

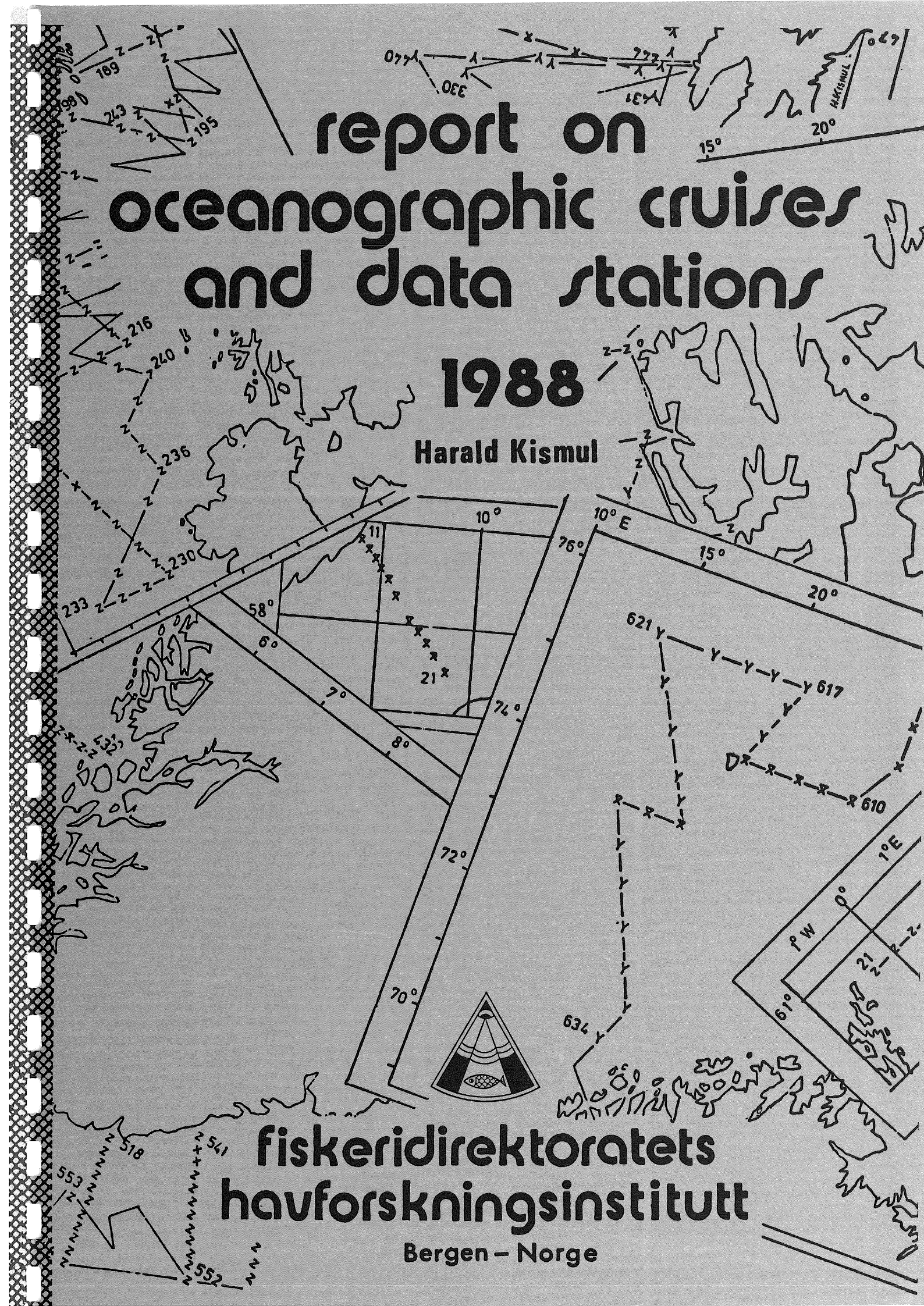
report on oceanographic cruises and data stations

1988

Harald Kismul

fiskeridirektoratets
havforskningsinstitutt

Bergen - Norge



ICES Annual Report on Oceanographic Cruises and Data Stations.

Country: NORWAY

Year: 1988

Ship: G.O. SARS

Ship no: 15

Cruise and ship number	Period of cruises	Number of Stations													Cont. obs.				Page of track chart		
		Classical oceanogr. st.	Vertical profiles (CTD)	ARGOS drifters	MOCNESS Trawl	ADCP	ISAAC KIDD	Oxygen	Nutrients	Chlorophyll	Aanderaa Current Meters	Pelagic Trawl	Bottom Trawl	Pelagic Egg and Larvae	Zooplankton	Phytoplankton	Surface Temperature	Transparency		Echo Sounding	Echo Integration
1/15	10.01-24.01		104									6	23				X	X	X	X	13
2/15	26.01-07.03		147									14	123				X	X	X	X	14-15-16
3/15	09.03-21.03		101									4	6				X	X	X	X	17
4/15	25.03-24.04		73									50					X	X	X	X	18-19
5/15	26.04-12.05		94					94				20	10		140	140	X	X	X	X	20-21
6/15	12.05-23.05		167	5	2	4							9				X	X	X	X	22-23
7/15	24.05-04.06		58									58	2		7	7	X	X	X	X	24-25
8/15	04.06-11.06		64			31						6	3		40	40	X	X	X	X	26-27
9/15	08.07-22.07		78		12			9	78			5	1		78	78	X	X	X	X	28-29
10/15	25.07-20.08		117									40					X	X	X	X	30
11/15	22.08-07.09		77									88	3				X	X	X	X	31-32
12/15	11.09-16.10		123									24	29				X	X	X	X	33-34
13/15	23.10-7.11		81									3					X	X	X	X	35
14/15	07.11-27.11		30									2	29				X	X	X	X	36-37
15/15	28.11-02.12		33														X	X	X	X	38
Total			1347	5	14		35	9	172		2	321	239		265	265					

ICES Annual Report on Oceanographic Cruises and Data Stations.

Country: NORWAY

Year: 1988

Ship: MICHAEL SARS

Ship no: 11

Cruise and ship number	Period of cruises	Number of Stations														Cont. obs.				Page of track chart
		Classical oceanogr. st.	Vertical profiles (CTD)	ARGOS drifters	ADCP	Oxygen	Nutrients	Chlorophyll	Gill net	Island scallop dredging	Pelagic Trawl	Bottom Trawl	Zooplankton	Phytoplankton	Surface Temperature	Transparency	Echo Sounding	Echo Integration		
1/11	05.01-23.01		27								11	4			X	X	X	X	39-40	
2/11	27.01-26.02		52								8	98			X	X	X	X	41	
3/11	26.02-08.03										7	17			X	X	X	X	42	
4/11	09.03-02.04		121								23	3			X	X	X	X	43	
5/11	05.04-17.04		58								5	3	15	15	X	X	X	X	44	
6/11	22.04-20.05		118								104				X	X	X	X	45-46	
7/11	15.06-15.07		295				104	3			6	1	252	252	X	X	X	X	47-48-49-50	
8/11	19.07-20.08		99									99			X	X	X	X	51-52	
9/11	26.08-01.09		33						208						X	X	X	X	53	
10/11	08.09-16.10		178	9							76	17			X	X	X	X	54-55	
11/11	24.10-17.11		111								5	117			X	X	X	X	56-67	
12/11	18.11-12.12		67								64				X	X	X	X	58-59	
Total			1159	9				104	3	208	309	359		267	267					

ICES Annual Report on Oceanographic Cruises and Data Stations.

Country: NORWAY

Year: 1988

Ship: ELDJARN

Ship no: 14

Cruise and ship number	Period of cruises	Number of Stations														Cont. obs.				Page of track chart		
		Classical oceanogr. st.	Vertical profiles (CTD)	ARGOS drifters	Rosette sampler	Grab	Mocness trawl	Oxygen	Nutrients	Chlorophyll	Algae sample	Bottle cast (Niskin)	Pelagic Trawl	Bottom Trawl	Pelagic Egg and Larvae	Zooplankton	Phytoplankton	Surface Temperature	Transparency		Echo Sounding	Echo Integration
1/14	25.01-20.02	9	98										45		77	77	X	X	X	X	60-61	
2/14	22.02-24.03		157									24					X	X	X	X	62-63	
3/14	25.03-04.04		181	7										17	190	190	X	X	X	X	64-65	
4/14	05.04-18.04		89									53			89	89	X	X	X	X	66-67-68	
5/14	19.04-29.04		179			14		89	89	14					179	179	X	X	X	X	69	
6/14	30.04-25.05		184									183	1	181	181	181	X	X	X	X	70-71	
7/14	29.05-04.06		42		40	1		39	39	40		7	8	8	8	8	X	X	X	X	72-73	
8/14	24.06-16.07		39									36	23				X	X	X	X	74	
9/14	18.07-21.08		125									100					X	X	X	X	75-76	
10/14	23.08-06.09		87									93					X	X	X	X	77-78	
11/14	10.09-21.10		227									38	44				X	X	X	X	79-80	
12/14	22.10-06.11											19					X	X	X	X	81	
13/14	11.11-11.12		378					18	378			26	39				X	X	X	X	82-83	
Total		9	1786	7	40	1	14	18	506	128	40	14	579	160	206	724	724					

ICES Annual Report on Oceanographic Cruises and Data Stations.

Country: NORWAY

Year: 1988

Ship: G.M: DANNEVIG

Ship no: 16

Cruise and ship number	Period of cruises	Number of Stations														Cont. obs.				Page of track chart	
		Classical oceanogr. st.	Vertical profiles (CTD)	ARGOS drifters	Chrysochromulina polylepis	ADCP		Oxygen	Nutrients	Chlorophyll	Beachsein	9' IKMT	Pelagic Trawl	Shrimp Trawl	Pelagic Egg and Larvae	Zooplankton	Phytoplankton	Surface Temperature	Transparency		Echo Sounding
1/16	15.01-16.01	6					6	6	6								X	X	X	X	84
2/16	13.02	11					11	11	11								X	X	X	X	84
3/16	07.03-08.03	12					12	12	12							X	X	X	X	84	
4/16	15.03-18.03										20			20			X	X	X	X	84
5/16	11.04-23.04	111					111	111	111					X			X	X	X	X	84
6/16	11.05	12					12	12	12								X	X	X	X	84
7/16	20.05-25.05	42			X		42	42	42								X	X	X	X	85
8/16	26.05-02.06	76					76	76	76								X	X	X	X	85
9/16	06.06-13.06	16			X		12	12	12								X	X	X	X	85
10/16	23.06-30.06	11					11	11	11				16				X	X	X	X	85
11/16	01.07-07.07	24					24	24	24								X	X	X	X	85
12/16	11.07-15.07	35					35	35	35								X	X	X	X	85
13/16	25.07-29.07	16					16	16	16								X	X	X	X	85
14/16	29.08-30.08	12					12	12	12								X	X	X	X	85
15/16	08.09-13.09	33					33	33	33		32			32			X	X	X	X	87
16/16	16.09-01.10	42					42	42	42	21							X	X	X	X	86

ICES Annual Report on Oceanographic Cruises and Data Stations.

Country: NORWAY

Year: 1988

Ship: G.M. DANNEVIG

Ship no: 16

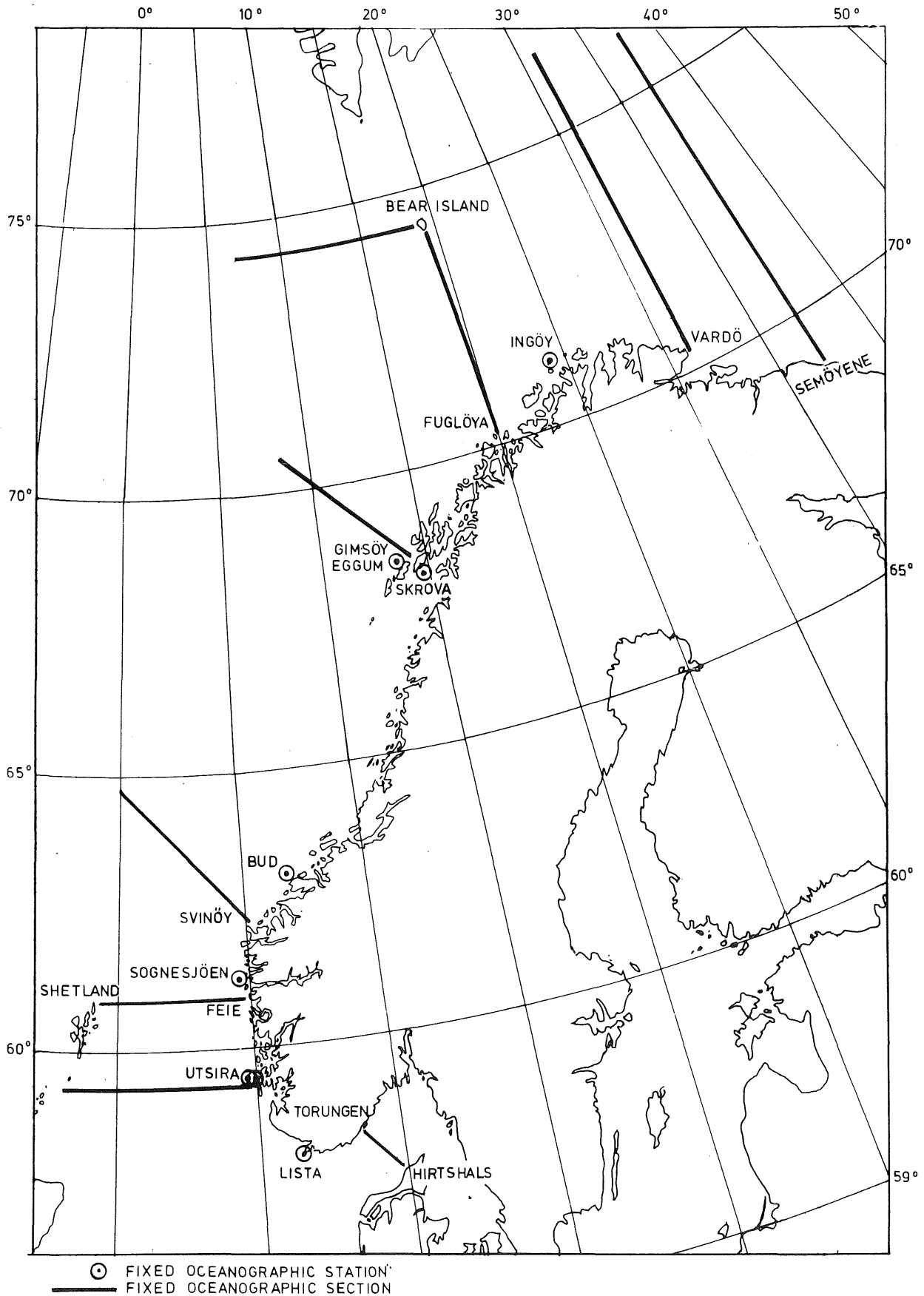
Cruise and ship number	Period of cruises	Number of Stations													Cont. obs.				Page of track chart		
		Classical oceanogr. st.	Vertical profiles (CTD)	ARGOS drifters	Chrysochromulina polylepis	ADCP	Oxygen	Nutrients	Chlorophyll	Beachsein	9' IKMT	Pelagic Trawl	Shrimp Trawl	Pelagic Egg and Larvae	Zooplankton	Phytoplankton	Surface Temperature	Transparency		Echo Sounding	Echo Integration
17/16	04.10-18.10		27				27	27	27								X	X	X	X	87
18/16	24.10-27.10		19				19	19	19		24			24			X	X	X	X	87
19/16	01.11-03.11		16				16	16	16								X	X	X	X	87
20/16	08.11-11.11		13				13	13	13		17			17			X	X	X	X	87
21/16	17.11-02.12		15				15	15	15								X	X	X	X	87
22/16	13.12-17.12		25				25	25	25		29			29			X	X	X	X	87
Total			574		X		574	574	574	21	122		16	122		X					

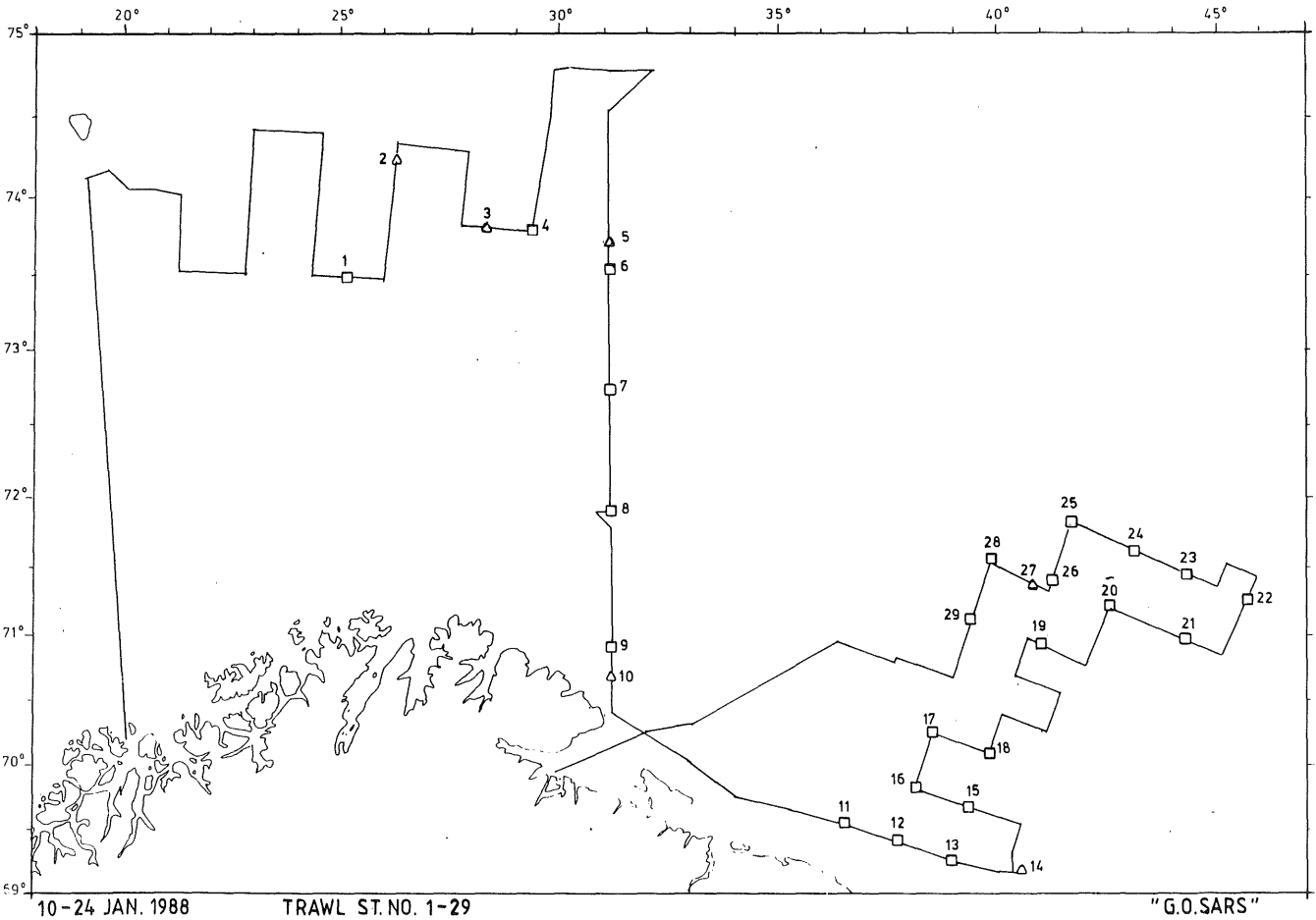
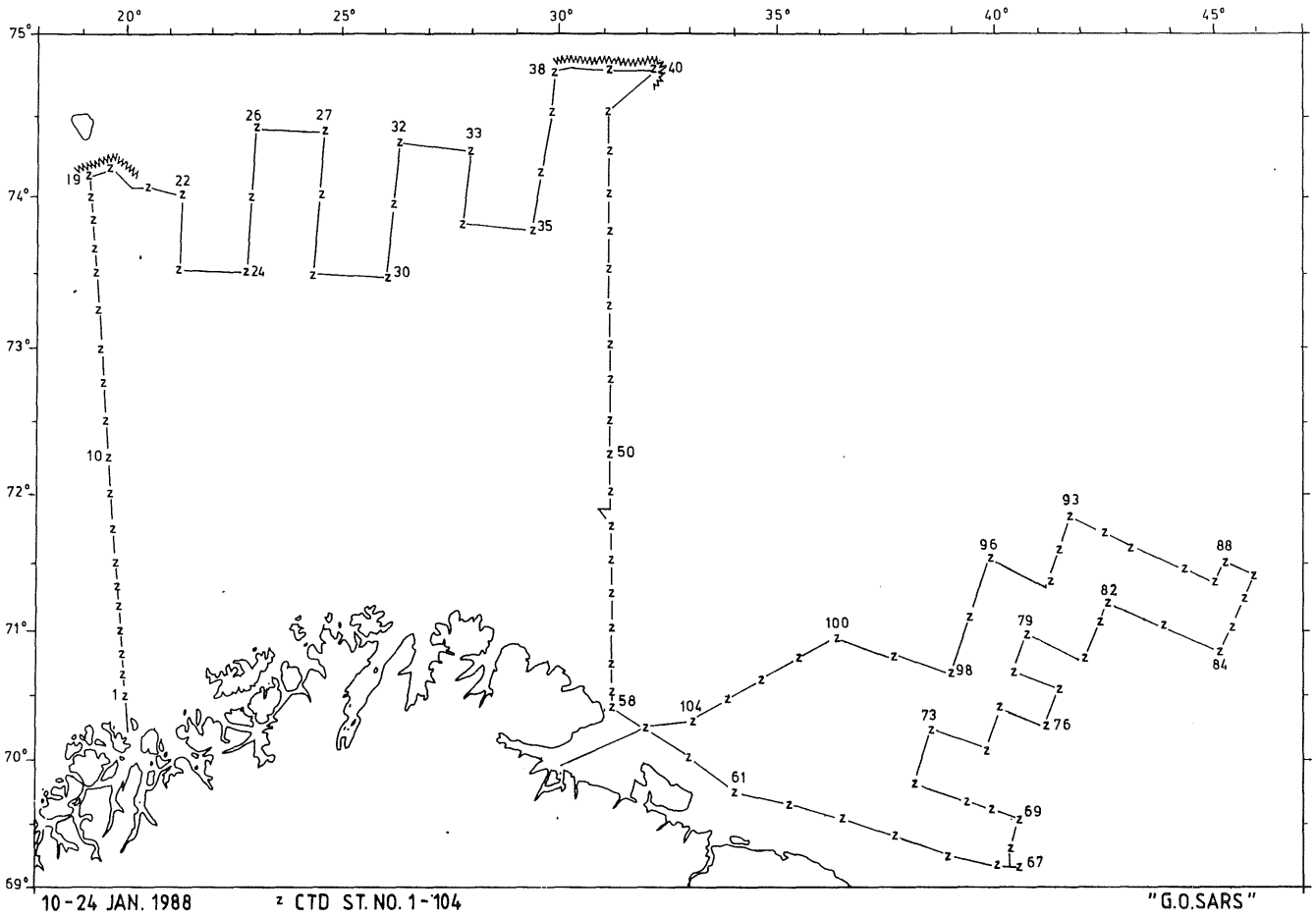
FIXED OCEANOGRAPHIC STATIONS	YEAR: 1988												
	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
LISTA N58°01' E06°32'	7-16-26	4-13-22	2-12-21- 30	6-18-27	7-16-26	6-14-27	6-14-28	8-18-29	8-21	1-11-20- 31	11-22	3-14-27	36
UTSIRA Y N59°19' E04°48'	4-18-27	6-17-26	7-25	7-18-27	7-16-27	7-20	1-12-21	1-10-25	6-16				24
UTSIRA I N59°19' E04°59'	4-18-27	6-17-26	7-25	7-18-27	7-16-27	7-20	1-12-21	1-10-25	6-16				24
SOGNESJØEN N61°01,4' E04°50'	2-	6-	7-22-30	23-30	14-23	4-11-28	13-23	9-20	16-	8-15-29	19	3-31	23
BUD N62°56' E06°47'	2-14-26	10-24	8-21	12-23	4-16	6-20	2-15-29	10-24	6-21	5-18	2-14-28		25
SKROVA N68°07,5' E14°39'	6-15-21- 28	4-11-18- 25	3-10-17- 24-30	7-14-21- 28	5-12-19- 26	2-9-16- 23-30	7-14-21- 28	4-11-18- 25	1-9-15- 21-29	8-14-19- 27	3-15-23- 30	6-12-14- 21	51
EGGUM N68°22,8' E13°39'		1-13-29	19	8-22		1-24	9-25	15-31	15	2-31	18	6-27	18
INGØY N71°08' E24°01'	9-20	2-12-24	6-15-23	2-11-19- 28	6-15-24	3-12-22	1-10-18- 27	5-14-21- 30	16-27	13-30	9-19		32

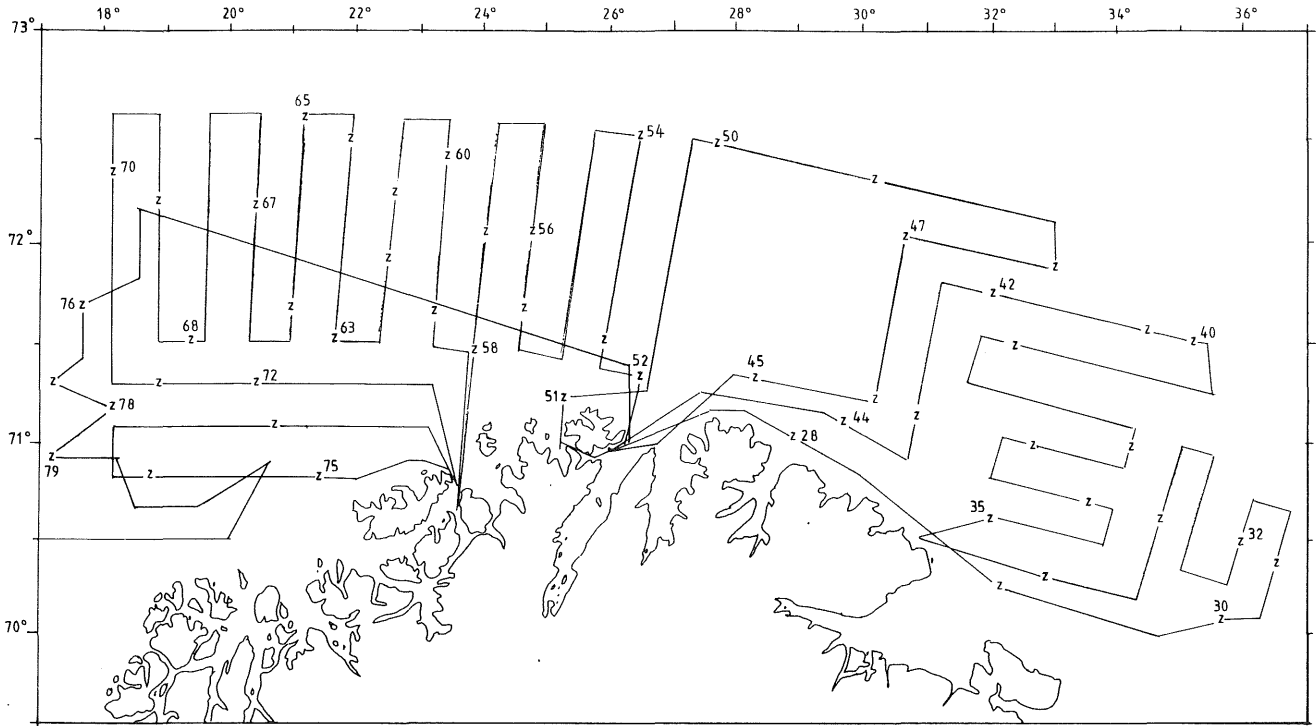
ARGOS DRIFTERS

CATALOGUE NO.	I.D. No.	DEPLOYED DATE ⊙	RECOVERED DATE ▲	DROGUE DEPTH IN METRES	DROGUE LOST	PAGE OG TRACK CHART
31	1580	2/4	22/4	30		98
32	1583	3/4	10/4	30		98
33	1583	14/4	25/4	30		99
34	1584	29/3	19/4	30	x	99
35	1586	3/4	12/4	30		99
36	1558	29/3	22/6	30		100
37	1572	3/4	14/4	30		100
38	1587	4/4	9/4	30		100
39	1558	7/7	23/9	30		101
40	1576	16/7	19/9	30		101
41	1577	19/5	3/10	30		102
42	1580	19/5	26/9	30		102
43	1583	22/5	10/10	30		102
44	1584	22/5	17/7	30	x	103
45	1584	21/7	16/9	30	x	103
46	1586	28/5	3/6	30		104
47	1586	15/7	15/9	30		105
48	1587	23/5	11/6	30	x	105
49	1587	8/7	3/10	30		105

FIXED OCEANOGRAPHIC SECTION	YEAR 1988												
	JAN.	FEB.	MAR.	APR.	MAY	JUN.	JUL.	AUG.	SEP.	OCT.	NOV.	DEC.	TOTAL
TORUNGEN - HIRTSHALS	1/16	2/16	3/16 4/16	5/16	6/16 7/16	8/16 7/11 8/15	9/16 10/16	11/16	12/16	13/16 14/16	15/16 16/16	17/16 18/16 13/14	21
UTSIRA - W		2/14									13/14		2
FEIE - SHETLAND	1/14					7/11 8/14					13/14		4
SVINØYA - NW		1/15				9/14							2
GIMSØYA - NW			3/15					10/15					2
FUGLØYA - BJØRNØA	1/15		4/11	6/11			9/15	11/15		12/15			6
VARDØ - N	1/15		4/11			O. F.			13/15				4
SEMØANE - N		2/14						10/14		13/15			3
BJØRNØYA - W										12/15			1
SHIPS NAME	NO.	CRUISE NO./SHIP NO.											
G. SARS	15	1/ 15.											
MICHAEL SARS	11												
ELDJARN	14												
G. M. DANNEVIG	16												
JOHAN RUUD	8												
HAKON MOSBY	1												
O. F. = ODIN FINDER													

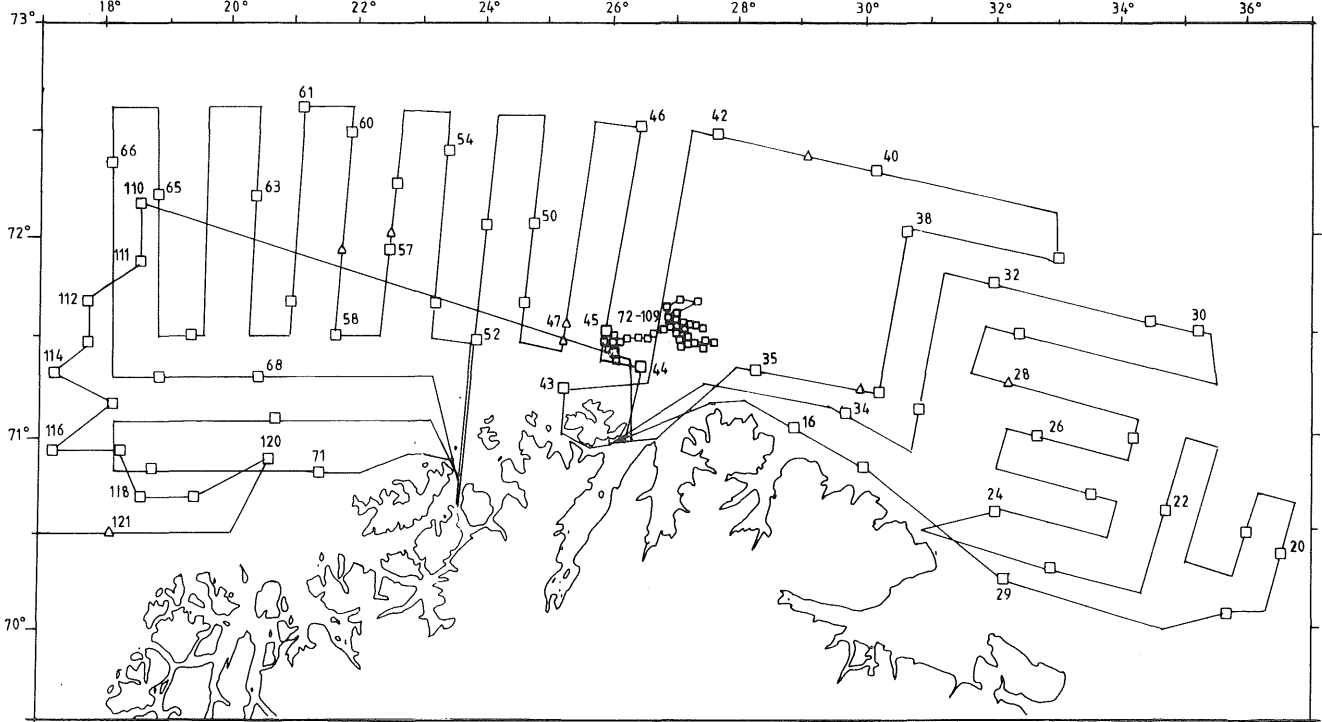






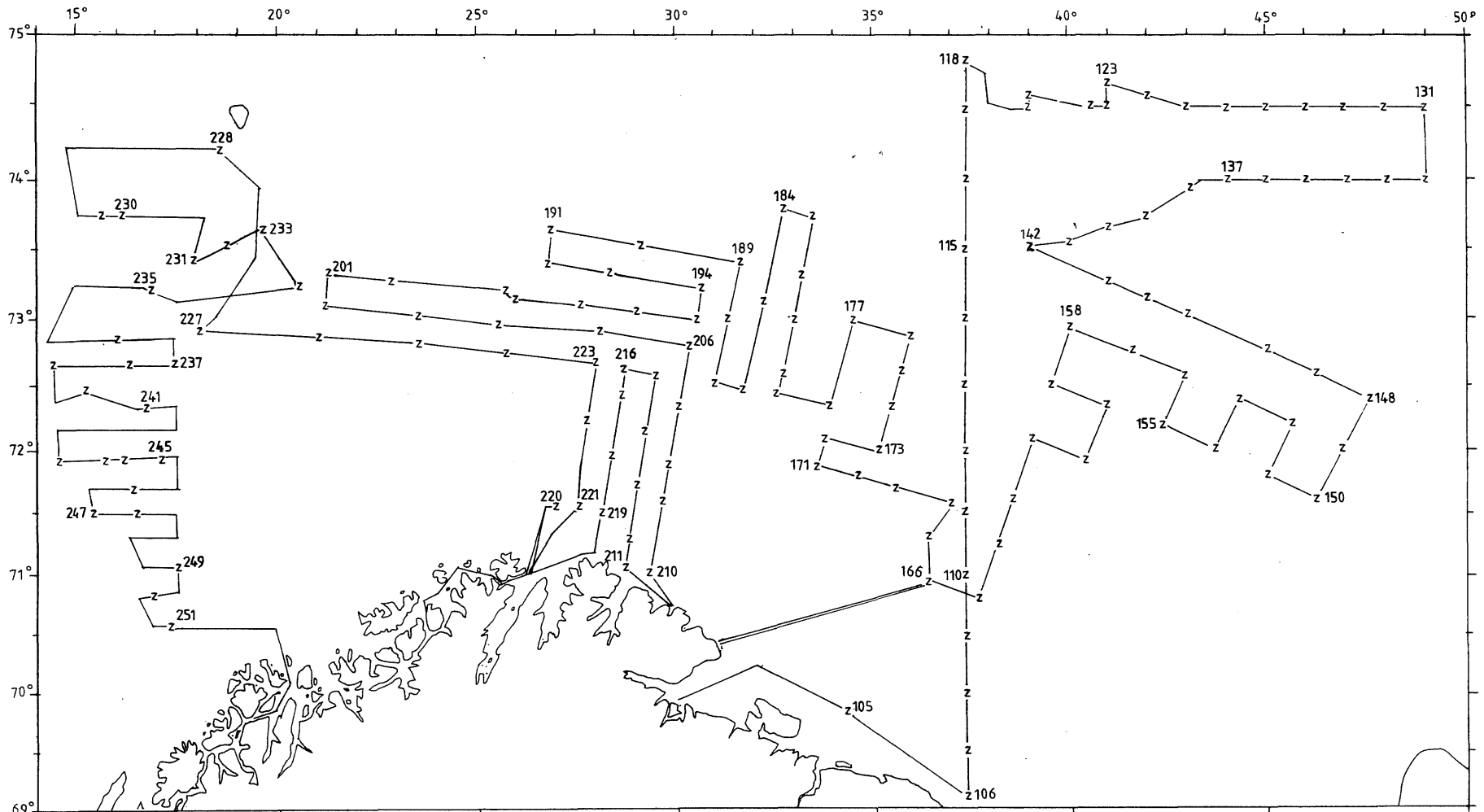
27 JAN. - 26 FEB. 1988 z CTD ST. NO. 28-79

"MICHAEL SARS"



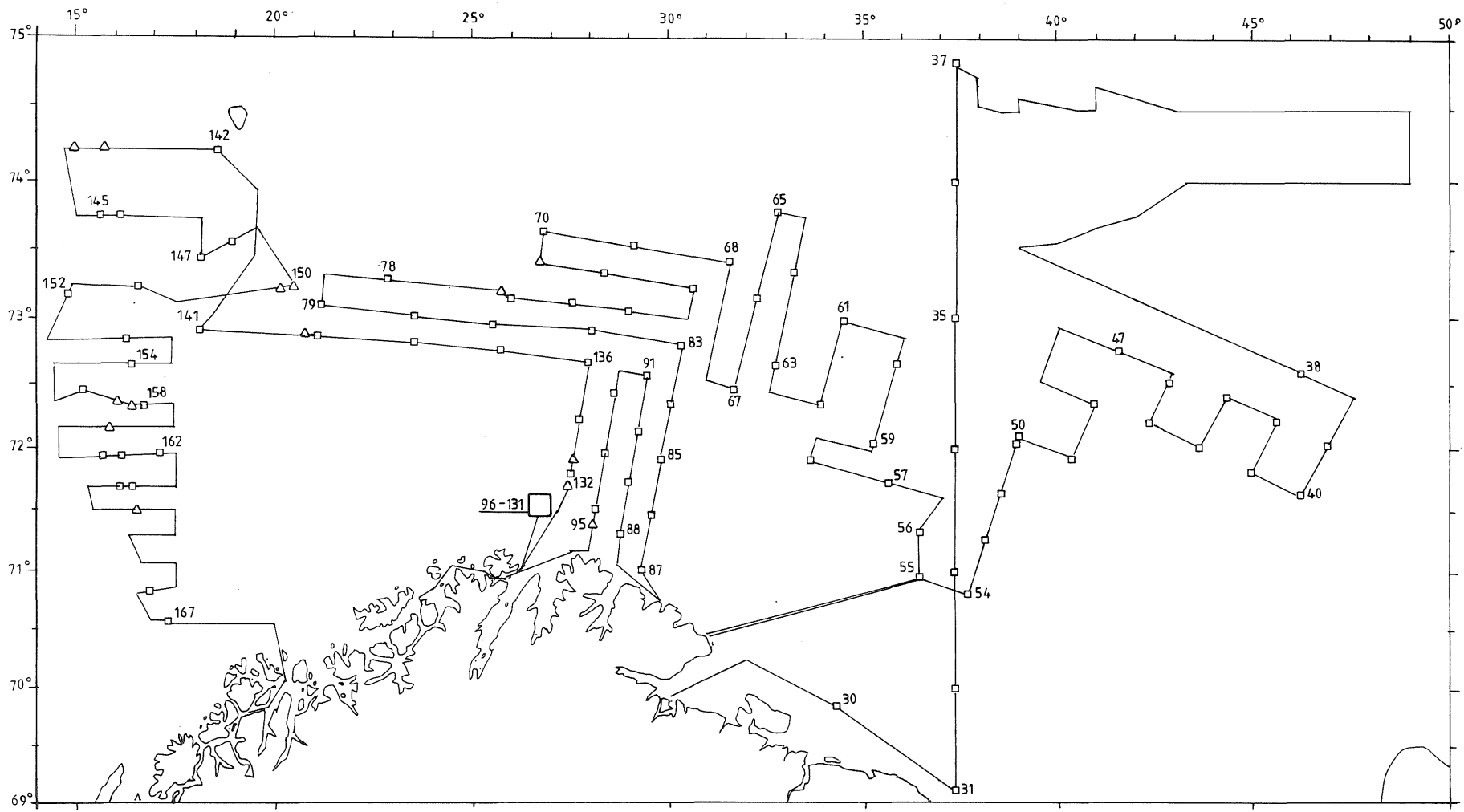
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"MICHAEL SARS"



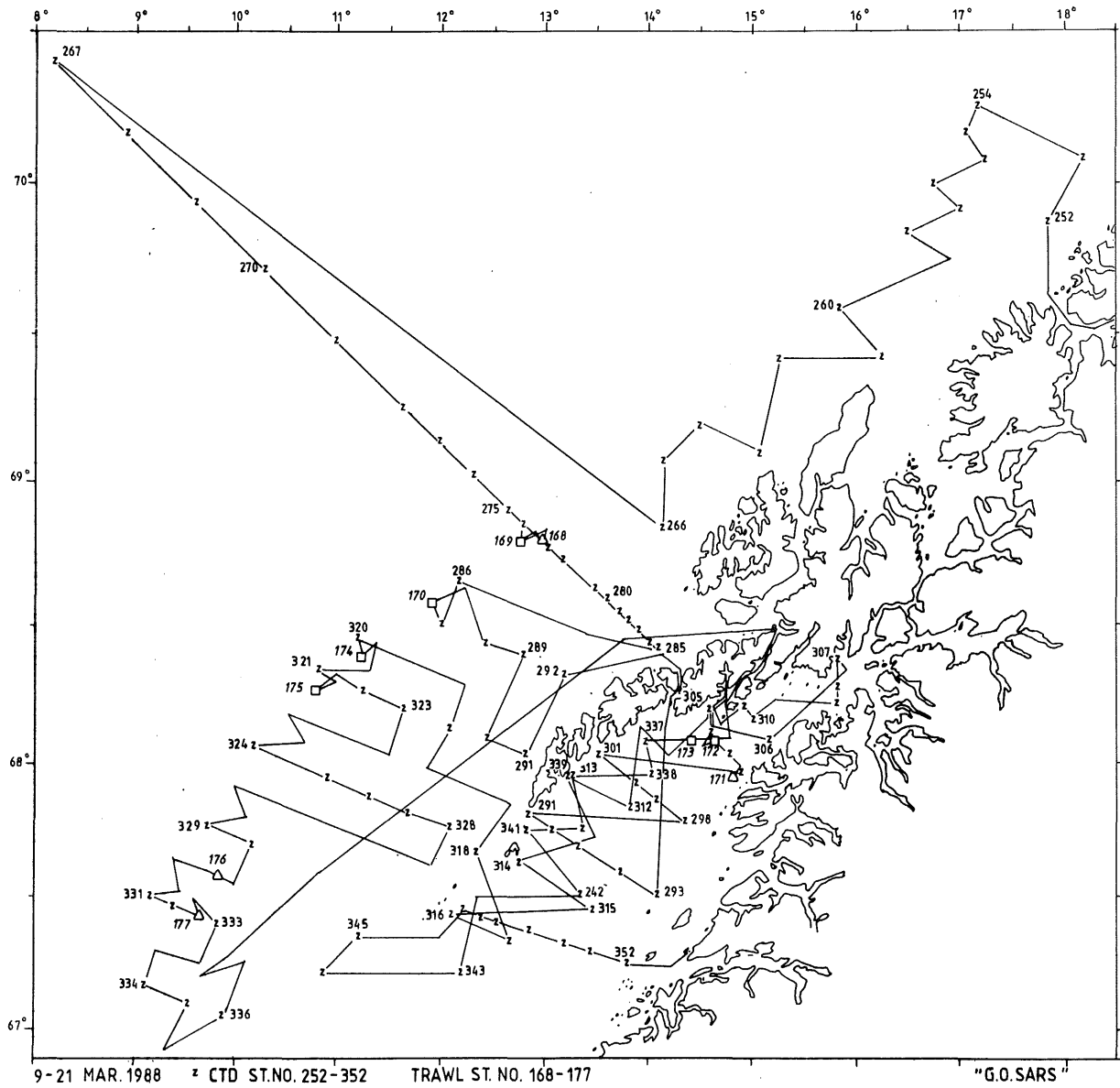
26 JAN. - 7 MAR. 1988 CDT ST. NO. 105-251

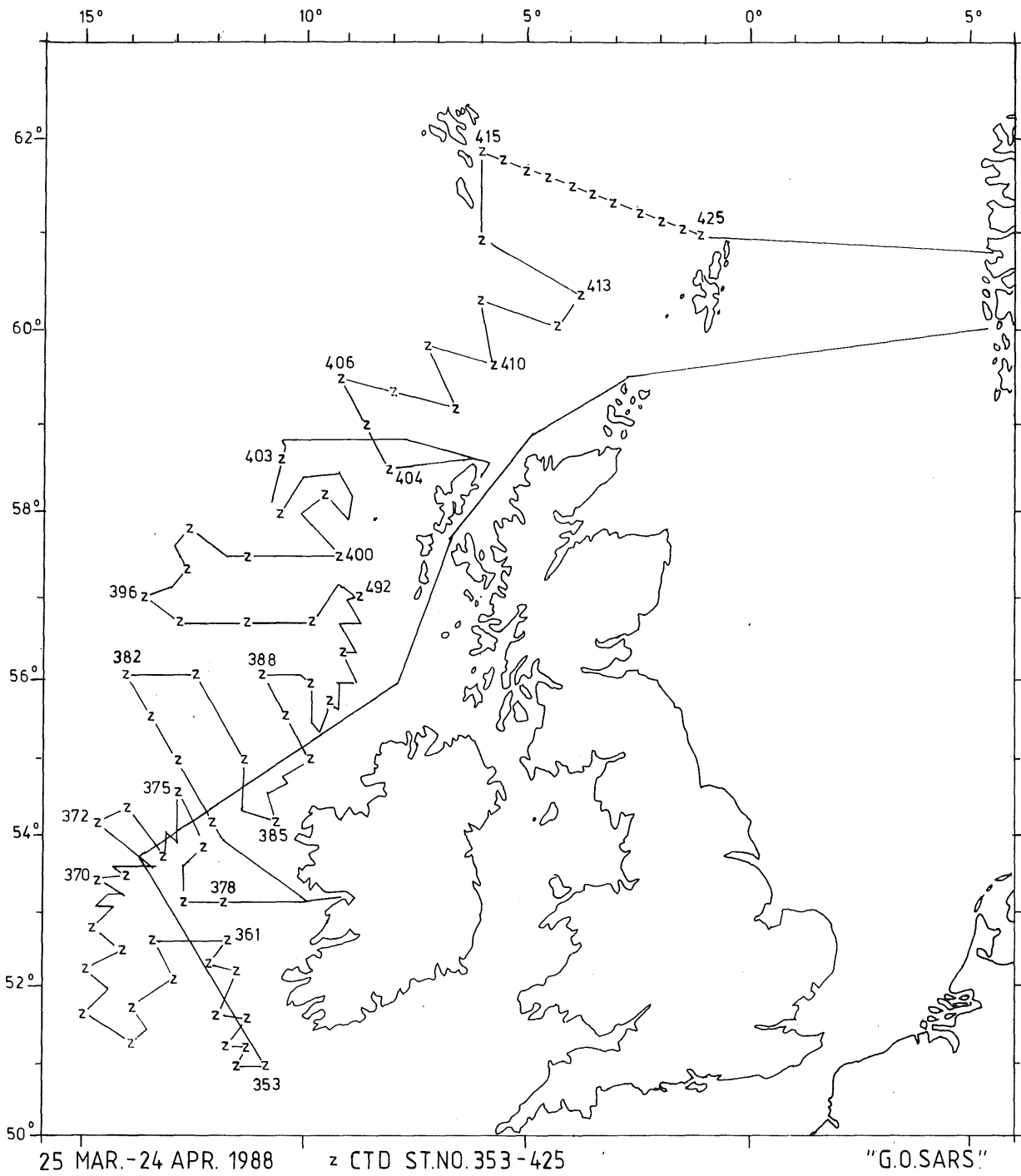
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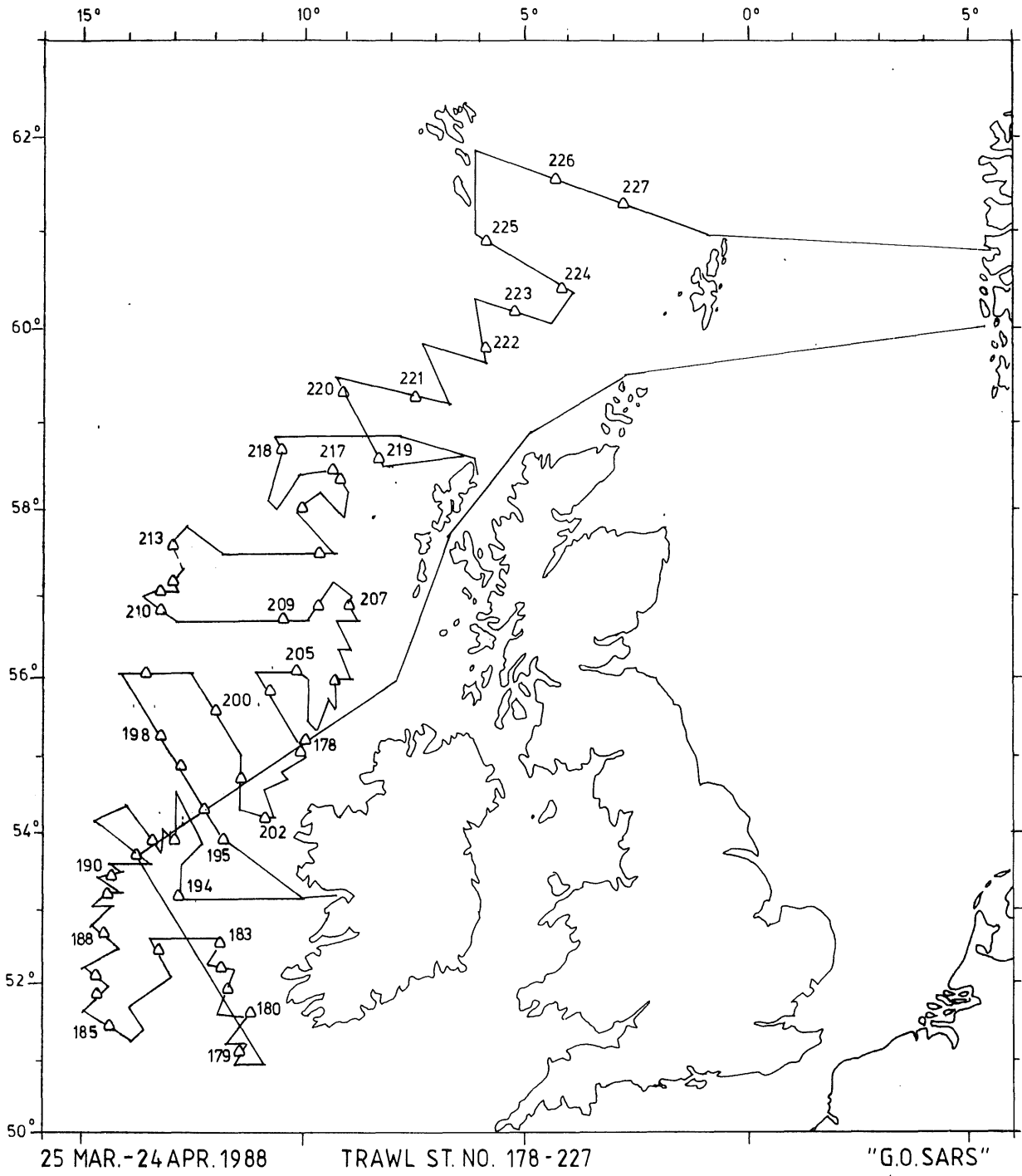


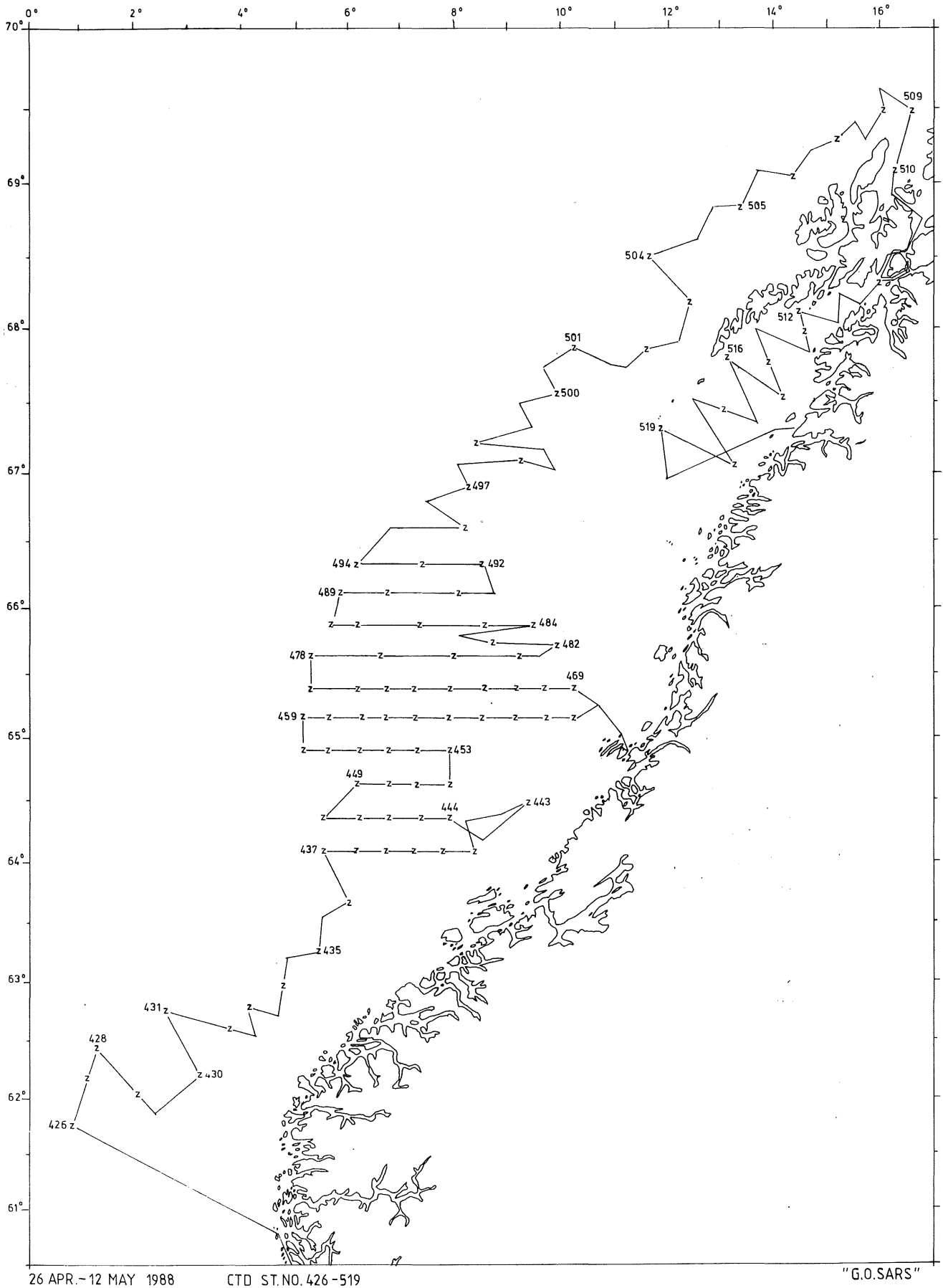
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"G.O.SARS"





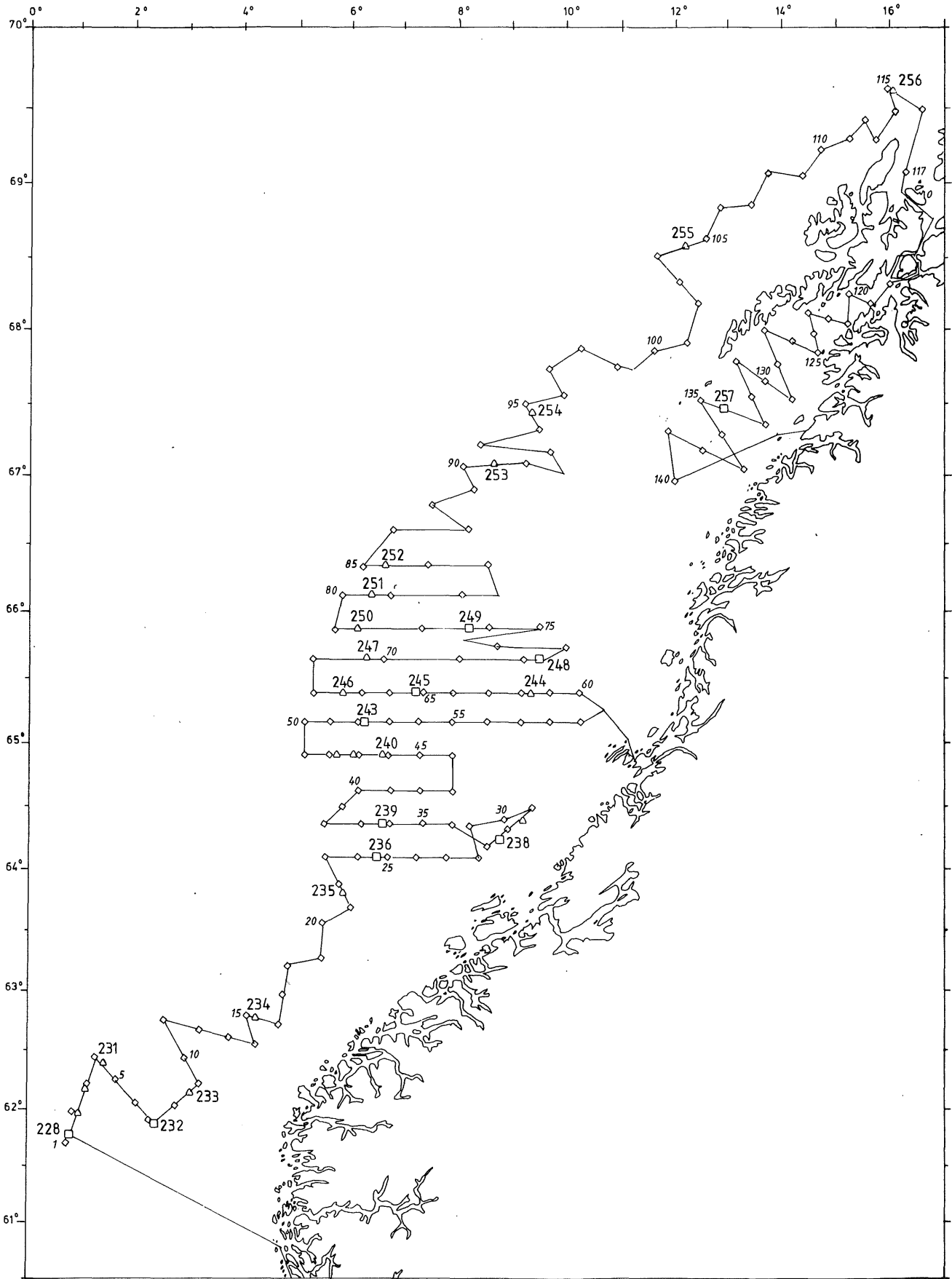




26 APR.-12 MAY 1988

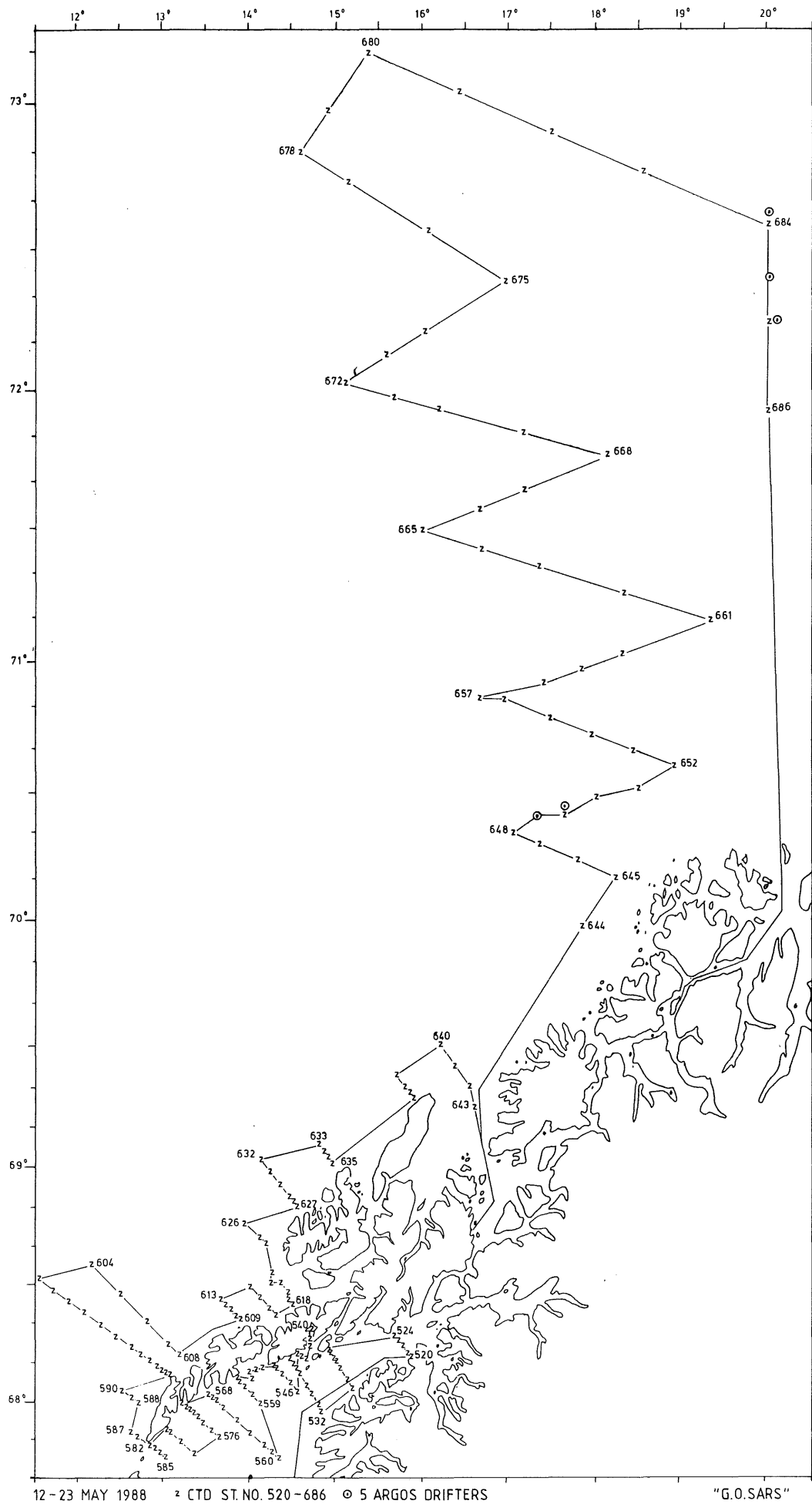
CTD ST.NO. 426-519

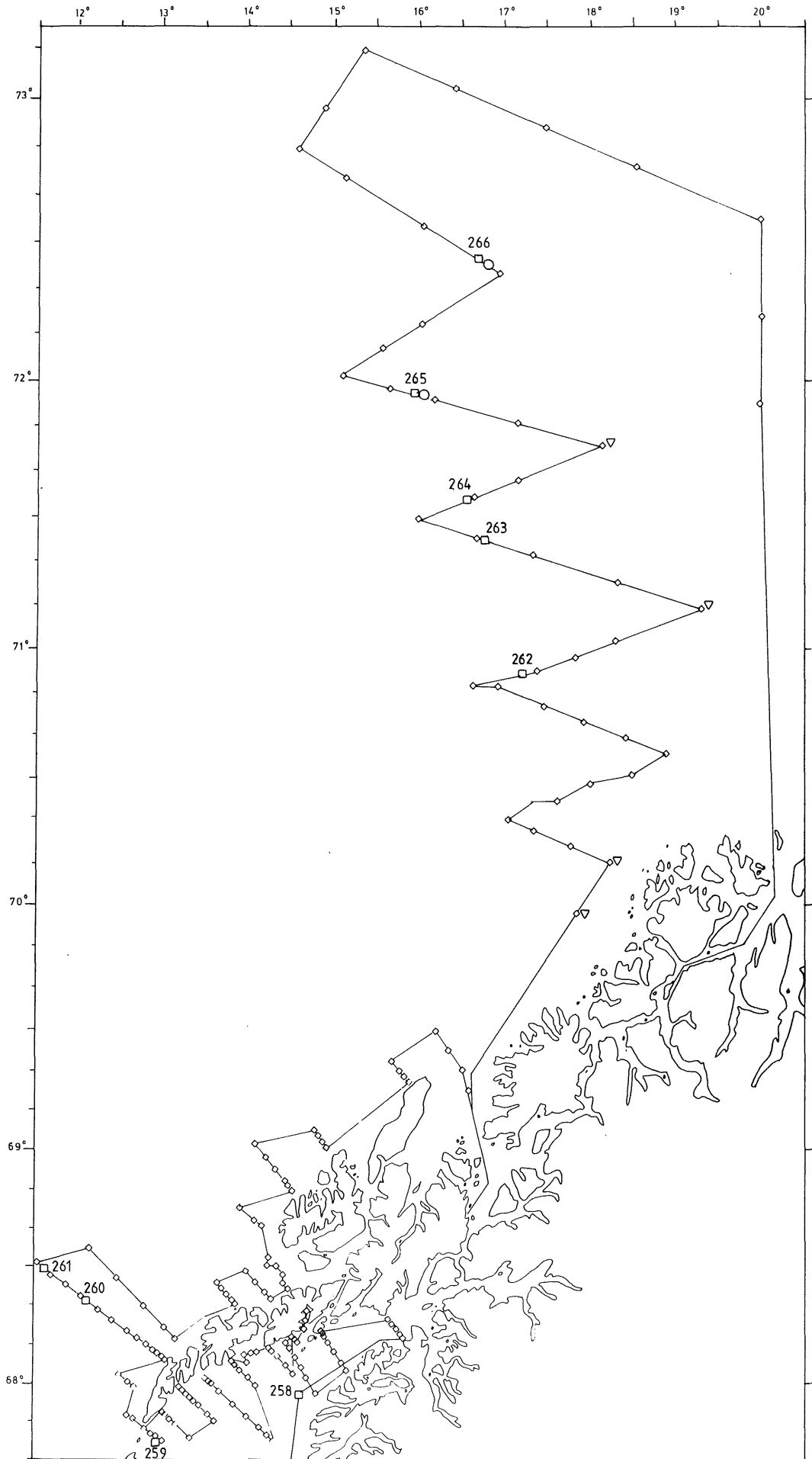
"G.O.SARS"



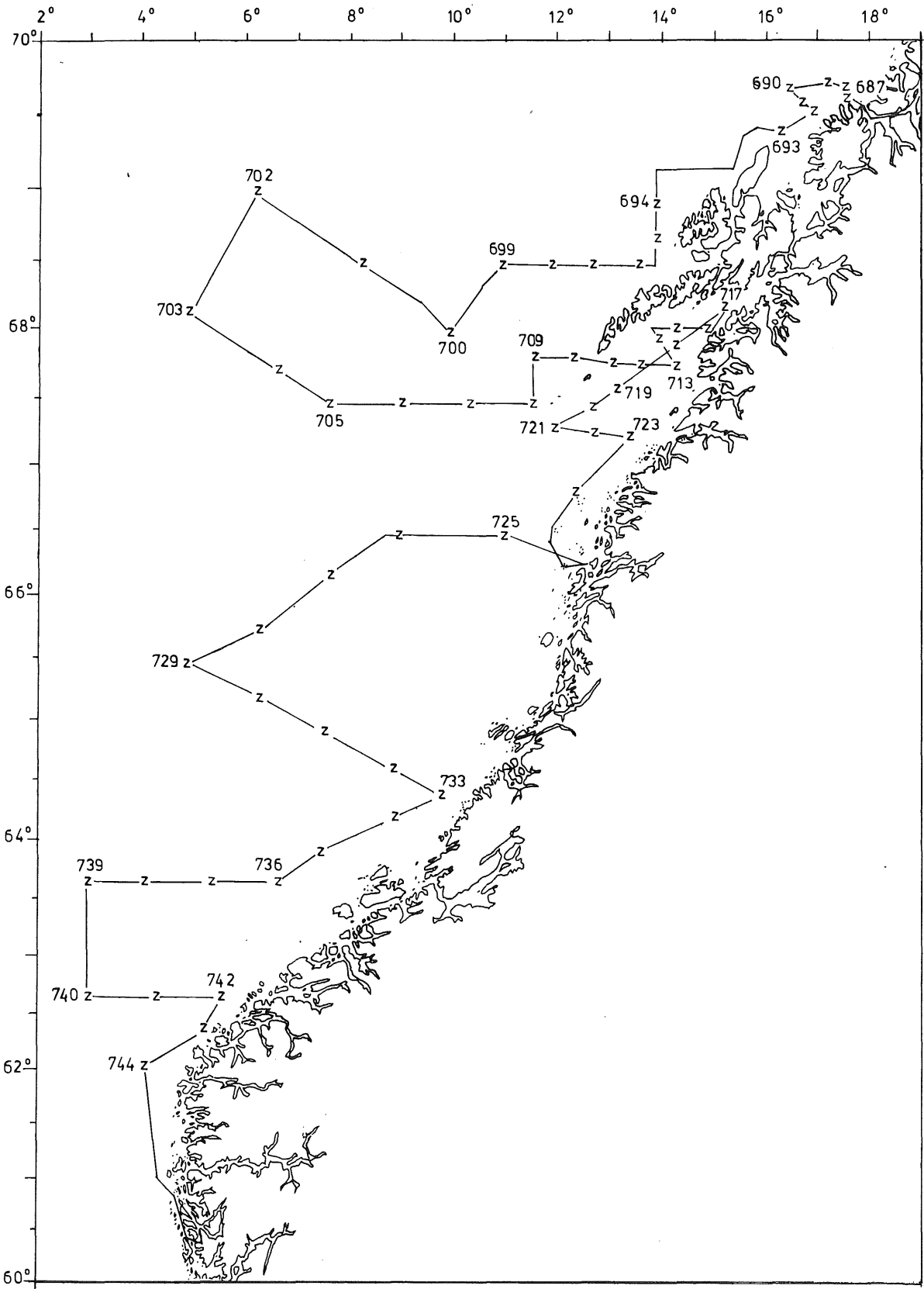
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"G.O.SARS"



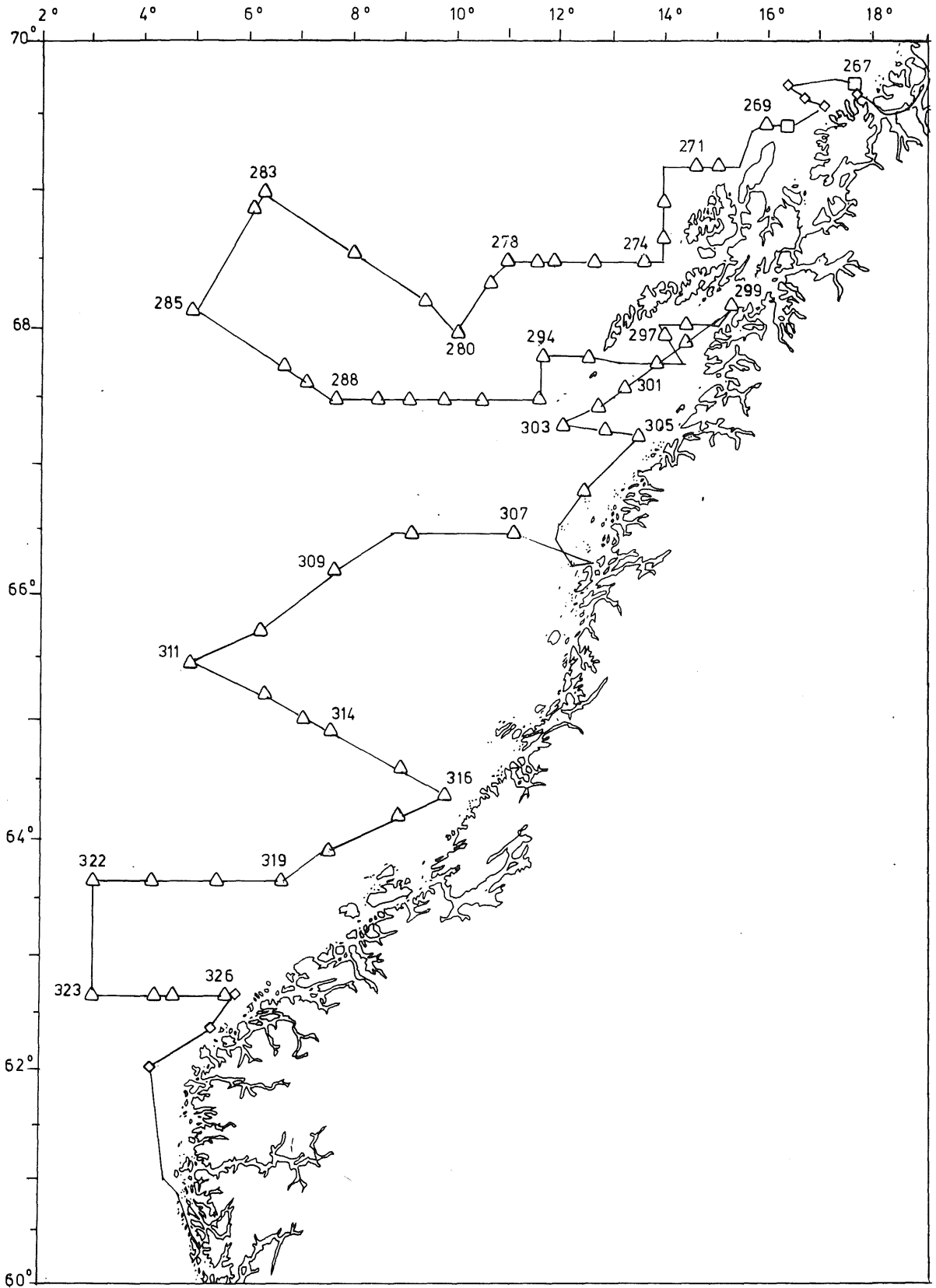


12-23 MAY 1988 □ BOTTOM TRAWL ST.NO. 258-266 ▽ 4 ISAAC KIDD ST. ○ 2 MOCNESS ST. ◇ 167 PLANKTON ST. "G.O.SARS"



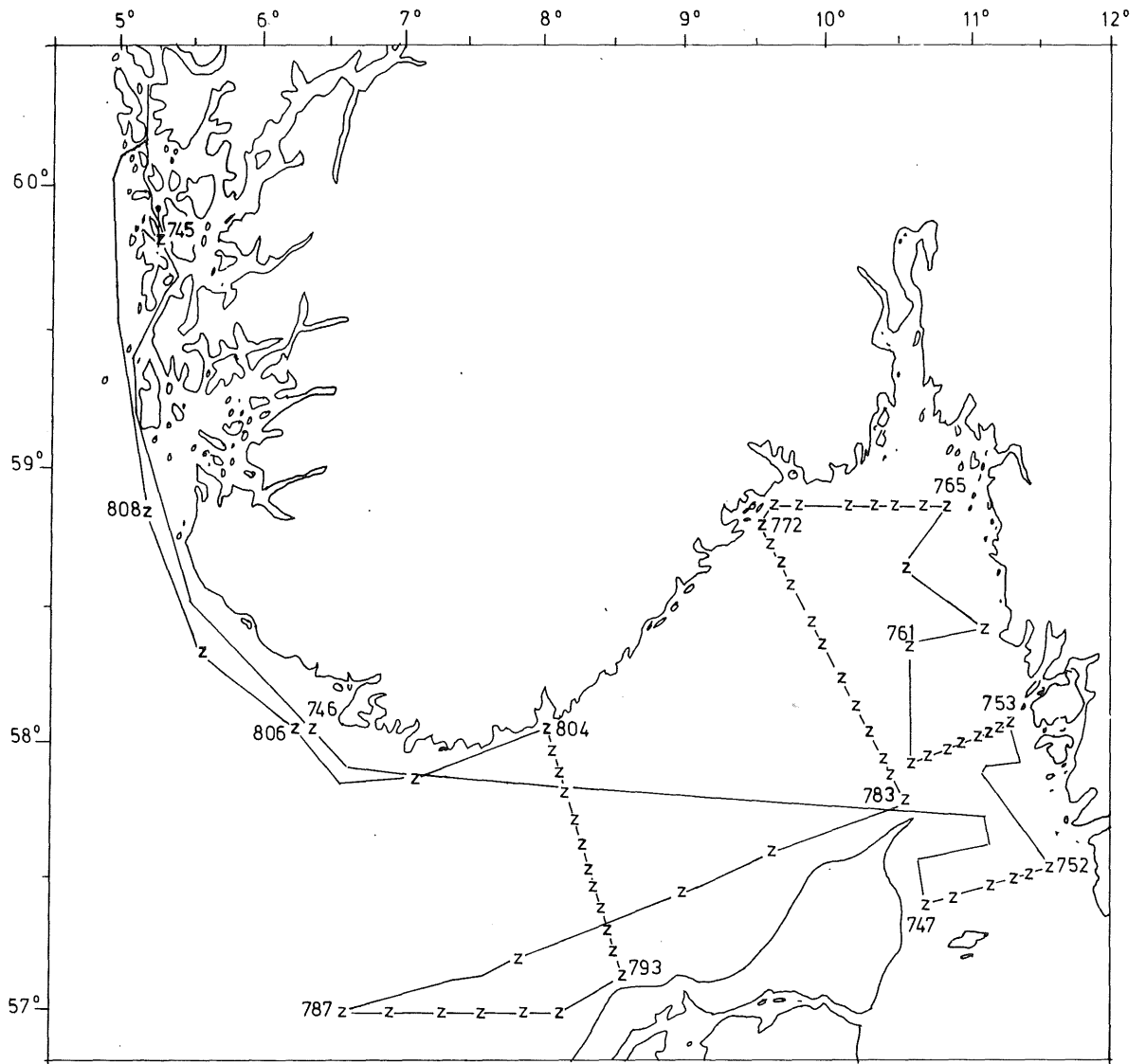
24 MAY - 4 JUN. 1988 z CTD ST. NO: 687 - 744

"G.O. SARS"



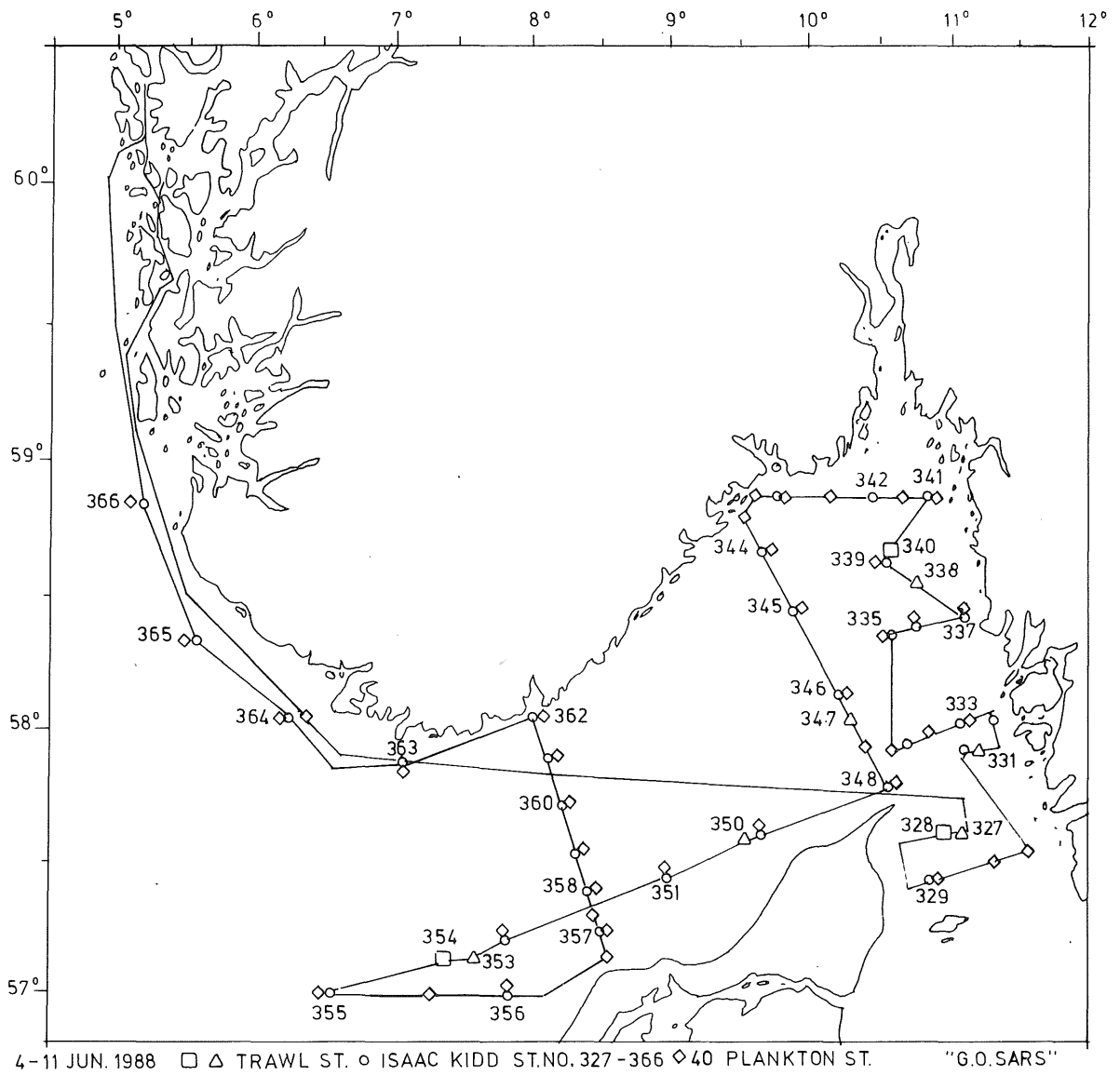
24 MAY - 4 JUN. 1988 □ △ TRAWL ST. NO. 267 - 326 ◇ 7 PLANKTON ST.

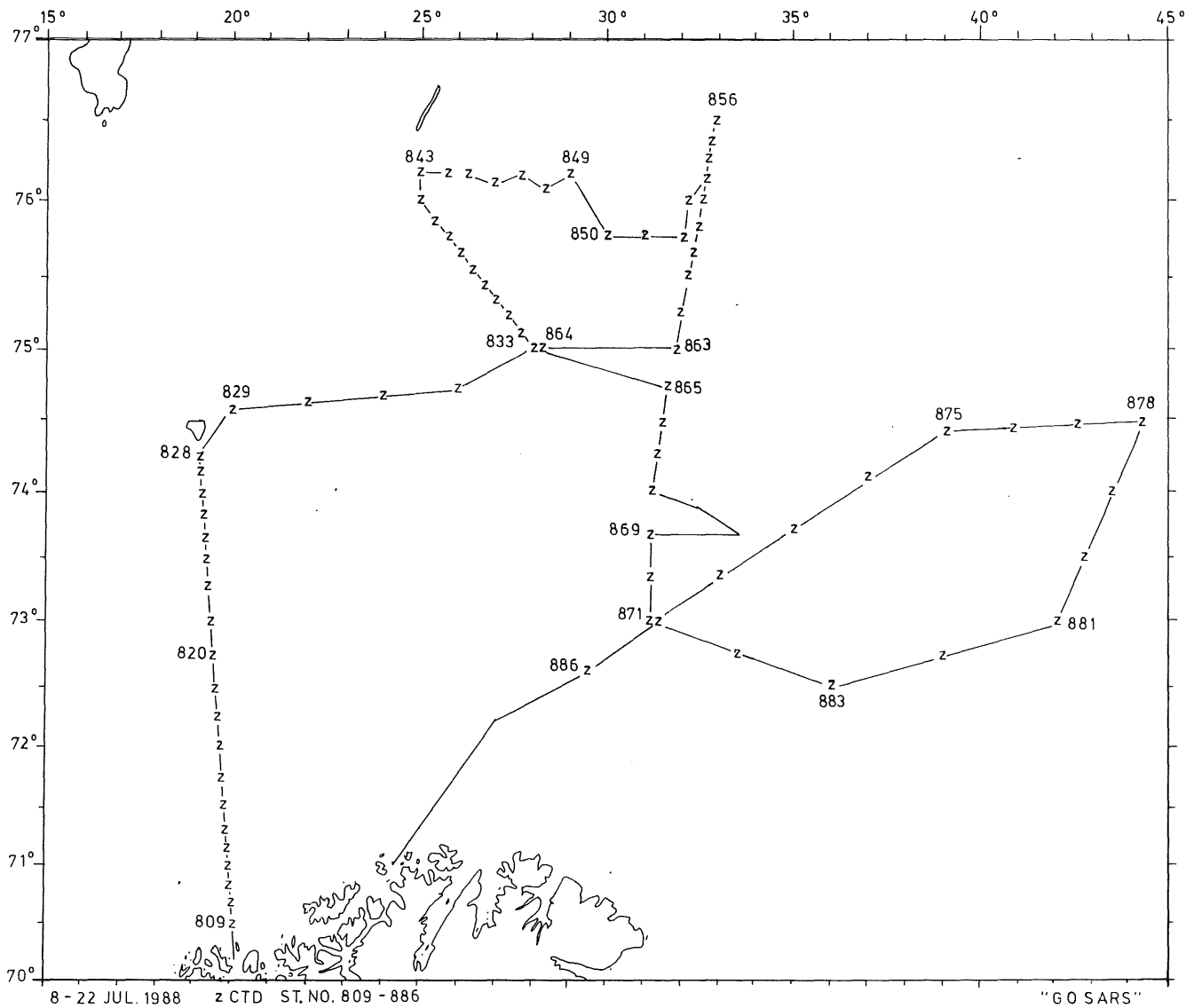
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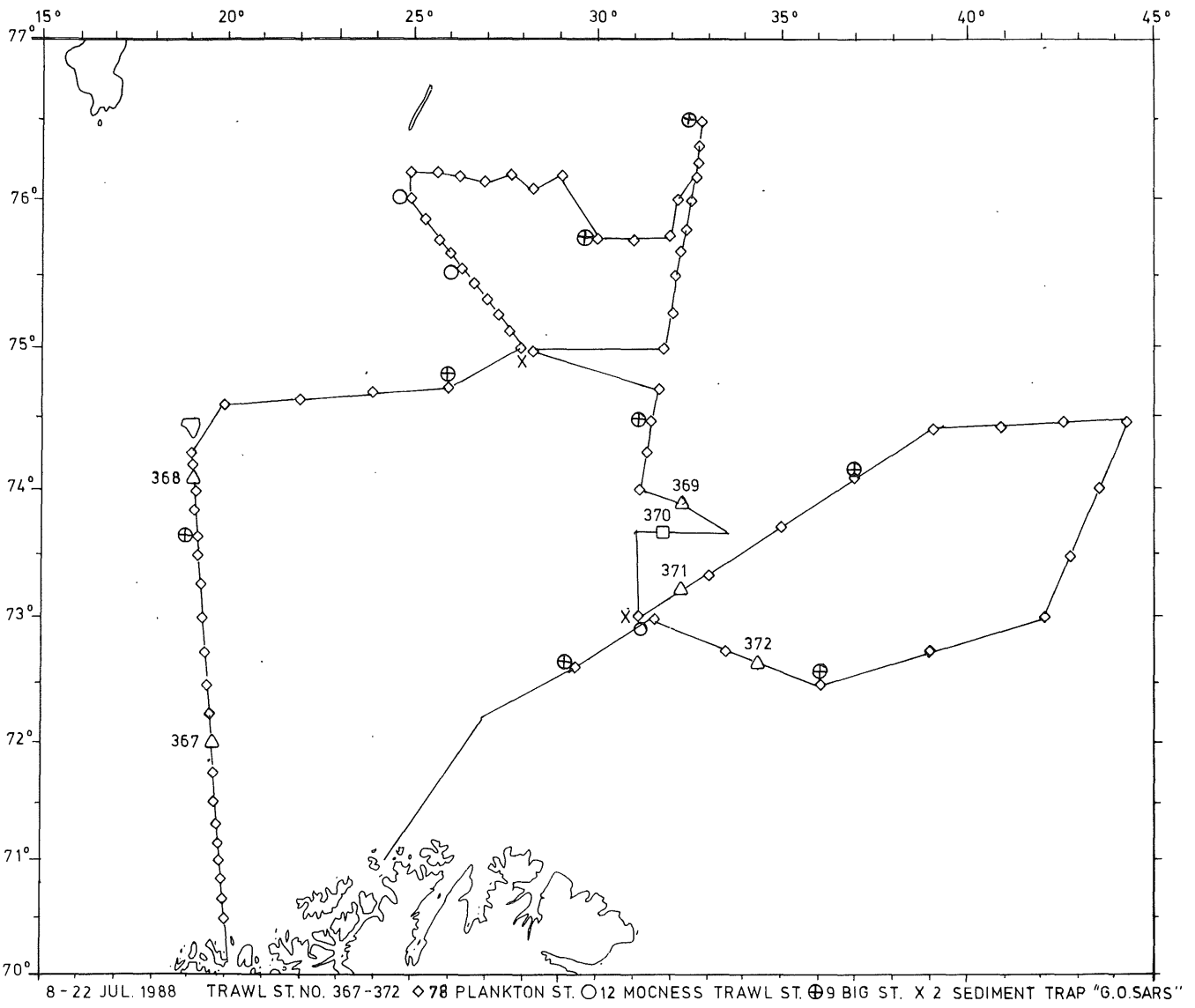


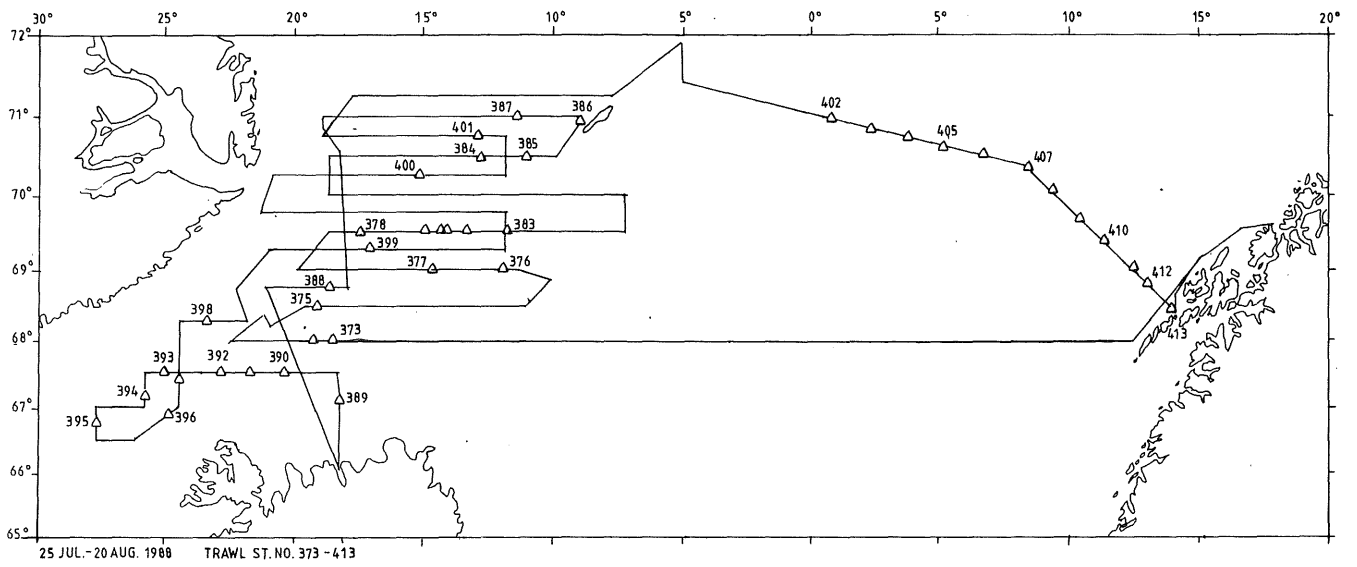
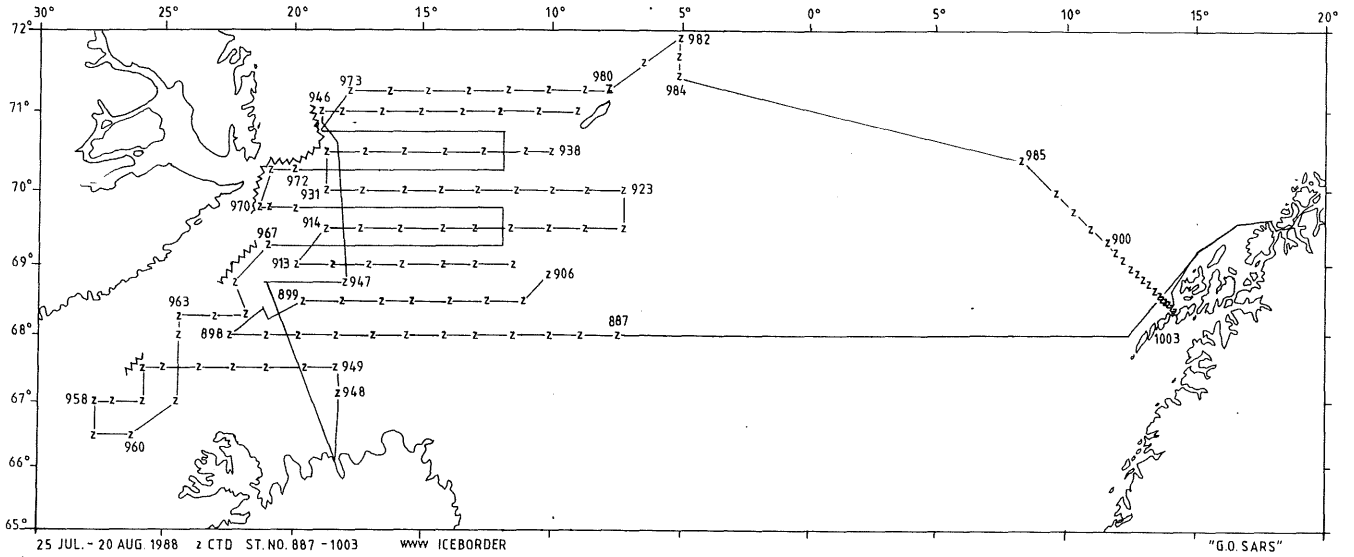
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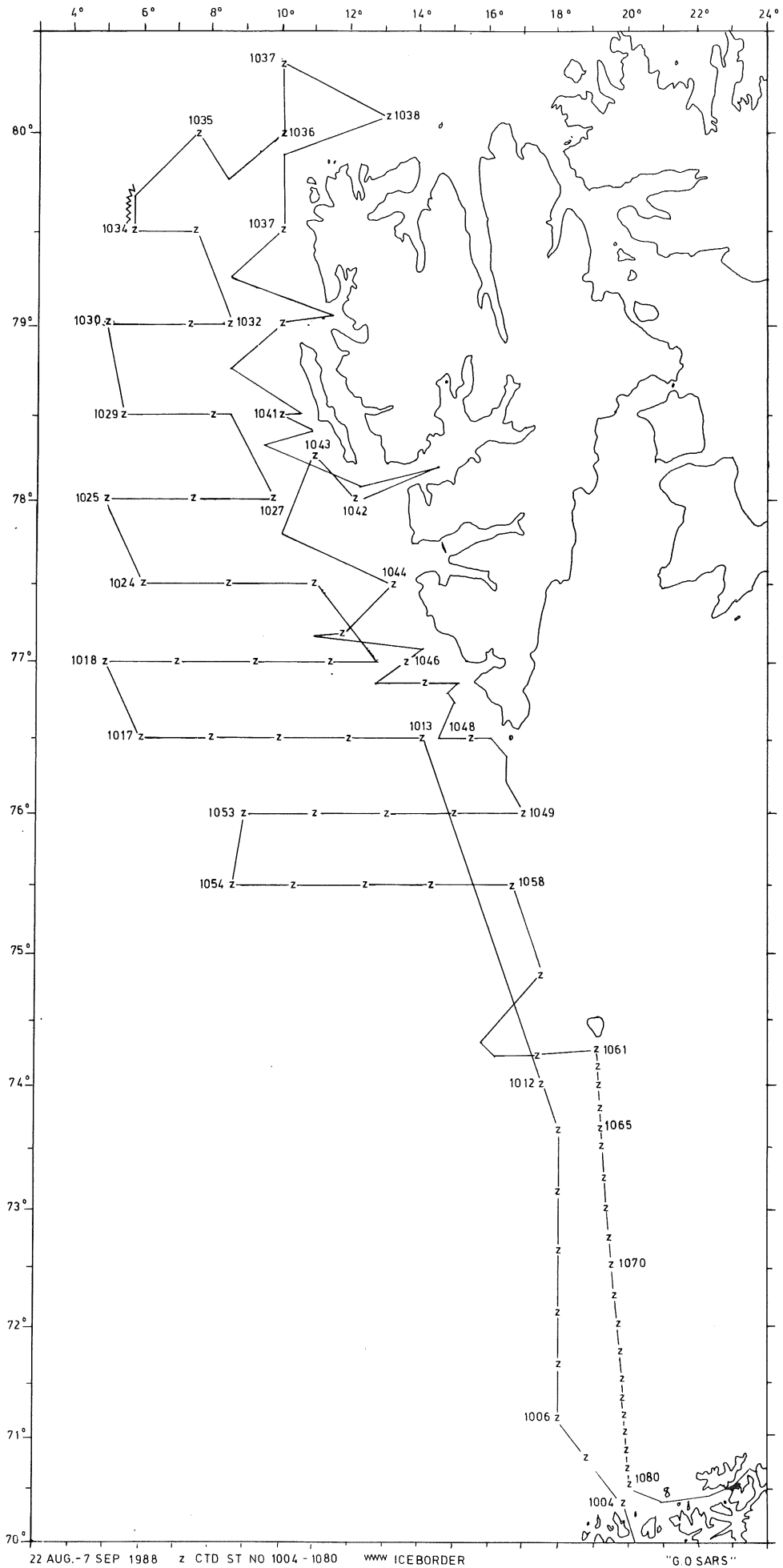
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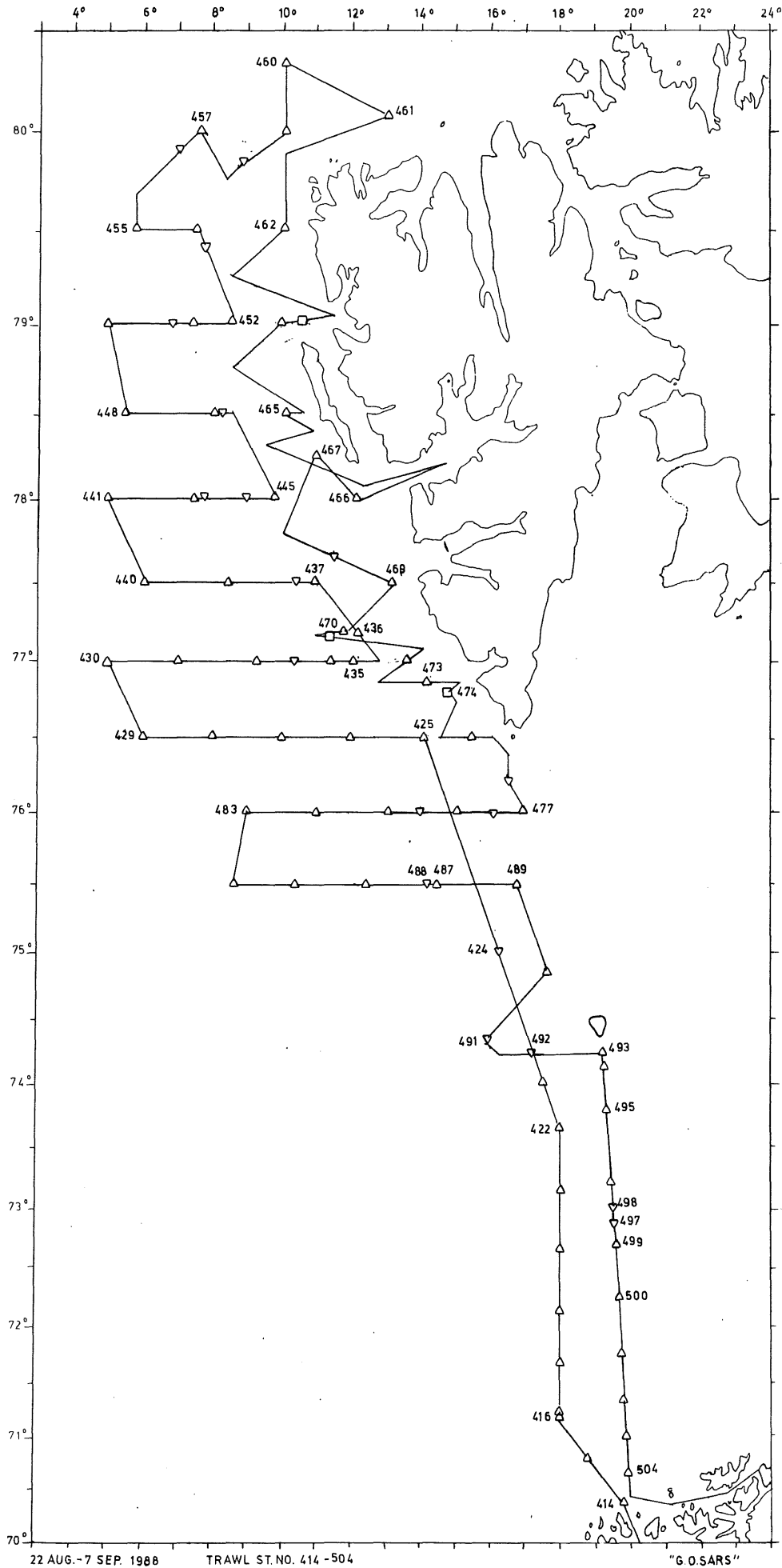


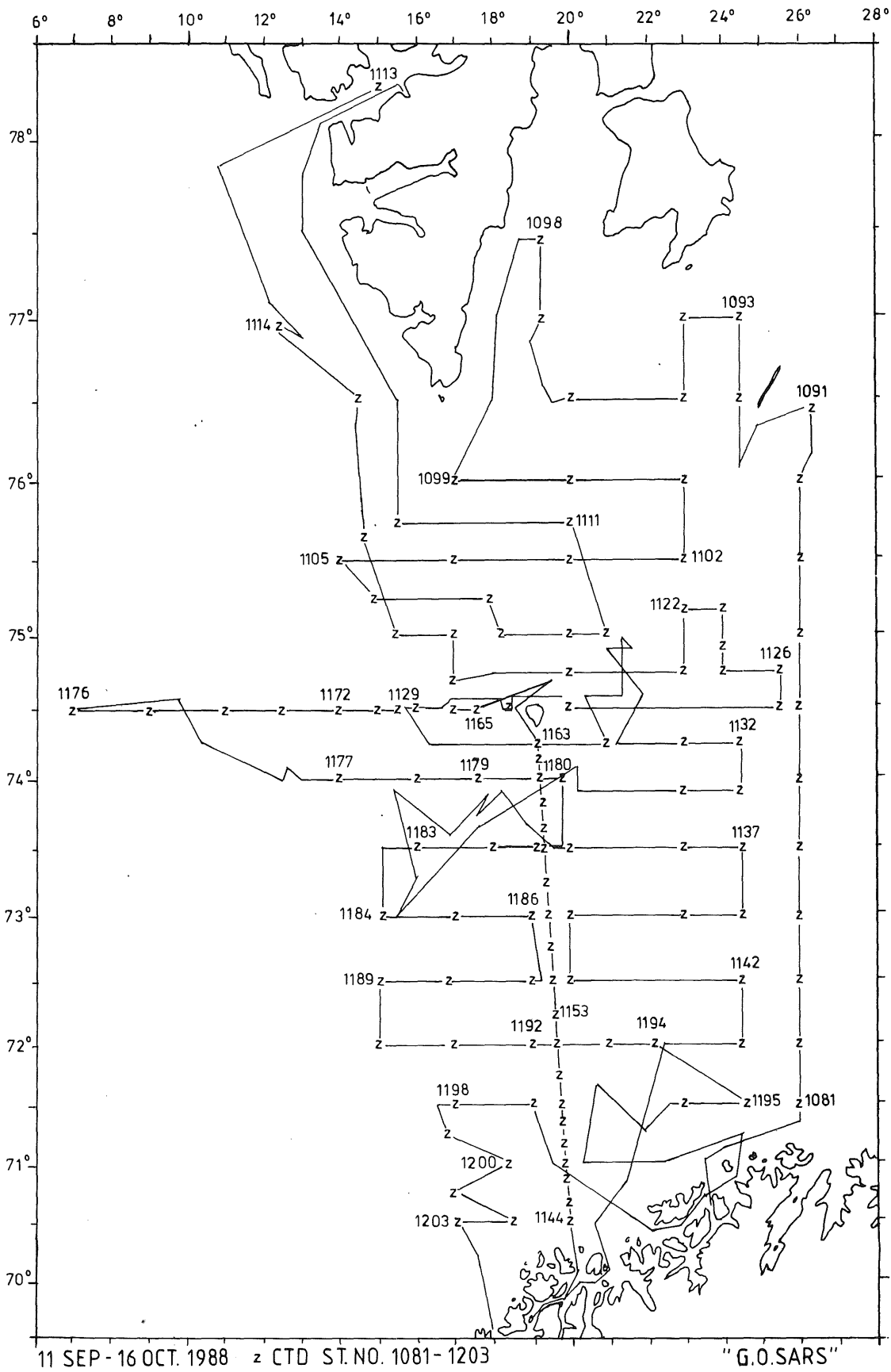


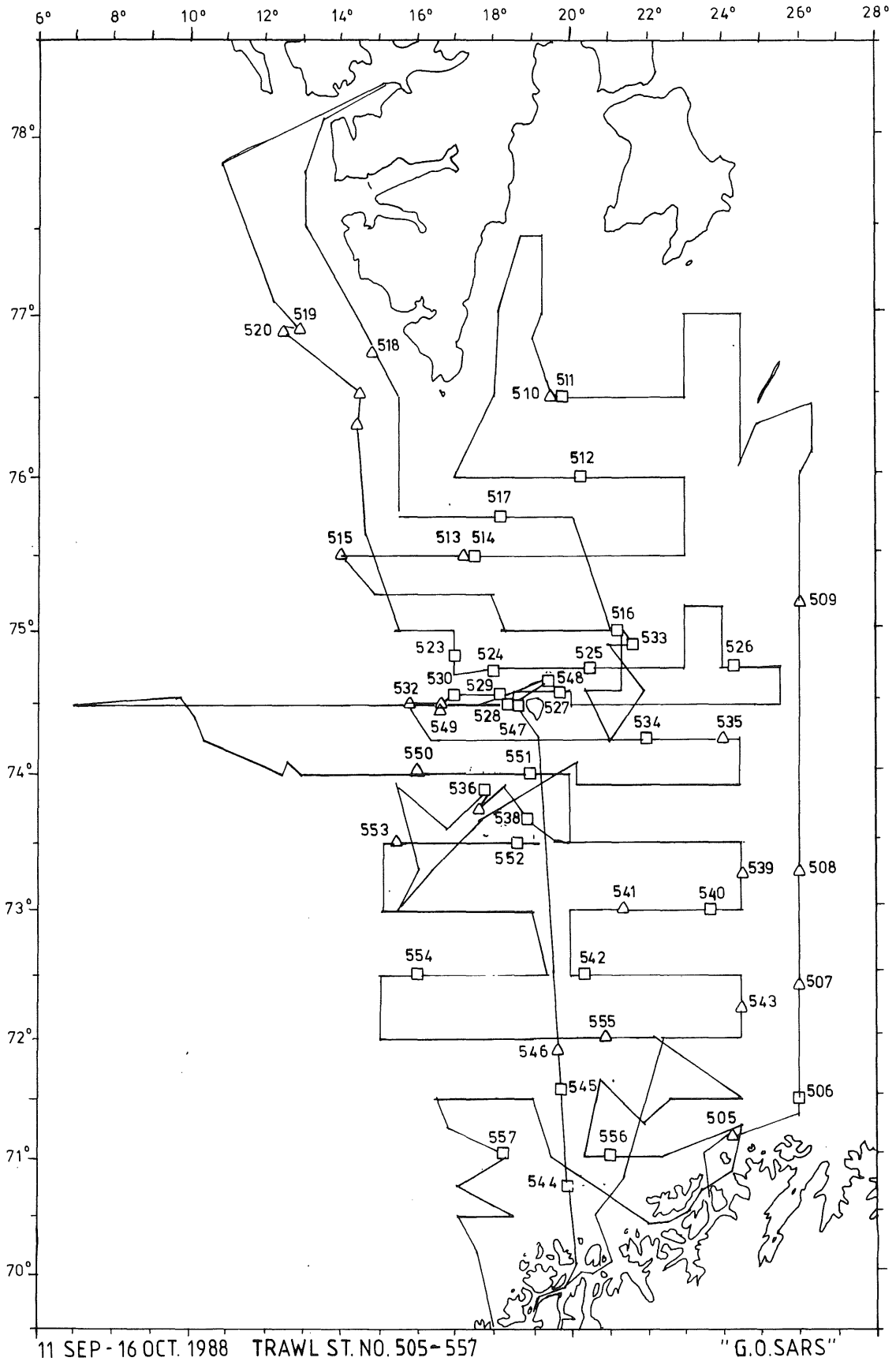


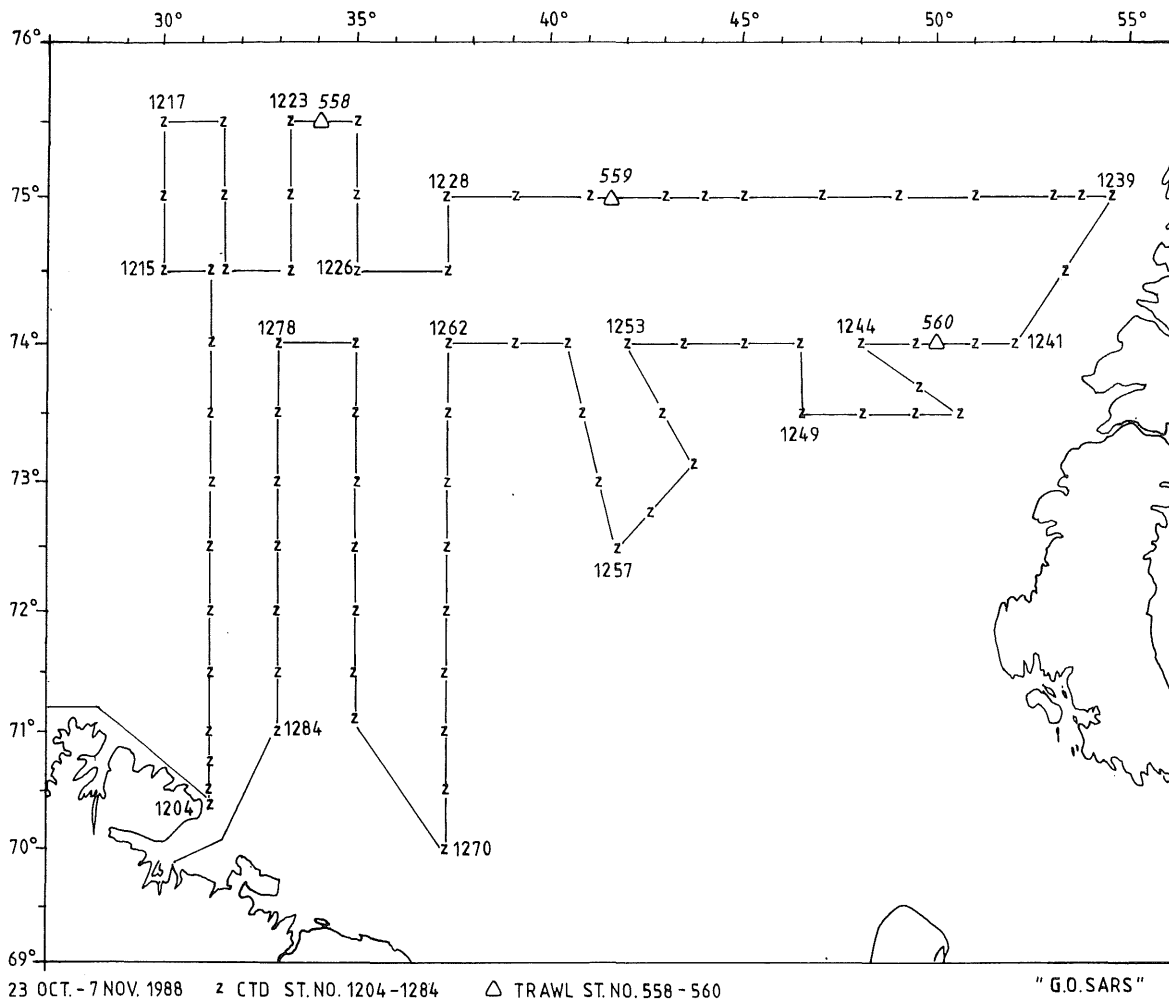






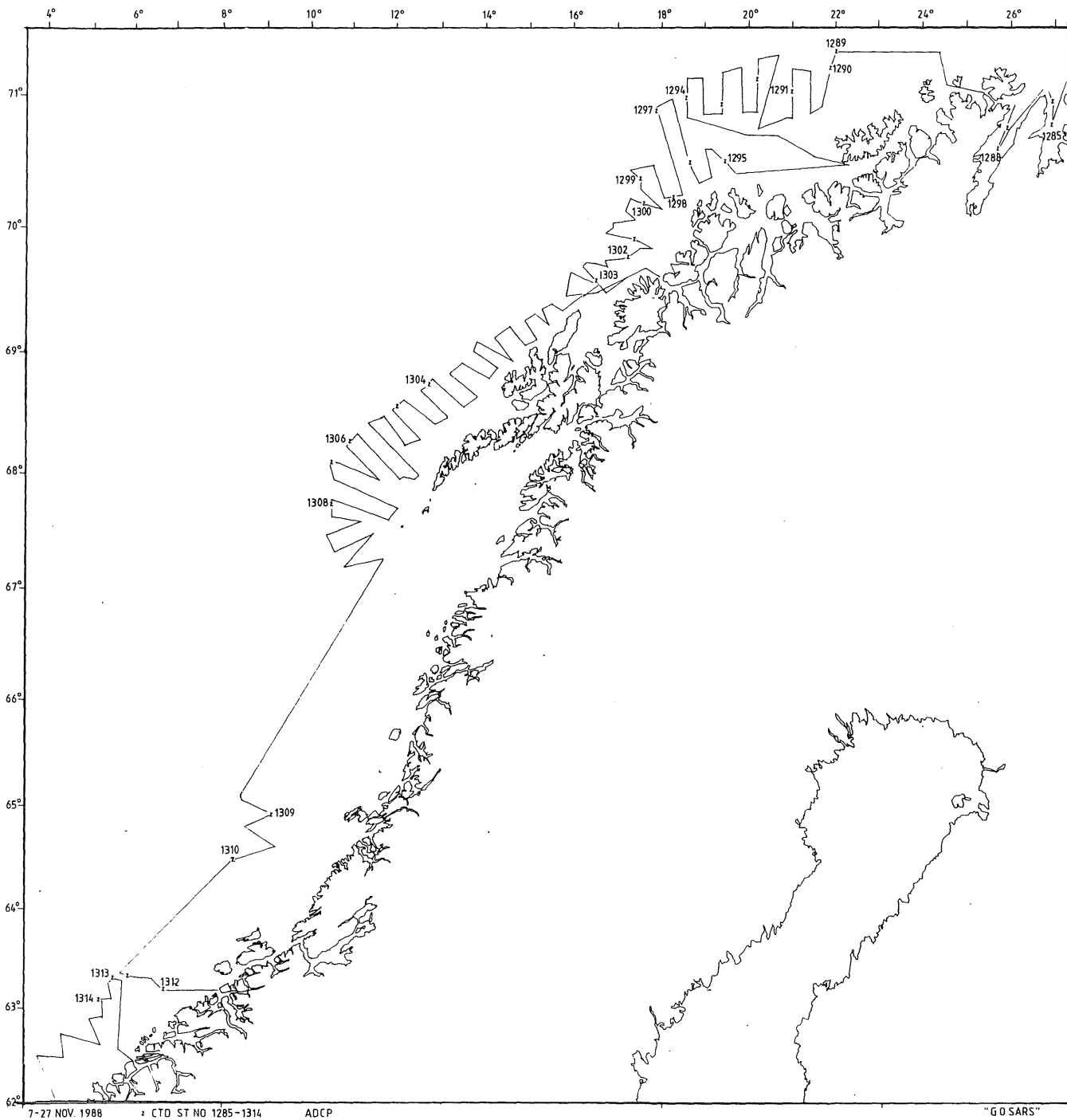


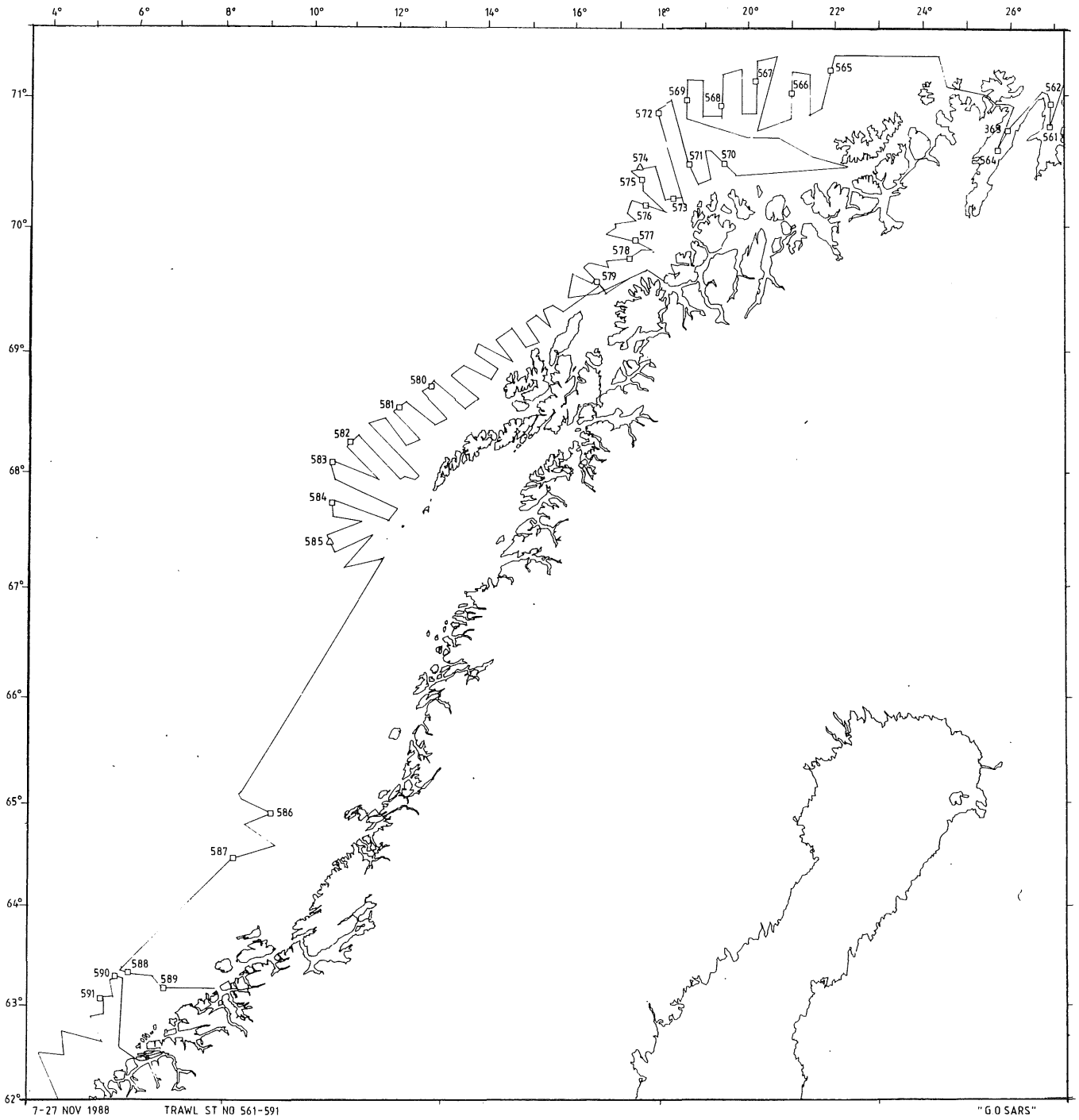


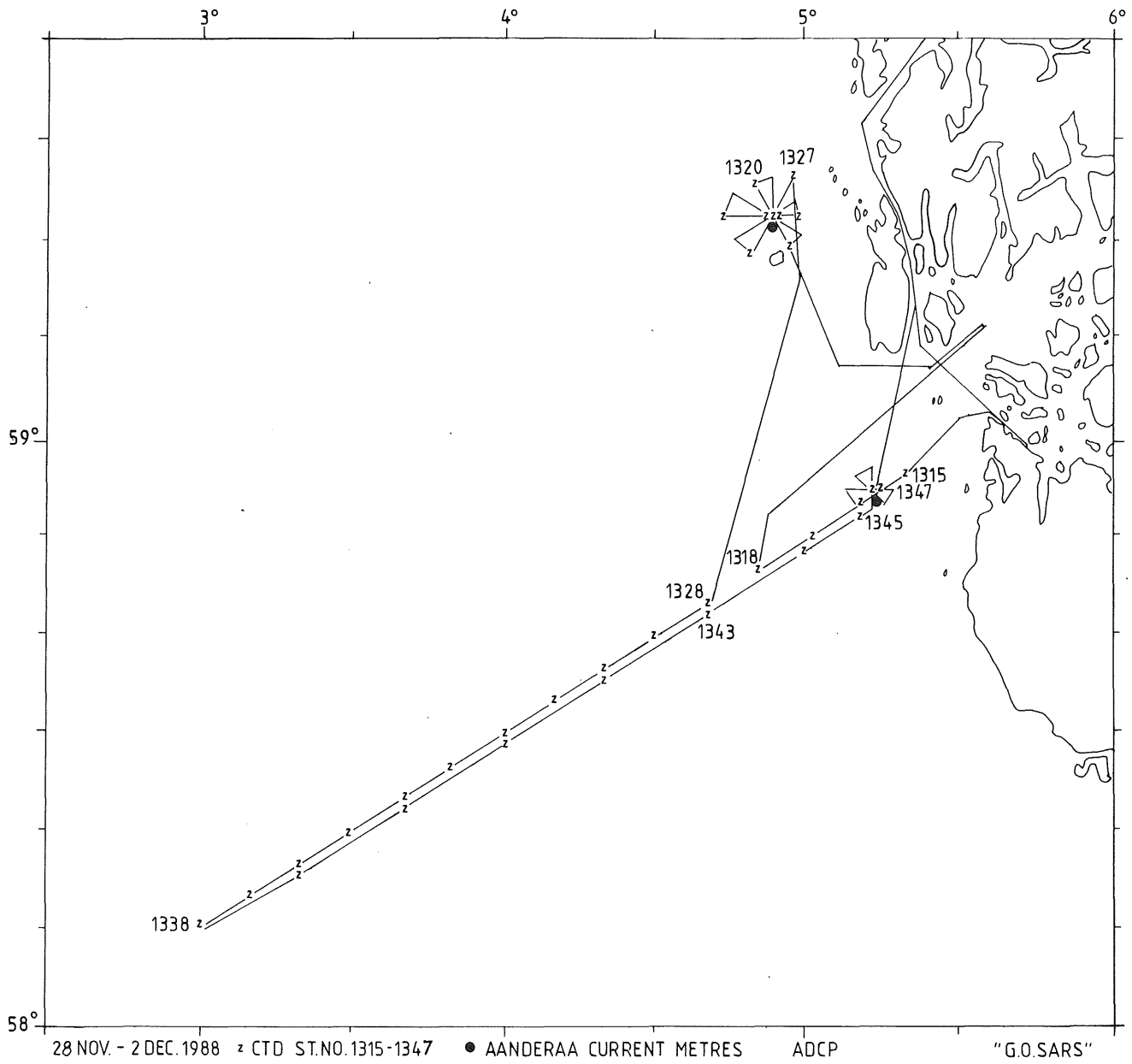


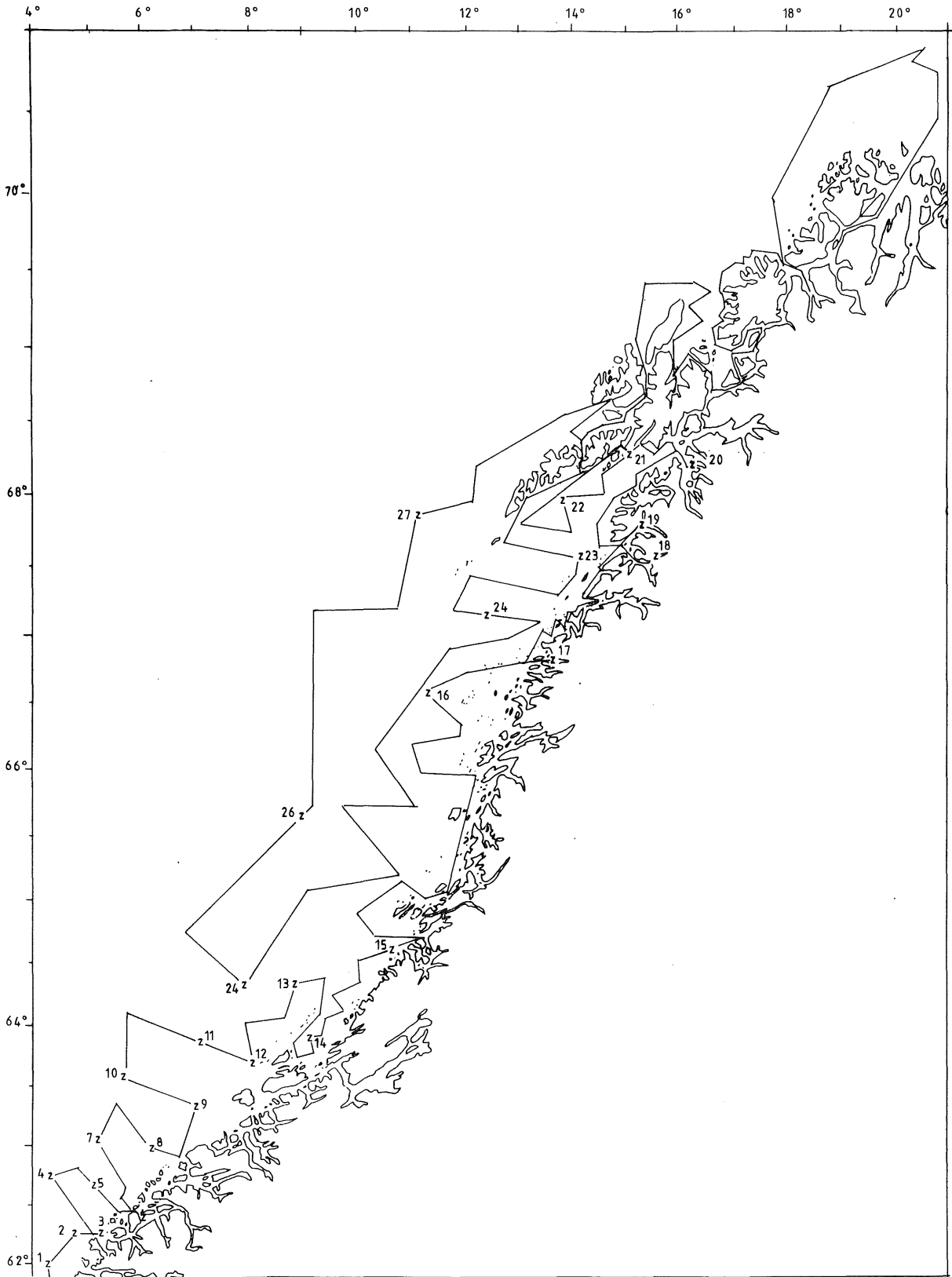
23 OCT. - 7 NOV. 1988 z CTD ST.NO. 1204-1284 △ TRAWL ST.NO. 558-560

"G.O. S.A.R.S."



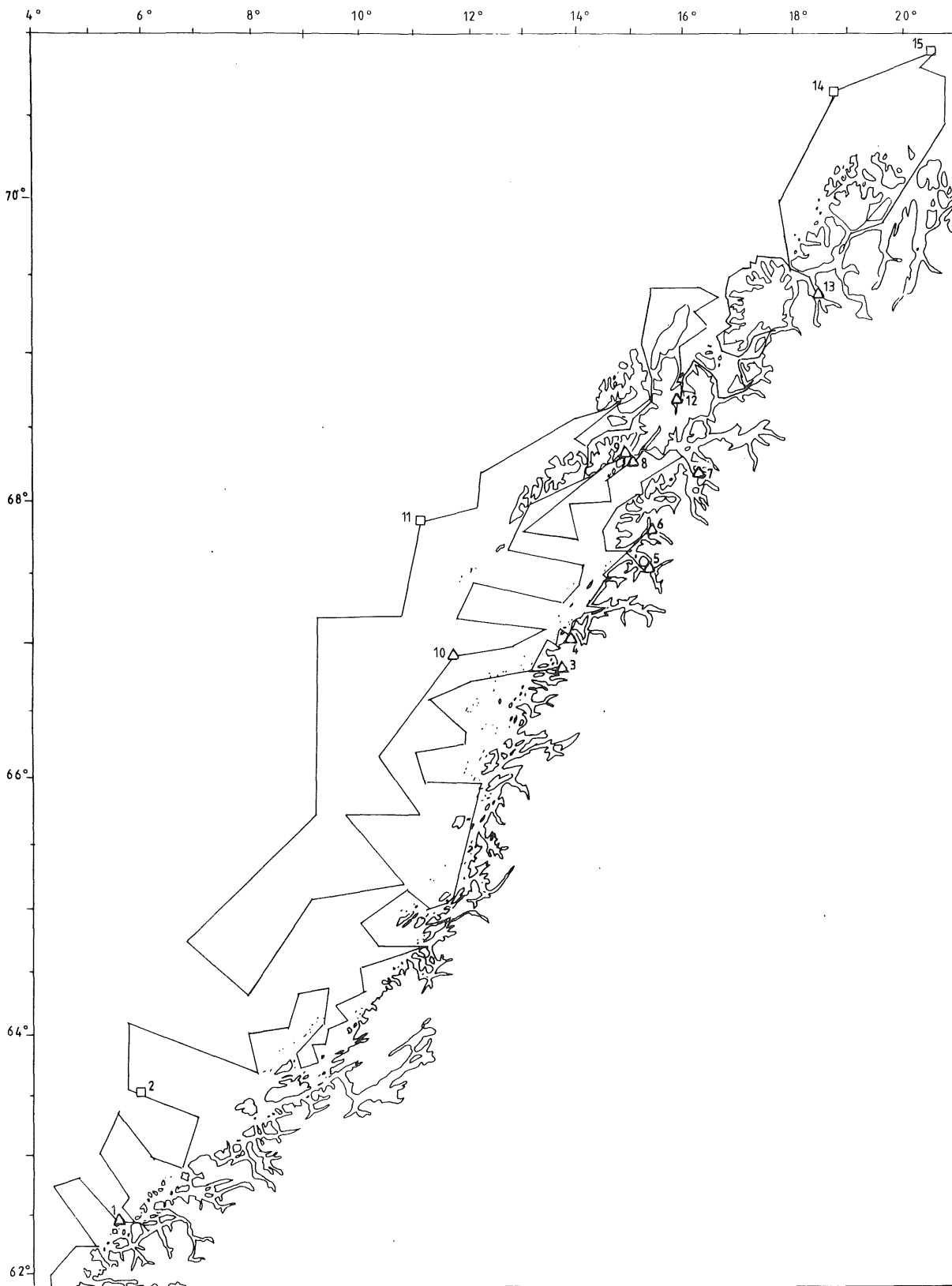






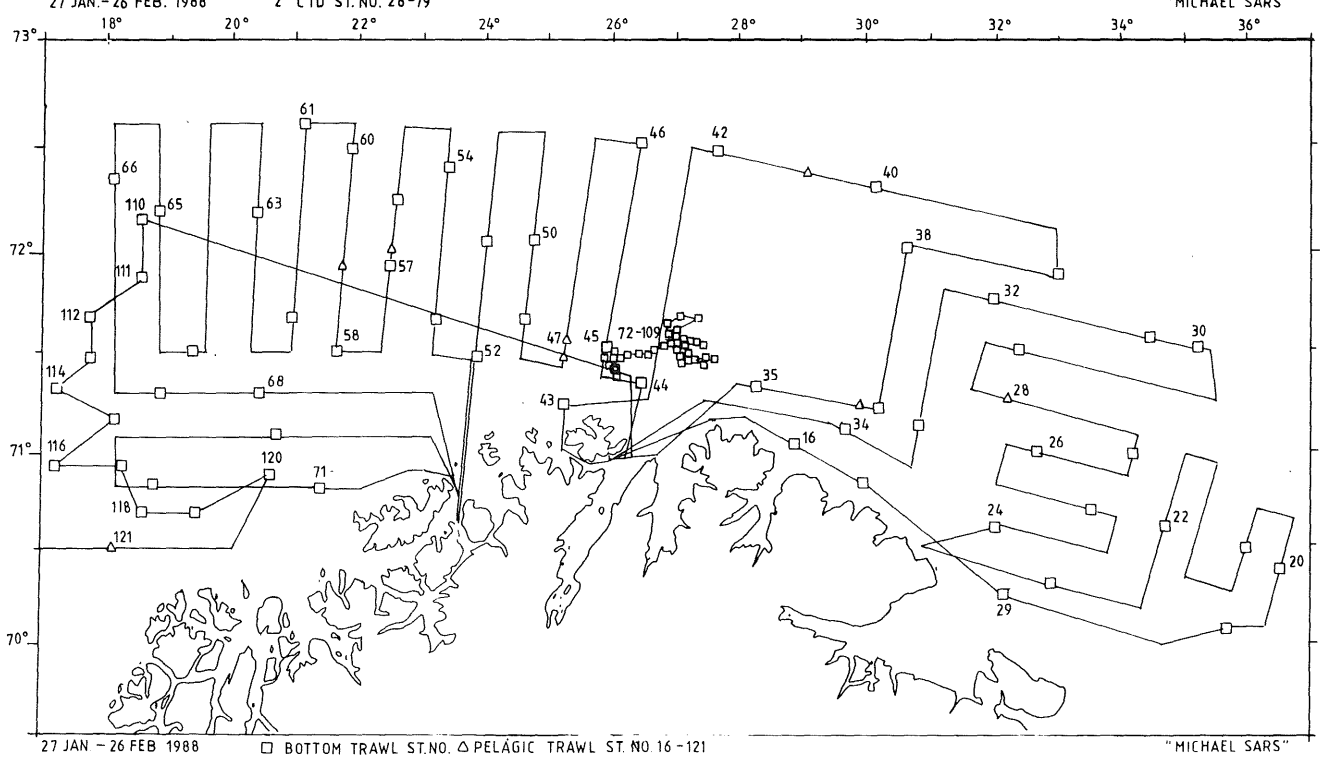
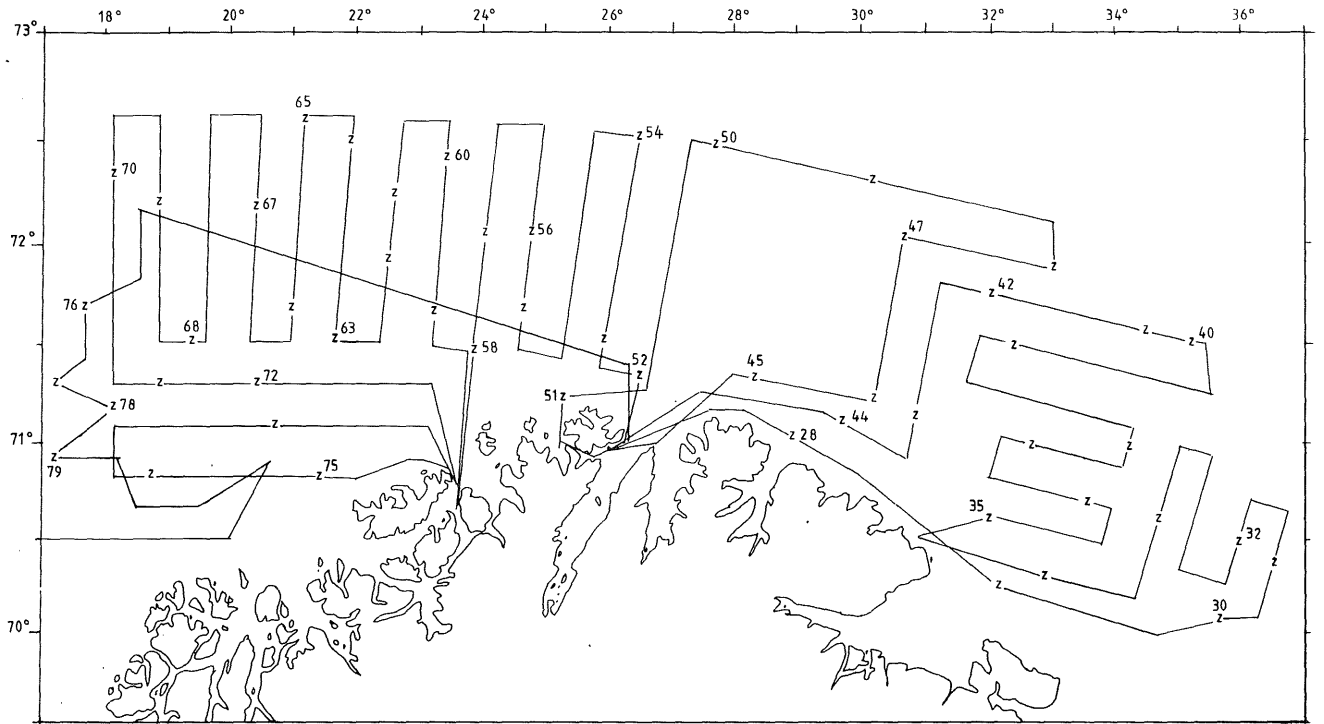
5-23 JAN.1988 z CTD ST.NO. 1-27

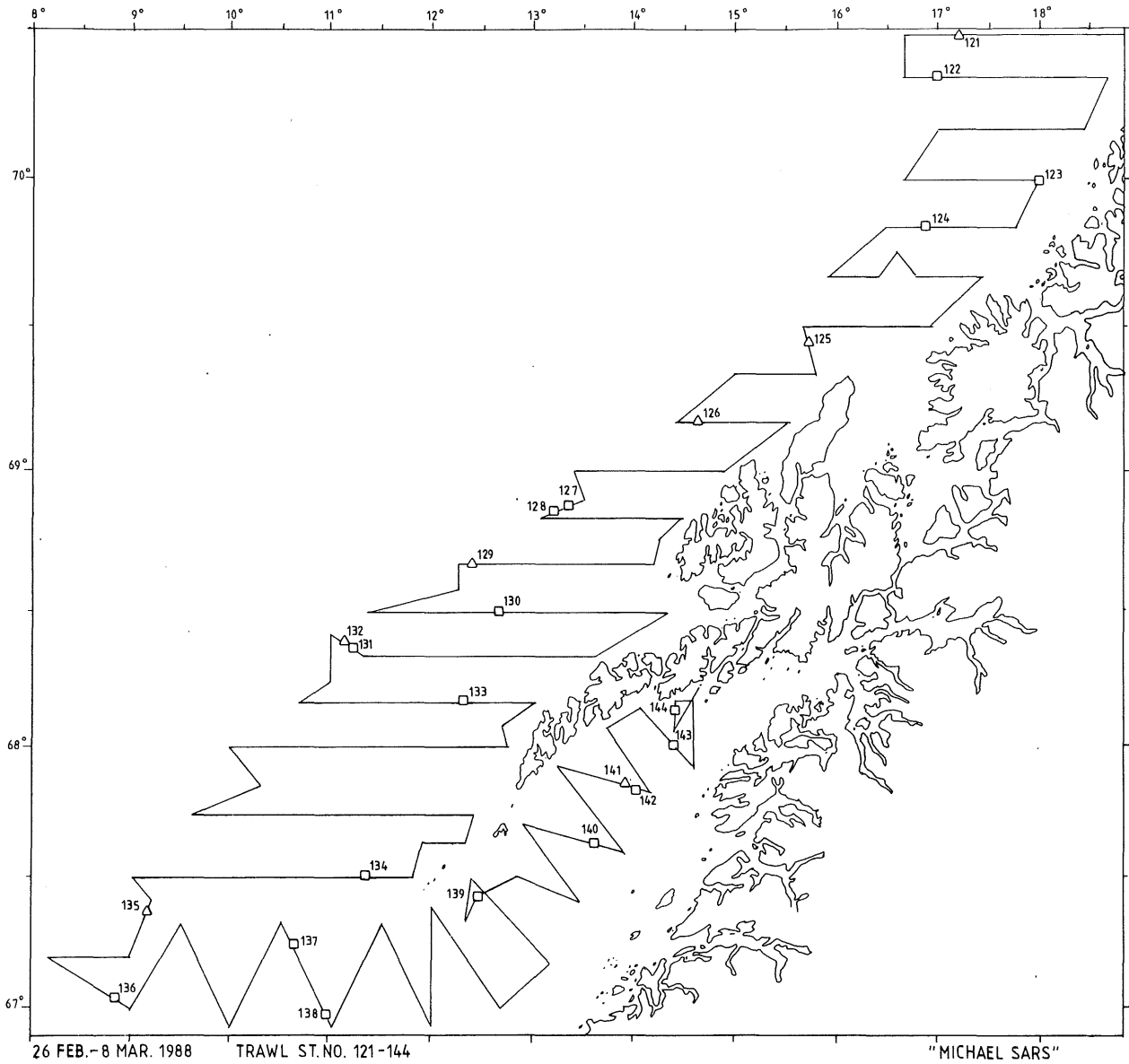
"MICHAEL SARS"

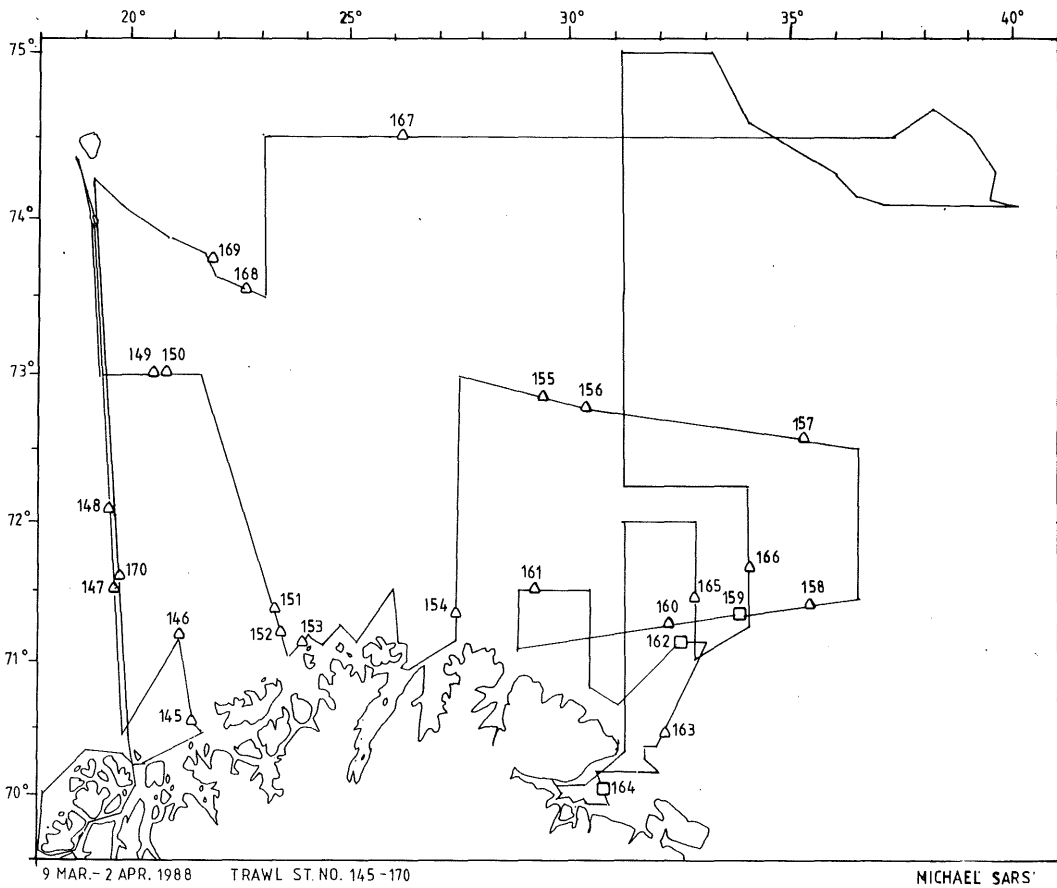
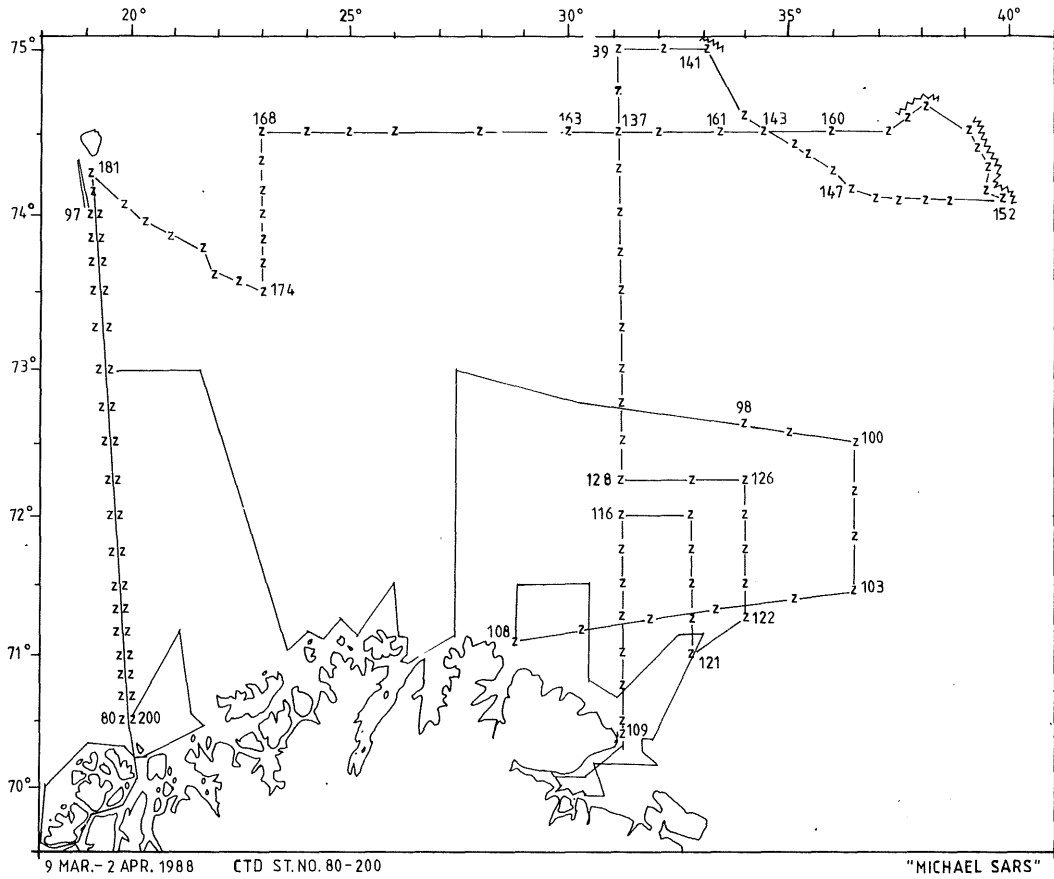


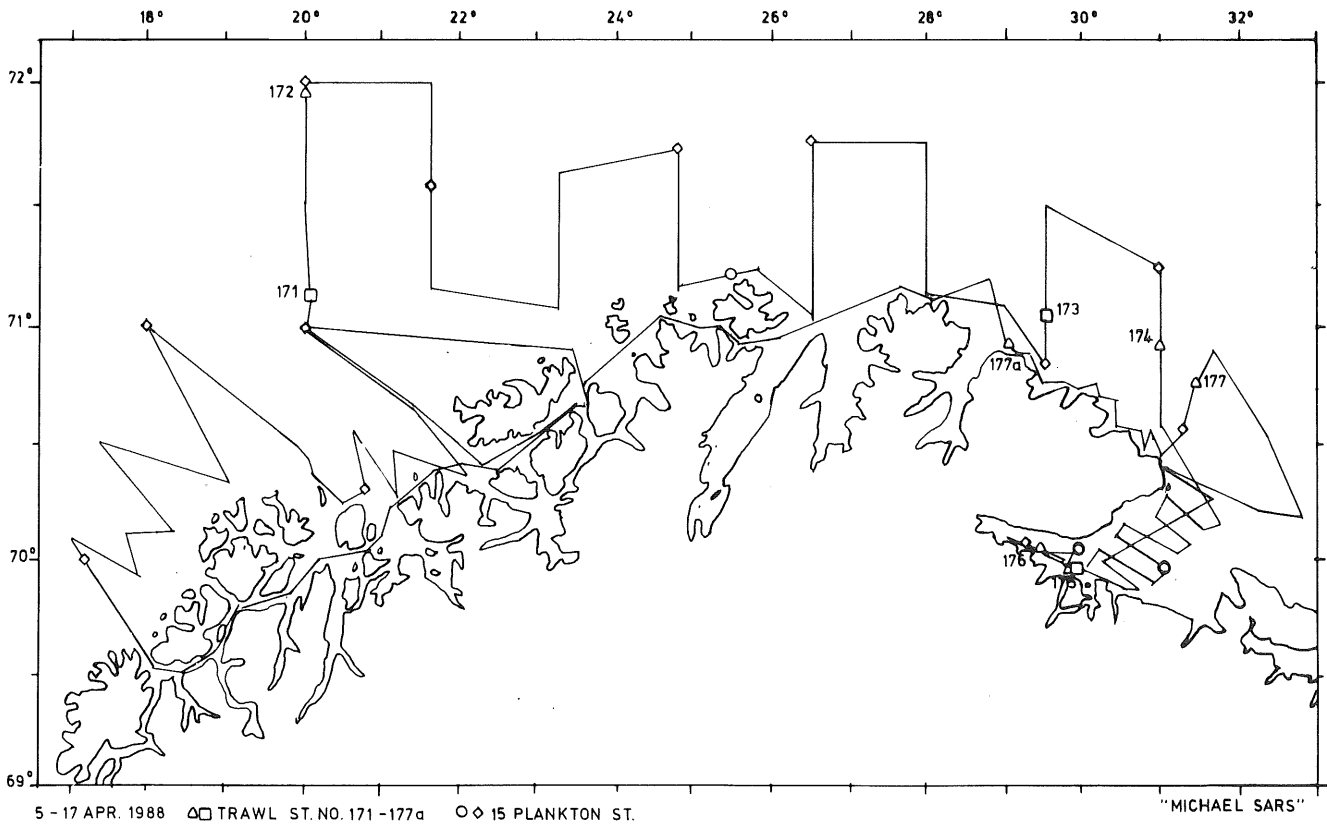
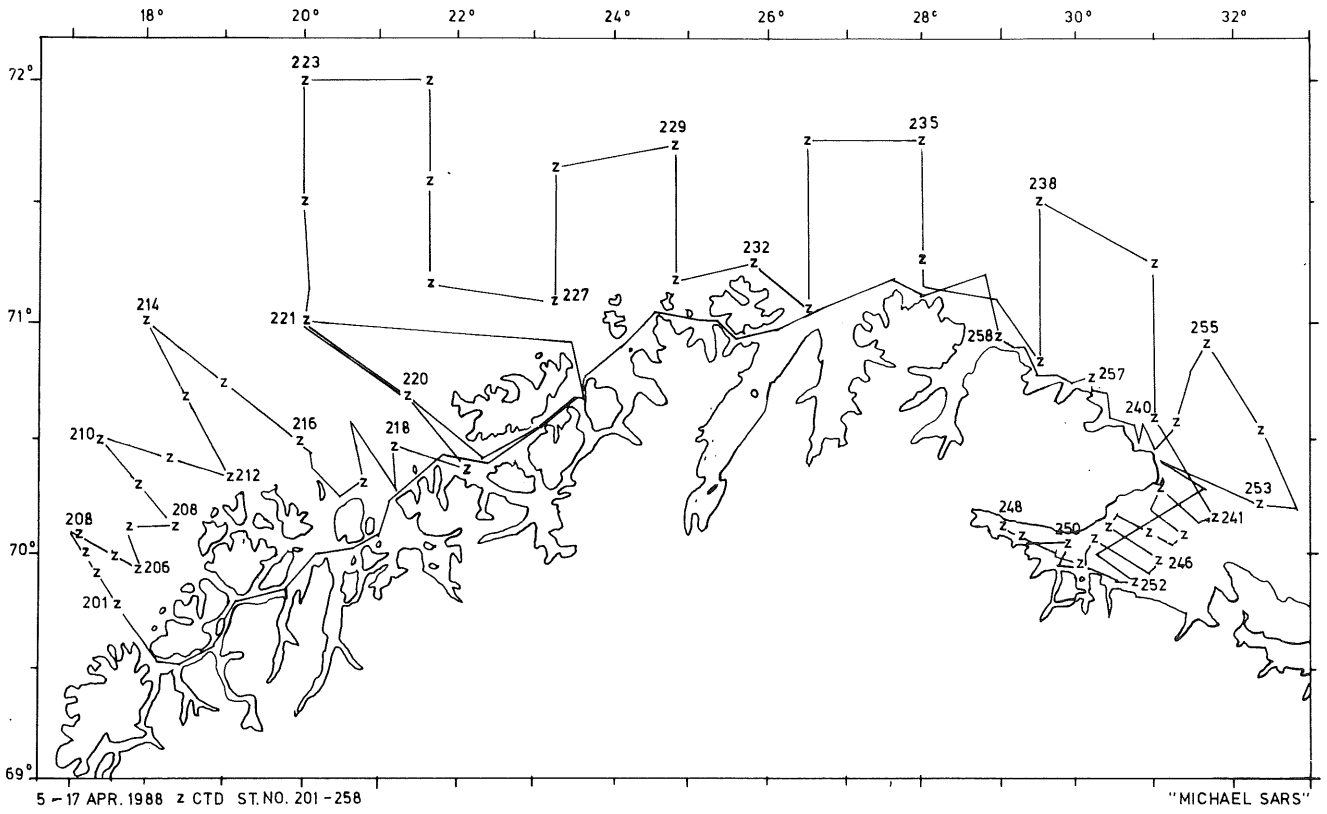
5 - 23 JAN. 1988 TRAWL ST. NO. 1-15

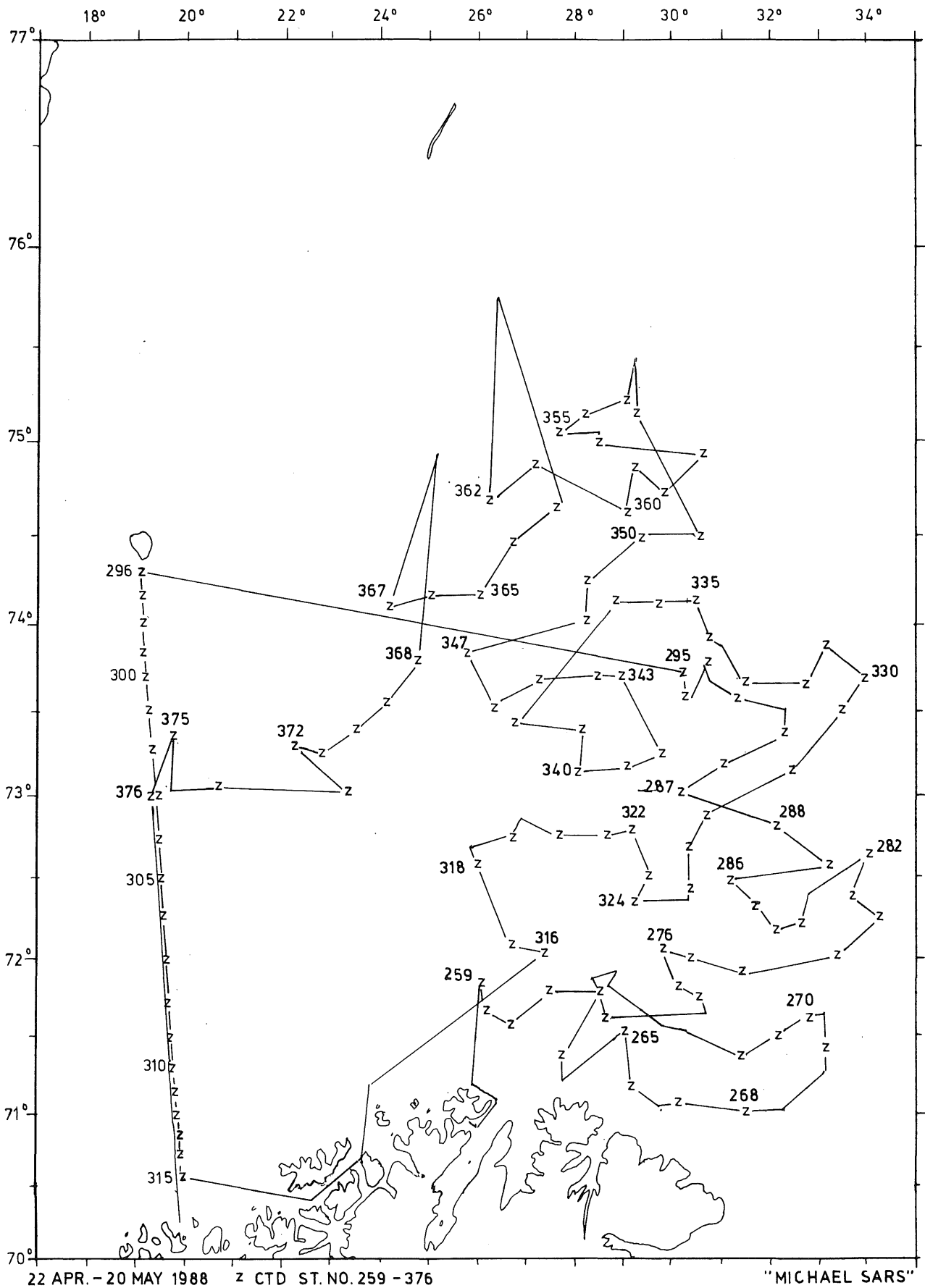
"MICHAL SARS"

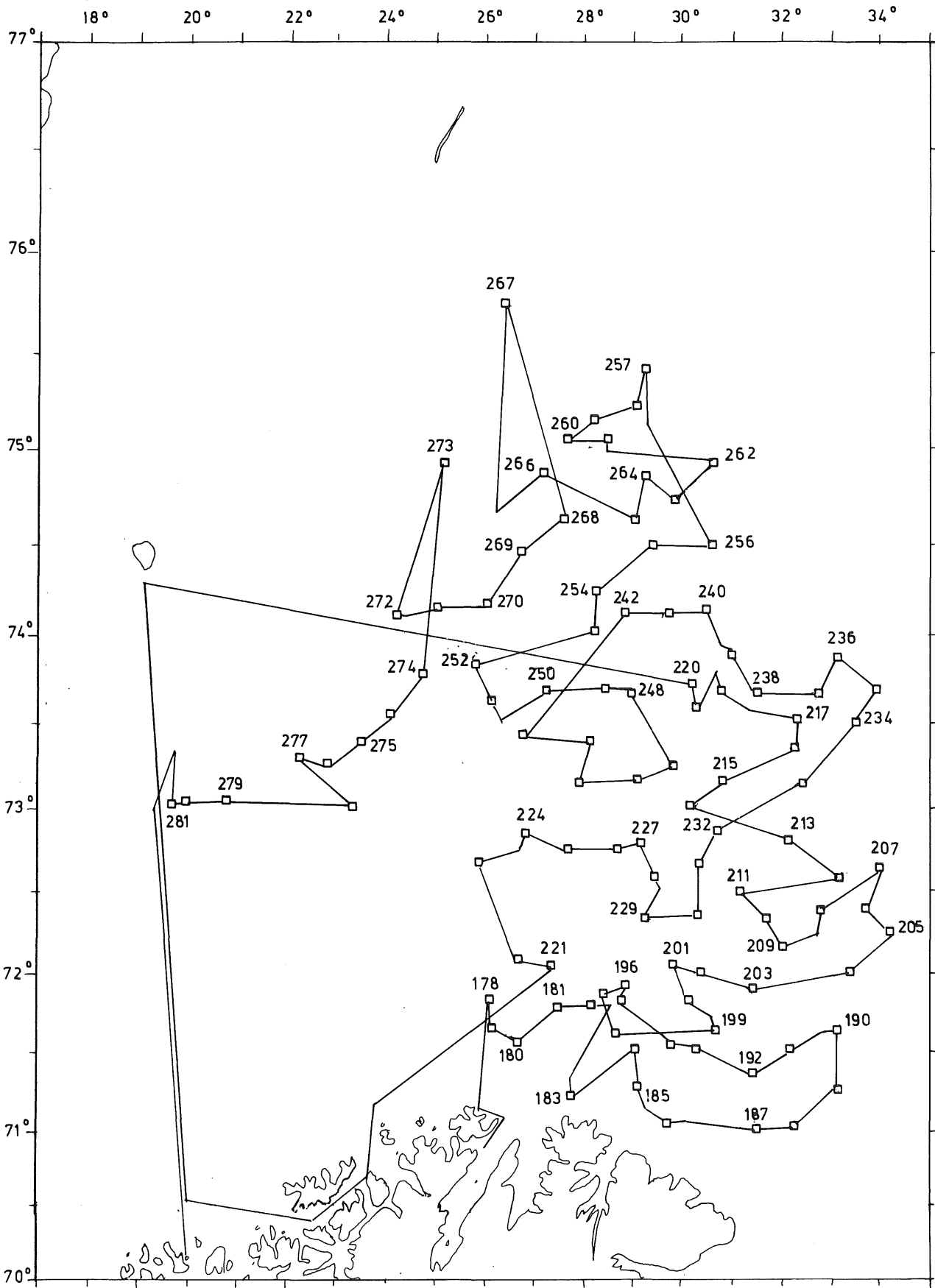






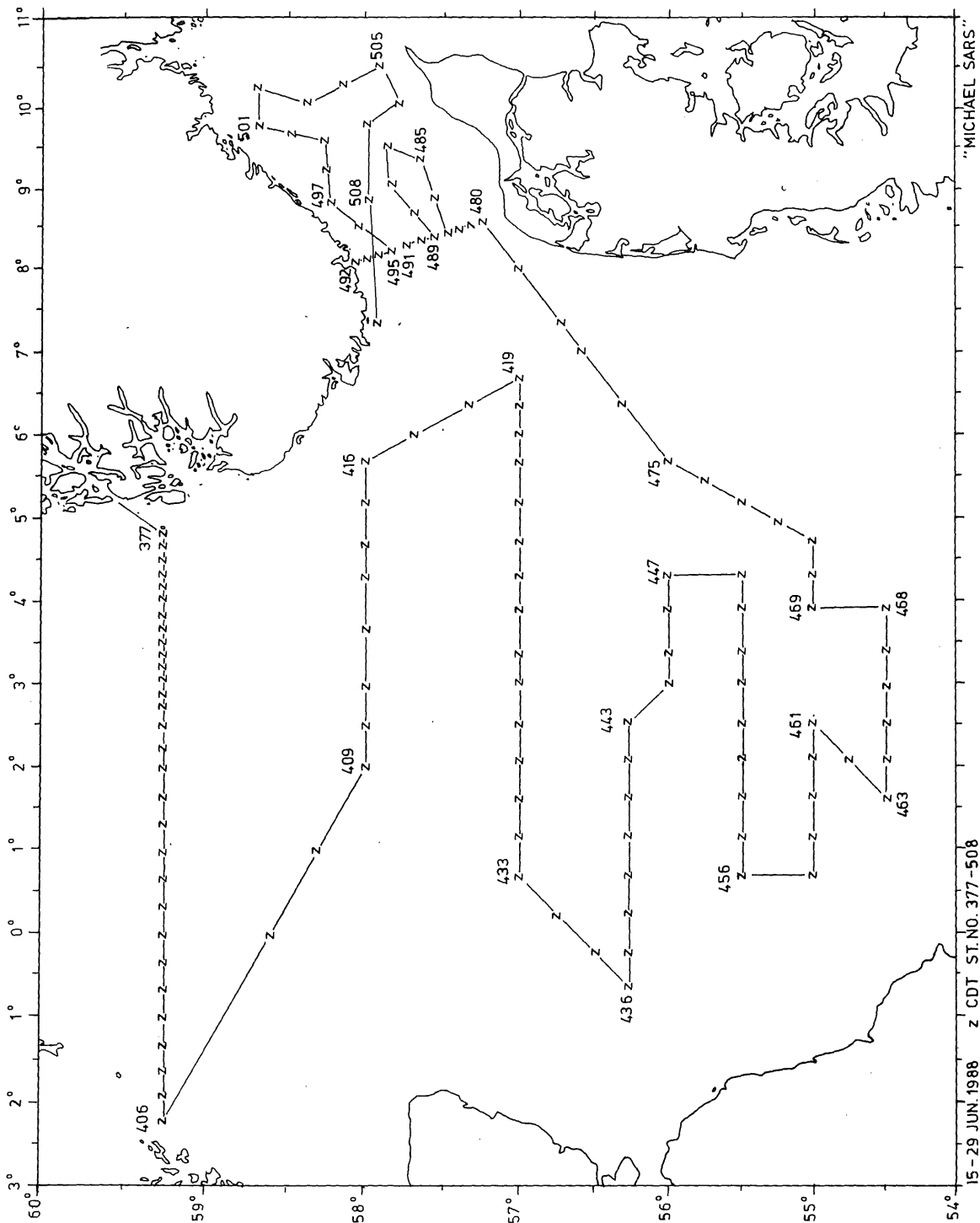


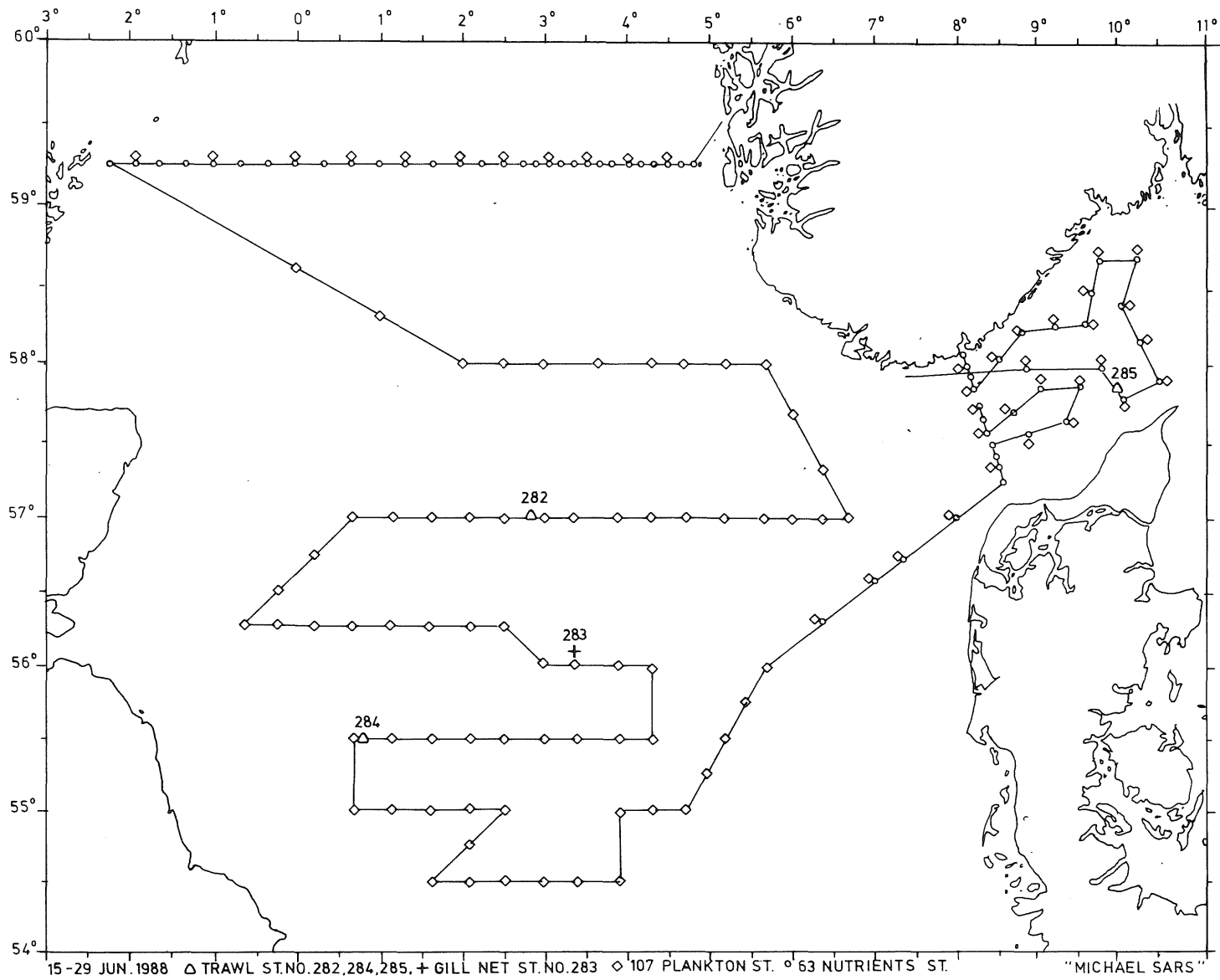


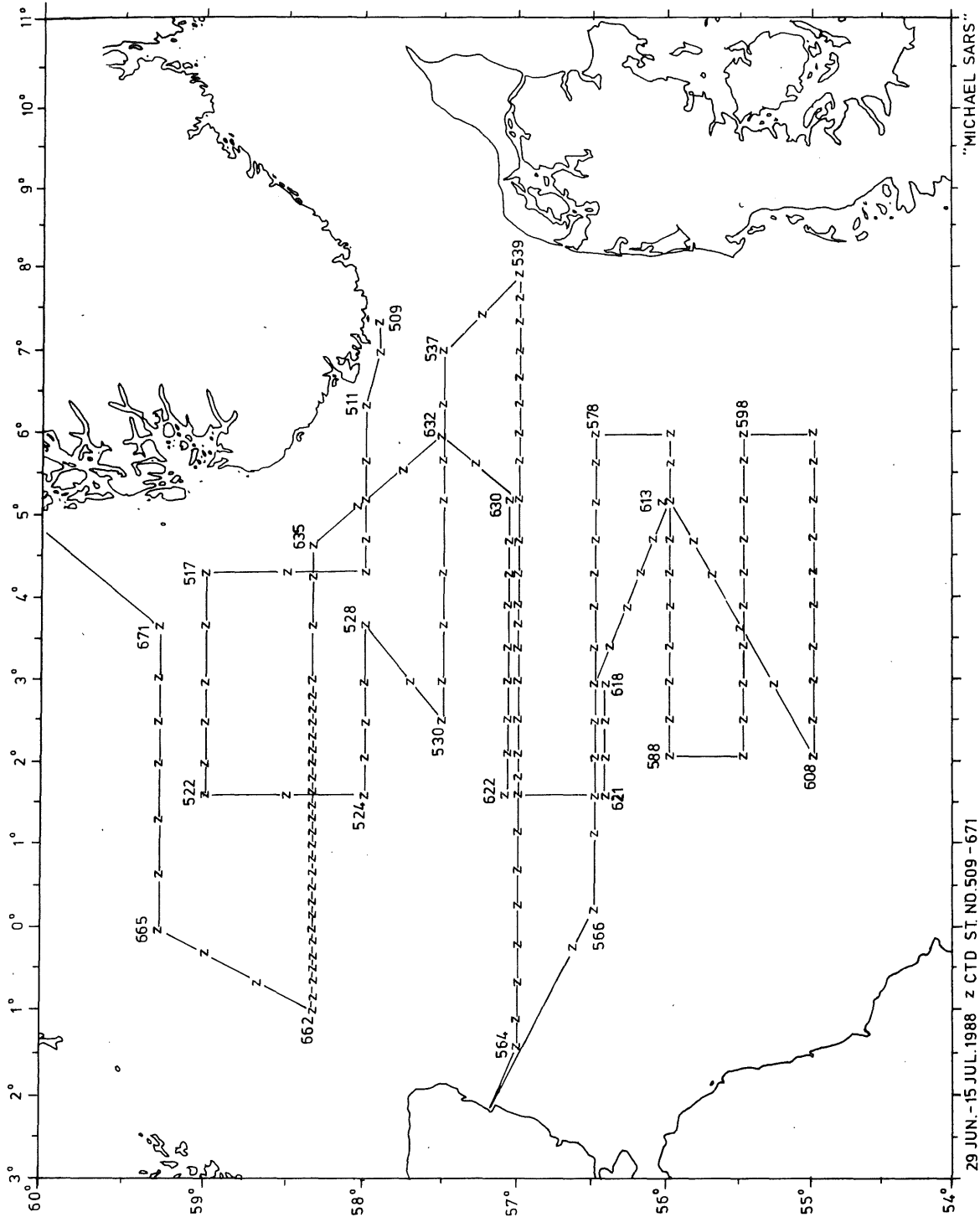


22 APR. - 20 MAY 1988 □ TRAWL ST.NO: 178 - 281

"MICHAEL SARIS"

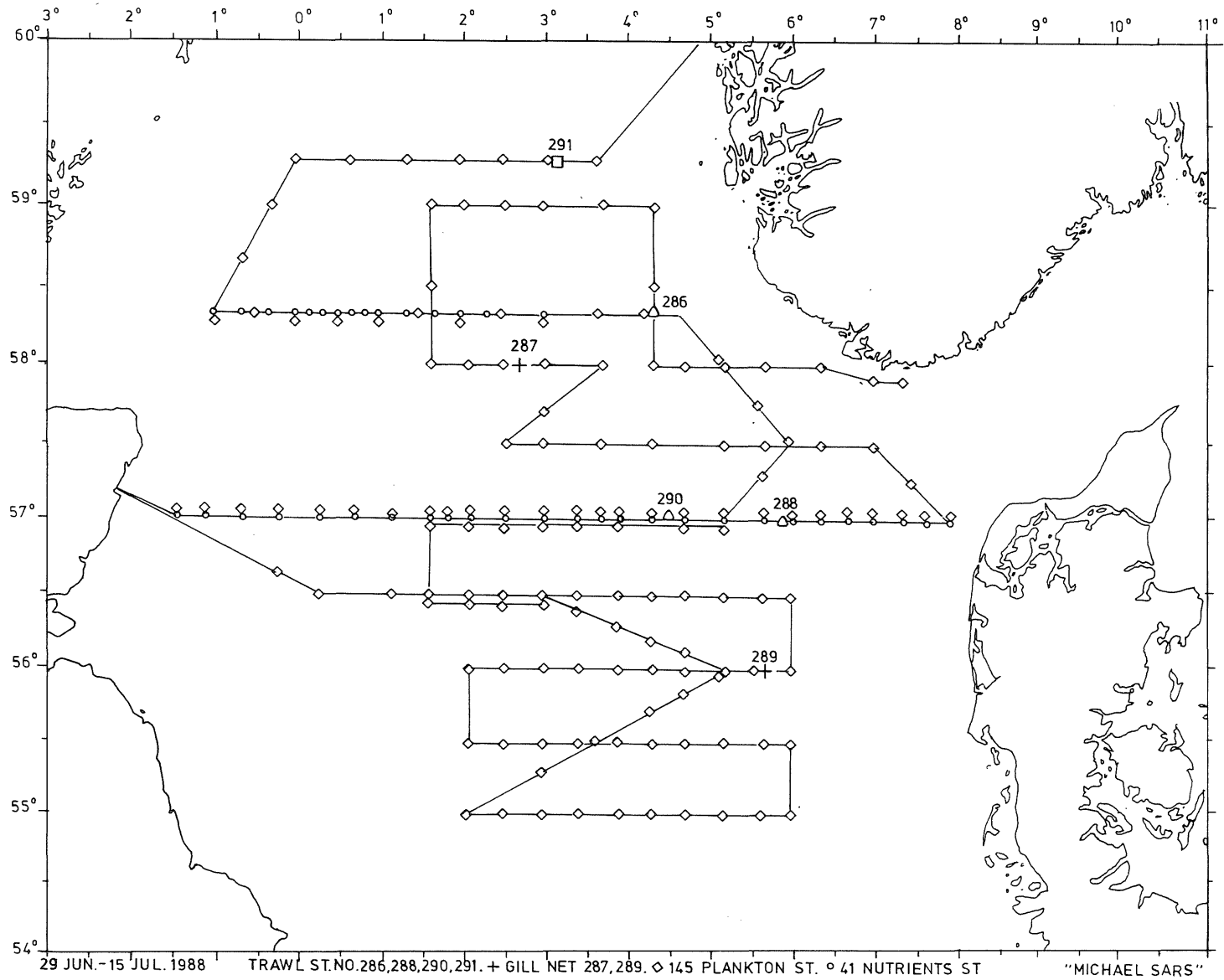


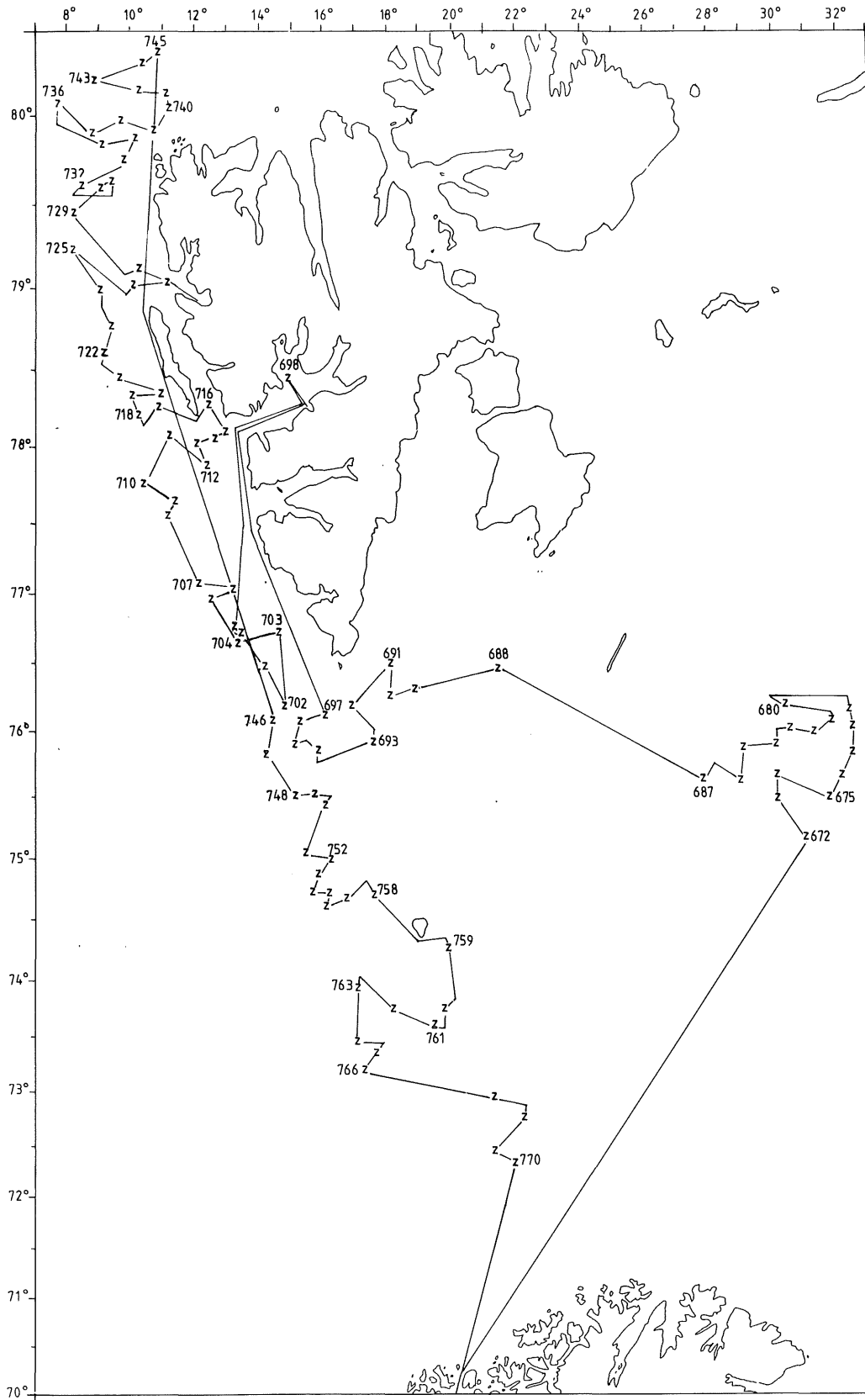




"MICHAEL SARS"

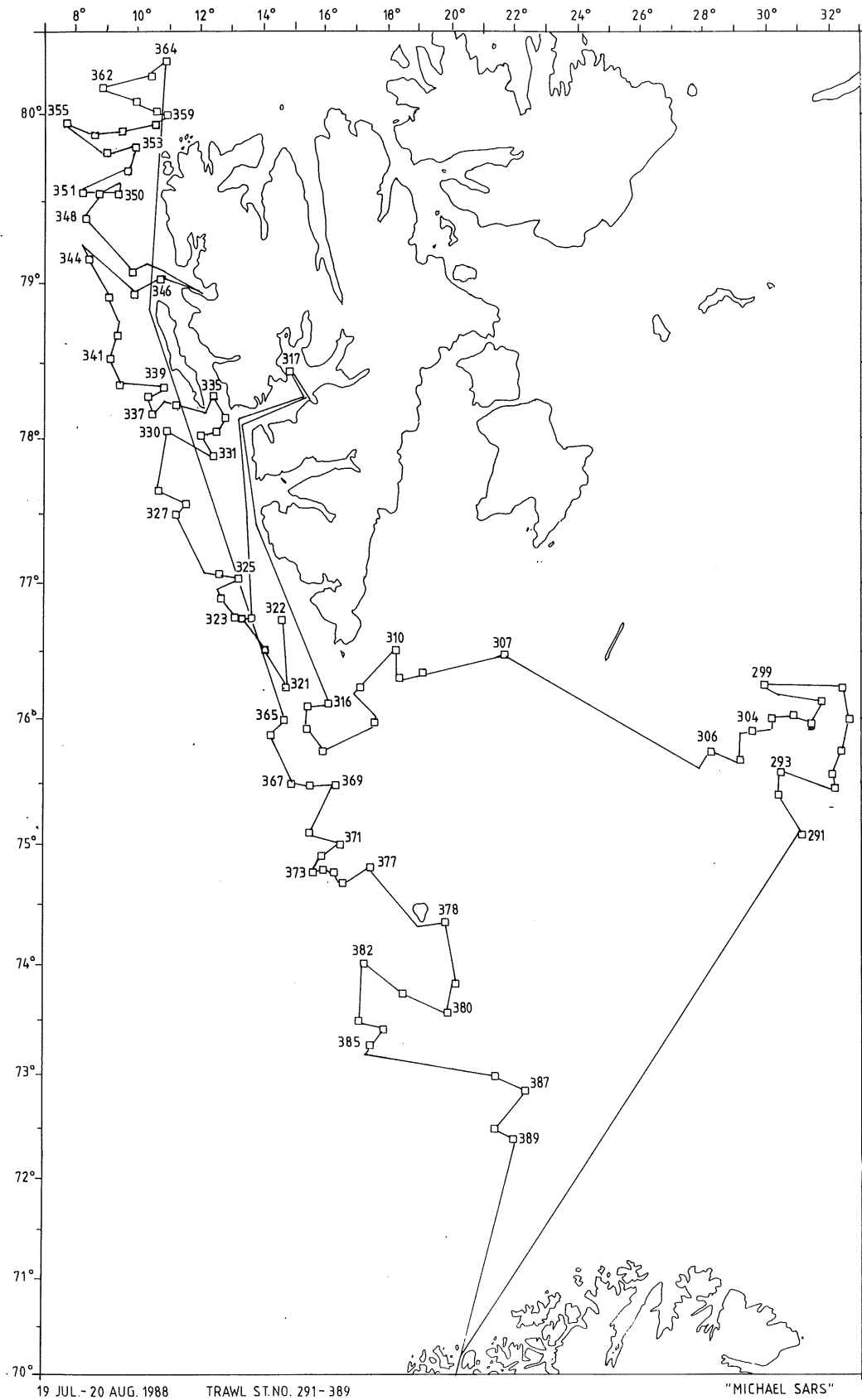
29 JUN. - 15 JUL. 1988 z CTD ST. NO. 509 - 671

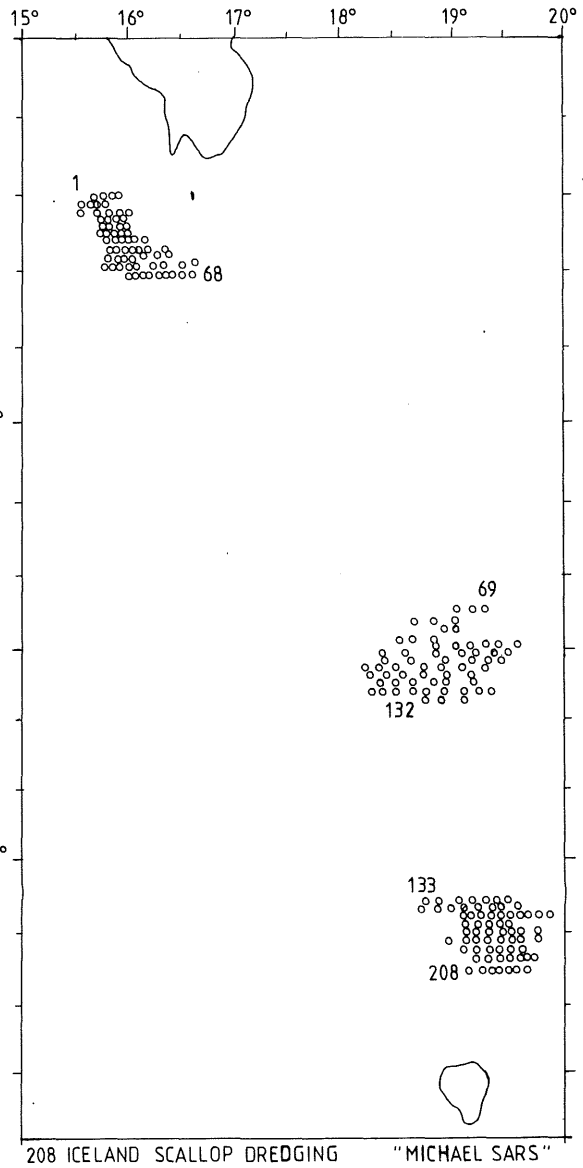
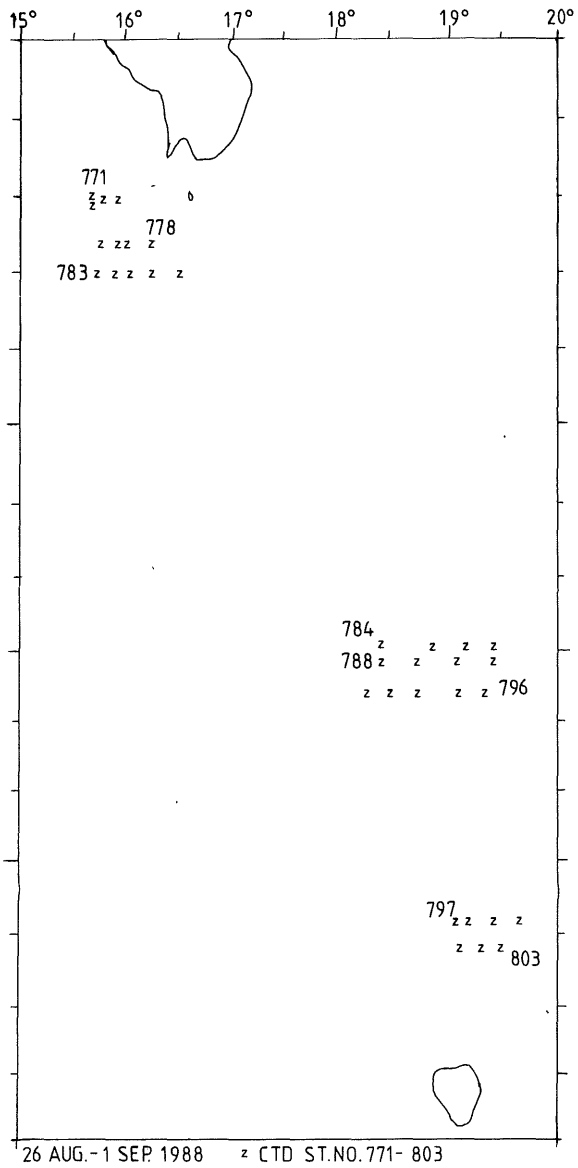


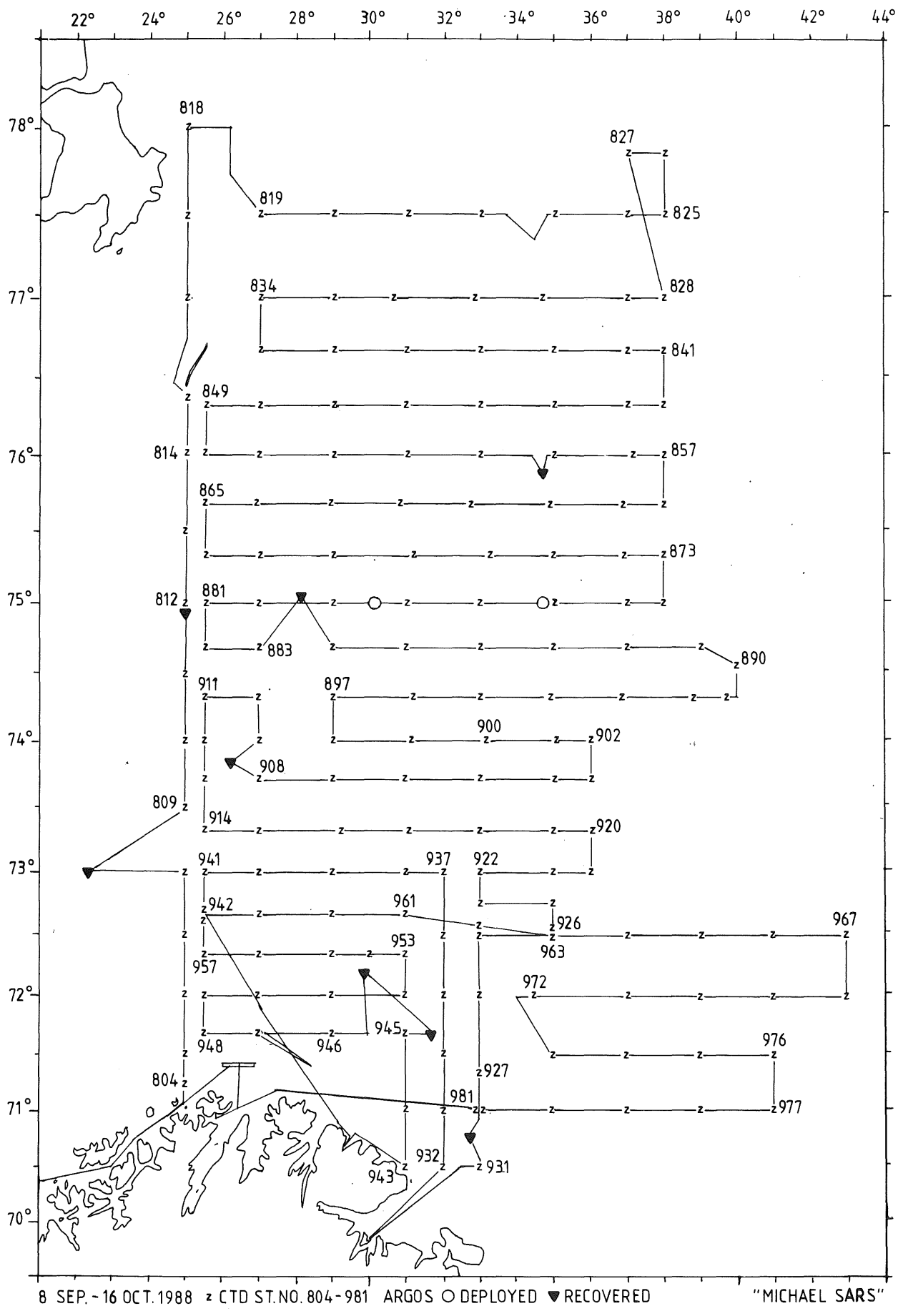


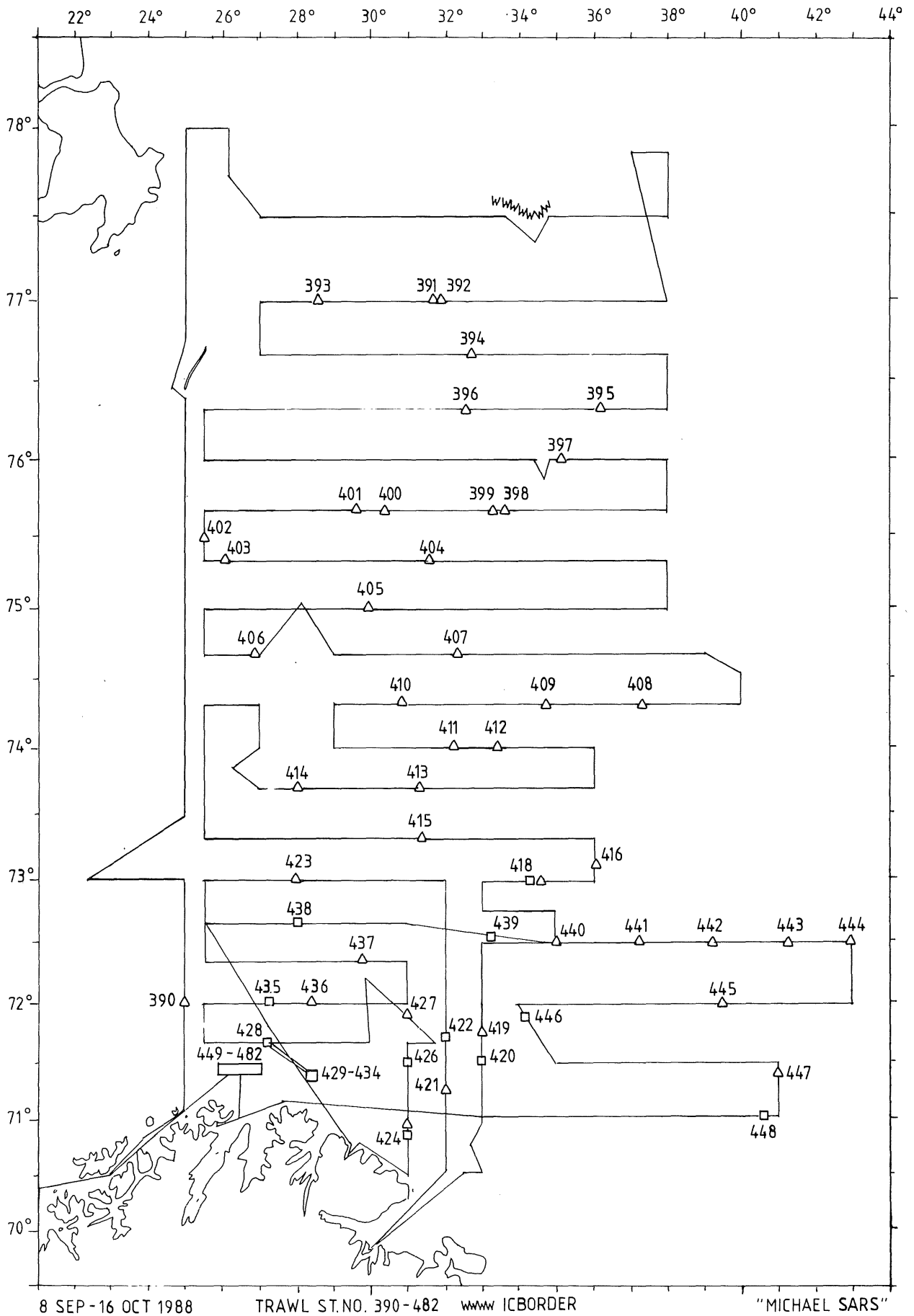
19 JUL - 20 AUG. 1988 CTD ST. NO. 672 - 770

"MICHAEL SARS"





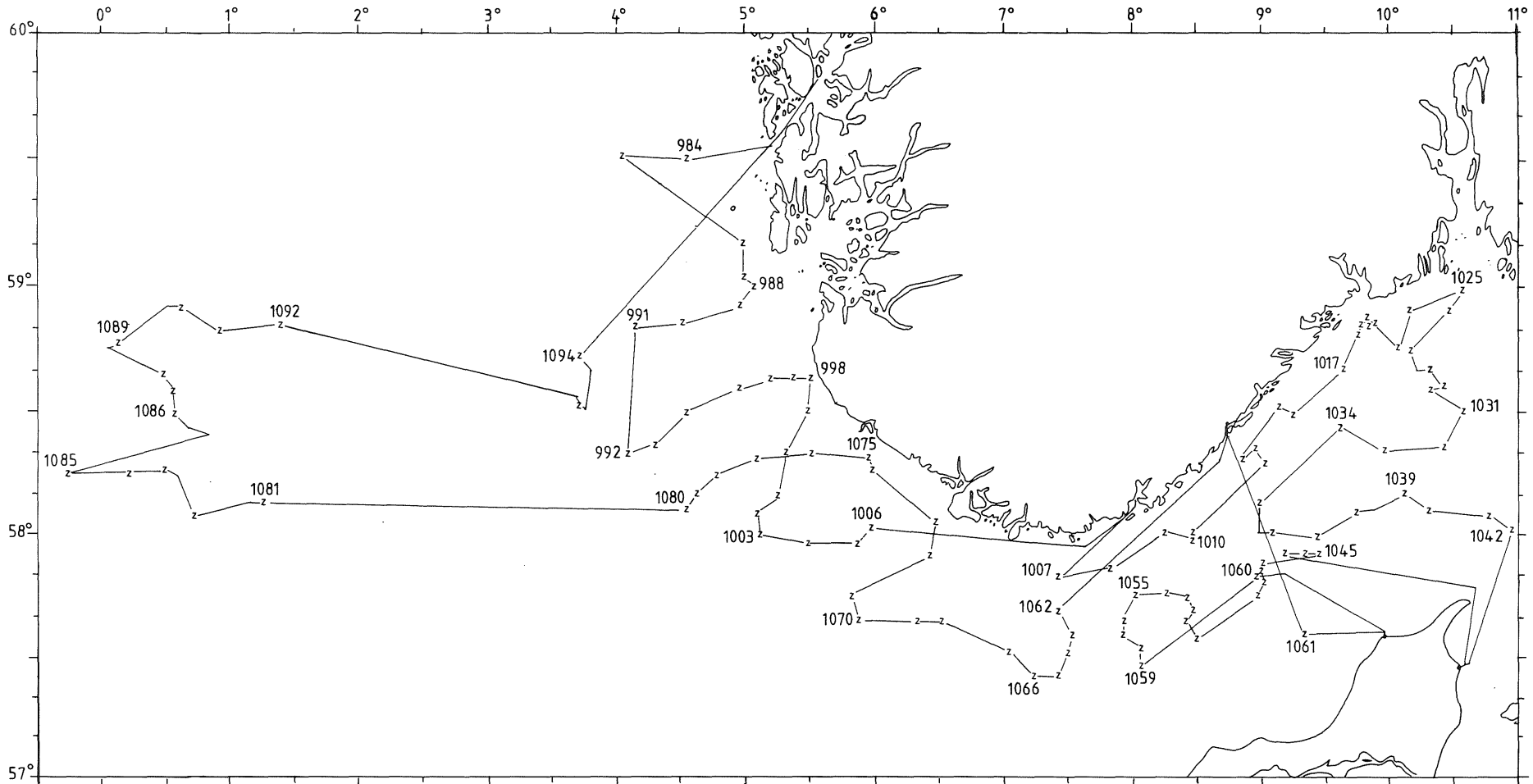




8 SEP -16 OCT 1988

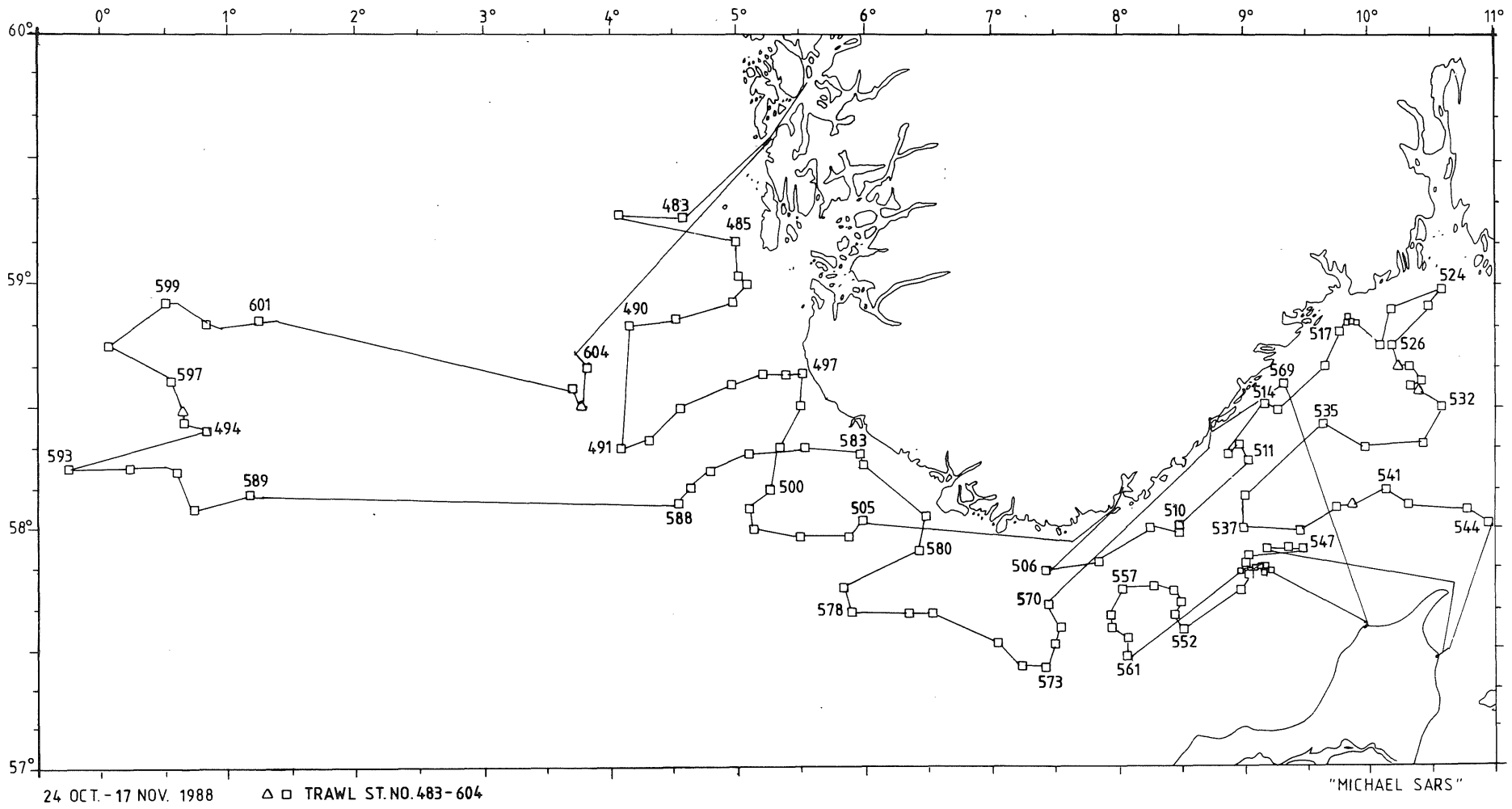
TRAWL ST.NO. 390-482 www ICBORDER

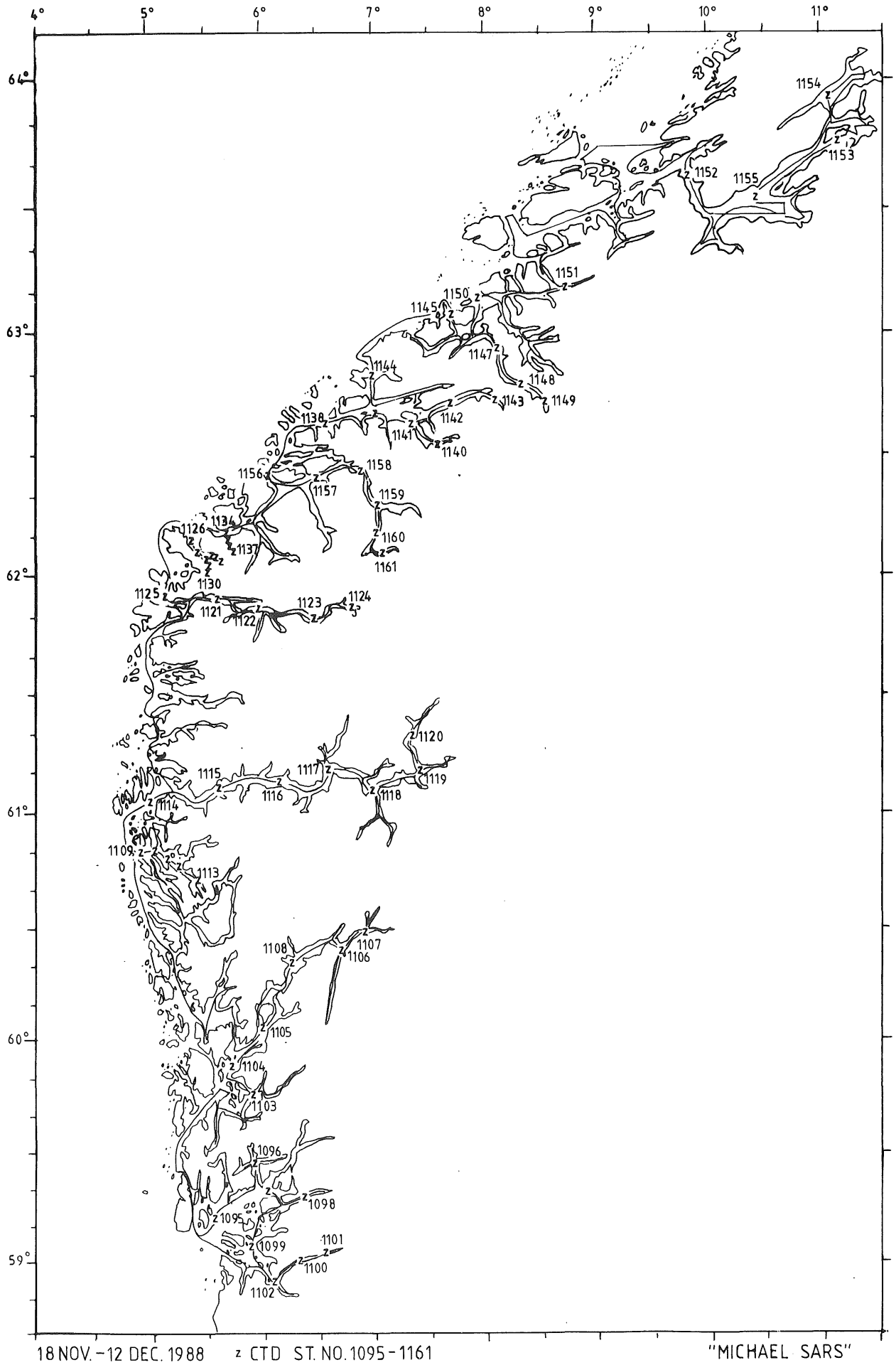
"MICHAEL SARS"



24 OCT. - 17 NOV. 1988 z CTD ST. NO. 984-1094

"MICHAEL SARS"

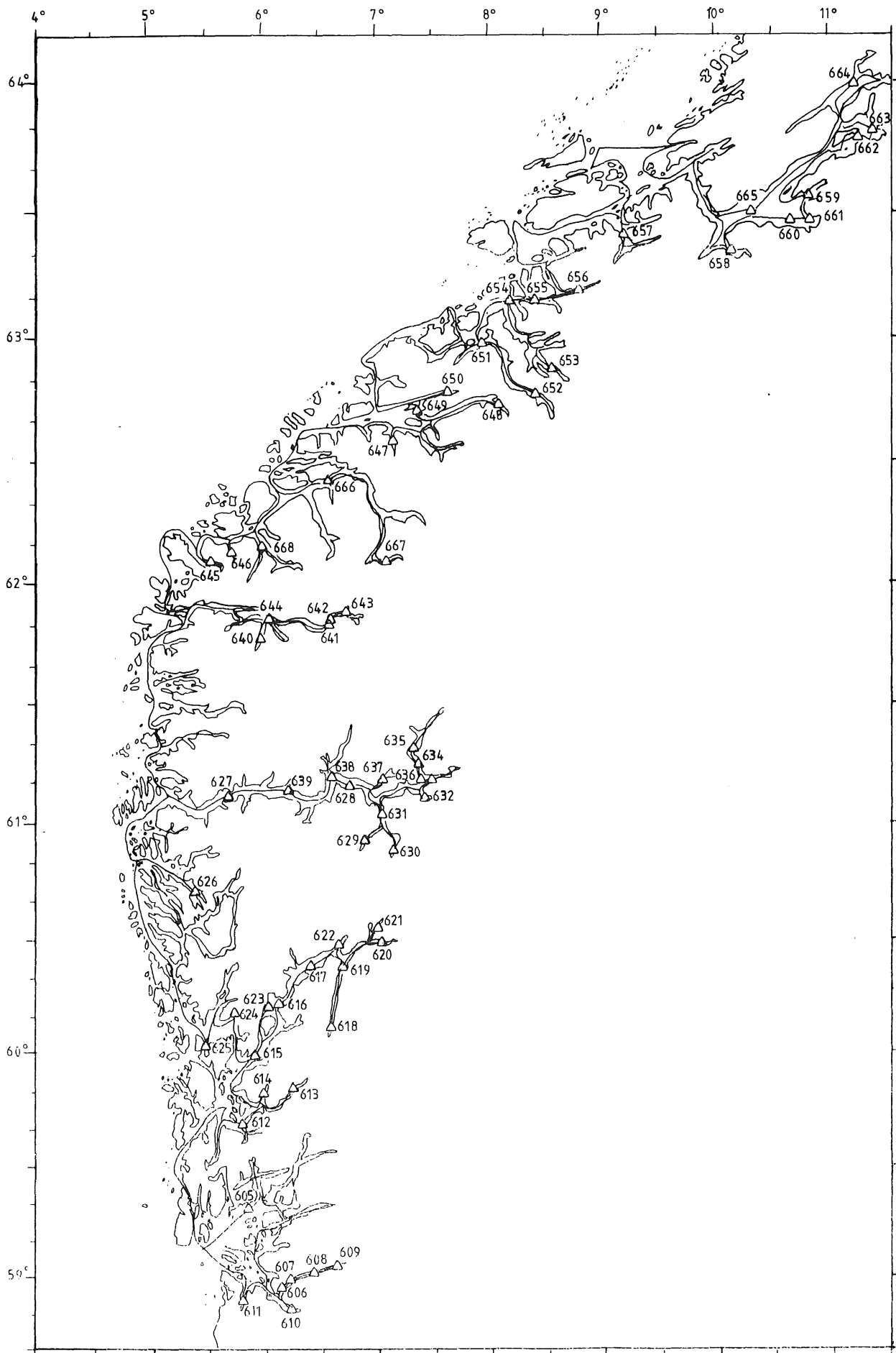




18 NOV. - 12 DEC. 1988

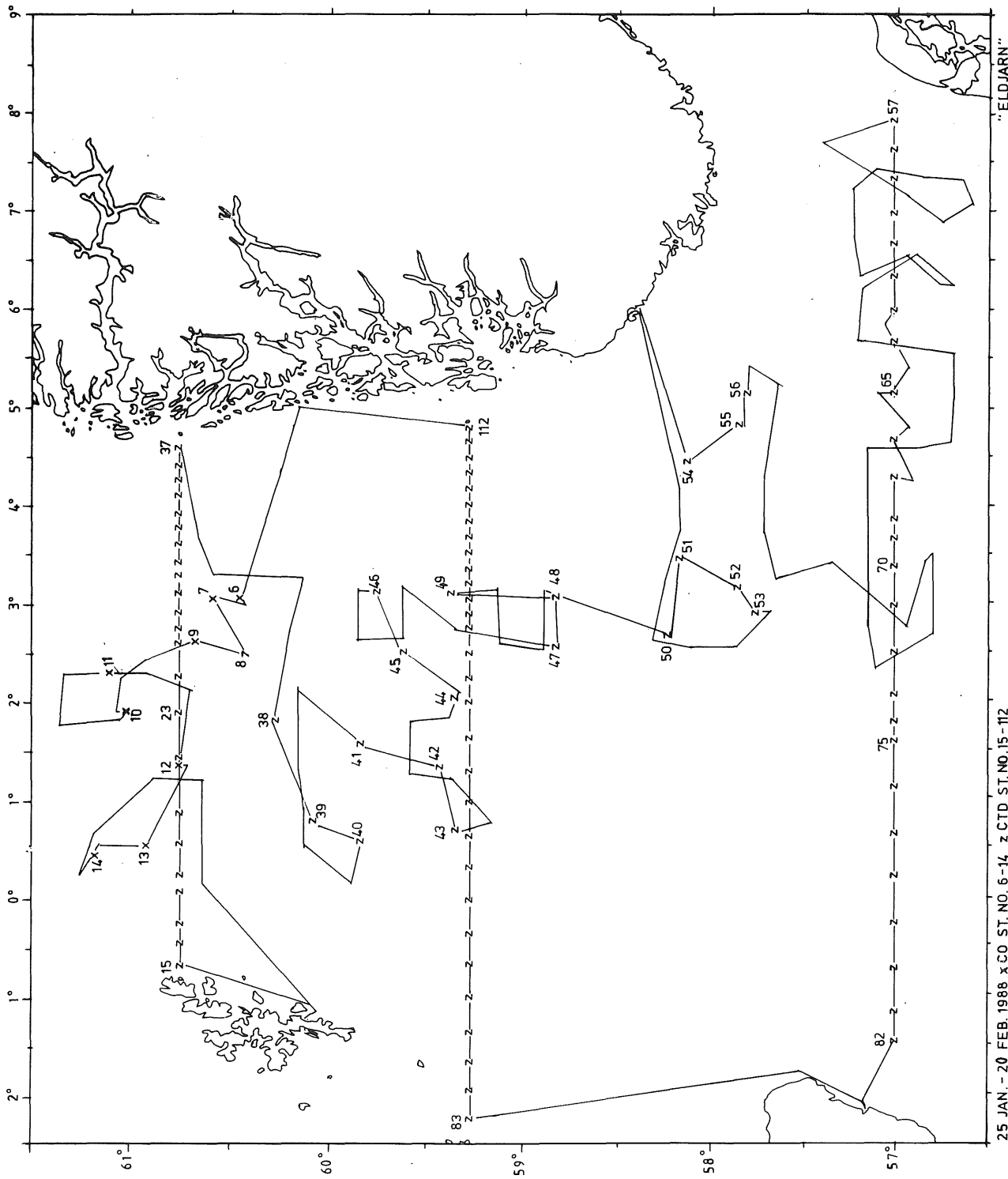
z CTD ST. NO. 1095 - 1161

"MICHAEL SARS"



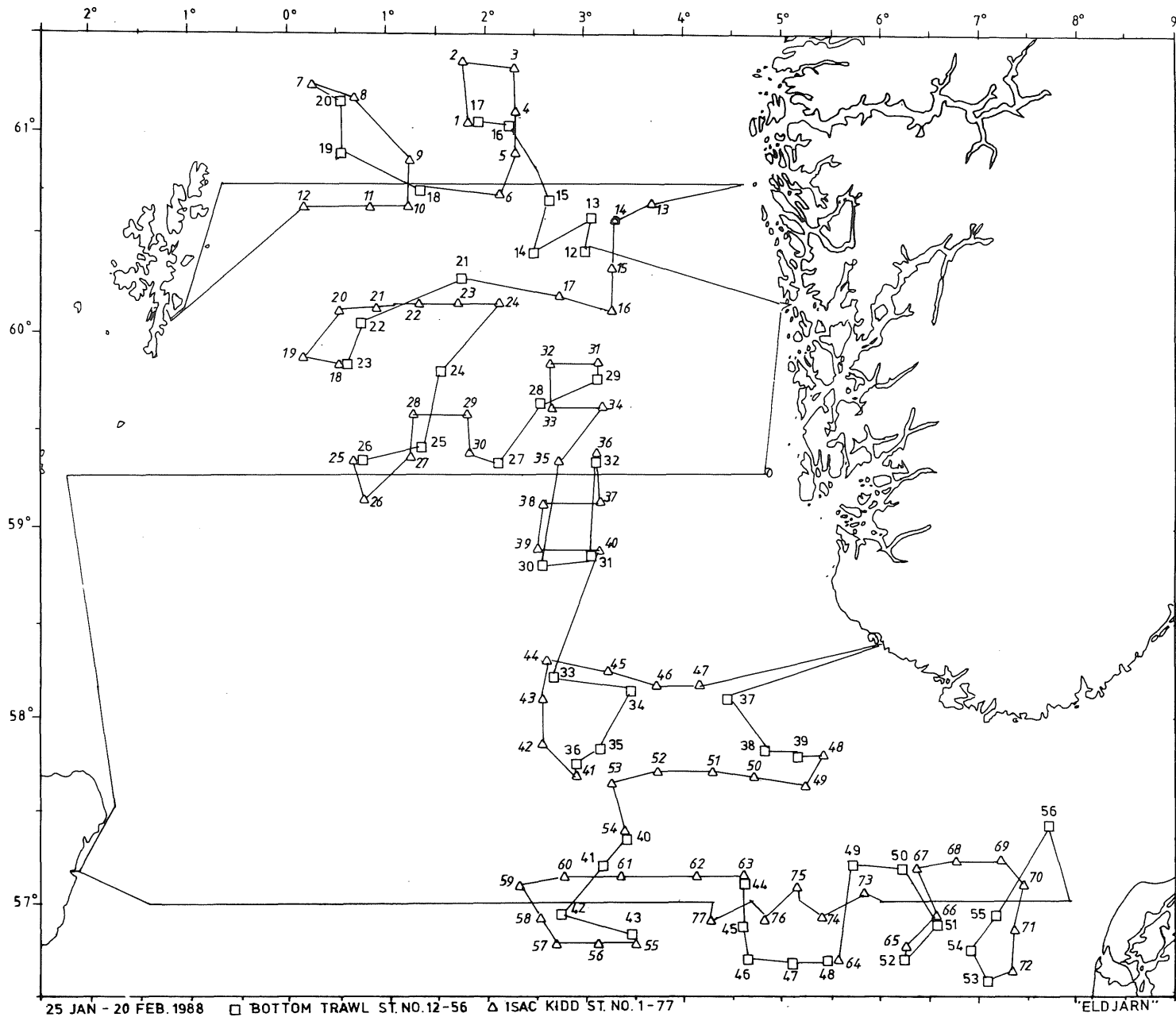
18 NOV. - 12 DEC. 1988 △ TRAWL ST. NO. 605-668

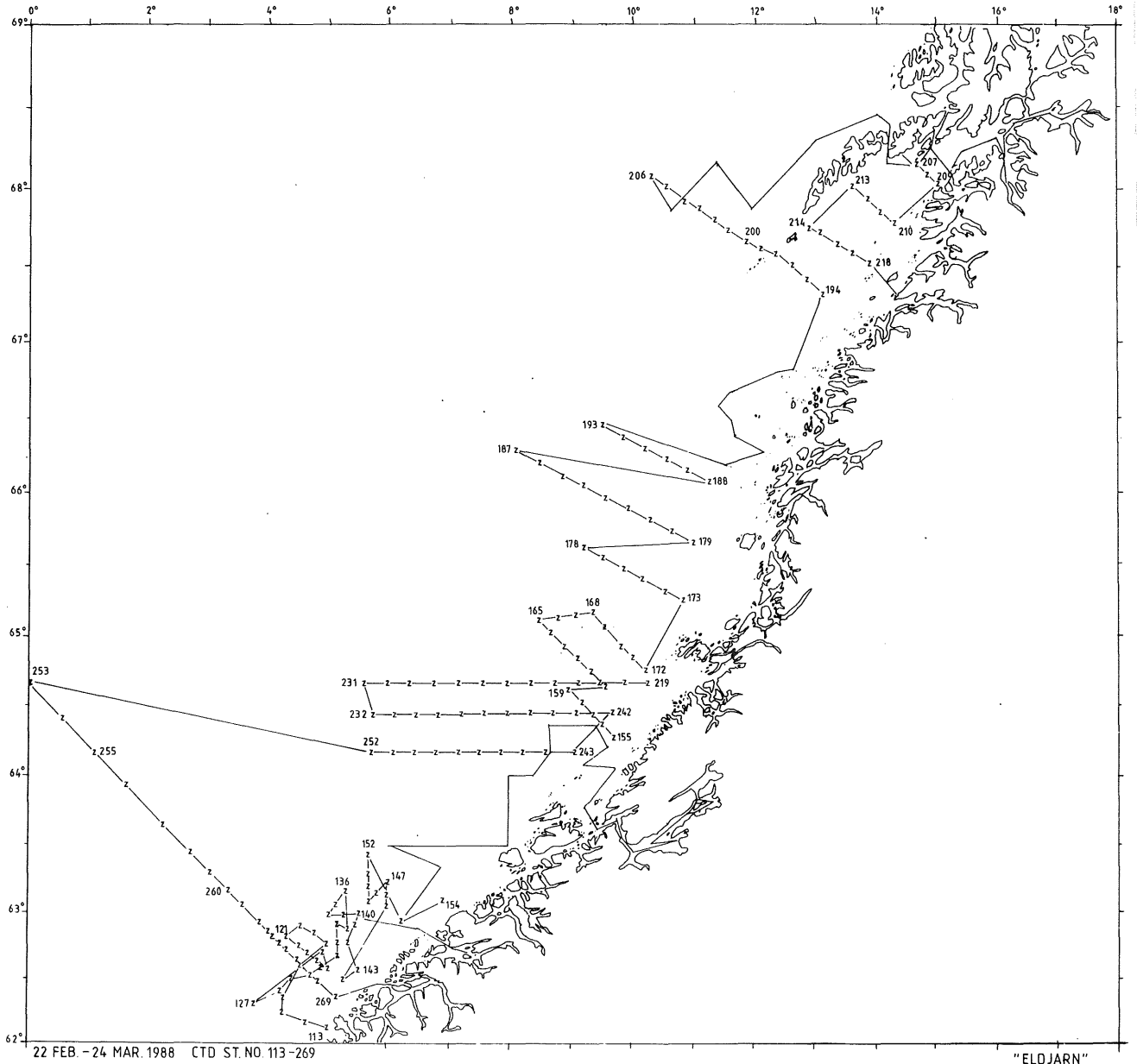
"MICHAEL SARS"

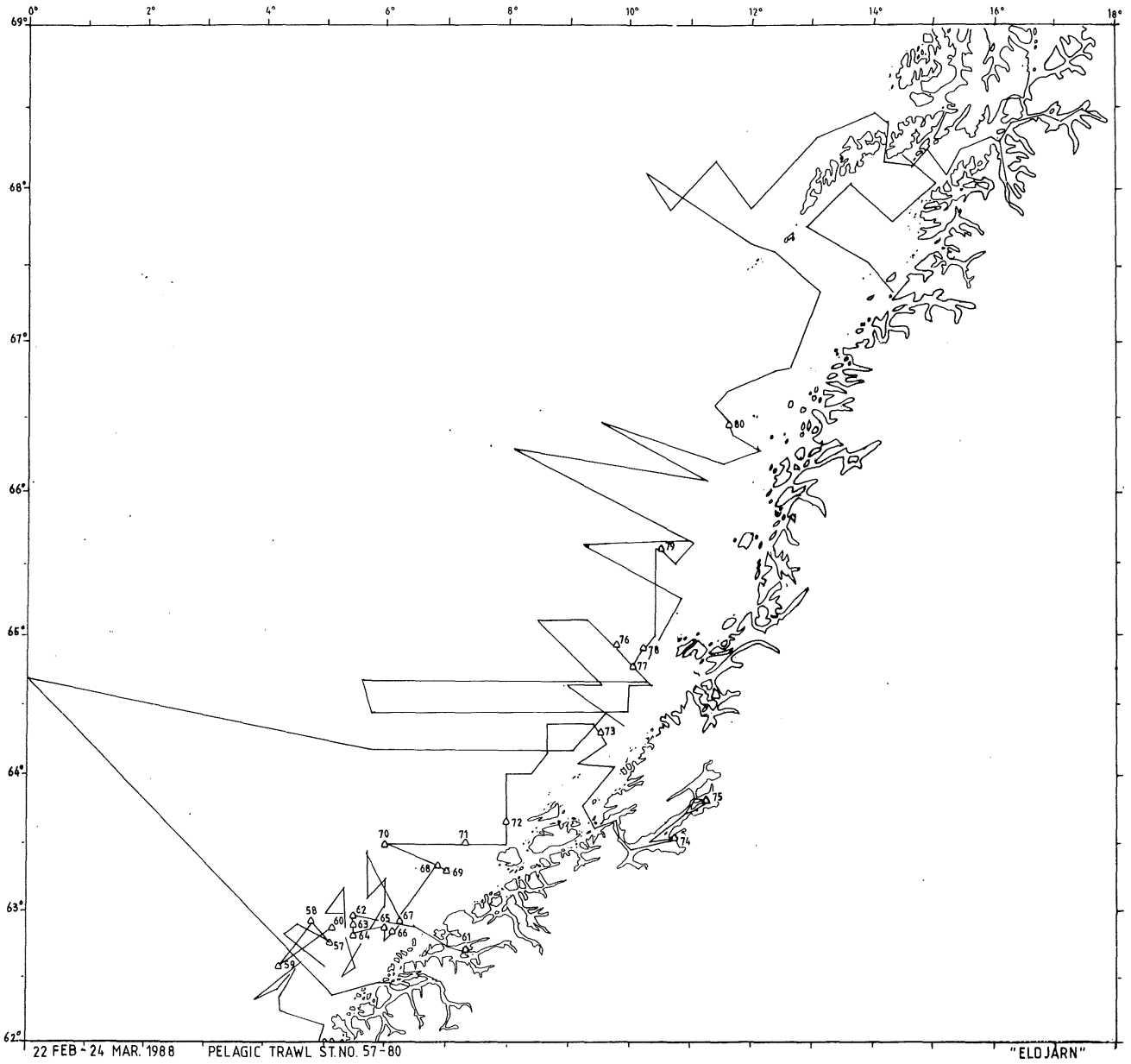


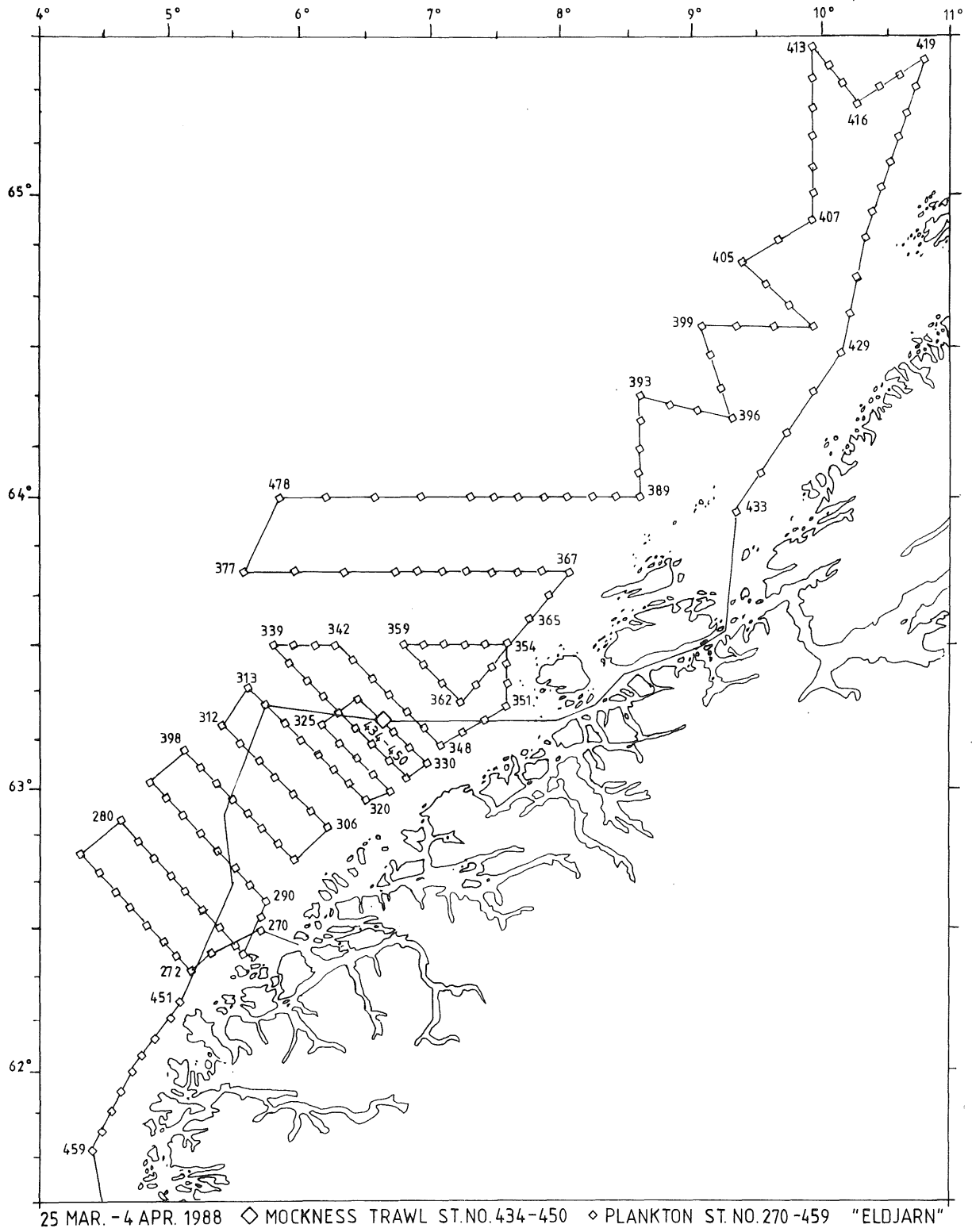
25 JAN. - 20 FEB. 1988 x CO. ST. NO. 6-14 z CTD ST. NO. 15-112

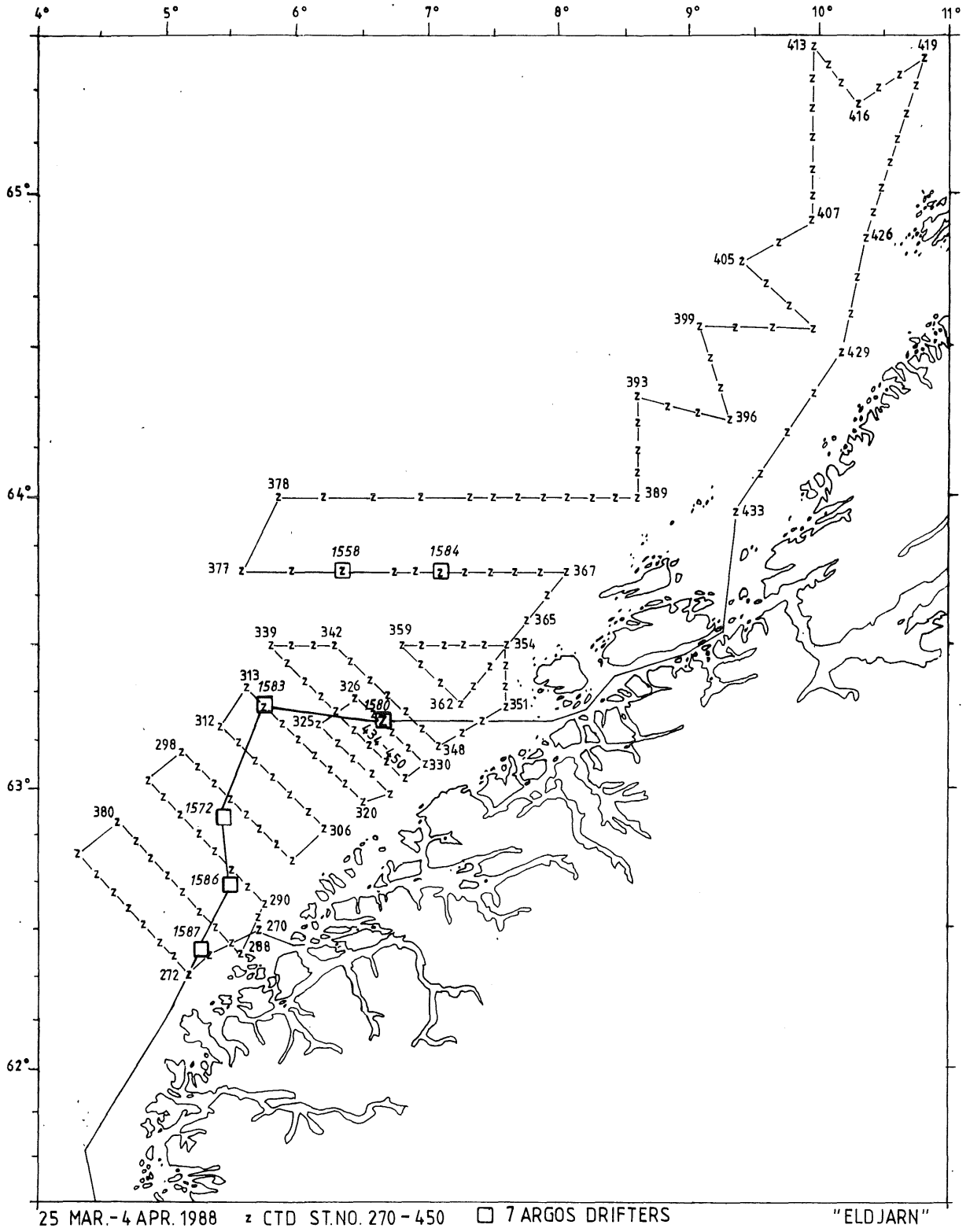
"ELD JARN"

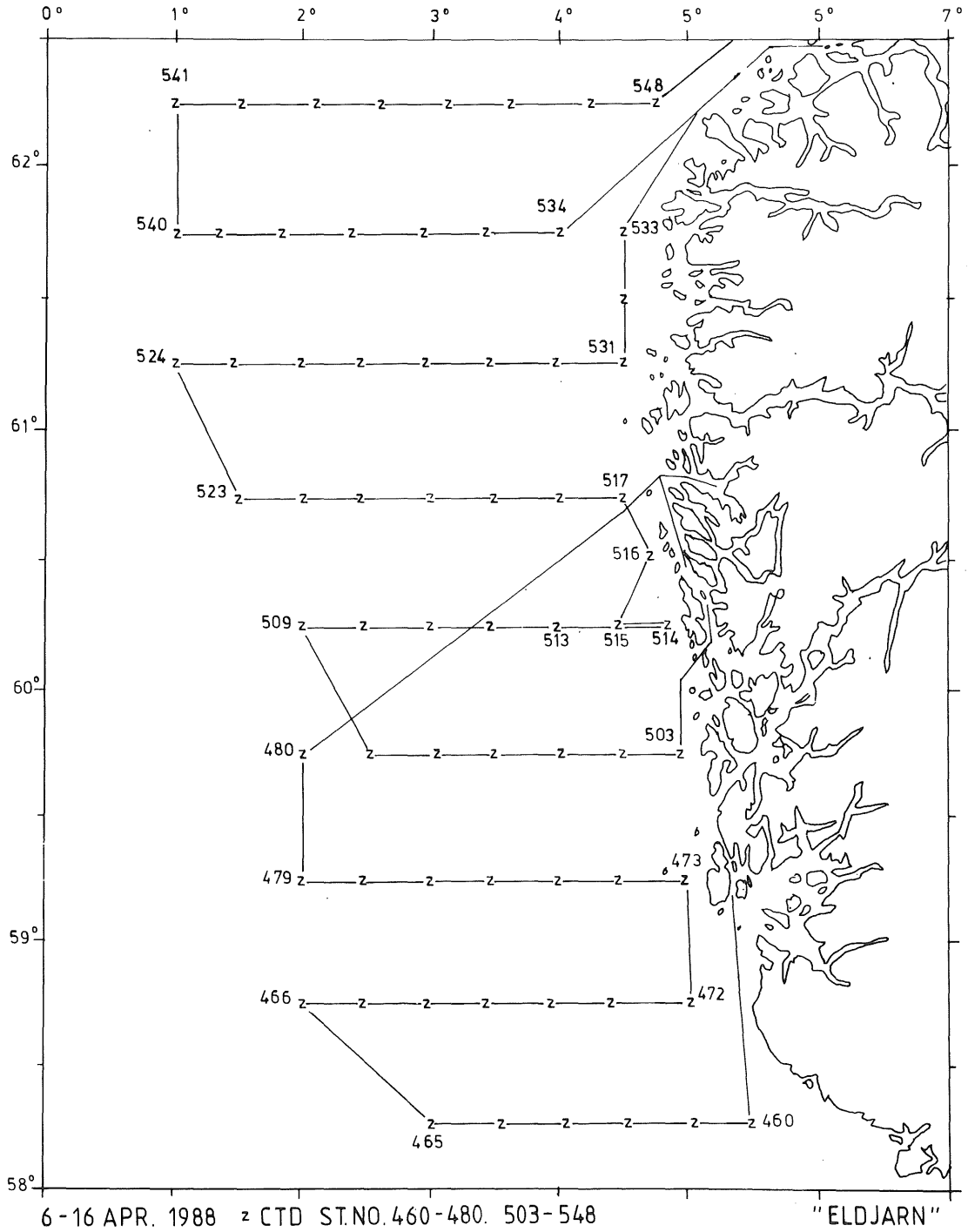


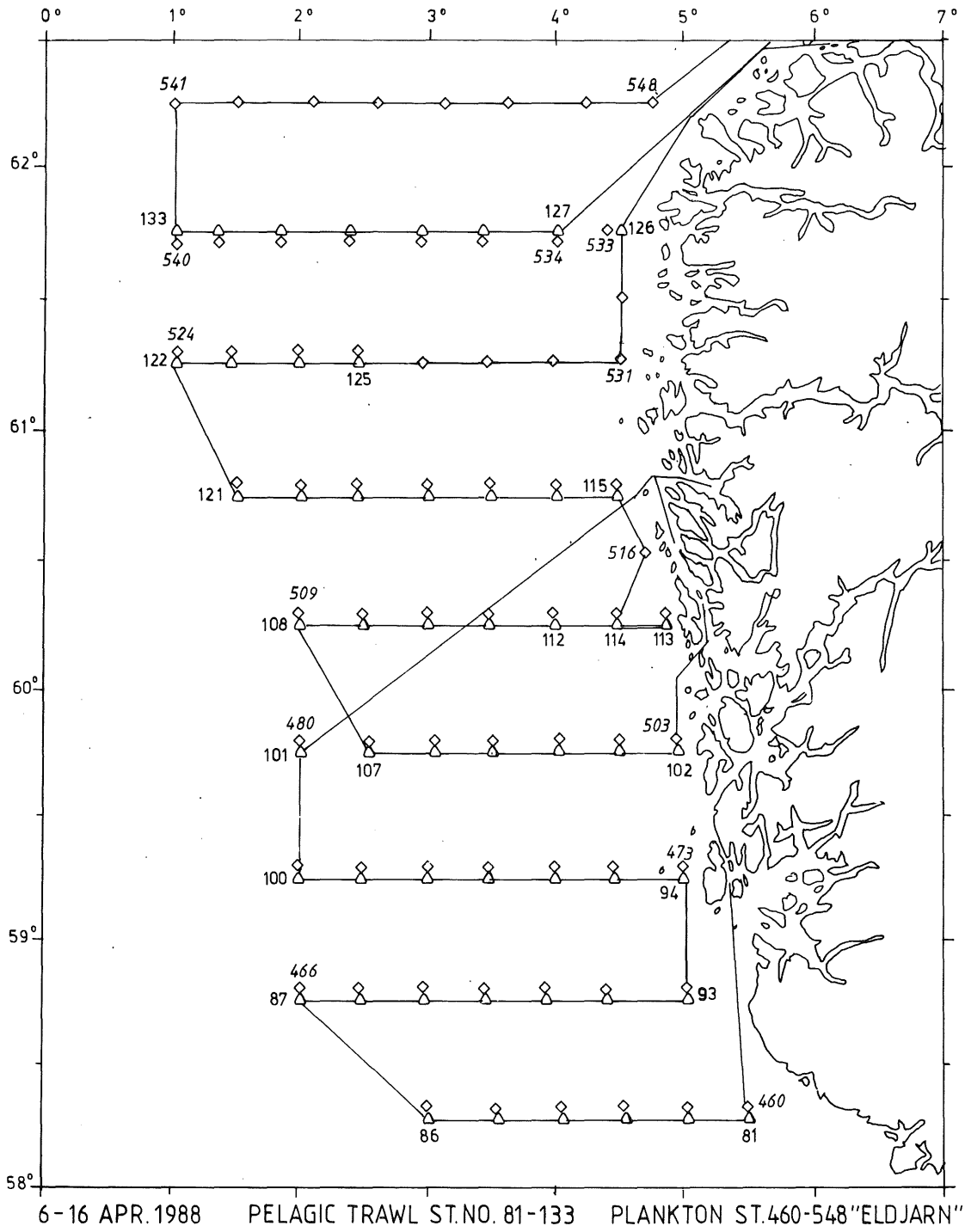


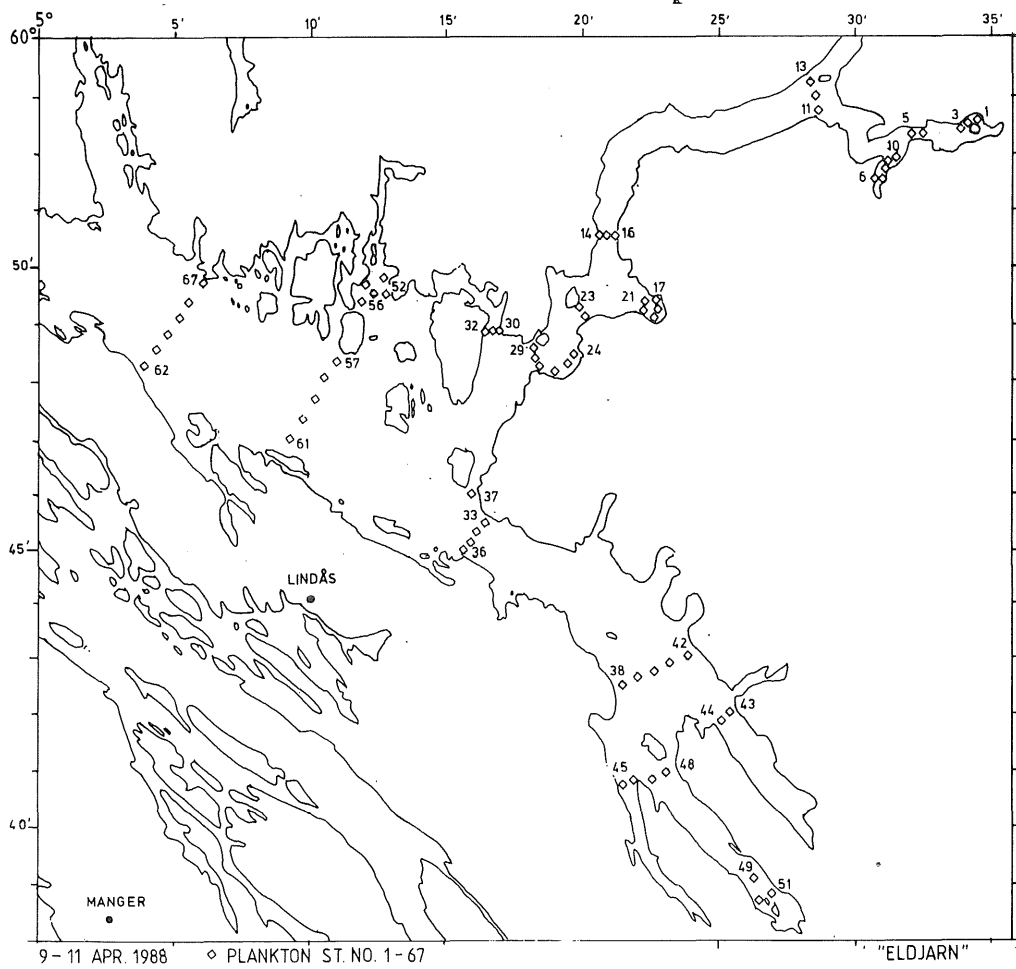
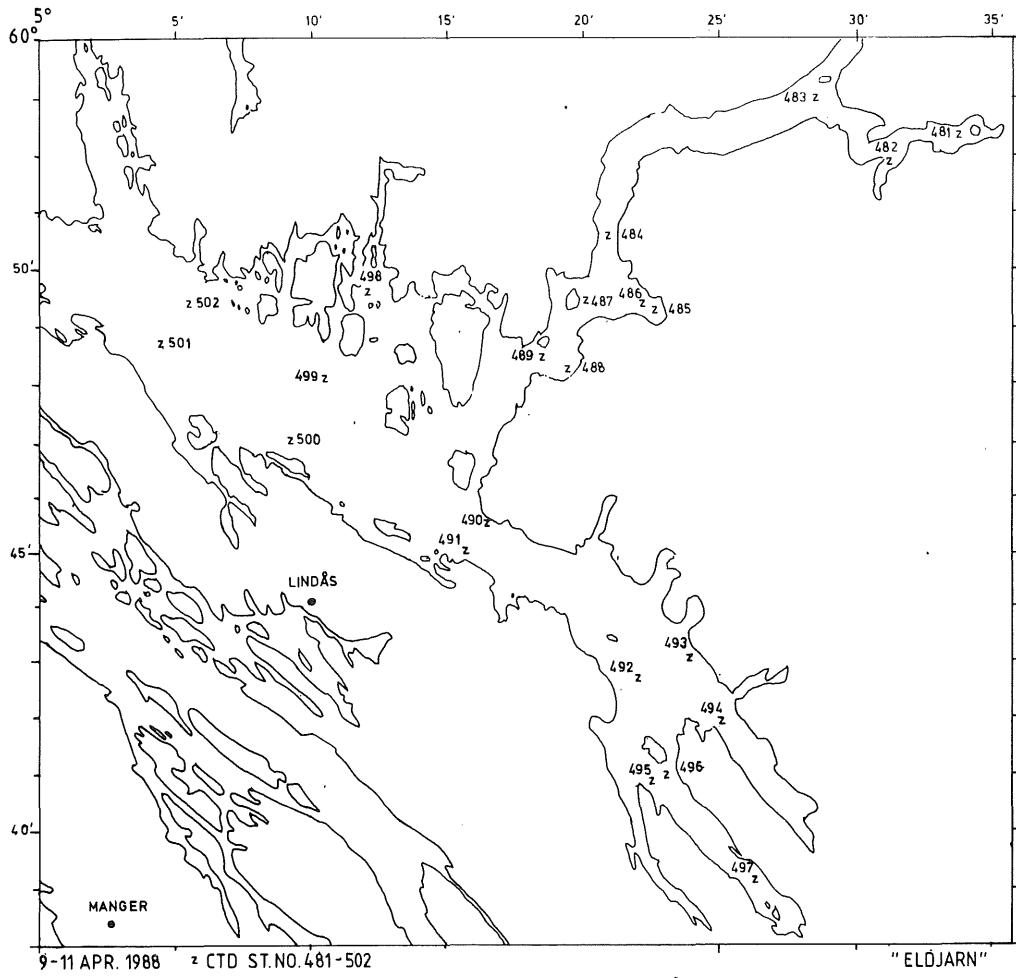


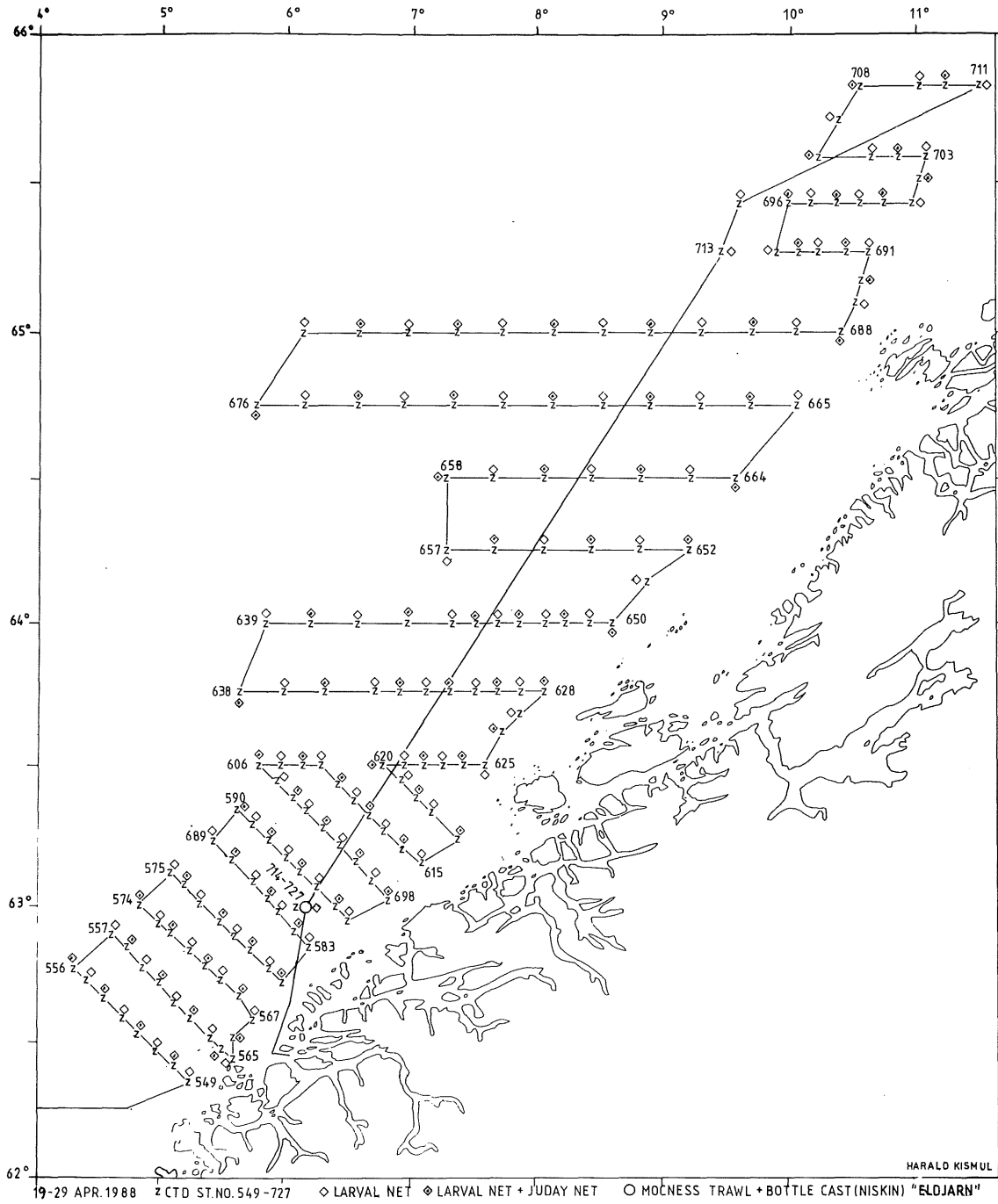




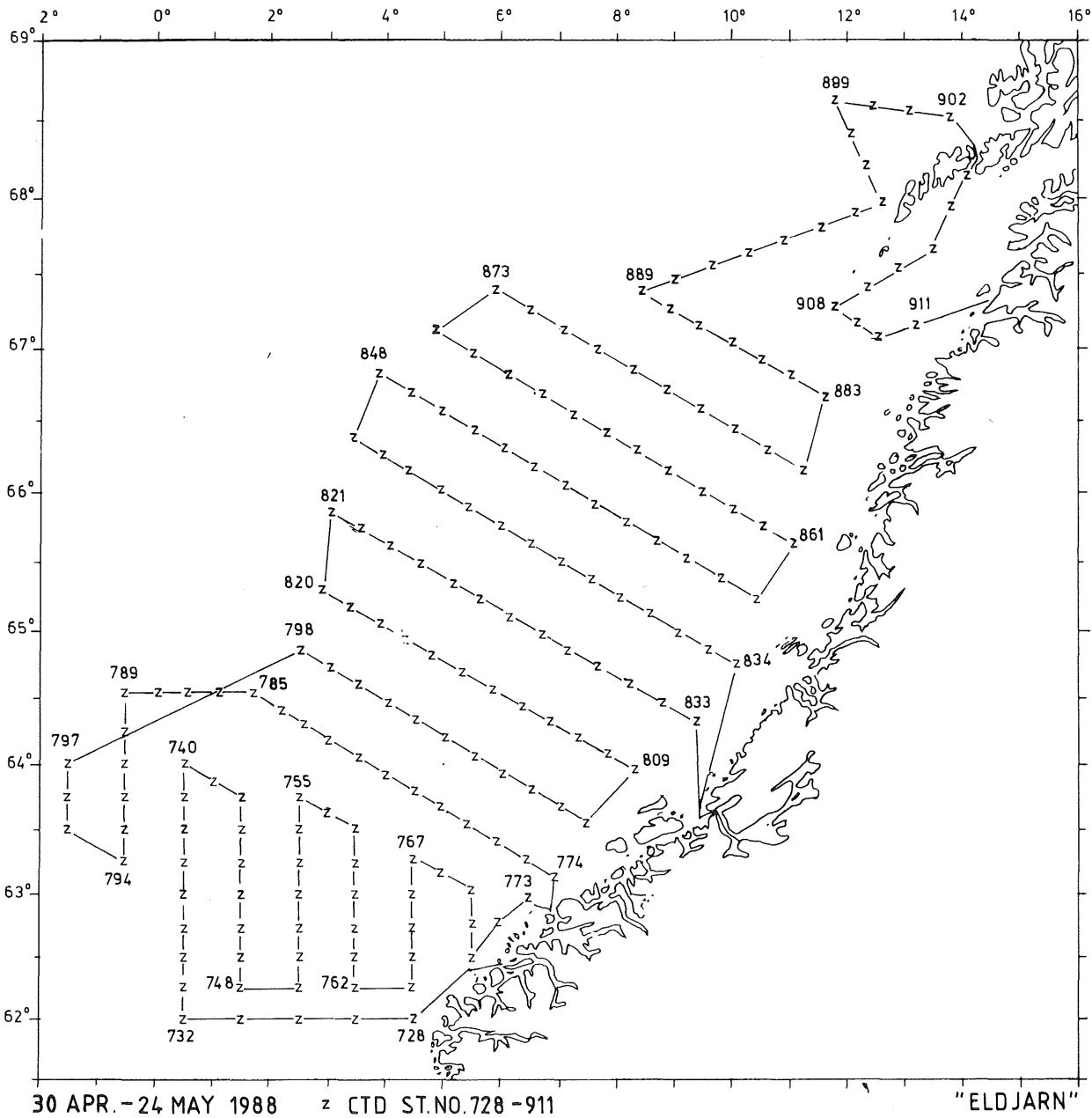


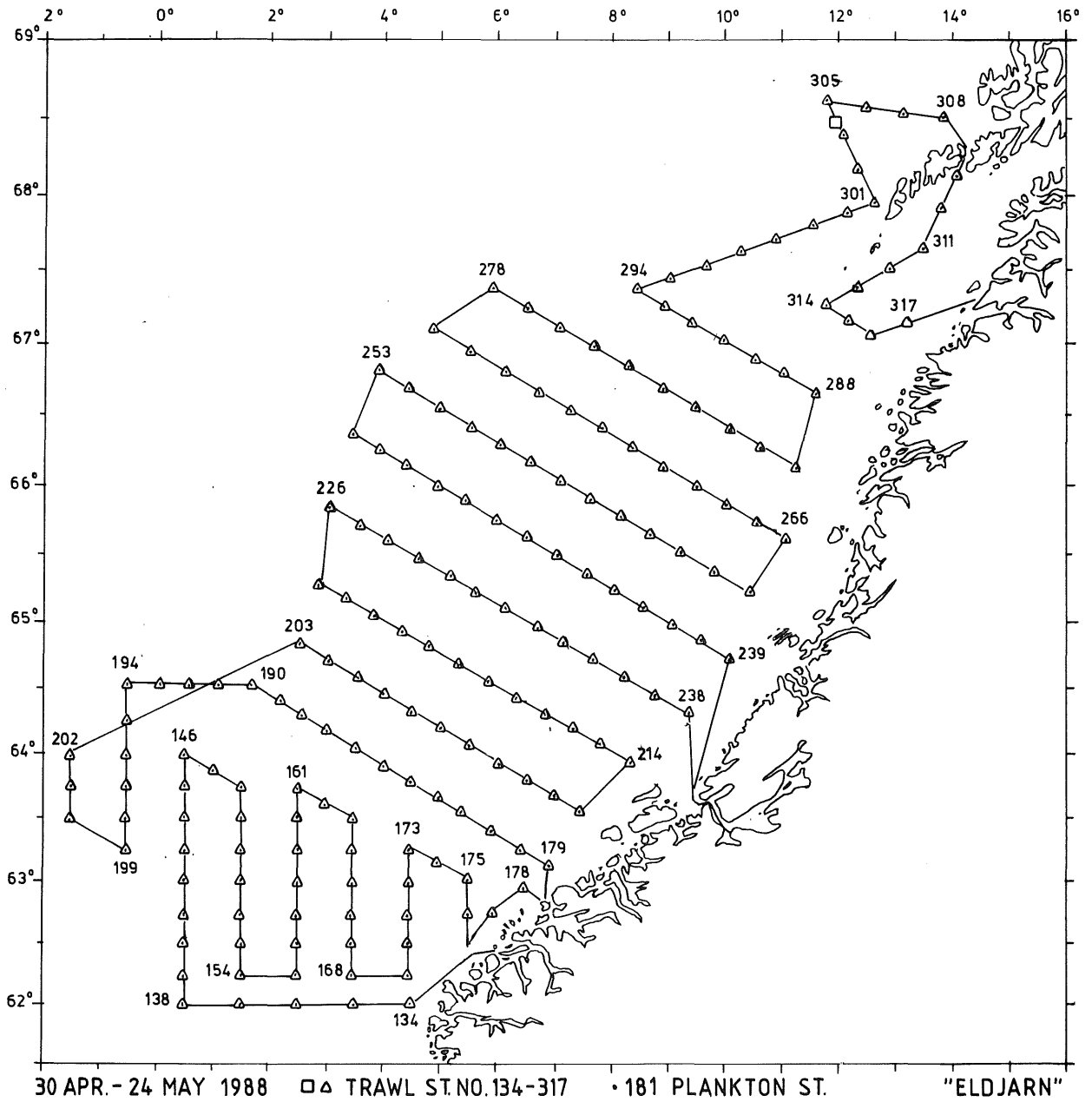


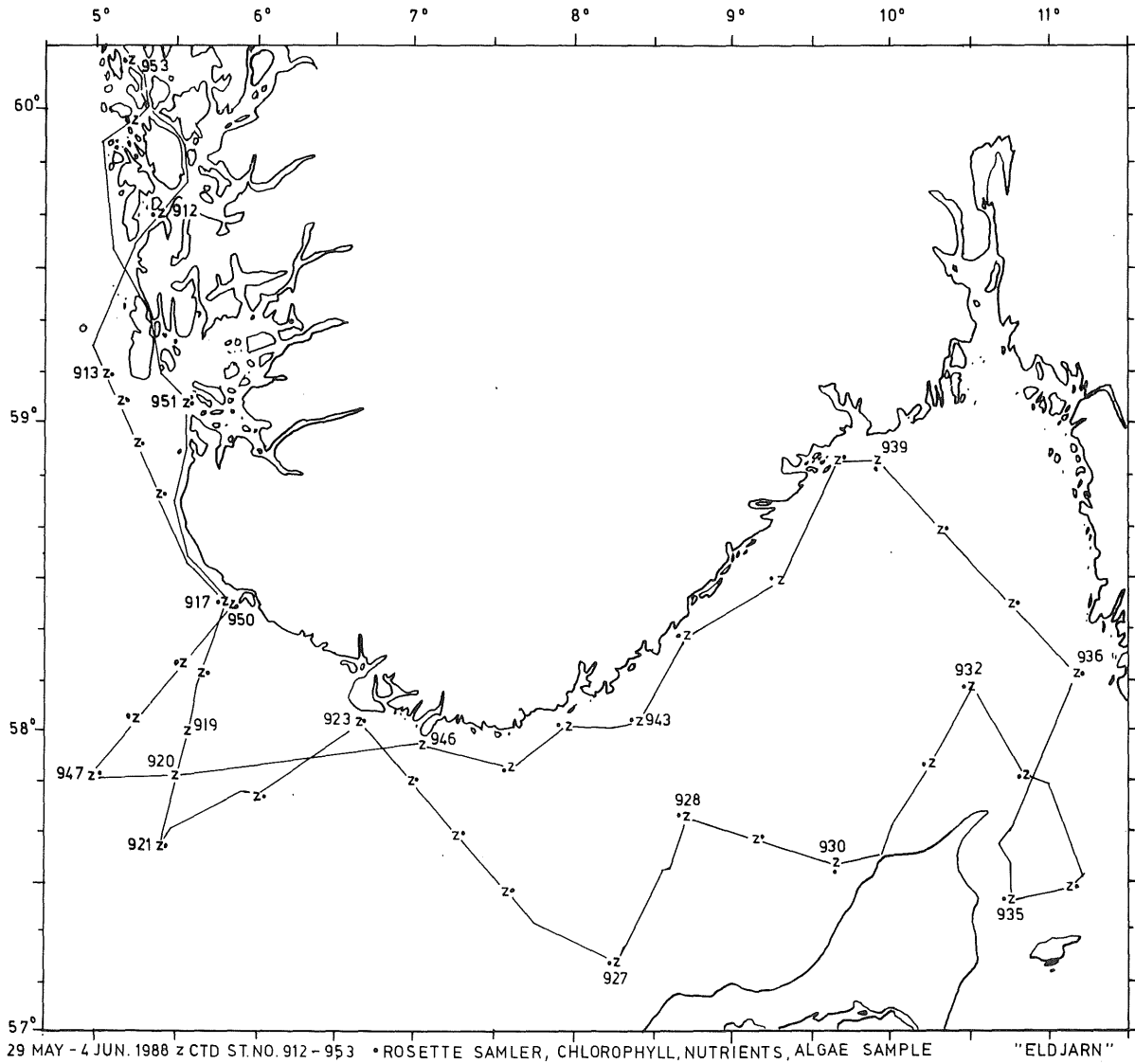


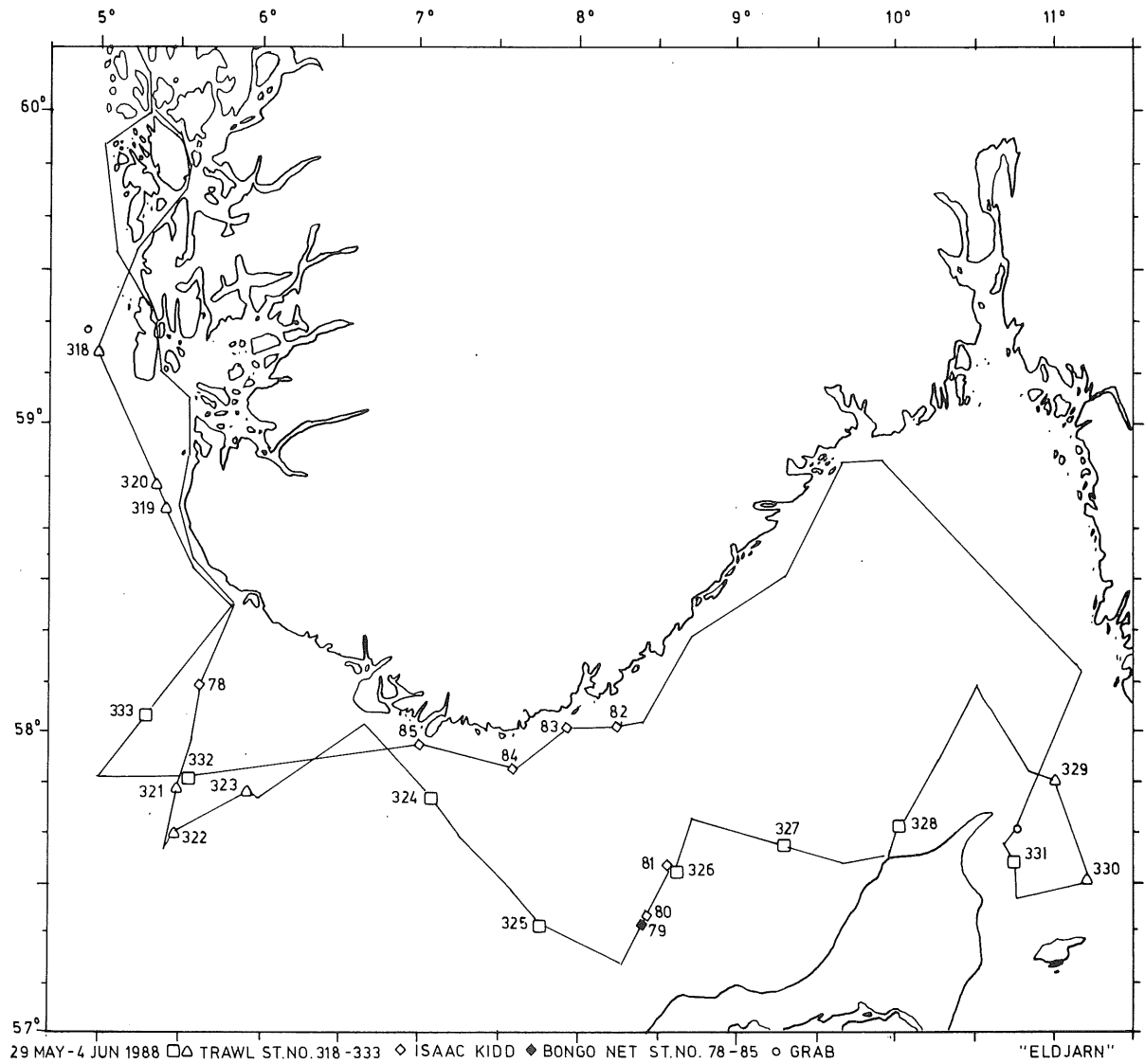


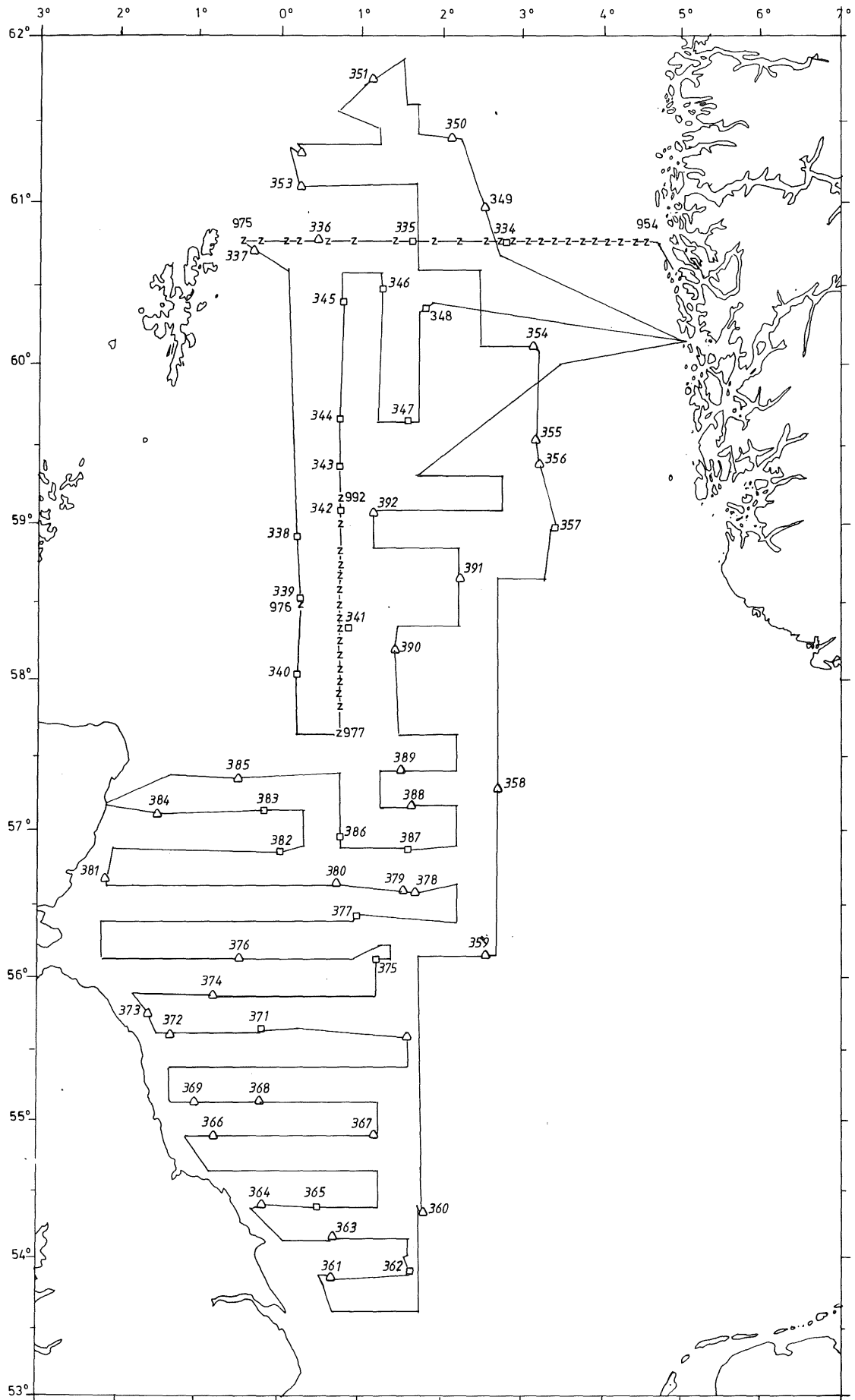
19-29 APR. 1988 CTD ST.NO. 549-727 ◊ LARVAL NET ◊ LARVAL NET + JUDAY NET ○ MOONNESS TRAWL + BOTTLE CAST (NISKIN) "ELDJARN" HARALD KISMUL





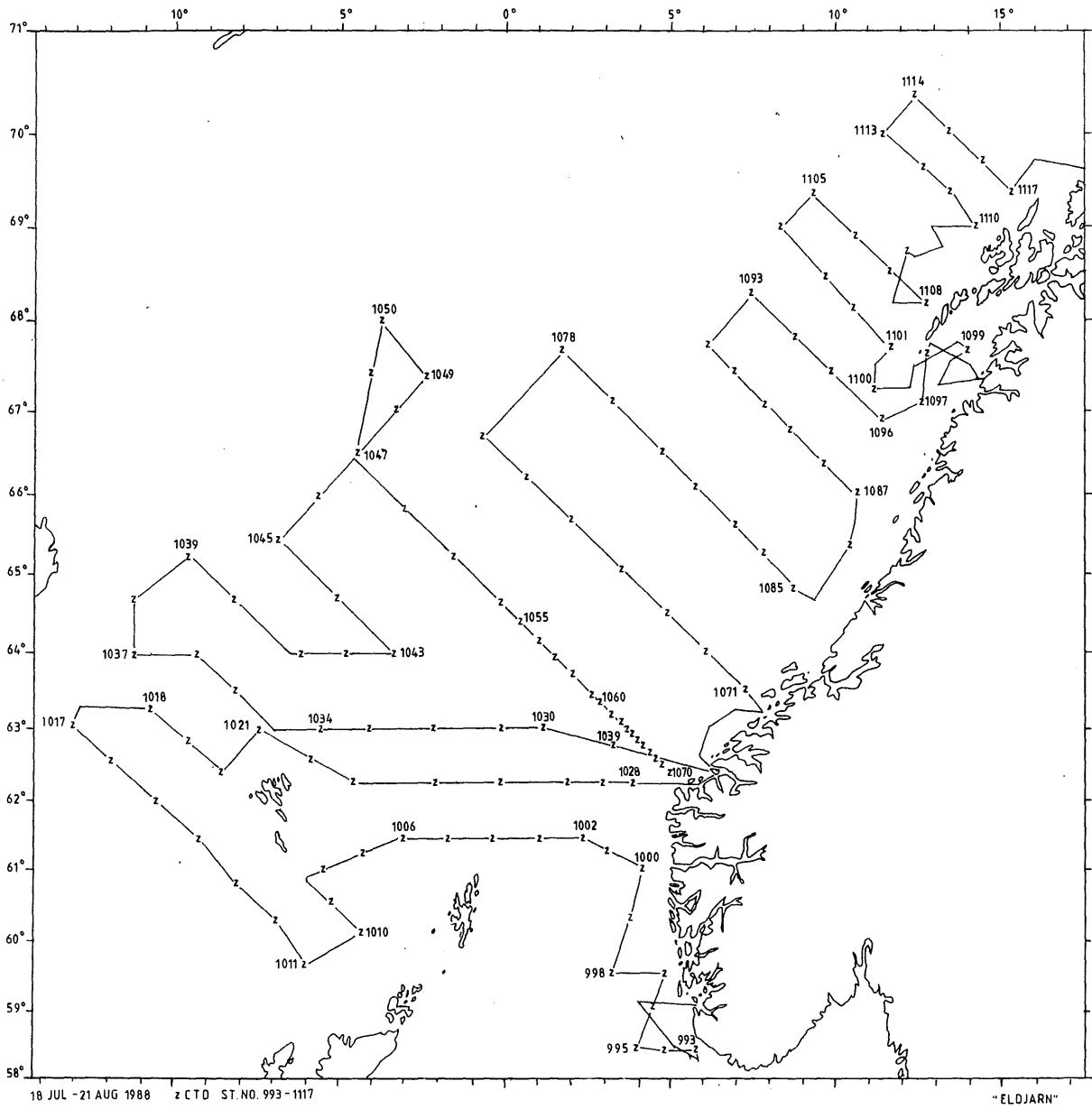


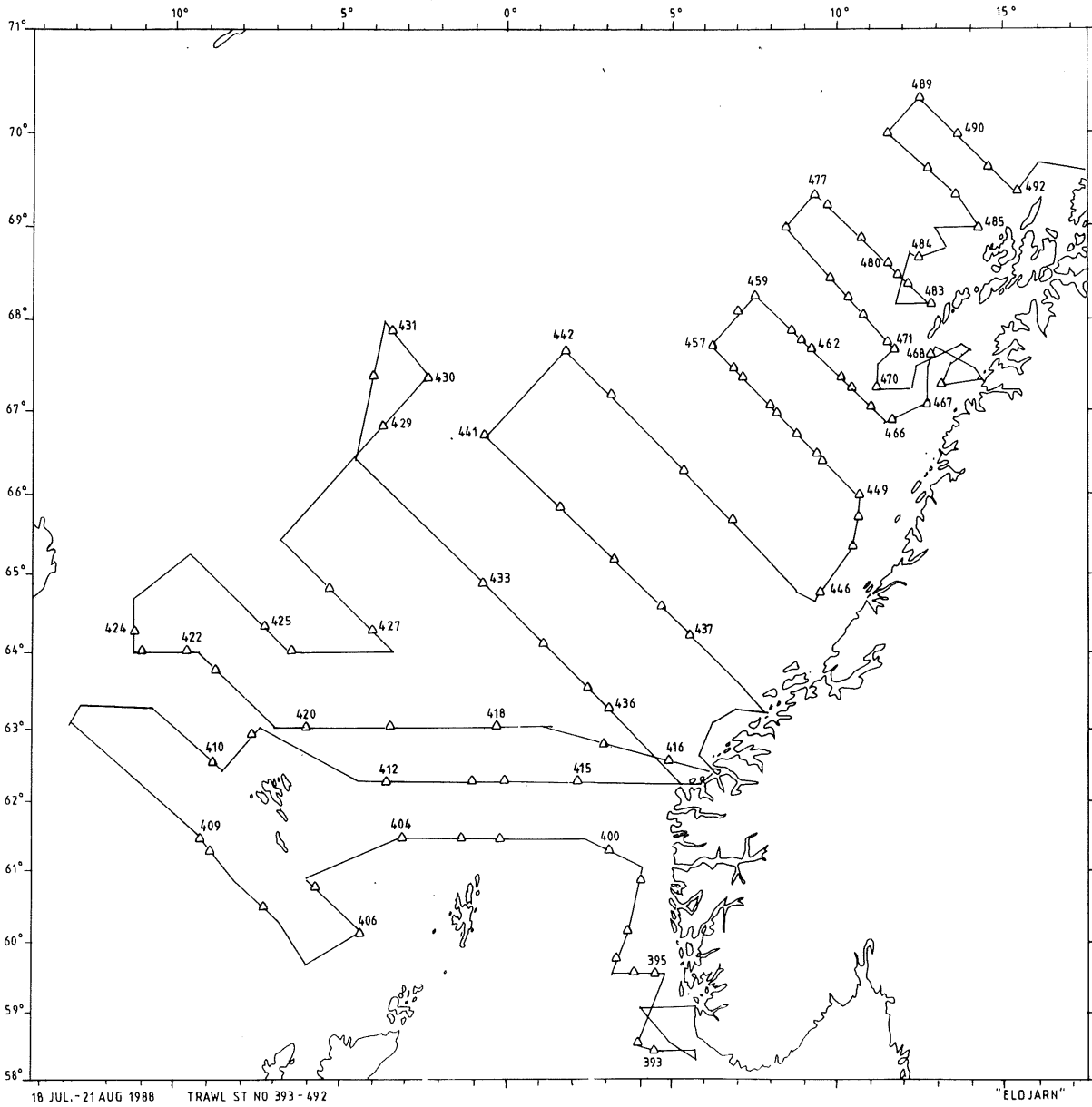


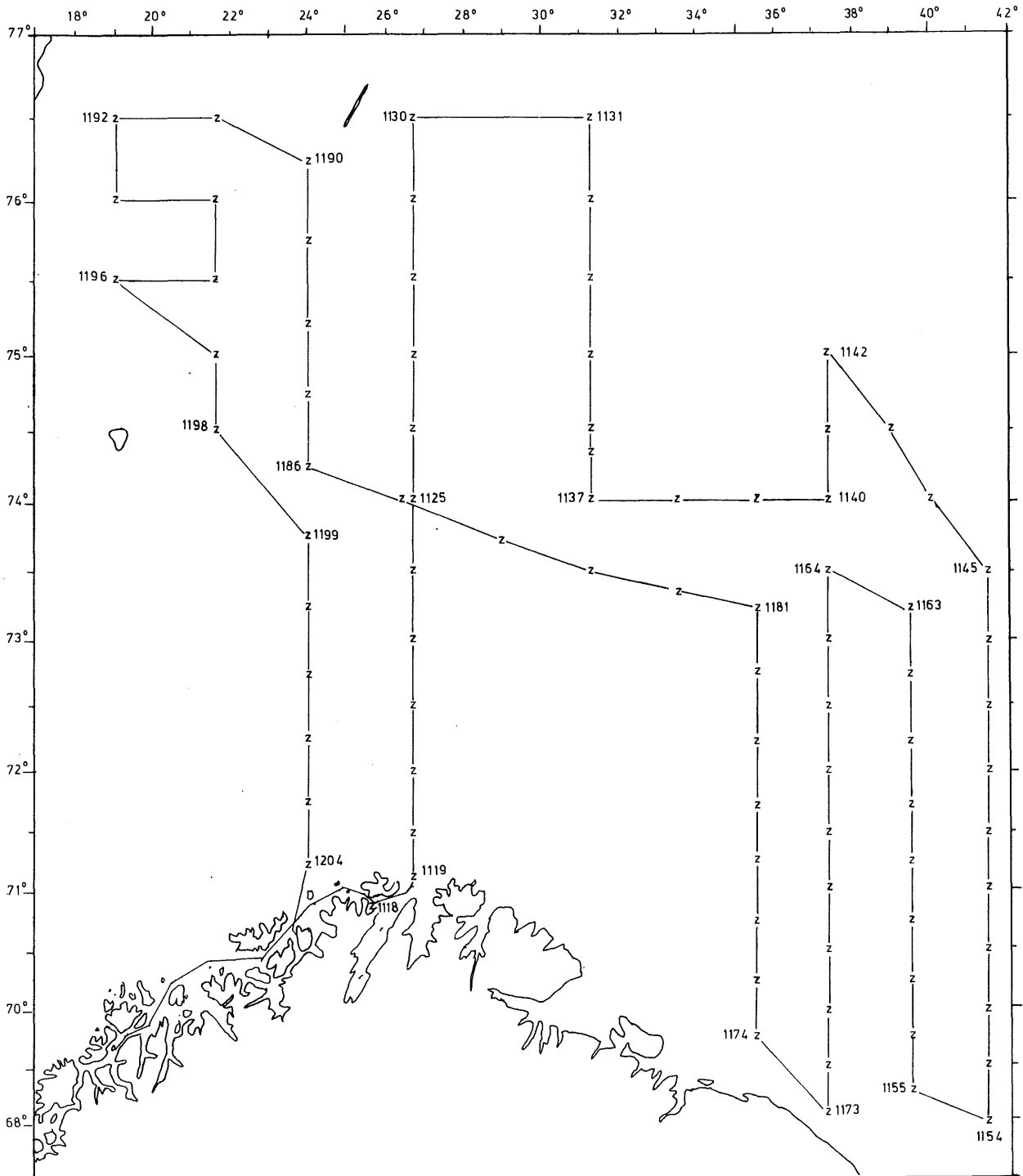


24 JUN.- 16 JUL. 1988 CTD ST.NO. 954-992 TRAWL ST.NO. 334-392

"ELDJARN"

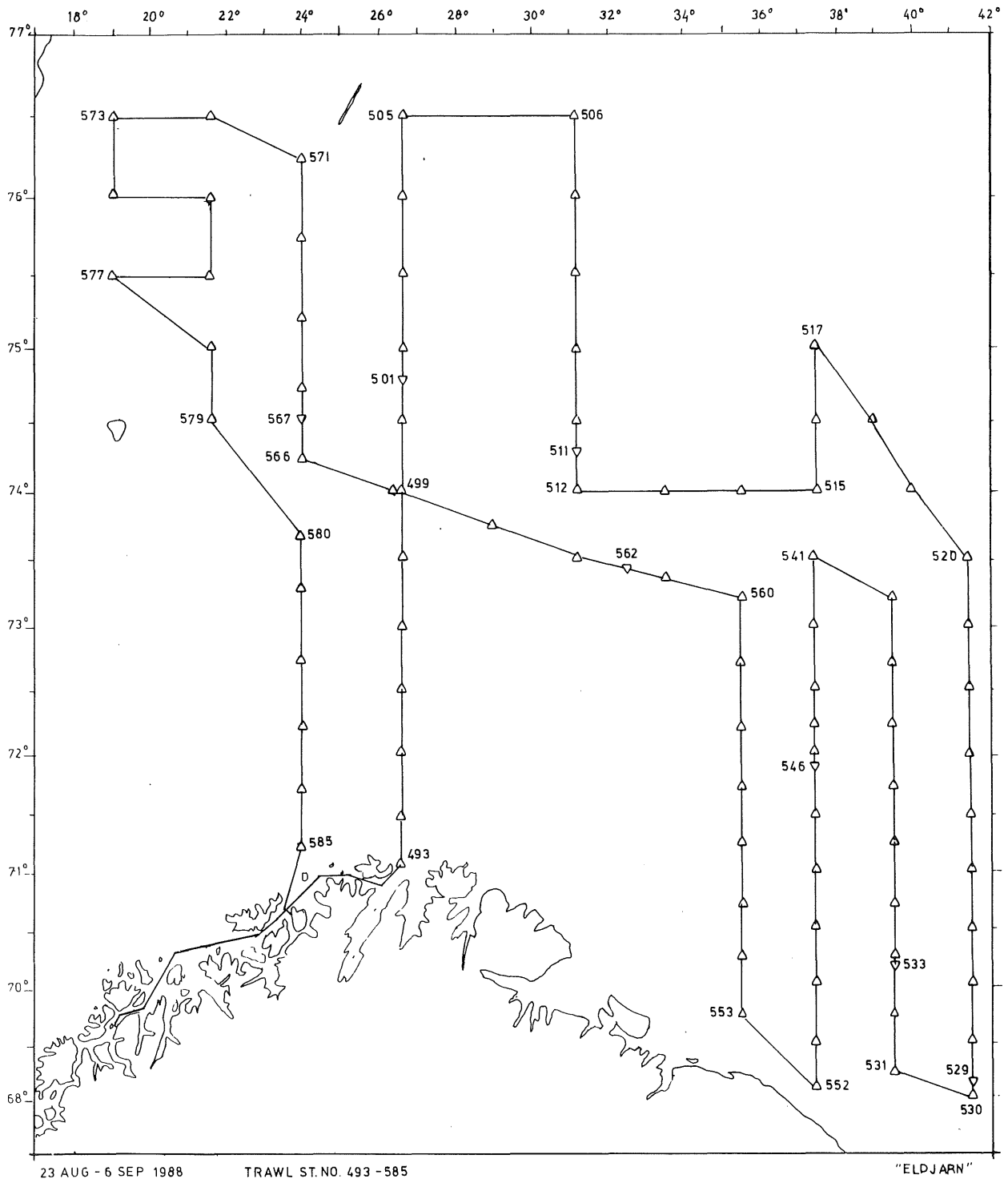






23 AUG. - 6 SEP. 1988 z CTD ST.NO. 1118 - 1204

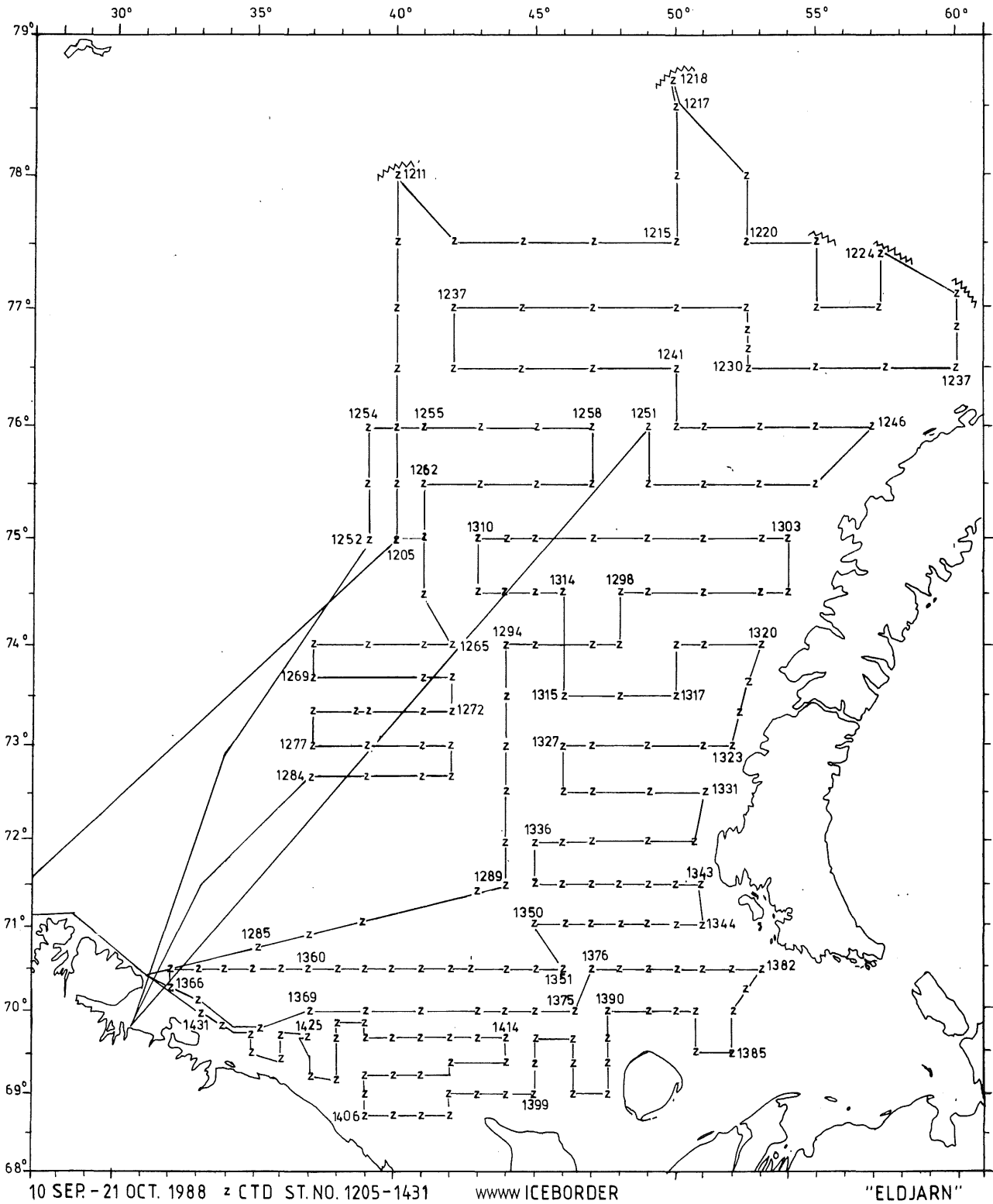
"ELD JARN"

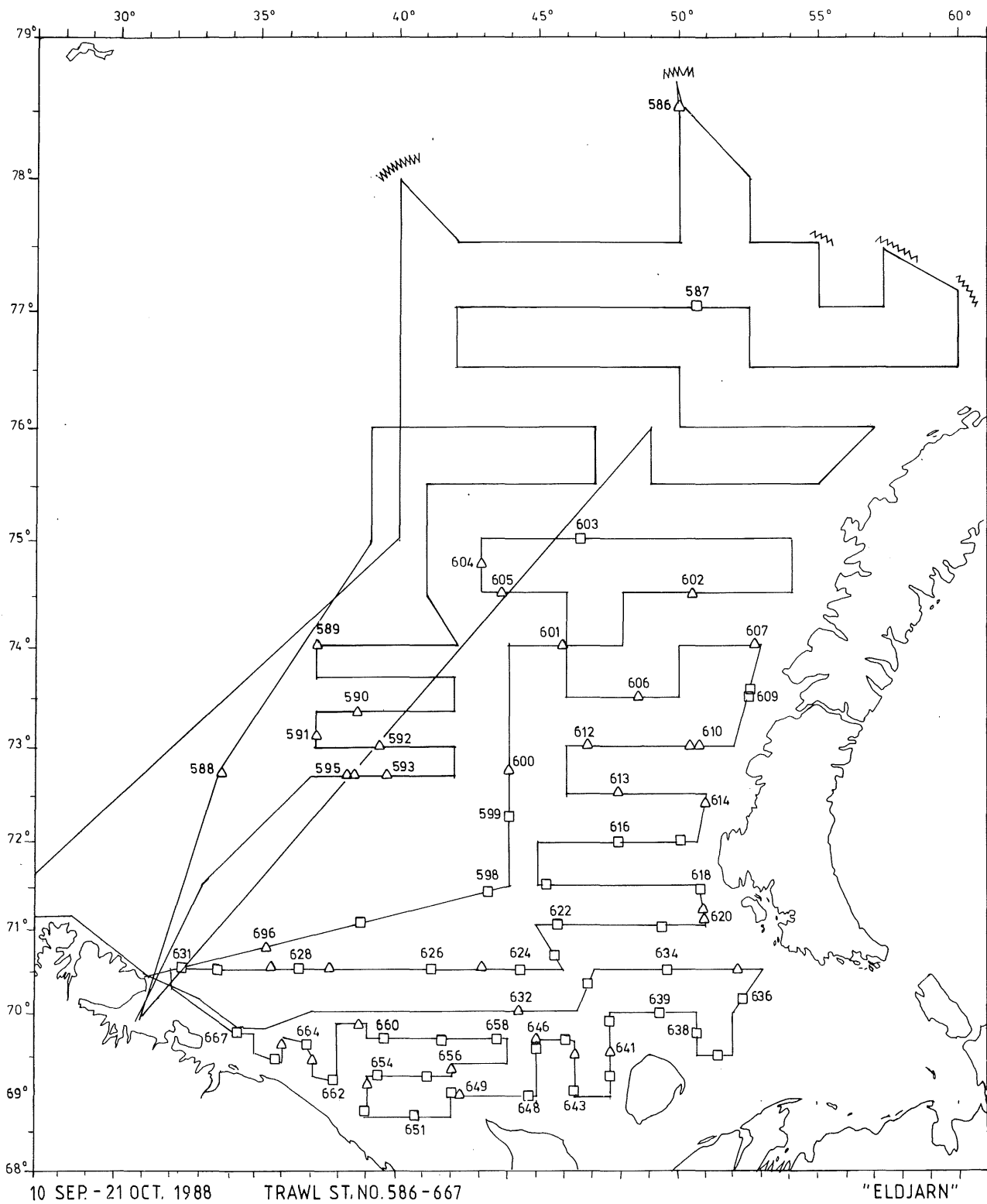


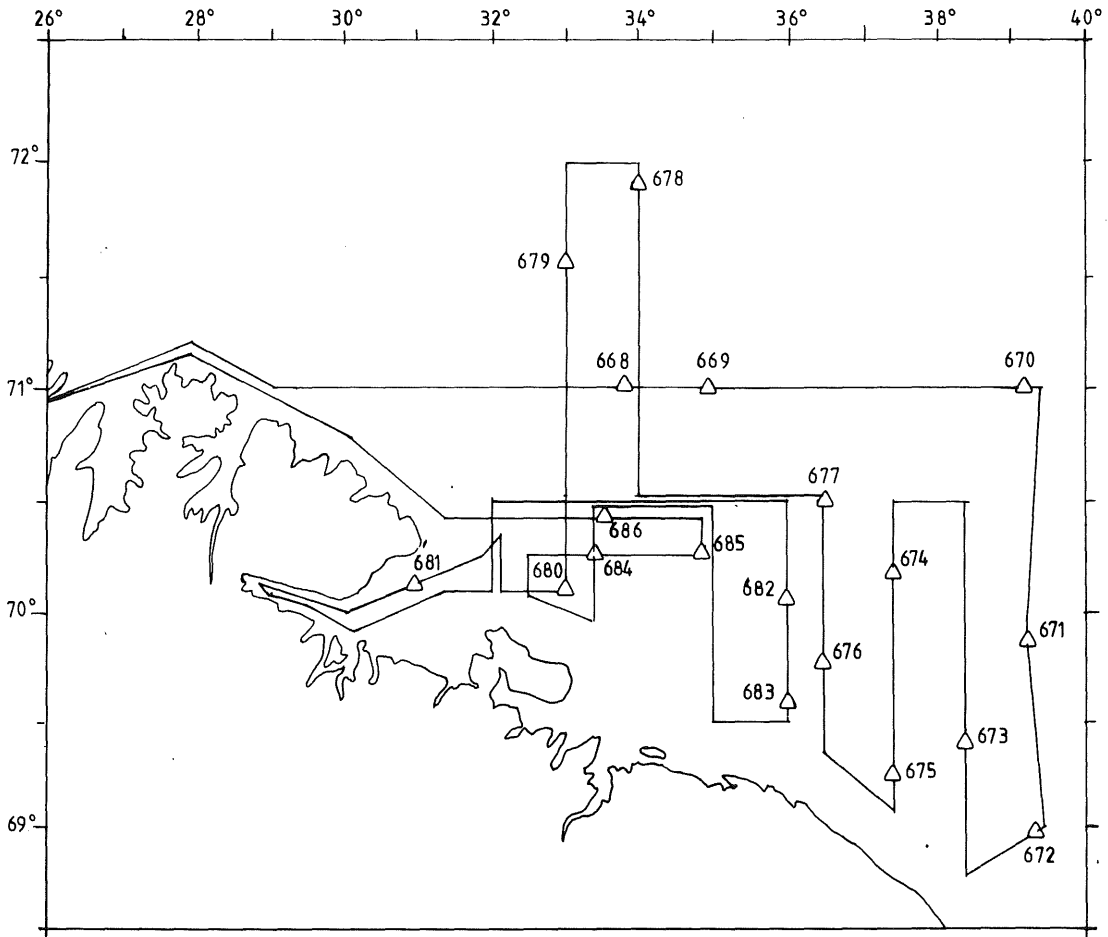
23 AUG - 6 SEP 1988

TRAWL ST. NO. 493 - 585

"ELD JARN"

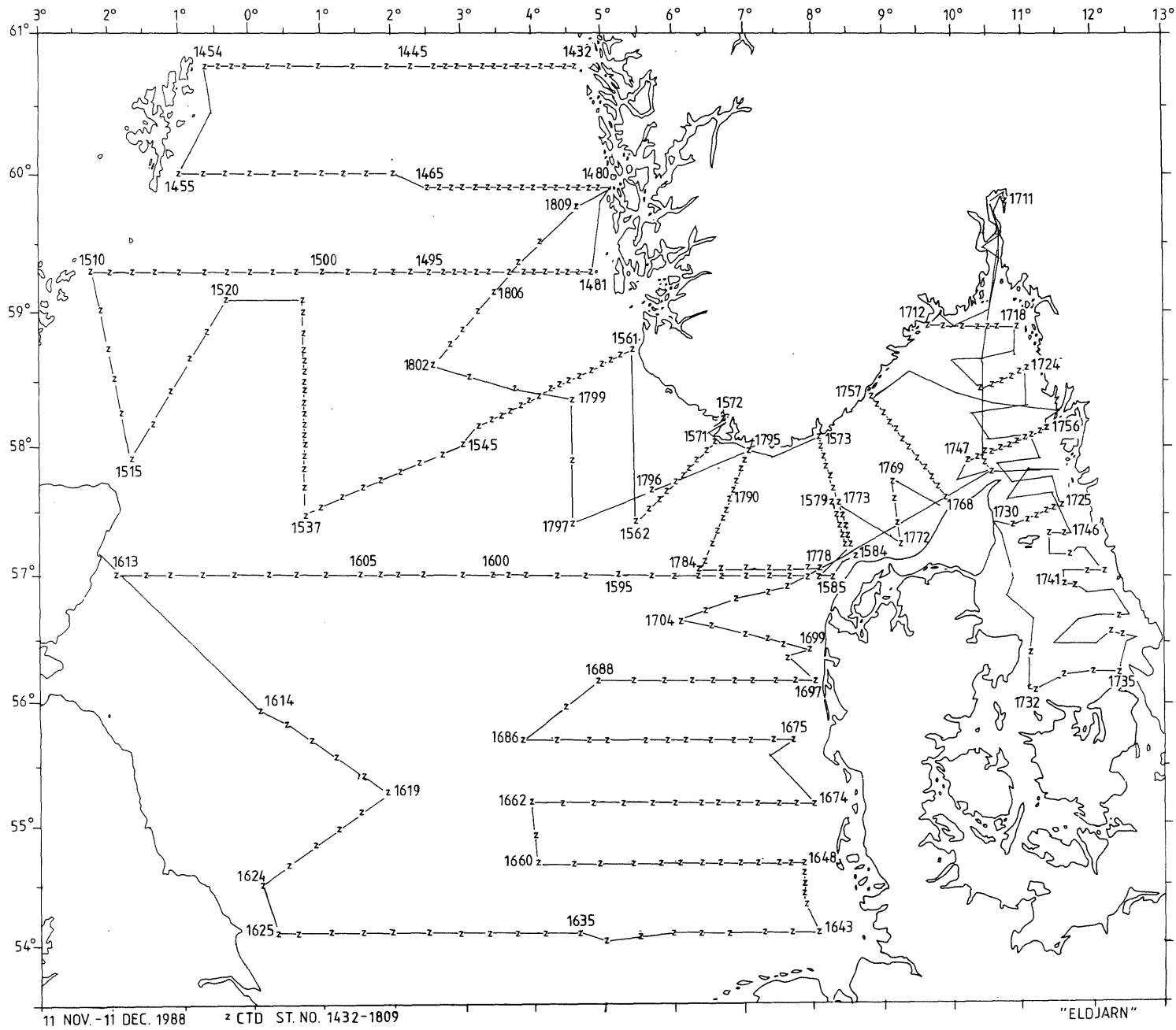


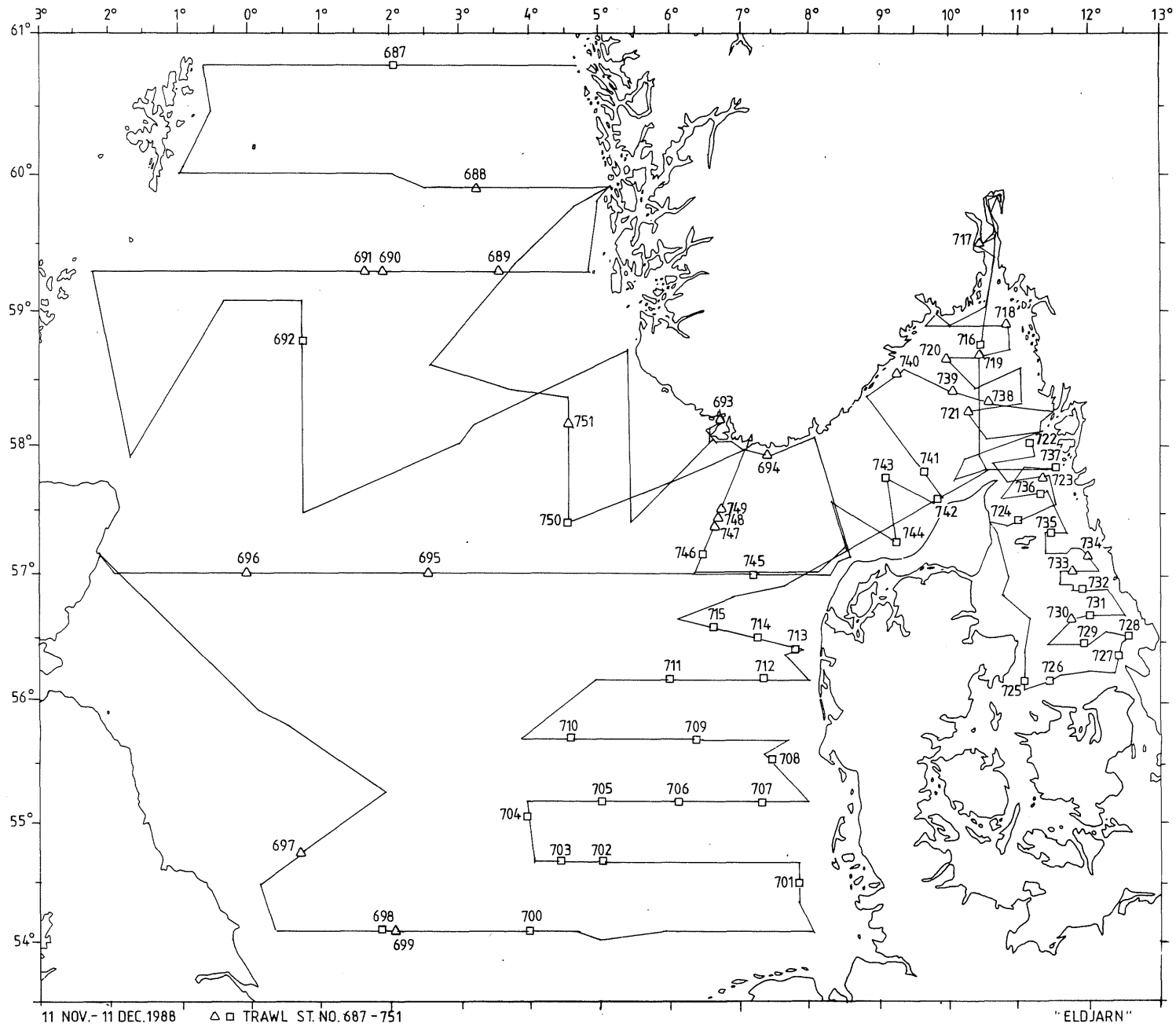


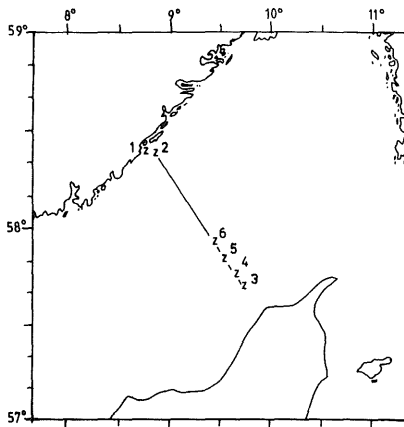


22 OCT. - 6 NOV. 1988 △ TRAWL ST. NO. 668 - 686

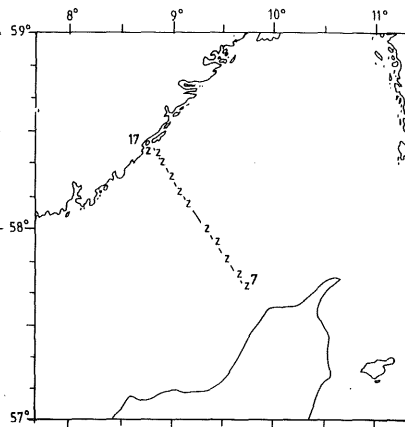
"ELDJARN"



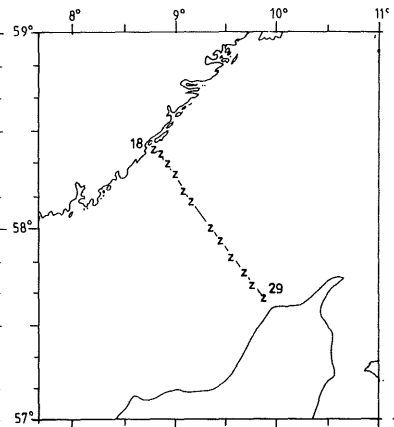




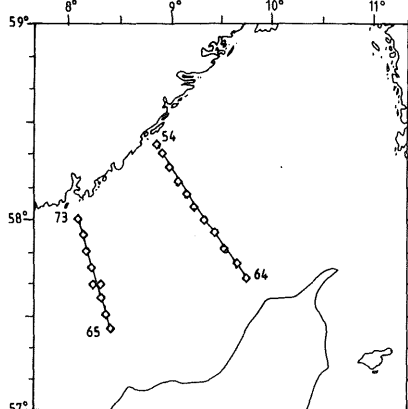
15-16 JAN. 1988 z CTD ST. NO. 1-6



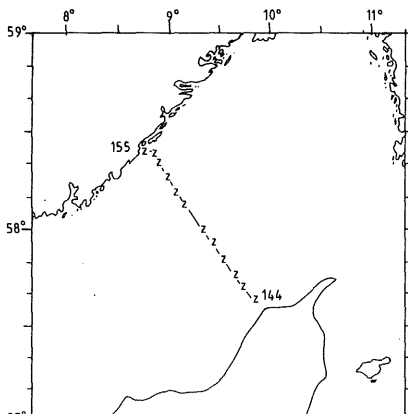
13 FEB. 1988 z CTD ST. NO. 7-17



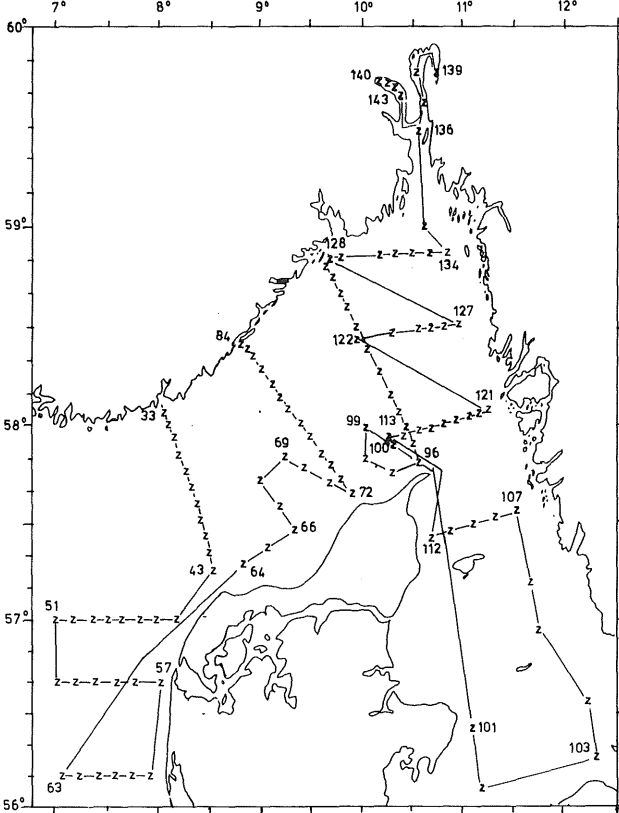
7-8 MAR. 1988 z CTD ST. NO. 18-29



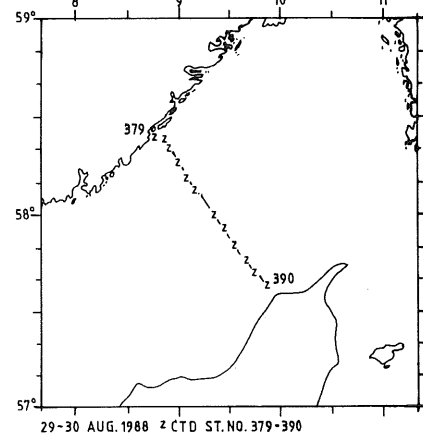
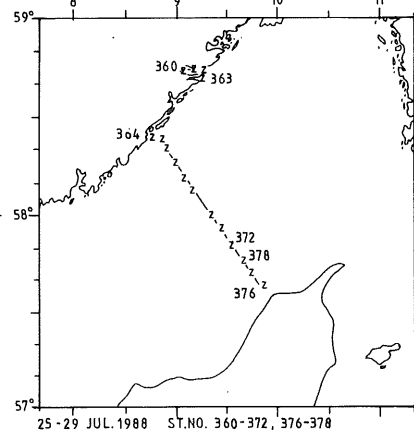
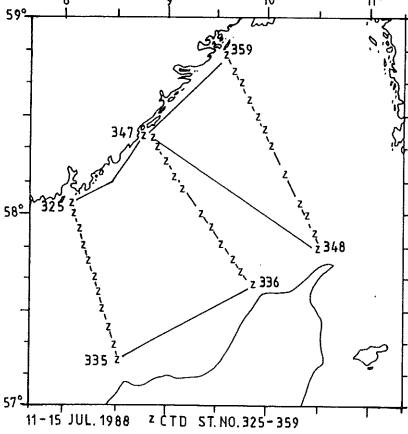
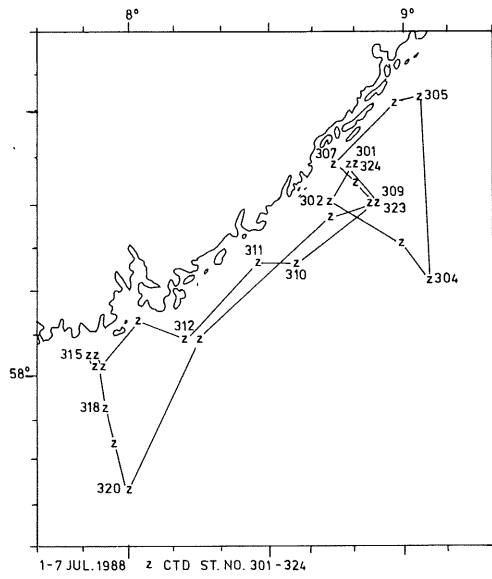
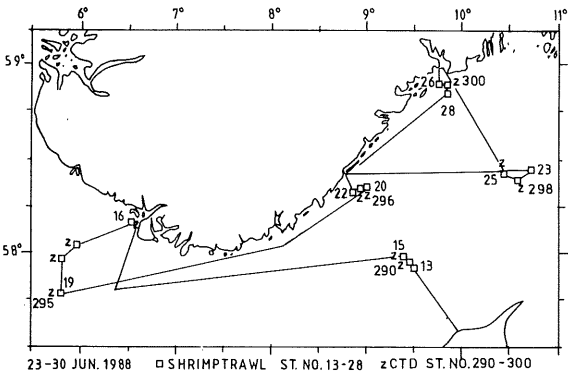
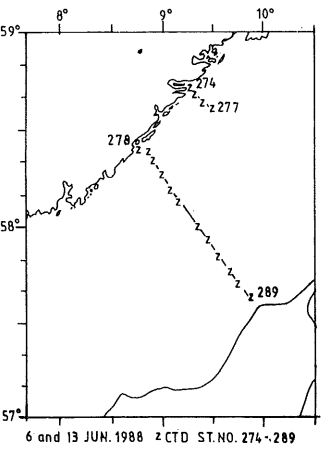
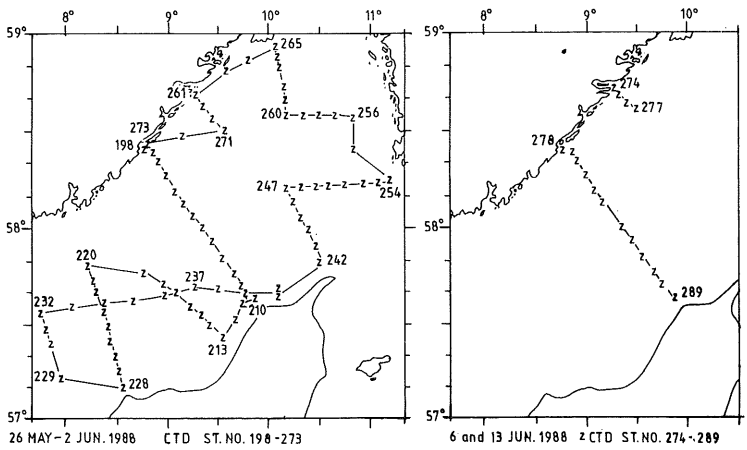
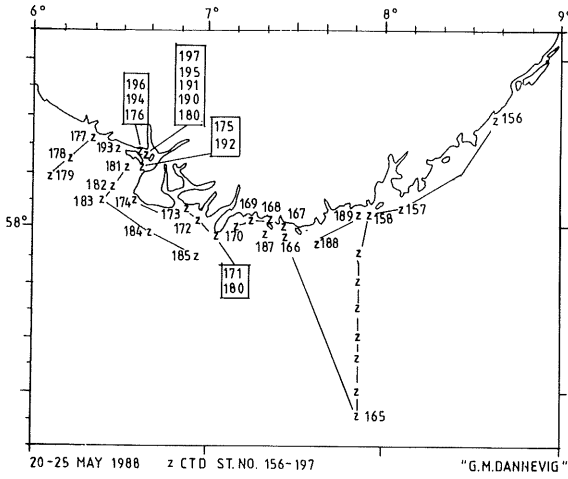
15-18 MAR. 1988 9' IKMT ST. NO. 54-73

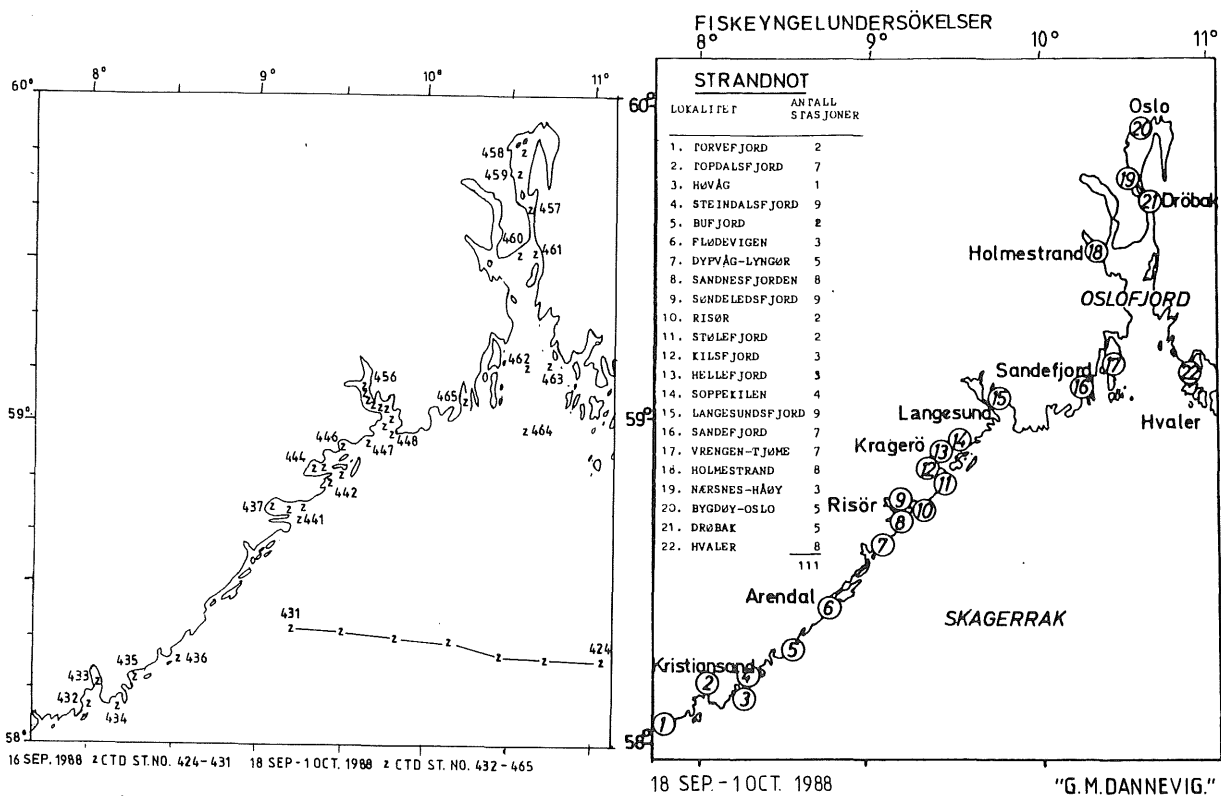


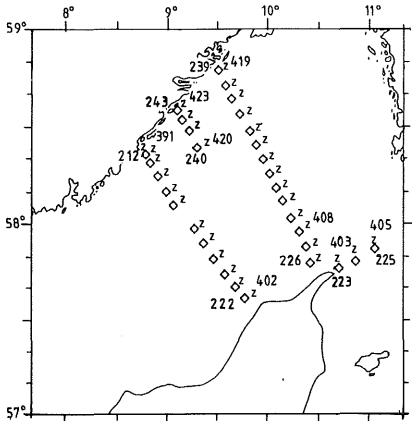
11 MAY 1988 z CTD ST. NO. 144-155



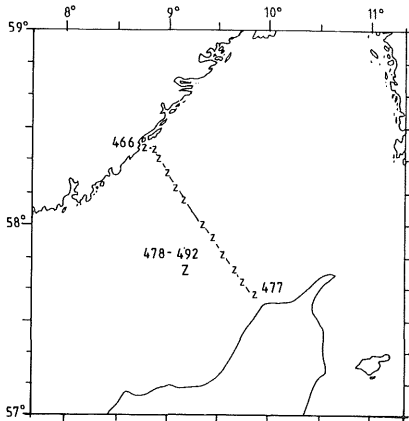
11-23 APR. 1988 z CTD ST. NO. 33-143



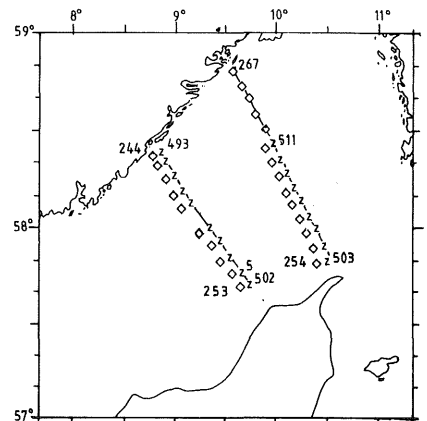




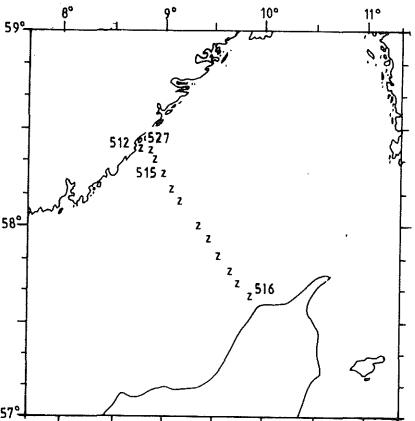
8-13 SEP 1988 z CTD ST.NO.391-423 9'IKMT ST.NO. 212-243



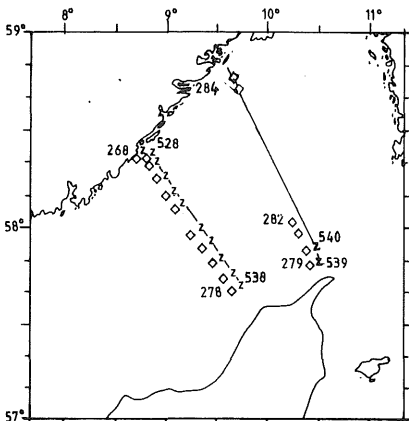
4 OCT. 1988 CTD ST.NO.466-477
9-18 OCT. 1988 CTD ST.NO. 478-492



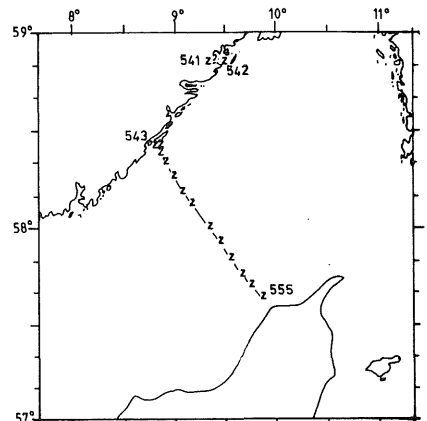
24-27 OCT. 1988 z CTD ST.NO. 493-511 9'IKMT ST.NO.244-267



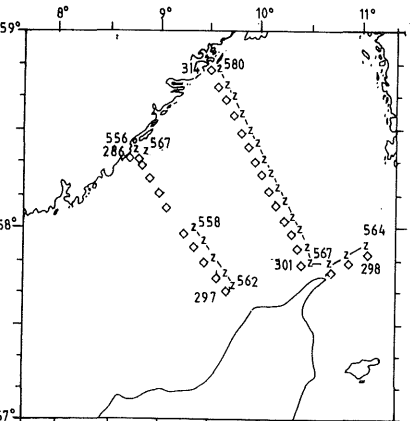
1-3 NOV. 1988 z CTD ST.NO. 512-527



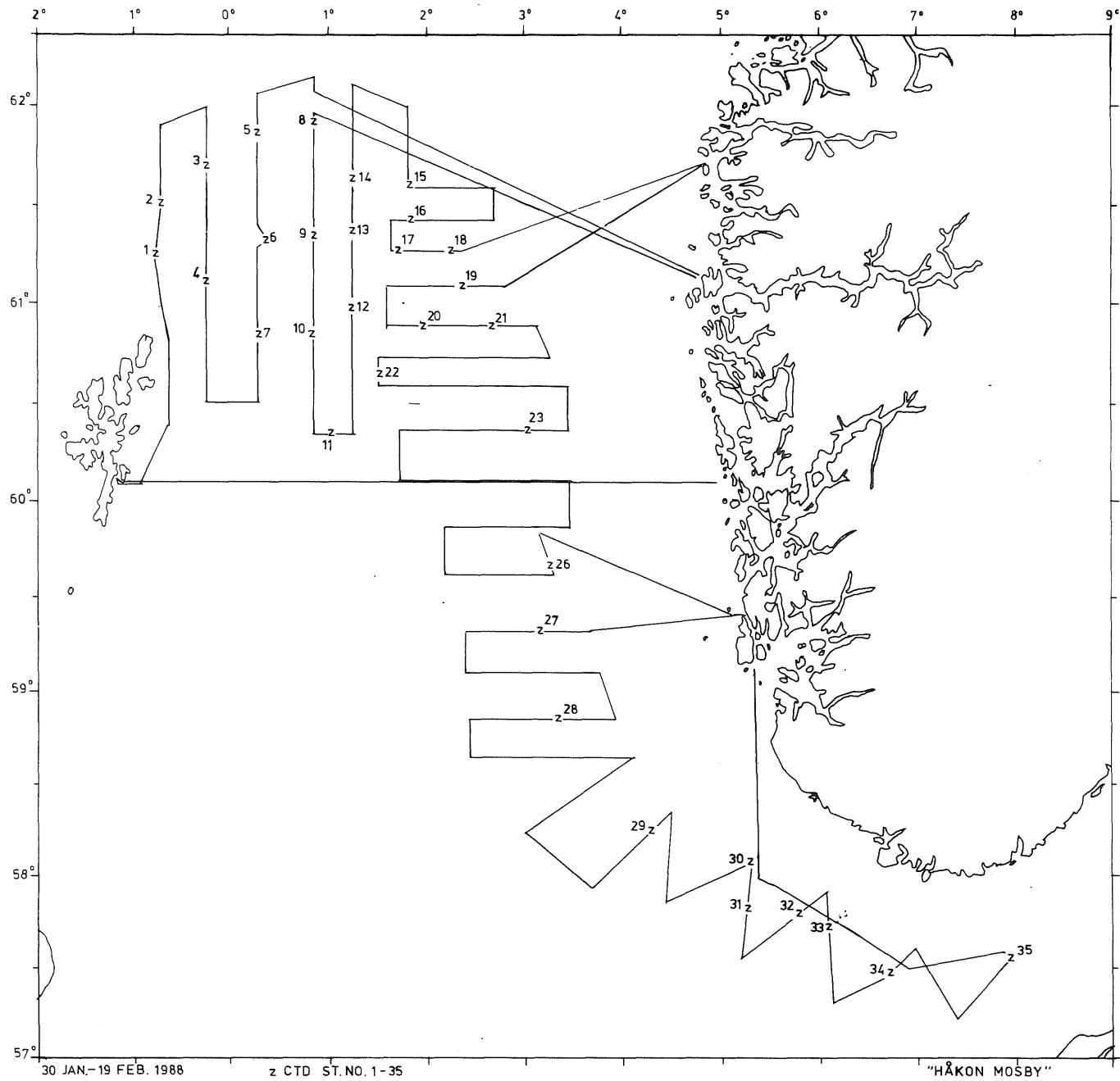
8-11 NOV. 1988 z CTD ST.NO.528-540 9'IKMT ST.NO.268-284



17-19.NOV.1988 z CTD ST.NQ.541-542
1-2 DEC. 1988 z CTD ST. NO.543-555



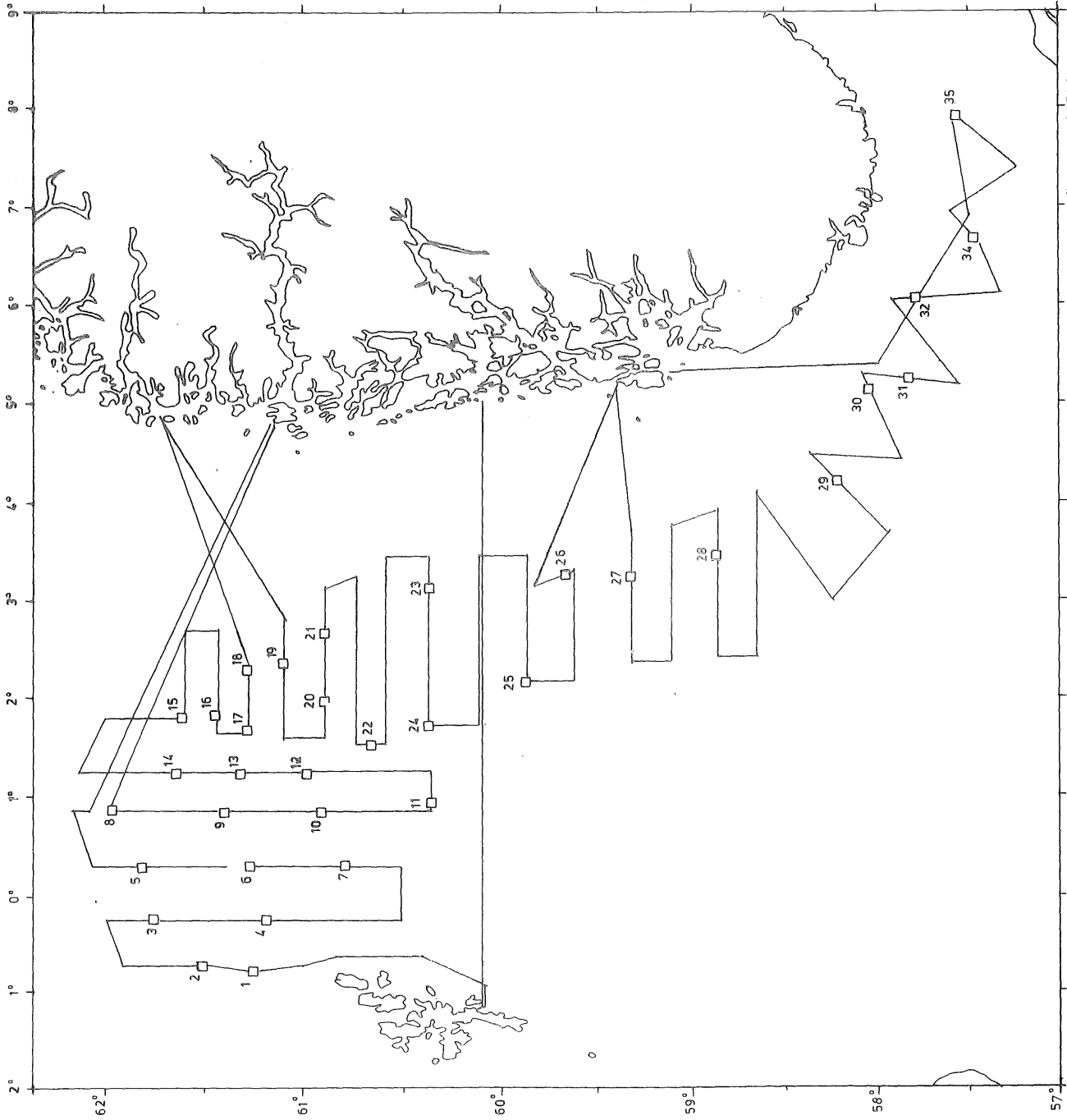
13-17 DEC. 1988 z CTD ST.NO.556-580 9'IKMT ST.NO.286-314



30 JAN.-19 FEB. 1988

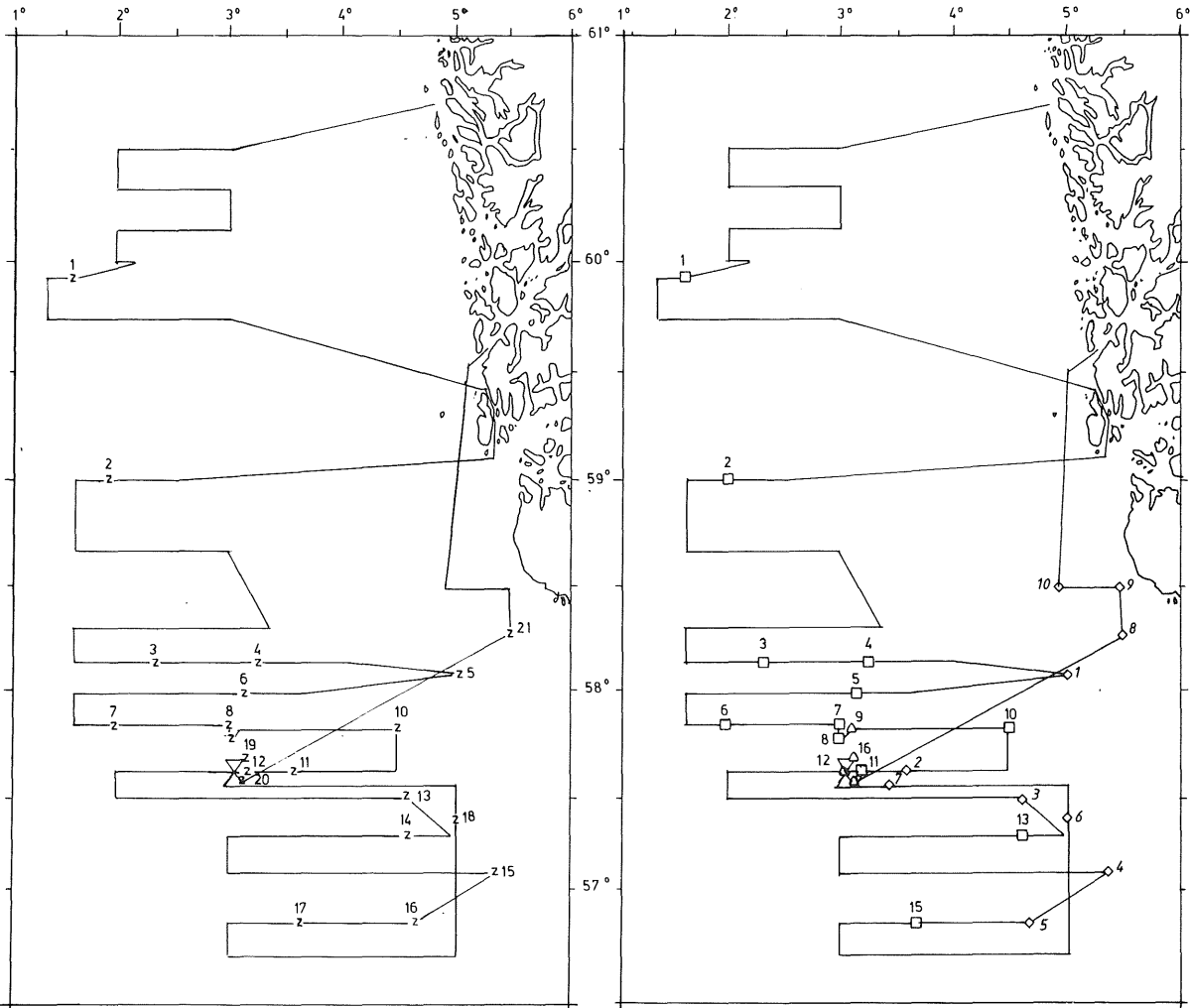
z CTD ST. NO. 1-35

"HÅKON MOSBY"



"HAKON MOSBY"

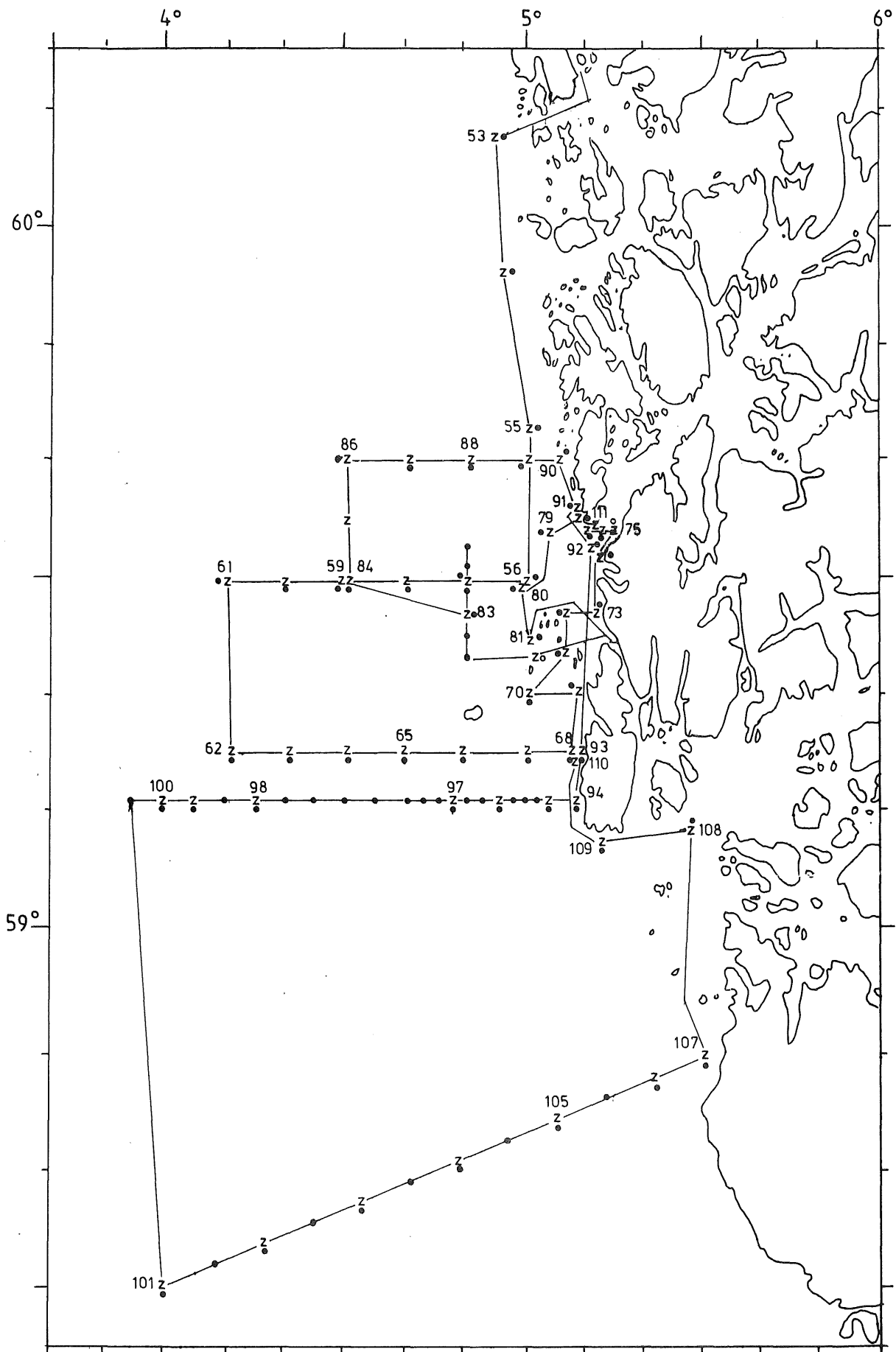
30 JAN - 19 FEB. 1988 □ BOTTOM TRAWL ST.NO. 1-35



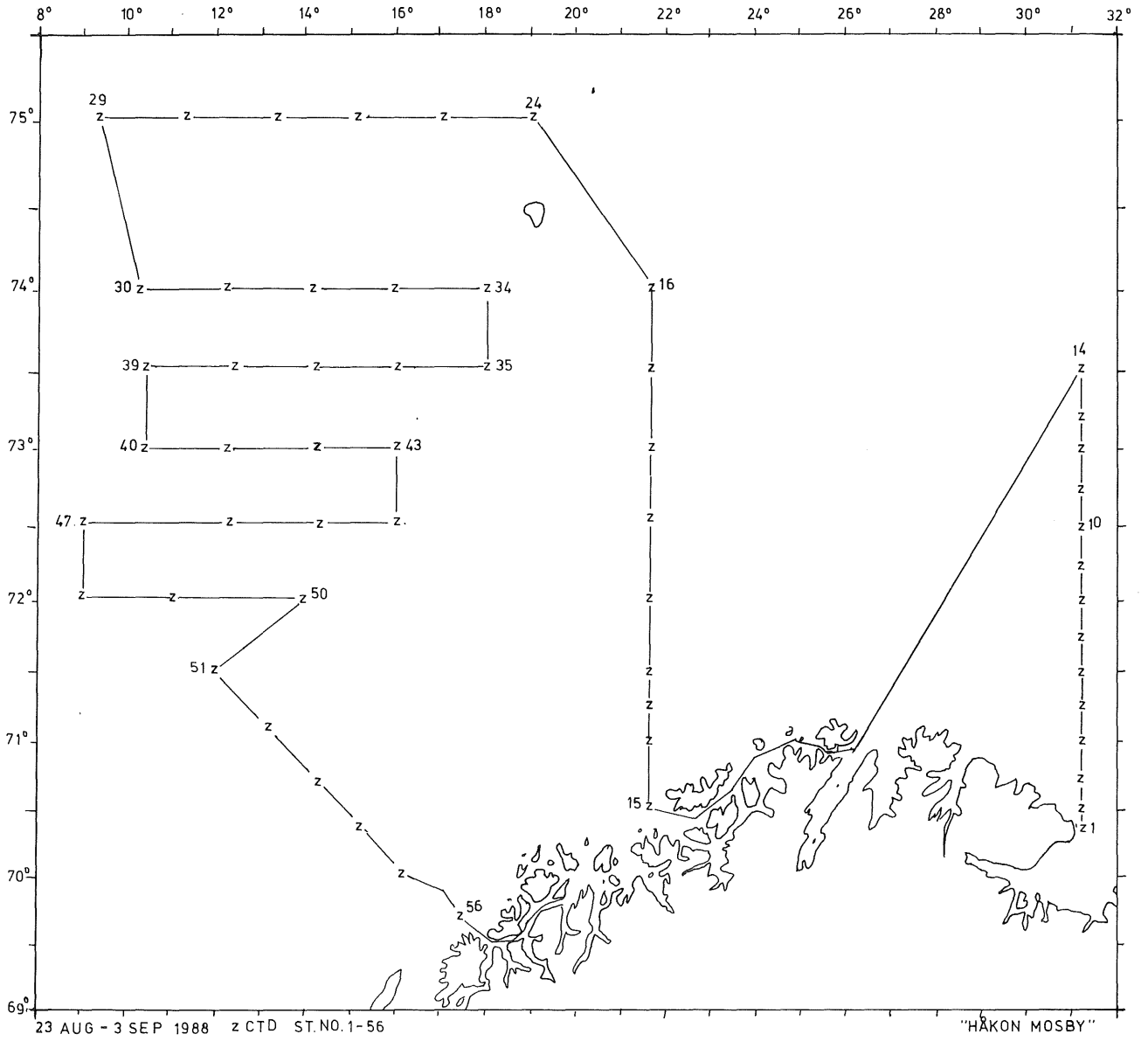
15-27 APR. 1988 z CTD ST.NO. 1-21 □△ TRAWL ST.NO. 1-17

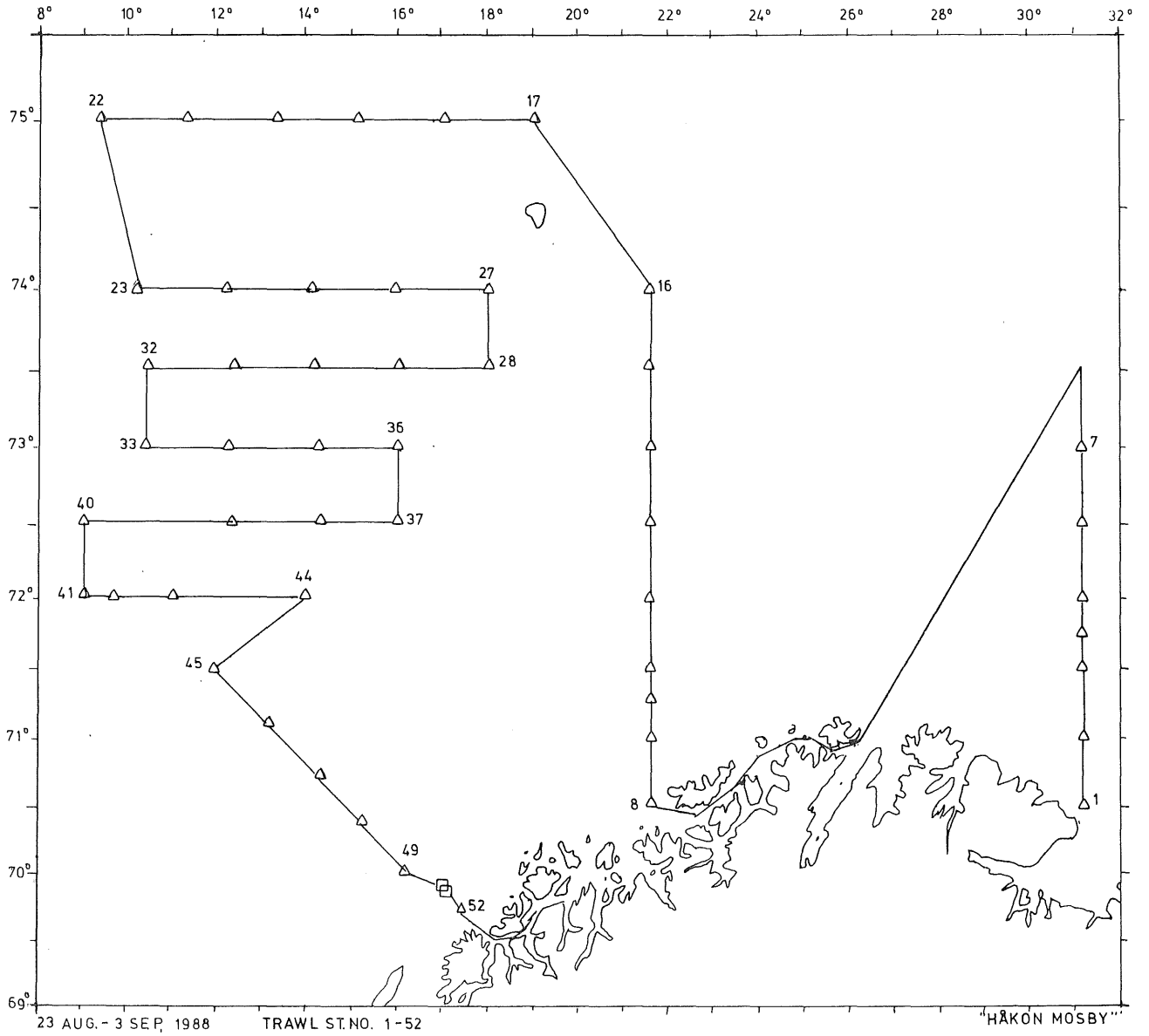
◇ ISAAC CID ST.NO. 1-10

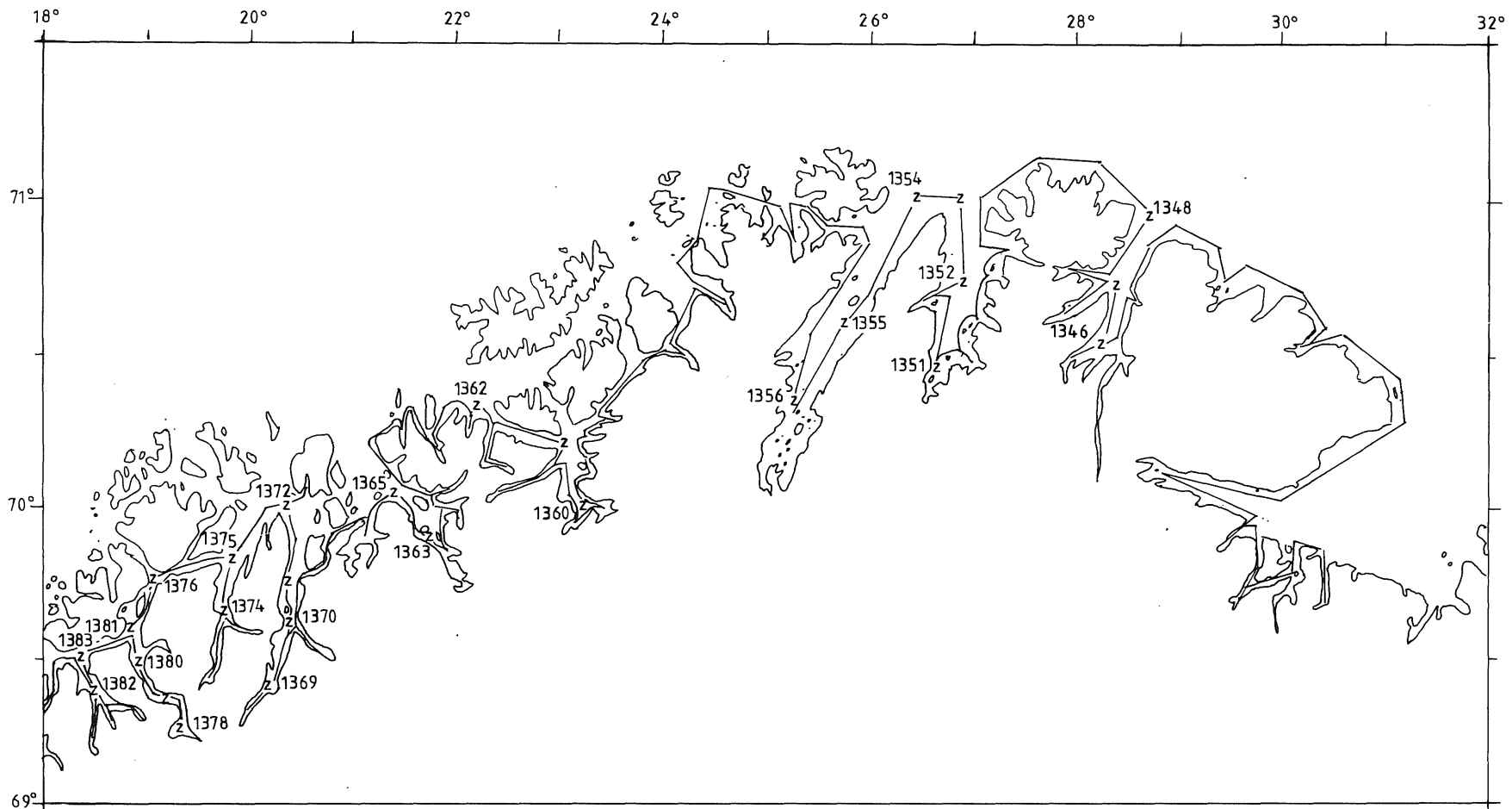
"HÅKON MOSBY"



29 APR.-2 MAY 1988 z CTD, ALGAE SAMPLE, ST. NO. 53-111 • 83 FLUORESENS ST. "HÅKON MOSBY"

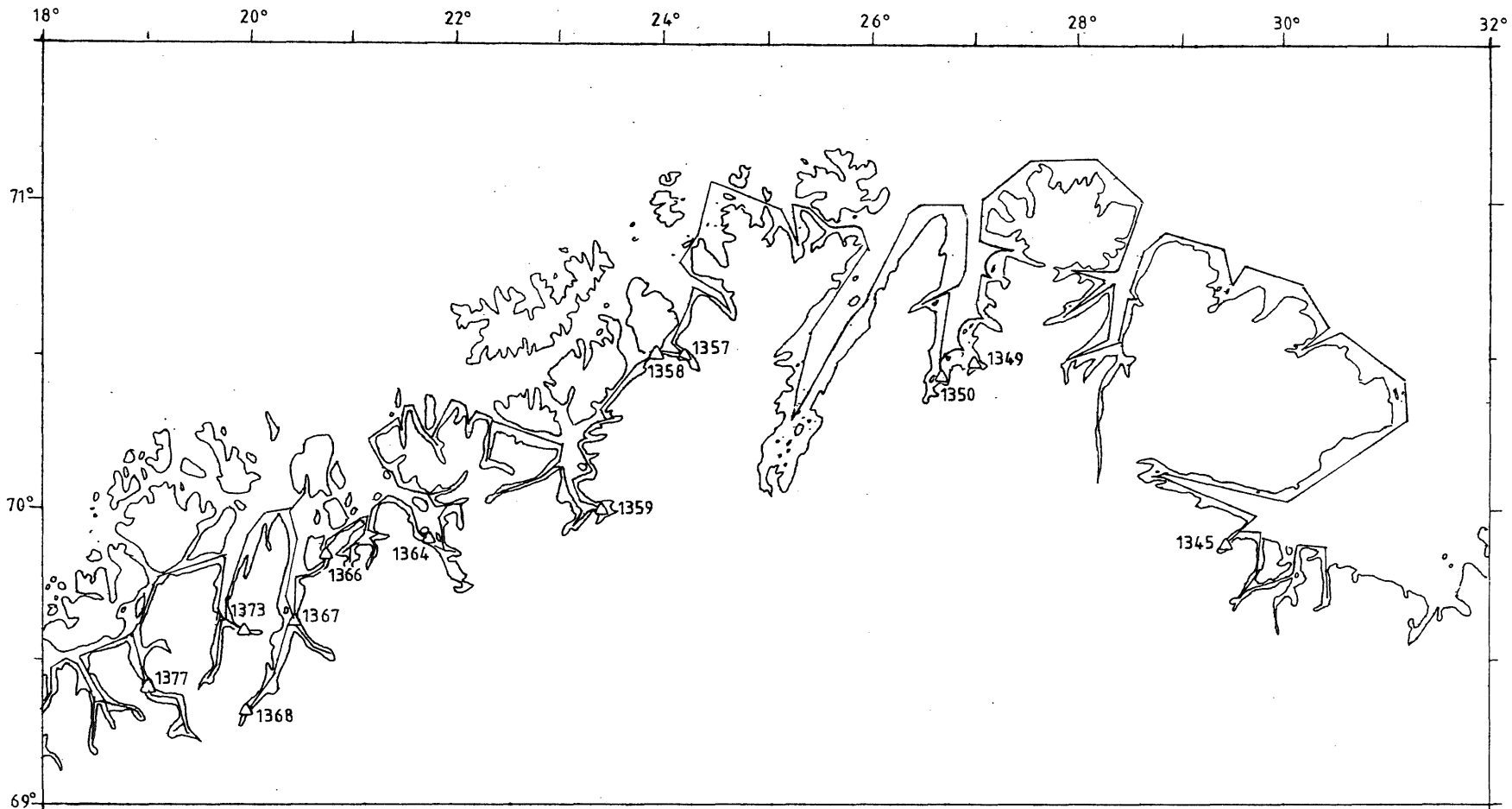






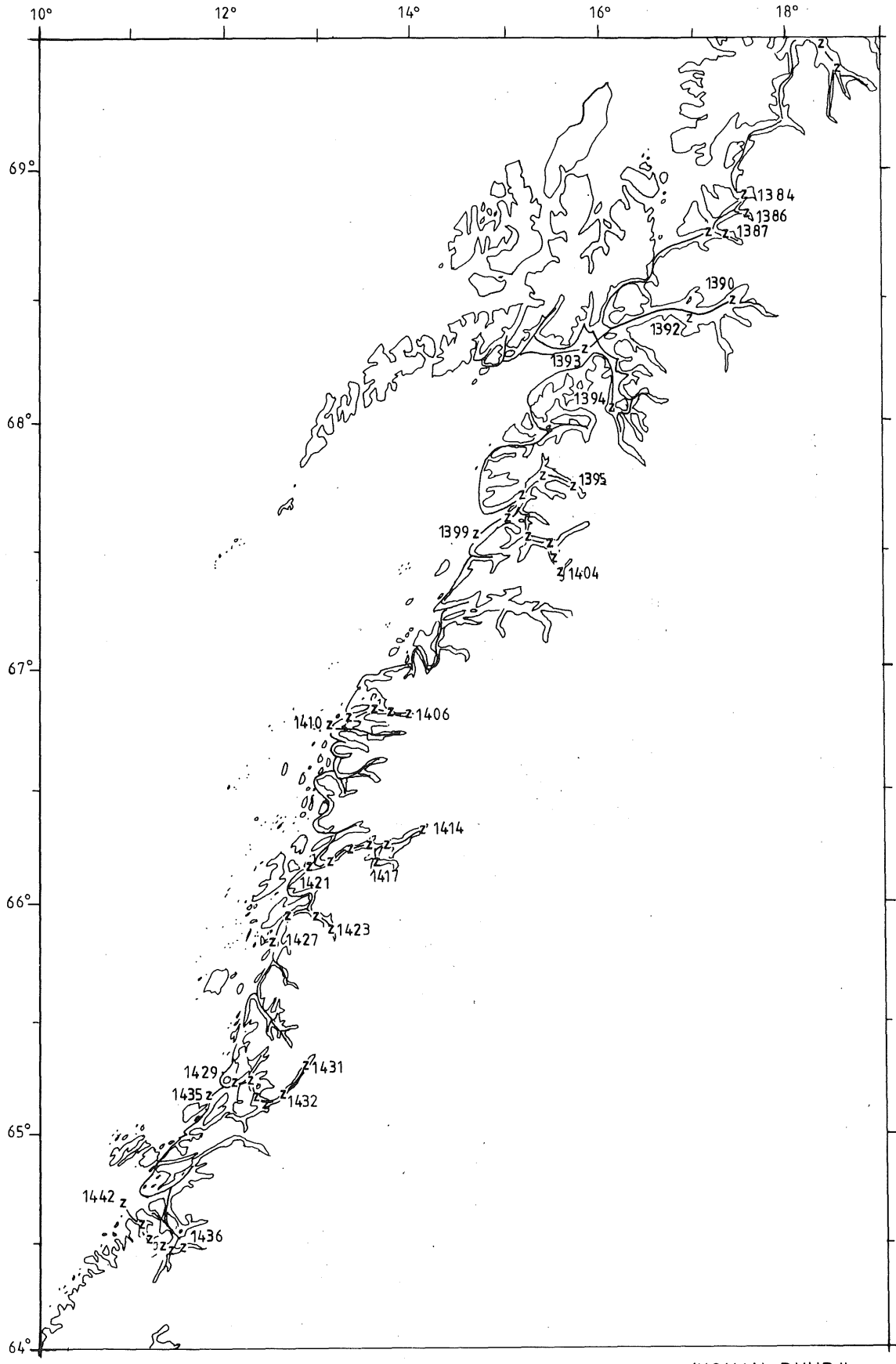
7-16 NOV. 1988 z CTD ST.NO. 1346-1383

"JOHAN RUUD"



7-16 NOV. 1988 Δ TRAWL ST. NO. 1345 -1377

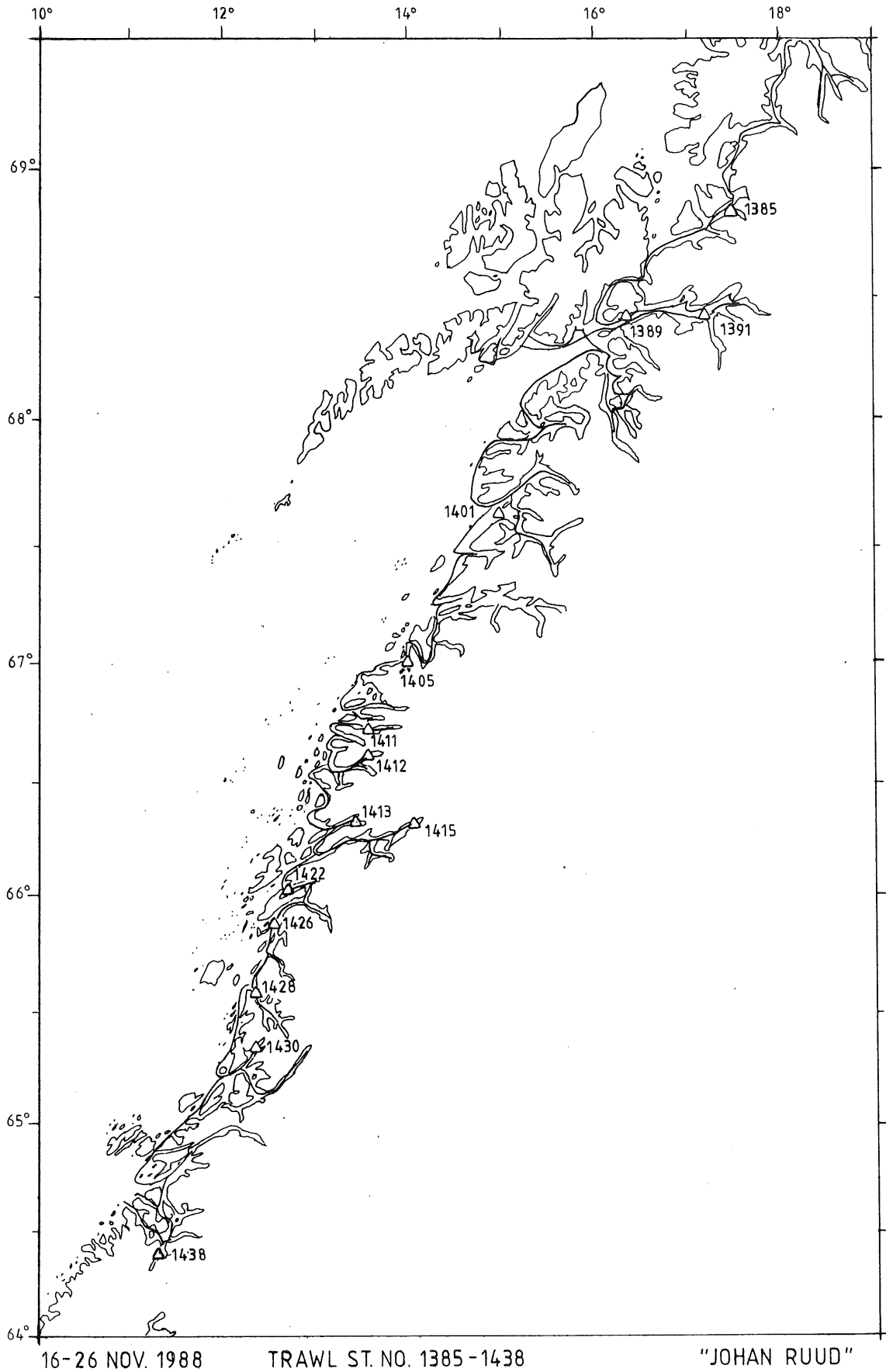
"JOHAN RUUD"

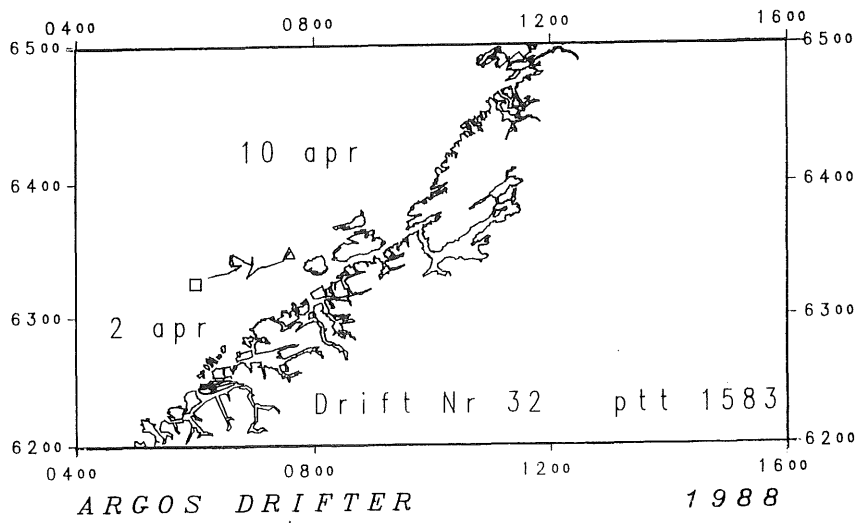
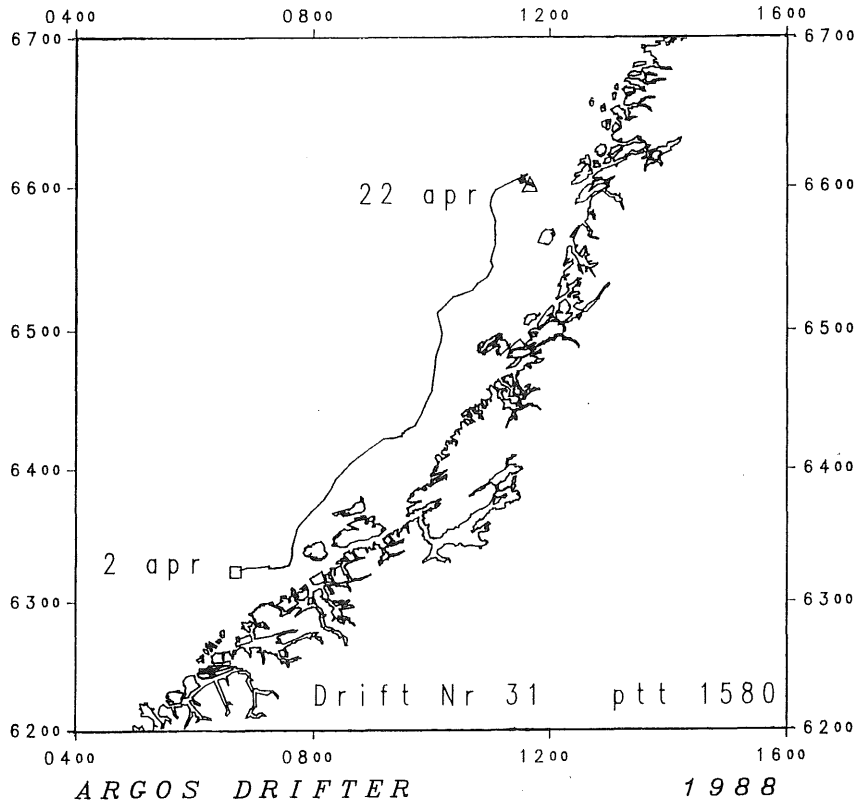


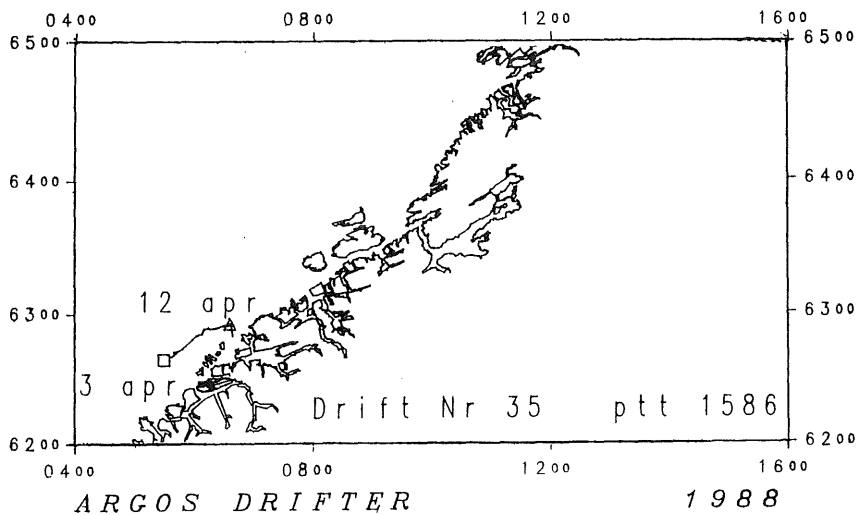
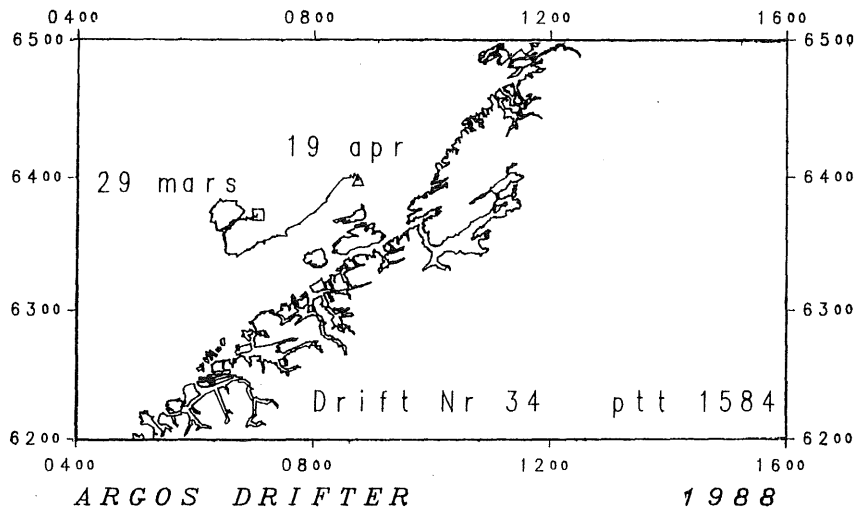
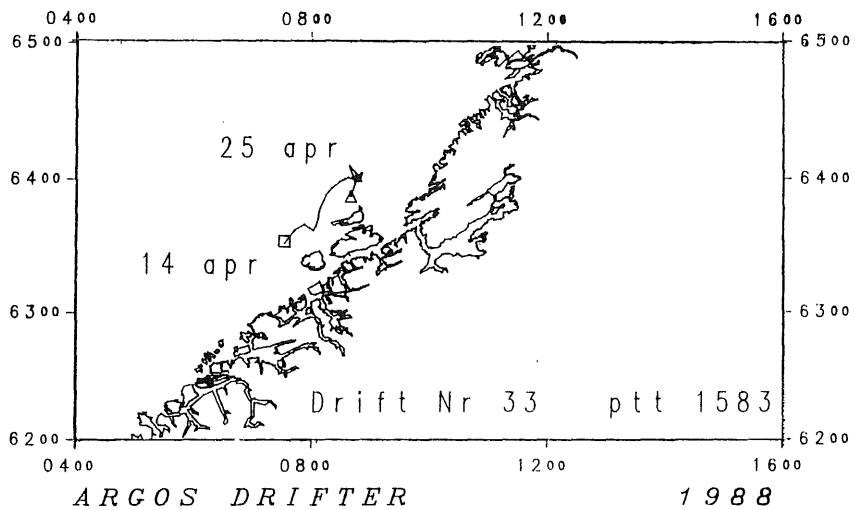
16-26 NOV. 1988

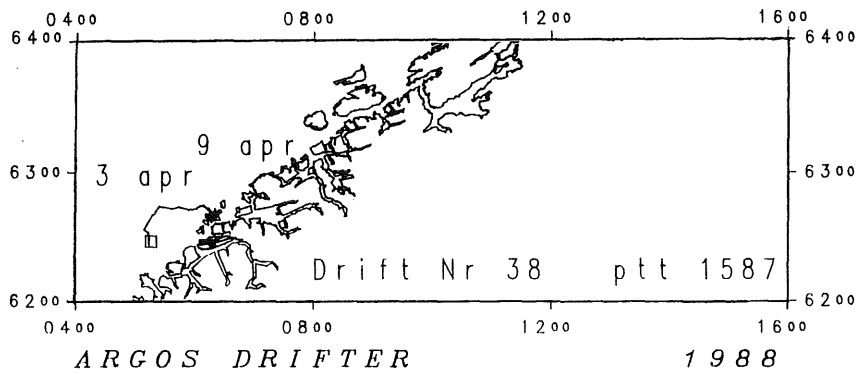
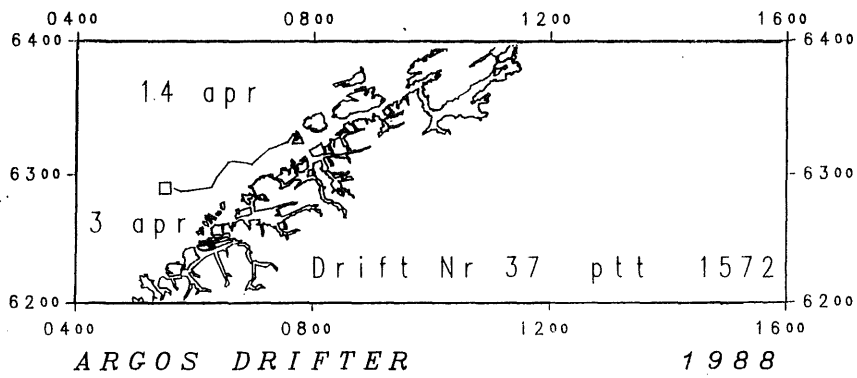
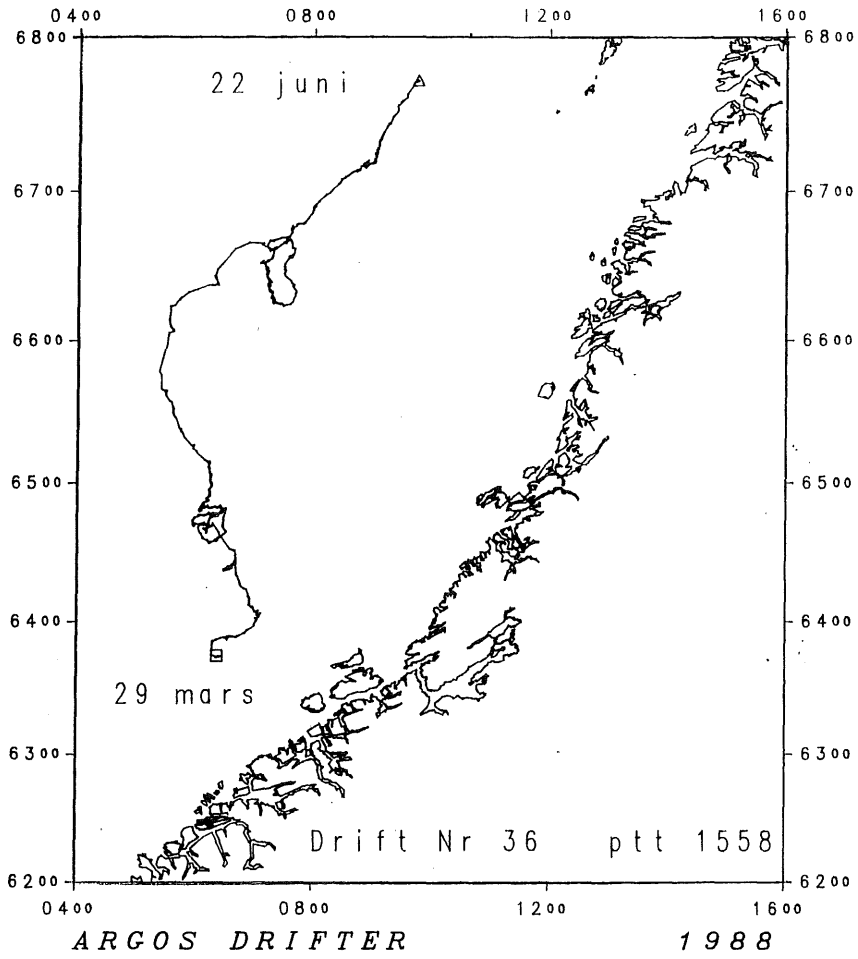
CTD ST.NO.1384-1442

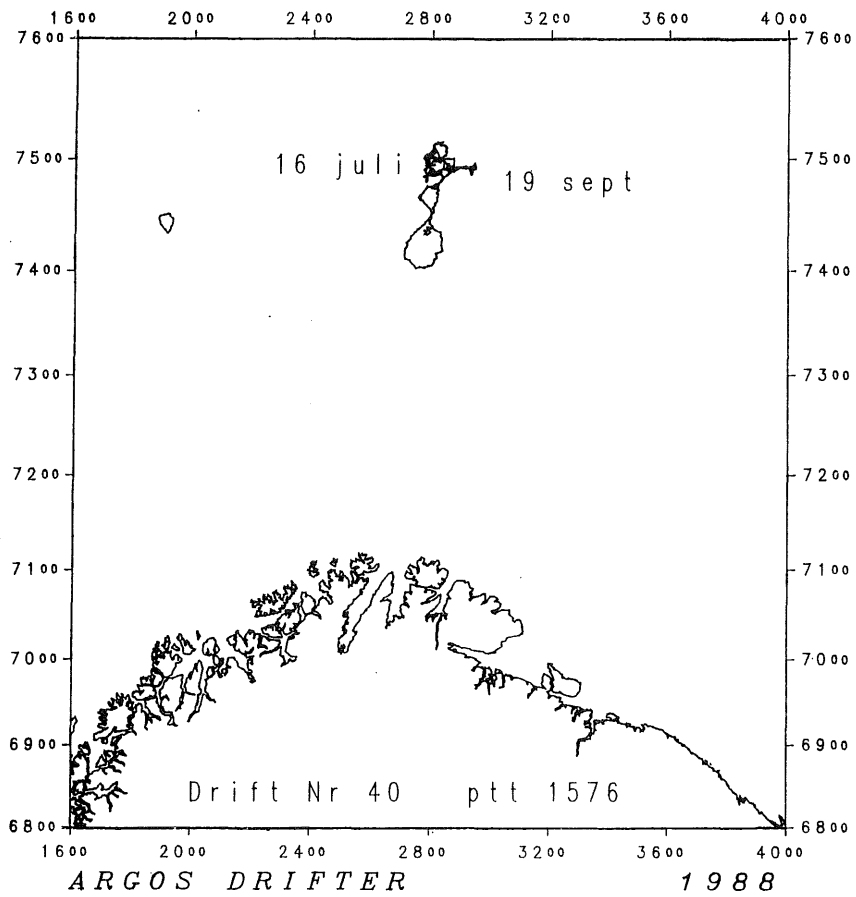
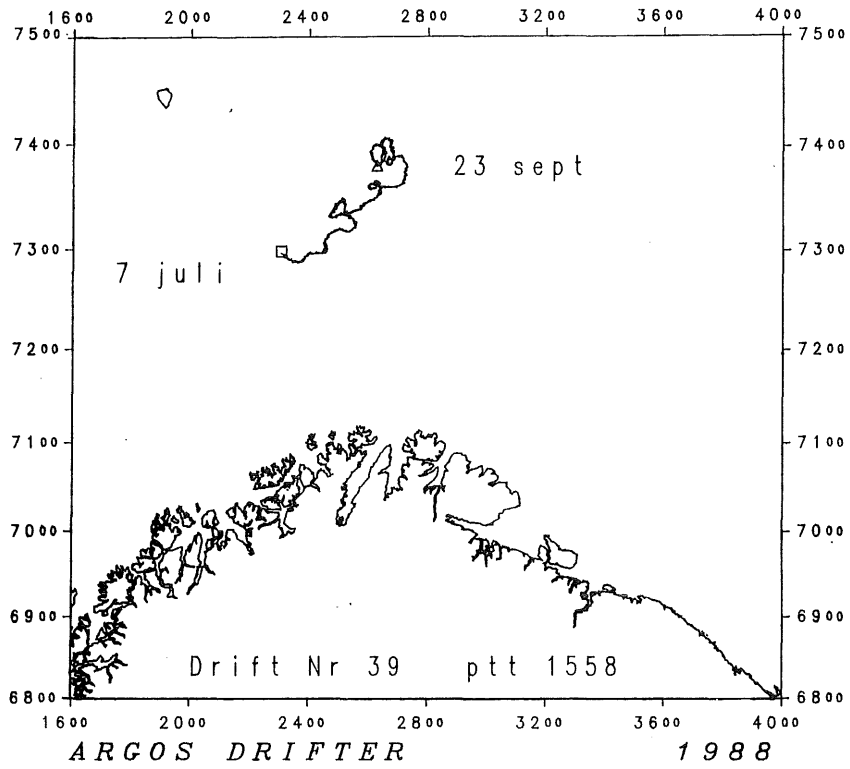
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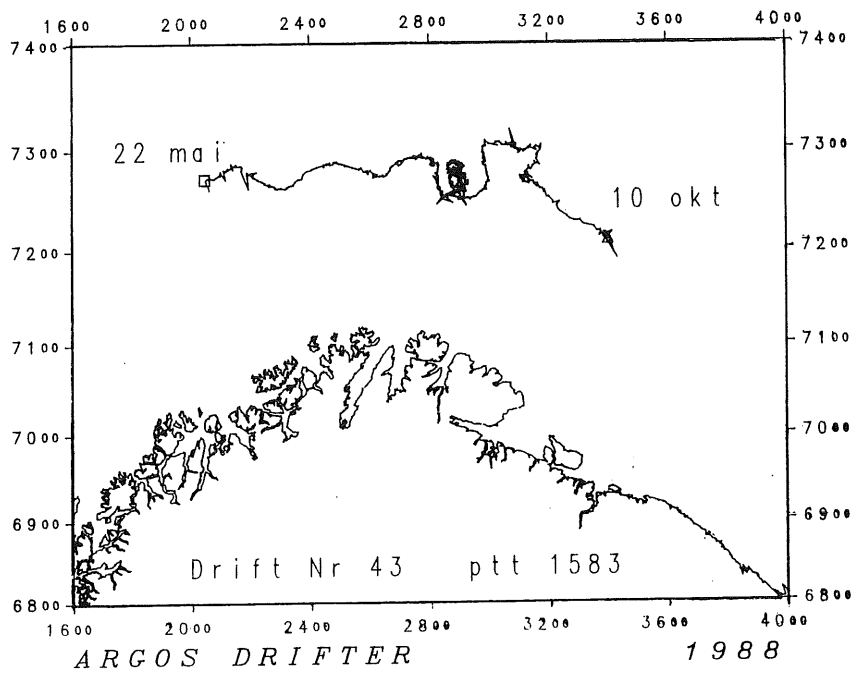
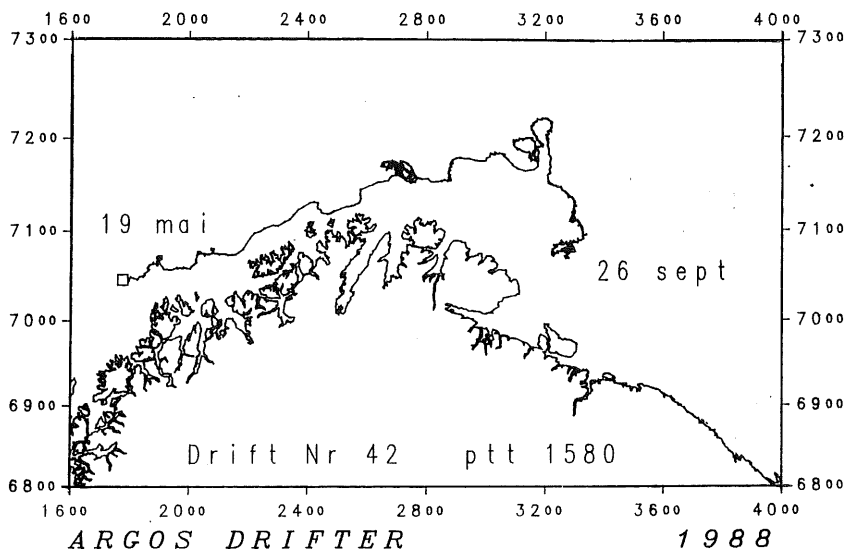
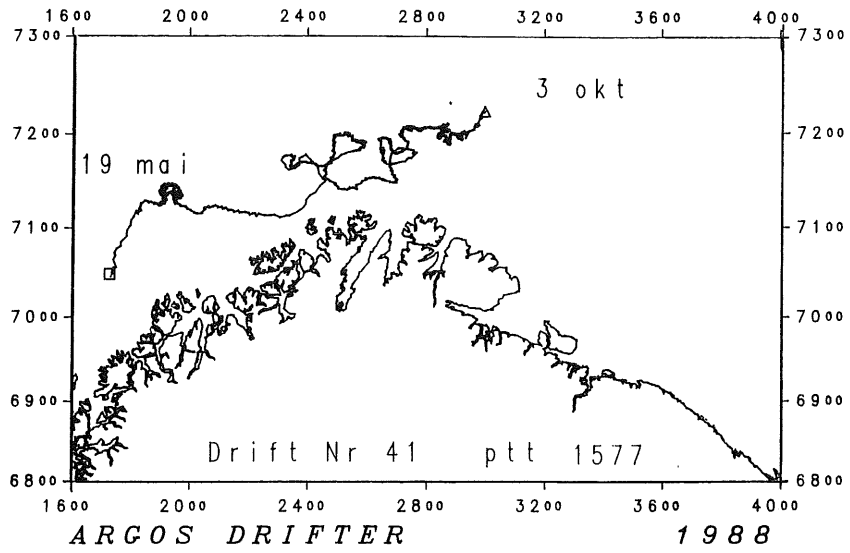


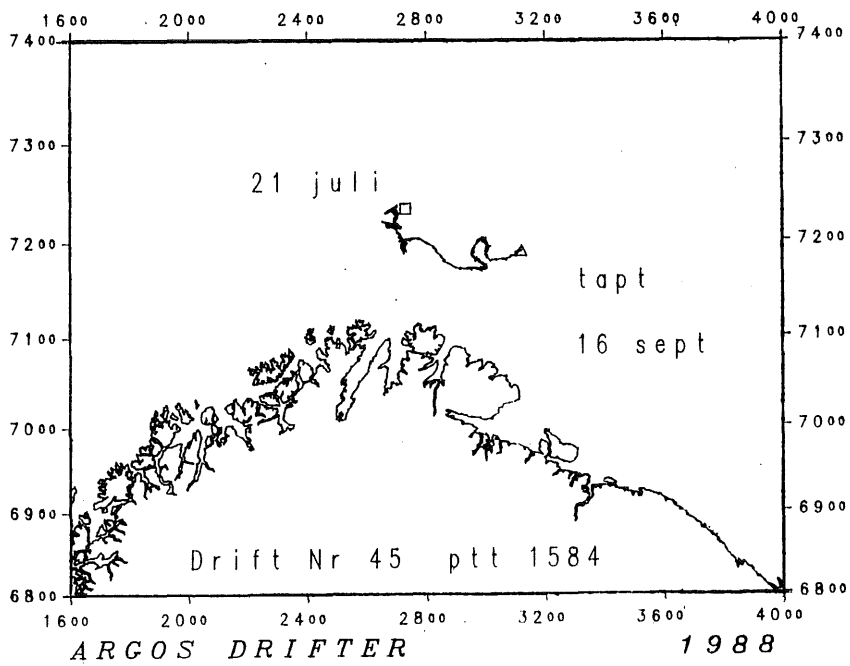
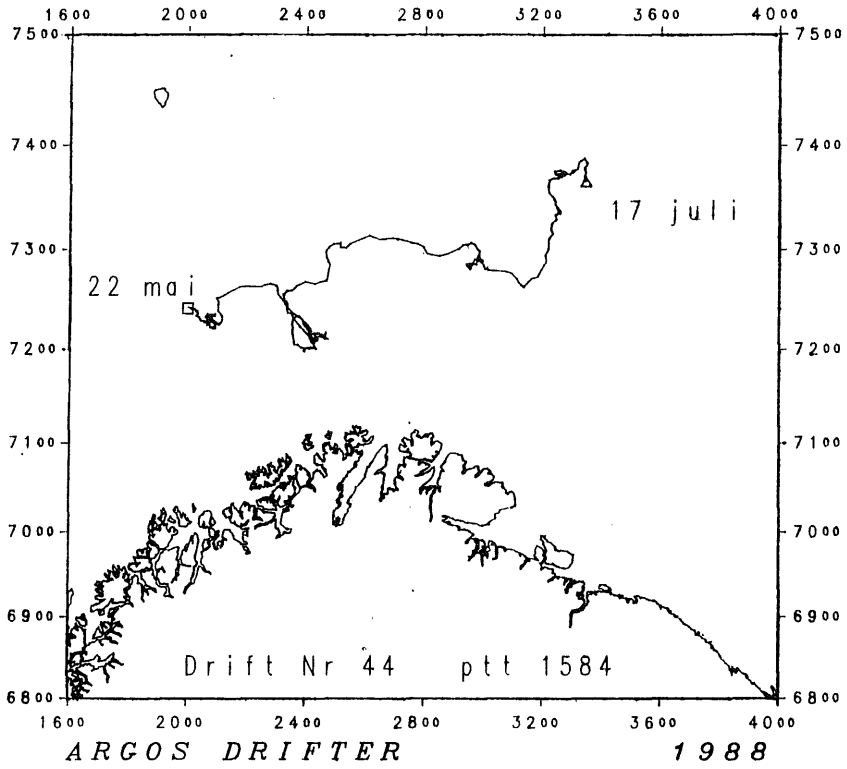


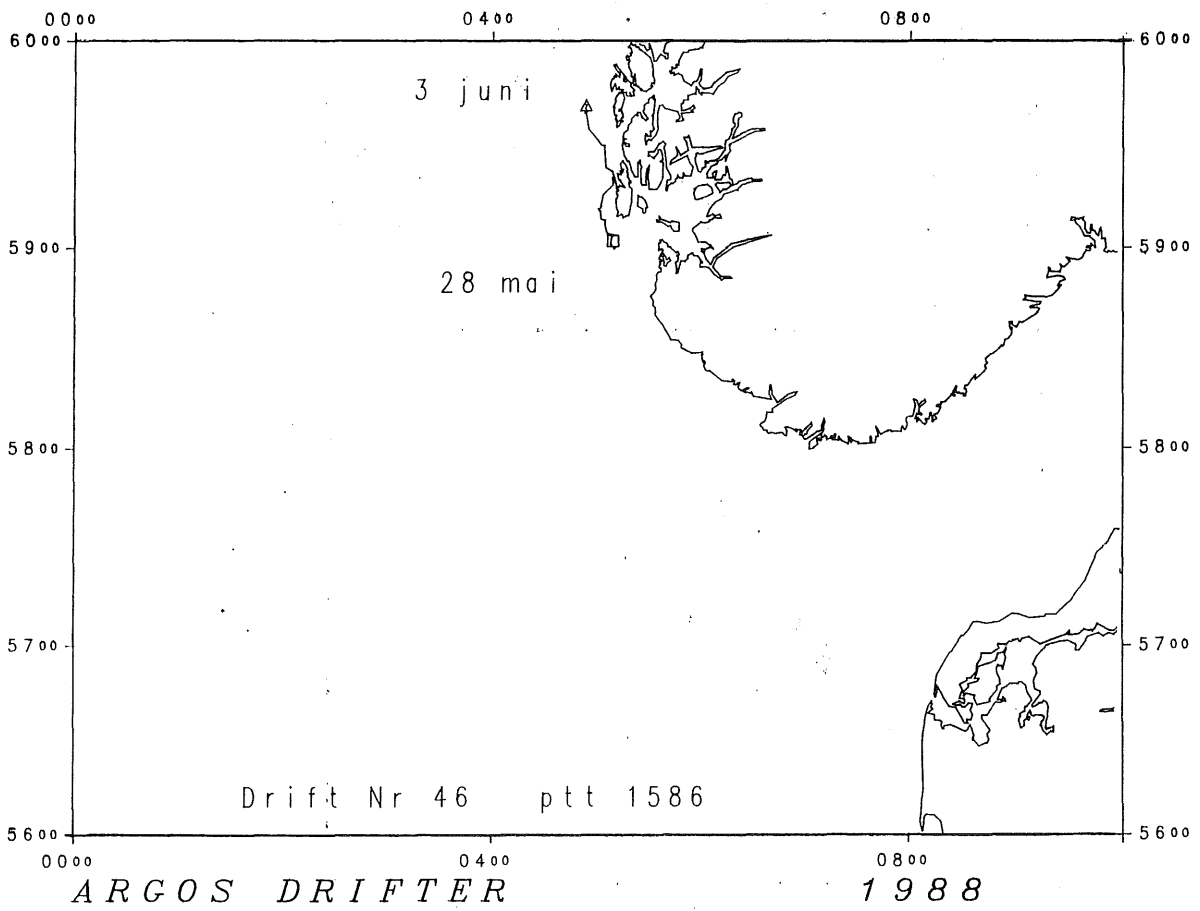


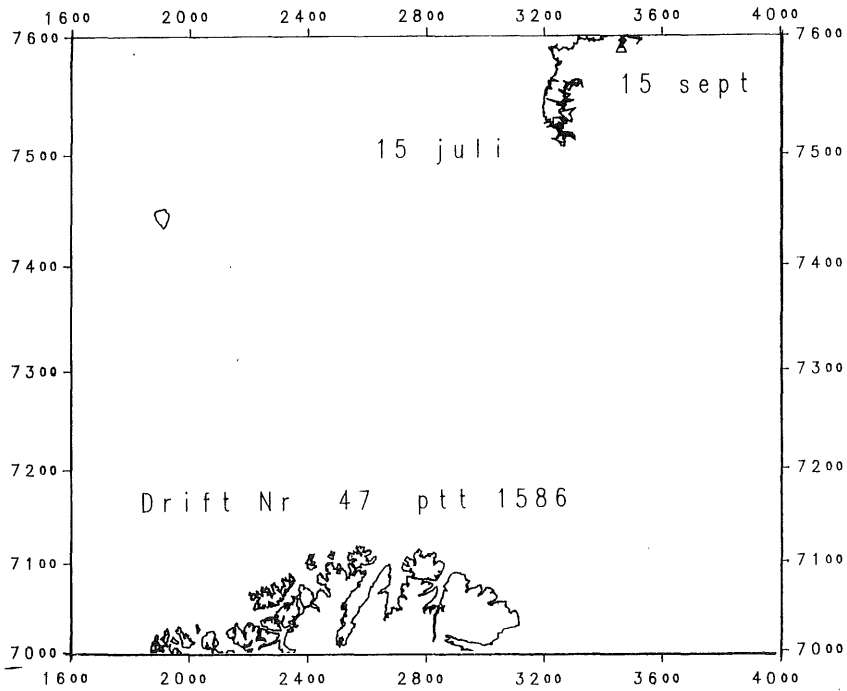




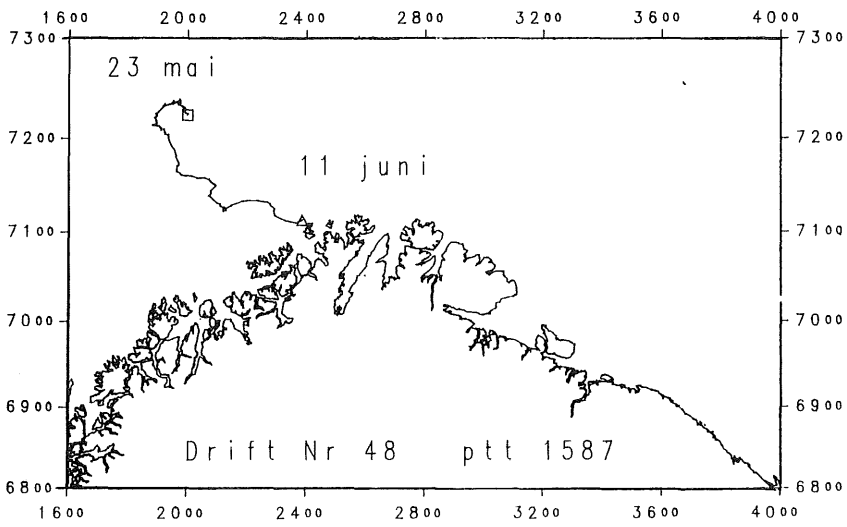




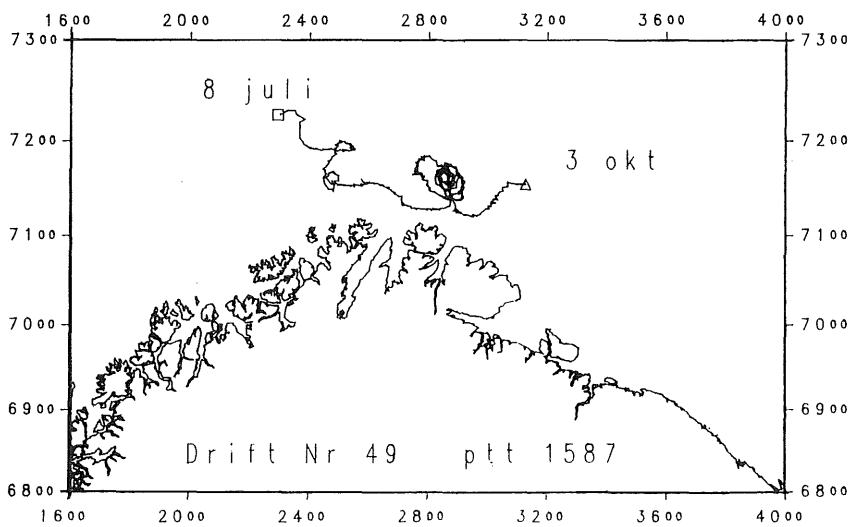




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