fjords and coast in Troms and western Finnmark (Malangen-Revsbotn).Water sampling for nutrients and the carbonate system. Project name: Fjord oceanography and coastal climate (FOKK)Coordinating body: Institute of Marine Research	Norwegian Sea	193-303	-

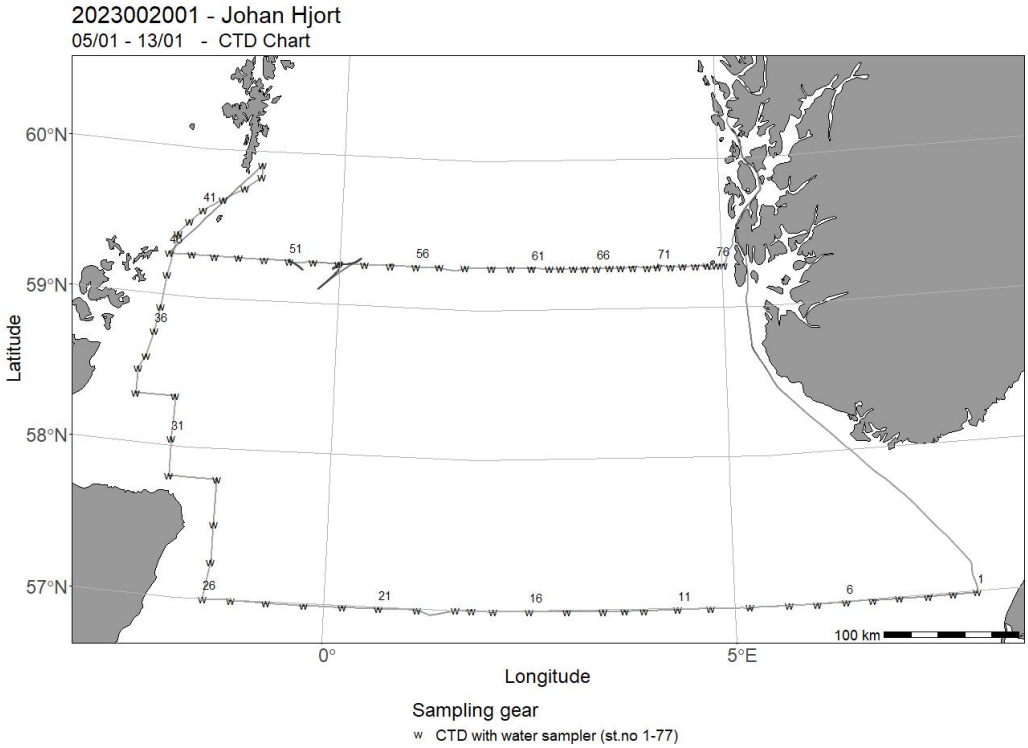
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023002005	24/03 - 11/04	Annually recurrant acoustic survey to monitor abundance of spawning North-East Arctic cod in the spawning area around Lofoten by systematic parallell transects and with systematic sampling of fish-egg concentrations by vertical nets in the upper 100 m of the water column. Lofoten is the main spawning location for the stock, and the acoustic survey index indicate spawning biomass and abundance of the mature stock.	Norwegian Sea	304-447	264 - 294
2023002006	15/04 - 12/05	The North Sea Ecosystem spring cruise has been run since 2010 by the Institute of Marine Research (IMR) as a multi-purpose survey. The cruise covers hydrography, chemistry, phytoplankton and zooplankton (IMR project Monitoring of climate and plankton in the North Sea Skagerrak) as well as fish eggs and fish larvae (IMR project Early life history dynamics of North Sea Fishes). The cruise also includes monitoring of radioactive contamination (IMR project Monitoring of radioactivity in Norwegian waters IMR 14379-01).	Skagerrak	448-674	295-306
2023002007	14/05 - 06/06	The cruise objectives were to occupy monitoring sections and deploy Argo floats. The monitoring sections Fugløya-Bjørnøya in the Barents Sea, extended Bjørnøya vest and extended Gimsøy section in the northern Norwegian Sea and the Svinøy section in the southern Norwegian Sea were occupied. In addition to the sections, the monitoring station in the position of the earlier weather ship M was occupied . A synoptic hydrographic survey was conducted of the Lofoten Basin Eddy (LBE).	Norwegian Sea	675-785	-
2023002008	06/06 - 08/06	A Campelen 1800 trawl was tested with deep water floats (2000 m) and regular floats (1200 m) to see if there would be any difference in opening hight of the trawl. The fjord we were in, Langfjorden, was also looked at as a potential sea testing area.Video observations were made with GoPro cameras.	Norwegian Sea	-	307-313

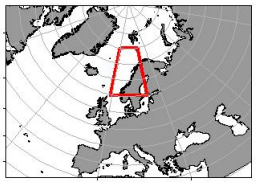
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023002009	30/06 - 29/07	Acoustic survey on herring, sprout (HERAS) and saithe (NORACU) in the North Sea during summer (July). Aim purpose of survey is to provide an index of herring, sprat and saithe. HERAS is a part of an international survey coordinated by ICES with participants from Norway, UK, the Netherlands, Denmark and Germany.	North Sea	786-838	314 - 439
2023002010	31/07 - 16/08	The purpose of the cruise was to collect data and samples on pre-selected stations as part of the IMR Monitoring of the environment and plankton on the Svinøy, Gimsøy, LoVe, Bjørnøya-east and Fugløya-Bjørnøya sections and at station M in August. Sampling was undertaken on the following standard transects: Svinøy, Gimsøy, LoVe, Bjørnøya-east and Fugløya-Bjørnøya sections and at station M.	Norwegian Sea	839-926	-
2023002011	24/08 - 07/10	The cruise forms part of a multi-ship, multi-purpose ecosystem survey of the Barents Sea, carried out jointly by Norway and Russia. The objective of the cruise was to collect data related to stations and along cruise tracks, on water chemistry and physics, phytoplankton, zooplankton, fish (acoustics and trawl), benthic organisms, sea mammals, and birds.	Barents Sea	927 - 1039	440 - 635
2023002012	11/10 - 19/11	Distribution and acoustic index for NEA saithe and coastal cod incoatsl/fjordic areas and shelf banks. Swept area index for redfish spp. Monitoring of deepwater shrimps, analysis of radioactivity from sediment samples, analysis of benthic bycatch.	Norskekysten	1040-1109	636 - 782
2023002013	20/11 - 29/11	The objective of the cruise is to sample two standard transects Utsira-StartPoint", "Hanstholm-Aberdeen" and two additional transects along on west side of the North Sea: the "Scotland East Coast" and the Fair Isle-Pentland for hydrography, nutrients, chlorophyll a, phyto- and zooplankton and fish eggs and larvae. The cruise is part of the long term monitoring program of the North Sea and is the fourth of 4 yearly cruises.	Nordsjøen	-	-

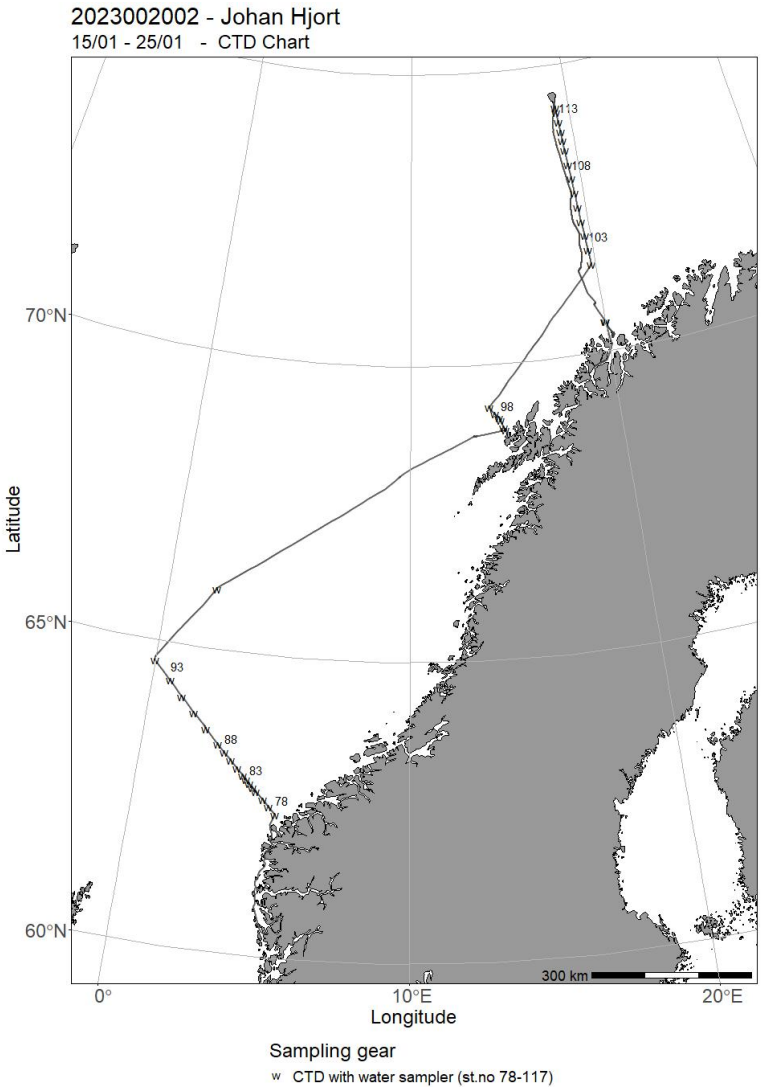
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023002014	30/11 - 05/12	Acoustic trawl survey mapping coastal sprat and herring in Oslofjorden. The fjord will be covered acoustically with zigzag transects, with blind trawl in the surface at night and targeted trawl hauls when potential sprat or herring echoes are observed on the echosounder. CTD and plankton hauls at all trawl stations. In addition fixed stations for plankton and water chemistry will be taken. Acoustic and trawl data are used for estimating a survey index that will be used for giving advice when the time series is sufficiently long (usually 5 years).	Norskekysten: Sør- og Østlandet	-	-

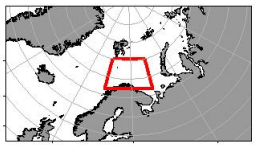
5 - “Johan Hjort” – Charts for cruises 2023

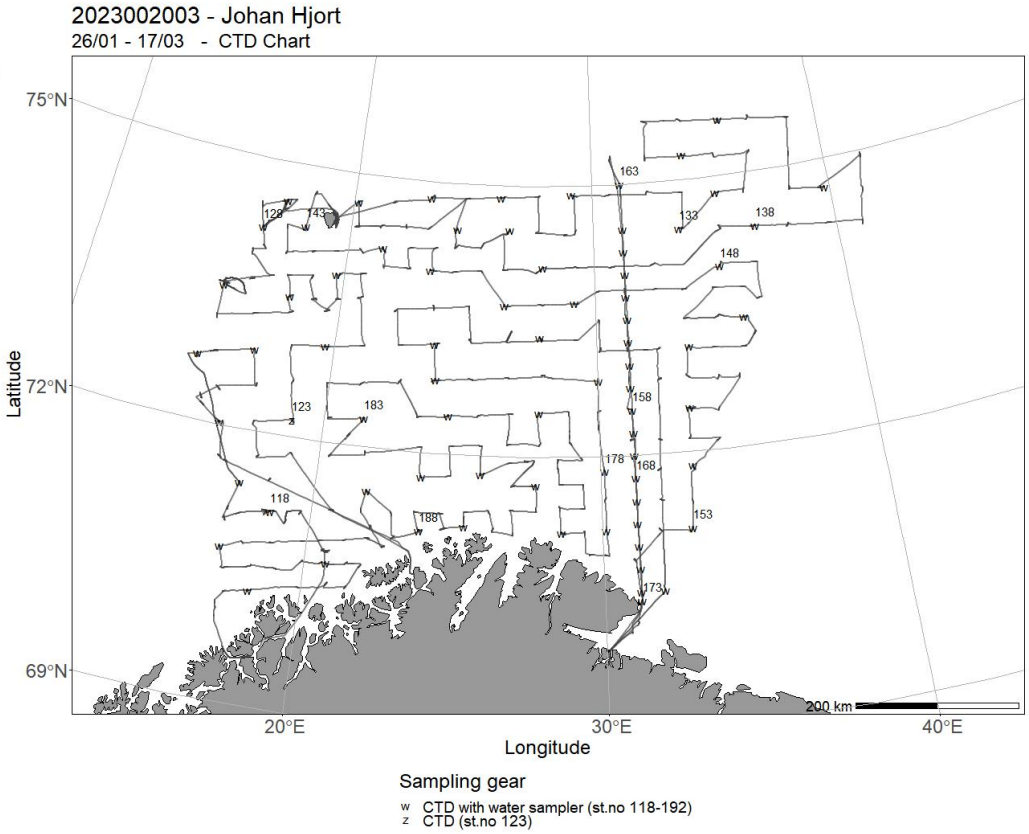


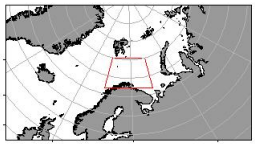


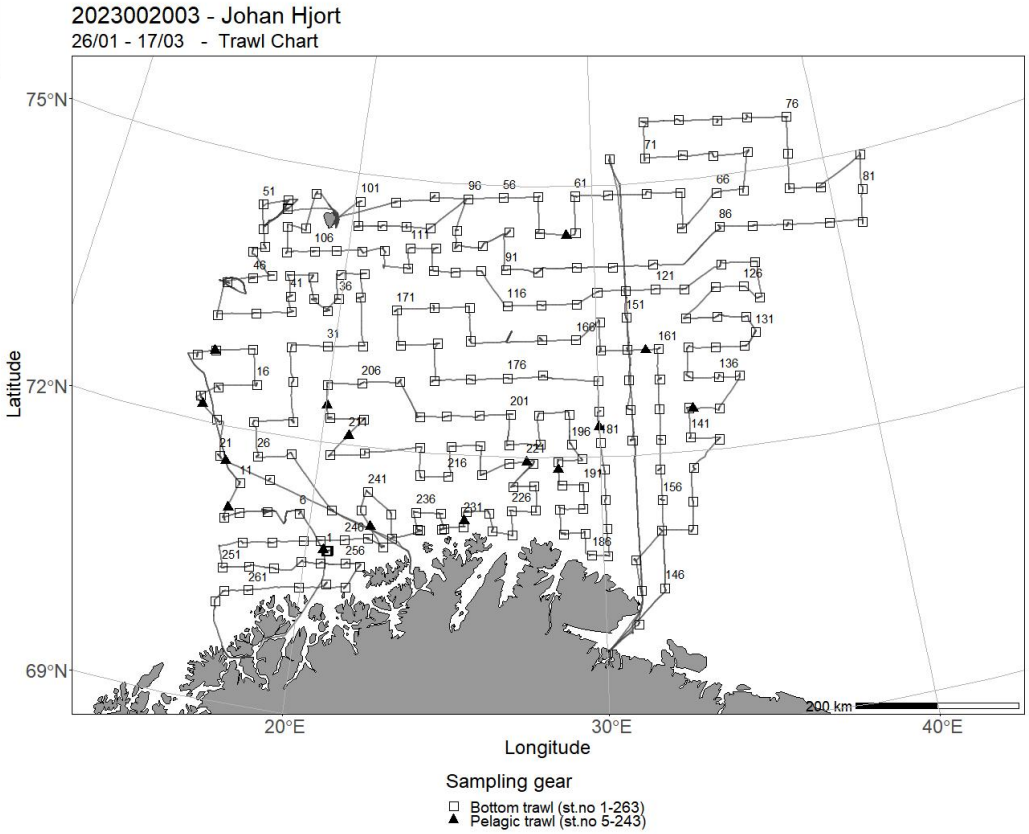


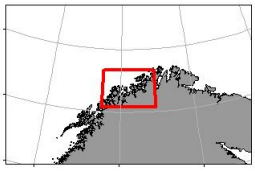

2023002002 - Johan Hjort
15/01 - 25/01 - CTD Chart
113
108
103
98
93
88
83
78
70°N
65°N
60°N
0°
10°E
20°E
300 km
Latitude
Longitude
Sampling gear
CTD with water sampler (st.no 78-117)

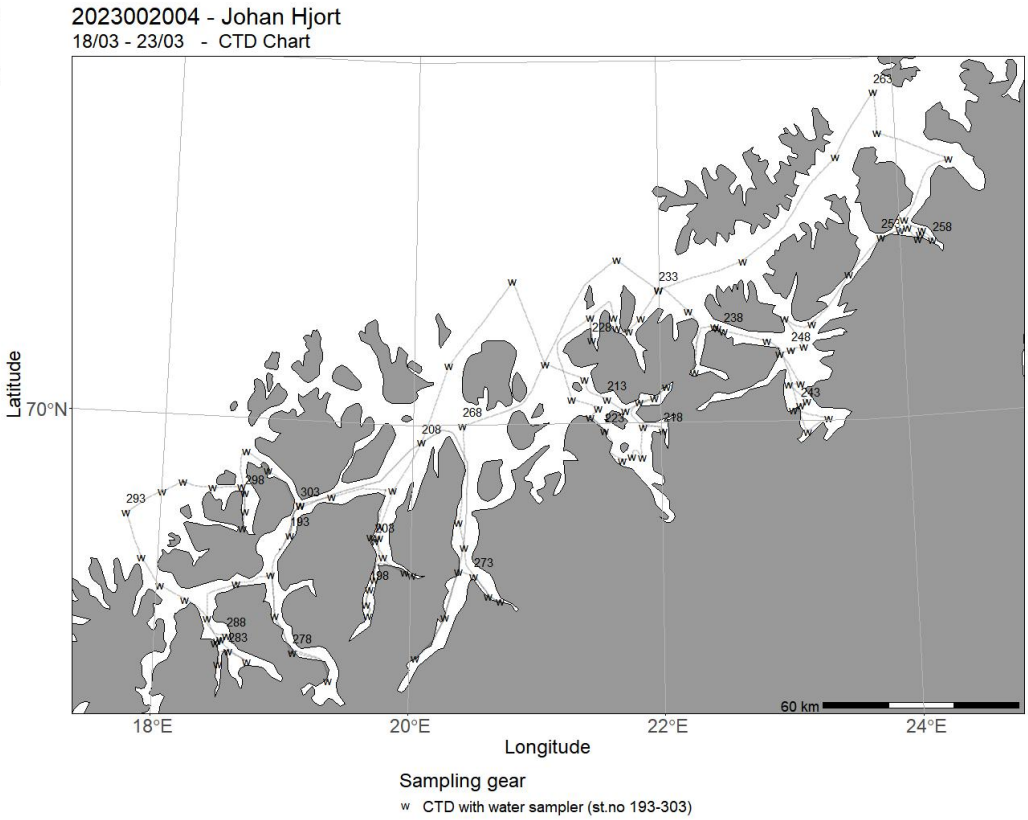


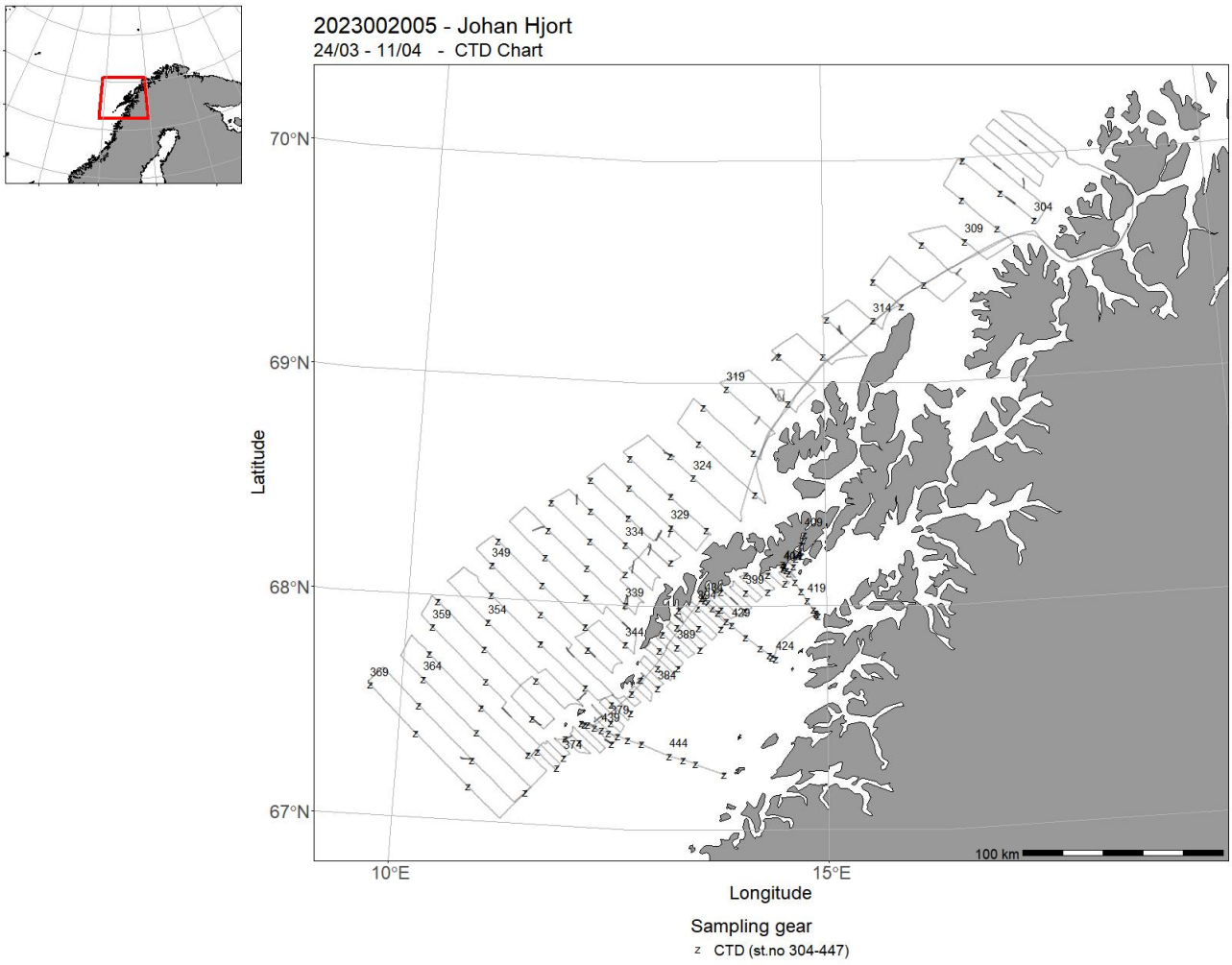

2023002003 - Johan Hjort
26/01 - 17/03 - CTD Chart
75°N
72°N
69°N
Latitude
20°E
30°E
40°E
Longitude
200 km
163
128
143
133
138
148
158
123
183
178
168
118
188
153
173
Sampling gear
w CTD with water sampler (st.no 118-192)
z CTD (st.no 123)

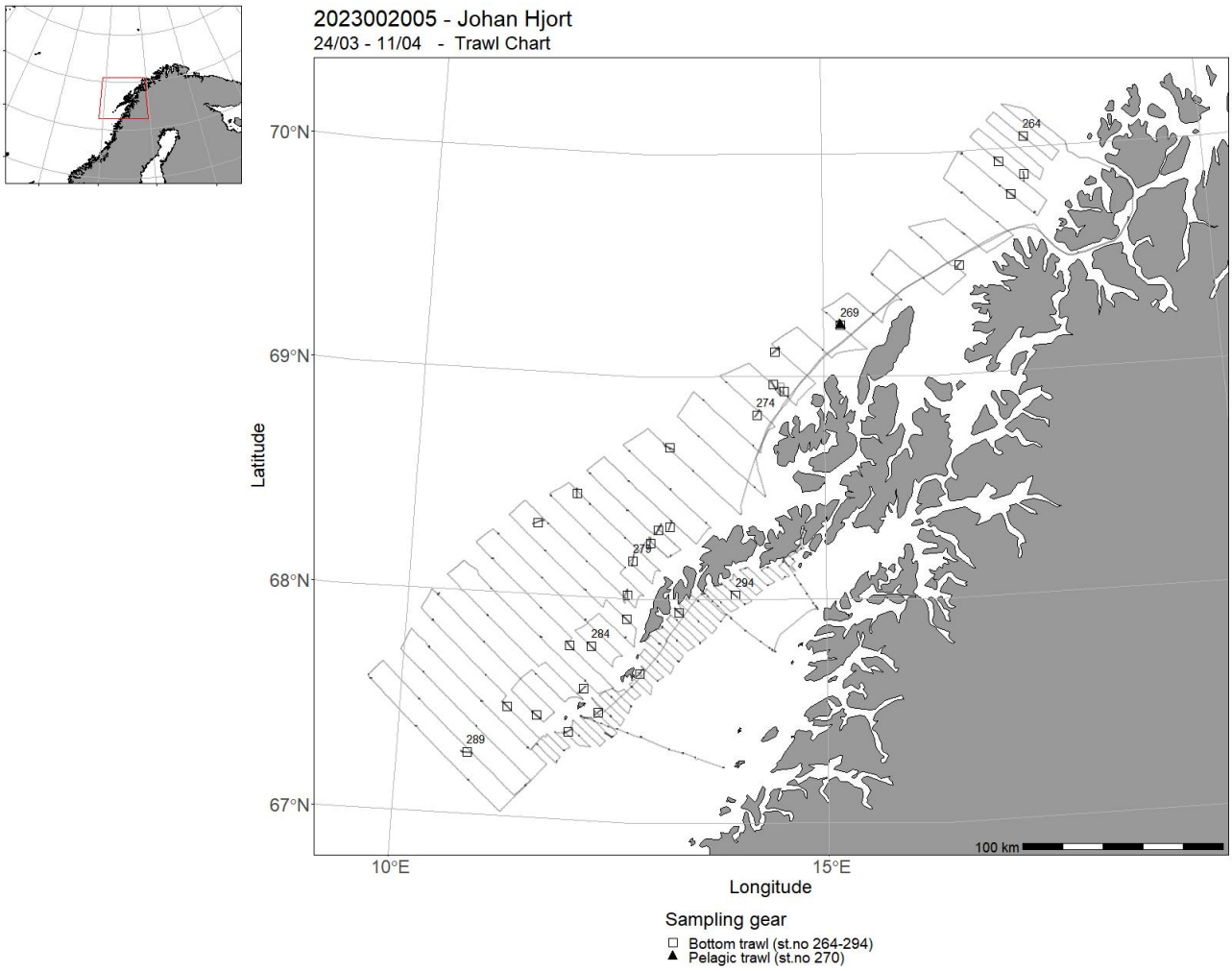


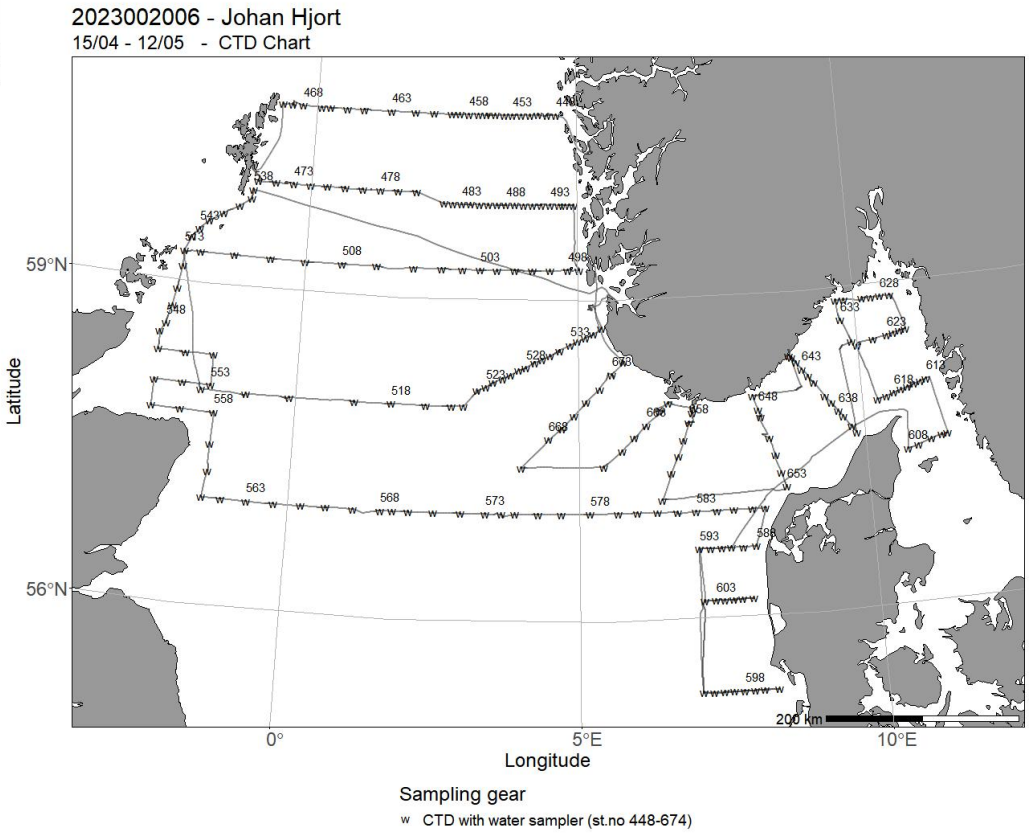

2023002003 - Johan Hjort
26/01 - 17/03 - Trawl Chart
75°N
72°N
69°N
Latitude
20°E
30°E
40°E
Longitude
200 km
Sampling gear
Bottom trawl (st.no 1-263)
Pelagic trawl (st.no 5-243)

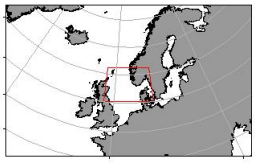


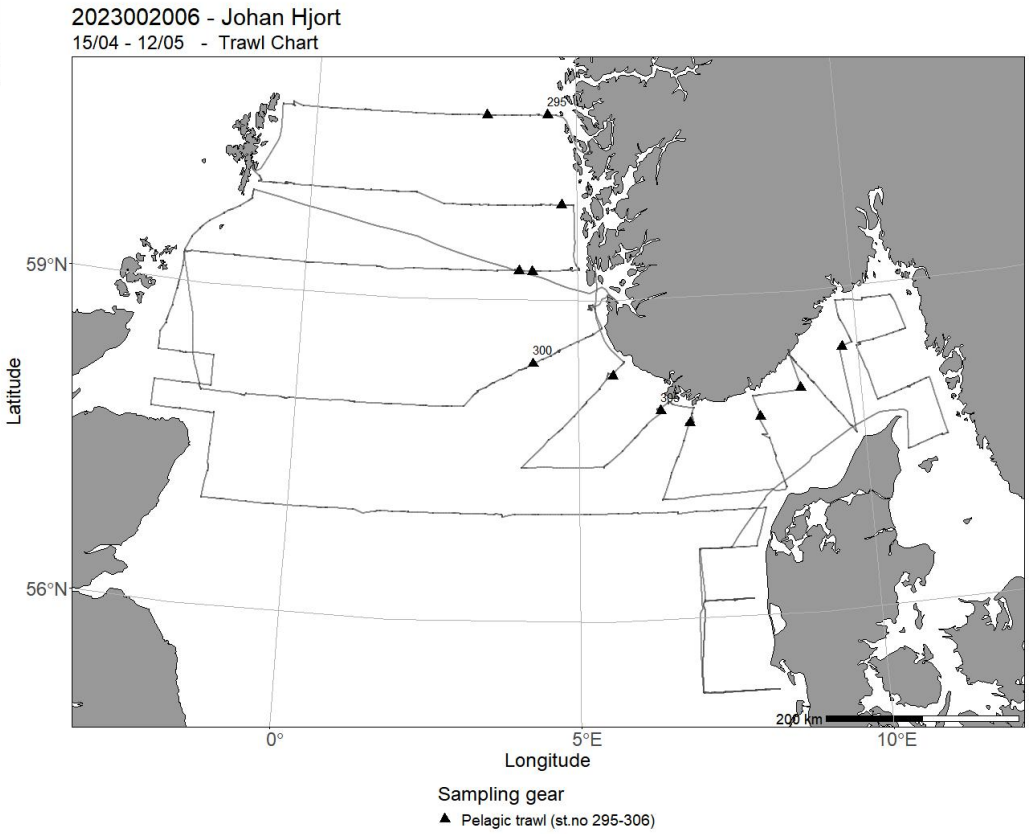

2023002004 - Johan Hjort
18/03 - 23/03 - CTD Chart
Latitude
70°N
18°E
20°E
22°E
24°E
Longitude
60 km
Sampling gear
w CTD with water sampler (st.no 193-303)

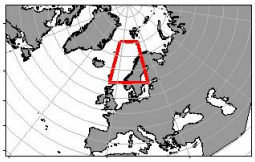

2023002005 - Johan Hjort
24/03 - 11/04 - CTD Chart
70°N
69°N
68°N
67°N
Latitude
10°E
15°E
Longitude
100 km
Sampling gear
CTD (st.no 304-447)


2023002005 - Johan Hjort
24/03 - 11/04 - Trawl Chart
70°N
69°N
68°N
67°N
Latitude
10°E
15°E
Longitude
264
269
274
279
284
289
294
100 km
Sampling gear
Bottom trawl (st.no 264-294)
Pelagic trawl (st.no 270)

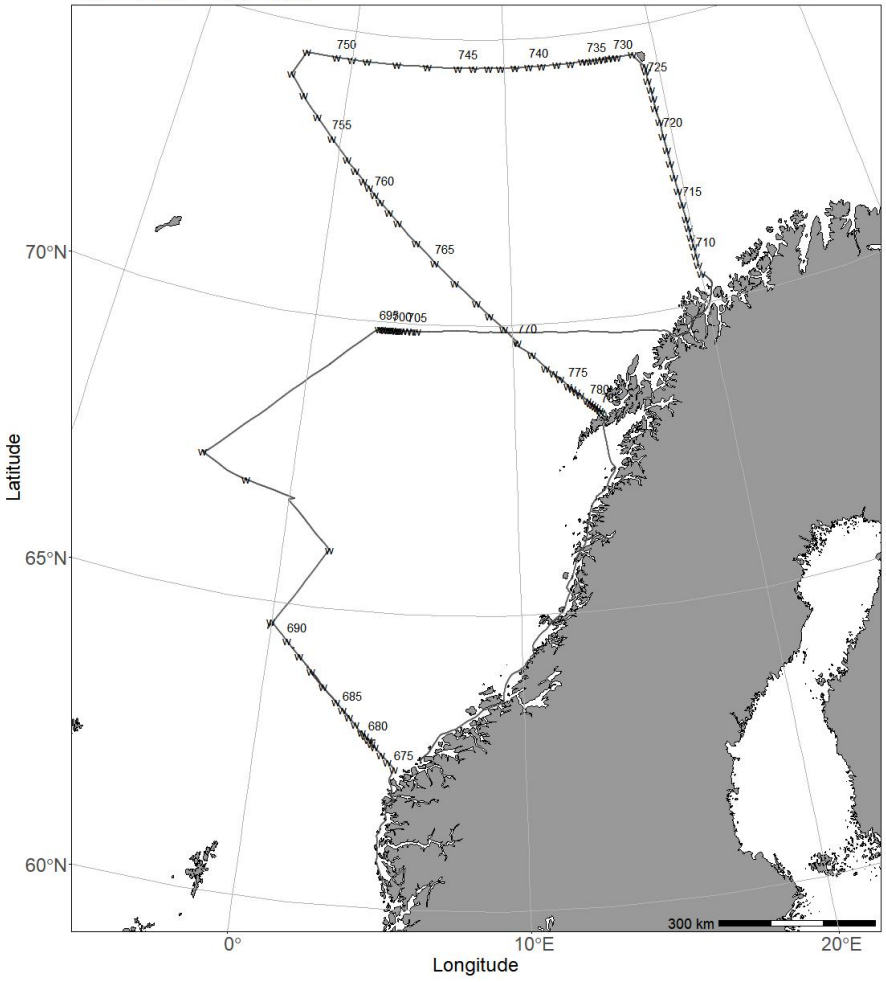

2023002006 - Johan Hjort
15/04 - 12/05 - CTD Chart
59°N
56°N
Latitude
0°
5°E
10°E
Longitude
200 km
Sampling gear
w CTD with water sampler (st.no 448-674)



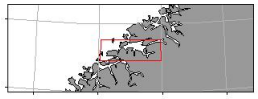

2023002006 - Johan Hjort
15/04 - 12/05 - Trawl Chart
295
300
305
59°N
56°N
Latitude
0°
5°E
10°E
Longitude
200 km
Sampling gear
Pelagic trawl (st.no 295-306)

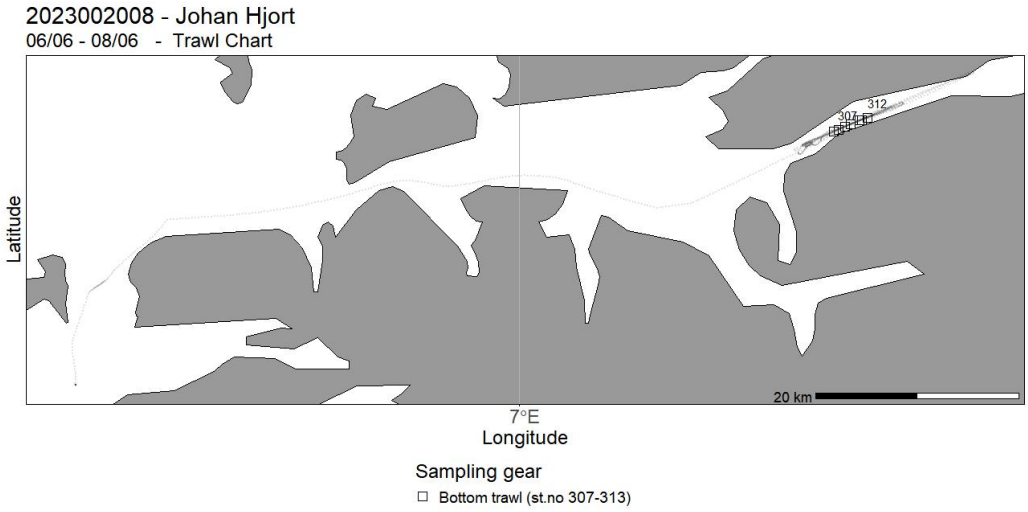


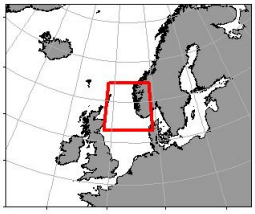
2023002007 - Johan Hjort
14/05 - 06/06 - CTD Chart

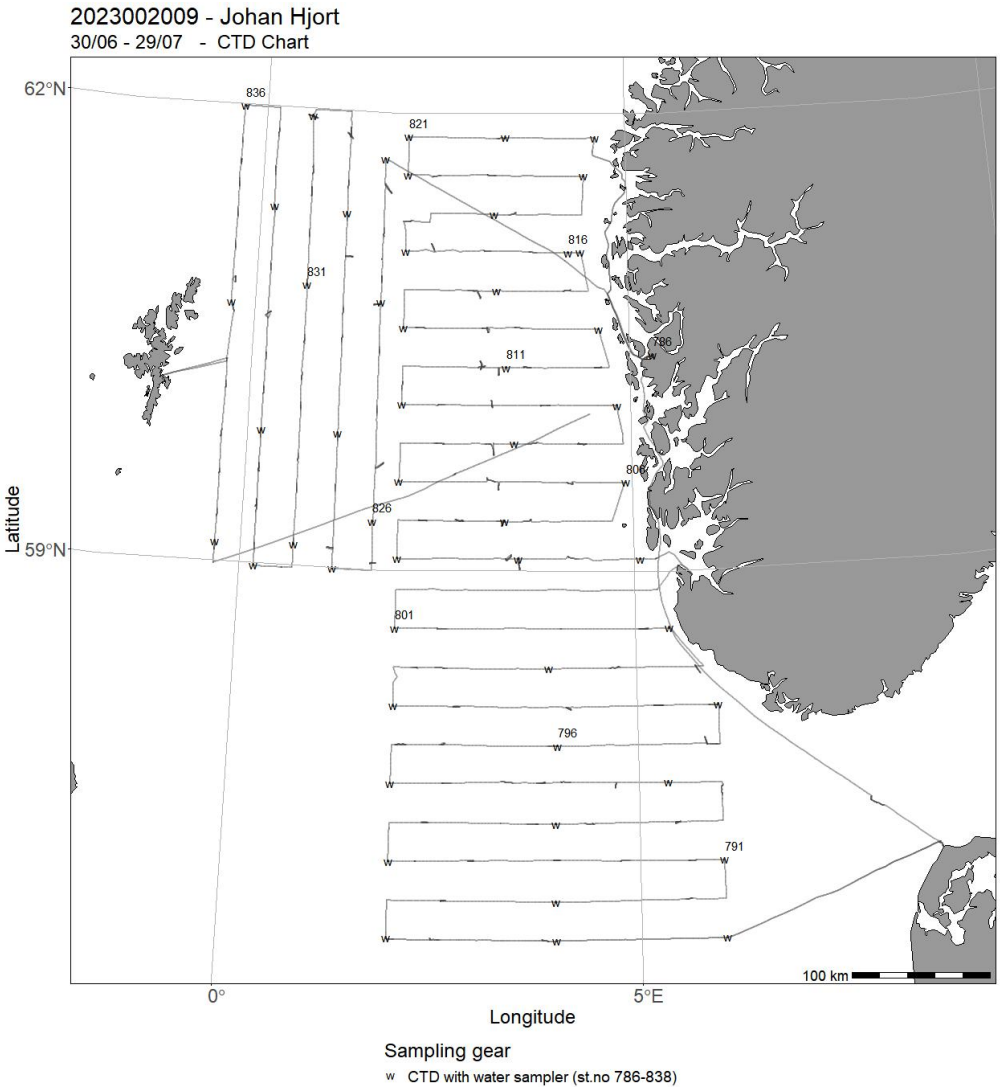


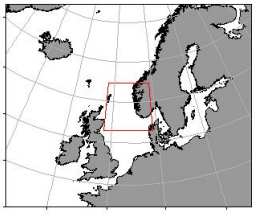
Sampling gear
w CTD with water sampler (st.no 675-785)

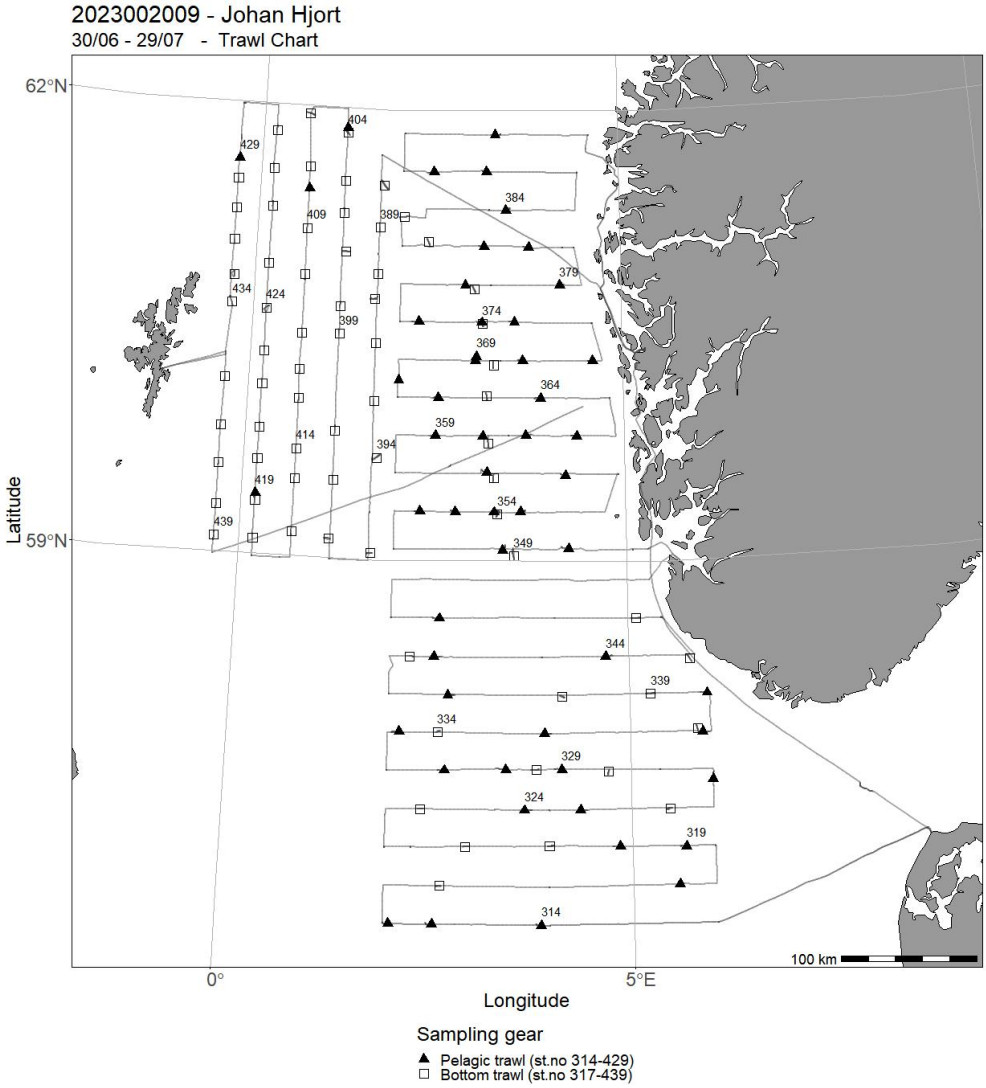


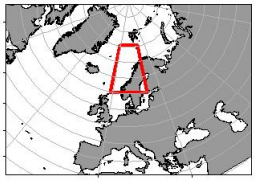

2023002008 - Johan Hjort
06/06 - 08/06 - Trawl Chart
312
307
Latitude
20 km
7°E
Longitude
Sampling gear
Bottom trawl (st.no 307-313)

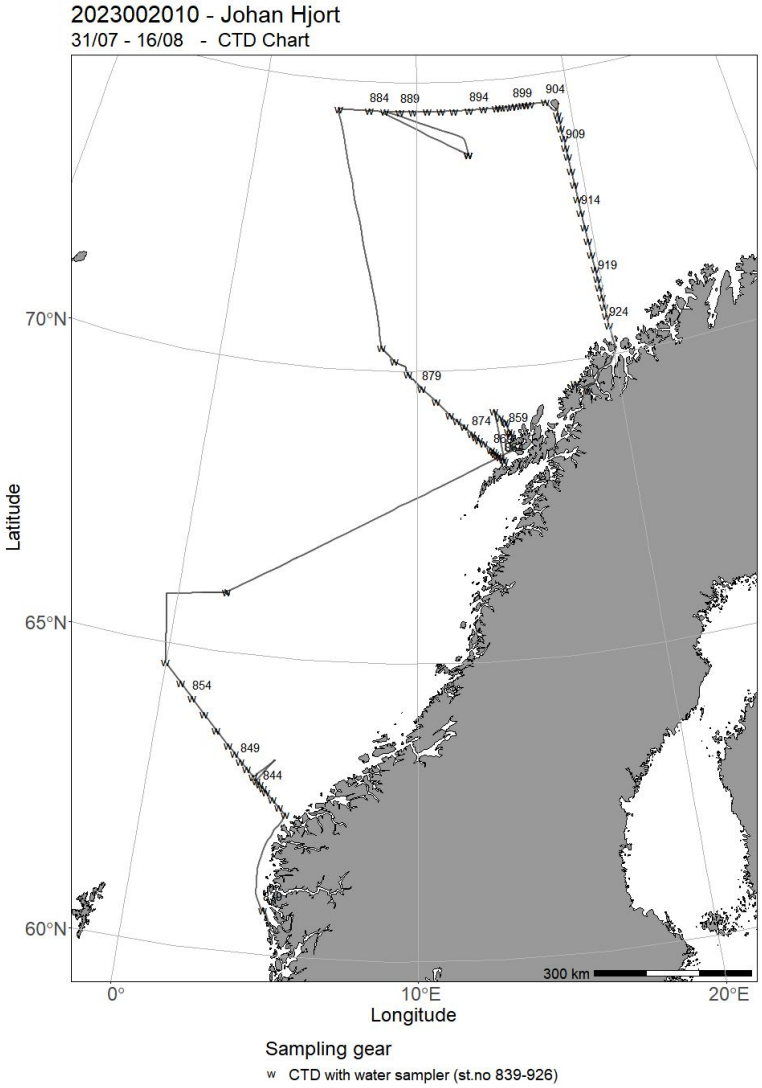


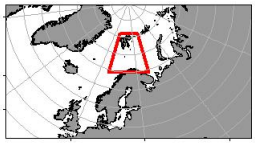

2023002009 - Johan Hjort
30/06 - 29/07 - CTD Chart
62°N
59°N
Latitude
0°
5°E
Longitude
836
821
816
831
811
786
806
826
801
796
791
100 km
Sampling gear
w CTD with water sampler (st.no 786-838)



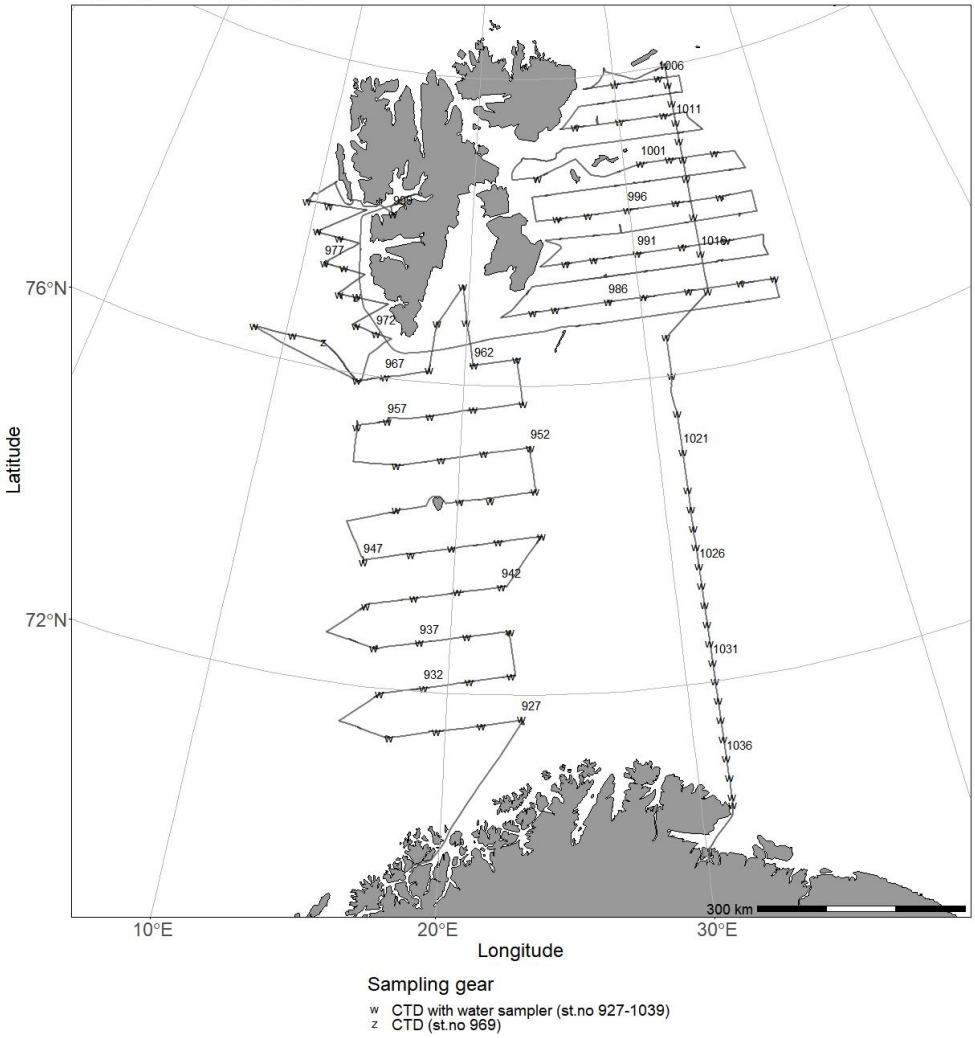

2023002009 - Johan Hjort
30/06 - 29/07 - Trawl Chart
62°N
59°N
Latitude
0°
5°E
Longitude
100 km
404
429
384
409
389
379
434
424
374
399
369
364
359
414
394
419
354
439
349
344
339
334
329
324
319
314
Sampling gear
Pelagic trawl (st.no 314-429)
Bottom trawl (st.no 317-439)



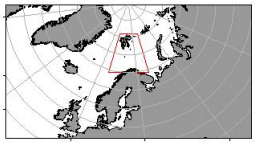

2023002010 - Johan Hjort
31/07 - 16/08 - CTD Chart
884
889
894
899
904
909
914
919
924
879
874
859
854
849
844
70°N
65°N
60°N
Latitude
0°
10°E
20°E
Longitude
300 km
Sampling gear
w CTD with water sampler (st.no 839-926)

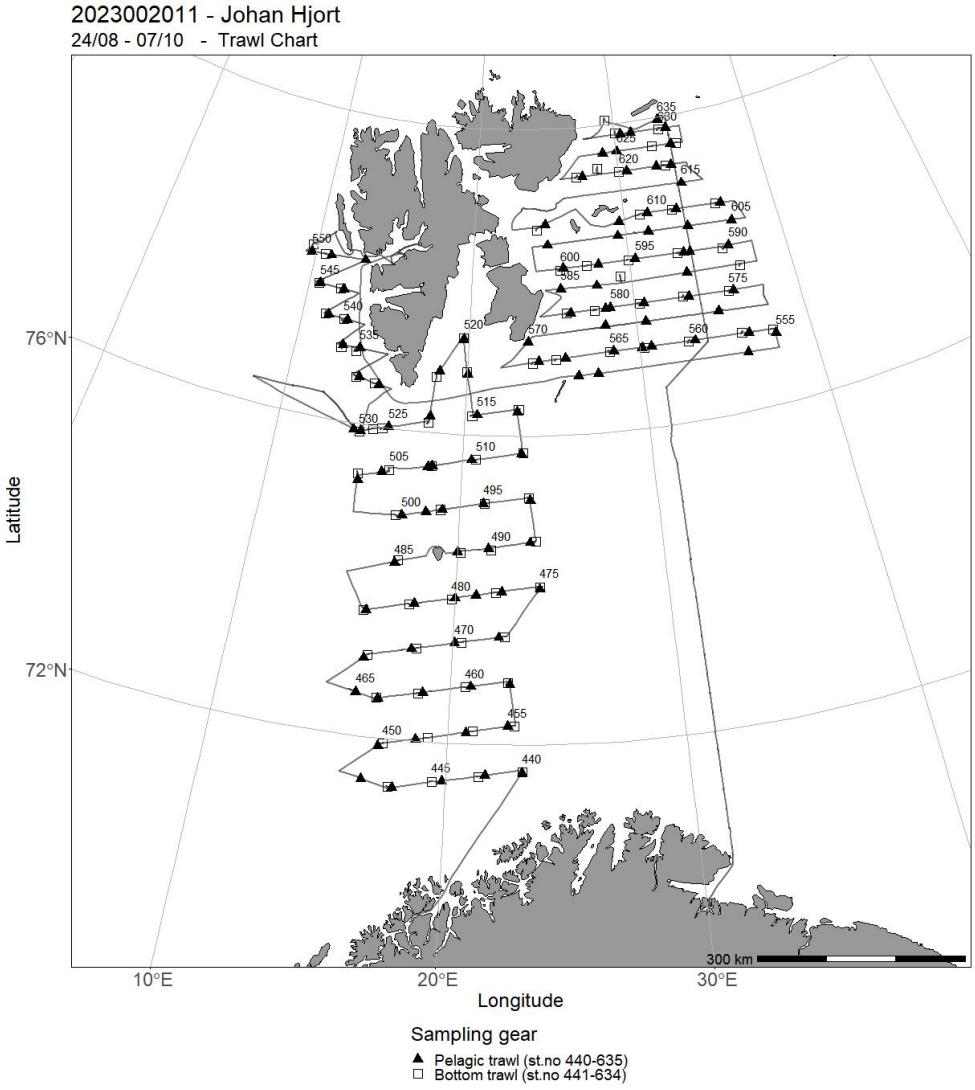


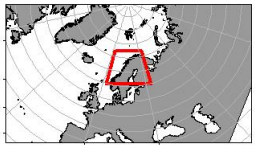
2023002011 - Johan Hjort
24/08 - 07/10 - CTD Chart

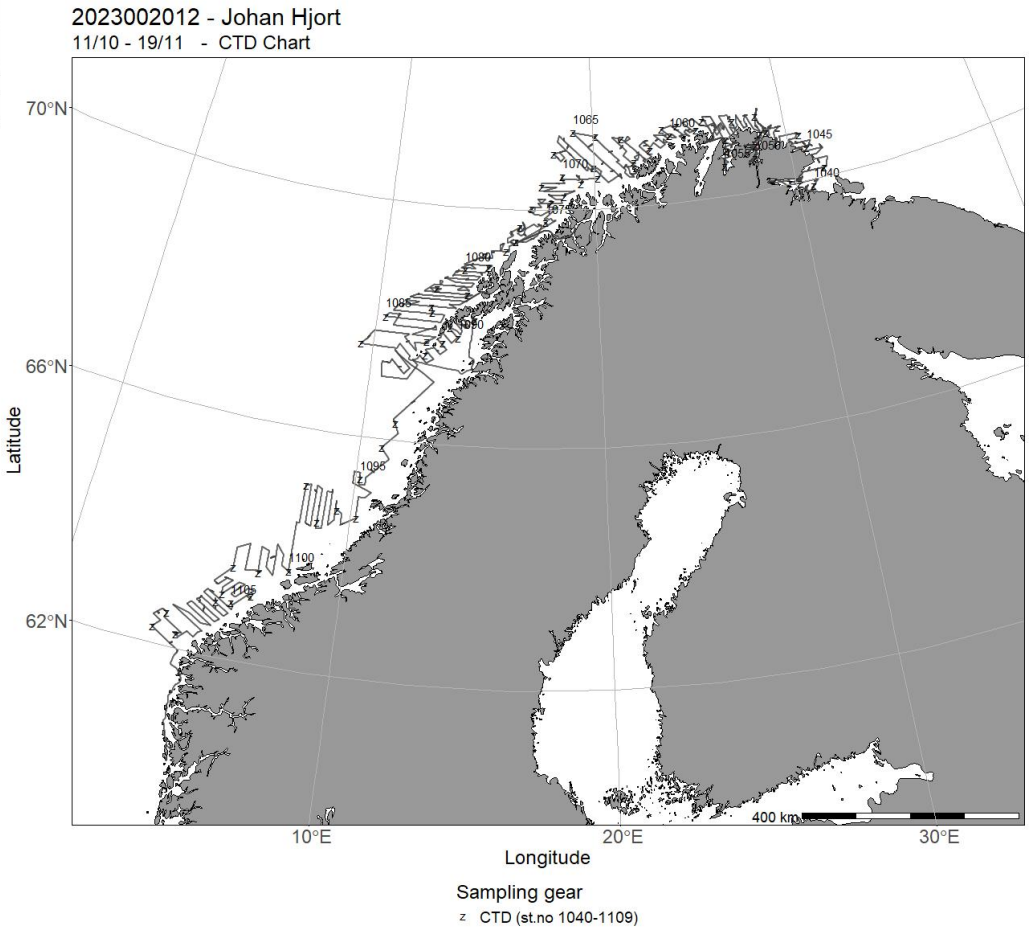


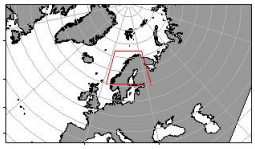
Sampling gear
w CTD with water sampler (st.no 927-1039)
z CTD (st.no 969)

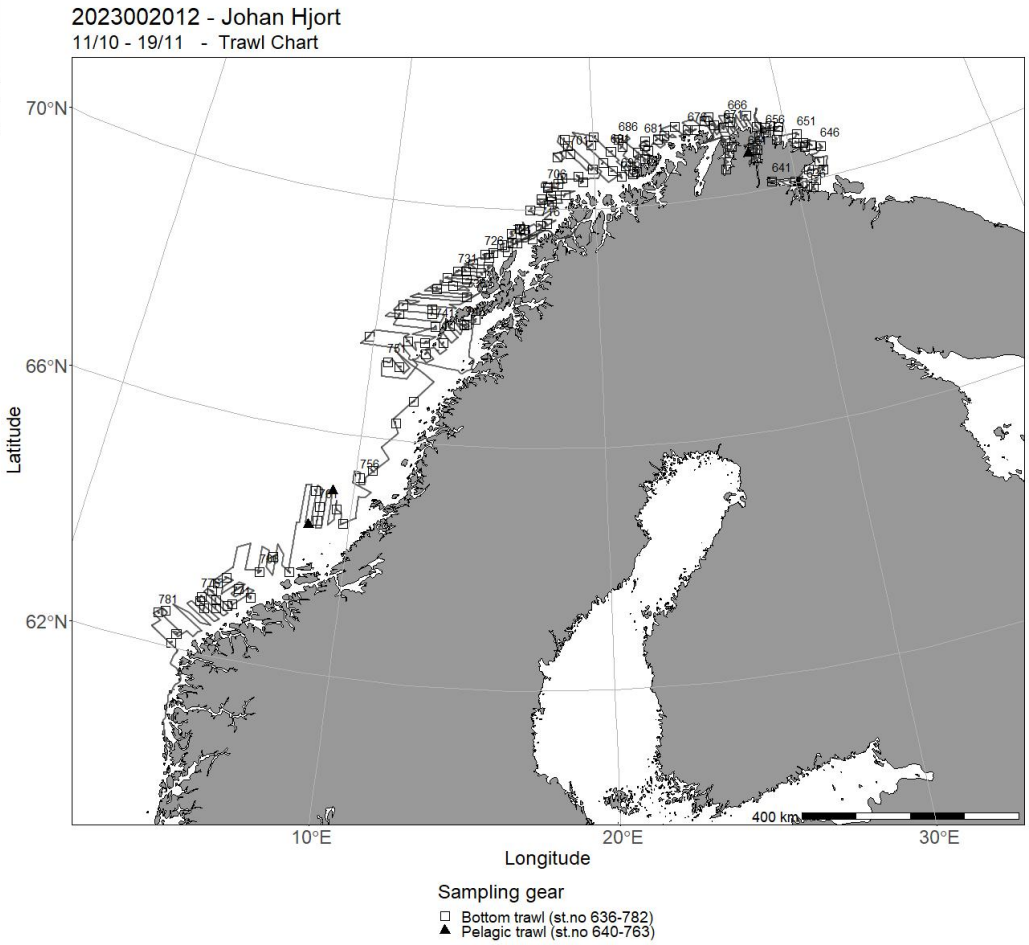



2023002011 - Johan Hjort
24/08 - 07/10 - Trawl Chart
76°N
72°N
Latitude
10°E
20°E
30°E
Longitude
300 km
Sampling gear
Pelagic trawl (st.no 440-635)
Bottom trawl (st.no 441-634)




2023002012 - Johan Hjort
11/10 - 19/11 - CTD Chart
70°N
66°N
62°N
Latitude
10°E
20°E
30°E
Longitude
400 km
Sampling gear
CTD (st.no 1040-1109)




2023002012 - Johan Hjort
11/10 - 19/11 - Trawl Chart
70°N
66°N
62°N
Latitude
10°E
20°E
30°E
Longitude
400 km
Sampling gear
Bottom trawl (st.no 636-782)
Pelagic trawl (st.no 640-763)

6 - "Kristine Bonnevie" – Cruises 2023

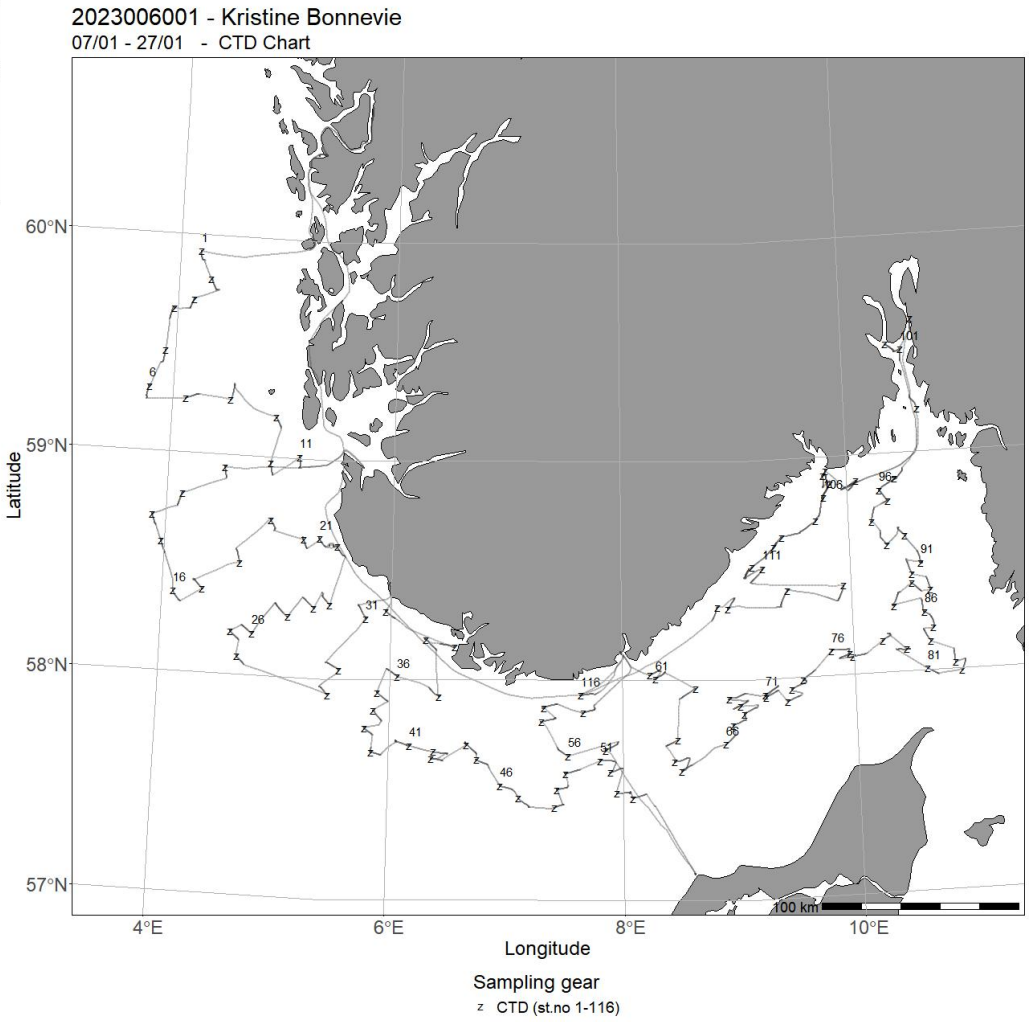
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023006001	07/01 - 27/01	Årlig overvåking av rekebestanden i Norskerenna/Skagerrak (NSSK): biomasse, mengde, størrelses- og stadiefordeling og rekruttering. Toktet bidrar med fiskeriuavhengige data til bestandsmodellen og det årlige ICES-assessmentet på reke i NSSK. Registrering av vekt og lengdemålinger av all bunnfisk i fangsten.	Skagerrak	1-116	1 - 127
2023006002	02/02 - 08/02	The objective of the cruise was to understand the impact of salmon fish farms on the sea-pen Virgularia mirabilis. For this, we studied the distribution of sea-pens Virgularia mirabilis in the vicinity of two fish farms (Låva and Kjehaola) in the North of Ombo (Boknafjorden).	North Sea	117-156	-
2023006003	09/02 - 10/02	Training of students at University of Bergen, Course BIO356, in fishery acoustic and trawl methods. Echo sounder samplingTrawling with DeepVision camera system	North Sea	157-158	128-130
2023006004	14/02 - 17/02	This was a student cruise, with the purpose of teaching students in meteorology and physical oceanography how oceanographic fieldwork is conducted. Data (physical and biogeochemical oceanography) were collected within Masfjorden, Fensfjorden and Lurefjorden and the data will be used by the students in semester reports.	North Sea	159-218	-
2023006005	19/02 - 05/03	The objective of the cruise was to collect data and samples on standard sections: Svinøy-NW, Gimsøy-NW, Bjørnøya-W and Fugløya-Bjørnøya and "Station M". Project name: Monitoring of environmental parameters and plankton in the Norwegian SeaCoordinating body: Institute of Marine Research	Norwegian Sea	219-254	-
2023006006	04/04 - 15/04	Acoustic mapping of NEA spawning grounds north of the traditional survey area. Indices of abundance are to be comared with the survey results covering spawning grounds further south.	Norwegian Sea	282-342	131-157

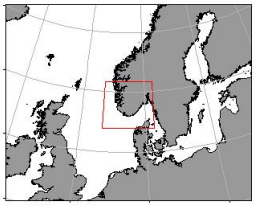
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023006007	18/03 - 27/03	The goal of the cruise is to collect fish eggs for mapping spawning areas in the project «National program for mapping of marine nature types». The primary targets for the mapping are local stock of coastal cod. The secondary goal is to visually determine all eggs and preserve these for further genetic studies. All eggs are photographed. Stations are located primarily in the inner fjord areas, with less emphasis on the outer coastal areas.	Northeast Atlantic Ocean (40W)	262	-
2023006008	30/03 - 03/04	Monitoring of the environment and plankton at the Fugløya-Bjørnøya sections in april. Measuring physical, chemical and biological parameters.	Barents Sea	263-281	-
2023006009	25/04 - 14/05	Measuring the abundance, distribution and age composition of lesser sandeel Dredge sampling for burrowed sandeelsBottom trawlsPelagic trawlsEcho sounder samplingZooplankton samplingMapping of hydrographical conditions	North Sea	343-369	158 - 237
2023006010	17/06 - 21/06	Opplæringstokt for AUV operatører ved seksjon Fartøyinstrument. Toktet kombineres med uttesting av AUV for å samle inn data på krabbe.	Barentshavet	385-391	-
2023006011	01/06 - 17/06	The aim of the cruise was to study the spreading and collect density data on the snow crab in the Svalbard Fishery Protection Zone by using a research vessel. Our main study area was in the present area for commercial fishing. Also testing of different traps were performed during the cruise.	Barents Sea	370-384	101-605

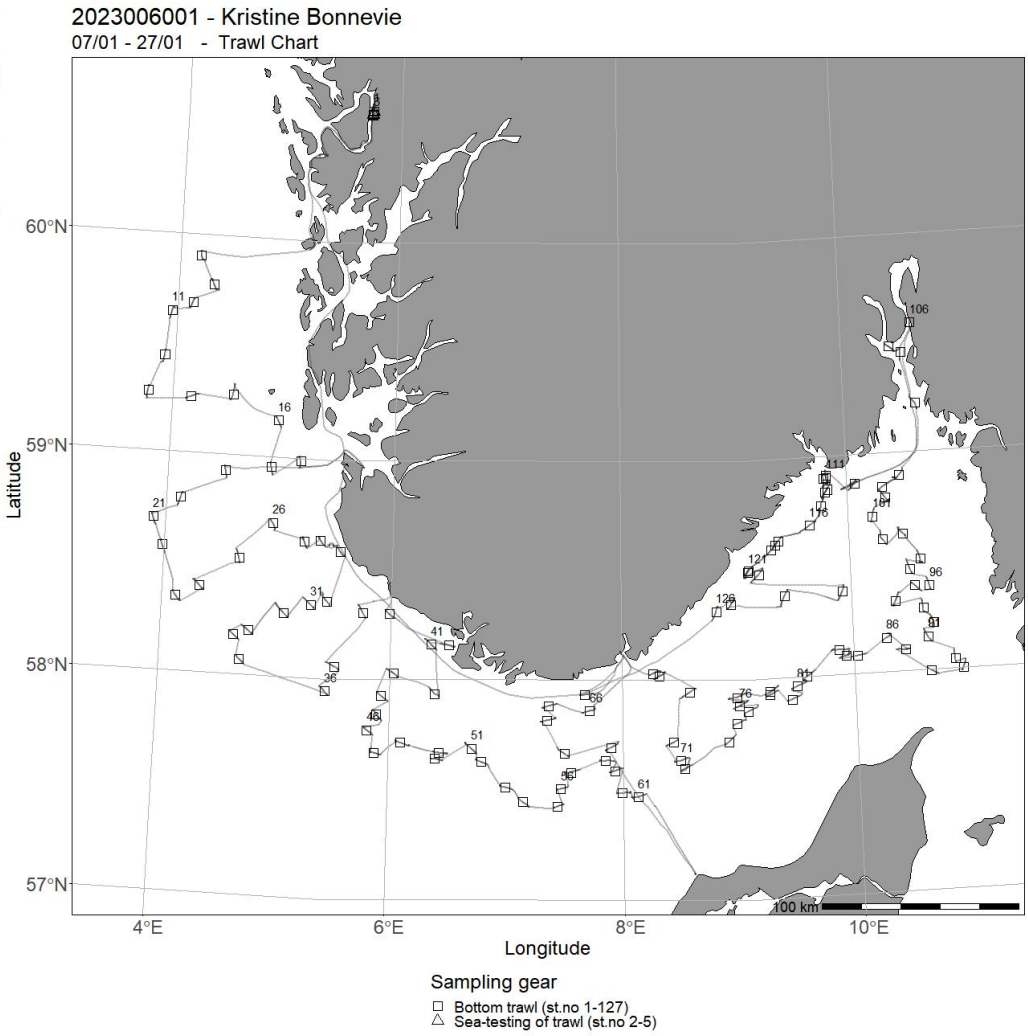
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023006013	08/07 - 11/08	Objectives : To collect data and samples on pre-selected stations. During the first leg, to sample standard transects for physical oceanographic parameters (CTD casts, nutrients and chlorphyll), fish eggs and larvae, and zooplankton in the North Sea. Utsira-V transect Scotland East Coast Pentland - Fair Isle Utsira - Start Point. The second part of the cruise corresponds to the International Bottom Trawl Survey (IBTS), coordinated by the ICES International Bottom Trawl Survey Working Group (IBTSWG). IBTS targets the following commercial fish species: herring, cod, haddock, whiting, saithe, Norway pout, mackerel, sprat. The main objective of the IBTS quarter 3 survey is to monitor changes in these stocks independently of commercial fisheries data, and to collect data for the determination of biological parameters relevant to stock assessments.	North Sea	393 - 518	238 - 291
2023006014	12/08 - 25/08	Acoustic trawl survey for monitoring sprat and herring, zooplankton and hydrography in western Norwegian fjords. Provide abundance indices for sprat for giving quota advice. The survey covered Nordfjord, Sognefjorden and Hardangerfjord. 21.-25. August : Experiments comparing acoustic data retrieved from three different platforms: RV Kristine Bonnevie, kayak drone, USV drone borrowed from Kongsberg Discovery.	North Sea	519 - 544	292-313
2023006015	28/08 - 30/08	Collection of marine materials and data for BIO 102 course at University of Bergen.	North Sea	545 - 551	314 - 325
2023006016	04/09 - 28/09	Stock assessment study for red king crab in quota regulated area in East Finnmark, Norway.	Barents Sea	552-585	103 - 547

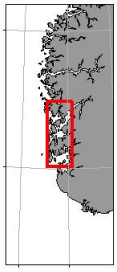
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023006017	10/10 - 31/10	Annual combined acoustic and bottom trawl survey along the Norwegian coast north of 62 N Map the distribution and estimate acoustic abundances indices, length, weight and maturity at age of cod, saithe and haddockImprove data basis, by allocating additional bottom trawls, for the assessment of golden redfishMap the general hydrographical regime by using a CTD-sonde to monitor the temperature and salinity at bottom trawl stations and/or at fixed intervals (about 30 NM).	Norwegian Sea	586-648	326 - 420

7 - "Kristine Bonnevie" – Charts for 2023

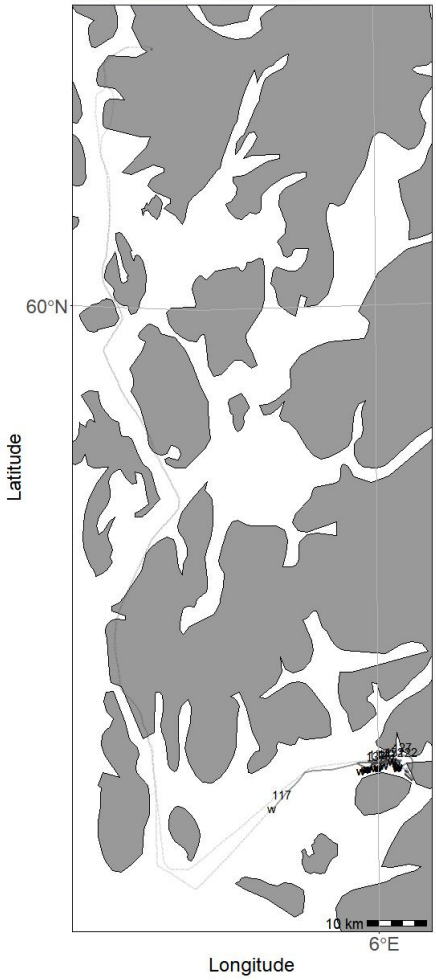




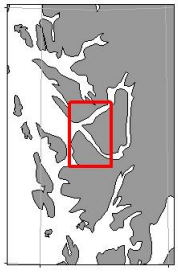

2023006001 - Kristine Bonnevie
07/01 - 27/01 - Trawl Chart
60°N
59°N
58°N
57°N
Latitude
4°E
6°E
8°E
10°E
Longitude
100 km
Sampling gear
Bottom trawl (st.no 1-127)
Sea-testing of trawl (st.no 2-5)



2023006002 - Kristine Bonnevie
02/02 - 08/02 - CTD Chart

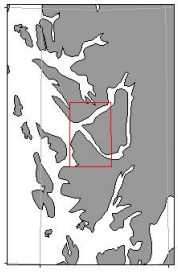


Sampling gear
w CTD with water sampler (st.no 117-156)



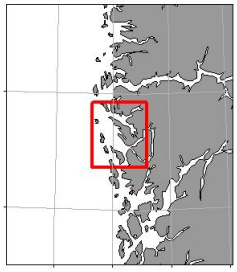
2023006003 - Kristine Bonnevie
09/02 - 10/02 - CTD Chart

Sampling gear
z CTD (st.no 157-158)

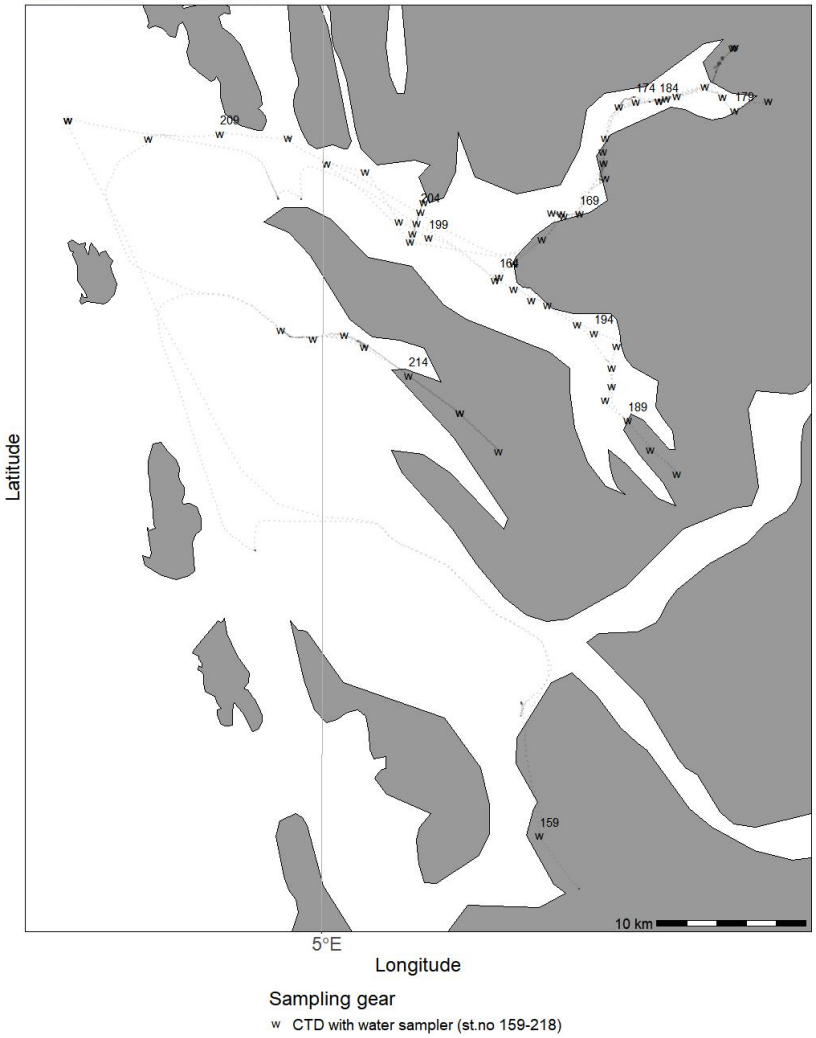


2023006003 - Kristine Bonnevie
09/02 - 10/02 - Trawl Chart

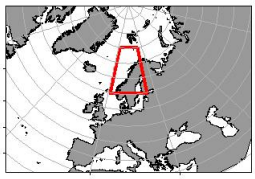
Sampling gear
▲ Pelagic trawl (st.no 128-130)



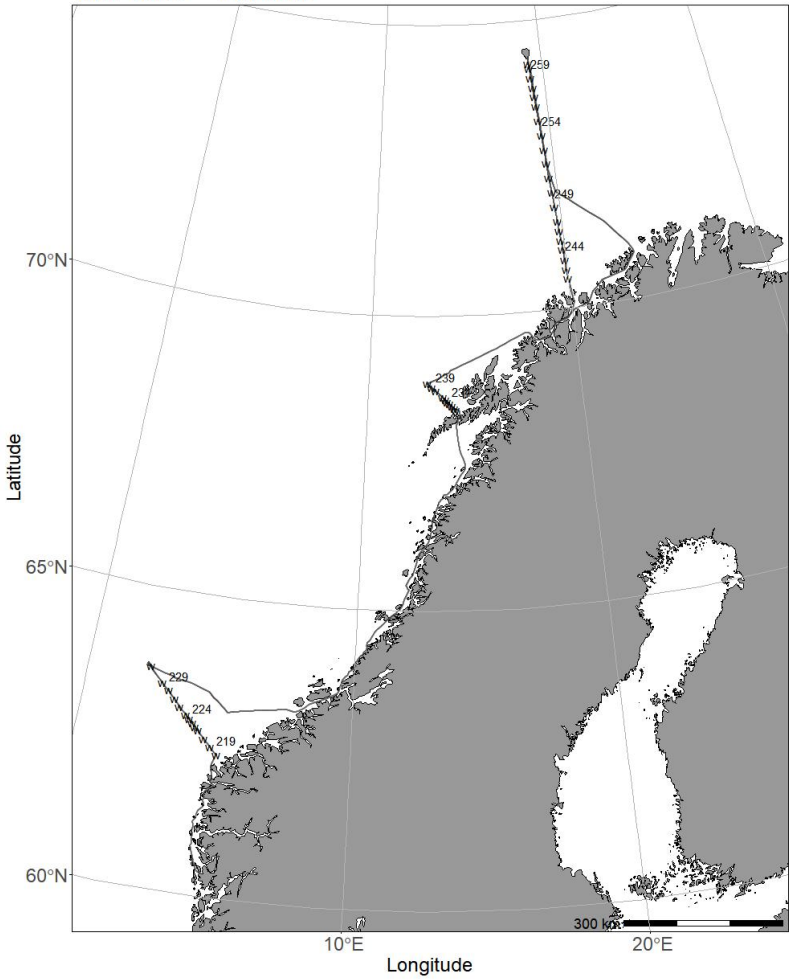
2023006004 - Kristine Bonnevie
14/02 - 17/02 - CTD Chart



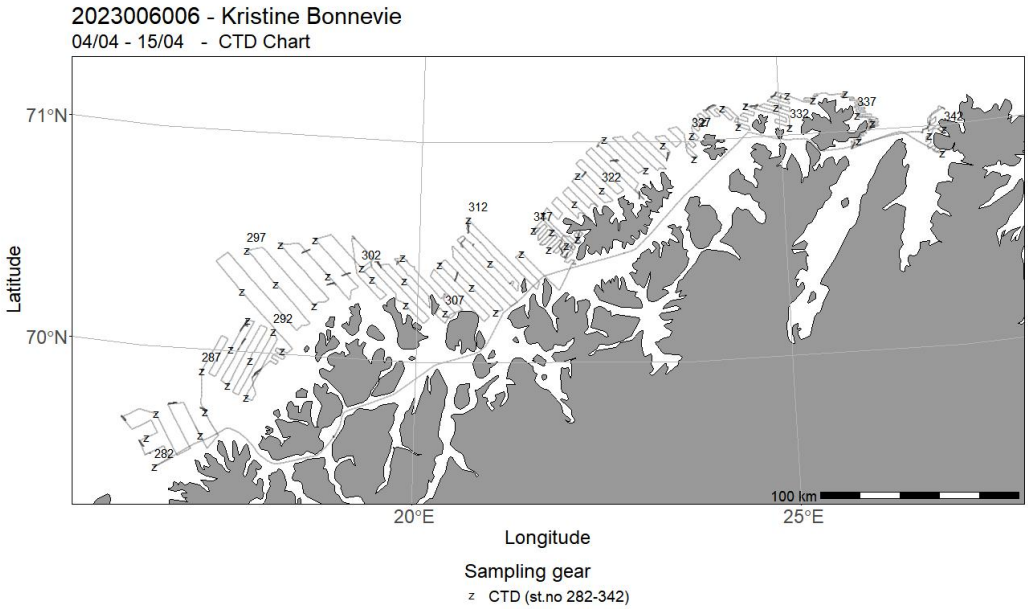
Sampling gear
w CTD with water sampler (st.no 159-218)

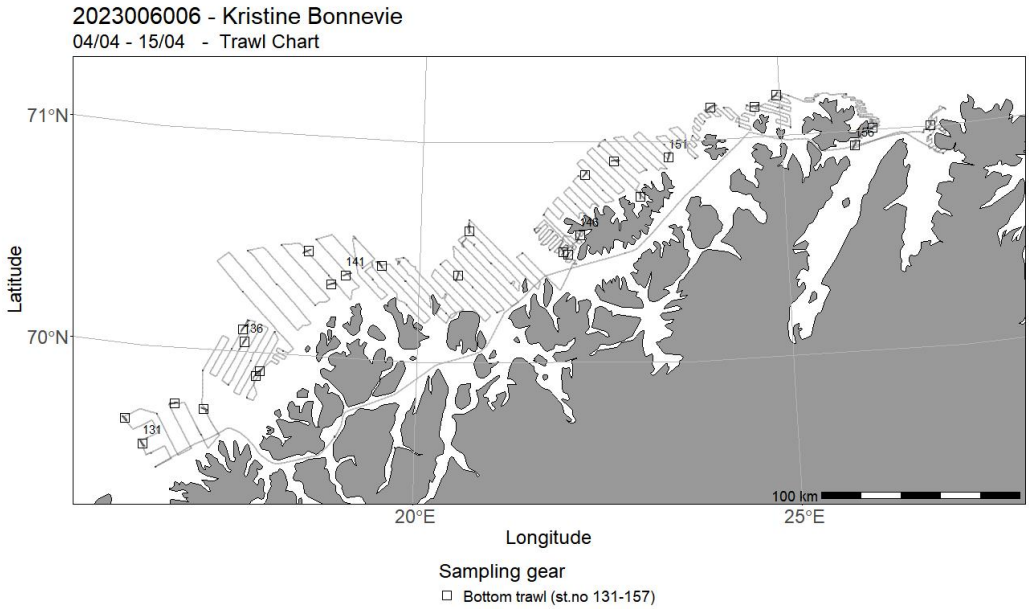


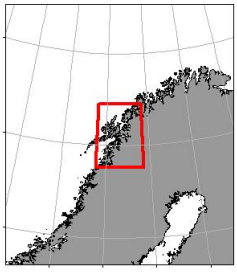
2023006005 - Kristine Bonnevie
19/02 - 05/03 - CTD Chart

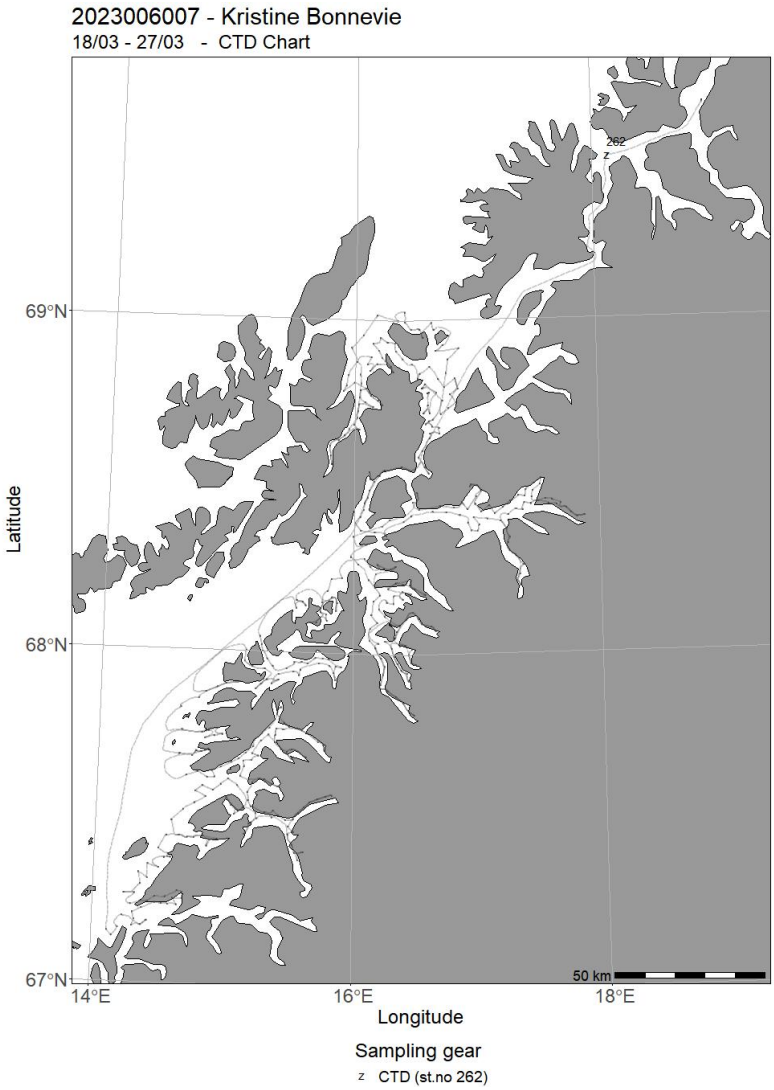


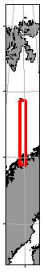
Sampling gear
w CTD with water sampler (st.no 219-261)

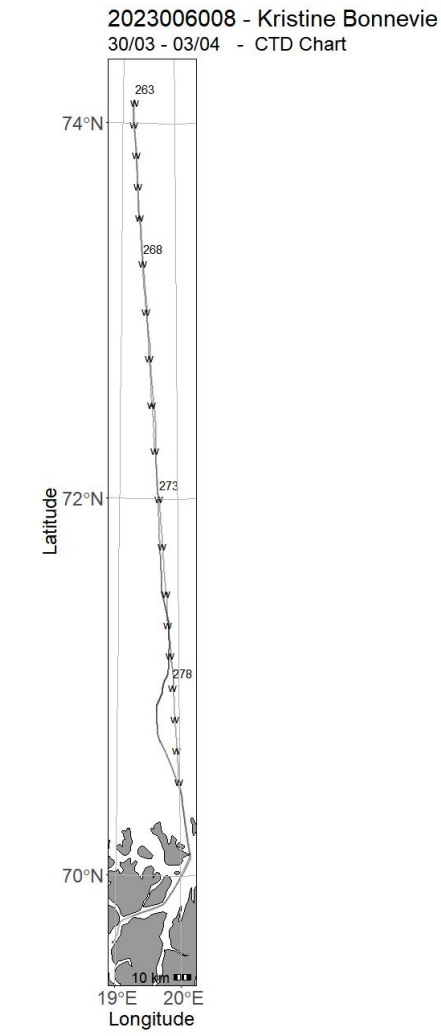

2023006006 - Kristine Bonnevie
04/04 - 15/04 - CTD Chart
71°N
70°N
Latitude
20°E
25°E
Longitude
100 km
Sampling gear
CTD (st.no 282-342)

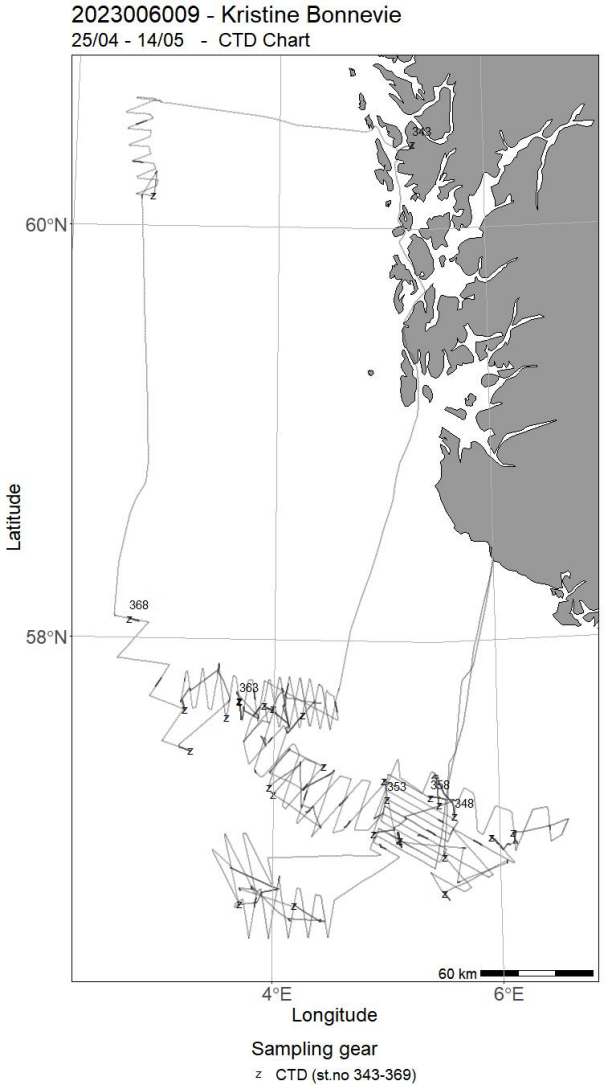

2023006006 - Kristine Bonnevie
04/04 - 15/04 - Trawl Chart
71°N
70°N
Latitude
20°E
25°E
Longitude
100 km
131
136
141
146
151
156
Sampling gear
Bottom trawl (st.no 131-157)

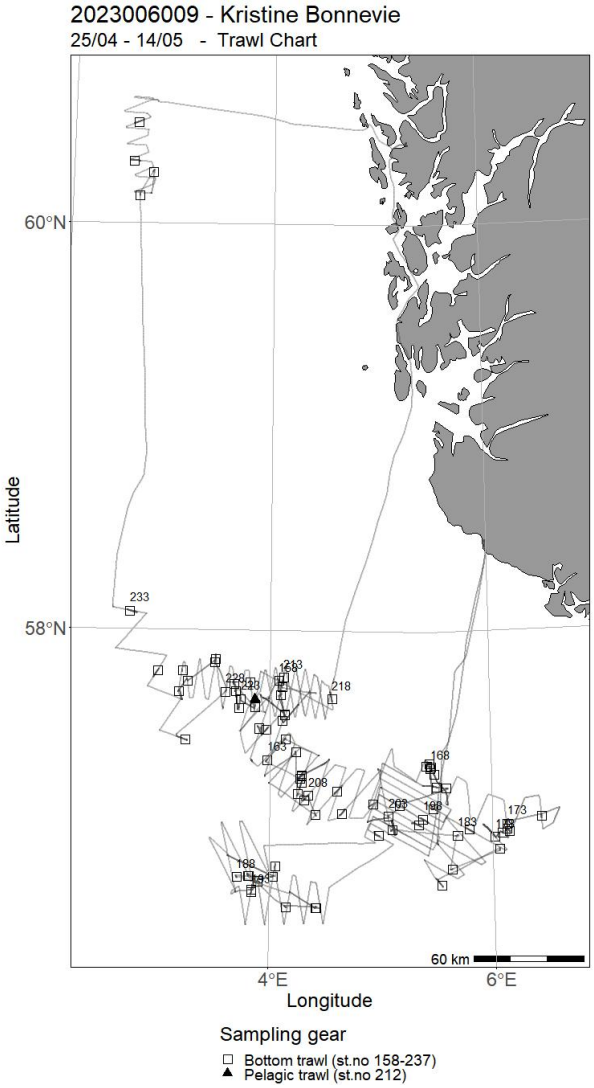


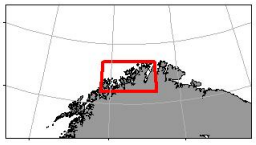

2023006007 - Kristine Bonnevie
18/03 - 27/03 - CTD Chart
262
69°N
68°N
67°N
Latitude
14°E
16°E
18°E
Longitude
50 km
Sampling gear
CTD (st.no 262)

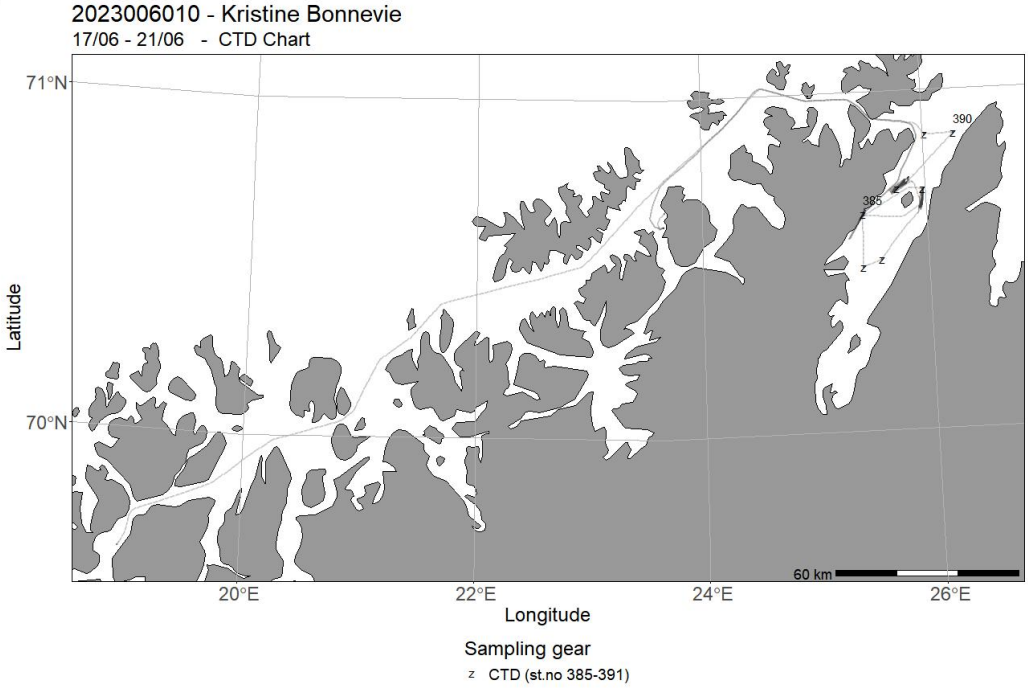


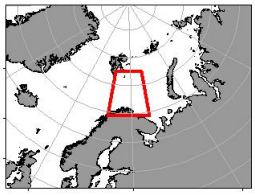

2023006008 - Kristine Bonnevie
30/03 - 03/04 - CTD Chart
263
268
273
278
74°N
72°N
70°N
Latitude
10 km
19°E
20°E
Longitude
Sampling gear
w CTD with water sampler (st.no 263-281)

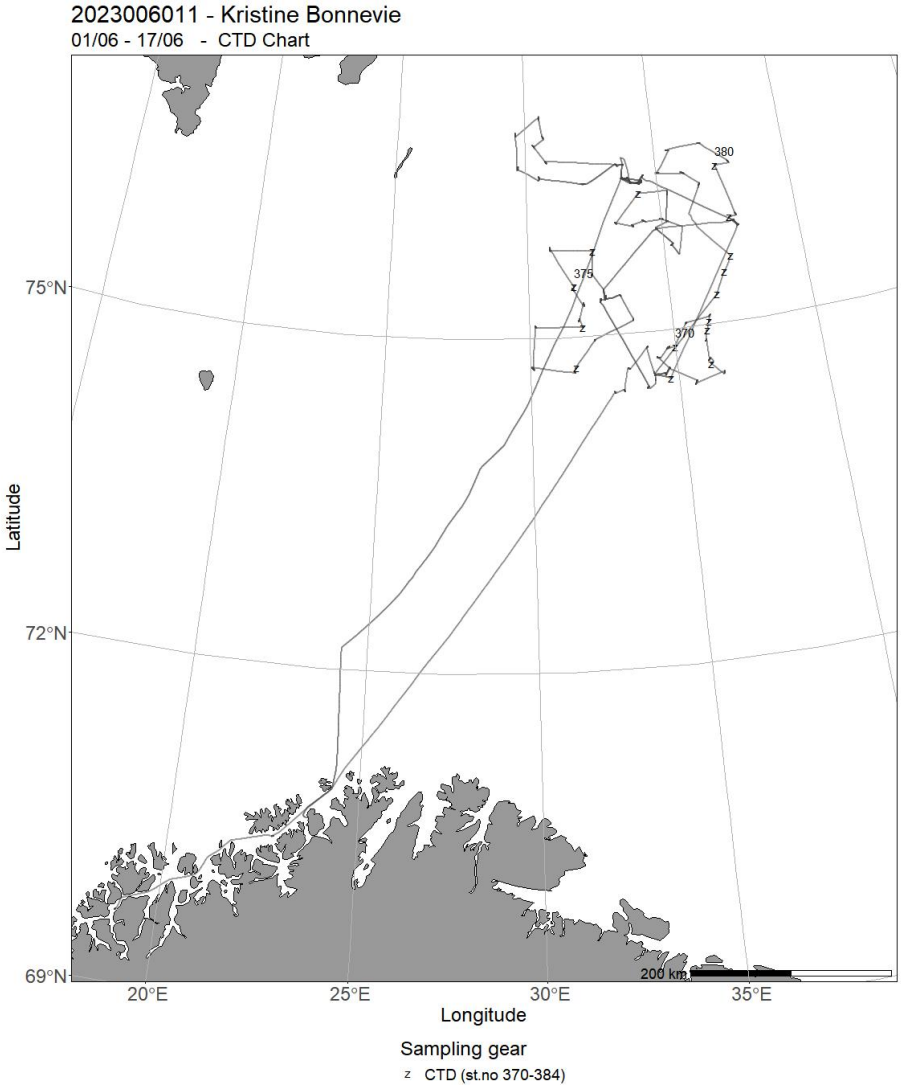

2023006009 - Kristine Bonnevie
25/04 - 14/05 - CTD Chart
60°N
58°N
Latitude
343
368
363
353
358
348
60 km
4°E
6°E
Longitude
Sampling gear
z CTD (st.no 343-369)

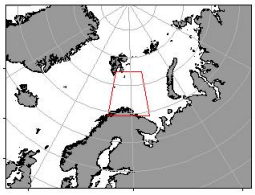

2023006009 - Kristine Bonnevie
25/04 - 14/05 - Trawl Chart
60°N
58°N
Latitude
4°E
6°E
Longitude
60 km
Sampling gear
Bottom trawl (st.no 158-237)
Pelagic trawl (st.no 212)

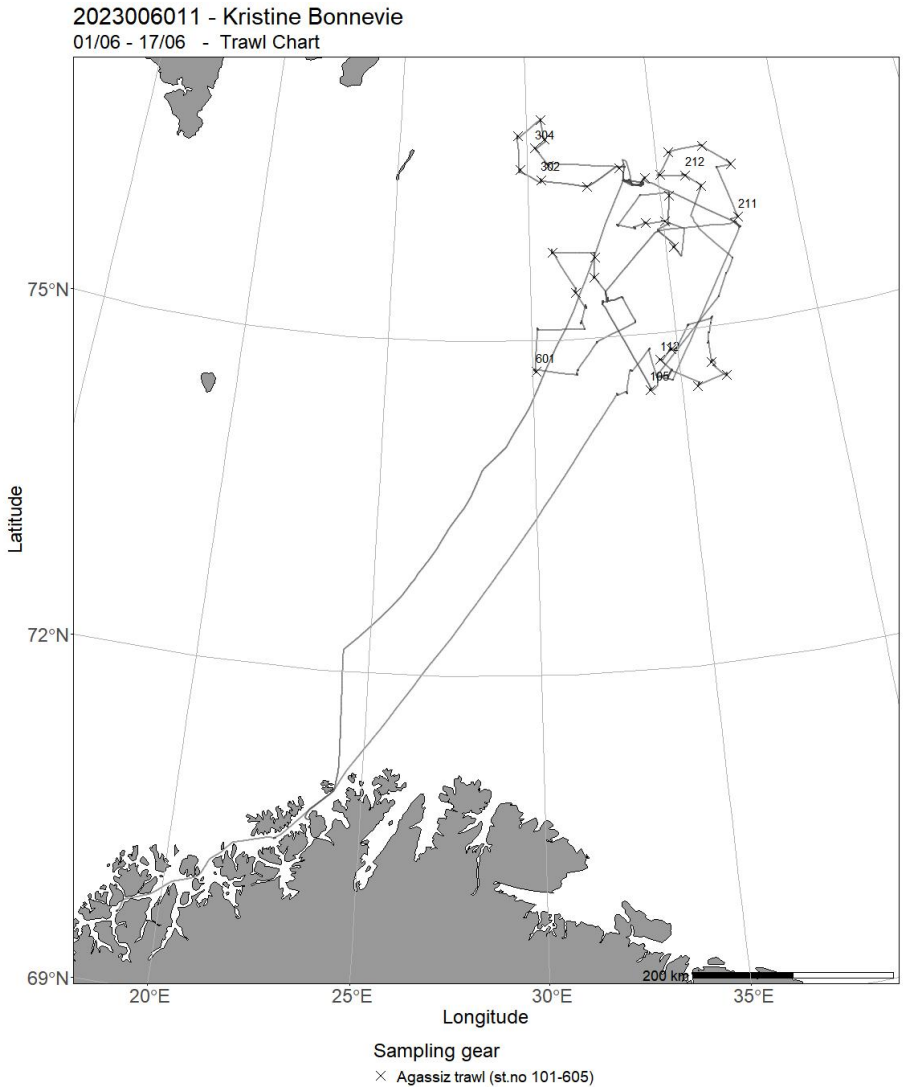


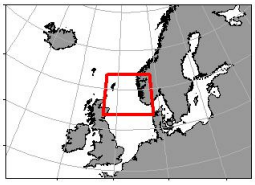

2023006010 - Kristine Bonnevie
17/06 - 21/06 - CTD Chart
71°N
70°N
Latitude
20°E
22°E
24°E
26°E
Longitude
60 km
390
385
Sampling gear
CTD (st.no 385-391)

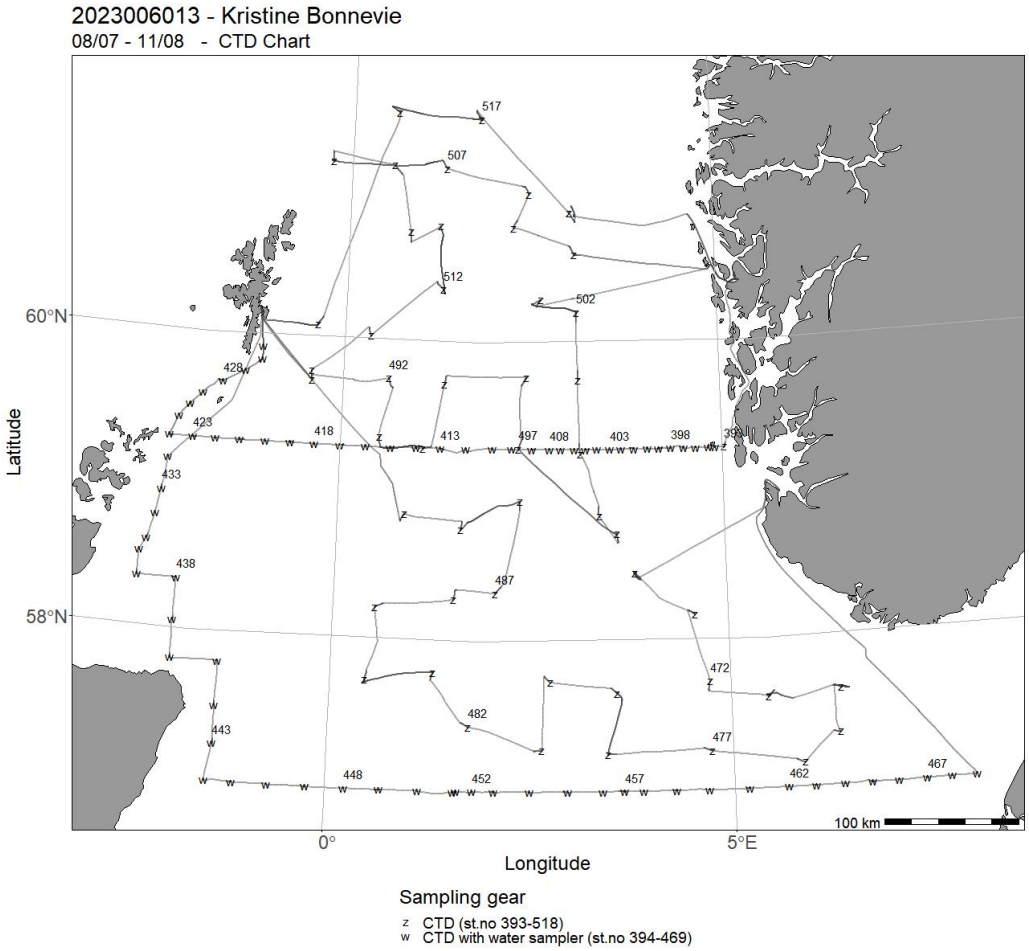


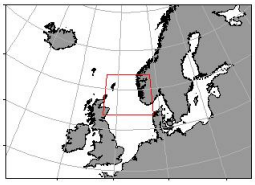

2023006011 - Kristine Bonnevie
01/06 - 17/06 - CTD Chart
380
375
370
75°N
72°N
69°N
Latitude
20°E
25°E
30°E
35°E
Longitude
200 km
Sampling gear
CTD (st.no 370-384)

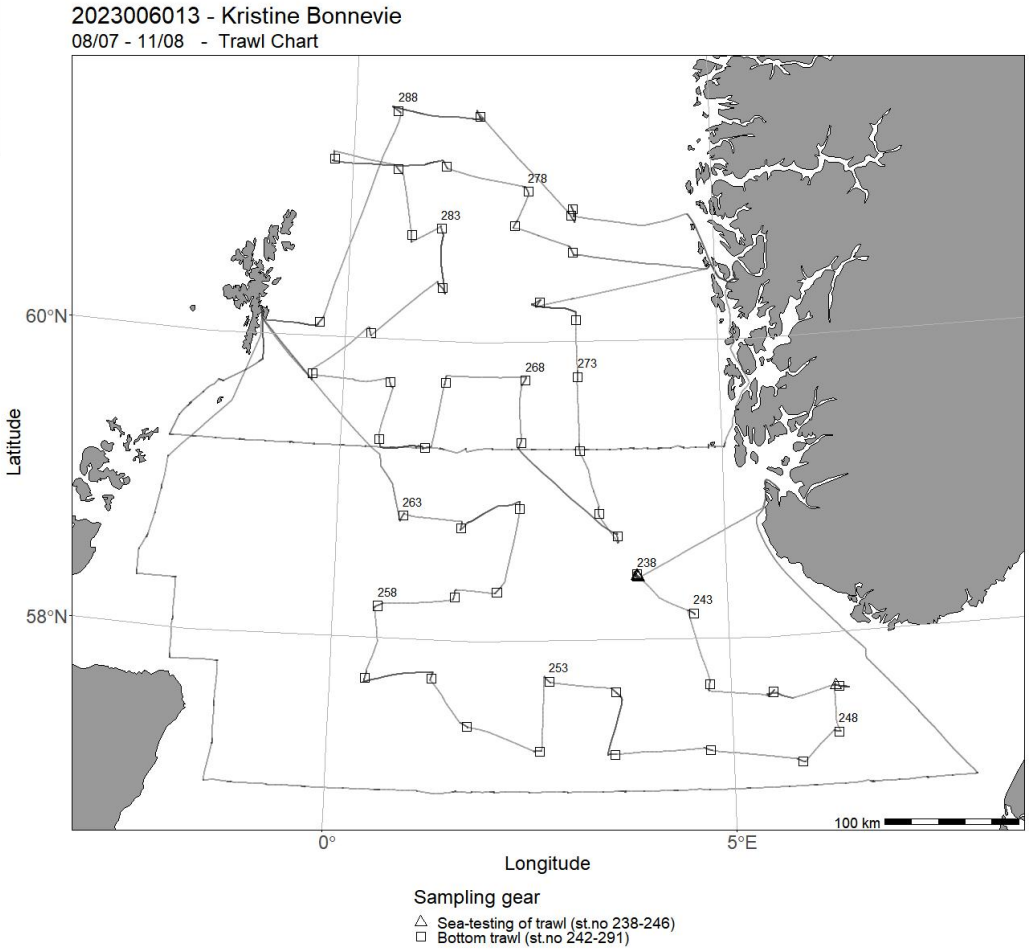


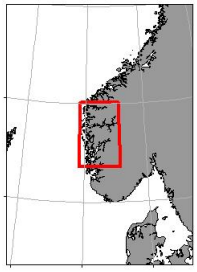

2023006011 - Kristine Bonnevie
01/06 - 17/06 - Trawl Chart
304
302
212
211
601
113
105
75°N
72°N
69°N
Latitude
20°E
25°E
30°E
35°E
Longitude
200 km
Sampling gear
Agassiz trawl (st.no 101-605)

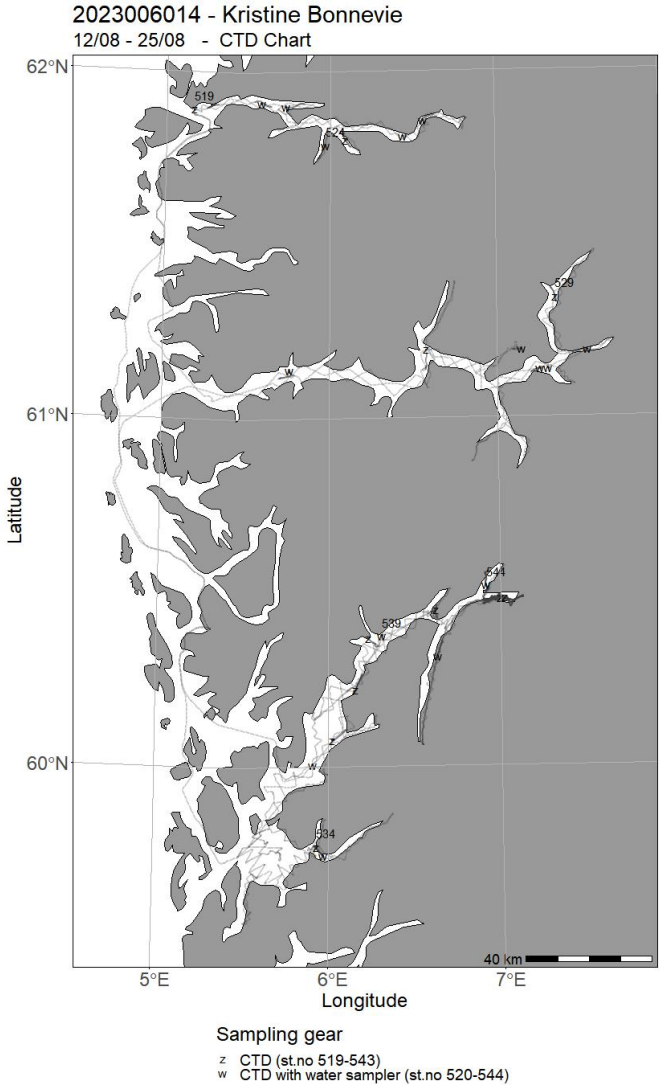


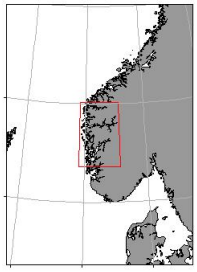

2023006013 - Kristine Bonnevie
08/07 - 11/08 - CTD Chart
517
507
512
502
492
428
423
418
413
497
408
403
398
393
433
438
487
472
482
443
477
448
452
457
462
467
60°N
58°N
0°
5°E
Latitude
Longitude
100 km
Sampling gear
z CTD (st.no 393-518)
w CTD with water sampler (st.no 394-469)

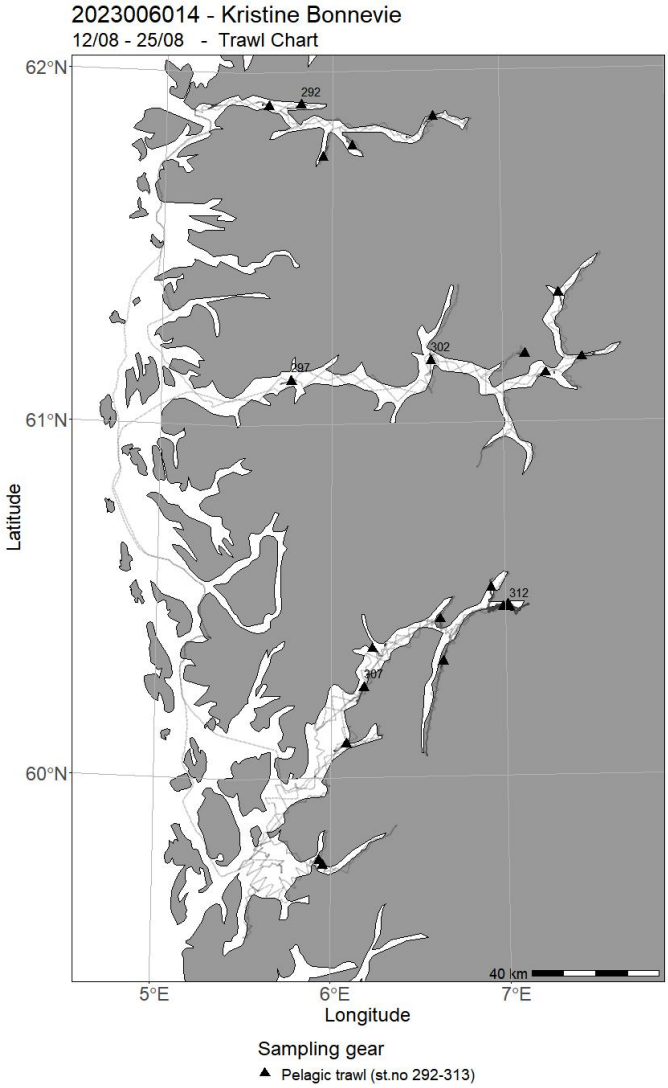


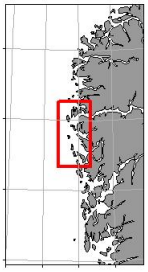

2023006013 - Kristine Bonnevie
08/07 - 11/08 - Trawl Chart
288
278
283
60°N
268
273
263
238
258
243
58°N
253
248
100 km
0°
5°E
Latitude
Longitude
Sampling gear
Sea-testing of trawl (st.no 238-246)
Bottom trawl (st.no 242-291)



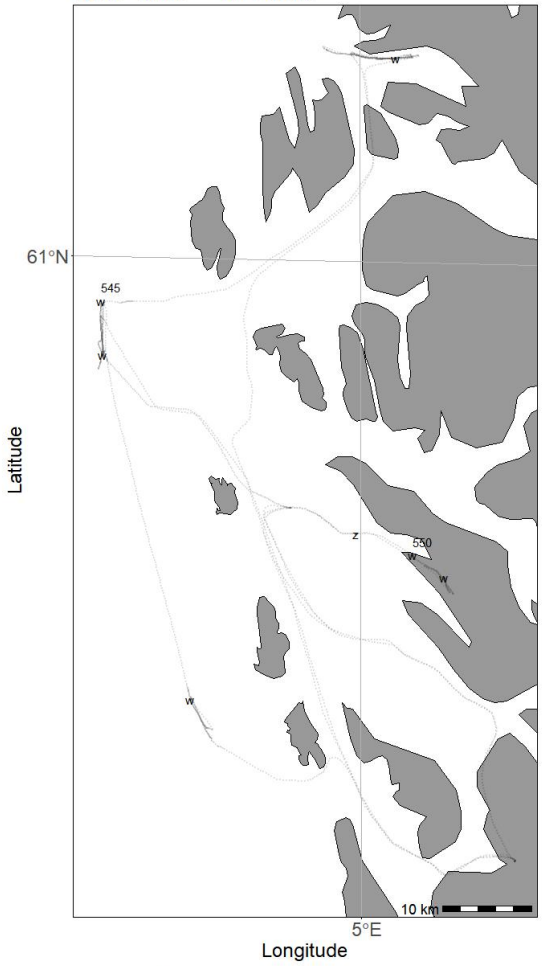

2023006014 - Kristine Bonnevie
12/08 - 25/08 - CTD Chart
62°N
61°N
60°N
Latitude
5°E
6°E
7°E
Longitude
40 km
519
524
529
544
539
534
Sampling gear
z CTD (st.no 519-543)
w CTD with water sampler (st.no 520-544)



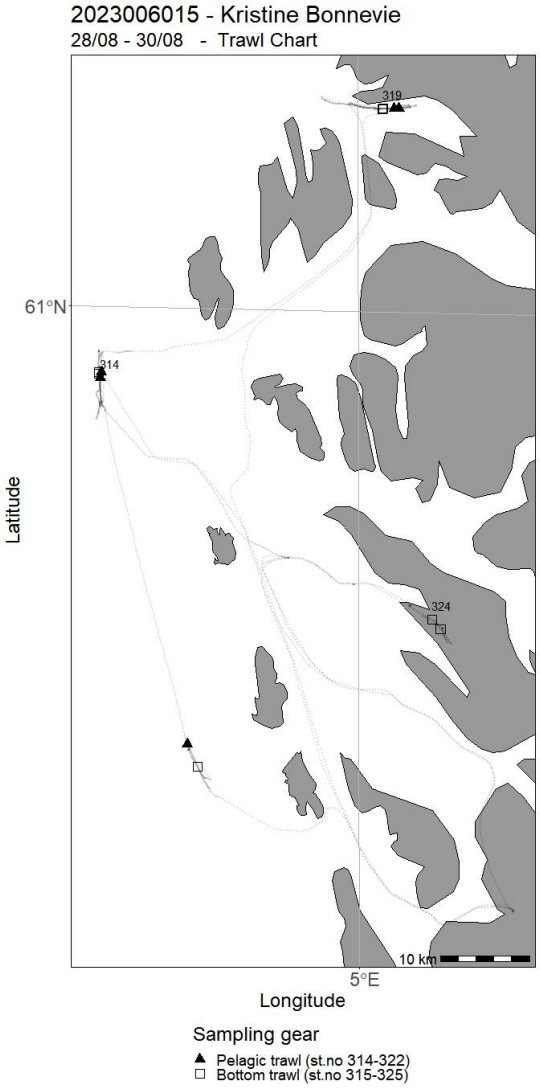

2023006014 - Kristine Bonnevie
12/08 - 25/08 - Trawl Chart
62°N
61°N
60°N
Latitude
292
297
302
307
312
40 km
5°E
6°E
7°E
Longitude
Sampling gear
Pelagic trawl (st.no 292-313)

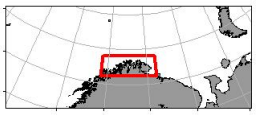


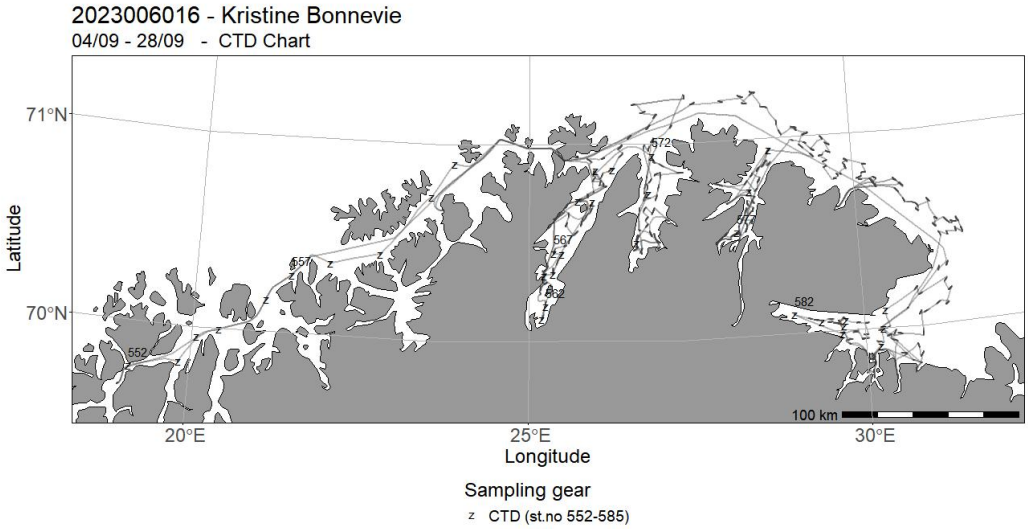
2023006015 - Kristine Bonnevie
28/08 - 30/08 - CTD Chart

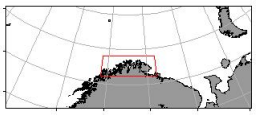


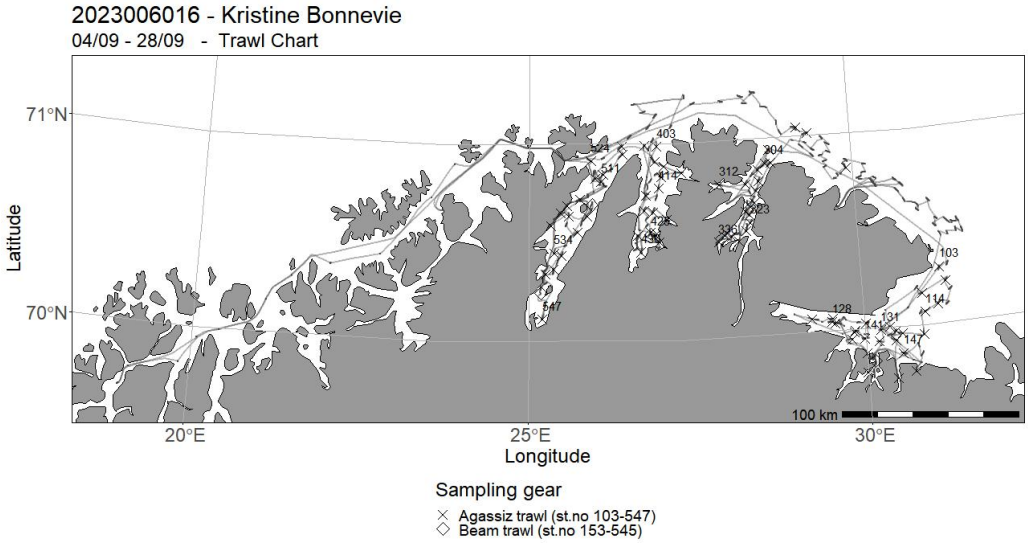
Sampling gear
w CTD with water sampler (st.no 545-550)
z CTD (st.no 551)

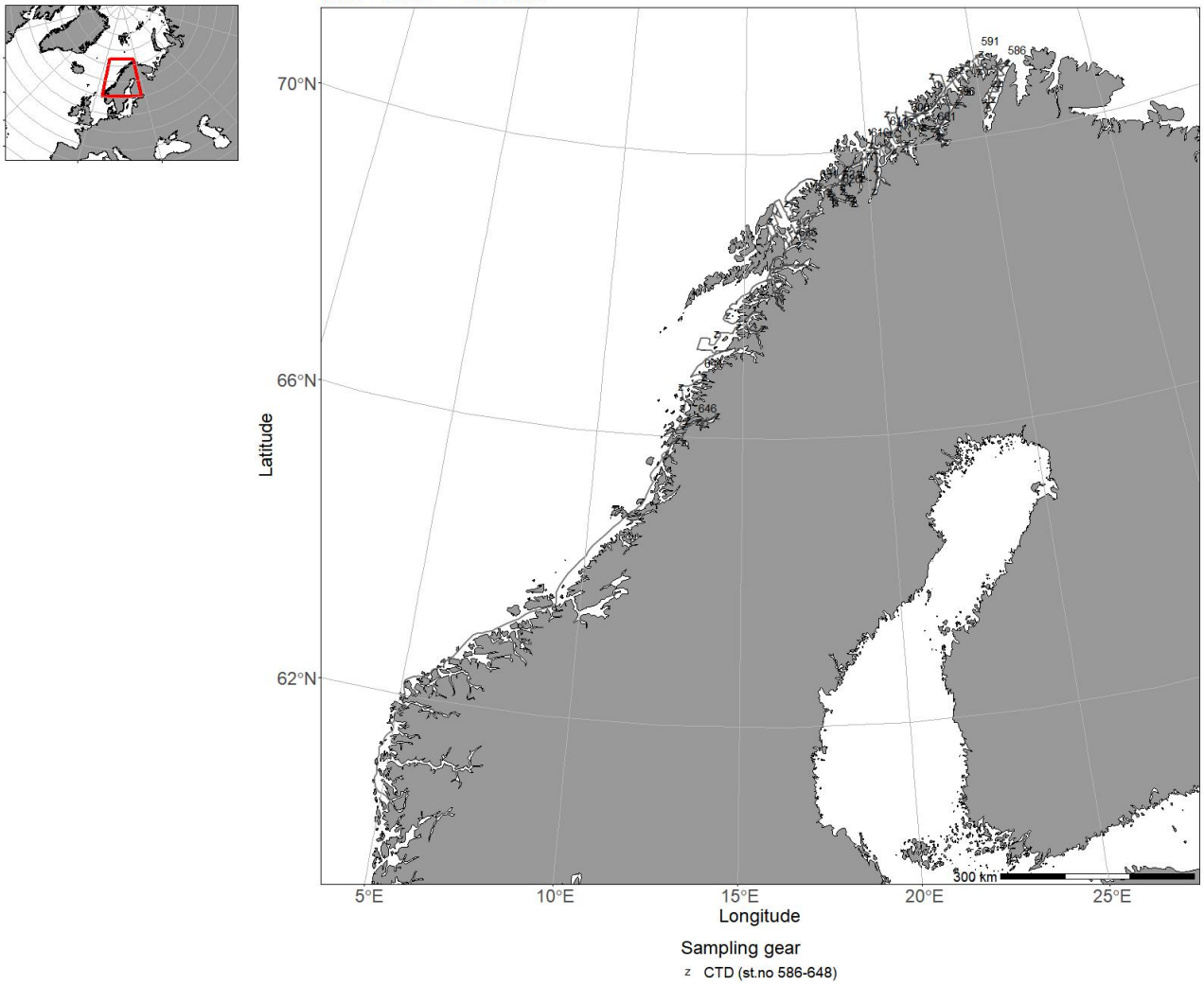

2023006015 - Kristine Bonnevie
28/08 - 30/08 - Trawl Chart
319
61°N
314
324
Latitude
10 km
5°E
Longitude
Sampling gear
Pelagic trawl (st.no 314-322)
Bottom trawl (st.no 315-325)

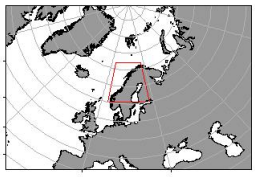


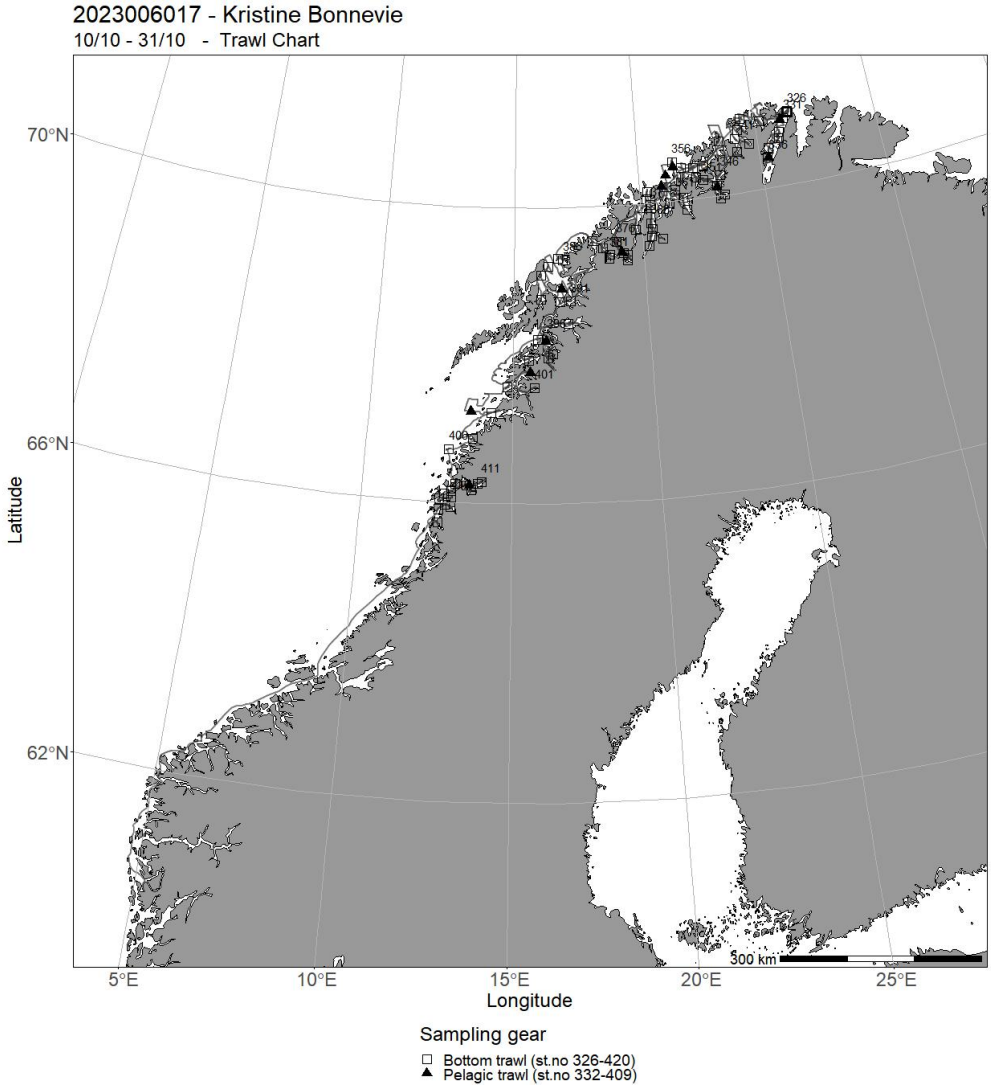

2023006016 - Kristine Bonnevie
04/09 - 28/09 - CTD Chart
71°N
70°N
Latitude
20°E
25°E
30°E
Longitude
552
557
562
567
572
582
100 km
Sampling gear
z CTD (st.no 552-585)




2023006016 - Kristine Bonnevie
04/09 - 28/09 - Trawl Chart
71°N
70°N
Latitude
20°E
25°E
30°E
Longitude
100 km
Sampling gear
Agassiz trawl (st.no 103-547)
Beam trawl (st.no 153-545)


2023006017 - Kristine Bonnevie
10/10 - 31/10 - CTD Chart
70°N
66°N
62°N
Latitude
5°E
10°E
15°E
20°E
25°E
Longitude
300 km
591
586
646
Sampling gear
CTD (st.no 586-648)




2023006017 - Kristine Bonnevie
10/10 - 31/10 - Trawl Chart
70°N
66°N
62°N
Latitude
5°E
10°E
15°E
20°E
25°E
Longitude
300 km
Sampling gear
Bottom trawl (st.no 326-420)
Pelagic trawl (st.no 332-409)

8 - "Kronprins Haakon" – Cruises 2023

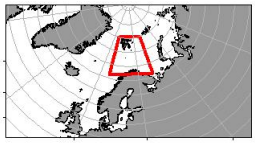
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023007001	30/01 - 02/02	Styringsgruppen Kronprins Haakon had bedt om at KH ligger til kai i Tromsø mens Arctic Frontiers pågår, så lenge de vitenskapelige konsekvensene av dette er overkommelige. UiT og NP vil sørge for bemanning om bord mens hendelsen pågår.	Norskekysten: Troms og Finnmark	-	-
2023007002	05/02 - 01/03	Abundance and distribution of cod and haddock.Cruise name: Vintertokt	Barents Sea	1-26	3 - 85
2023007003	02/03 - 09/03	The cruise to the Svalbards fjords (Isfjorden, Hornsund) is organized and funded through the Polish-Norwegian research co-operation under the EEA and Norway grants. The project ArcSD Arctic Submarine Groundwater discharge focus on studies of submarine groundwater discharge on various cold seep sites in the Norwegian-Svalbard-Barents Sea with the overall aim to improve the understanding of fluid flow systems including its sources and to constrain the timing of leakage.	Atlantic Ocean	27-56	-
2023007005	07/04 - 16/04	Marine operations including observatory maintainence and installationSubmarine cable installation Project name: LoVe - Lofoten Vesterålen cabled observatory - Infrastruktur prosjekt	Norwegian Sea	57-79	-
2023007006	17/04 - 25/04	Main tasks: 1. Recover the lander deployed in April 20222. Recover the mooring deployed in March 20233. Do one CTD cast with water samples at the location of the deploy ents4. Perform a single and multi-beam surveys near the locations of deployment.	Norwegian Sea	80-81	-
2023007007	29/04 - 10/05	The AKMA3 oceanographic expedition is part of the Advancing Knowledge of Methane in the Arctic. The main aim of AKMA is to develop a long-term, multidisciplinary education, and research collaboration focused on Arctic methane sources, processes, ecosystems, and geological history to provide exceptional training for the next generation of experts in Arctic marine sciences and greenhouse gas phenomena.	Barents Sea	82-86	-

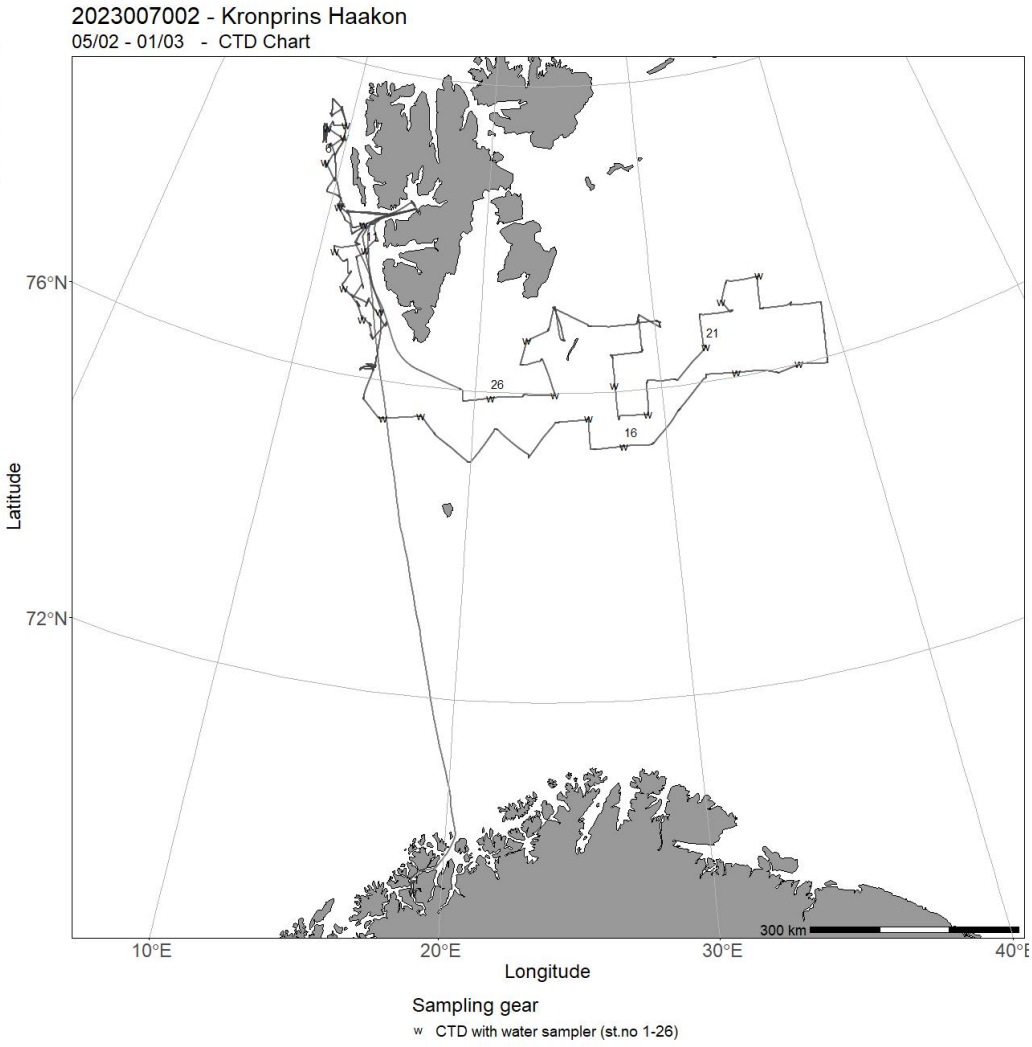
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023007008	11/05 - 30/05	The cruise combines scientific objectives of this research council of Norway BREATHE project with a field school outreach program that trains early career researchers on the multidisciplinary research of Arctic sea ice.	Fram Strait	87-108	-
2023007009	01/06 - 21/06	The original cruise objective was to do a transect in the Nansen basin between N 84 degrees 32 min, E018 degrees 46 min and N 78 degrees 55 min and E008 degrees 32 min. Due to heavy ice we were not able to conduct research in the Nansen basin and redirected the cruise to the Fram Strait between N 78 degrees 50 min W008 degrees and N 78 degrees 50 min E002.	Greenland Sea	109-160	-
2023007010	22/06 - 02/07	The cruise targeted the northern part of the Knipovitch Ridge. The main work area is the newly discovered 'black smoker' hydrothermal deposit "Jøtul", which protrudes partly from sediments between an axial volcanic ridge and the eastern flank of the ridge system, and is believed to lie on top of a 'detachment' fault, which partly exposes mantle rocks at the sea floor. The main goal of the expedition is to better understand the underground structure of »Jøtul», the thermal condition of the crust in the area, as well as the hydrothermal circulation system.	Greenland Sea	161-162	-
2023007011	06/07 - 19/07	Interdisciplinary geoscientific investigations under the lead of UiT scientists contributing to the GoNorth Expedition 2023. Fields of research include: Investigation of hydrothermal processes (mineralogy & geochemistry) along Gakkel Ridge, Petrology and isotope work on peridotites and any volcanic rocks from Gakkel Ridge, Geothermal heat flow related to hydrothermal systems, Biodiversity in extreme environments, e.g. foraminifera, Geochemistry of marine sediments affected by hydrothermal plumes, Proxy development and palaeo-environments in the Arctic Ocean.	Polhavet	163-178	-

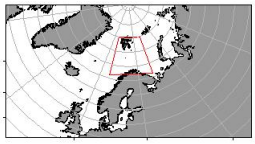
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023007012	20/07 - 02/08	GoNorth har som formål å være et norsk flerfaglig og tverrinstitusjonelt program for utforsking av Polhavet. Motivasjonen er tilslutningen fra FNs kontinentalsokkelkommisjon i 2009 til det norske kravet om en utvidet sokkel nord for Svalbard. UD finansierte et forprosjekt hvor oppdraget var å ""utvikle et program for utforsking av Polhavet som er faglig fremragende, økonomisk realiserbart, og politisk og forvaltningsmessig nyttig"". GoNorth kom på statsbudsjettet fra 2020 og mottar årlige driftsbevilgninger fra NFD, KD og UD. Forskningsprogrammet vil bidra med kunnskap som er viktig for forvaltning av miljø og naturressurser i nord. Prosjektet vil bidra til ny kartlegging av norske havområder, og gi bedre grunnleggende og anvendt kunnskap av relevans for forvaltning og næringsliv.	Polhavet	0164 - 0178	-
2023007013	03/08 - 09/08	Dette toktet er et tokt under GoNorth konsortiet, som som tar sikte på å styrke kunnskapen om geologisk utvikling og historisk klima i den vestlige delen av det Eurasiske basseng i Polhavet. I tillegg skal det gjøres teknologisk utvikling (test av instrumenter) for overvåking av havis under toktet og innsamles oseanografiske og biologiske data.	Polhavet	-	-
2023007014	10/08 - 29/08	Multidisiplinært tokt inn i det dype Polhavet nord for Svalbard	Polhavet	179-221	86 - 99
2023007015	30/08 - 13/09	Annual service and monitoring at the Fram Strait Arctic Outflow Observatory from the Norwegian Polar Institute.The annual service encompasses the service of 7 ocean moorings measuring the freshwater and sea ice transport in the Fram Strait since 1997/1990 resp.	Fram Strait	222-265	-

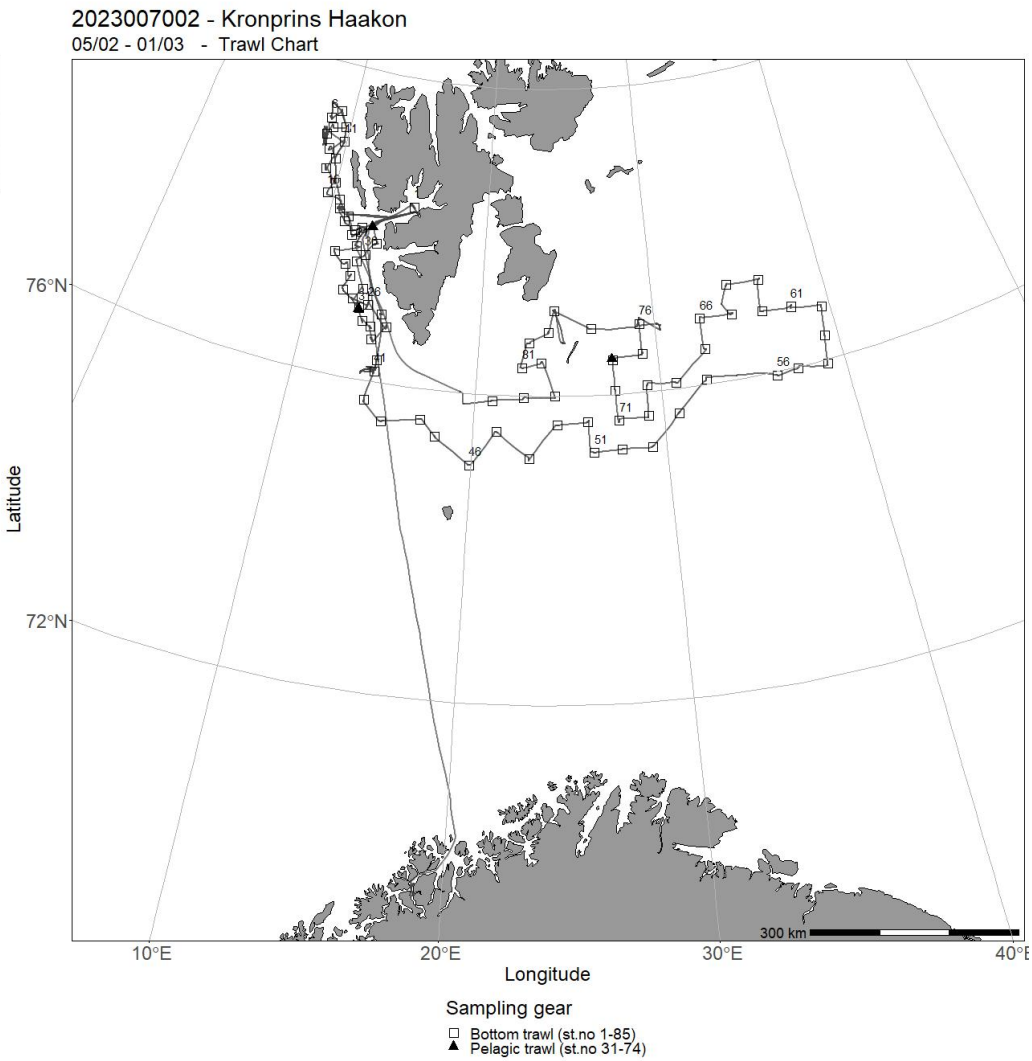
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023007016	15/09 - 06/10	The aim of the cruise is to monitor the status and changes in the ecosystem and obtain the necessary data for advice and research. Arctic part of the BESS collects data and reports more than 50 time series to Norwegian-Russian fisheries and environment commissions, and to several ICES groups.	Barents Sea	266-309	100 - 201
2023007019	06/11 - 30/11	Opphenting av bøyer ved Jan Maien	Norskehavet	311-318	-
2023007020	19/10 - 01/11	Georessurser og hydrotermisk aktivitet i Norskehavet	Norskehavet	310	-

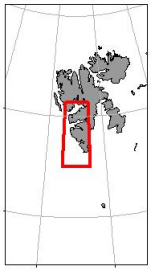
9 - “ Kronprins Haakon” – Charts for cruises 2023

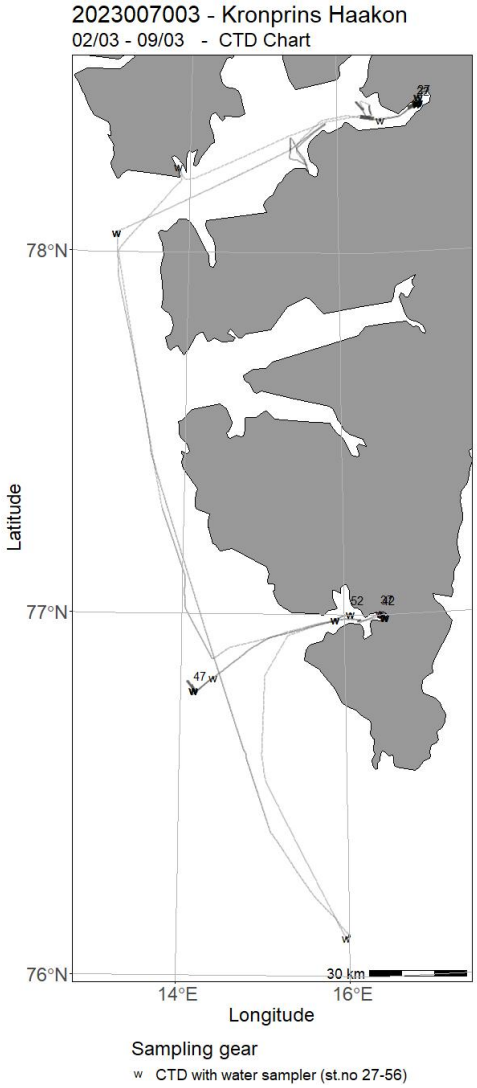


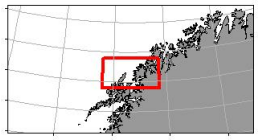


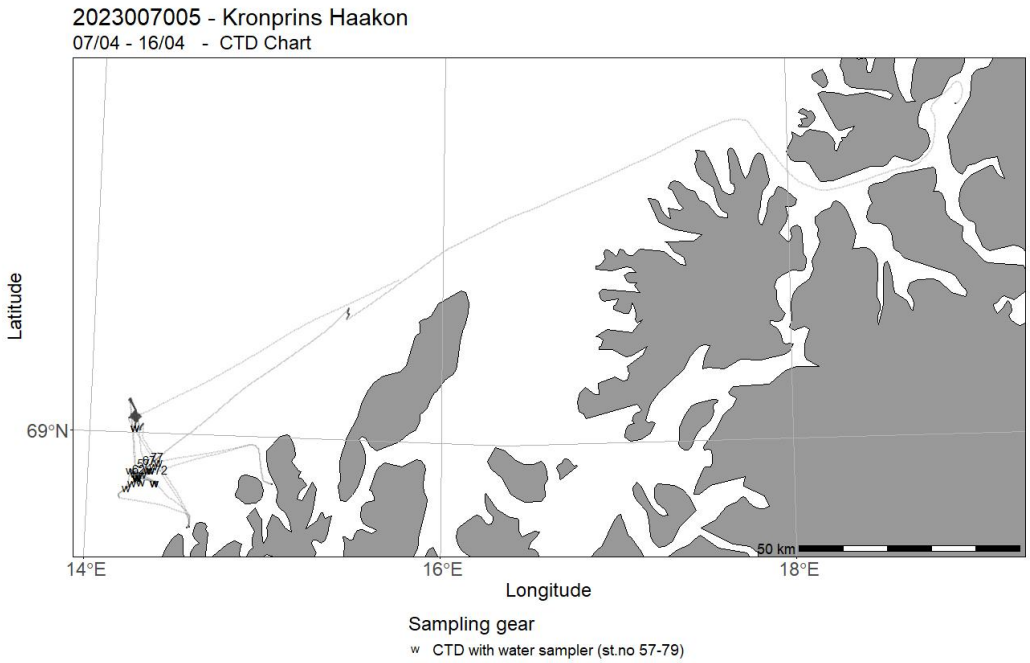


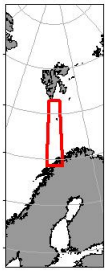

2023007002 - Kronprins Haakon
05/02 - 01/03 - Trawl Chart
76°N
72°N
Latitude
10°E
20°E
30°E
40°E
Longitude
300 km
Sampling gear
Bottom trawl (st.no 1-85)
Pelagic trawl (st.no 31-74)

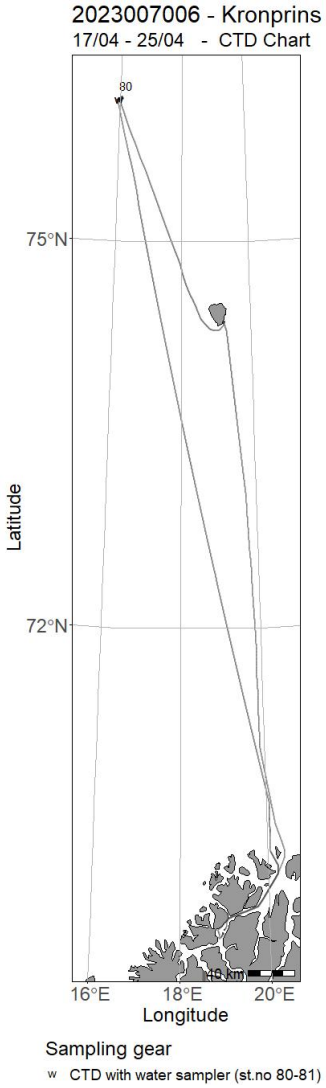


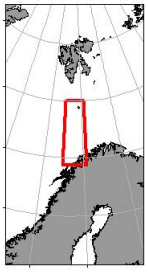

2023007003 - Kronprins Haakon
02/03 - 09/03 - CTD Chart
78°N
77°N
76°N
Latitude
14°E
16°E
Longitude
30 km
Sampling gear
w CTD with water sampler (st.no 27-56)



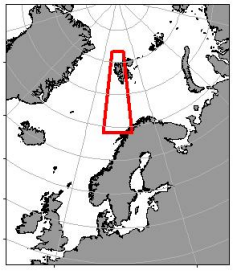

2023007005 - Kronprins Haakon
07/04 - 16/04 - CTD Chart
Latitude
69°N
14°E
16°E
18°E
Longitude
50 km
Sampling gear
w CTD with water sampler (st.no 57-79)

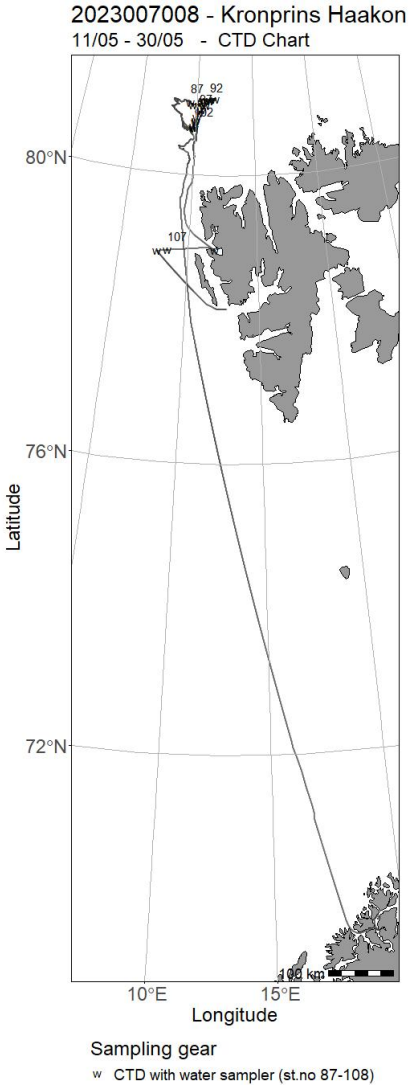


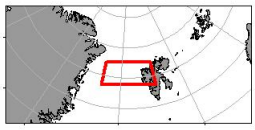

2023007006 - Kronprins Haakon
17/04 - 25/04 - CTD Chart
80
75°N
72°N
Latitude
16°E
18°E
20°E
Longitude
Sampling gear
w CTD with water sampler (st.no 80-81)

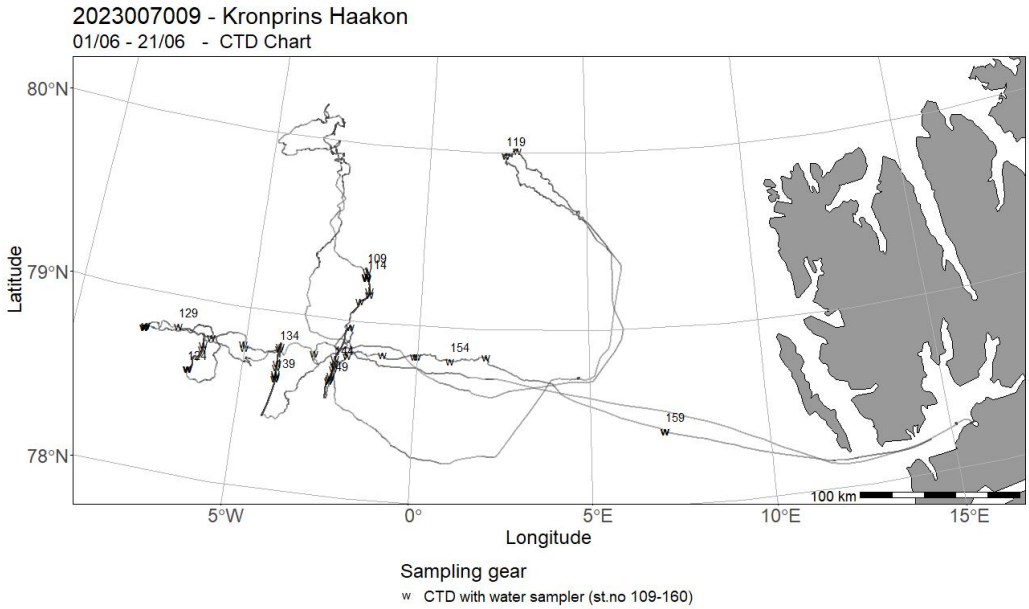


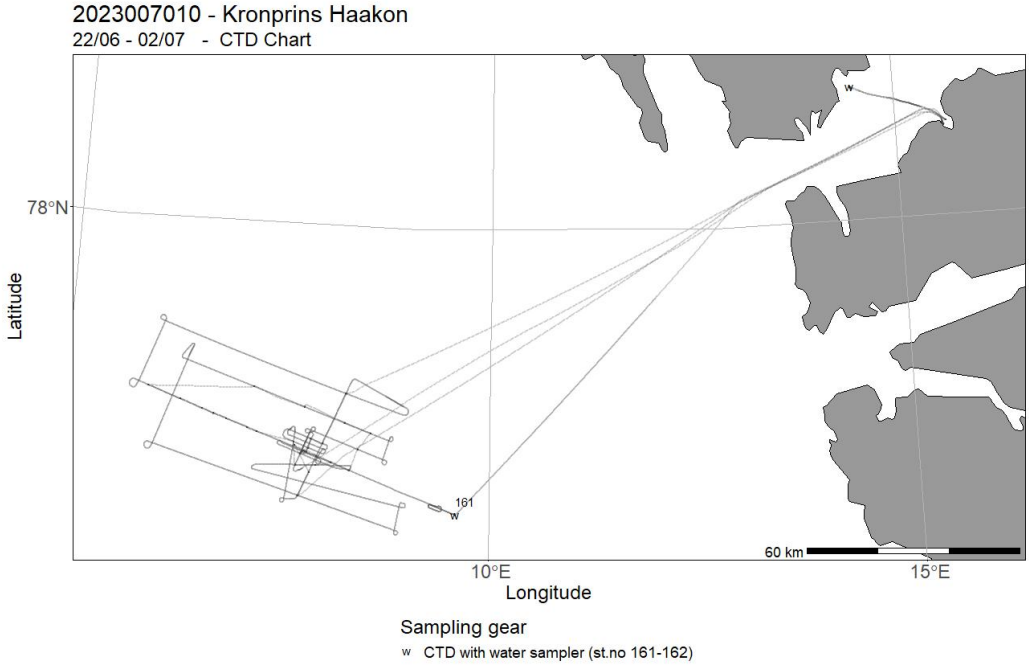

2023007007 - Kronprins Haakon
29/04 - 10/05 - CTD Chart
Latitude
72°N
16°E
18°E
20°E
Longitude
50 km
Sampling gear
w CTD with water sampler (st.no 82-86)

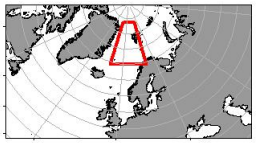


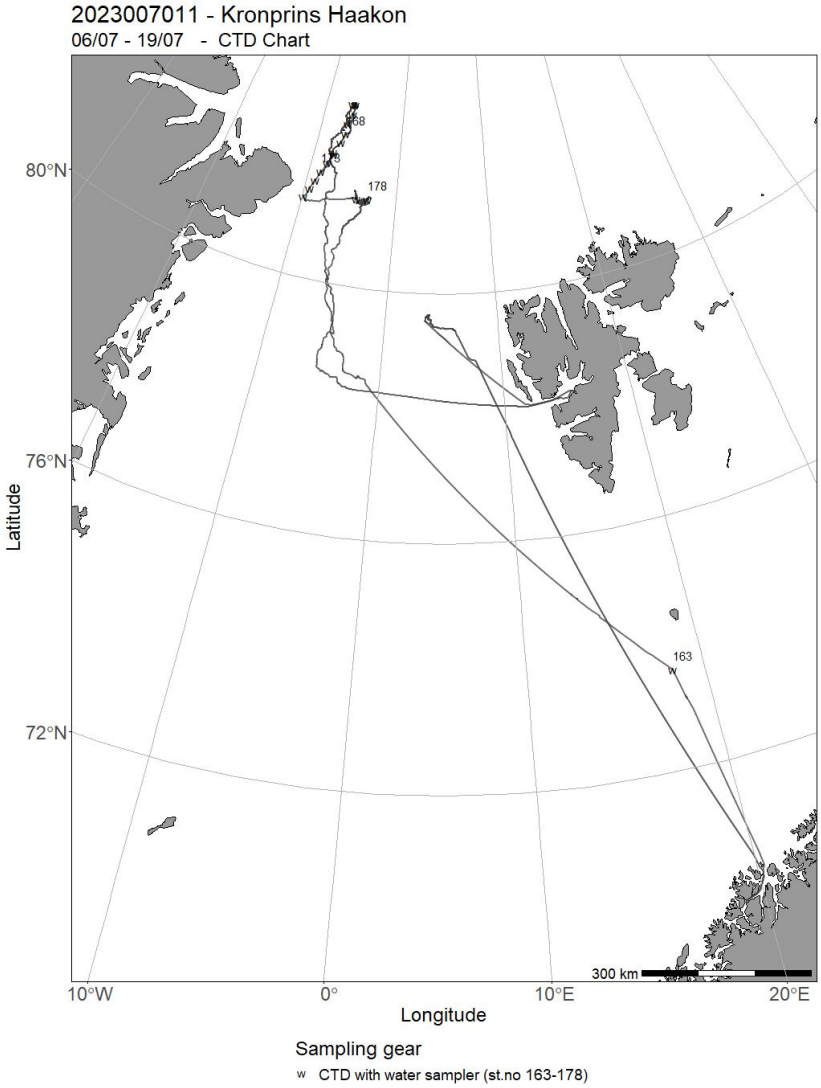

2023007008 - Kronprins Haakon
11/05 - 30/05 - CTD Chart
87 92
107
80°N
76°N
72°N
Latitude
10°E
15°E
Longitude
100 km
Sampling gear
w CTD with water sampler (st.no 87-108)

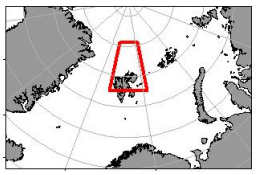


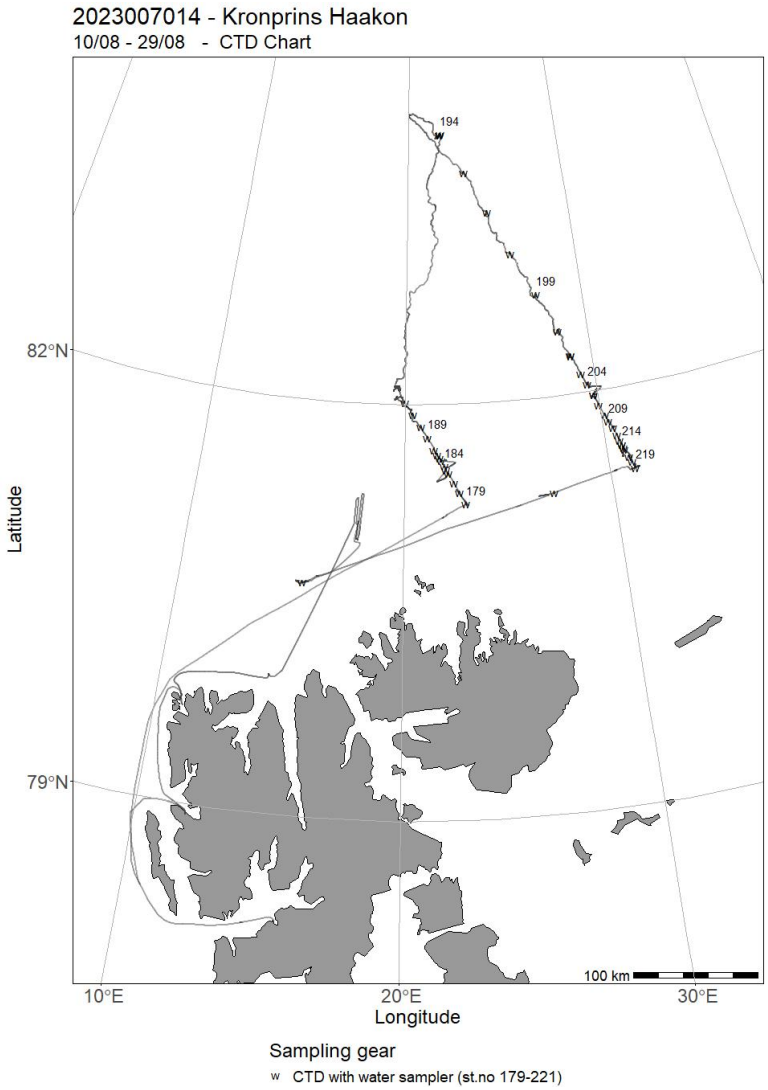

2023007009 - Kronprins Haakon
01/06 - 21/06 - CTD Chart
80°N
79°N
78°N
Latitude
119
109
129
134
154
159
139
149
100 km
5°W
0°
5°E
10°E
15°E
Longitude
Sampling gear
w CTD with water sampler (st.no 109-160)

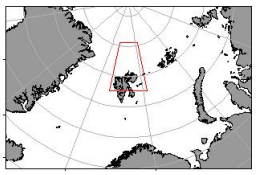

2023007010 - Kronprins Haakon
22/06 - 02/07 - CTD Chart
78°N
Latitude
w
161
w
60 km
10°E
15°E
Longitude
Sampling gear
w CTD with water sampler (st.no 161-162)

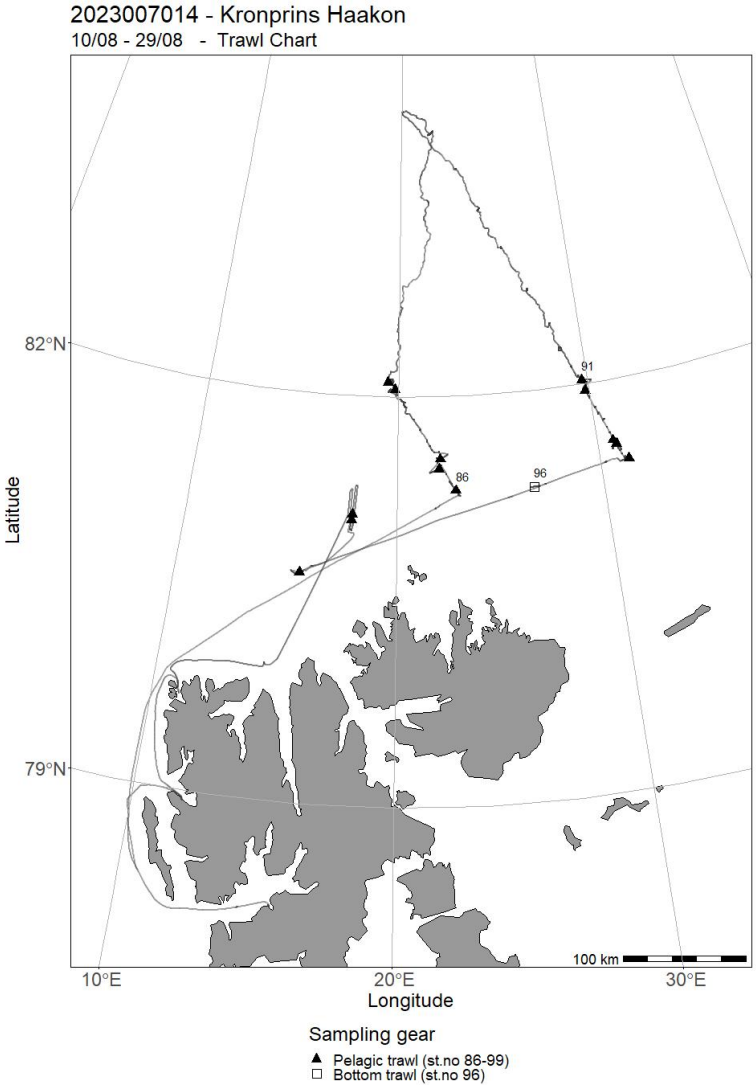


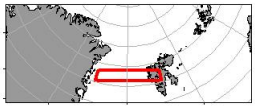

2023007011 - Kronprins Haakon
06/07 - 19/07 - CTD Chart
80°N
76°N
72°N
Latitude
10°W
0°
10°E
20°E
Longitude
300 km
168
178
163
w
Sampling gear
w CTD with water sampler (st.no 163-178)

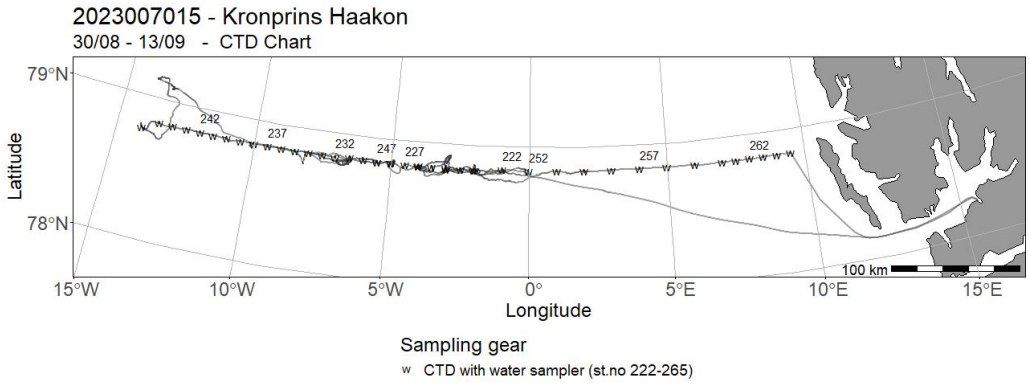


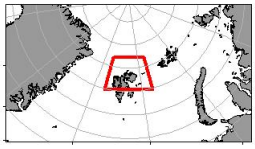

2023007014 - Kronprins Haakon
10/08 - 29/08 - CTD Chart
194
199
204
209
214
219
189
184
179
82°N
79°N
Latitude
100 km
10°E
20°E
30°E
Longitude
Sampling gear
w CTD with water sampler (st.no 179-221)

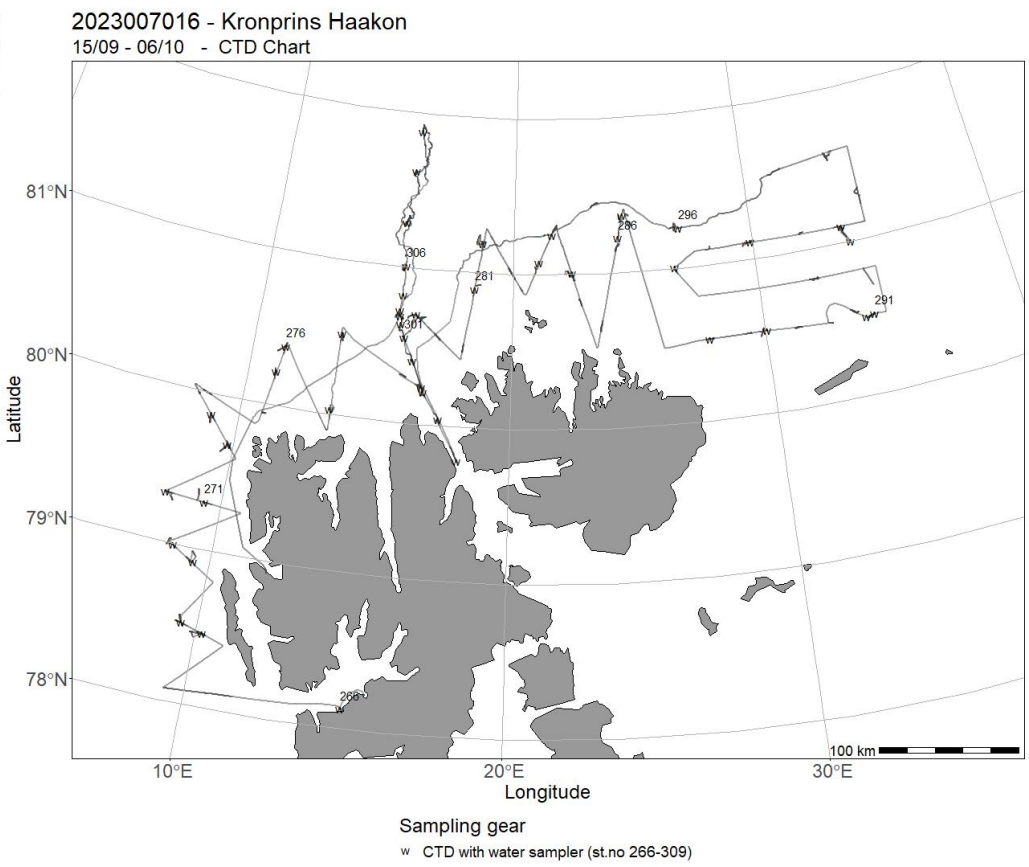


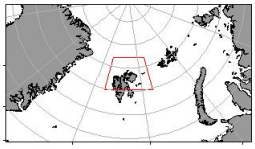

2023007014 - Kronprins Haakon
10/08 - 29/08 - Trawl Chart
82°N
79°N
Latitude
10°E
20°E
30°E
Longitude
91
86
96
100 km
Sampling gear
Pelagic trawl (st.no 86-99)
Bottom trawl (st.no 96)

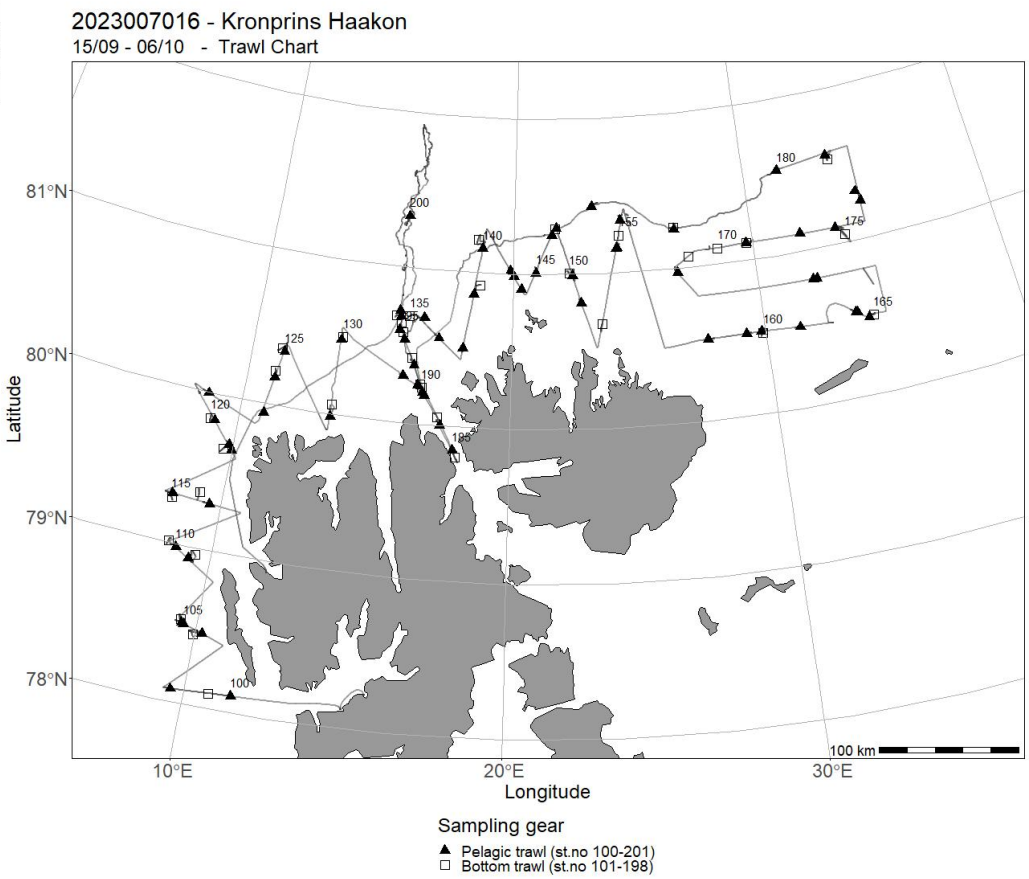


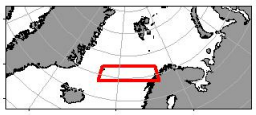

2023007015 - Kronprins Haakon
30/08 - 13/09 - CTD Chart
79°N
78°N
Latitude
242
237
232
247
227
222
252
257
262
100 km
15°W
10°W
5°W
0°
5°E
10°E
15°E
Longitude
Sampling gear
w CTD with water sampler (st.no 222-265)

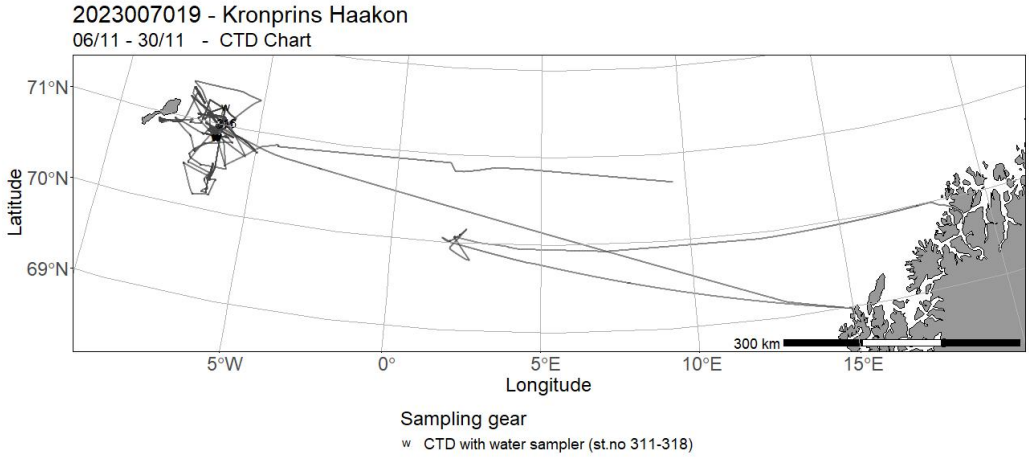


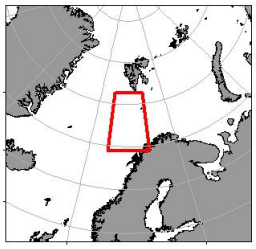

2023007016 - Kronprins Haakon
15/09 - 06/10 - CTD Chart
81°N
80°N
79°N
78°N
Latitude
10°E
20°E
30°E
Longitude
100 km
266
271
276
281
286
291
296
301
306
Sampling gear
w CTD with water sampler (st.no 266-309)

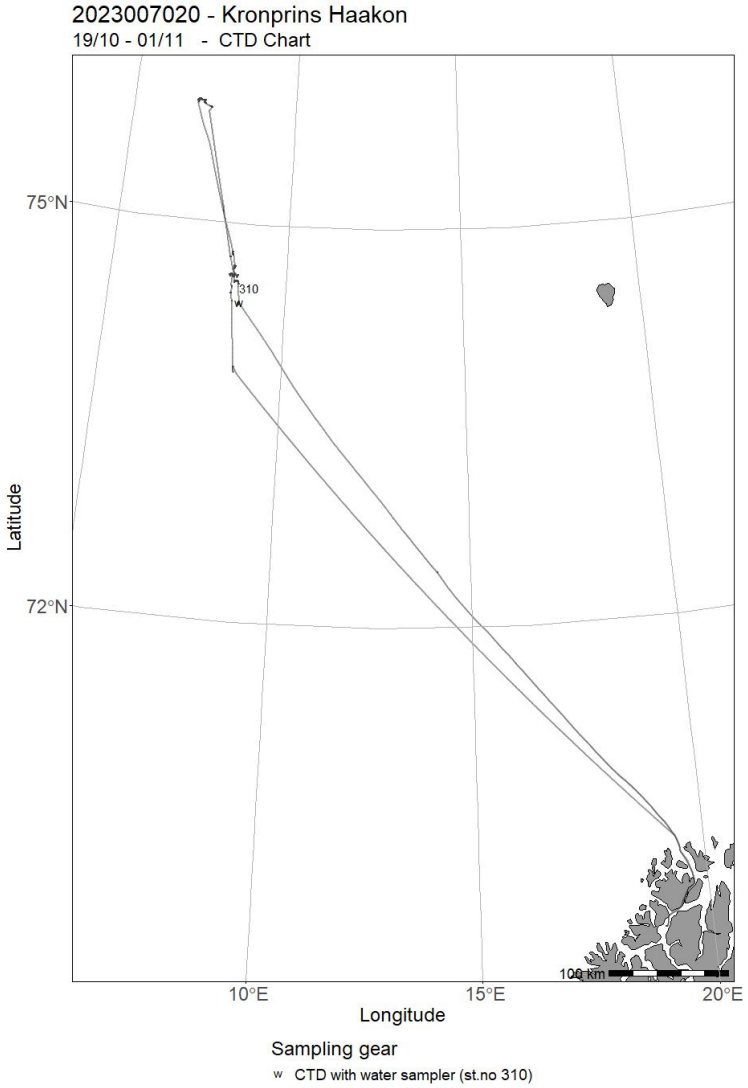



2023007016 - Kronprins Haakon
15/09 - 06/10 - Trawl Chart
81°N
80°N
79°N
78°N
Latitude
10°E
20°E
30°E
Longitude
100 km
Sampling gear
Pelagic trawl (st.no 100-201)
Bottom trawl (st.no 101-198)




2023007019 - Kronprins Haakon
06/11 - 30/11 - CTD Chart
71°N
70°N
69°N
Latitude
5°W
0°
5°E
10°E
15°E
Longitude
300 km
Sampling gear
w CTD with water sampler (st.no 311-318)



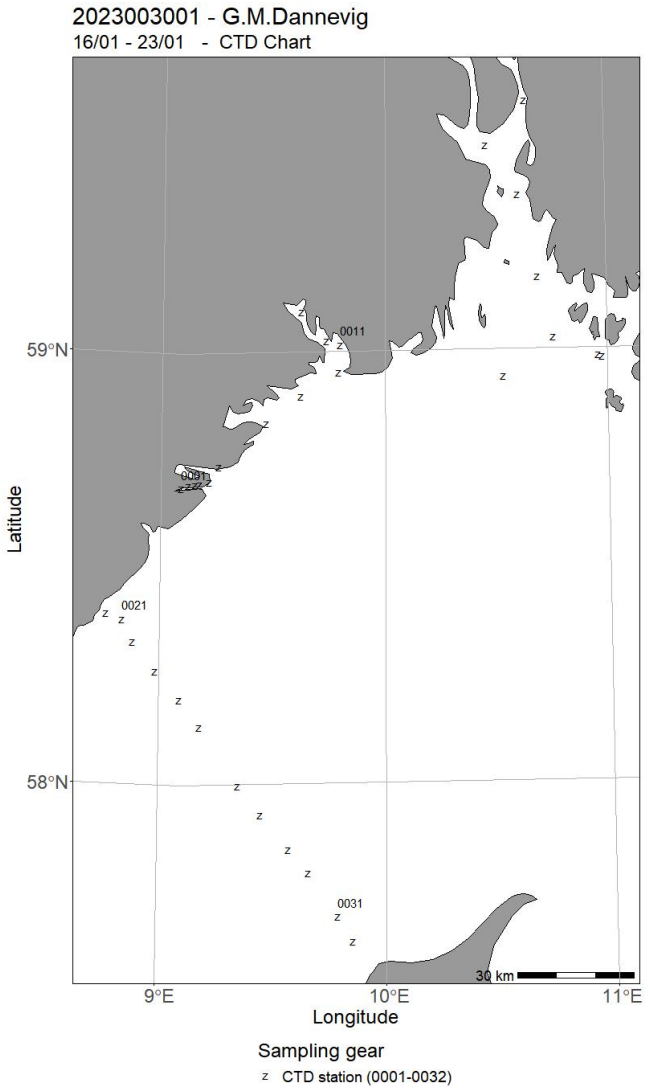

2023007020 - Kronprins Haakon
19/10 - 01/11 - CTD Chart
75°N
72°N
Latitude
310
100 km
10°E
15°E
20°E
Longitude
Sampling gear
w CTD with water sampler (st.no 310)

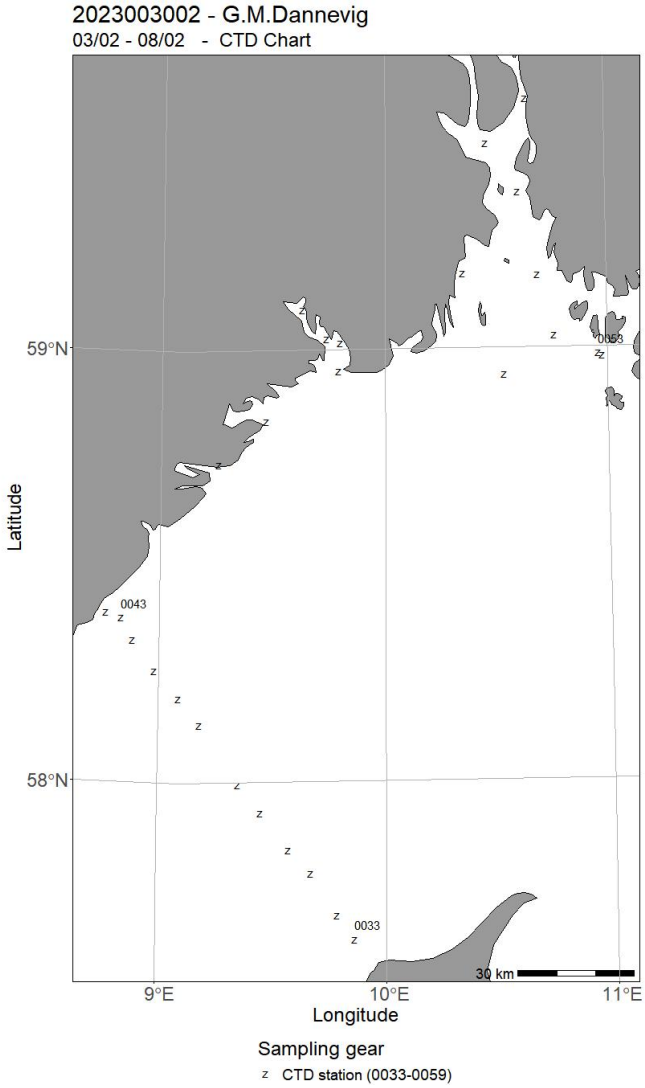
10 - "G. M. Dannevig" – Cruises 2023

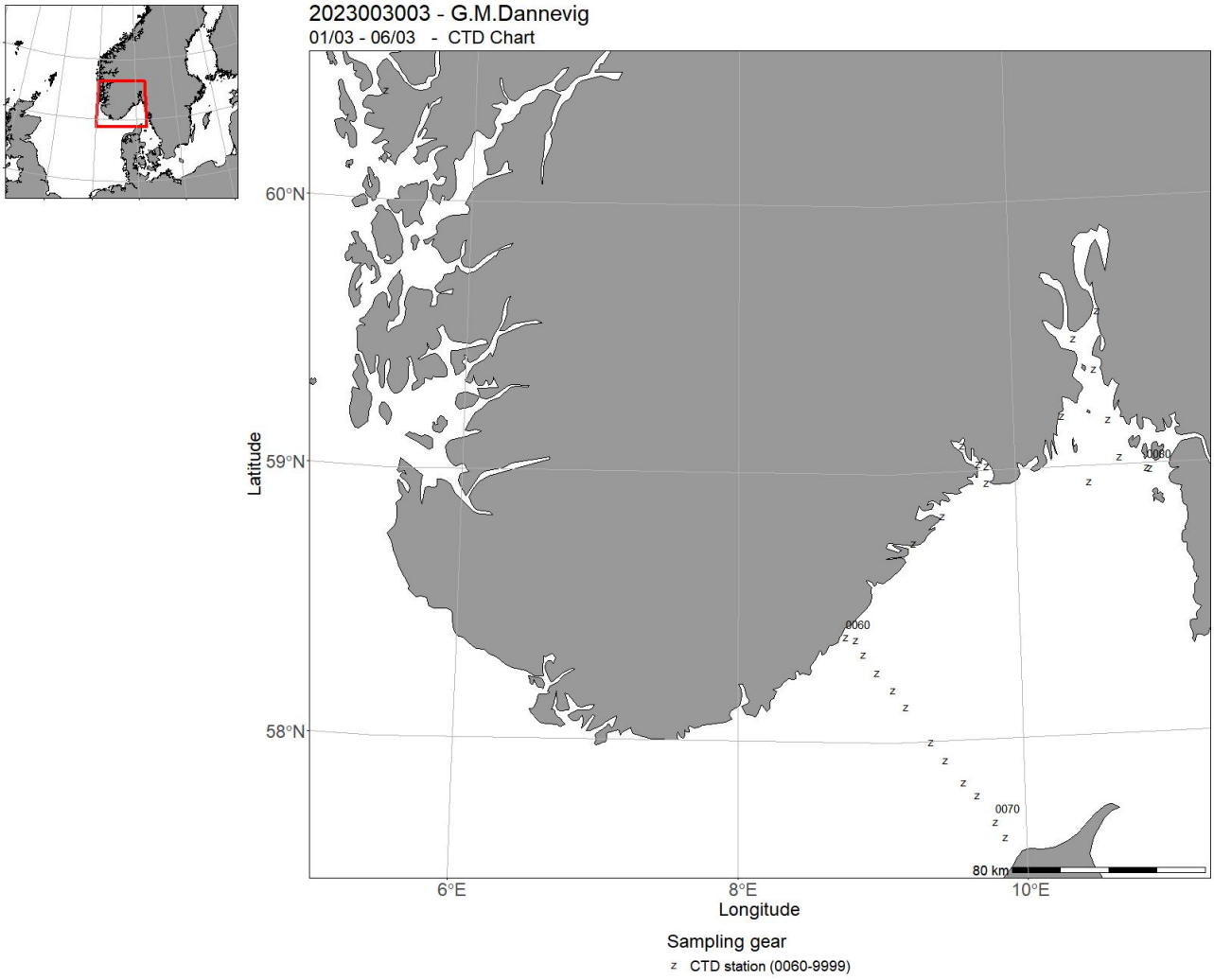
Cruise no	Period	Purpose	Area
2023003001	16/01 - 23/01	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland
2023003002	03/02 - 08/02	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland
2023003004	12/03 - 22/03	Gytefeltkartlegging - Sogn og fjordane	Norskeky Vestlan
2023003005	24/03 - 28/03	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling.	Norskeky Vestlan
2023003006	01/04 - 06/04	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland
2023003007	09/05 - 05/06	Toktet har som hensikt å fange utvandrende vill laksesmolt som en del av den nasjonale overvåkningen på vill laksefisk. Laksesmolt fanges i ytre deler av utvalgte fjordsystem med en spesialbygget pelagisk trål.	Norskeky Vestlan
2023003008	29/04 - 05/05	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland Skagerı
2023003009	22/06 - 30/06	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland Skagerı
2023003010	08/07 - 14/07	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland Skagerı
2023003011	10/08 - 14/08	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland Skagerı

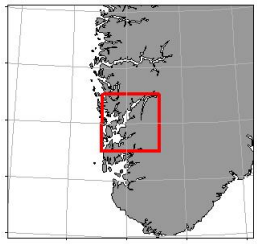
Cruise no	Period	Purpose	Area
2023003012	15/08 - 22/08	Overvåking av bestander og utvikling innenfor og utenfor hummerreservater ved Bolærne (Færder Nasjonalpark) og Kvernskjær (Ytre Hvaler Nasjonalpark).	Norskeky Sør- o Østland
2023003013	23/08 - 25/08	HI ved kystprogrammet arrangerer hver høst et feltkurs i kystsoneøkologi i samarbeid med UiA. En del av feltkurset består i et undervisningstokt ombord på G.M. Dannevig	Norskeky Sør- o Østland
2023003014	13/09 - 14/09	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland Skagerı
2023003015	15/09 - 07/10	Strandnotundersøkelser er en av verdens eldste marine tidsserier, har som mål å måle rekrutteringen av torskefisk og andre kystarter i strandsonen. (Beach seine studies to measure recruitment of cod and coastal species in the litoral zone). Hydrografiske undersøkelser på utvalgte lokaliteter. Undersøkelsen er del av en serie som har gått siden 1919.	Skagerı
2023003016	08/10 - 13/10	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland Skagerı
2023003017	09/11 - 15/11	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland Skagerı
2023003018	16/11 - 03/12	Vinterfiske er en tidsserie med fokus på overvåkning av kysttorsk (bruk av garnfiske, trollgarn) som startet 1980 tallet, hadde et opphold på 1990 tallet og startet opp igjen på 2000 tallet, og har nå over 30 år med data. Det er den eneste overvåkningsaktiviteten på kystnær voksen torsk i Skagerrak. Siden 2000 tallet er også alle andre arter målt, veid og registrert. Trollgarn fagger i et beget bredt størrelsesregister, og en får dermed et overblikk i hva slags fisk som står ute, samt trender over tid.	Skagerı
2023003019	04/12 - 11/12	Skagerrak:Havforsurning,oseanografi,HAB,mikroplast,miljø,klima lavere trofiske nivå langs Skagerrakkysten og fast snitt Torungen-Hirtshals. Videreføring av 4 tidsserier (Torungen, Oslofjord, Grenland, Arendal)	Norskeky Sør- o Østland Skagerı

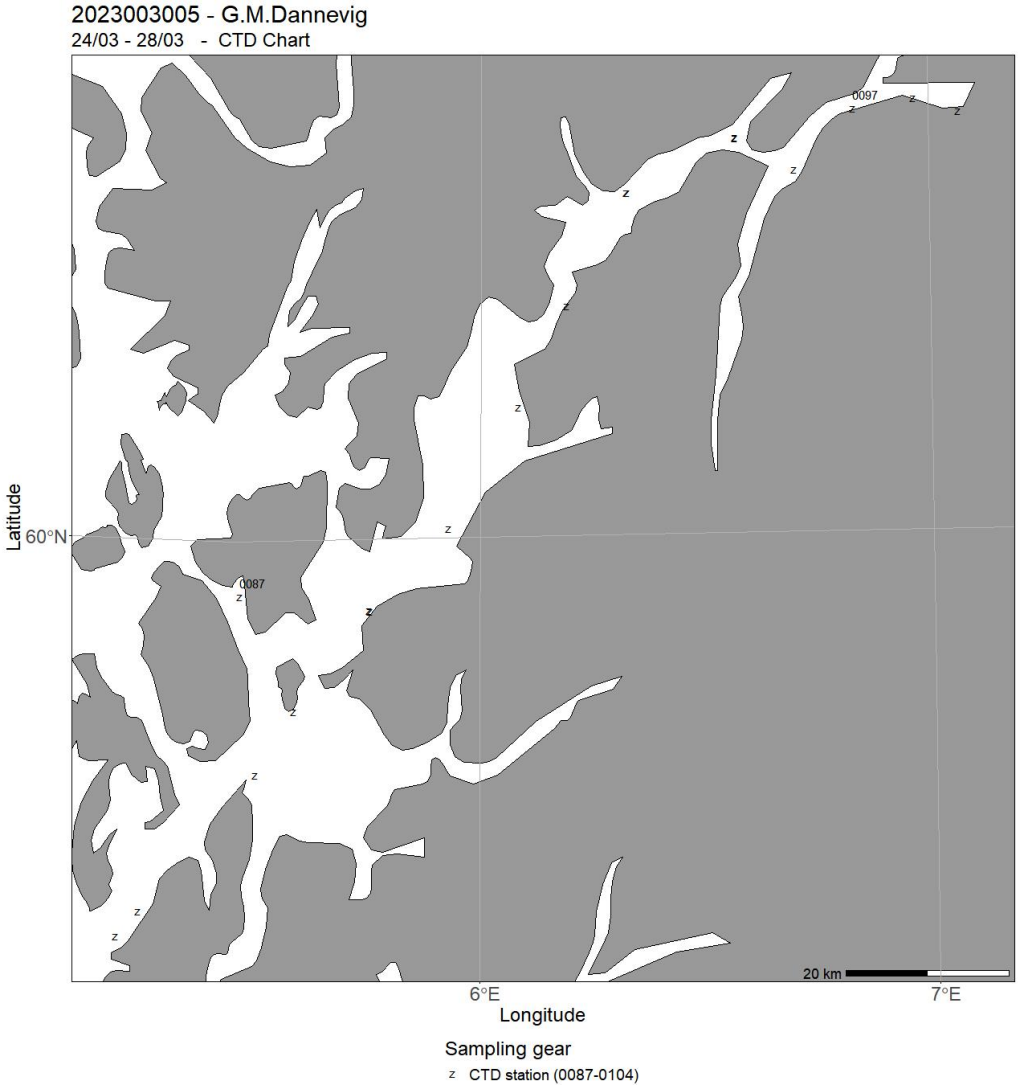
11 - "G. M. Dannevig" – Charts for cruises 2023

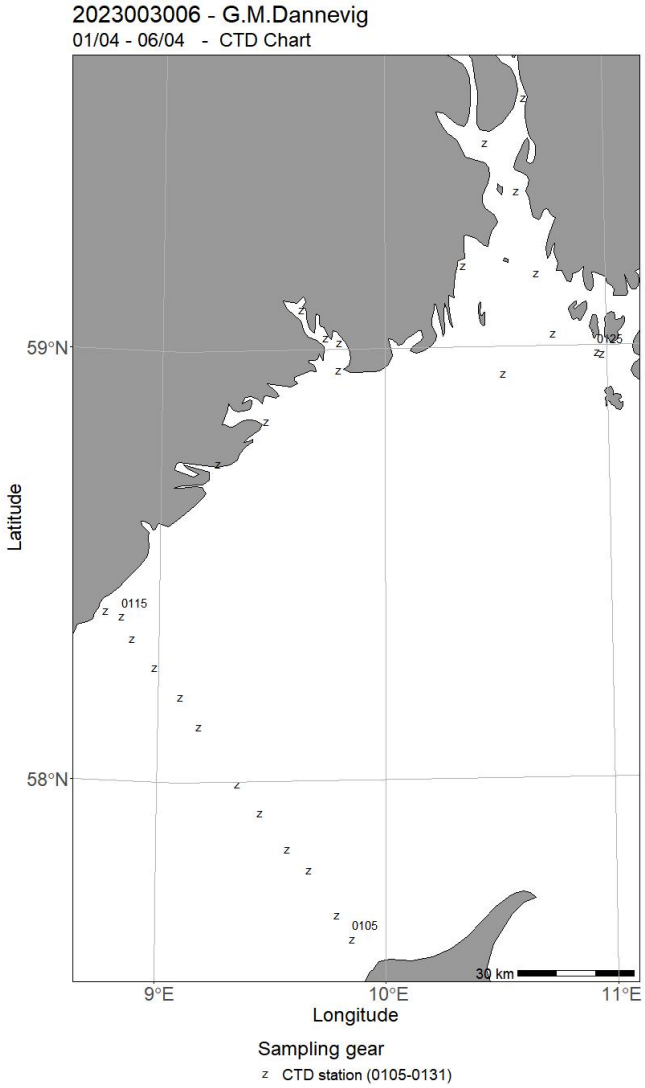


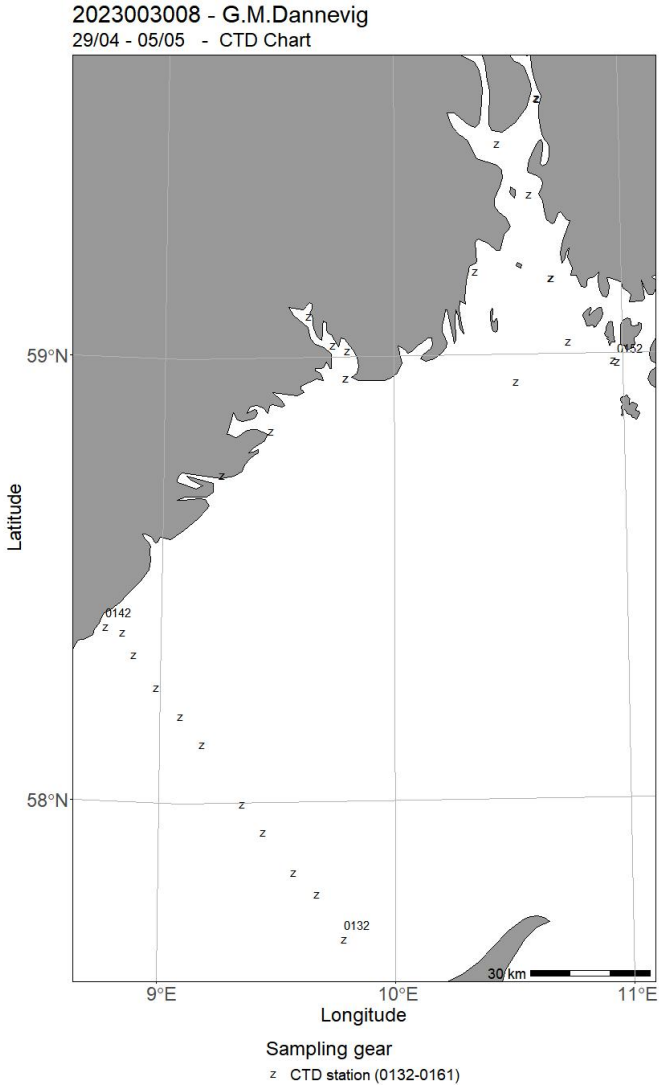

2023003002 - G.M.Dannevig
03/02 - 08/02 - CTD Chart
59°N
58°N
Latitude
0043
0033
30 km
9°E
10°E
11°E
Longitude
Sampling gear
CTD station (0033-0059)

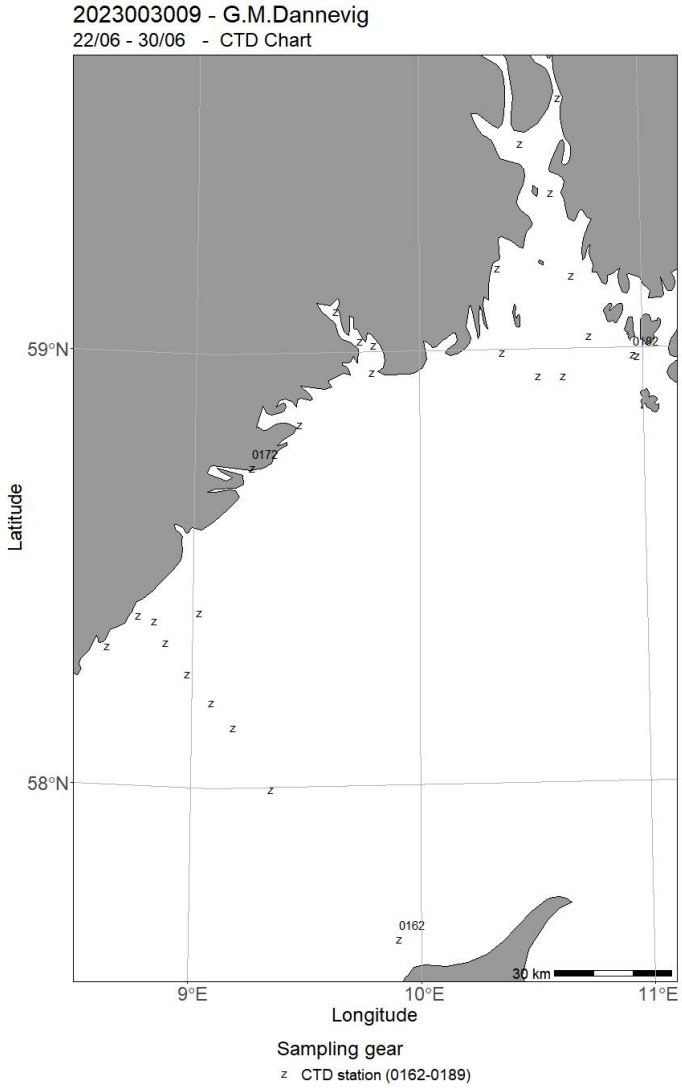

2023003003 - G.M.Dannevig
01/03 - 06/03 - CTD Chart
60°N
59°N
58°N
Latitude
6°E
8°E
10°E
Longitude
0060
0070
0080
80 km
Sampling gear
CTD station (0060-9999)

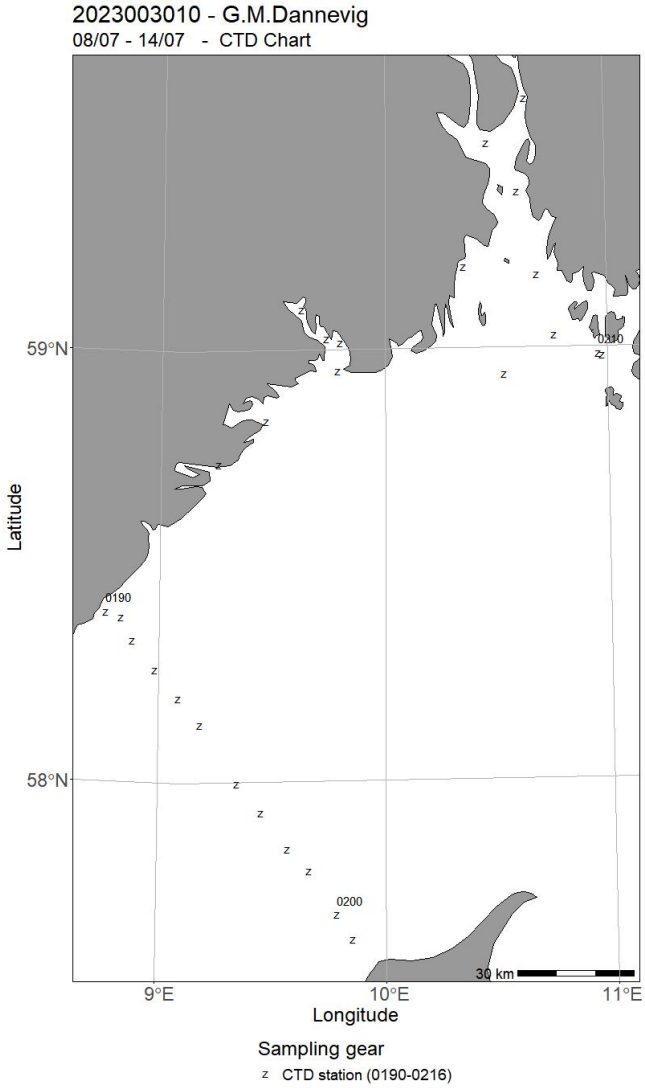


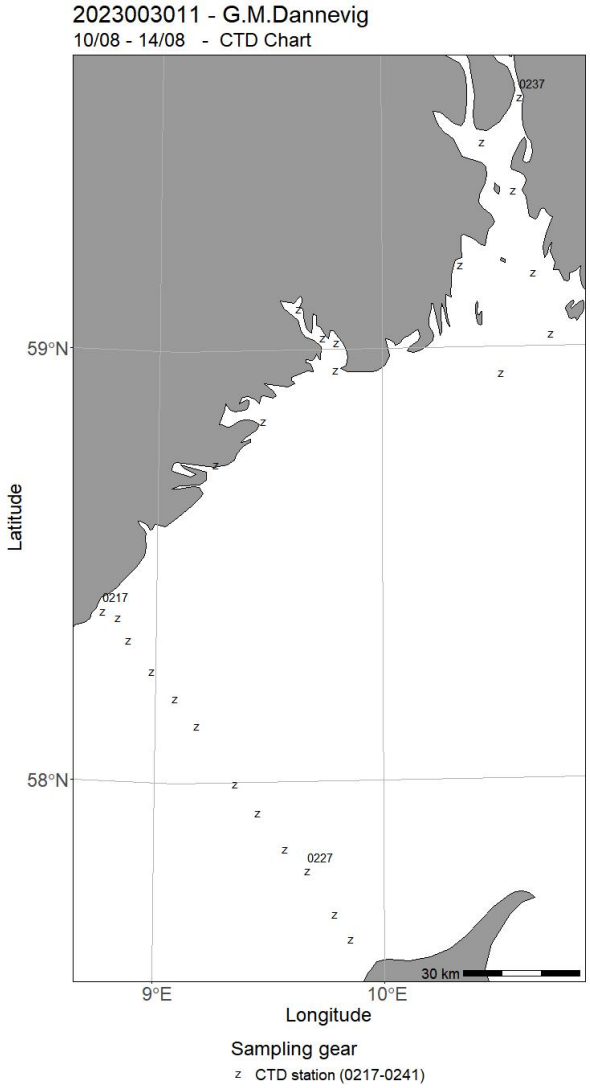

2023003005 - G.M.Dannevig
24/03 - 28/03 - CTD Chart
0097
0087
Latitude
60°N
6°E
7°E
Longitude
20 km
Sampling gear
z CTD station (0087-0104)

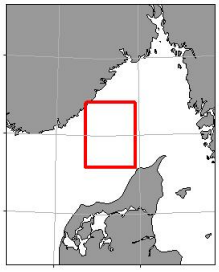

2023003006 - G.M.Dannevig
01/04 - 06/04 - CTD Chart
59°N
58°N
Latitude
0115
0105
0125
30 km
9°E
10°E
11°E
Longitude
Sampling gear
CTD station (0105-0131)

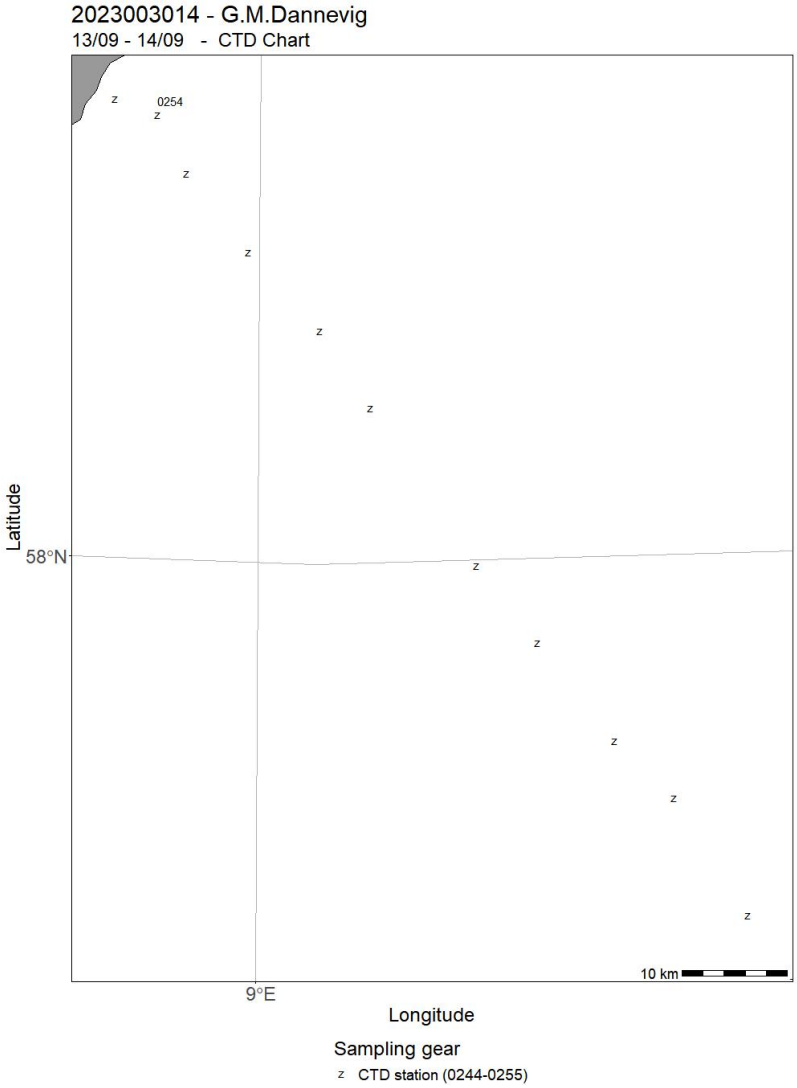

2023003008 - G.M.Dannevig
29/04 - 05/05 - CTD Chart
59°N
58°N
Latitude
9°E
10°E
11°E
Longitude
0142
0132
30 km
Sampling gear
CTD station (0132-0161)

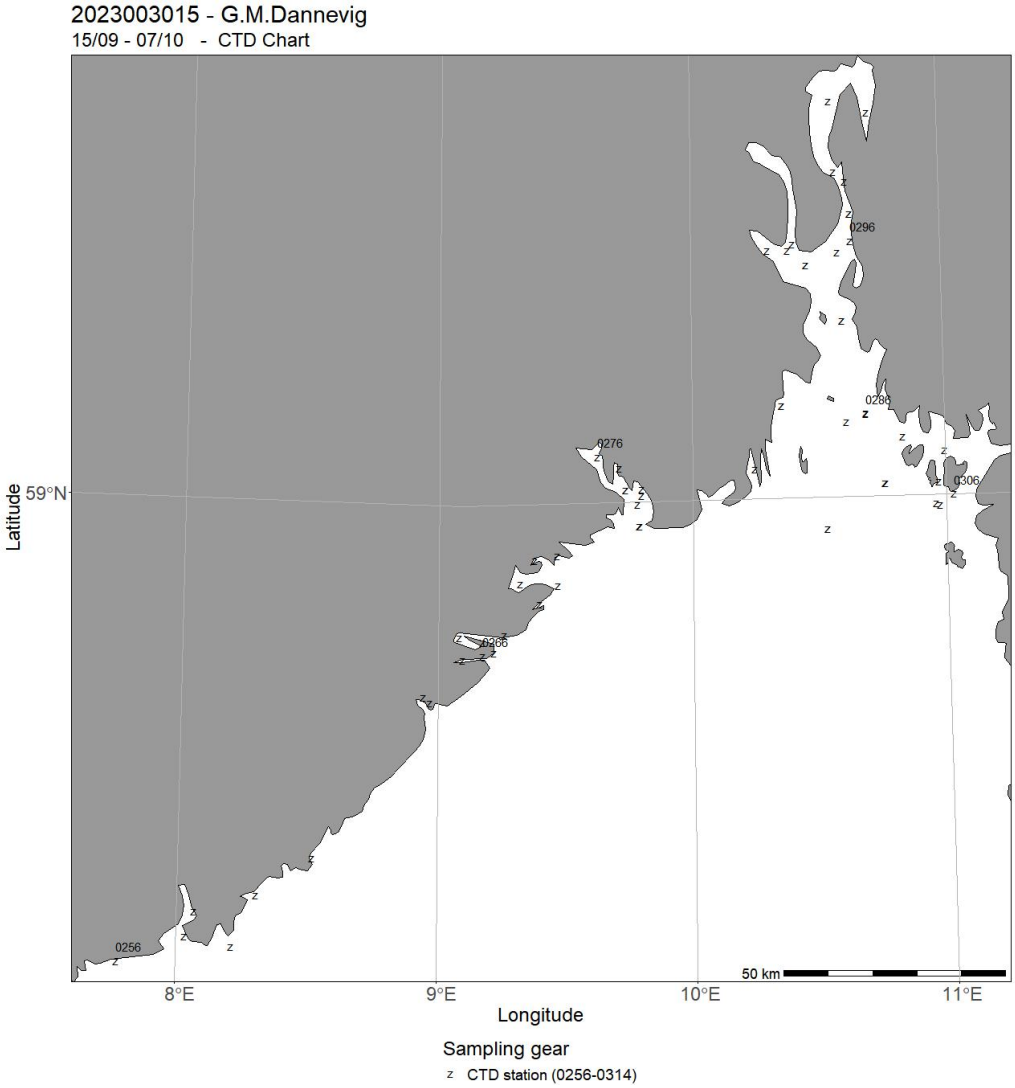

2023003009 - G.M.Dannevig
22/06 - 30/06 - CTD Chart
59°N
58°N
Latitude
0172
0182
0162
30 km
9°E
10°E
11°E
Longitude
Sampling gear
CTD station (0162-0189)

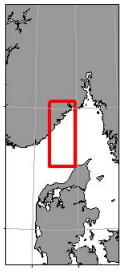

2023003010 - G.M.Dannevig
08/07 - 14/07 - CTD Chart
59°N
58°N
Latitude
0190
0200
30 km
9°E
10°E
11°E
Longitude
Sampling gear
CTD station (0190-0216)

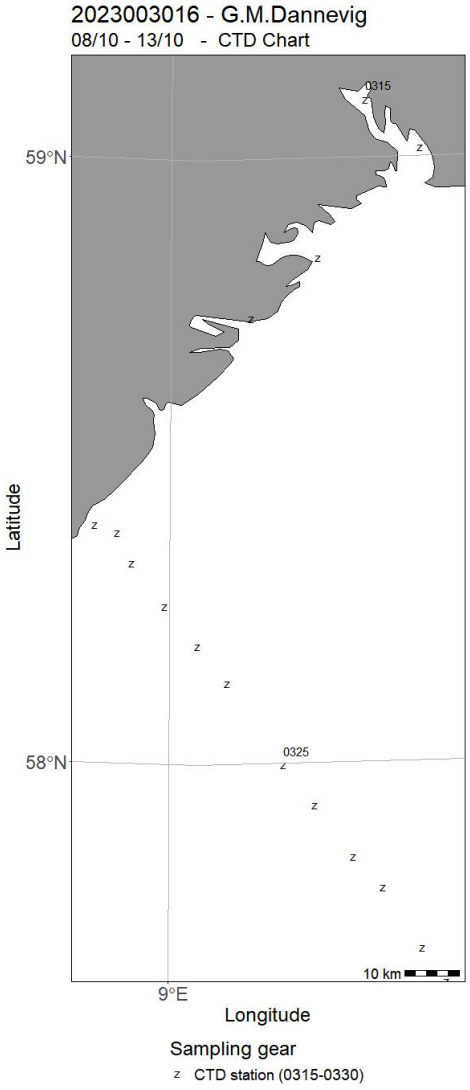

2023003011 - G.M.Dannevig
10/08 - 14/08 - CTD Chart
0237
0217
0227
59°N
58°N
9°E
10°E
Latitude
Longitude
30 km
Sampling gear
CTD station (0217-0241)

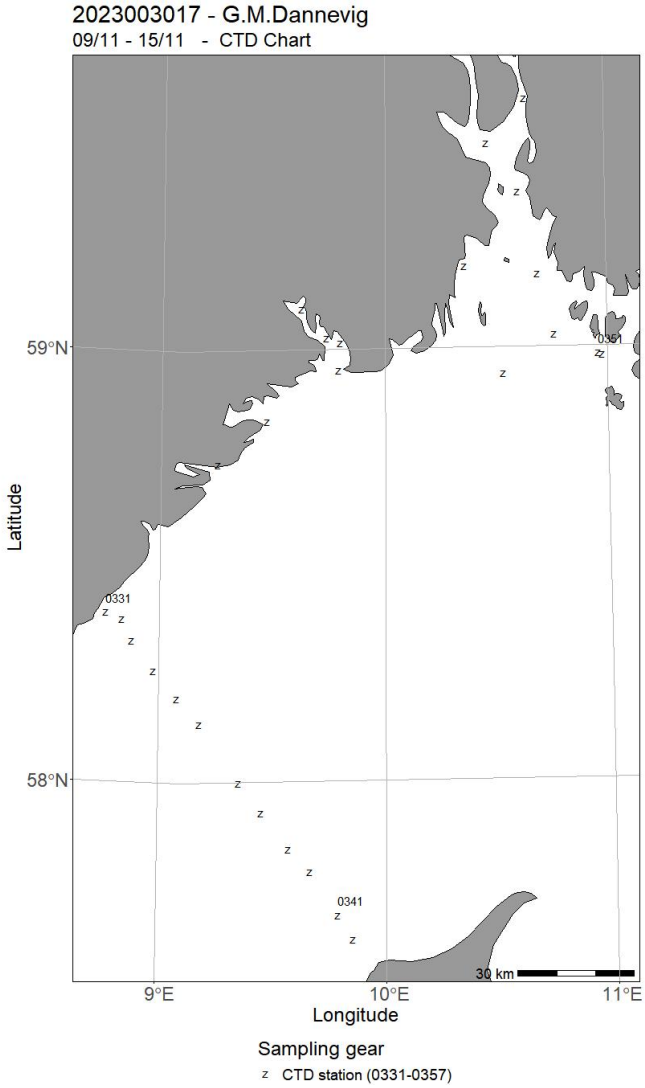


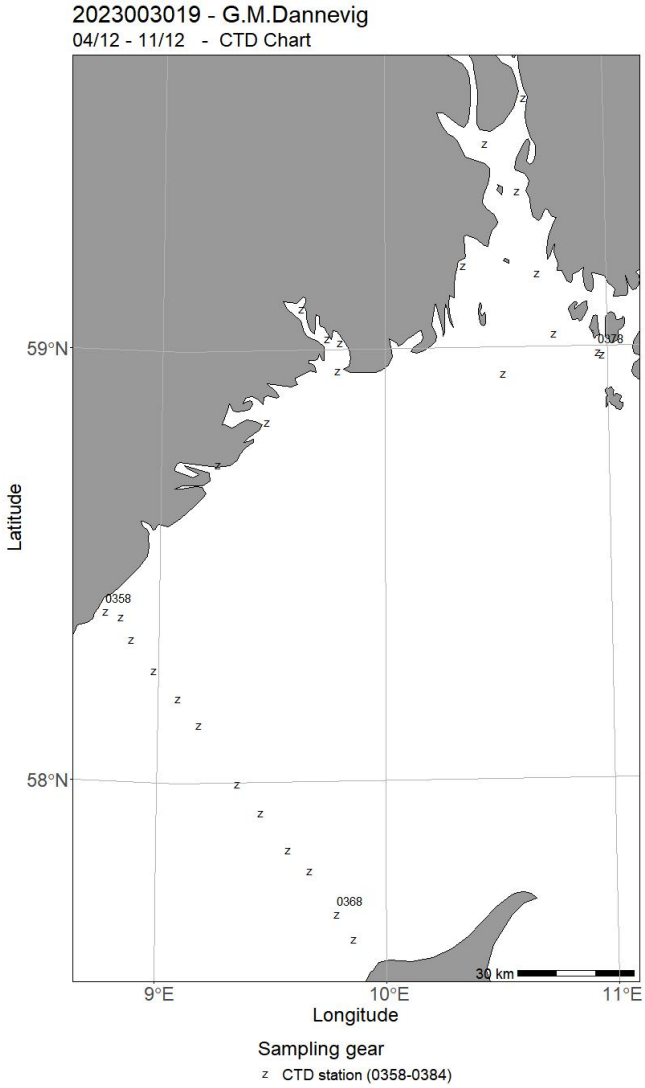

2023003014 - G.M.Dannevig
13/09 - 14/09 - CTD Chart
0254
Latitude
58°N
9°E
10 km
Longitude
Sampling gear
CTD station (0244-0255)


2023003015 - G.M.Dannevig
15/09 - 07/10 - CTD Chart
0296
0286
0276
0306
0266
0256
59°N
Latitude
8°E
9°E
10°E
11°E
Longitude
50 km
Sampling gear
CTD station (0256-0314)




2023003016 - G.M.Dannevig
08/10 - 13/10 - CTD Chart
0315
59°N
58°N
0325
9°E
10 km
Latitude
Longitude
Sampling gear
CTD station (0315-0330)

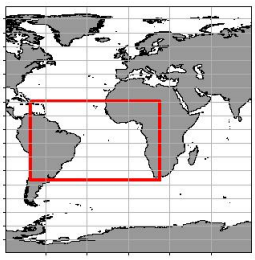

2023003017 - G.M.Dannevig
09/11 - 15/11 - CTD Chart
59°N
58°N
Latitude
0331
0341
30 km
9°E
10°E
11°E
Longitude
Sampling gear
CTD station (0331-0357)

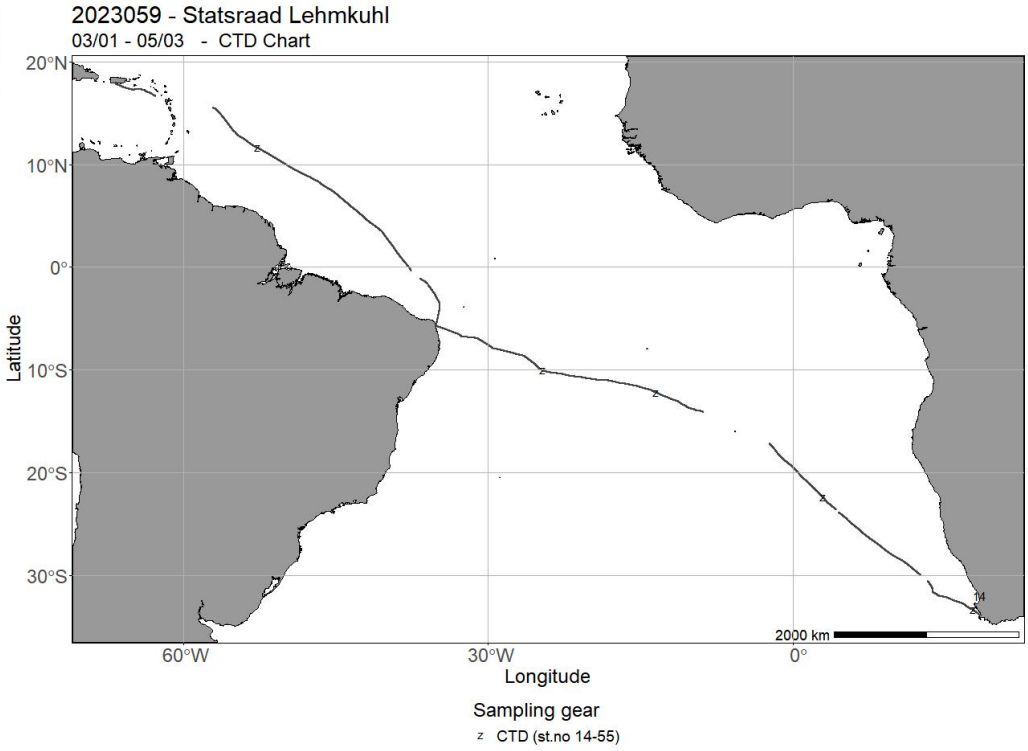

2023003019 - G.M.Dannevig
04/12 - 11/12 - CTD Chart
59°N
58°N
Latitude
9°E
10°E
11°E
Longitude
0358
0368
0378
30 km
Sampling gear
CTD station (0358-0384)

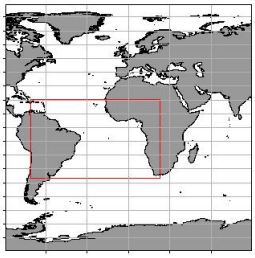
12 - "Statsraad Lehmkuhl" - Cruises 2023

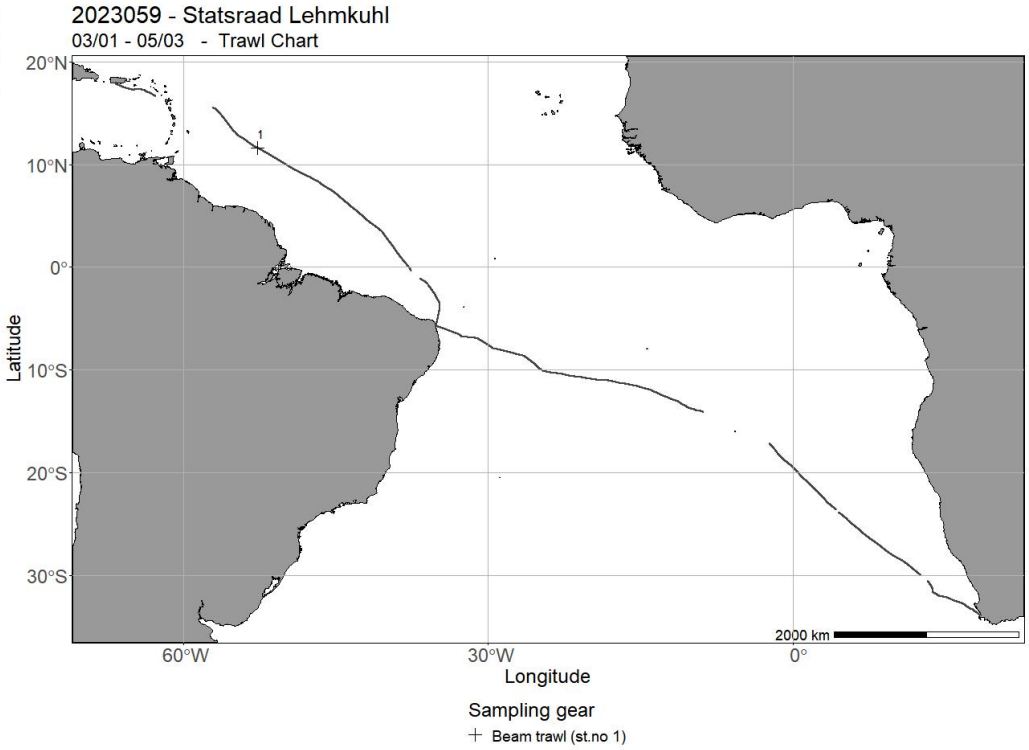
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023059	03/01 - 05/03	One Ocean Expedition Leg 9	Atlantic Ocean	-	-
2023060	16/03 - 15/04	One Ocean Expedition Leg 10	Atlantic Ocean	68	-

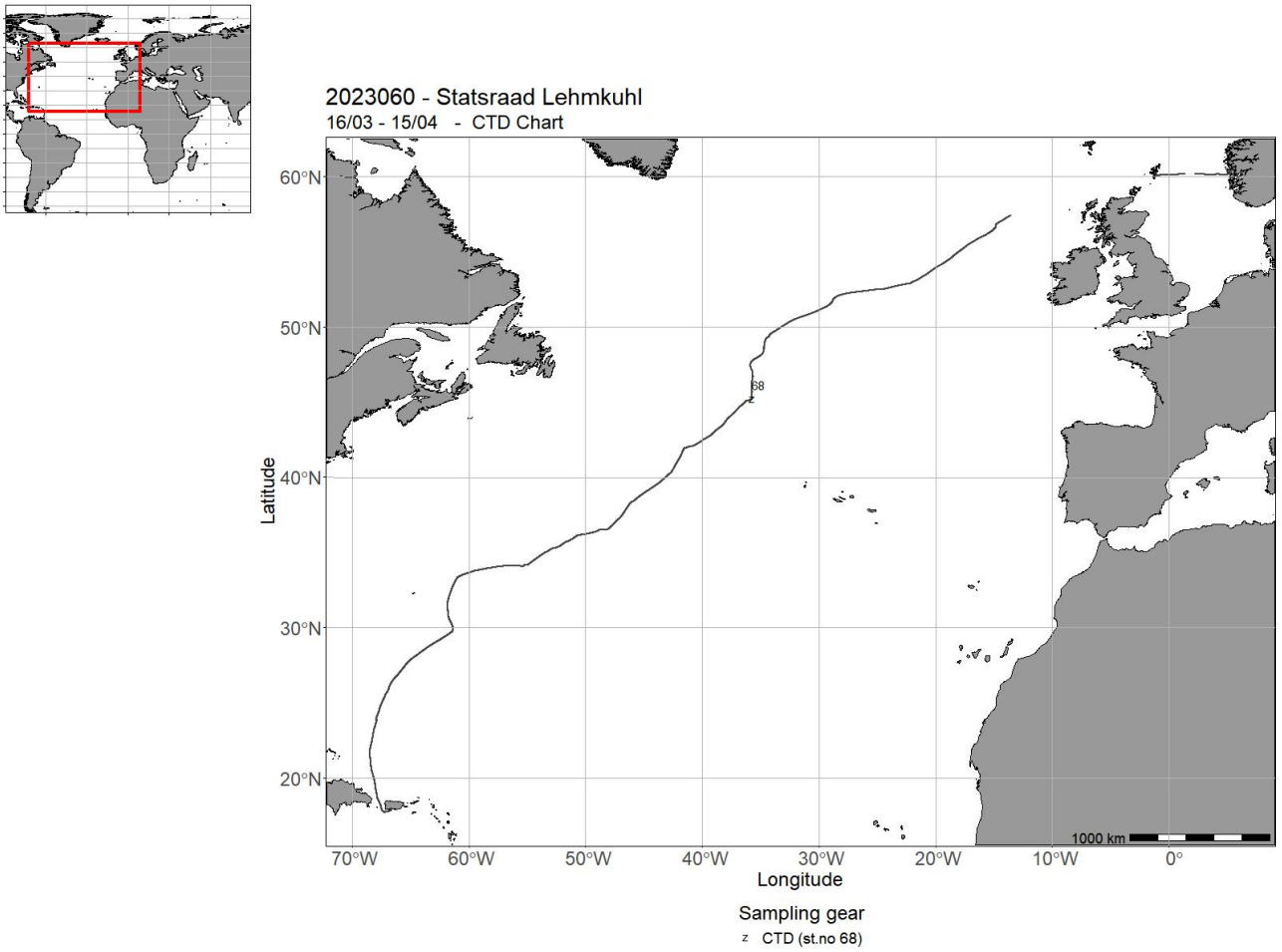
13 - "Statsraad Lehmkuhl" Charts for 2023








2023059 - Statsraad Lehmkuhl
03/01 - 05/03 - Trawl Chart
20°N
10°N
0°
10°S
20°S
30°S
Latitude
1
2000 km
60°W
30°W
0°
Longitude
Sampling gear
Beam trawl (st.no 1)

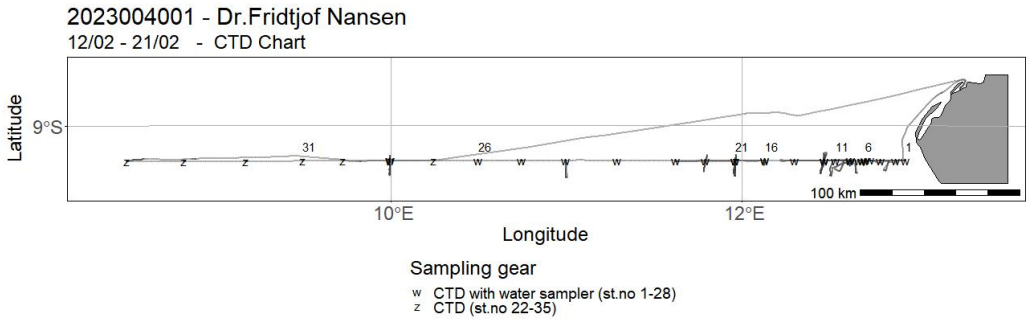

2023060 - Statsraad Lehmkuhl
16/03 - 15/04 - CTD Chart
60°N
50°N
40°N
30°N
20°N
Latitude
68
1000 km
70°W
60°W
50°W
40°W
30°W
20°W
10°W
0°
Longitude
Sampling gear
CTD (st.no 68)

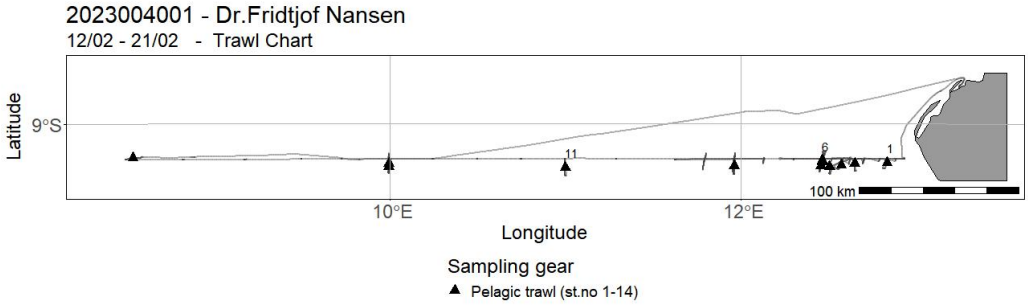
14 - "Dr. Fridtjof Nansen" – Cruises 2023

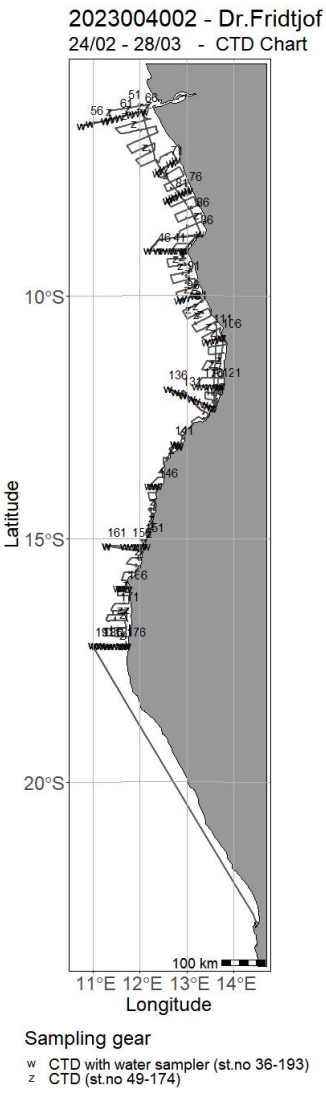
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023004001	12/02 - 21/02	General objective: To study the biological composition and acoustic properties of the mesopelagic community along a transect spanning from the high-productive waters on the shelf through oligotrophic oceanic waters offshore, monitor vertical movements of scattering layers or their components using pelagic sampling trawls and a camera system, and to obtain biological samples of mesopelagic organisms.	Atlantic Ocean	1 - 35	1-14
2023004002	24/02 - 28/03	The general objectives: Obtain information on key pelagic fish species abundance, their distribution and size structure, as well as the species composition of the pelagic fish assemblage..	Atlantic Ocean	36 - 193	15-121
2023004003	01/04 - 26/04	The general objectives of Leg 4.2 and 4.3 surveys are: Obtaining information on pelagic fish species abundance, their distribution and size structure, as well as the species composition of the pelagic fish assemblage.	Northeast Atlantic Ocean (40W)	194 - 345	122-217
2023004004	04/05 - 10/05	The general objectives of Leg 4.2 and 4.3 surveys are: The primary objective of this training survey is to train students, engineers and fisheries biologists from EAF-Nansen Programme partner countries to learn tools and methods for the interpretation of acoustics in fisheries science and marine biology.	Northeast Atlantic Ocean (40W)	346 - 353	218 - 228
2023004005	02/08 - 15/08	Bottom habitat mapping in Mozambique	Indiske hav	619-668	18-51
2023004006	24/05 - 24/06	The objective of the survey was to assess the pelagic and demersal resources of Mozambique.Additionally, biological data for selected shrimp and fish species was collected from bottom and pelagic trawl catches, CTD and water samples analysed for oxygen, salinity, and chlorophyll, plankton and microplastic samples were collected with WP2, Bongo and Manta trawls. Detailed taxonomic identification was done for all species in the trawl catches.	Indian Ocean	728 - 807	473 - 515

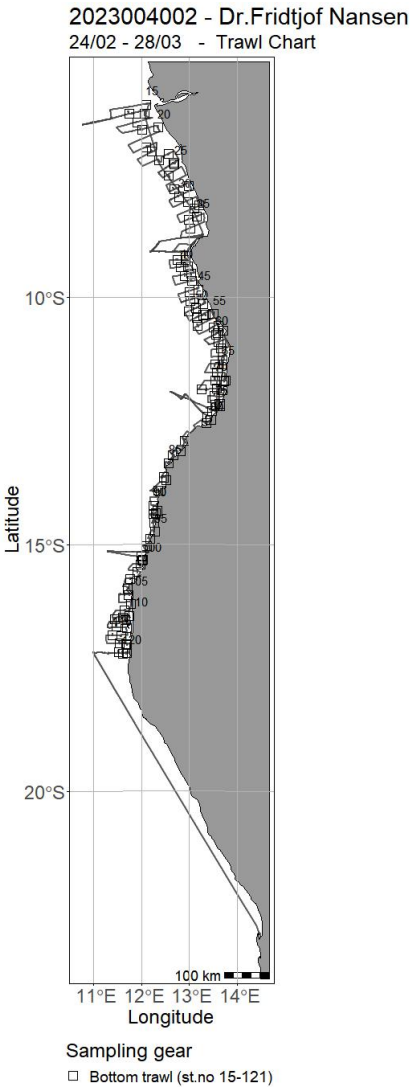
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023004007	28/06 - 25/07	The general objectives of Leg 4.2 are:Obtaining information on demersal and pelagic fish species abundance, their distribution and size structure, as well as the species composition.	Indian Ocean	508 - 618	350 - 433
2023004008	21/09 - 17/10	The survey objectives were: 1. Collect information on abundance, biomass, species composition, and distribution of pelagic fish species. 2. Measure standard biological parameters for priority pelagic fish species, including length, weight, sex, and maturity. 3. Measure physical and chemical properties of the water column including temperature, salinity, dissolved O2, chlorophyll, nutrients, pH, alkalinity, light penetration, and water currents. 4. Collect information on mesozooplankton and ichthyoplankton biomass, diversity and distribution. 5. Sample for the presence of microplastic particles in surface waters, in the water column, and in selected fish resources, and document the presence of litter registered in trawl hauls. 6. Conduct a dense CTD coverage at the Dakhla master section. 7. Collect information on food safety and nutrition of selected species.	Atlantic Ocean	669 - 727	434 - 472
2023004009	03/10 - 17/10	The survey objectives were: Collect information on abundance, biomass, species composition, and distribution of pelagic fish species.	Atlantic Ocean	728 - 807	473 - 515
2023004010	20/10 - 13/11	Collect information on abundance, biomass, species composition, and distribution of pelagic fish species.	Atlantic Ocean	808 - 928	516 - 578
2023004011	01/09 - 19/09	Study the physical and chemical properties of surface waters during steaming from south to north. Sensor data were registered through the termosalinograph system mounted on the ships seawater intake at 4-meter depth, measuring temperature, conductivity, fluorescence and pCO2. Validating the pCO2 sensor with measurements of pH and total alkalinity.	Atlantic Ocean	-	-
2023004012	17/11 - 17/12	Leg 5.3 Cap Cantin - Tanger	Vest-Afrika	911 - 1087	571 - 695

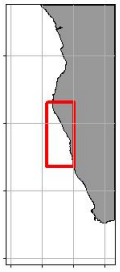
15 - "Dr. Fridtjof Nansen" Charts for 2023

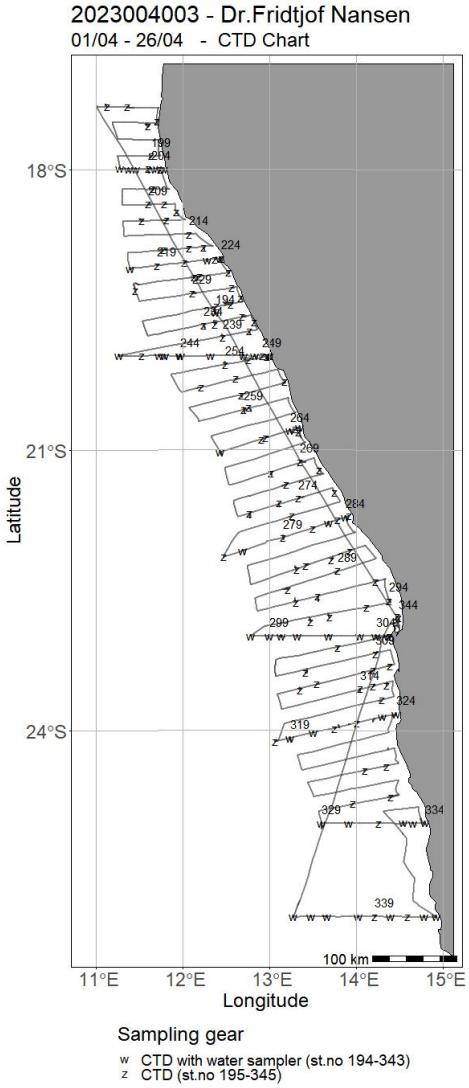


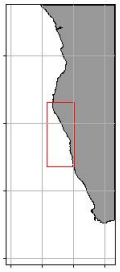

2023004001 - Dr.Fridtjof Nansen
12/02 - 21/02 - Trawl Chart
Latitude
9°S
11
6
1
100 km
10°E
12°E
Longitude
Sampling gear
Pelagic trawl (st.no 1-14)

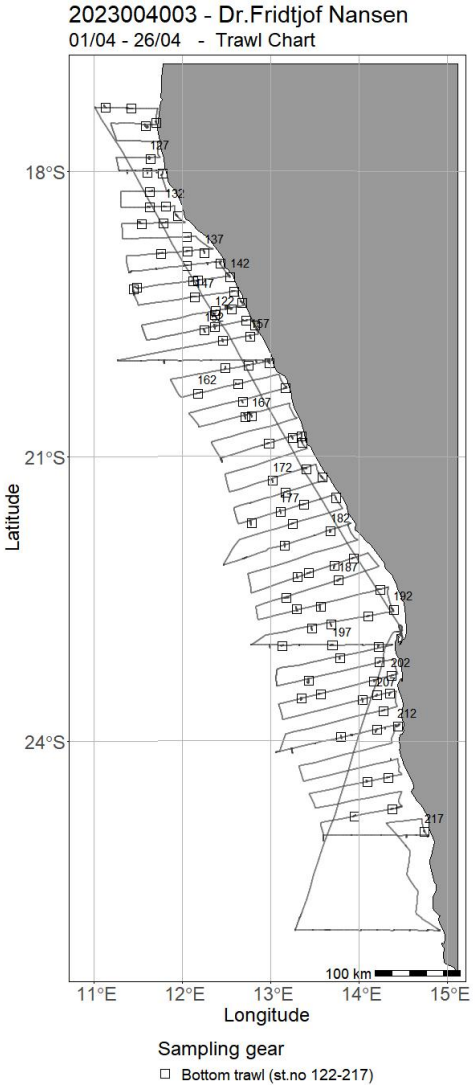

2023004002 - Dr.Fridtjof Nansen
24/02 - 28/03 - CTD Chart
10°S
15°S
20°S
Latitude
11°E 12°E 13°E 14°E
Longitude
100 km
Sampling gear
w CTD with water sampler (st.no 36-193)
z CTD (st.no 49-174)

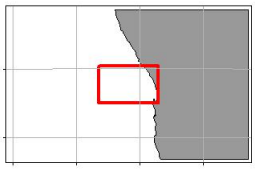

2023004002 - Dr.Fridtjof Nansen
24/02 - 28/03 - Trawl Chart
10°S
15°S
20°S
Latitude
100 km
11°E 12°E 13°E 14°E
Longitude
Sampling gear
Bottom trawl (st.no 15-121)

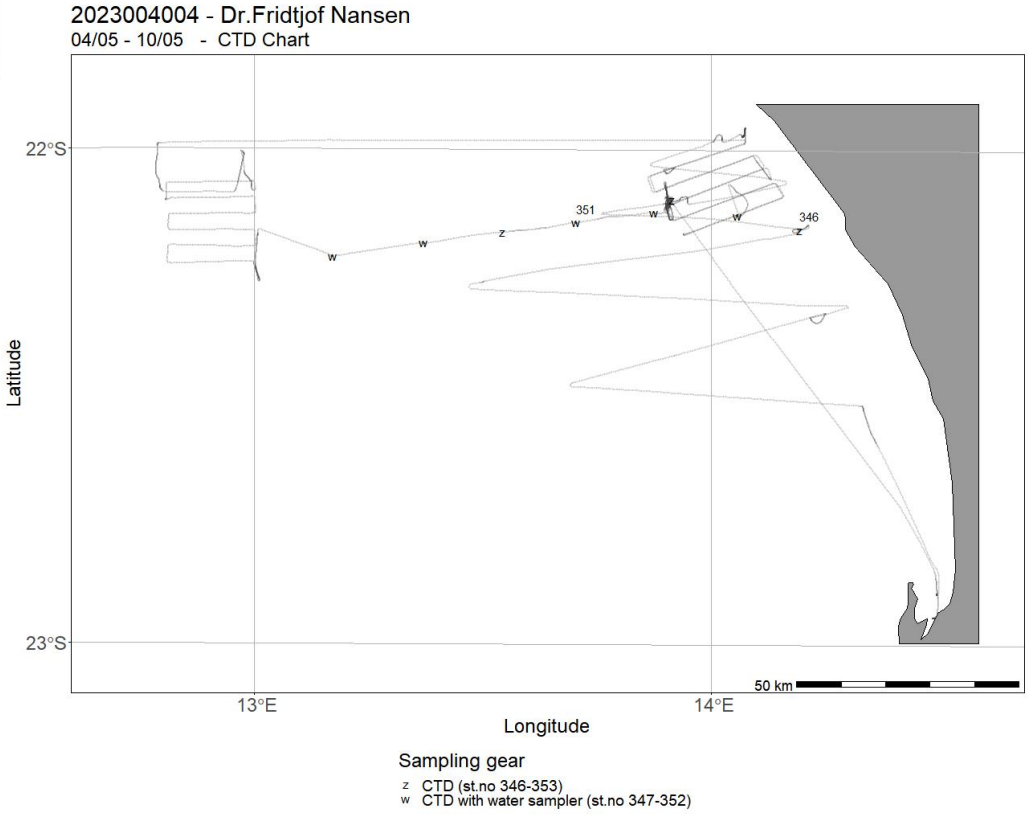


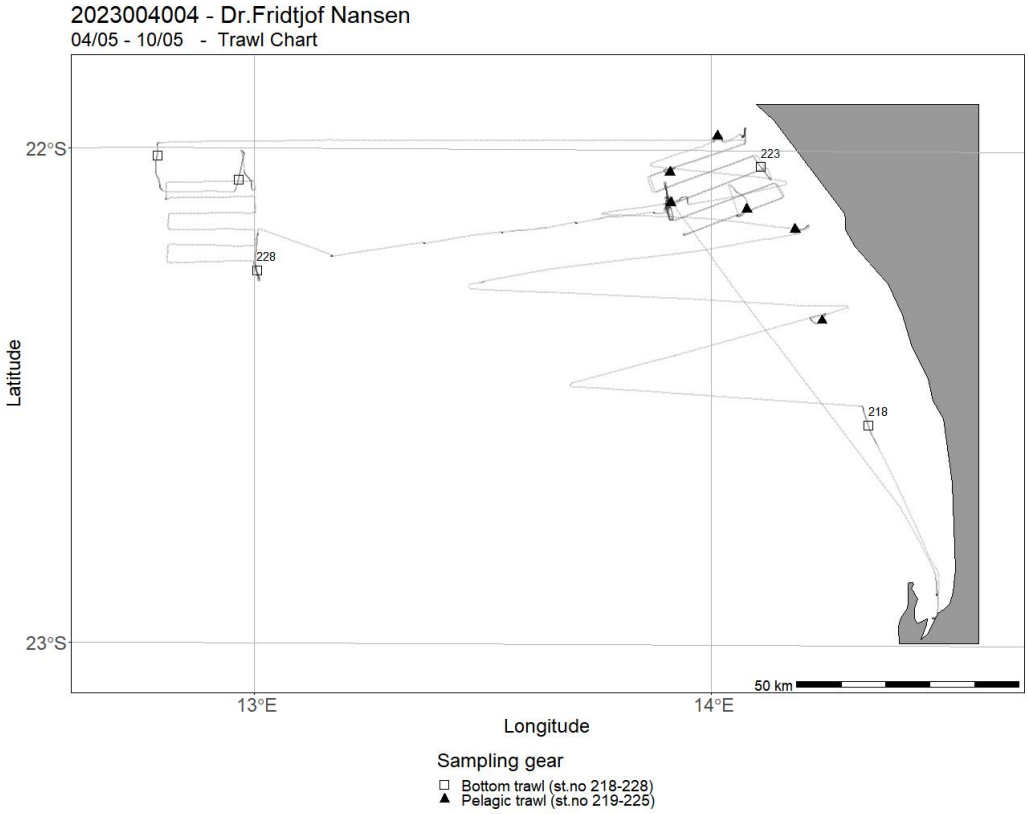

2023004003 - Dr.Fridtjof Nansen
01/04 - 26/04 - CTD Chart
18°S
21°S
24°S
Latitude
11°E
12°E
13°E
14°E
15°E
Longitude
100 km
Sampling gear
w CTD with water sampler (st.no 194-343)
z CTD (st.no 195-345)

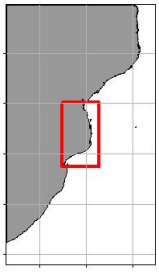


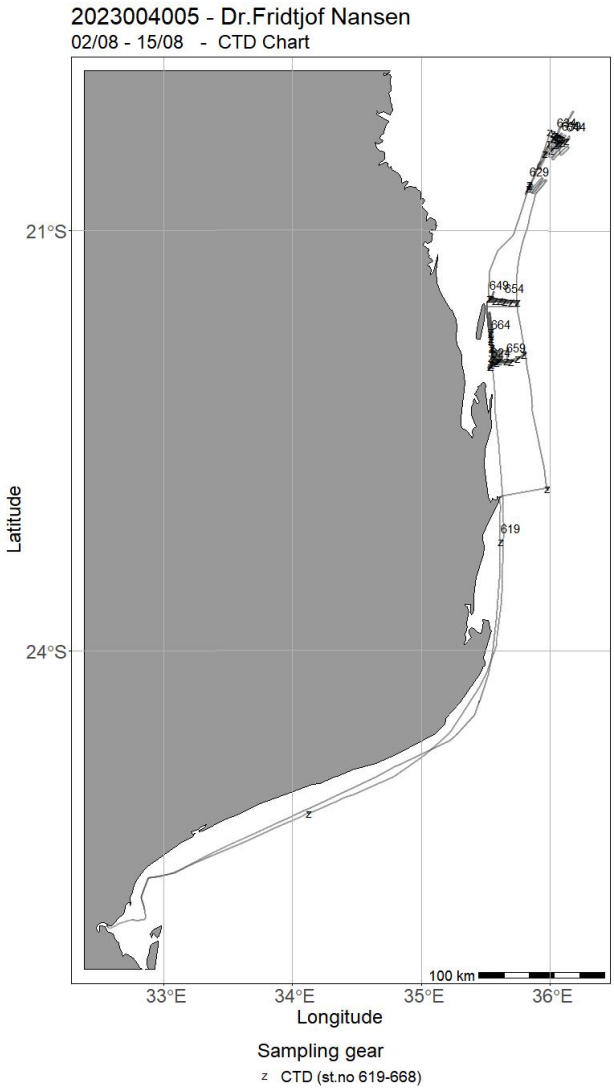

2023004003 - Dr.Fridtjof Nansen
01/04 - 26/04 - Trawl Chart
18°S
21°S
24°S
Latitude
11°E
12°E
13°E
14°E
15°E
Longitude
100 km
Sampling gear
Bottom trawl (st.no 122-217)

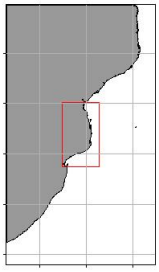


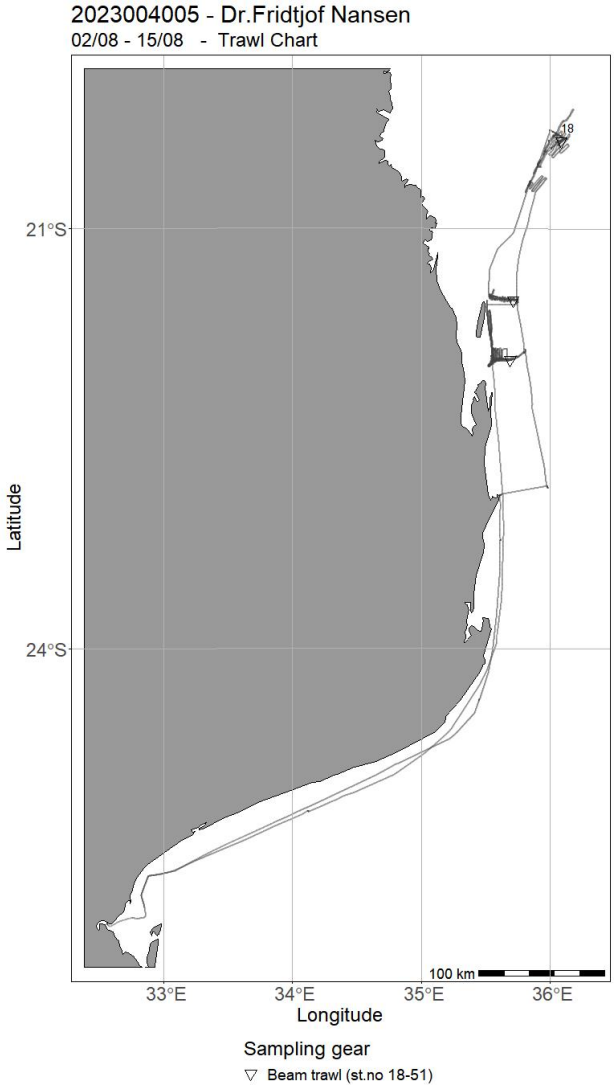

2023004004 - Dr.Fridtjof Nansen
04/05 - 10/05 - CTD Chart
22°S
23°S
Latitude
13°E
14°E
Longitude
351
346
50 km
Sampling gear
z CTD (st.no 346-353)
w CTD with water sampler (st.no 347-352)

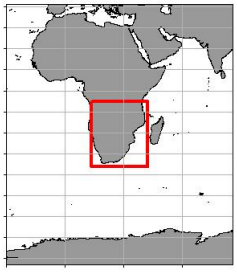

2023004004 - Dr.Fridtjof Nansen
04/05 - 10/05 - Trawl Chart
22°S
23°S
Latitude
223
228
218
50 km
13°E
14°E
Longitude
Sampling gear
Bottom trawl (st.no 218-228)
Pelagic trawl (st.no 219-225)

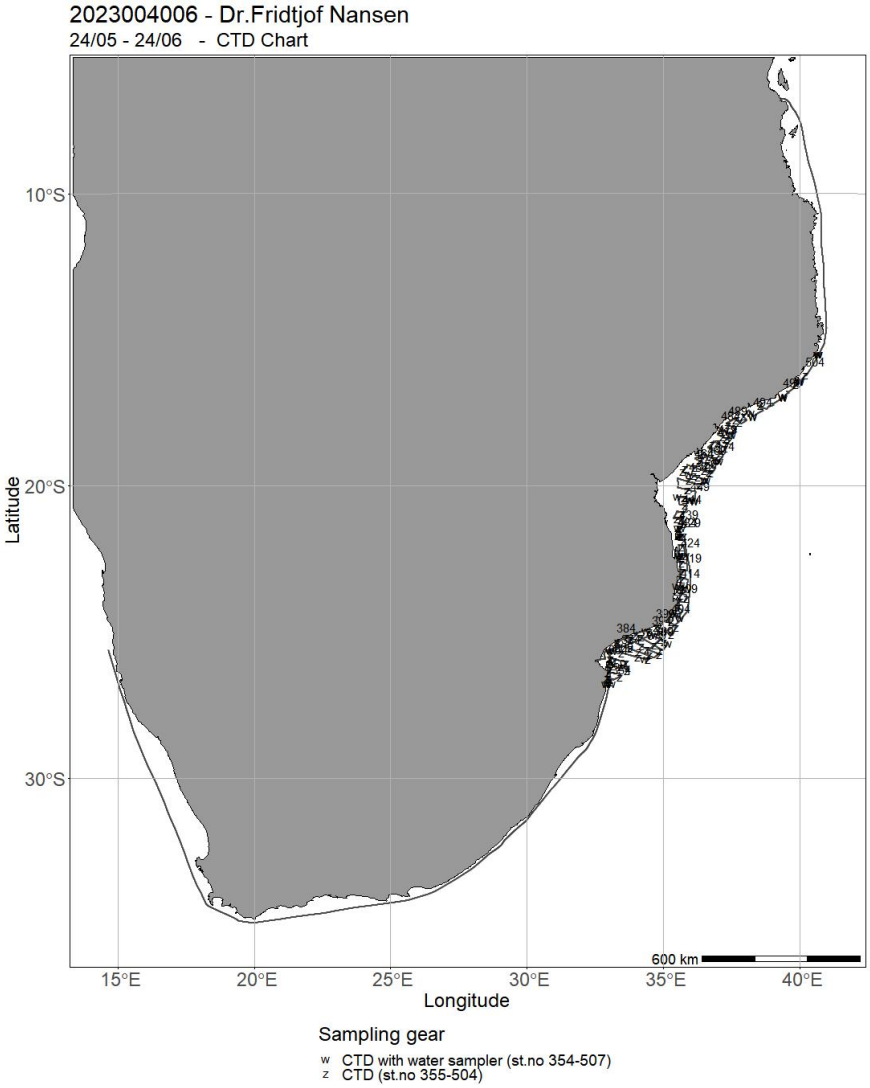


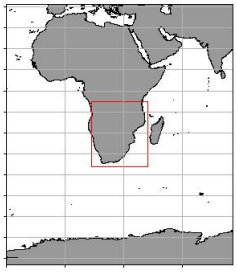

2023004005 - Dr.Fridtjof Nansen
02/08 - 15/08 - CTD Chart
21°S
24°S
Latitude
33°E
34°E
35°E
36°E
Longitude
100 km
629
649
654
664
659
619
Sampling gear
z CTD (st.no 619-668)

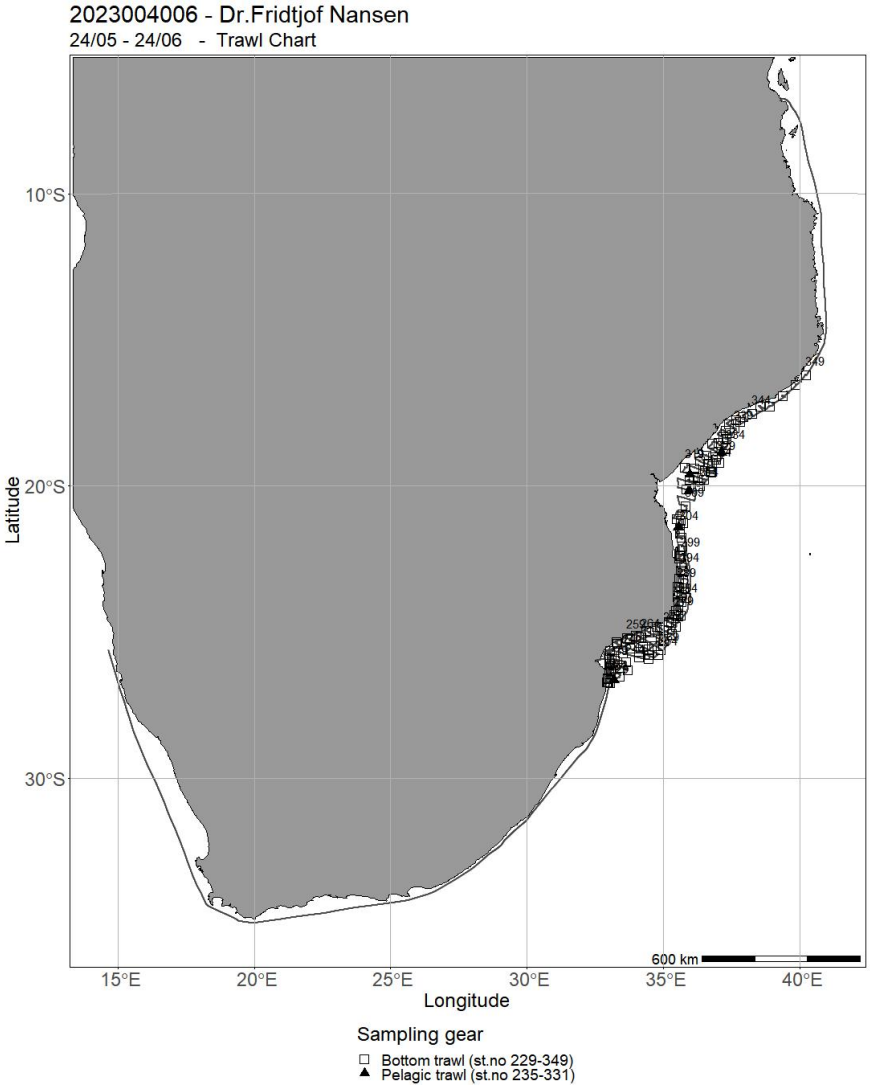


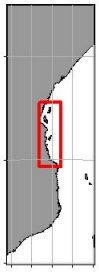

2023004005 - Dr.Fridtjof Nansen
02/08 - 15/08 - Trawl Chart
18
21°S
24°S
Latitude
100 km
33°E
34°E
35°E
36°E
Longitude
Sampling gear
Beam trawl (st.no 18-51)

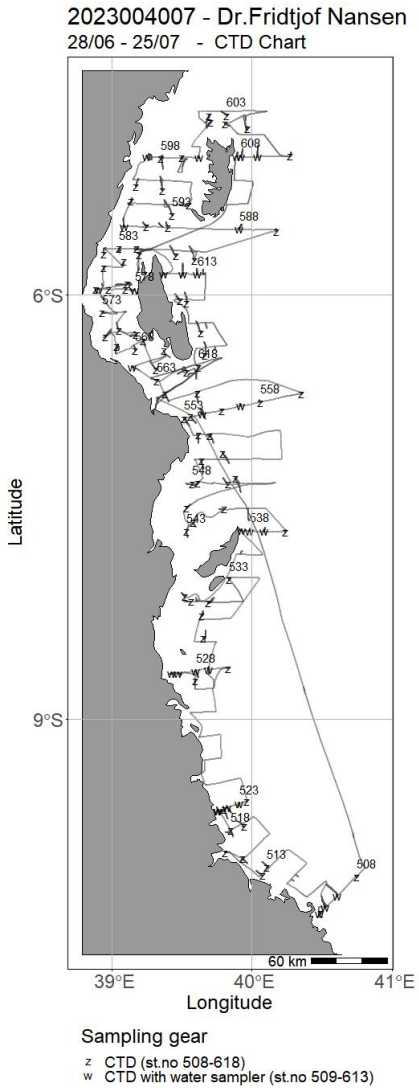


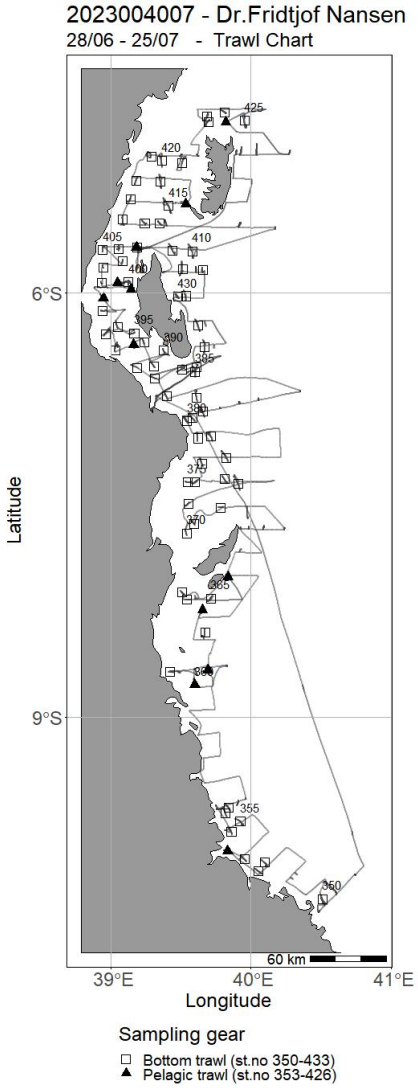

2023004006 - Dr.Fridtjof Nansen
24/05 - 24/06 - CTD Chart
10°S
20°S
30°S
Latitude
15°E
20°E
25°E
30°E
35°E
40°E
Longitude
600 km
Sampling gear
w CTD with water sampler (st.no 354-507)
z CTD (st.no 355-504)

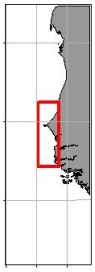


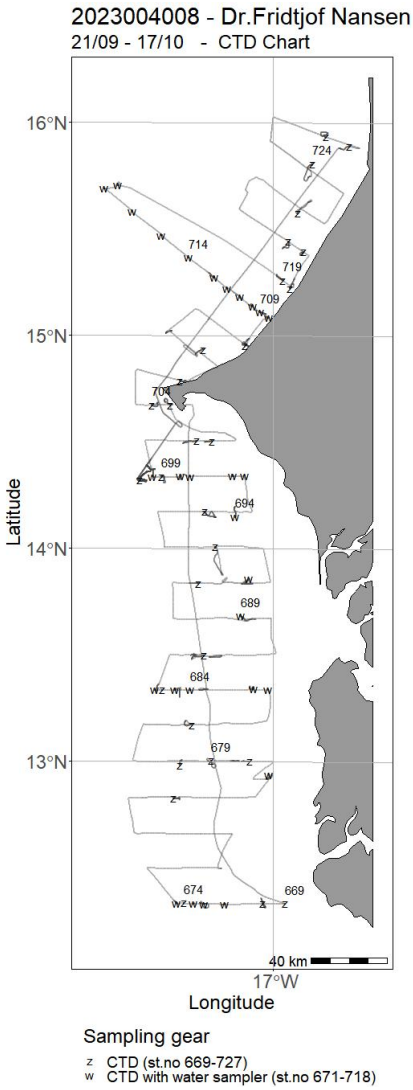

2023004006 - Dr.Fridtjof Nansen
24/05 - 24/06 - Trawl Chart
10°S
20°S
30°S
Latitude
15°E
20°E
25°E
30°E
35°E
40°E
Longitude
600 km
Sampling gear
Bottom trawl (st.no 229-349)
Pelagic trawl (st.no 235-331)

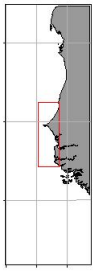


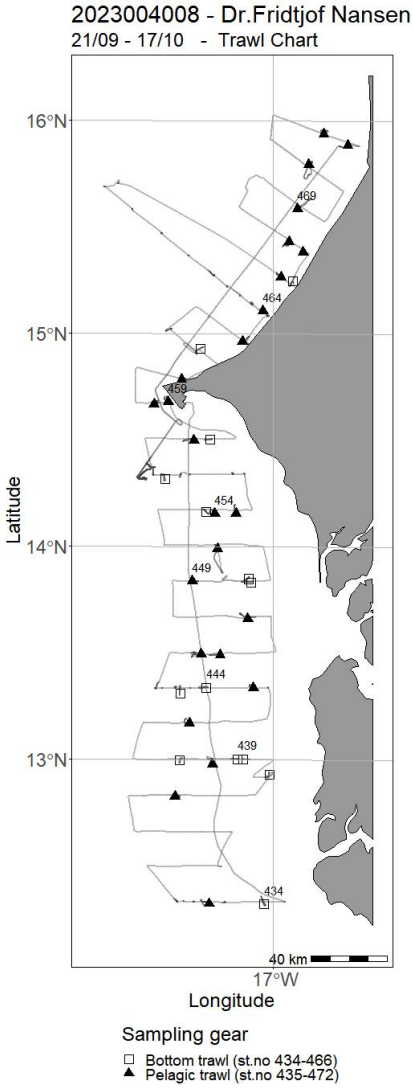

2023004007 - Dr.Fridtjof Nansen
28/06 - 25/07 - CTD Chart
603
598
608
592
588
583
613
578
573
618
563
558
553
548
543
538
533
528
523
518
513
508
6°S
9°S
Latitude
60 km
39°E
40°E
41°E
Longitude
Sampling gear
z CTD (st.no 508-618)
w CTD with water sampler (st.no 509-613)

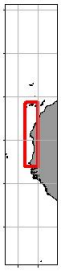

2023004007 - Dr.Fridtjof Nansen
28/06 - 25/07 - Trawl Chart
425
420
415
410
405
400
395
390
385
380
375
370
365
360
355
350
6°S
9°S
Latitude
60 km
39°E
40°E
41°E
Longitude
Sampling gear
Bottom trawl (st.no 350-433)
Pelagic trawl (st.no 353-426)

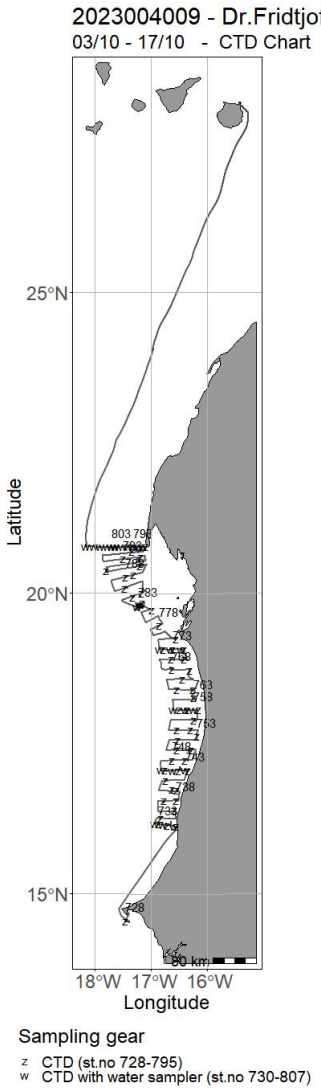


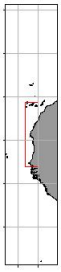

2023004008 - Dr.Fridtjof Nansen
21/09 - 17/10 - CTD Chart
16°N
15°N
14°N
13°N
Latitude
724
714
719
709
704
699
694
689
684
679
674
669
40 km
17°W
Longitude
Sampling gear
z CTD (st.no 669-727)
w CTD with water sampler (st.no 671-718)



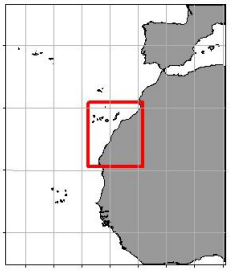

2023004008 - Dr.Fridtjof Nansen
21/09 - 17/10 - Trawl Chart
16°N
15°N
14°N
13°N
Latitude
469
464
459
454
449
444
439
434
40 km
17°W
Longitude
Sampling gear
Bottom trawl (st.no 434-466)
Pelagic trawl (st.no 435-472)

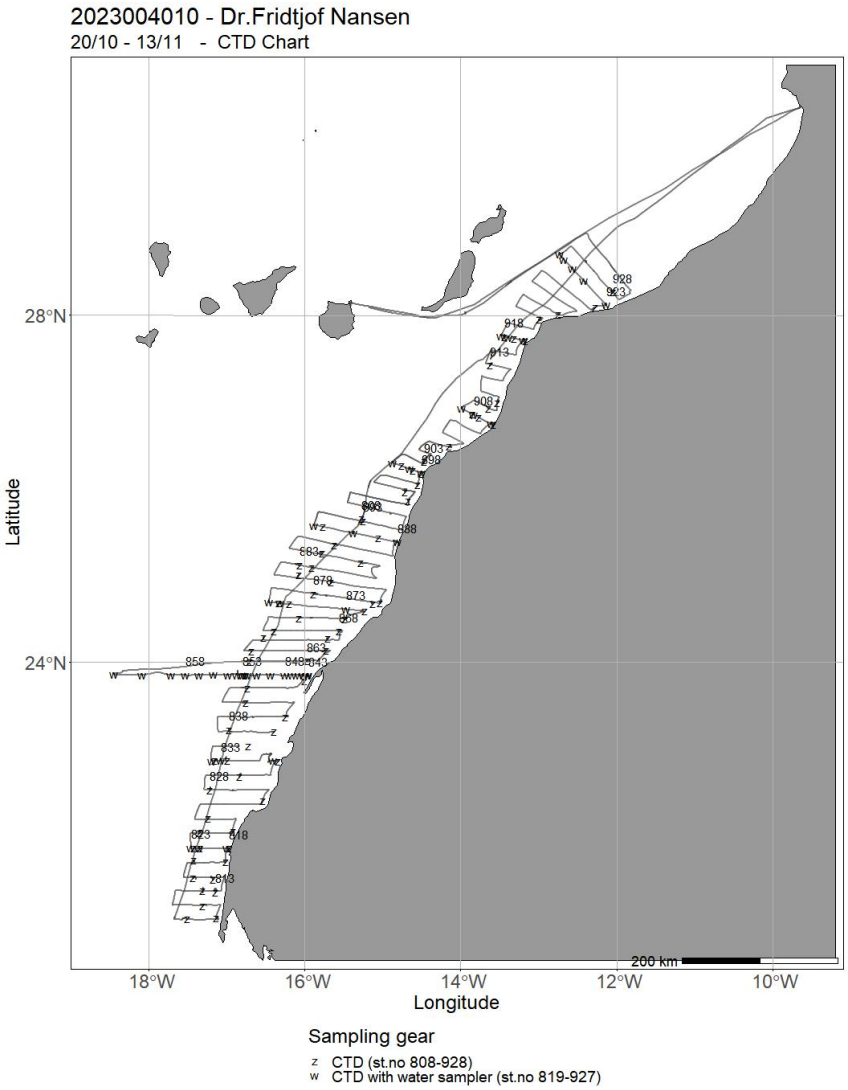


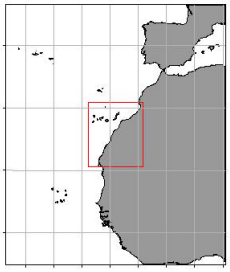

2023004009 - Dr.Fridtjof Nansen
03/10 - 17/10 - CTD Chart
25°N
20°N
15°N
Latitude
18°W 17°W 16°W
Longitude
80 km
Sampling gear
z CTD (st.no 728-795)
w CTD with water sampler (st.no 730-807)

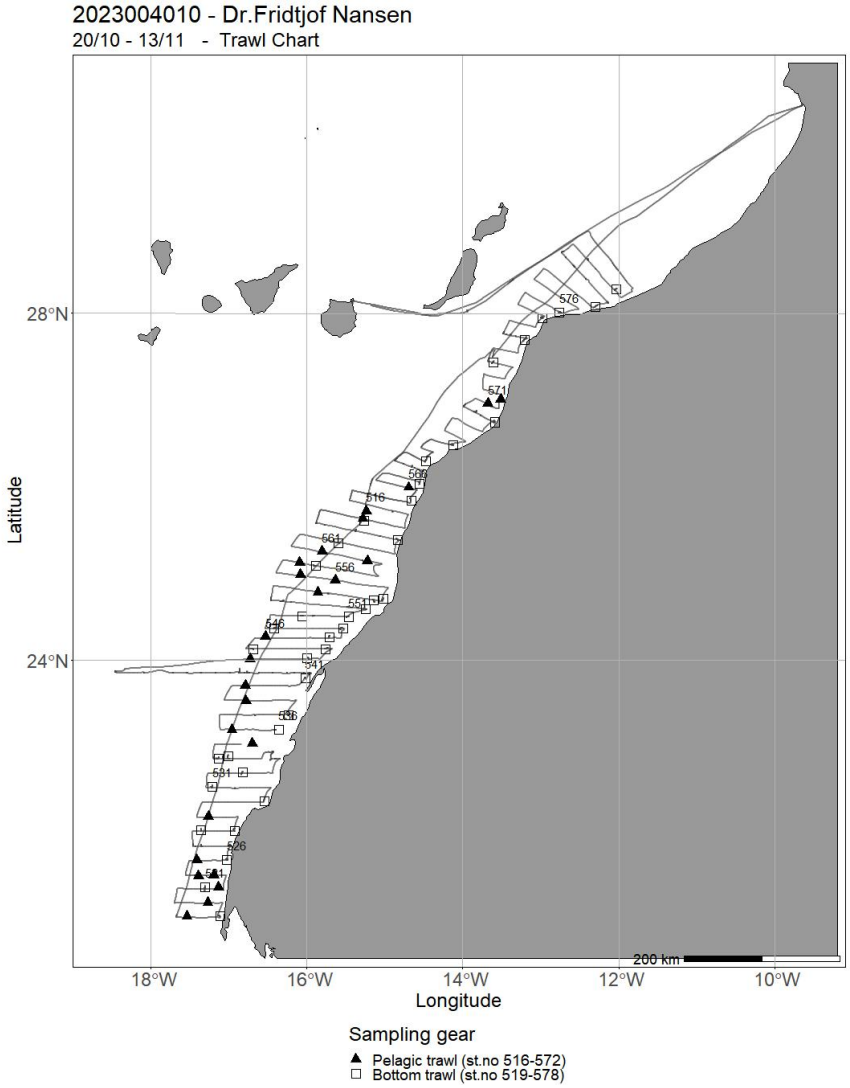


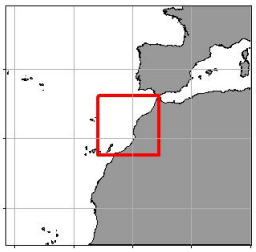

2023004009 - Dr.Fridtjof Nansen
03/10 - 17/10 - Trawl Chart
25°N
20°N
15°N
Latitude
18°W 17°W 16°W
Longitude
80 km
Sampling gear
Pelagic trawl (st.no 473-515)
Bottom trawl (st.no 474-509)

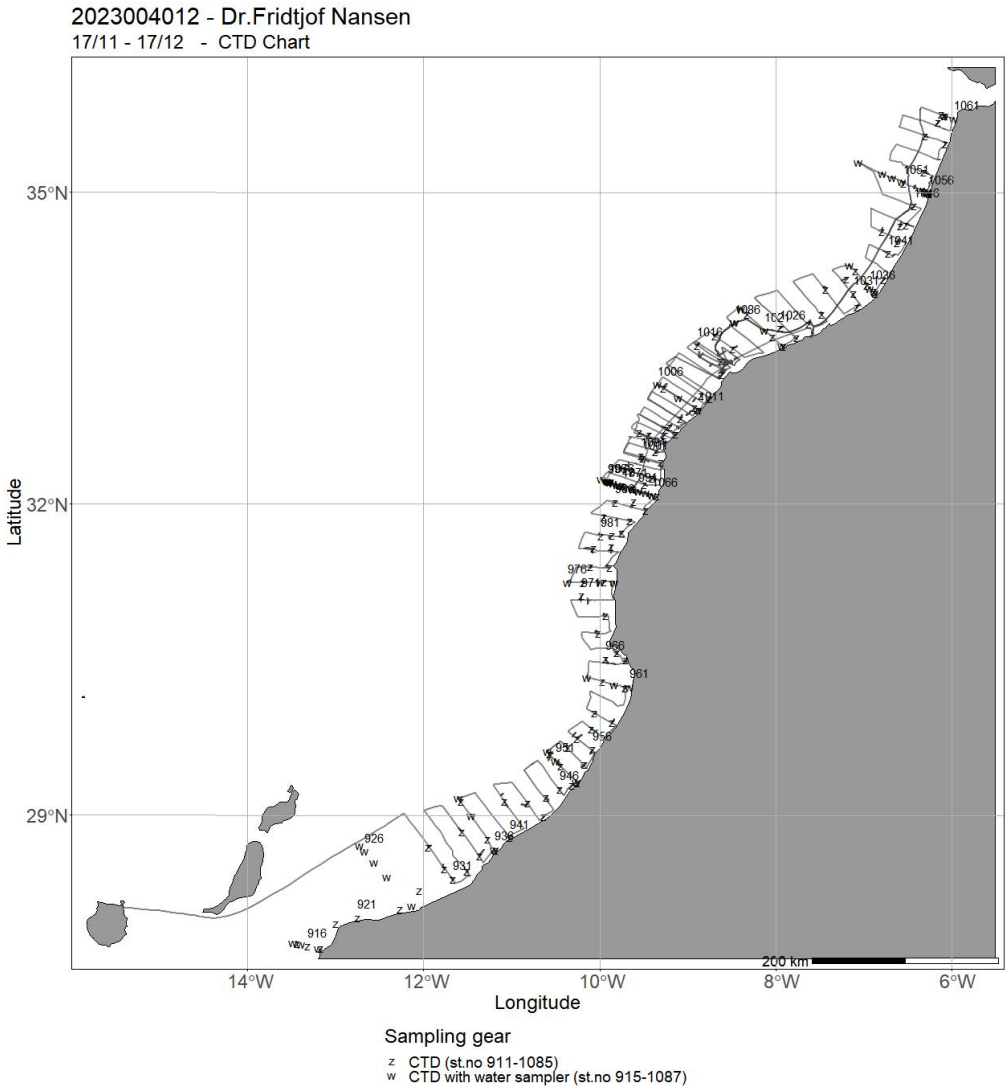


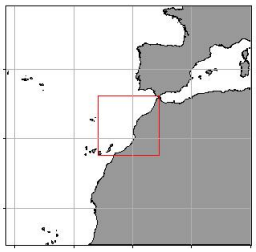

2023004010 - Dr.Fridtjof Nansen
20/10 - 13/11 - CTD Chart
28°N
24°N
Latitude
18°W
16°W
14°W
12°W
10°W
Longitude
200 km
Sampling gear
z CTD (st.no 808-928)
w CTD with water sampler (st.no 819-927)

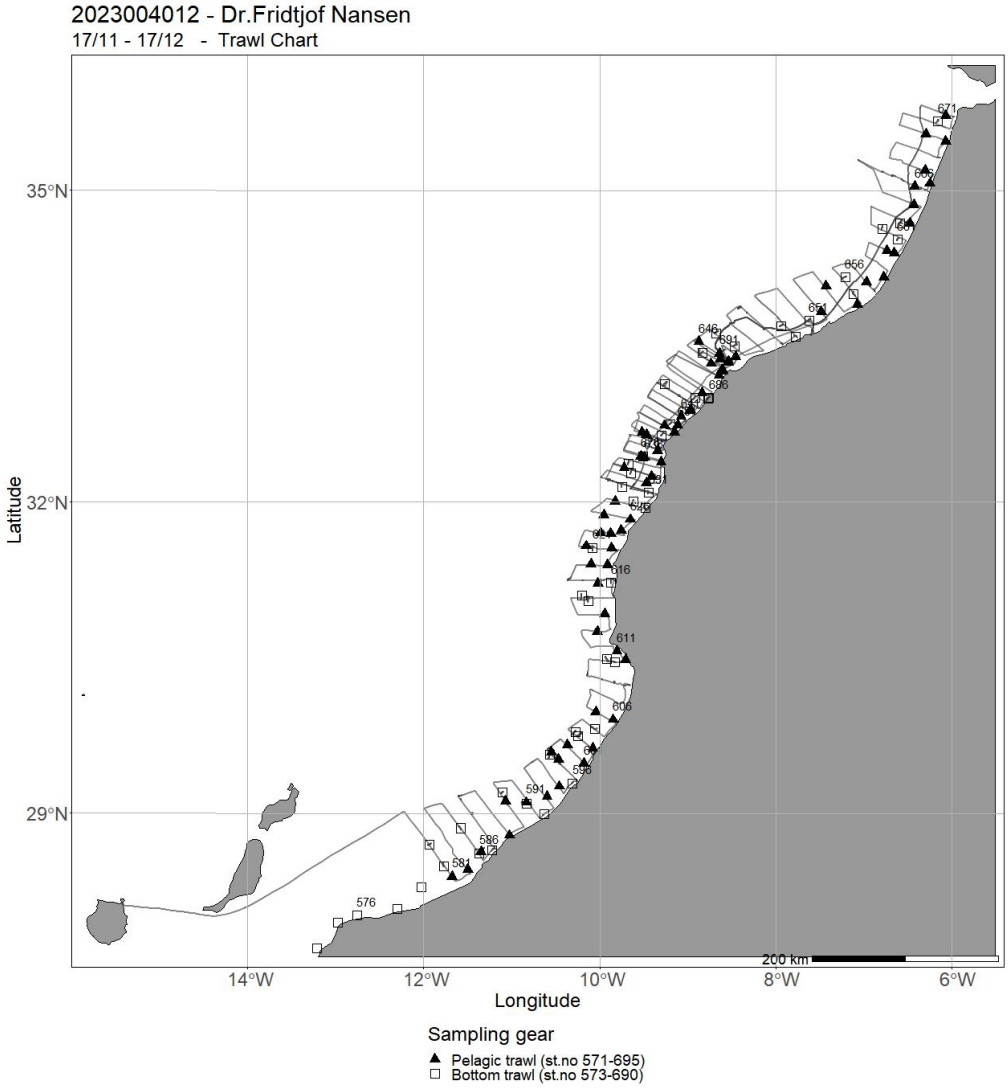



2023004010 - Dr.Fridtjof Nansen
20/10 - 13/11 - Trawl Chart
28°N
24°N
Latitude
18°W
16°W
14°W
12°W
10°W
Longitude
200 km
576
571
516
561
556
551
546
541
536
531
526
521
Sampling gear
Pelagic trawl (st.no 516-572)
Bottom trawl (st.no 519-578)




2023004012 - Dr.Fridtjof Nansen
17/11 - 17/12 - CTD Chart
35°N
32°N
29°N
Latitude
14°W
12°W
10°W
8°W
6°W
Longitude
200 km
Sampling gear
z CTD (st.no 911-1085)
w CTD with water sampler (st.no 915-1087)




2023004012 - Dr.Fridtjof Nansen
17/11 - 17/12 - Trawl Chart
35°N
32°N
29°N
Latitude
14°W
12°W
10°W
8°W
6°W
Longitude
200 km
671
656
646
636
616
611
606
596
591
586
581
576
Sampling gear
Pelagic trawl (st.no 571-695)
Bottom trawl (st.no 573-690)

16 - "Hans Brattstrøm" Cruises 2023

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023009001	10/01 - 10/01	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009002	11/01 - 11/01	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009003	12/01 - 12/01	Undersøke hvordan havforsuring varierer over tid i fjorder sør for Bergen. Vi ønsker å forlenge tidsserier av havforsuringsmålinger i Korsfjorden og Hardangerfjorden. Tidsseriene ble starta i 2007. I 2023 vil vi ta vannprøver annenhver måned fra disse to stasjonene.	Norskekysten: Vestlandet	-	-
2023009004	13/01 - 13/01	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-
2023009005	14/02 - 17/02	During the cruise we will retrieve three moorings in Masfjorden and one in Lurefjorden.	Norskekysten: Vestlandet	-	-
2023009006	23/01 - 23/01	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009007	30/01 - 03/02	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling.	Norskekysten: Vestlandet	-	-
2023009008	06/02 - 06/02	Appendicularia	Norskekysten: Vestlandet	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023009009	07/02 - 12/02	Mål: å skaffe kunnskap som kan gi bedre grunnlag for risikovurdering av utlekking av Cu fra akvakulturanlegg.	Norskekysten: Vestlandet	-	-
2023009010	22/02 - 23/02	SFI Smart Ocean er et 8 årig prosjekt (NFR, ledet av UiB). HI skal i denne perioden bygge opp og drifte testfasiliteter på og rundt Austevoll havbruksstasjon. Partnere skal kunnes sette ut sensorer og sensorhuber for uttesting, samt referansesystem.	Norskekysten: Vestlandet	-	-
2023009011	24/02 - 24/02	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009012	21/02 - 21/02	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009013	20/02 - 20/02	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-
2023009014	27/02 - 03/03	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling.	Norskekysten: Vestlandet	-	-
2023009015	07/03 - 07/03	The main goal is collection of Meara Stichopi from the gut of Parastichopus (sea cucumber) at around 250 m debt. We might also collect other marine invertebrates such as Novocrania anomala and Lineus longissimus.	Norskekysten: Vestlandet	-	-
2023009016	06/03 - 06/03	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023009017	13/03 - 13/03	Undersøke hvordan havforsuring varierer over tid i fjorder sør for Bergen Vi ønsker å forlenge tidsserier av havforsuringsmålinger i Korsfjorden og Hardangerfjorden. Tidsseriene ble starta i 2007. I 2023 vil vi ta vannprøver annenhver måned fra disse to stasjonene. Dette bidrar til prosjektet "Overvåking av havforsuring 2021-2025" i regi av Miljødirektoratet.	Norskekysten: Vestlandet	-	-
2023009018	14/03 - 14/03	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009019	15/03 - 15/03	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-
2023009020	12/04 - 12/04	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-
2023009021	17/04 - 17/04	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023009022	11/04 - 11/04	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009023	18/04 - 20/04	Sampling intertidal at a wave exposed site and dredging in the sublittioral	Norskekysten	-	-
2023009024	21/04 - 21/04	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009025	24/04 - 28/04	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling. Utsett av smoltburforankringer knyttet til lakselusovervåkning.	Norskekysten: Vestlandet	-	-
2023009034	30/05 - 01/06	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling.	Norskekysten: Vestlandet	-	-
2023009035	02/06 - 02/06	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009036	05/06 - 05/06	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009037	06/06 - 12/06	Toktet inngår i et 3-årig artsprosjekt finanisiert av Artsdatabanken. Formålet med toktet er å kartlegge artsmangfold av bunnfauna i Romsdal fjorder. Spesiell fokus på Mysider (pungreker), og ellers andre krepsdyr.	Norskekysten: Trøndelag/Møre	-	-
2023009038	13/06 - 14/06	Enkelte liggedager gjennom året. Helst to dager annenhver mnd.	Ukjent	-	-
2023009039	15/06 - 15/06	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023009040	19/06 - 23/06	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling. Opptak av smoltburforankringer.	Norskekysten: Vestlandet	-	-
2023009041	26/06 - 26/06	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009042	27/06 - 27/06	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009043	03/08 - 03/08	Undersøke hvordan havforsuring varierer over tid i fjorder sør for Bergen Vi ønsker å forlenge tidsserier av havforsuringsmålinger i Korsfjorden og Hardangerfjorden. Tidsseriene ble starta i 2007. I 2023 vil vi ta vannprøver annenhver måned fra disse to stasjonene. Dette bidrar til prosjektet ""Overvåking av havforsuring 2021-2025"" i regi av Miljødirektoratet.	Norskekysten: Vestlandet	-	-
2023009044	02/08 - 02/08	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009045	04/08 - 04/08	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009046	07/08 - 11/08	Hardanger 7	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling.	-	-
2023009047	29/08 - 30/08	SFI Smart Ocean er et 8 årig prosjekt (NFR, ledet av UiB). HI skal i denne perioden bygge opp og drifte testfasiliteter på og rundt Austevoll havbruksstasjon. Partnere skal kunnes sette ut sensorer og sensorhuber for uttesting, samt referansesystem.	Norskekysten: Vestlandet	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023009048	28/08 - 28/08	The main goal is collection of Meara Stichopi from the gut of Parastichopus (sea cucumber) at around 250 m debt. We might also collect other marine invertebrates such as Novocrania anomala and Lineus longissimus.	Norskekysten: Vestlandet	-	-
2023009049	14/08 - 23/08	2 weeks (2x8 single-day cruises) for the marine faunistics course (Faunestikk kurs unner Bio325).	Norskekysten: Vestlandet	-	-
2023009050	04/09 - 04/09	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009051	05/09 - 05/09	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009052	06/09 - 06/09	The main goal is collection of Meara Stichopi from the gut of Parastichopus (sea cucumber) at around 250 m debt. We might also collect other marine invertebrates such as Novocrania anomala and Lineus longissimus.	Norskekysten: Vestlandet	-	-
2023009053	07/09 - 07/09	Undersøke hvordan havforsuring varierer over tid i fjorder sør for Bergen Vi ønsker å forlenge tidsserier av havforsuringsmålinger i Korsfjorden og Hardangerfjorden. Tidsseriene ble starta i 2007. I 2023 vil vi ta vannprøver annenhver måned fra disse to stasjonene. Dette bidrar til prosjektet ""Overvåking av havforsuring 2021-2025"" i regi av Miljødirektoratet. Finansieringen vil komme via Norce	Norskekysten: Vestlandet	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023009054	08/09 - 08/09	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-
2023009055	25/09 - 29/09	GEOV110 is an introductory course for bachelor students at GEO (UiB) that includes an introduction to field methods and data. During this cruise week, we will do daily student cruises in the area around Bergen, with a sub-set of students on each day, taking seismic profiles (Chirp), sediment cores, CTD measurements and water samples.	Norskekysten: Vestlandet	-	-
2023009056	02/10 - 06/10	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling.	Norskekysten: Vestlandet	-	-
2023009057	09/10 - 09/10	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009058	10/10 - 10/10	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009059	16/10 - 20/10	This was a student cruise (four day trips) with the purpose of teaching students how oceanographic and meteorological fieldwork is conducted. Data (physical oceanography, such as CTD stations and GPS locations from surface drifters, as well as meteorological data from a weather station onboard) were collected in the city fjord of Bergen.	North Sea	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023009060	23/10 - 24/10	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-
2023009061	10/11 - 10/11	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009062	07/11 - 07/11	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009063	06/11 - 06/11	Undersøke hvordan havforsuring varierer over tid i fjorder sør for Bergen Vi ønsker å forlenge tidsserier av havforsuringsmålinger i Korsfjorden og Hardangerfjorden. Tidsseriene ble starta i 2007. I 2023 vil vi ta vannprøver annenhver måned fra disse to stasjonene.	Norskekysten: Vestlandet	-	-
2023009064	13/11 - 14/11	SFI Smart Ocean er et 8 årig prosjekt (NFR, ledet av UiB). HI skal i denne perioden bygge opp og drifte testfasiliteter på og rundt Austevoll havbruksstasjon. Partnere skal kunnes sette ut sensorer og sensorhuber for uttesting, samt referansesystem.	Norskekysten: Vestlandet	-	-
2023009065	15/11 - 15/11	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023009066	16/11 - 16/11	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-
2023009067	04/12 - 04/12	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	-	-
2023009068	05/12 - 05/12	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten: Vestlandet	-	-
2023009069	06/12 - 06/12	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-
2023009070	11/12 - 15/12	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling.	Norskekysten: Vestlandet	-	-
2023009071	02/05 - 29/05	Toktet har som hensikt å fange utvandrende vill laksesmolt som en del av den nasjonale overvåkningen på vill laksefisk. Laksesmolt fanges i ytre deler av utvalgte fjordsystem med en spesialbygget pelagisk tråd.	Norskekysten: Vestlandet	-	-

17 - "Prinsesse Ingrid Alexandra" Cruises 2023

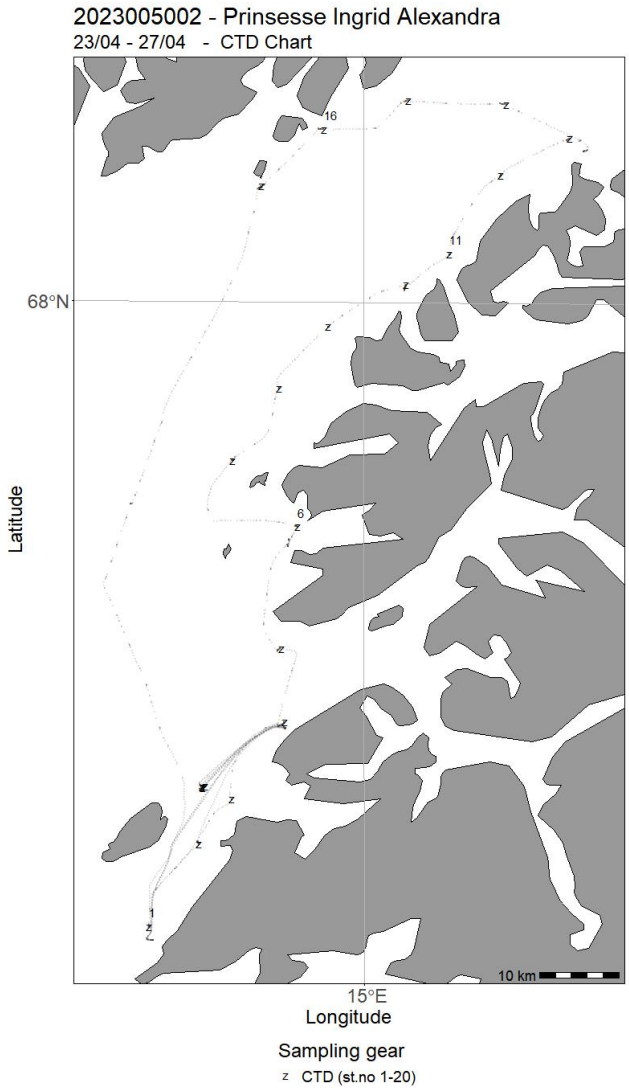
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023005001	08/03 - 14/03	Kartlegging og overvåkning av sil på Vestlandet	Norskekysten: Vestlandet	-	-
2023005002	23/04 - 27/04	1. Teaching leg Sampling as part of the course BI206F Marine Biology at Nord University. Teaching aimed to show the use of water collection with a Niskin rosette and the accompanying CTD. To illustrate the placement of zooplankton in the water column, the depth intervals chosen for the multinet were based on the CTD cast. 2. MarFiLD project leg In this project we investigate the composition of meroplankton in sub-Arctic fjords and test the hypothesis that meroplankton can be an alternative food source for early fish larvae. Therefore, this cruise was used as a first exploration of the region and testing the sampling scheme for the project by collecting fish larvae and zooplankton in Vestfjorden using different sampling methods (WP3, WP2 and Bongo-nets, down to 50 m depth).	Norskekysten: Nordland	1-20	-
2023005004	31/05 - 06/06	This project aims at developing new knowledge on the impacts of waste released from fish farms on long lived and sensitive deep water species. In particular this survey aim to collect visual data and physical samples of the bamboo coral (Isidella Lofotensis) around 2 farms in Hardangerfjorden that have been requested to monitor the impact of their farming activity on bamboo coral populations.	Norskekysten: Vestlandet	-	-
2023005005	09/06 - 06/07	Collection of fauna specimens from around coastal salmon farms using ROV. Conducting respirometry experiments in wetlab on board. Also sampling seabed using SIBS and deploying and retrieving sediment traps.	Norskekysten: Trøndelag/Møre, Norskekysten: Vestlandet, Norskekysten: Nordland	45-58	-

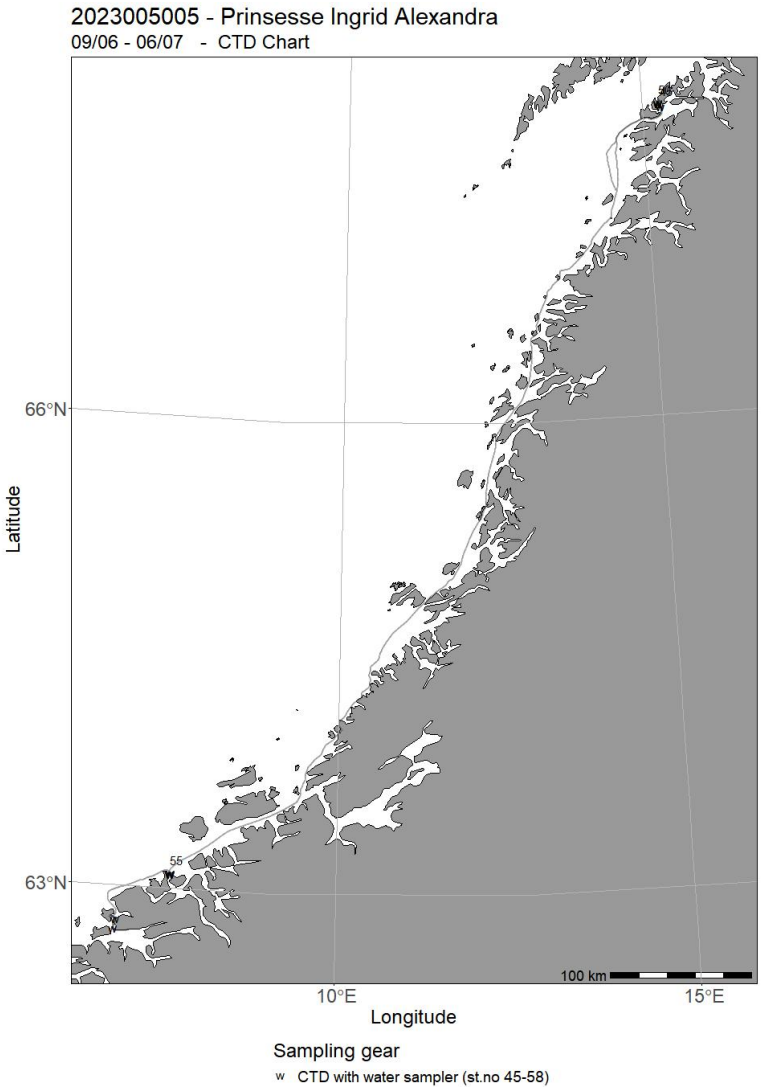
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023005007	14/08 - 20/08	This project aims at developing new knowledge on the impacts of waste released from fish farms on long lived and sensitive deep water species. In particular this survey aim to collect visual data and physical samples of the bamboo coral (Isidella Lofotensis) around 2-4 farms in Sagfjorden Nordland.	Norskekysten: Nordland	-	-
2023005008	21/08 - 25/08	To characterize the north Atlantic sperm whales exposure to and interactions with pathogens, but also to advance the study of wild cetaceans health through the use of new non-lethal and minimally invasive methods (blow sampling, microRNAs and in vitro studies).	Norskekysten: Nordland	42-44	-
2023005011	04/10 - 10/10	The bachelor master course 'Research Methods at Sea' is part of the Bachelor in Biology and Master in Bioscience programmes at Nord University. The course will teach fundamental sampling techniques and sample processing in marine biology and oceanography. It includes sampling of nekton, plankton, and benthos as well as measuring oceanographic parameters with different methods.	Norskekysten: Nordland	59-66	39-40
2023005012	10/10 - 14/10	Student excursion in the course BI222F: CTD transect Saltfjorden grid, CTD + Van Veen grab in two stations in Mistfjorden, WP2-net plankton sample in Saltfjorden.	Norwegian Sea	68-89	-
2023005013	17/10 - 01/11	The objectives of the survey was to improve the knowledge about the distribution, densities and stock composition of brown crab and Nephrops in Western Norway. The survey was conducted with crab and Nephrops pots set at randomly selected positions. In addition, video transects were performed to collect video data of Nephrops burrows and test image analysis as a technique to monitor the species in Norwegian waters.	North Sea	90-140	1-16
2023005014	03/11 - 07/11	Langsiktig overvåkning av fjordoseanografi og strømmodellutvikling.	Norskekysten: Vestlandet	-	-

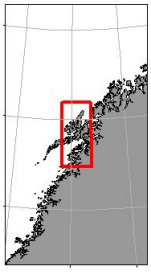
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023005015	28/11 - 09/12	I dette prosjektet, effekter av lakseoppdrett på torsk, skal vi på en helhetlig måte skaffe til veie kunnskap for å avklare om dette er korrekt, samt hvordan lakseoppdrett eventuelt påvirker torsken. Vi skal derfor undersøke en fjord, sannsynligvis Frakfjorden på grensen mellom Troms og Finnmark, både før, under og etter etablering av et lakseoppdrettsanlegg. I tillegg skal vi undersøke en nabofjord med oppdrett, og en fjord som vil forbli uten oppdrett.	Norskekysten: Troms og Finnmark	-	-
2023005016	08/11 - 27/11	Annually conducted acoustic survey combined with fixed bottom trawl stations covering the shelf banks, coastal areas and fjords between Varangerfjord and Stadt. The survey collects additional data for analysis of deep sea shrimps, redfish, plankton, water chemistry, and sediment. Survey indices for NEA saithe and coastal cod north-north are used in assessment as tuning series.	Atlanterhavet NØ, Norskekysten, Norskekysten: Nordland, Norskekysten: Trøndelag/Møre	-	-
2023005017	08/05 - 08/05	Innsamling av Appendicularia til kultivering og forskning.	Norskekysten: Vestlandet	21	-
2023005018	19/05 - 19/05	To survey the hidden diversity of parasitic crustaceans in Norwegian fjord habitats, fjord systems in the vicinity of Bergen will be used as the study area. With a focus on Copepoda, Thecostraca and Isopoda, classical marine biological collection methods, complemented with molecular methods (ddPCR), will be employed in the search for rare and overlooked species.	Norskekysten: Vestlandet	-	-
2023005019	07/06 - 08/06	SFI Smart Ocean er et 8 årig prosjekt (NFR, ledet av UiB). HI skal i denne perioden bygge opp og drifte testfasiliteter på og rundt Austevoll havbruksstasjon. Aktiviteter: Utsetting av utstyr, innhenting av utstyr, kartlegging av hydrografi, akustikk og havkjemi.	Norskekysten: Vestlandet	33-41	-

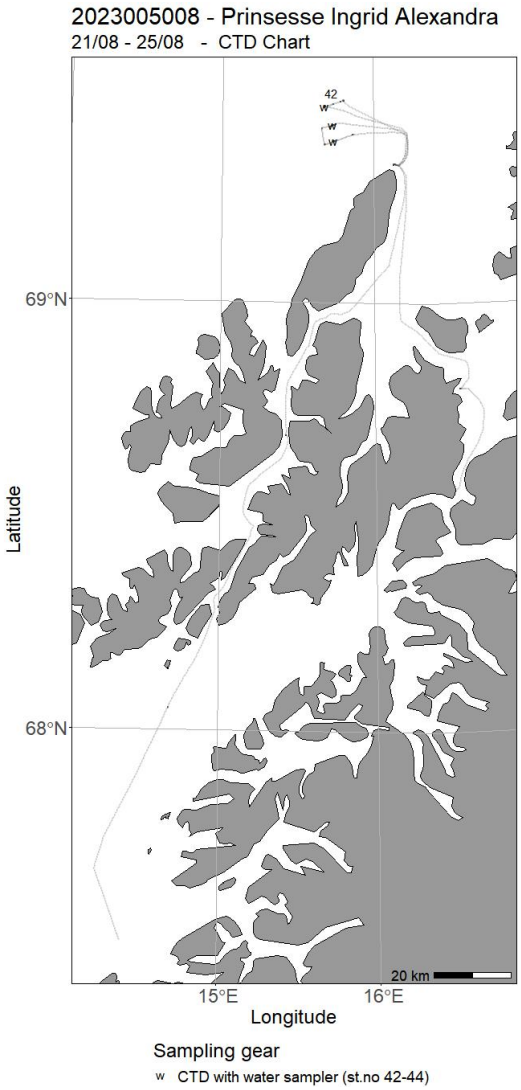
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023005020	09/05 - 09/05	The object of the cruise was to collect/sample red sea cucumber (Parastichopus tremulus) to obtain specimens of the marine invertebrate Meara stichopi (nemertodermatid flatworm) that resides inside the foregut of the sea cucumber.The obtain specimens will be used in various research project focusing on the development and evolution of animals.	Norwegian Sea	-	37
2023005021	10/05 - 10/05	The primary aim was to collect water samples for Ocean Acidification studies at two stations along the westcoast of Norway. This represents extension of two long time series in the area. The secondary aim was to collect material for environmental DNA analyses.	North Sea	22-24	-
2023005022	11/05 - 12/05	Two 1-day cruises in the fjords around Bergen to collect zooplankton. This cruises were done in the framework of the 10th International Workshop of the Hydrozoan Society.Target biological group : pelagic hydrozoa (siphonophores and hydromedusae).	North Sea	-	-
2023005023	16/05 - 16/05	One 1-day cruise in the fjords around Bergen to collect zooplankton and water samples. Target biological group : pelagic hydrozoa (siphonophores and hydromedusae).	North Sea	25-27	-
2023005024	22/05 - 29/05	Providing collections and samples for the project Mapping and DNA barcoding the brown algal diversity within the orders Ectocarpales, Ralfsiales and Sphacelariales in Norway, funded by the Norwegian Biodicverity Centre.	North Sea	28-32	-
2023005025	27/07 - 31/07	Garn-Ruse uttesting - bestandsundersøkelser av kysttorsk	Norskekysten	-	-

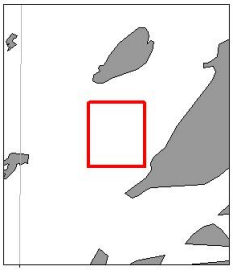
18 - "Prinsesse Ingrid Alexandra" Charts for 2023



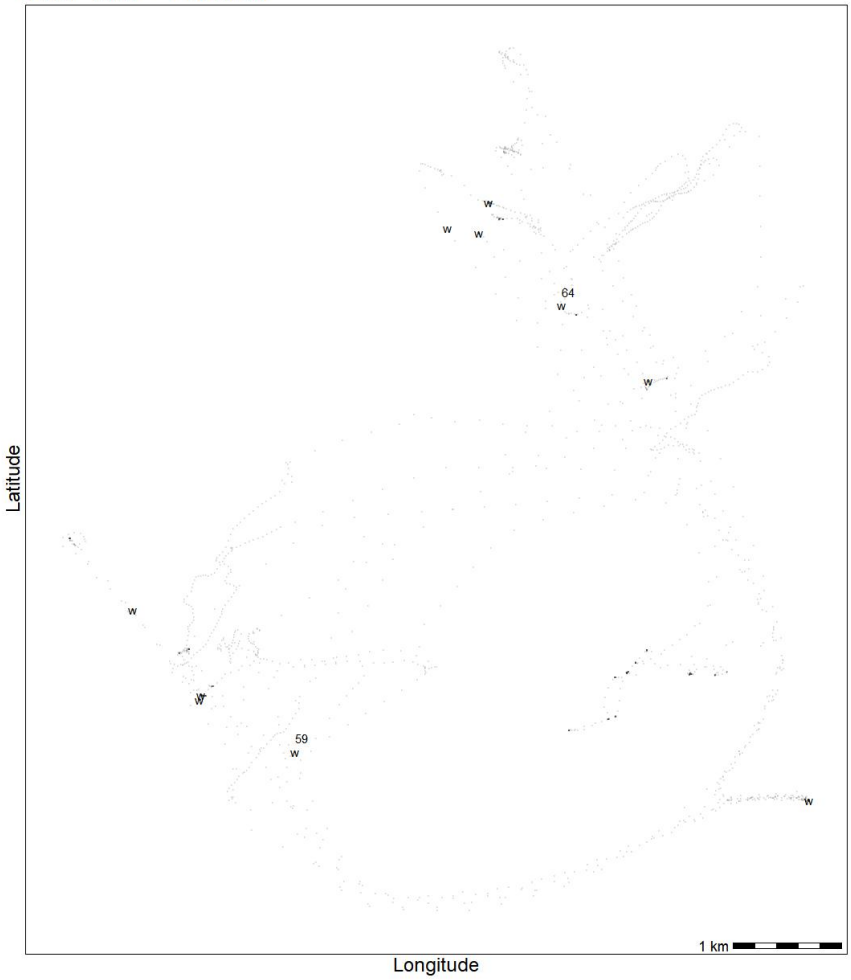

2023005005 - Prinsesse Ingrid Alexandra
09/06 - 06/07 - CTD Chart
66°N
63°N
Latitude
55
100 km
10°E
15°E
Longitude
Sampling gear
w CTD with water sampler (st.no 45-58)



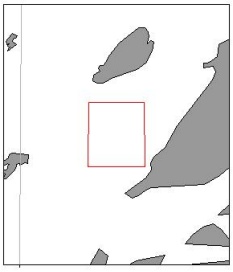

2023005008 - Prinsesse Ingrid Alexandra
21/08 - 25/08 - CTD Chart
42
w
w
w
69°N
68°N
Latitude
20 km
15°E
16°E
Longitude
Sampling gear
w CTD with water sampler (st.no 42-44)



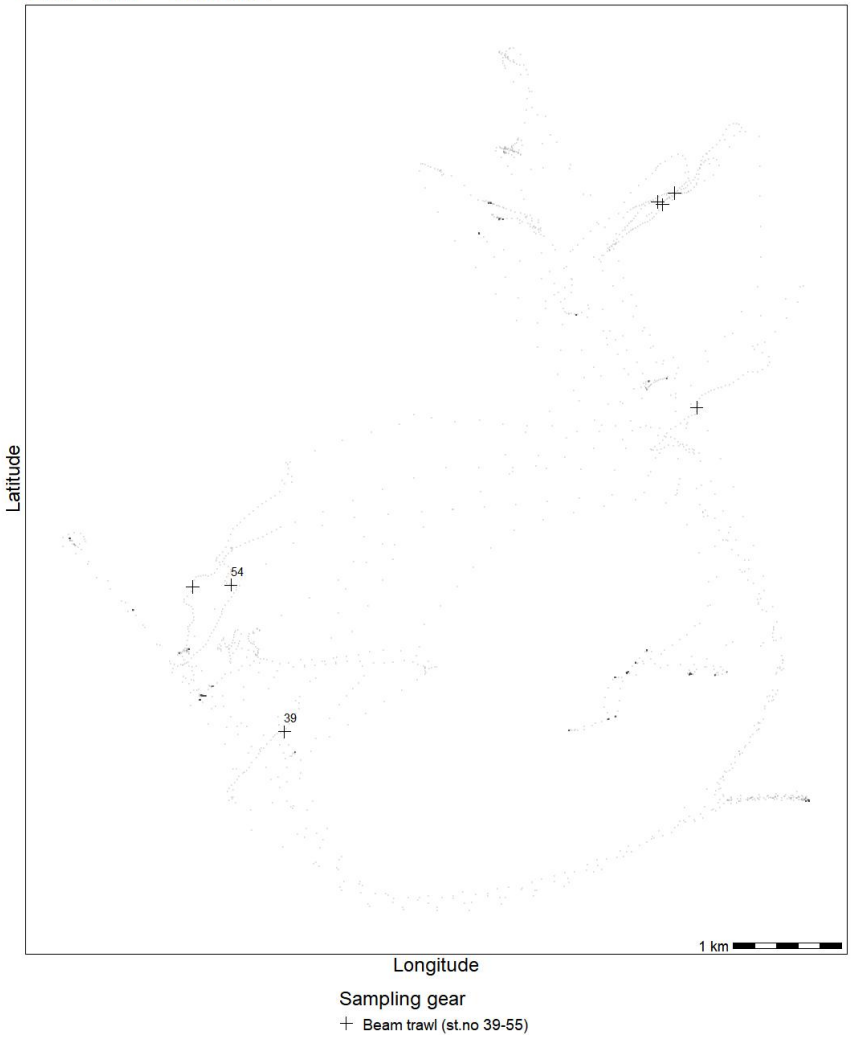
2023005011 - Prinsesse Ingrid Alexandra
04/10 - 10/10 - CTD Chart



Sampling gear
w CTD with water sampler (st.no 59-67)

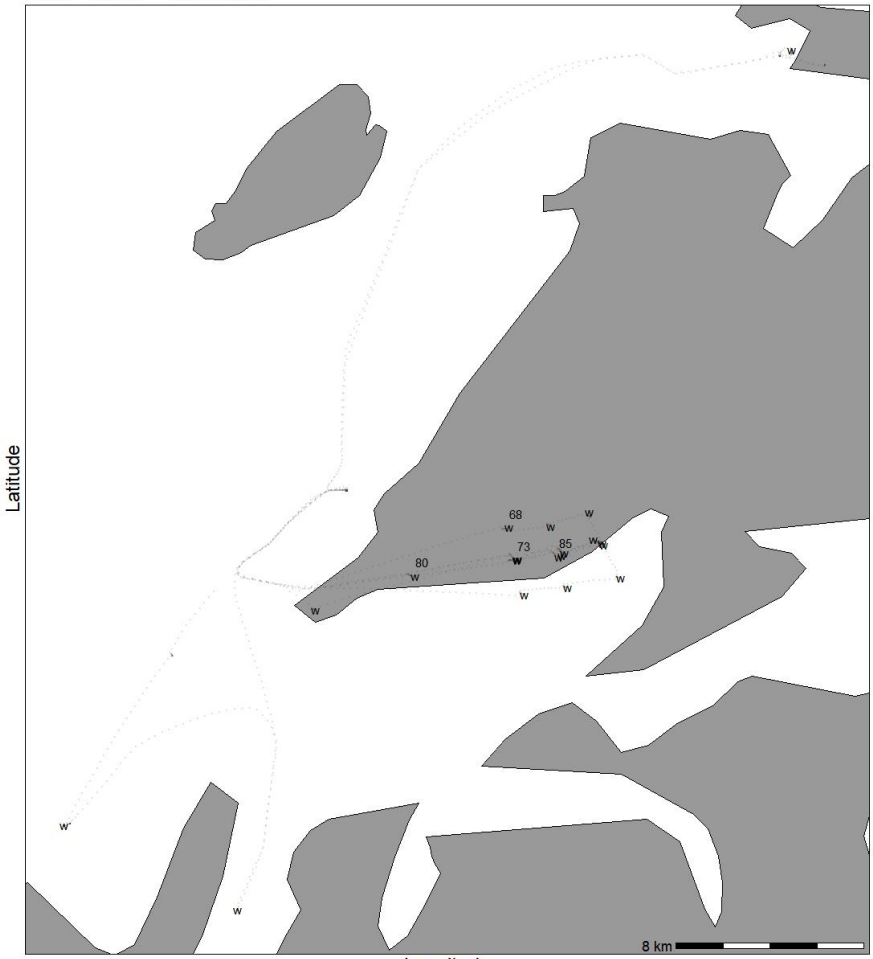


2023005011 - Prinsesse Ingrid Alexandra
04/10 - 10/10 - Trawl Chart

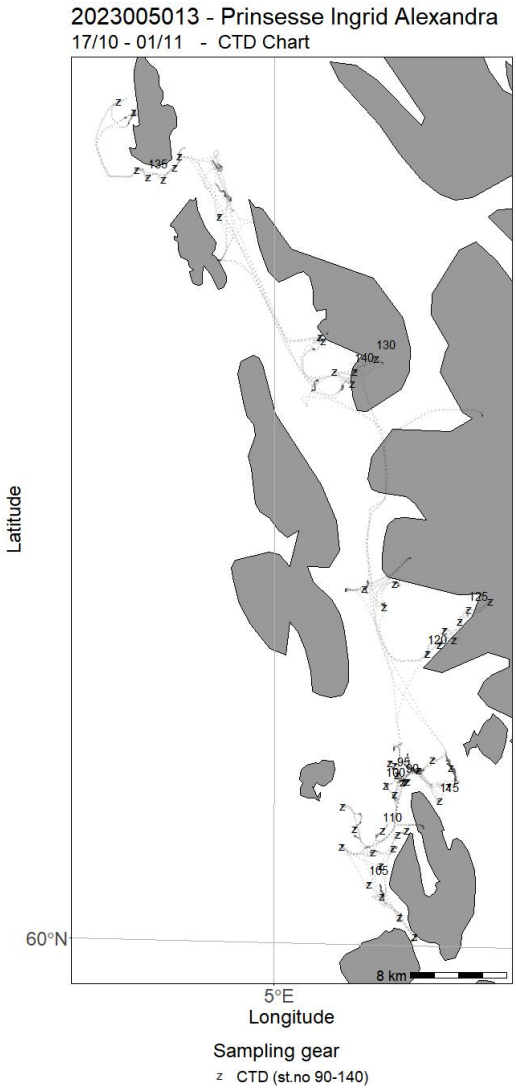


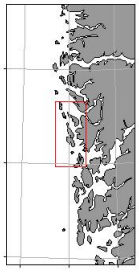
Sampling gear
Beam trawl (st.no 39-55)

2023005012 - Prinsesse Ingrid Alexandra
10/10 - 14/10 - CTD Chart

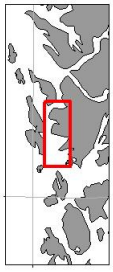


Sampling gear
w CTD with water sampler (st.no 68-89)


2023005013 - Prinsesse Ingrid Alexandra
17/10 - 01/11 - CTD Chart
Latitude
60°N
5°E
Longitude
8 km
Sampling gear
CTD (st.no 90-140)

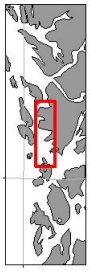



2023005013 - Prinsesse Ingrid Alexandra
17/10 - 01/11 - Trawl Chart
Latitude
60°N
5°E
Longitude
8 km
Sampling gear
Bottom trawl (st.no 1-20)

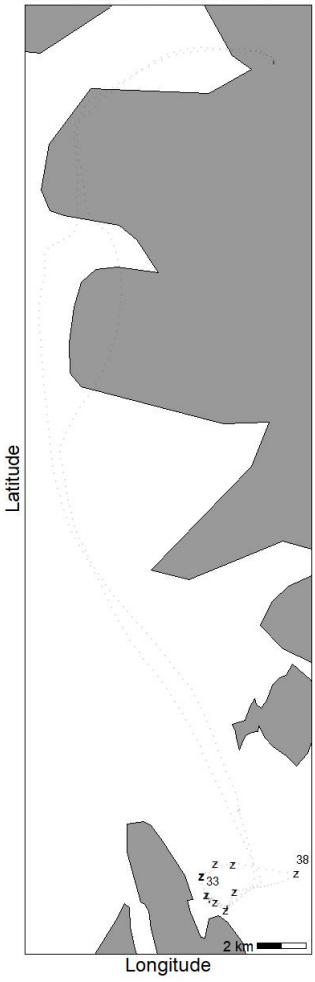


2023005017 - Prinsesse Ingrid Alexandra
08/05 - 08/05 - CTD Chart

Sampling gear
w CTD with water sampler (st.no 21)

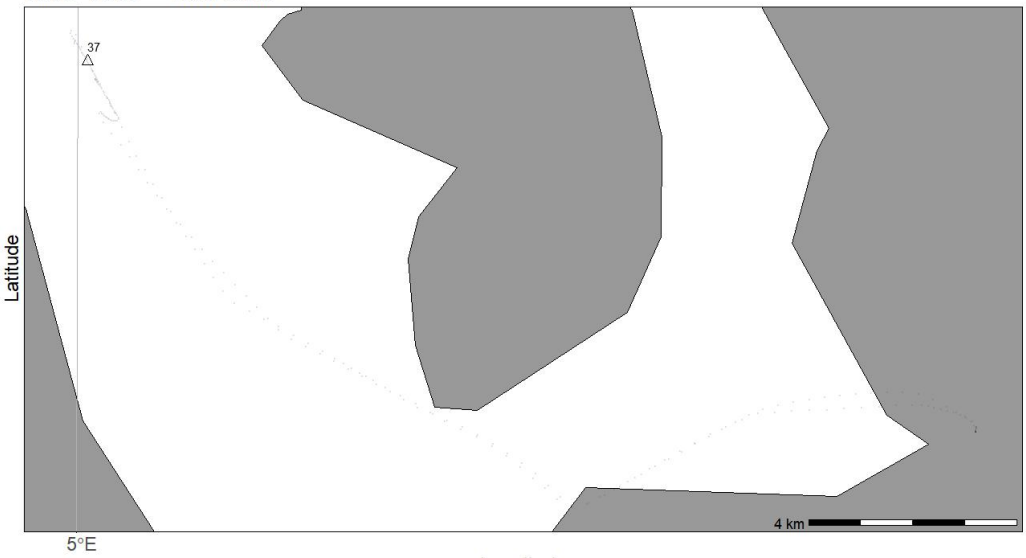


2023005019 - Prinsesse Ingrid Alexandra
07/06 - 08/06 - CTD Chart

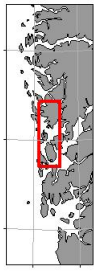


Sampling gear
z CTD (st.no 33-41)

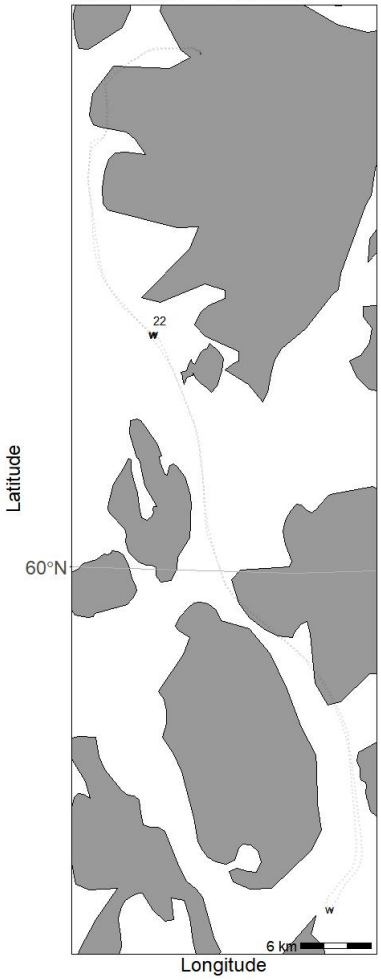
2023005020 - Prinsesse Ingrid Alexandra
09/05 - 09/05 - Trawl Chart



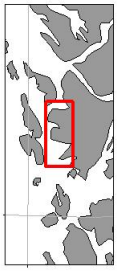
Sampling gear
△ Agassiz trawl (st.no 37)



2023005021 - Prinsesse Ingrid Alexandra
10/05 - 10/05 - CTD Chart

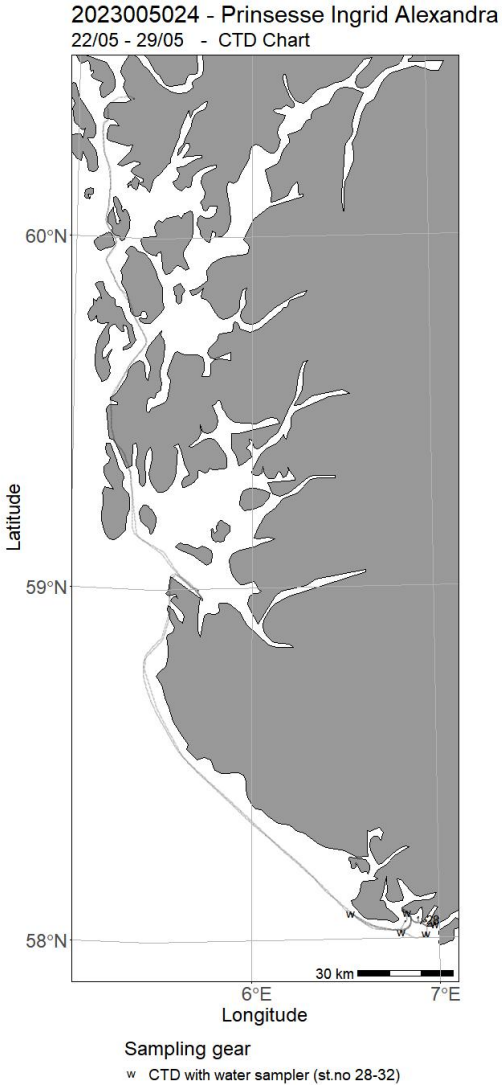


Sampling gear
w CTD with water sampler (st.no 22-24)



2023005023 - Prinsesse Ingrid Alexandra
16/05 - 16/05 - CTD Chart

Sampling gear
w CTD with water sampler (st.no 25-27)


2023005024 - Prinsesse Ingrid Alexandra
22/05 - 29/05 - CTD Chart
60°N
59°N
58°N
Latitude
6°E
7°E
Longitude
30 km
Sampling gear
w CTD with water sampler (st.no 28-32)

19 - Hired vessels – Cruises 2023

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023200002	23/01 - 24/02	Gjennomføre årlige tokt (siden 2011) for å samle inn akustiske og biologiske data på krill, annen macrozooplankton samt data om krillpredatorer fra CCAMLR subarea 48.2 i Sørishavet.	Sørishavet	-	-
2023200003	22/01 - 02/04	Prøvetaking av kommersielle fangstar av bunnfisk (særleg torsk, sei, hyse, blåkveite, uer) landa på strekninga Helgeland-Varanger. Prøvetaking 180 døgn per år fordelt på alle kvartal, men med hovudvekt på 1 og 2 kvartal.	Norskekysten	-	-
2023200005	20/03 - 27/03	Oppfølgingsstudie av forundersøkelsene av fiskefordeling og fangstrater ved Hywind Tampen som ble gjennomført i mars 2022 før utbygging av vindkraftverket var påbegynt. Dette toktet blir en tilsvarende studie av forholdene i området under konstruksjon av anlegget. For å få sammenlignbare data er det viktig at vi bruker samme metode (gradient studie med garn og akustikk) som i forundersøkelsene i 2022 .	-	-	-
2023200006	25/04 - 07/05	This survey supports activities in CRIMAC that aim to develop improved sampling tools and methods for scientific surveys and commercial fisheries. Scantrol Deep Vision AS (partner in CRIMAC) is developing a version of the DV camera system for commercial fisheries. The long-term aim is to develop a system that identifies catches entering the trawl and when needed unwanted fish can be released by opening and closing the codend.	Norskekysten: Troms og Finnmark	-	-
2023200007	11/04 - 14/05	Prøvetaking av kommersielle fangstar av bunnfisk (særleg torsk, sei, hyse, blåkveite, uer) landa på strekninga Helgeland-Varanger. Prøvetaking 180 døgn per år fordelt på alle kvartal, men med hovudvekt på 1 og 2 kvartal.	Norskekysten	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023200009	02/05 - 14/05	Estimering av totalseleksjon, seleksjon på bunn og seleksjon i overflaten med konvensjonell snurrevadsekk. Det tas tre hal etter hverandre i samme område: 1. Hal med småmasket sekk slik at det ikke foregår noen seleksjon, hverken på fiskedyp eller i overflate (kontroll). 2. Hal med kvadratmaskesekk, uten bruk av utløser (seleksjon vil foregå både på fiskedyp og i overflate). 3. Hal med kvadratmaskesekk (testsekk) med utløser og småmasket pose bak, utløsing på 30 m dyp (seleksjon vil kun kunne foregå på fiskedypet, ikke i overflaten).	Barentshavet	-	-
2023200013	02/06 - 15/06	This research project is a collaboration between projects ParaZoo (PI Luis Martell, funded by Artsdatabanken) and Pole2Pole (PI Joan Soto, funded by EU). We will study zooplankton parasites and their gelatinous hosts.	Norskekysten	-	-
2023200016	10/08 - 31/08	Årlige bestandstellinger av steinkobber langs norskekysten. Undersøkelsene gjøres i steinkobbenes årlige hårfellingsperiode (august), som er den perioden steinkobbene bruker mest tid på land og derfor er tilgjengelig for telling. HI startet en ny tellesyklus langs norskekysten i august 2022, hvor vi dekket steinkobbelokalitetene i Viken, Vestfold /Telemark og Agder.	Norskekysten: Vestlandet	-	-
2023200018	04/09 - 24/09	Prøvetaking av kommersielle fangstar av bunnfisk (særleg torsk, sei, hyse, blåkveite, uer) landa på strekninga Helgeland-Varanger. Prøvetaking 180 døgn per år fordelt på alle kvartal, men med hovudvekt på 1 og 2 kvartal.	Norskekysten: Troms og Finnmark	-	-
2023200019	04/09 - 30/09	Formål: Prøvetaking av pigghå i norske kystfarvann, etablering av datagrunnlag for bestandsanalyse. Toktet inngår i HI's satsing på databegrenset bestandsanalyse. Det er et samarbeidstokt mellom Måløy videregående skole og Havforskningsinstituttet.	Norskekysten	-	-

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023200023	05/10 - 31/10	Estimere havertens ungeproduksjon i Nordland og Trøndelag	Norskekysten: Nordland	-	-
2023200024	16/10 - 26/11	Prøvetaking av kommersielle fangstar av bunnfisk (særleg torsk, sei, hyse, blåkveite, uer) landa på strekninga Helgeland-Varanger. Prøvetaking 180 døgn per år fordelt på alle kvartal, men med hovudvekt på 1 og 2 kvartal.	Norskekysten	-	-
2023200028	06/01 - 10/01	This survey supports the projects "By-catch of seabirds in coastal purse seine fisheries" (15590-05) and "Mitigation measures for whale - fishery interactions" (15590-04), both financed by FHF.	Norskekysten: Troms og Finnmark	-	-
2023200030	21/08 - 03/09	Taskekrabbe har spred seg nordover i Troms, men utbredelse og bestandstetthet har så langt ikke blitt kartlagt. Det er ukjent om taskekrabbe overlapper med kongekrabbe, som fortsetter å spre seg vestover og har sannsynligvis etablert lokale bestander i deler av Troms. Vi planlegger derfor å kartlegge krabbebestandene i Troms for å 1) undersøke utbredelse og tetthet av taskekrabbebestanden i forhold til fysikalske parametere, sammenligne resultatene med bestående data fra kystområder på Vestlandet til Trøndelag og bruke dataene i artsutbredelsesmodellering: 2) kartlegge lokale forekomster av kongekrabbe i sørvestlige deler av Troms: 3) bestemme mulig overlapp mellom de to artene: 4) etablere et datagrunnlag for å lage bestandsindikatorer for krabber i et viktig område for fiske- og havbruksnæringen.	Norskekysten: Troms og Finnmark	-	-
2023200031	11/04 - 15/04	Fritids- og turistfiske i Andfjorden. Del 1.	Norskekysten: Nordland	-	-
2023200032	22/05 - 26/05	Fritids- og turistfiske i Andfjorden. Del 2.	Norskekysten: Nordland	-	-
2023200033	18/07 - 23/07	Fritids- og turistfiske i Andfjorden. Del 3.	Norskekysten: Nordland	-	-

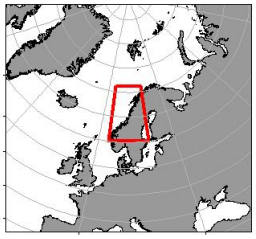
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023200034	25/09 - 30/09	Fritids- og turistfiske i Andfjorden. Del 4.	Norskekysten: Nordland	-	-
2023200035	27/05 - 30/05	SpawnSeis SPARKER	Norskekysten	-	-
2023200036	08/08 - 19/08	Årlig Miljøovervåking av hardbunn i programmet ""Økokyst"" på oppdrag fra Miljødirektoratet for rapportering etter vannforskriften. Registrering av alger og dyr på 10 dykkestasjoner i 2023 med minimum 2 dykk per stasjon langs kysten fra Grimstad til Moss til Hvaler.	Norskekysten: Sør- og Østlandet	-	-
2023200037	25/09 - 28/09	Garn serie indre kyst	-	-	-
2023200038	02/10 - 05/10	Bestandsundersøkelser av kysttorsk m.m. ved hjelp av garn/ ruse	-	-	-
2023201001	23/03 - 05/04	Fish and tag Atlantic cod with acoustic telemetry tags in Langfjord and Frakkfjord in Loppa for SalCod project.	Norwegian Sea	-	-
2023201002	18/04 - 07/05	The goal of the cruise is to monitor kelp forest conditions and effects of kelp harvesting along the west coast of Norway (from Rogaland to Vestland) in the project «Ressurovervåking - tare».	Northeast Atlantic Ocean (40W)	-	-
2023201003	02/06 - 11/06	The goal of the cruise is to monitor kelp forest conditions along the southwest coast of Nordland county (from the Trøndelag border in the south to the Vega island in the north) in the project «Ressursovervåking - tare».	Northeast Atlantic Ocean (40W)	-	-
2023201004	19/06 - 28/06	The objective of the cruise was to test the performance a modified salmon trap (trap-net, pound net) to catch pink salmon in the sea.	Northeast Atlantic Ocean (40W)	-	-
2023201005	05/08 - 01/09	Coverage of groth areas for costal cod.	Norwegian Sea	-	-
2023201006	08/07 - 15/07	Benthic sampling around Bergsfjord area in conjunction with WP4 of SalCod project	Norskekysten: Troms og Finnmark	-	-

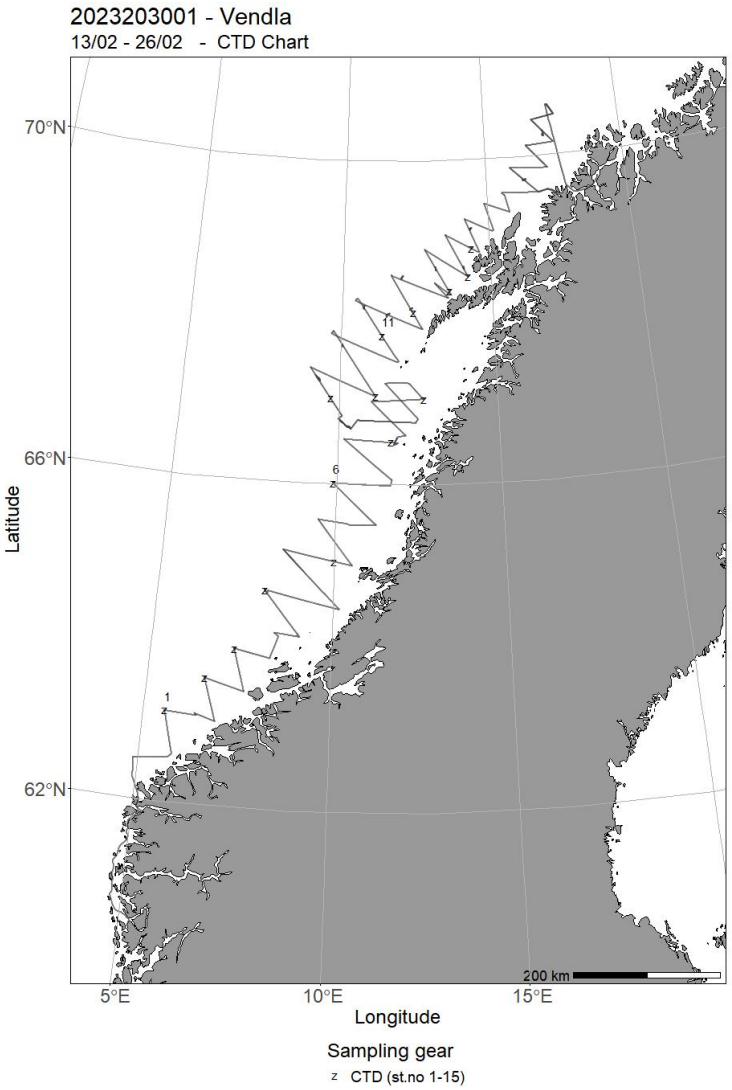
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023203001	13/02 - 26/02	Collection of acoustic data from echo sounder for biomass estimation of herringCollection of biological samples for estimation of species and size composistion in the acoustic observations Collection of hydrographic data (CTD)	Norwegian Sea	1-15	1-12
2023203002	17/03 - 03/04	International blue whiting spawning stock survey. Acoustic survey to monitor the spawning stock of blue whiting on the spawning grounds west of the British Isles.	Northeast Atlantic Ocean (40W)	16-46	31-48
2023203003	04/07 - 04/08	Trawl survey to monitor the stock of Atlantic mackerel using swept area methodology. Acoustic survey to monitor the spawning stock of Norwegian spring spawning herring and the stock of blue whiting in the Nordic Seas. Ecological studies (temperature, plankton, whale observations) in relation to pelagic fish.	Norwegian Sea	47-103	49-114
2023203029	26/02 - 09/03	Testing of trawl-acoustic stock estimation of spawning capelin 2023	Norskekysten: Troms og Finnmark	-	13-30
2023204001	13/02 - 26/02	Provide acoustic estimates of abundance and distribution of Norwegian spring spawning herring during the spawning migration along the Norwegian coast.	Norwegian Sea	1-14	1-8
2023204002	04/07 - 04/08	Swept-area pelagic trawl survey to monitor and produce annual abundance index for the stock of Atlantic mackerel using swept area methodology. Acoustic survey to monitor the spawning stock of Norwegian spring spawning herring and the stock of blue whiting in the Nordic Seas. Ecological studies (temperature, plankton, whale observations) in relation to pelagic fish.	Norwegian Sea	-	14-70
2023205001	19/04 - 16/05	Tagging with RFID technology and biological sampling of mackerel in the spawning areas west of Shetland and west of the Hebrides.	North Atlantic Ocean	-	-

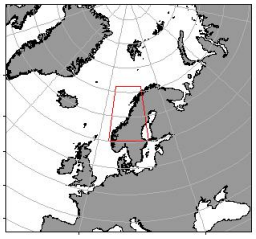
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023208001	21/11 - 08/12	Catch and release tagging of Norwegian Spring Spawning herring with RFID tags on their wintering grounds. Herring are caught with a purse seine, pumped into holding tanks on the boat via a vacuum pump system. The fish are then measured for length and tagged with a RFID chip and released after tagging.	Norwegian Sea	-	-
2023209001	21/06 - 11/08	Telling av hval i perioden 2020-2025 med vågehval som målart, slik at vi i 2026 kan presentere et totalestimat for vågehval for Nordøstatlanteren til bruk i RMP. I 2023 skal Nordsjøen, forvaltningsområde EN, dekkes.	Nordsjøen	-	-
2023211010	15/05 - 11/06	Toktet har som hensikt å fange utvandrende vill laksesmolt som en del av den nasjonale overvåkningen på vill laksefisk. Laksesmolt fanges i ytre deler av utvalgte fjordsystem med en spesialbygget pelagisk trål	Norskekysten: Vestlandet	-	-
2023212008	01/05 - 28/05	Toktet har som hensikt å fange utvandrende vill laksesmolt som en del av den nasjonale overvåkningen på vill laksefisk. Laksesmolt fanges i ytre deler av utvalgte fjordsystem med en spesialbygget pelagisk trål	Norskekysten: Vestlandet	-	-
2023213011	15/05 - 11/06	Toktet har som hensikt å fange utvandrende vill laksesmolt som en del av den nasjonale overvåkningen på vill laksefisk. Laksesmolt fanges i ytre deler av utvalgte fjordsystem med en spesialbygget pelagisk trål	Norskekysten: Vestlandet	-	-
2023213014	19/06 - 16/07	Toktet har som hensikt å fange utvandrende vill laksesmolt som en del av den nasjonale overvåkningen på vill laksefisk. Laksesmolt fanges i ytre deler av utvalgte fjordsystem med en spesialbygget pelagisk trål	Norskekysten: Troms og Finnmark	-	-

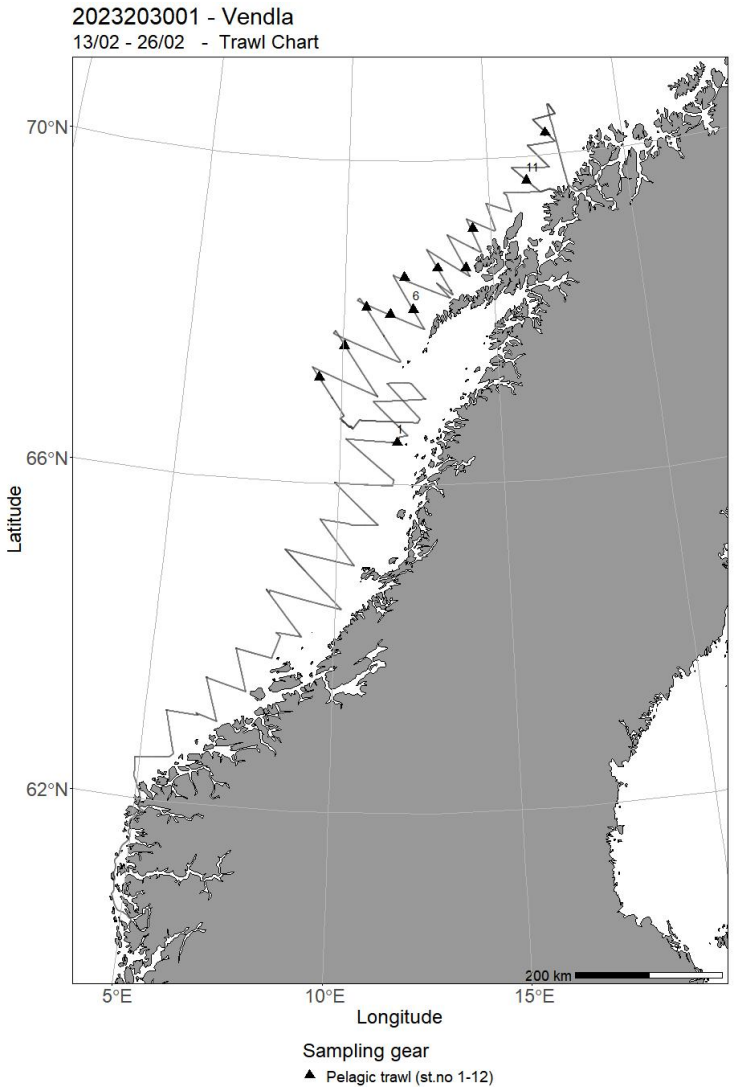
Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023216026	24/04 - 05/05	Teineundersøkelsene av sjøkreps i Frohavet startet som en del av prosjektet Aktiv Forvaltning, med mål om å følge bestandsutviklingen i og utenfor et verneområde. Et slikt verneområde er ennå ikke etablert.	Norskekysten: Trøndelag/Møre	-	-
2023219001	14/03 - 22/03	Når kolmulestimene som det fiskes på er tette, hender det at hundredvis av tonn kommer inn i trålen i løpet av kun få minutter. Det er derfor behov for å kunne regulere fangstmengde på en mer effektiv måte enn bare ved bruk av sensorer (tråløye ogfangstsensorer på pose). Dette fordi det ofte står mye fisk igjen fremover i trålen når en begynner å hive, samt at en fortsetter å fiske under første del av hivingen når det er store, tette stimer.	Atlanterhavet NØ	-	-
2023220001	03/03 - 19/03	Når kolmulestimene som det fiskes på er tette, hender det at hundredvis av tonn kommer inn i trålen i løpet av kun få minutter. Det er derfor behov for å kunne regulere fangstmengde på en mer effektiv måte enn bare ved bruk av sensorer (tråløye ogfangstsensorer på pose). Dette fordi det ofte står mye fisk igjen fremover i trålen når en begynner å hive, samt at en fortsetter å fiske under første del av hivingen når det er store, tette stimer.	Atlanterhavet NØ	-	-
2023222001	09/10 - 23/10	Føremålet med toktet er å undersøke forekomst av kysttorsk og andre arter på gruntvatn langs Norskekysten frå Nordland til Ryfylke. Vidareføring av tidsserie. Fisket foregår med finmaska trollgarn og åleruser. Er spesielt viktig for å kartlegga rekruttering av kysttorsk m.m.	Norskekysten: Vestlandet	-	-

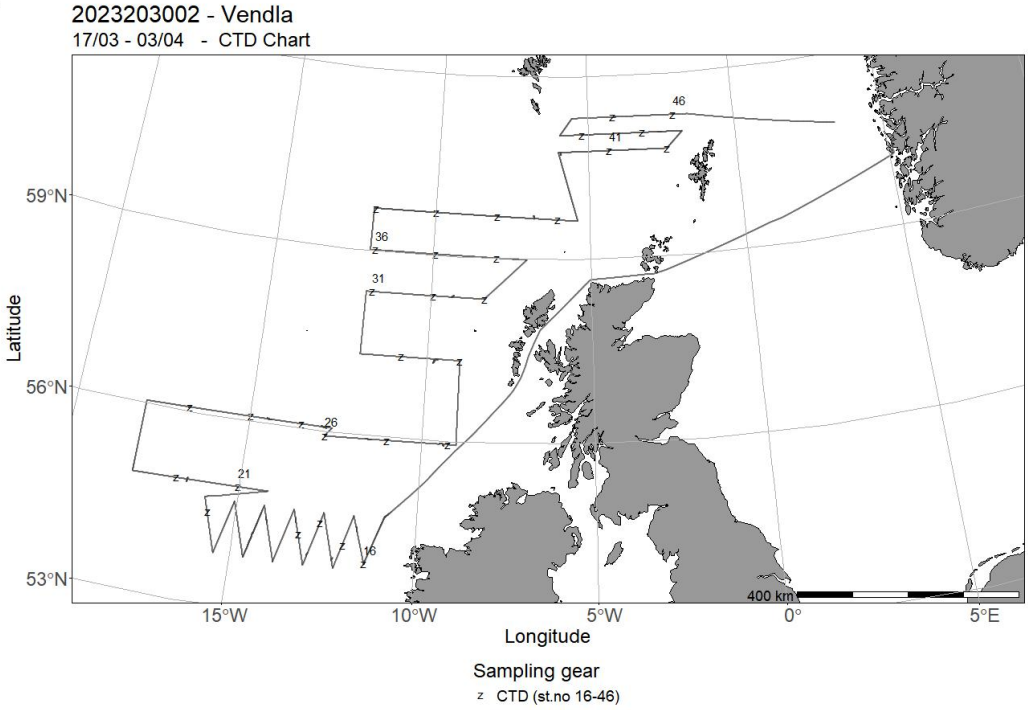
20 - Hired vessels – Charts for 2023

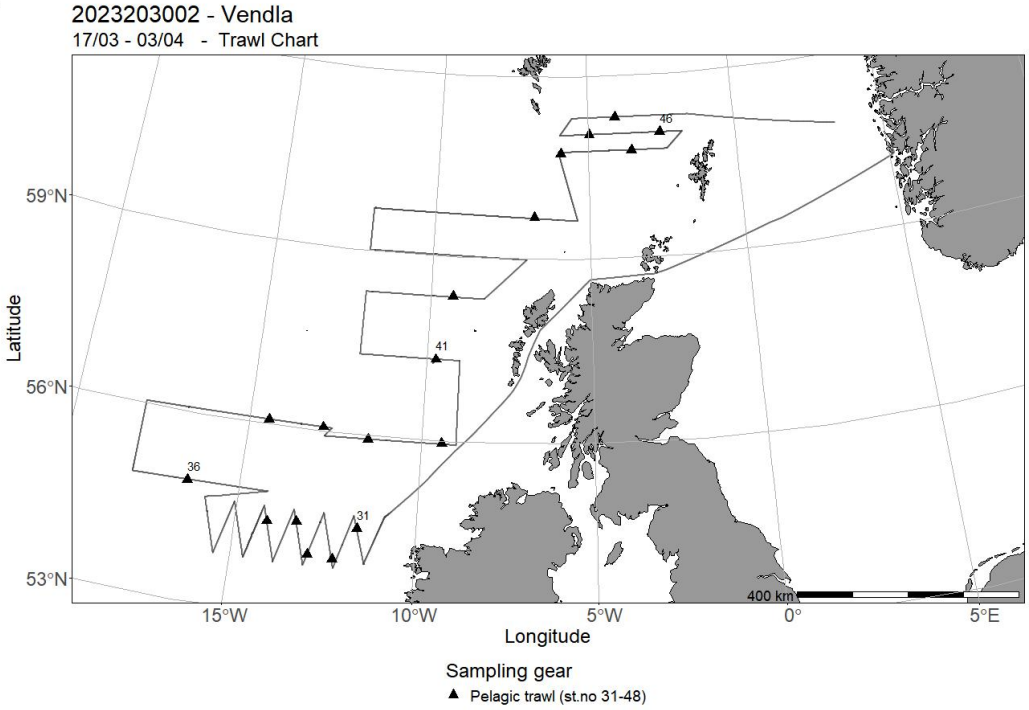


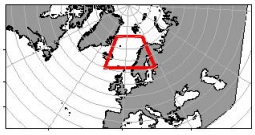


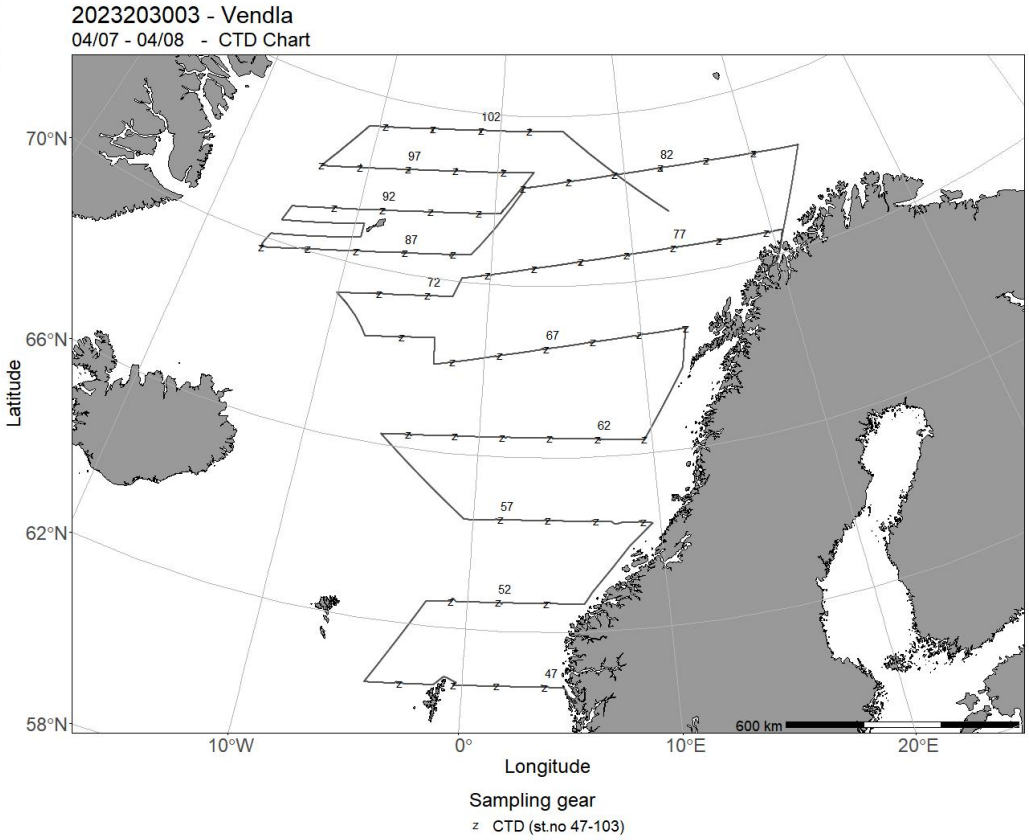


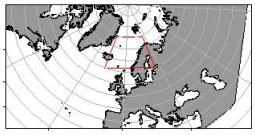

2023203001 - Vendla
13/02 - 26/02 - Trawl Chart
70°N
66°N
62°N
Latitude
11
6
1
200 km
5°E
10°E
15°E
Longitude
Sampling gear
Pelagic trawl (st.no 1-12)

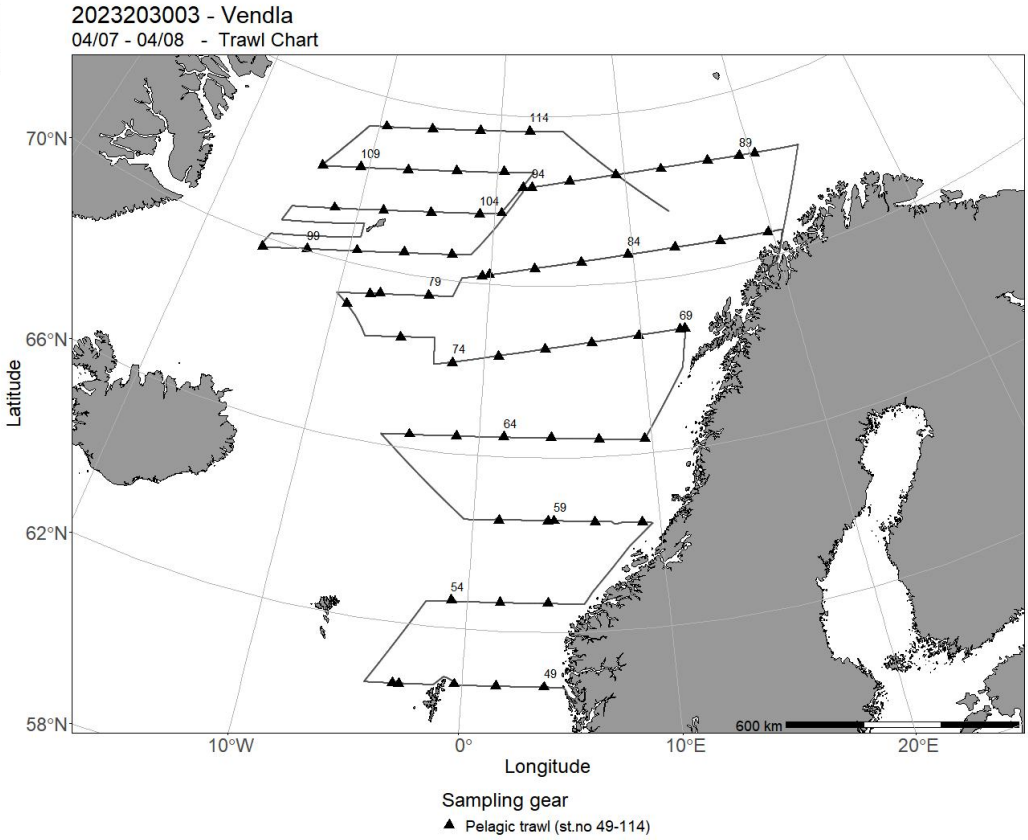

2023203002 - Vendla
17/03 - 03/04 - CTD Chart
59°N
56°N
53°N
Latitude
15°W
10°W
5°W
0°
5°E
Longitude
400 km
46
41
36
31
26
21
16
Sampling gear
z CTD (st.no 16-46)

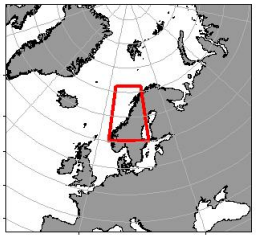

2023203002 - Vendla
17/03 - 03/04 - Trawl Chart
59°N
56°N
53°N
Latitude
15°W
10°W
5°W
0°
5°E
Longitude
400 km
46
41
36
31
Sampling gear
Pelagic trawl (st.no 31-48)

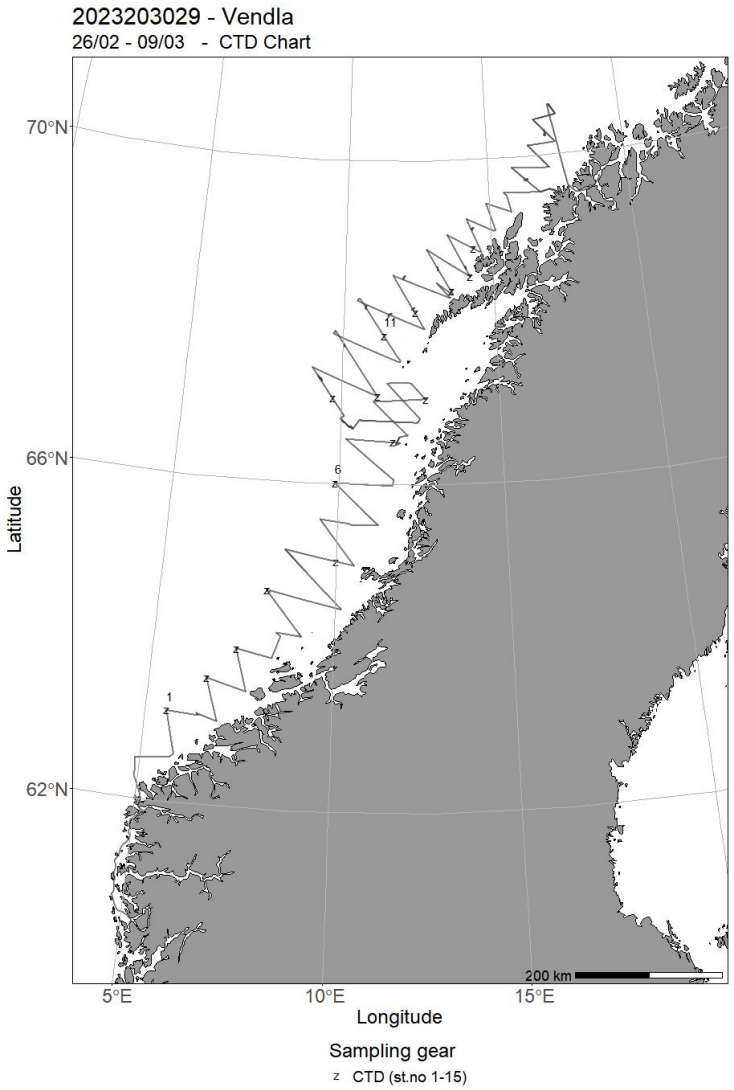


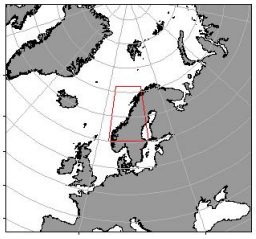

2023203003 - Vendla
04/07 - 04/08 - CTD Chart
102
97
92
87
82
77
72
67
62
57
52
47
70°N
66°N
62°N
58°N
Latitude
10°W
0°
10°E
20°E
Longitude
600 km
Sampling gear
z CTD (st.no 47-103)

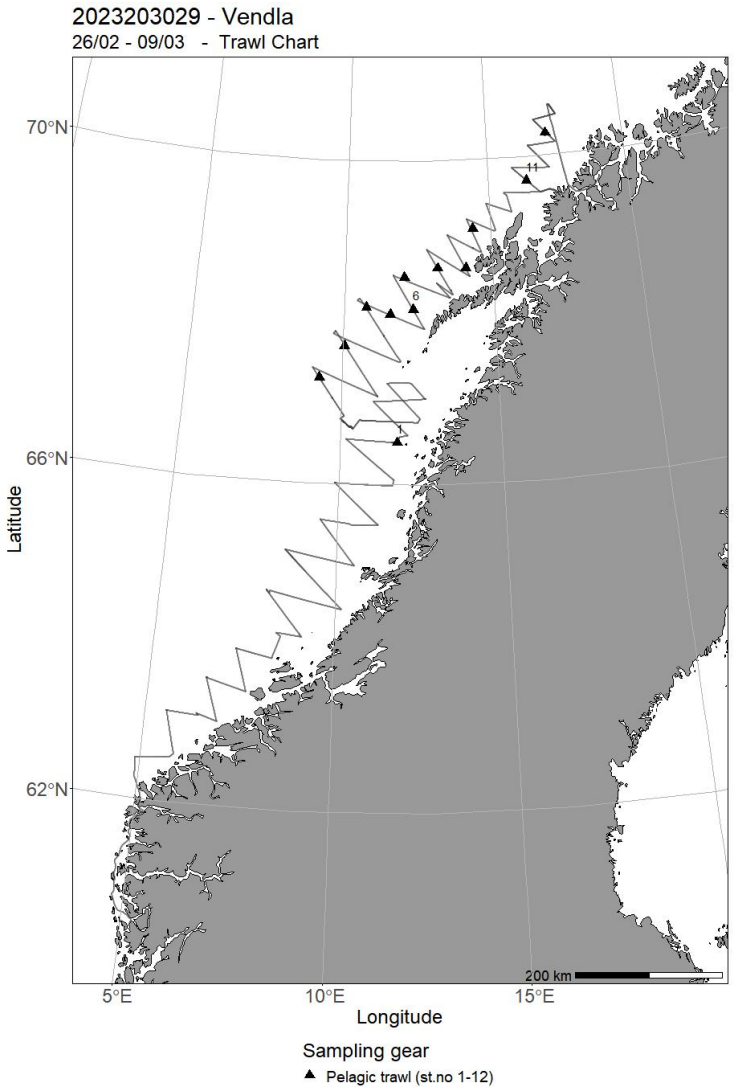


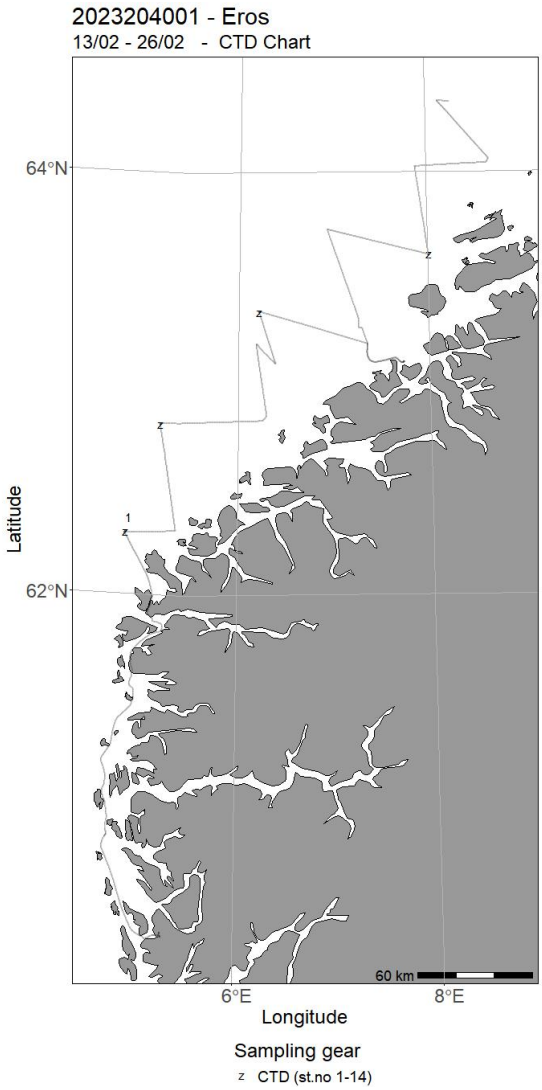

2023203003 - Vendla
04/07 - 04/08 - Trawl Chart
70°N
66°N
62°N
58°N
Latitude
10°W
0°
10°E
20°E
Longitude
600 km
114
109
94
89
104
99
84
79
69
74
64
59
54
49
Sampling gear
Pelagic trawl (st.no 49-114)

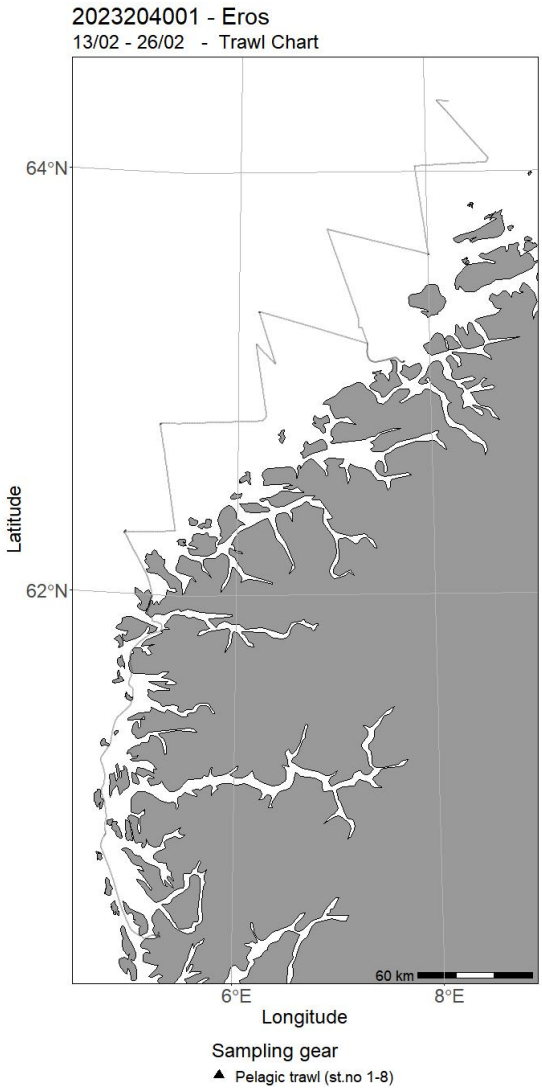


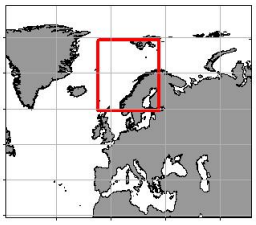

2023203029 - Vendla
26/02 - 09/03 - CTD Chart
70°N
66°N
62°N
Latitude
5°E
10°E
15°E
Longitude
200 km
Sampling gear
z CTD (st.no 1-15)

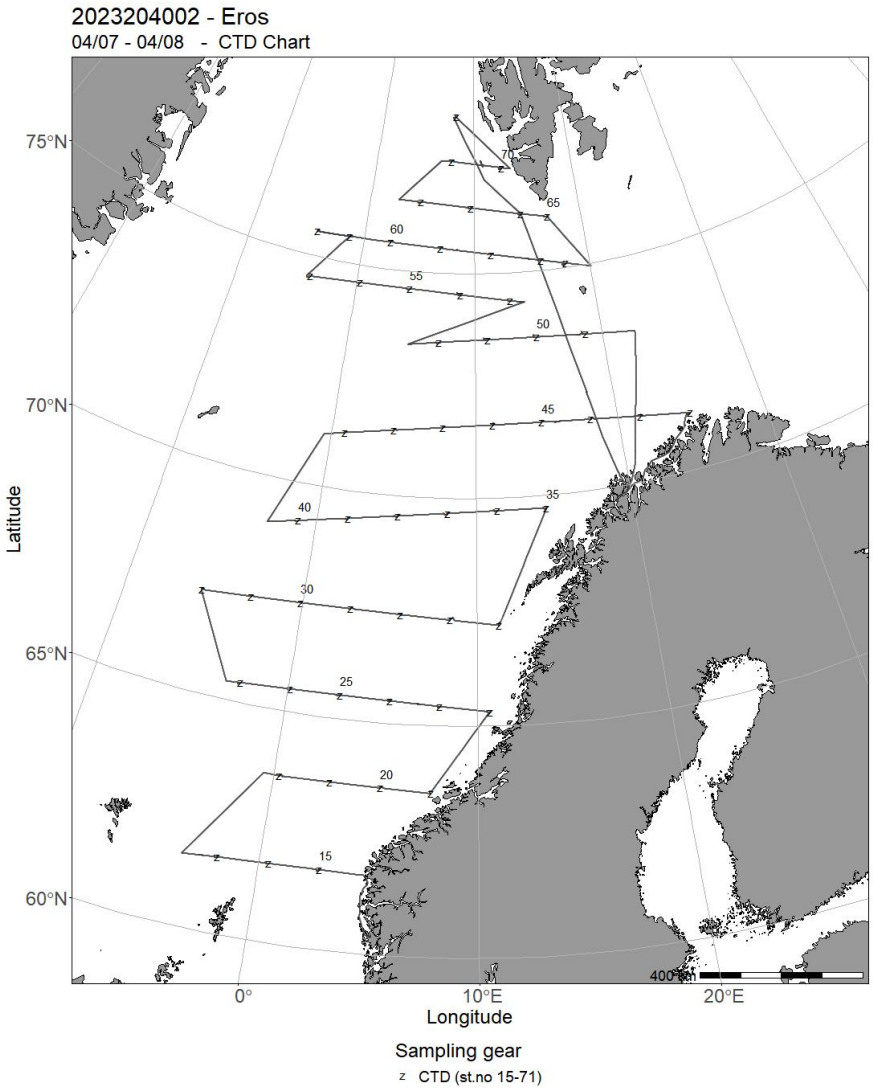


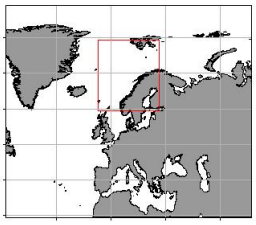

2023203029 - Vendla
26/02 - 09/03 - Trawl Chart
70°N
66°N
62°N
Latitude
5°E
10°E
15°E
Longitude
200 km
11
6
Sampling gear
Pelagic trawl (st.no 1-12)

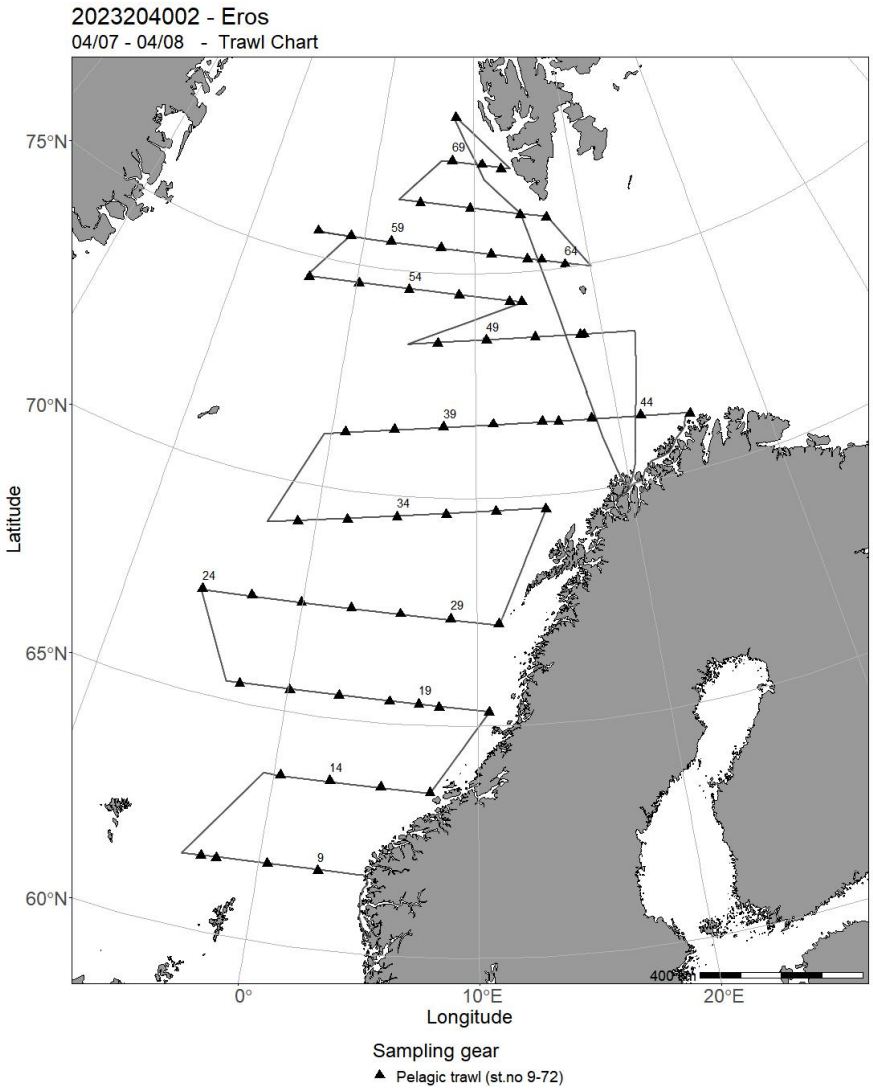

2023204001 - Eros
13/02 - 26/02 - CTD Chart
64°N
62°N
Latitude
6°E
8°E
Longitude
60 km
Sampling gear
z CTD (st.no 1-14)


2023204001 - Eros
13/02 - 26/02 - Trawl Chart
64°N
62°N
Latitude
60 km
6°E
8°E
Longitude
Sampling gear
Pelagic trawl (st.no 1-8)




2023204002 - Eros
04/07 - 04/08 - CTD Chart
75°N
70°N
65°N
60°N
Latitude
0°
10°E
20°E
Longitude
70
65
60
55
50
45
40
35
30
25
20
15
400 km
Sampling gear
CTD (st.no 15-71)

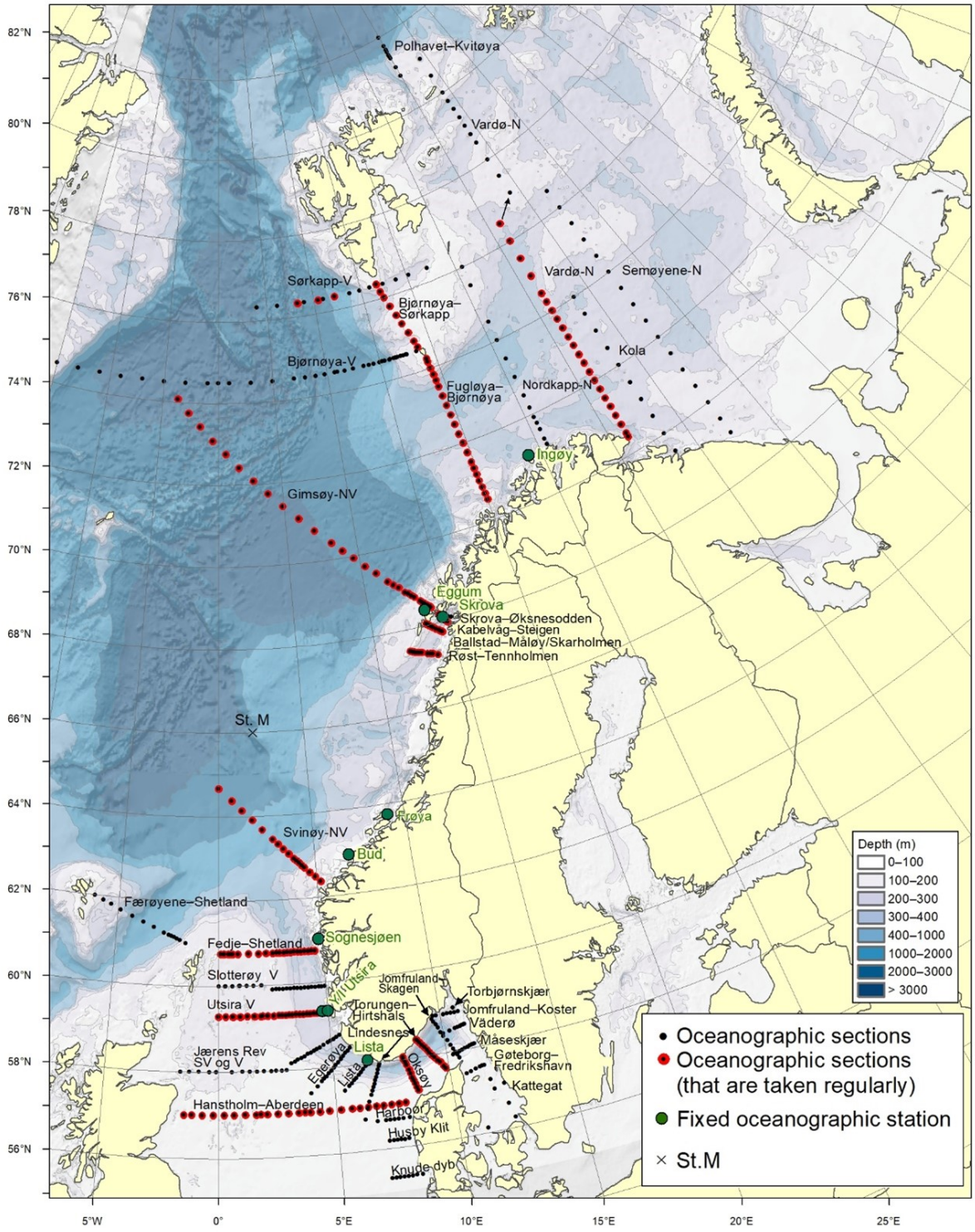



2023204002 - Eros
04/07 - 04/08 - Trawl Chart
75°N
70°N
65°N
60°N
Latitude
0°
10°E
20°E
Longitude
400 km
69
64
59
54
49
44
39
34
29
24
19
14
9
Sampling gear
Pelagic trawl (st.no 9-72)

21 - USV – Cruises 2023

Cruise no	Period	Purpose	Area	CTD st.no	Trawl st.no
2023000001	21/08 - 25/08	Gjennomføre akustiske-trål brilsingtokt i Hardangerfjorden der EK80 data samles inn med USV Sounder, USV Kajakk Drone og FF Kristine Bonnevie (KB). Biologisk prøvetaking vil skje fra KB. Det er også en målsetning å undersøke om det er plattformavhengige forskjeller i akustiske tettheter og vertikalfordelinger av brisling. I tillegg vil det gjennomføres kursing av HI-personell for navigering av Sounder samt gjennomføre rekkeviddetester av MBR.	Norskekysten: Vestlandet	-	-
2023000002	21/08 - 25/08	Gjennomføre akustiske-trål brilsingtokt i Hardangerfjorden der EK80 data samles inn med USV Sounder, USV Kajakk Drone og FF Kristine Bonnevie (KB). Biologisk prøvetaking vil skje fra KB. Det er også en målsetning å undersøke om det er plattformavhengige forskjeller i akustiske tettheter og vertikalfordelinger av brisling. I tillegg vil det gjennomføres kursing av HI-personell for navigering av Sounder samt gjennomføre rekkeviddetester av MBR.	Norskekysten: Vestlandet	-	-
2023301001	24/10 - 24/10	Frigg USV	-	-	-
2023301002	16/11 - 21/11	Frigg USV	-	-	-

22 - Oceanographic sections and Fixed oceanographic stations map



23 - Tables – Observations in 2023. Oceanographic sections and fixed oceanographic stations

Oceanogr. sec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	No
North Sea											
Fedje–Shetland				2023002006							
Slotterøy-West				2023002006							
Utsira-West	2023002001			2023002006			2023006013				
Jærens Rev-SW and W				2023002006							
Egerøya-SW					2023002006						
Lista-SW					2023002006						
Lindesnes-SSW					2023002006						
Hanstholm–Aberdeen	2023002001			2023002006			2023006013				
Harboør					2023002006						
Hysby Klit					2023002006						
Knude-Dyb					2023002006						

Oceanogr. sec.	Jan	Feb	Mar	Apr	May	Jun
Skagerrak and Katte						
Torungen–Hirtshals	2023003001	2023003002	2023003003	2023003006	2023002006,2023003008	2023003
Oksøy–Hanstholm					2023002006	

Oceanogr. sec.	Jan	Feb	Mar	Apr	May	Jun
Jomfruland–Skagen					2023002006	
Jomfruland–Koster					2023002006	
Torbjørnskjær						
Väderø					2023002006	
Måseskjær					2023002006	
Gøteborg–Fredrikshavn					2023002006	
Kattegat						

Oceanogr. sec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	S
The Norwegian Sea and Vestfjorden									
Svinøy-North/West	2023002002		2023006005		2023002007			2023002010	
Gimsøy-North/West			2023006005		2023002007			2023002010	
Bjørnøya-West						2023002007		2023002010	
Sørkapp-West									
Færøyene–Shetland									
Skrova–Øksnesodden									
Kabelvåg–Steigen									
Ballstad–Måløy/Skarholmen									
Røst–Tennholmen									

Oceanogr. sec.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	
The Barents Sea										
Fugløya–Bjørnøya	2023002002		2023006005	2023006008		2023002007		2023002010		
Vardø-North										20
Semøyene-North										
Bjørnøya–Sørkapp										
Nordkapp-North										
Polhavet–Kvitøya										
Kola										
Fair Isle-Pentland										

Fixed stations	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	N
LISTA N58º 05,1' E06º 32,5'	3	3	3	3	3	3	3	2	2	3	
UTSIRA Y N59º 19' E04º 44'	4	3	5	4	3	4	4	3	3	5	
UTSIRA I N59º 19'E04º 59'	4	3	5	4	5	4	4	3	3	5	
SOGNESJØEN N61º 01' E04º 50'	1	1	1	2	2	2	2	4	1	3	
BUD N62º 56' E06º 47'	3	3	2	4	4	3	3	4	3	3	
SKROVA N68º 07' E14º 39'	3		4	3	5	3	3	4	2	4	
EGGUM N68º 23' E13º 38'	4	1	4	3	5	4	5	4	3	5	
INGØY N71º 08' E24º 01'		1			1	1	1	2	1		

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