

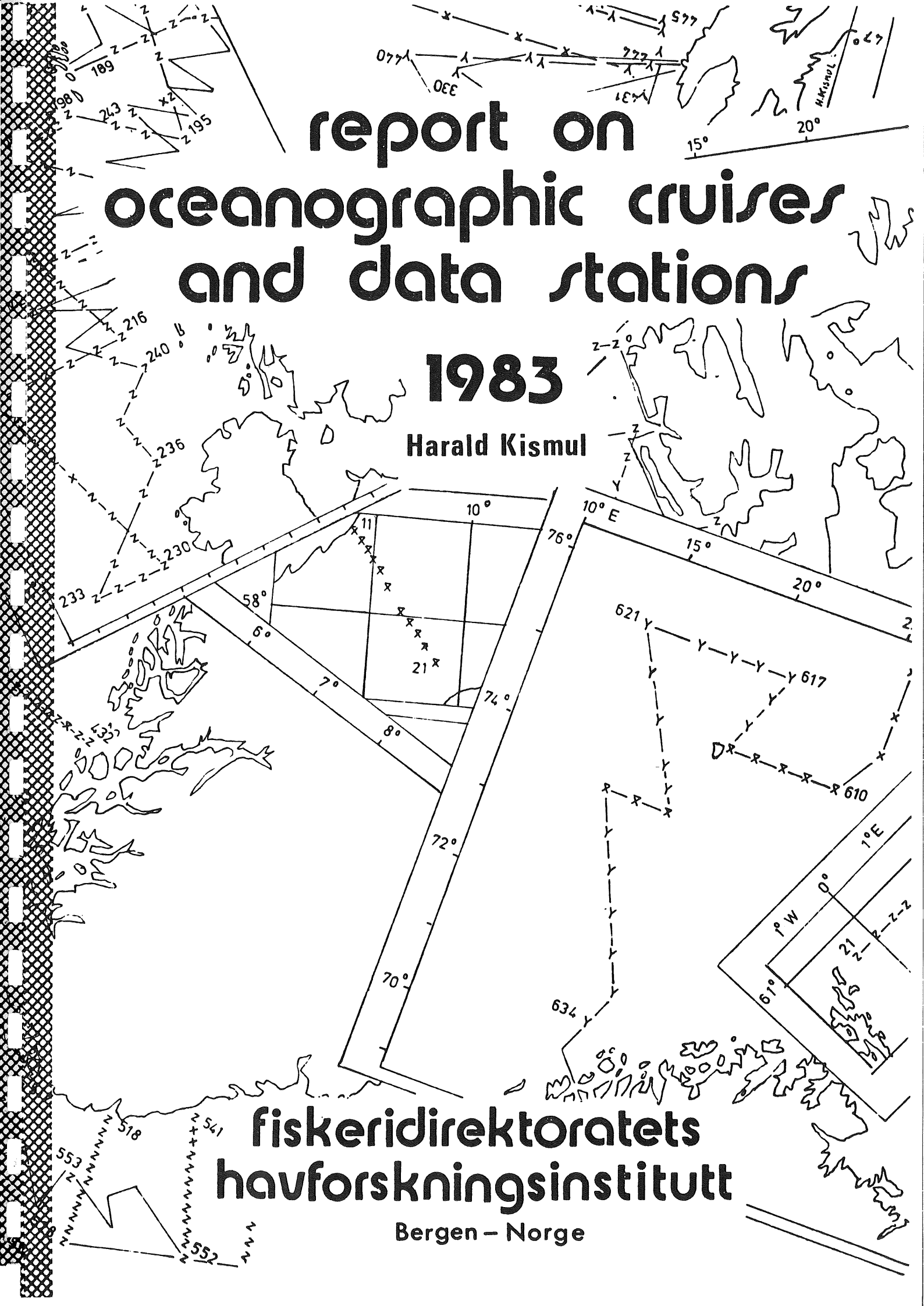
# report on oceanographic cruises and data stations

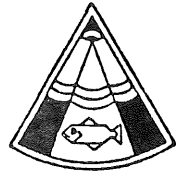
## 1983

Harald Kismul

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havforskningsinstitutt

Bergen - Norge





# report on oceanographic cruises and data stations

Harald Kismul

## Guidelines:

- X Classical oceanogr. stations
- Z Vertical profiles (STD/CTD)
- Y Bathythermograph (BT)
- △ Moored buoy station
- △ Pelagic Trawl station
- Bottom Trawl station
- ◇ Plankton station
- Clarke
- Taggings
- Λ Surface observations t°C S‰
- ⊗ ZTD Rosette Multi-bottle Array

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ICES Annual Report on Oceanographic Cruises and Data Stations.

Country: NORWAY

Year: 1983

Ship: "G.O.SARS"

| Cruise and ship number. | Period of cruises | Number of Stations           |                             |                       |             |        |           |                  |                    |                 |                    |                         |                  |               |              |                         | Continual observations |             |               |                     |              | Page of track chart |                           |                           |   |               |
|-------------------------|-------------------|------------------------------|-----------------------------|-----------------------|-------------|--------|-----------|------------------|--------------------|-----------------|--------------------|-------------------------|------------------|---------------|--------------|-------------------------|------------------------|-------------|---------------|---------------------|--------------|---------------------|---------------------------|---------------------------|---|---------------|
|                         |                   | Classical oceanogr. stations | Vertical profiles (STD/CTD) | Bathythermograph (BT) | Moored Buoy | Oxygen | Nutrients | Oil Hydrocarbons | Petroleum residues | Mocness Station | Primary org. prod. | Petroplank.pigment con. | Sediment samples | Pelagic Trawl | Bottom Trawl | Pelagic eggs and larvae | Taggings               | Zooplankton | Phytoplankton | Surface temperature | Transparency |                     | Organic matter (extract.) | Part. matter (filtration) | NO <sub>2</sub> + NO <sub>3</sub> (auto-analyzer) | Echo sounding |
| 1/15                    | 8/1 -25/1         |                              | 94                          |                       |             |        |           |                  |                    |                 |                    |                         | 24               | 15            |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 7- 8          |
| 2/15                    | 26/1 - 5/3        | 2                            | 201                         |                       |             |        |           |                  |                    |                 |                    |                         | 9                | 68            |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 9-10          |
| 3/15                    | 5/3 -14/3         |                              | 42                          |                       |             |        |           |                  |                    |                 |                    |                         | 2                | 11            |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 11-12         |
| 4/15                    | 15/3 -20/3        |                              | 52                          |                       |             |        |           |                  |                    |                 |                    |                         |                  |               |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 13            |
| 5/15                    | 6/4 -27/4         |                              | 103                         |                       |             |        |           |                  |                    |                 |                    |                         | 25               | 27            |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 14-15         |
| 6/15                    | 28/4 -13/5        |                              | 1                           |                       |             |        |           |                  |                    |                 |                    |                         | 15               | 5             |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 16            |
| 7/15                    | 18/5--55/6        |                              | 92                          |                       |             |        |           |                  |                    |                 |                    |                         | 4                | 78            |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 17            |
| 8/15                    | 6/6 -16/6         | 70                           | 70                          |                       |             |        |           |                  | 3                  |                 |                    |                         | 8                |               | 70           |                         | 70                     |             | x             | x                   |              |                     |                           | x                         | x   | 18-19         |
| 9/15                    | 17/7 -31/7        |                              | 71                          |                       |             |        |           |                  |                    |                 |                    |                         | 39               | 5             |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 20            |
| 10/15                   | 2/8 -20/8         |                              | 79                          |                       |             |        |           |                  |                    |                 |                    |                         | 29               |               |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 21            |
| 11/15                   | 22/8 - 5/9        |                              | 76                          |                       |             |        |           |                  |                    |                 |                    |                         | 71               |               |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 22            |
| 12/15                   | 6/9 -30/9         | 4                            | 95                          |                       |             |        |           |                  |                    |                 |                    |                         | 70               |               |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 23            |
| 13/15                   | 4/10-28/10        |                              | 75                          |                       |             |        |           |                  |                    |                 |                    |                         | 14               |               |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 24            |
| 14/15                   | 3/11-16/11        |                              | 45                          |                       |             |        |           |                  |                    |                 |                    |                         | 22               |               |              |                         |                        |             | x             | x                   |              |                     |                           | x                         | x   | 25            |

ICES Annual Report on Oceanographic Cruises and Data Stations.

Country: NORWAY

Year: 1983

Ship: "MICHAEL SARS"

| Cruise and ship number. | Period of cruises | Number of Stations           |                             |                   |             |        |           |                  |      |               |                    |                          |                  |               |              |                         |          | Continual observations |               |                     |              | Page of track chart |                           |                           |   |               |
|-------------------------|-------------------|------------------------------|-----------------------------|-------------------|-------------|--------|-----------|------------------|------|---------------|--------------------|--------------------------|------------------|---------------|--------------|-------------------------|----------|------------------------|---------------|---------------------|--------------|---------------------|---------------------------|---------------------------|---|---------------|
|                         |                   | Classical oceanogr. stations | Vertical profiles (STD/CTD) | Bathymograph (BT) | Moored Buoy | Oxygen | Nutrients | Oil Hydrocarbons | Grab | Squid Station | Primary org. prod. | Petroplank. pigment con. | Sediment samples | Pelagic Trawl | Bottom Trawl | Pelagic eggs and larvae | Taggings | Zooplankton            | Phytoplankton | Surface temperature | Transparency |                     | Organic matter (extract.) | Part. matter (filtration) | NO <sub>2</sub> + NO <sub>3</sub> (auto-analyzer) | Echo sounding |
| 1/11                    | 9/1 -26/1         |                              | 9                           |                   |             |        |           |                  |      |               |                    |                          | 12               | 2             |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 26            |
| 2/11                    | 1/2 -28/2         |                              | 64                          |                   |             |        |           |                  |      |               |                    |                          |                  | 9             |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 27            |
| 3/11                    | 7/3 -26/3         |                              | 25                          |                   |             |        |           |                  | 6    |               |                    |                          | 12               | 4             |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 28            |
| 4/11                    | 5/4 -10/4         | 9                            | 98                          |                   |             |        |           |                  |      |               |                    |                          |                  |               | 183          |                         | 183      |                        | x             | x                   |              |                     |                           | x                         | x   | 29-30-31      |
| 5/11                    | 14/4 -21/4        | 1                            | 62                          |                   |             |        |           |                  |      |               |                    |                          |                  |               |              |                         | 109      | 109                    | x             | x                   |              |                     |                           | x                         | x   | 32-33         |
| 6/11                    | 25/4 -18/5        |                              |                             |                   |             |        |           |                  |      |               |                    |                          |                  | 107           |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 34            |
| 7/11                    | 25/5 - 9/7        | 134                          | 423                         |                   |             |        |           | 128              | 36   |               |                    |                          | 22               | 2             |              |                         | 368      |                        | x             | x                   |              |                     |                           | x                         | x   | 35-36-37-     |
| 8/11                    | 2/8 -19/8         |                              |                             |                   |             |        |           |                  |      |               |                    |                          |                  | 61            |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 39            |
| 9/11                    | 21/8 - 5/9        |                              | 90                          |                   |             |        |           |                  |      |               |                    |                          | 58               |               |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 40-41         |
| 10/11                   | 6/9 -30/9         |                              | 88                          |                   |             |        |           |                  |      |               |                    |                          | 67               |               |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 42            |
| 11/11                   | 2/10-14/10        |                              | 88                          |                   |             |        |           |                  |      |               |                    |                          | 65               | 1             |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 43            |
| 12/11                   | 16/7 -29/7        |                              | 71                          |                   |             |        |           |                  |      |               |                    |                          | 71               |               |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 44            |
| 13/11                   | 17/10- 3/11       |                              | 127                         |                   |             |        |           |                  |      |               |                    |                          | 57               |               |              |                         |          |                        | x             | x                   |              |                     |                           | x                         | x   | 45-46         |

## ICES Annual Report on Oceanographic Cruises and Data Stations.

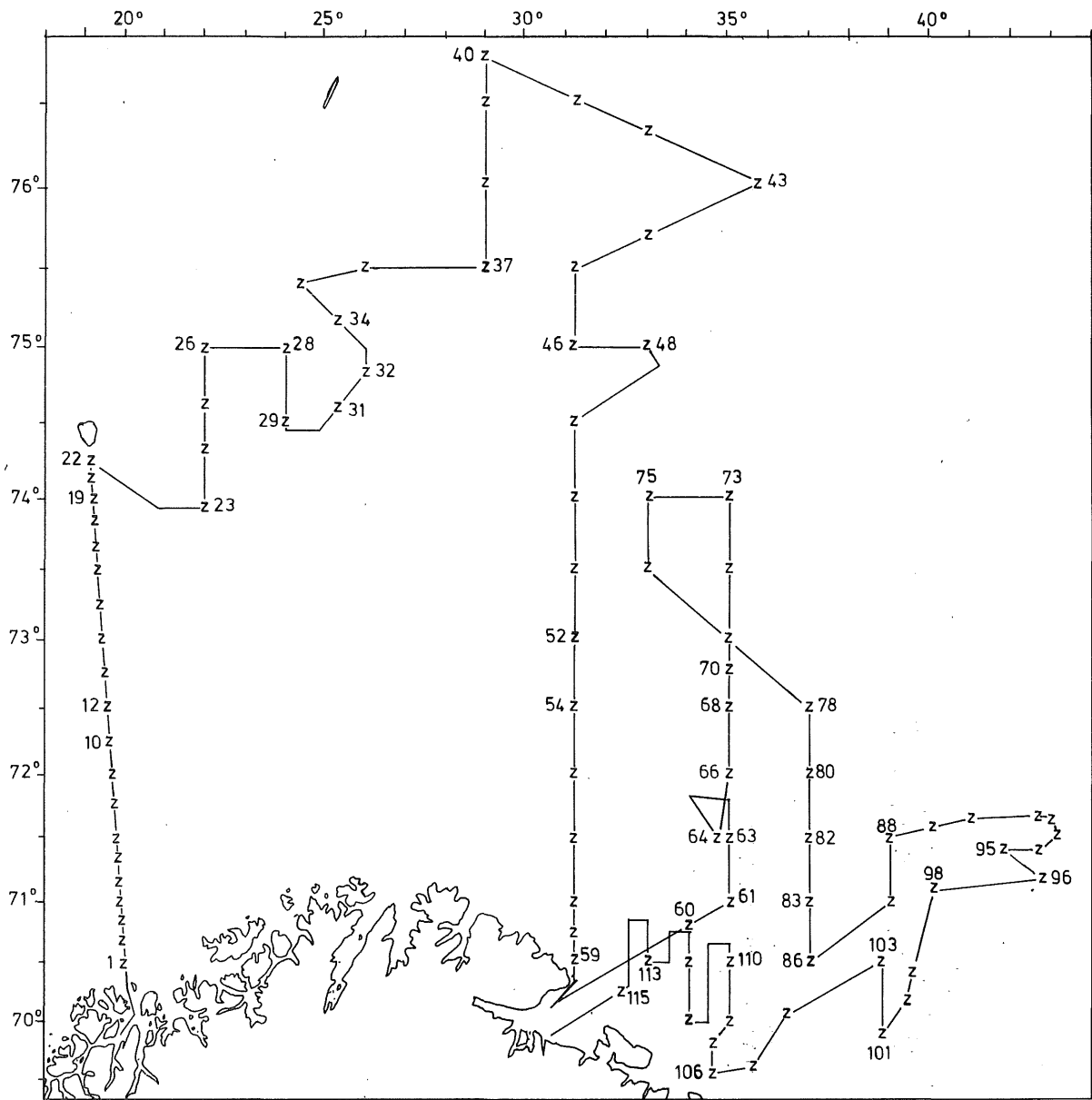
Country: NORWAY

Year: 1983

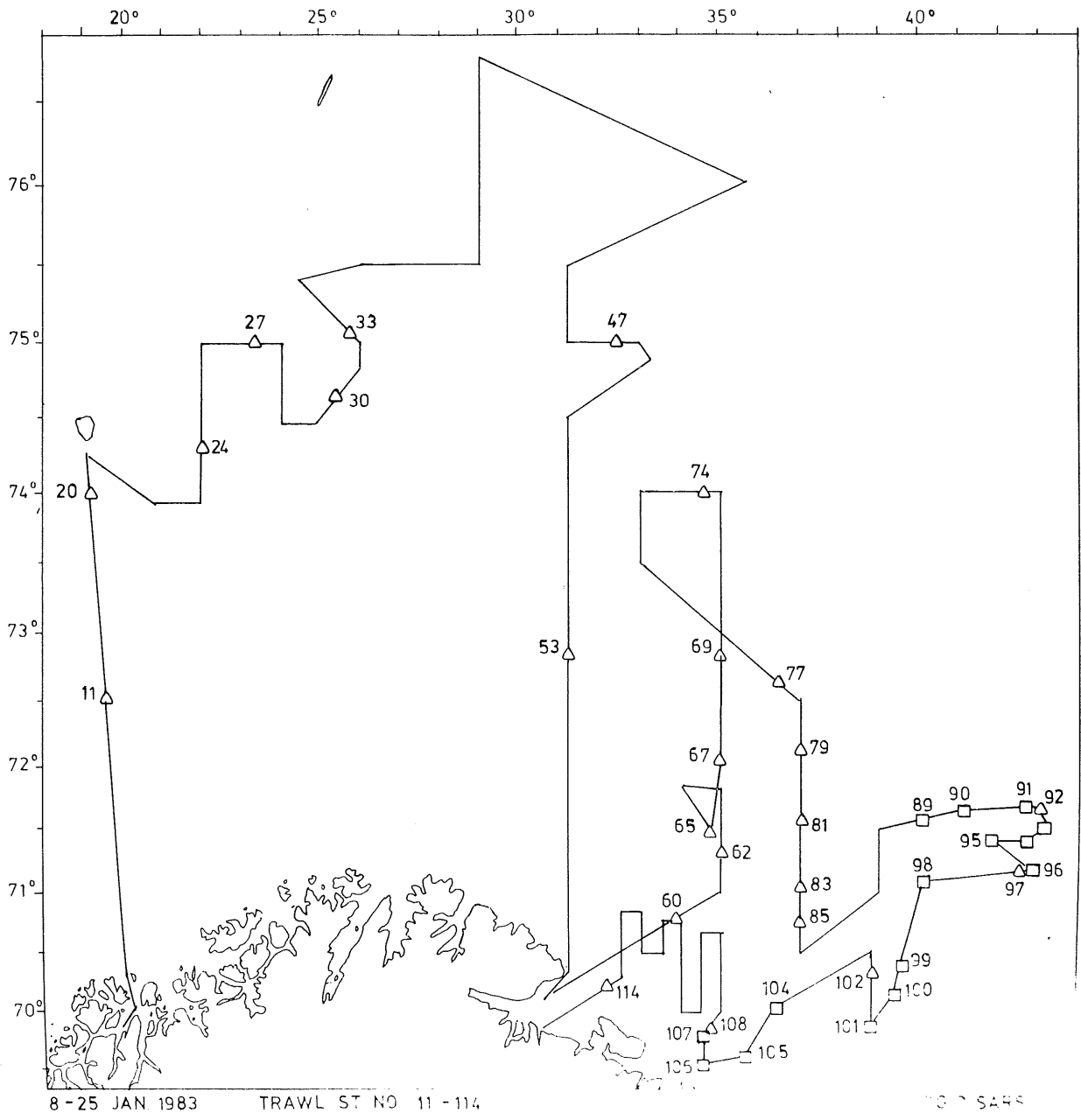
Ship: "ELDJARN"

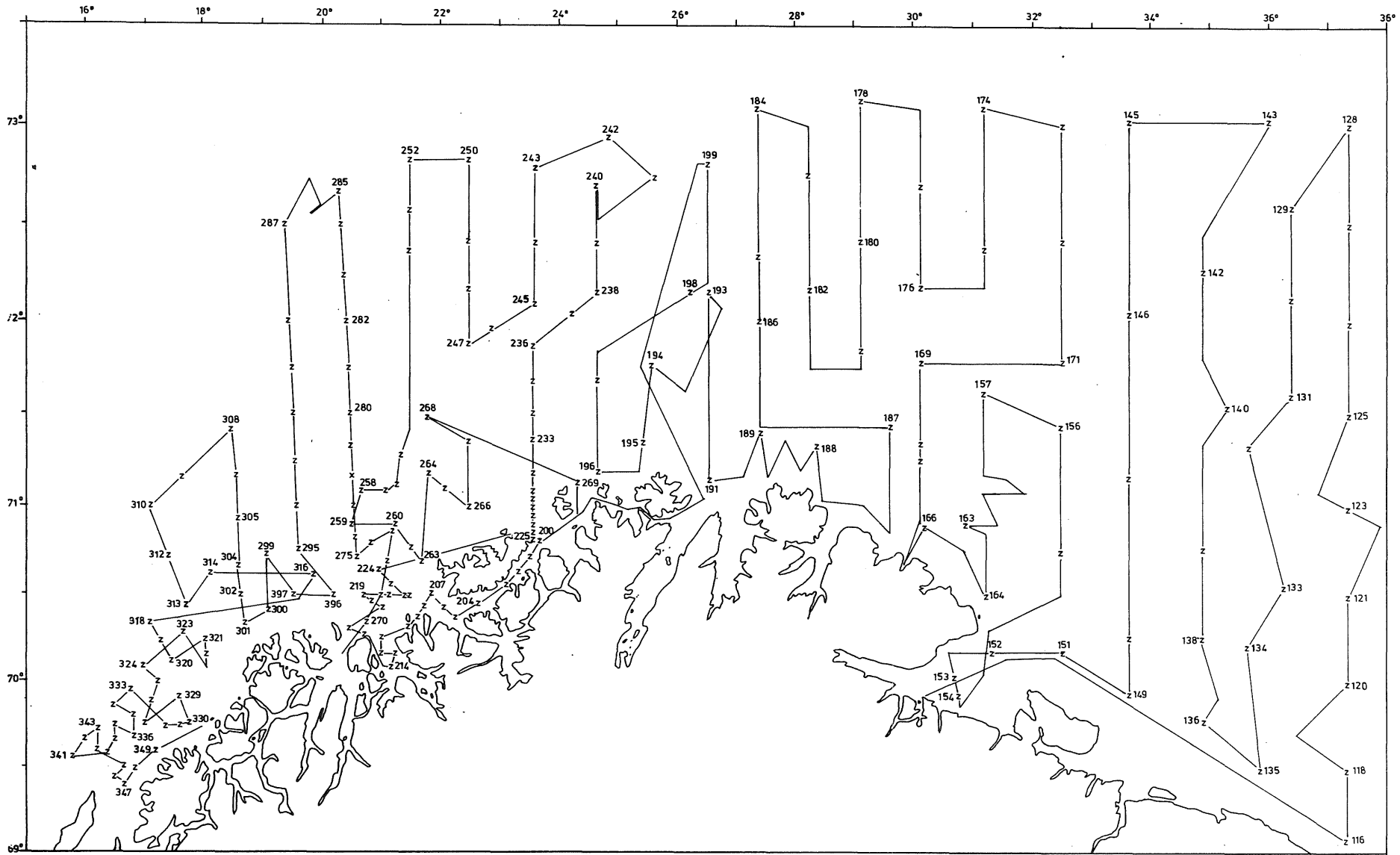
| Cruise and ship number. | Period of cruises | Number of Stations           |                             |                       |             |        |  |                  |                    |              |                    |                          |                  |               |              | Continual observations  |          |             |               |                     |              | Page of track chart |                           |                           |   |               |                  |
|-------------------------|-------------------|------------------------------|-----------------------------|-----------------------|-------------|--------|--|------------------|--------------------|--------------|--------------------|--------------------------|------------------|---------------|--------------|-------------------------|----------|-------------|---------------|---------------------|--------------|---------------------|---------------------------|---------------------------|---|---------------|------------------|
|                         |                   | Classical oceanogr. stations | Vertical profiles (STD/CTD) | Bathythermograph (BT) | Moored Buoy | Oxygen | Phosphates-Nitrates-Nitrites-Cilicates | Oil Hydrocarbons | Petroleum residues | Planktonpump | Primary org. prod. | Petroplank. pigment con. | Sediment samples | Pelagic Trawl | Bottom Trawl | Pelagic eggs and larvae | Handline | Zooplankton | Phytoplankton | Surface temperature | Transparency |                     | Organic matter (extract.) | Part. matter (filtration) | NO <sub>2</sub> + NO <sub>3</sub> (auto-analyzer) | Echo sounding | Echo integration |
| 1/14                    | 1/2-20/2          | 8                            | 57                          |                       |             |        |  |                  |                    |              |                    |                          | 39               |               |              | 51                      | 51       | x           | x             |                     |              |                     |                           | x                         | x   | 47-48         |                  |
| 2/14                    | 23/2-13/3         |                              | 48                          |                       |             |        |  |                  |                    |              |                    | 7                        | 1                |               |              |                         |          |             | x             | x                   |              |                     |                           |                           | x   | x             | 49               |
| 3/14                    | 14/3-29/3         |                              | 83                          |                       |             |        |  |                  |                    |              |                    | 16                       | 13               |               |              | 83                      | 83       | x           | x             |                     |              |                     |                           | x                         | x   | 50-51         |                  |
| 4/14                    | 5/4-29/4          |                              | 121                         |                       |             |        |  |                  |                    |              |                    | 30                       |                  | 1             |              | 6                       | 6        | x           | x             |                     |              |                     |                           | x                         | x   | 52-53         |                  |
| 5/14                    | 4/5-19/5          |                              | 297                         |                       |             |        |  |                  | 142                |              |                    |                          |                  |               |              | 286                     | 73       | x           | x             |                     |              |                     |                           | x                         | x   | 54-55         |                  |
| 6/14                    | 20/5- 1/6         |                              | 45                          |                       |             |        |  |                  |                    |              |                    | 3                        | 45               |               |              |                         |          | x           | x             |                     |              |                     |                           | x                         | x   | 56            |                  |
| 7/14                    | 1/6-16/6          |                              |                             |                       |             |        |  |                  |                    |              |                    | 2                        |                  |               |              | 236                     | 236      | x           | x             |                     |              |                     |                           | x                         | x   | 57            |                  |
| 8/14                    | 12/7-30/7         |                              |                             |                       |             |        |  |                  |                    |              |                    |                          | 46               |               |              |                         |          | x           | x             |                     |              |                     |                           | x                         | x   | 58            |                  |
| 9/14                    | 2/8-19/8          |                              | 87                          |                       |             |        |  |                  |                    |              |                    | 32                       |                  |               |              |                         |          | x           | x             |                     |              |                     |                           | x                         | x   | 59-60         |                  |
| 10/14                   | 22/8- 4/9         |                              | 68                          |                       |             |        |  |                  |                    |              |                    | 67                       |                  |               |              |                         |          | x           | x             |                     |              |                     |                           | x                         | x   | 61            |                  |
| 11/14                   | 6/9- 1/10         |                              | 118                         |                       |             |        |  |                  |                    |              |                    | 5                        | 75               |               |              |                         |          | x           | x             |                     |              |                     |                           | x                         | x   | 62-63         |                  |
| 12/14                   | 3/10-21/10        |                              | 97                          |                       |             |        |  |                  |                    |              |                    | 4                        | 92               |               |              |                         |          | x           | x             |                     |              |                     |                           | x                         | x   | 64-65         |                  |
| 13/14                   | 31/10-25/11       |                              | 57                          |                       |             |        |  |                  |                    |              |                    | 5                        | 36               |               |              |                         |          | x           | x             |                     |              |                     |                           | x                         | x   | 66-67         |                  |
| 14/14                   | 30/11-20/12       |                              | 148                         |                       |             |        |  |                  |                    |              |                    | 32                       |                  |               |              |                         |          | x           | x             |                     |              |                     |                           | x                         | x   | 68-69         |                  |







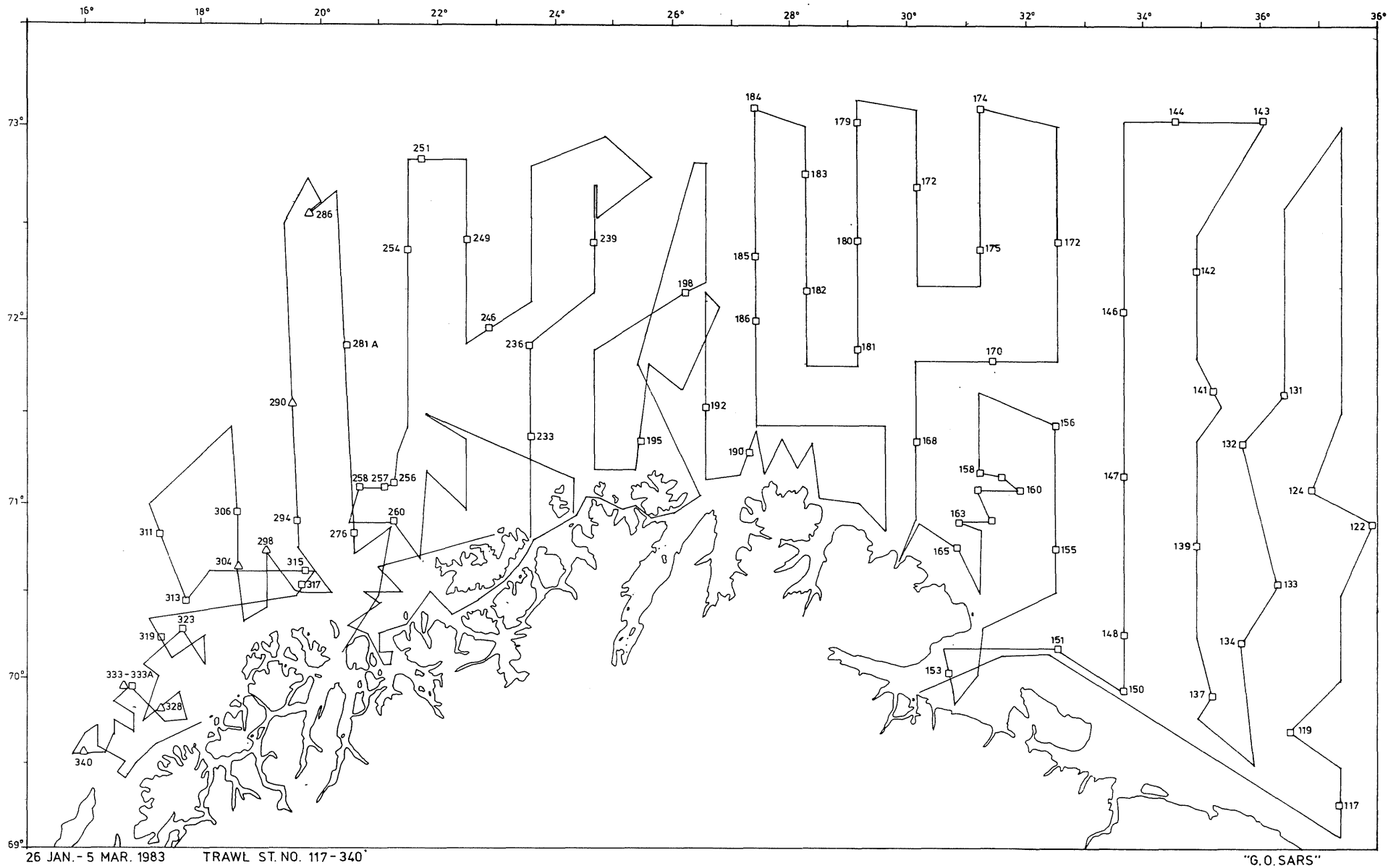


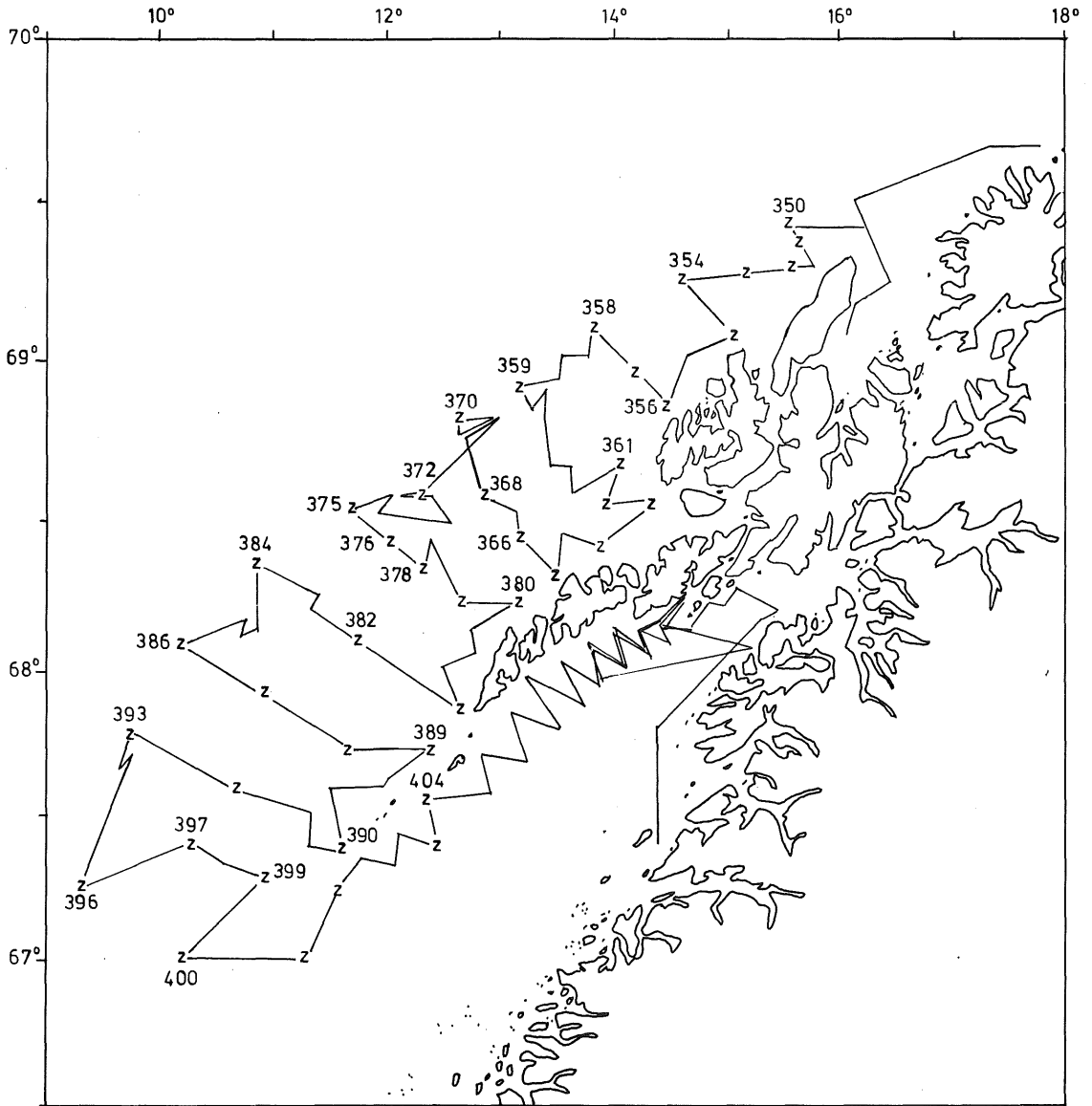


26 JAN. - 5 MAR. 1983 ST. NO. 116 - 349

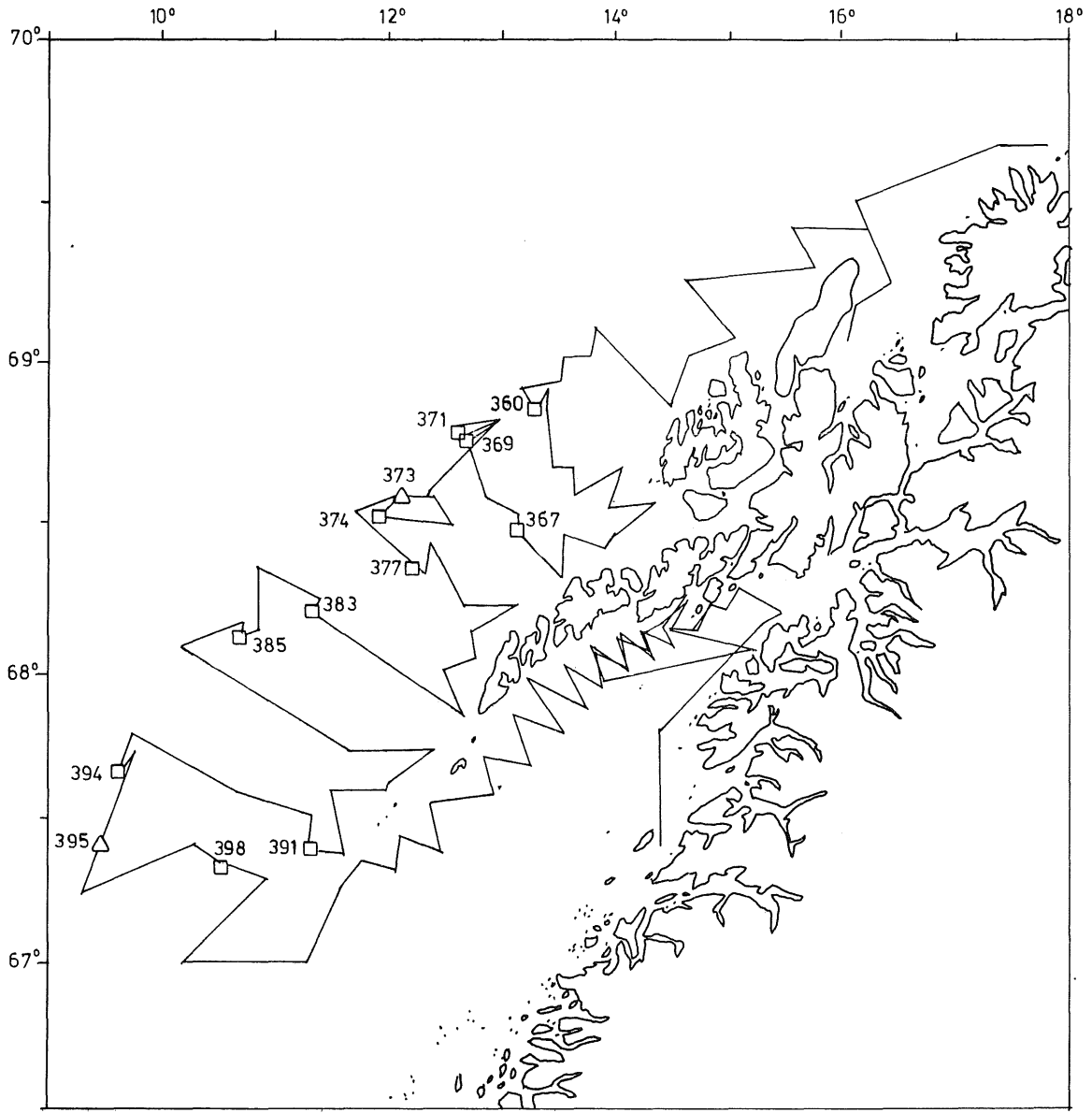
"G. O. SARS"

6



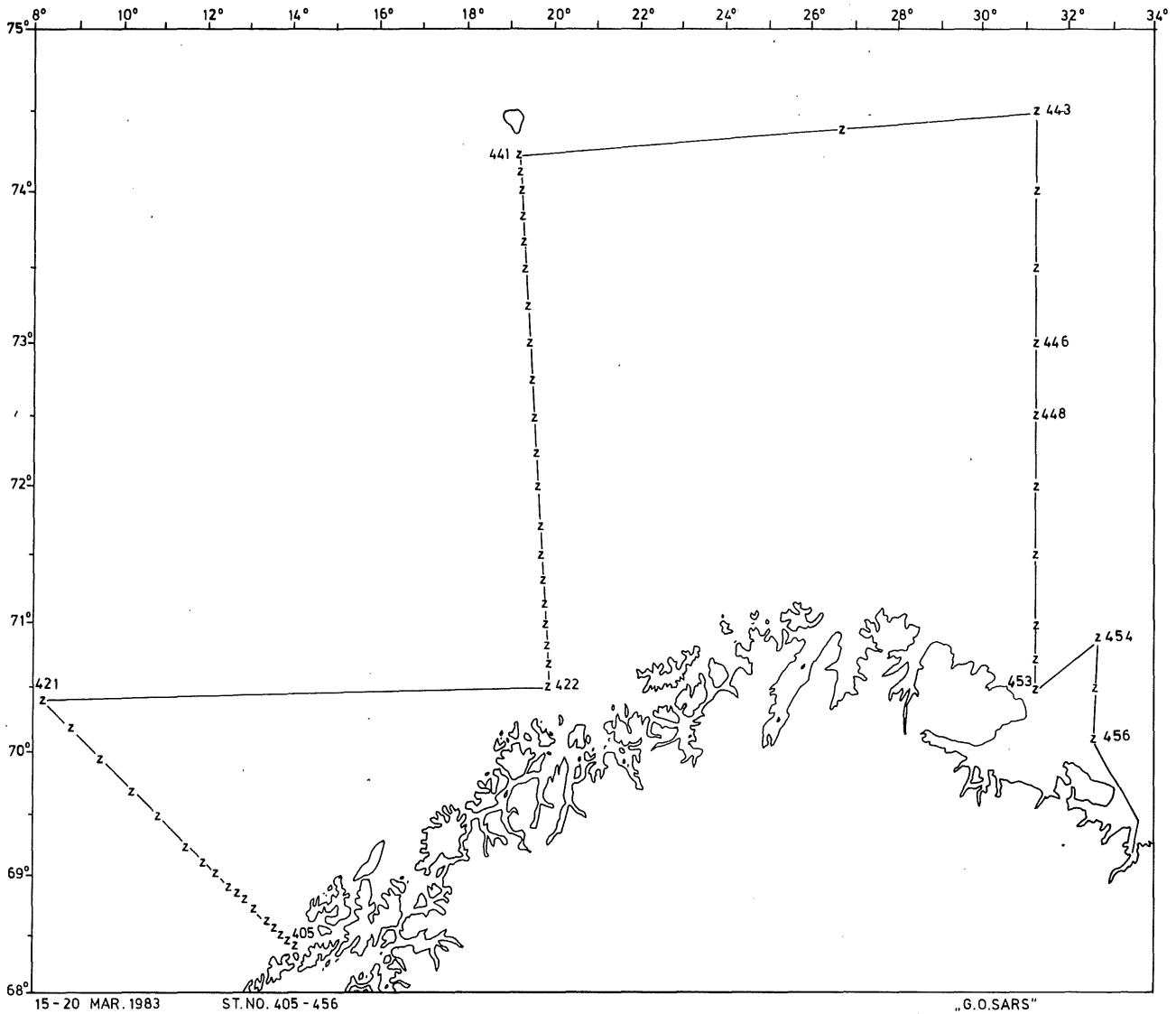


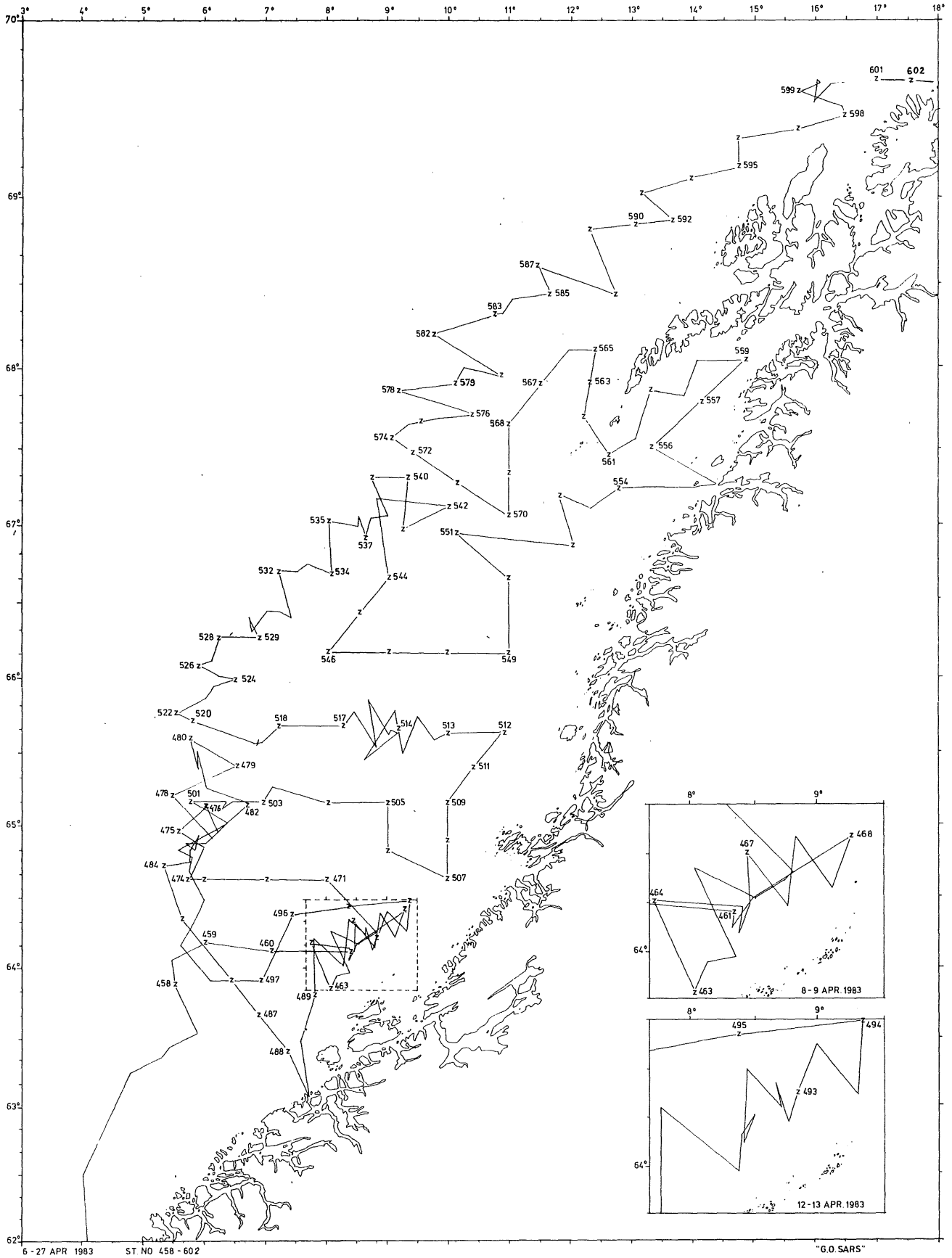
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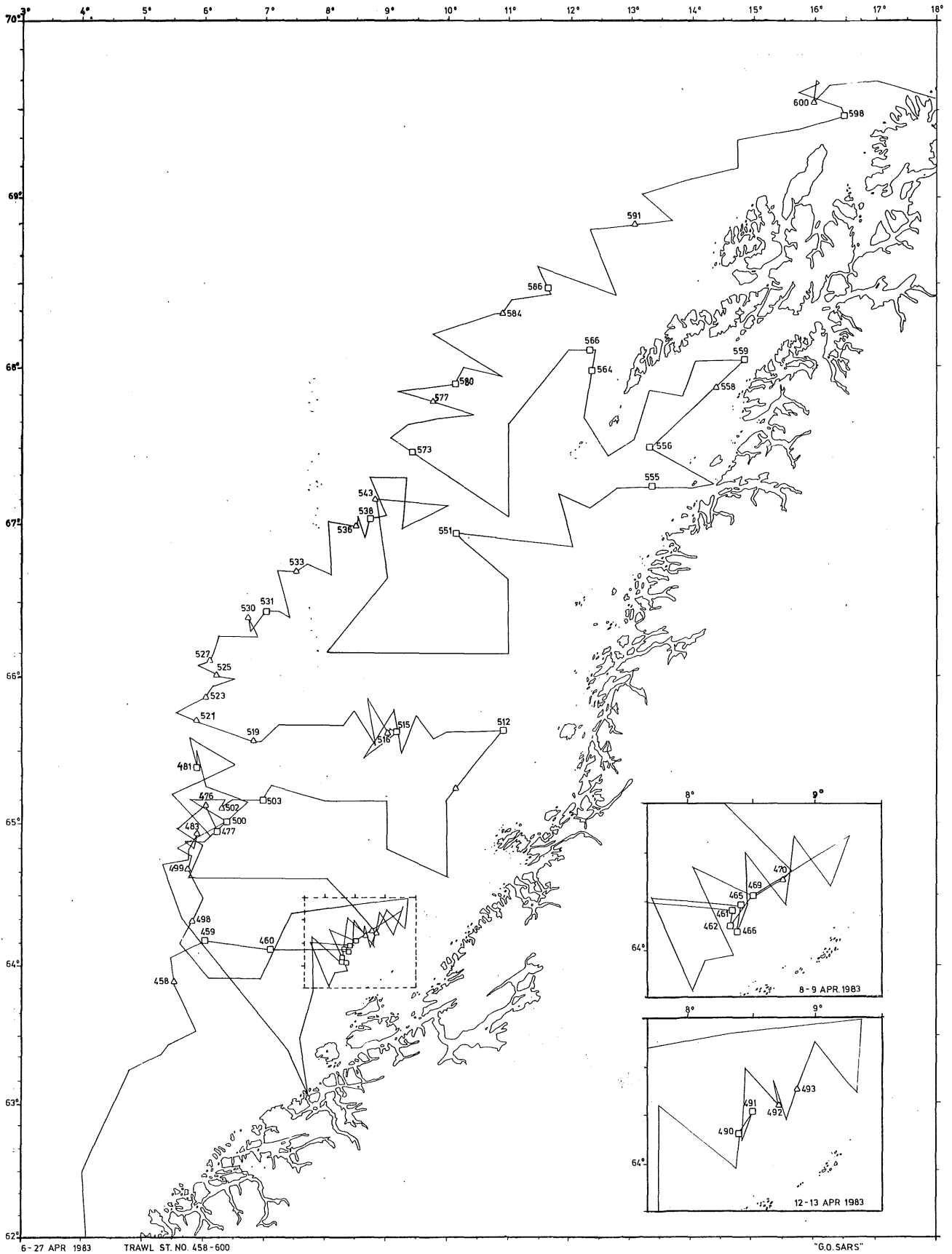


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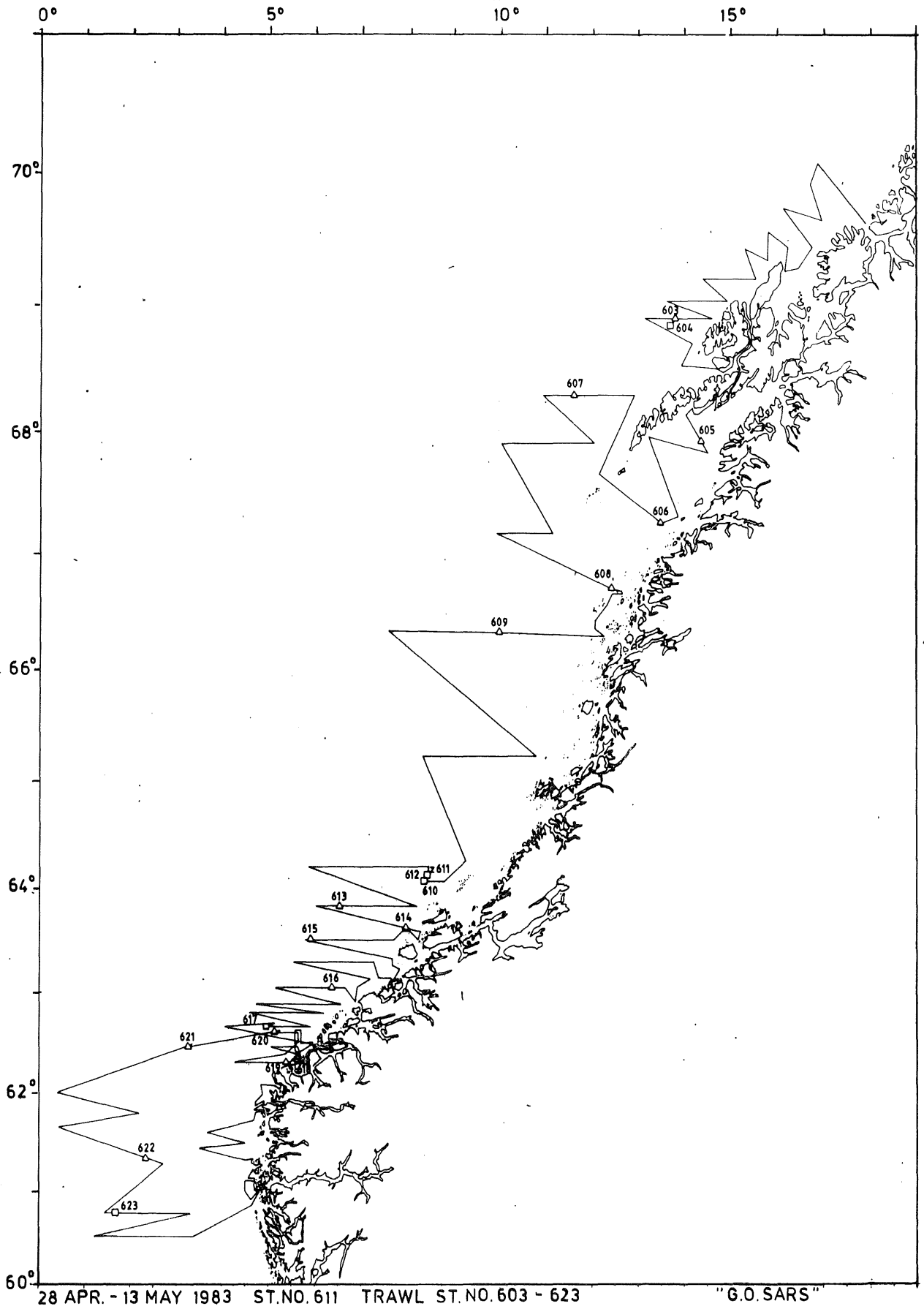
"G.O. SARS"





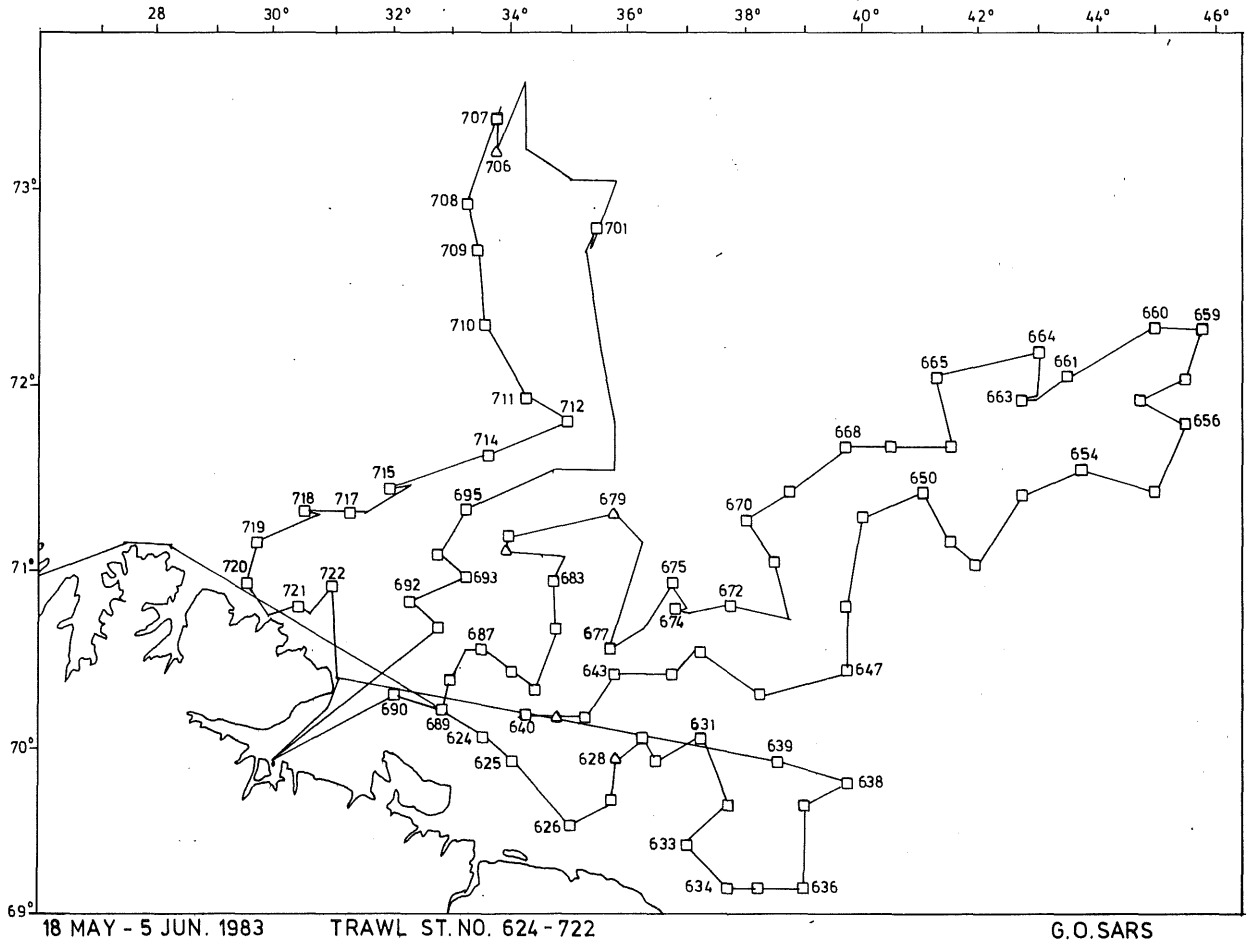
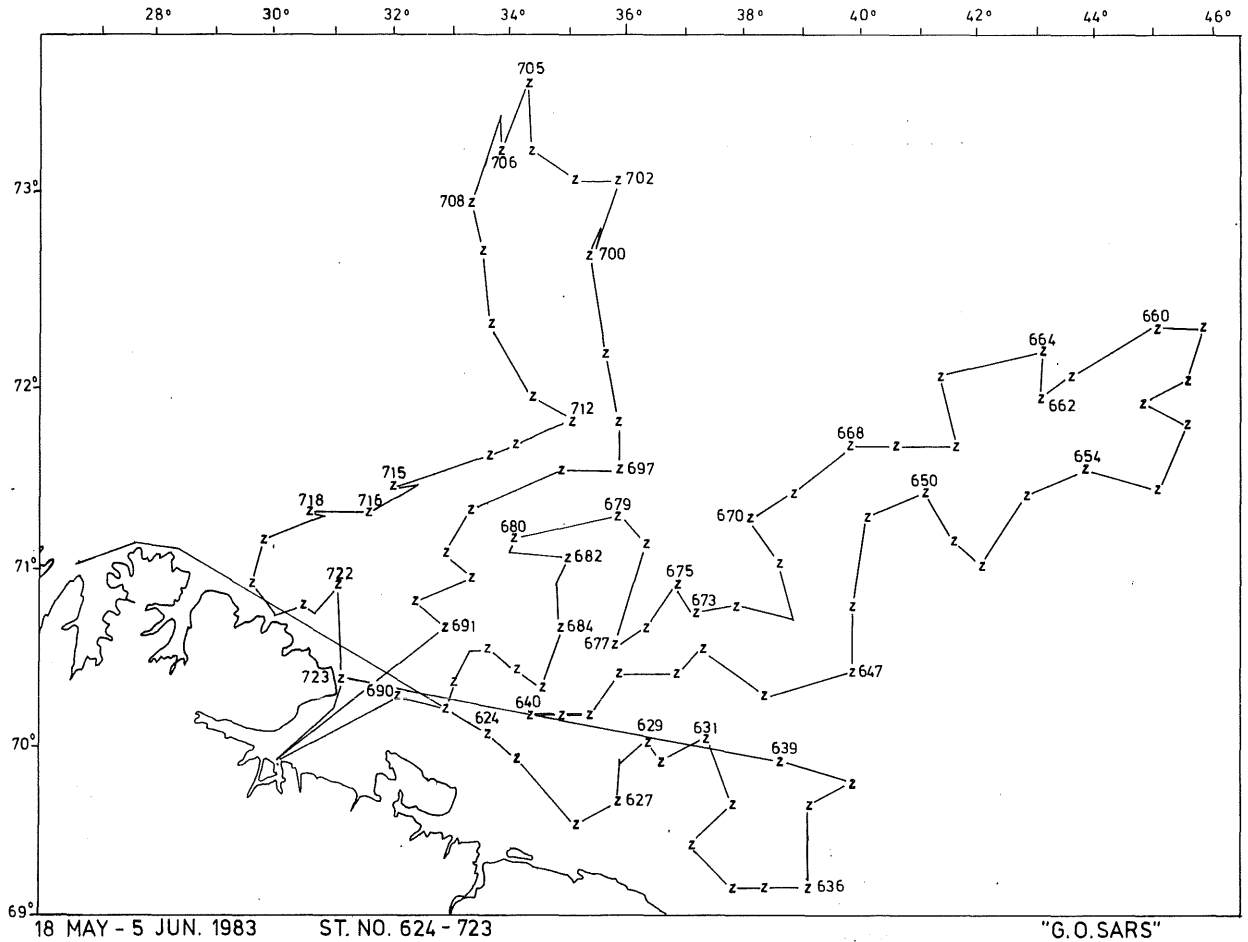


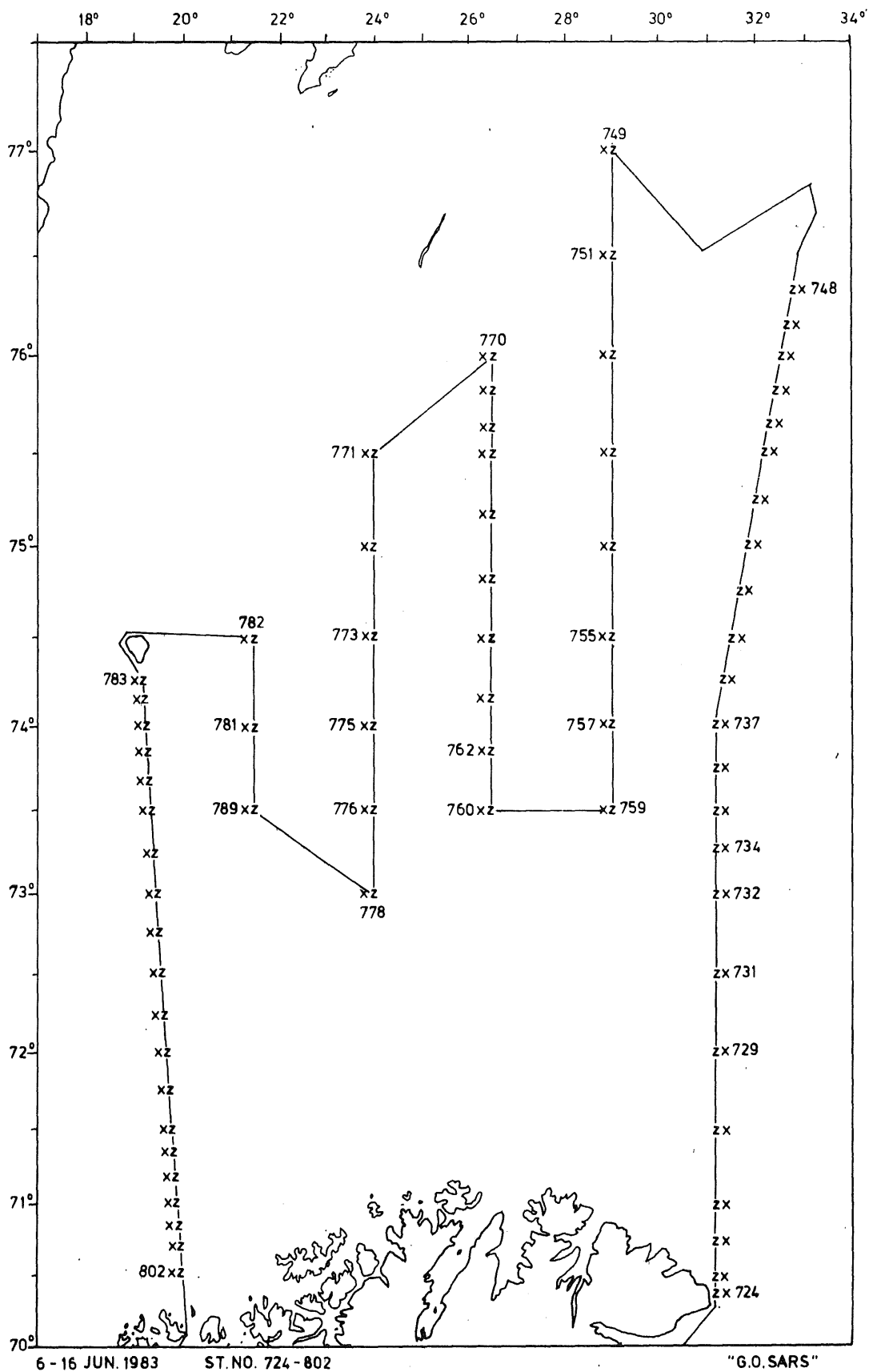


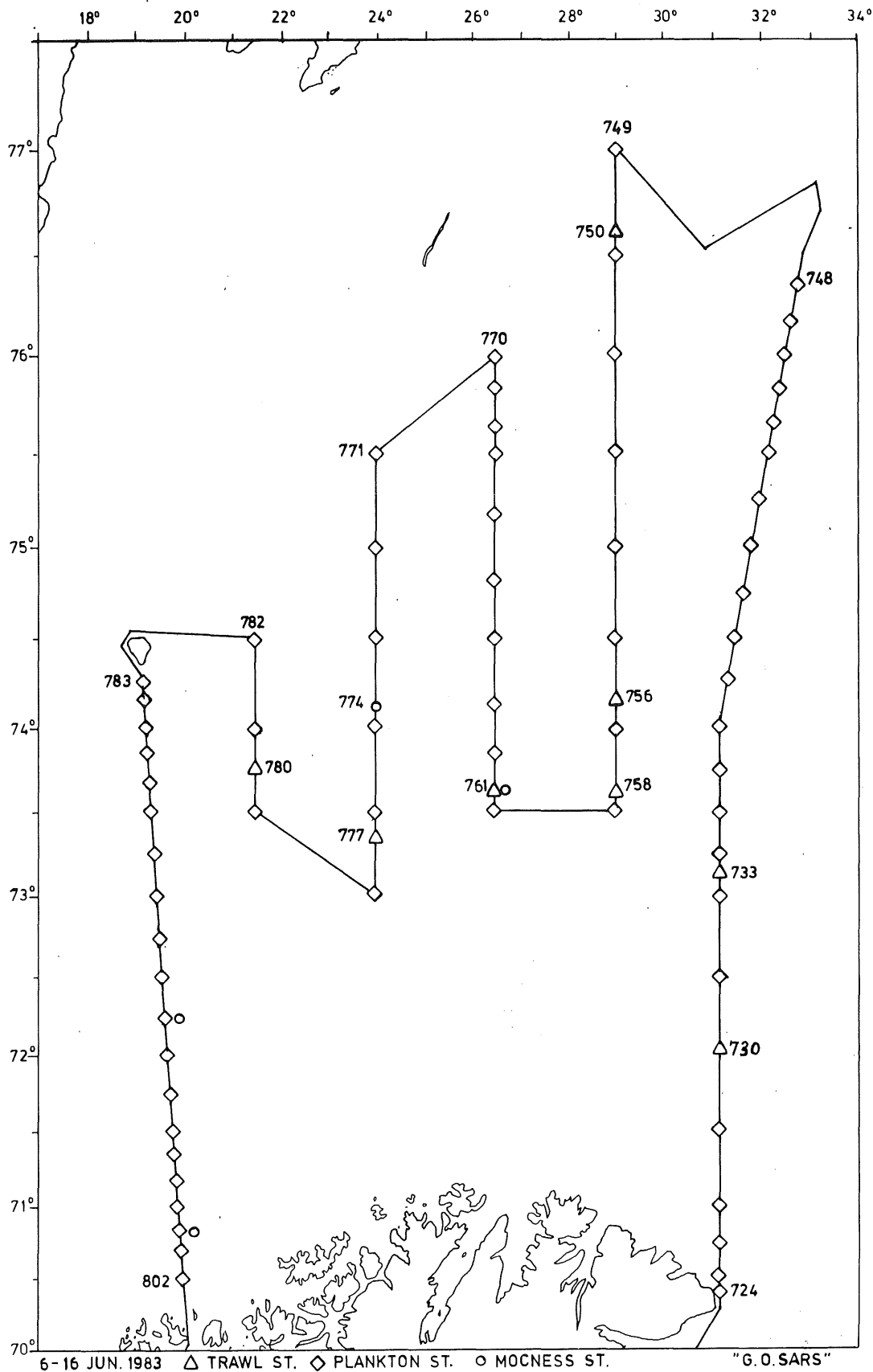


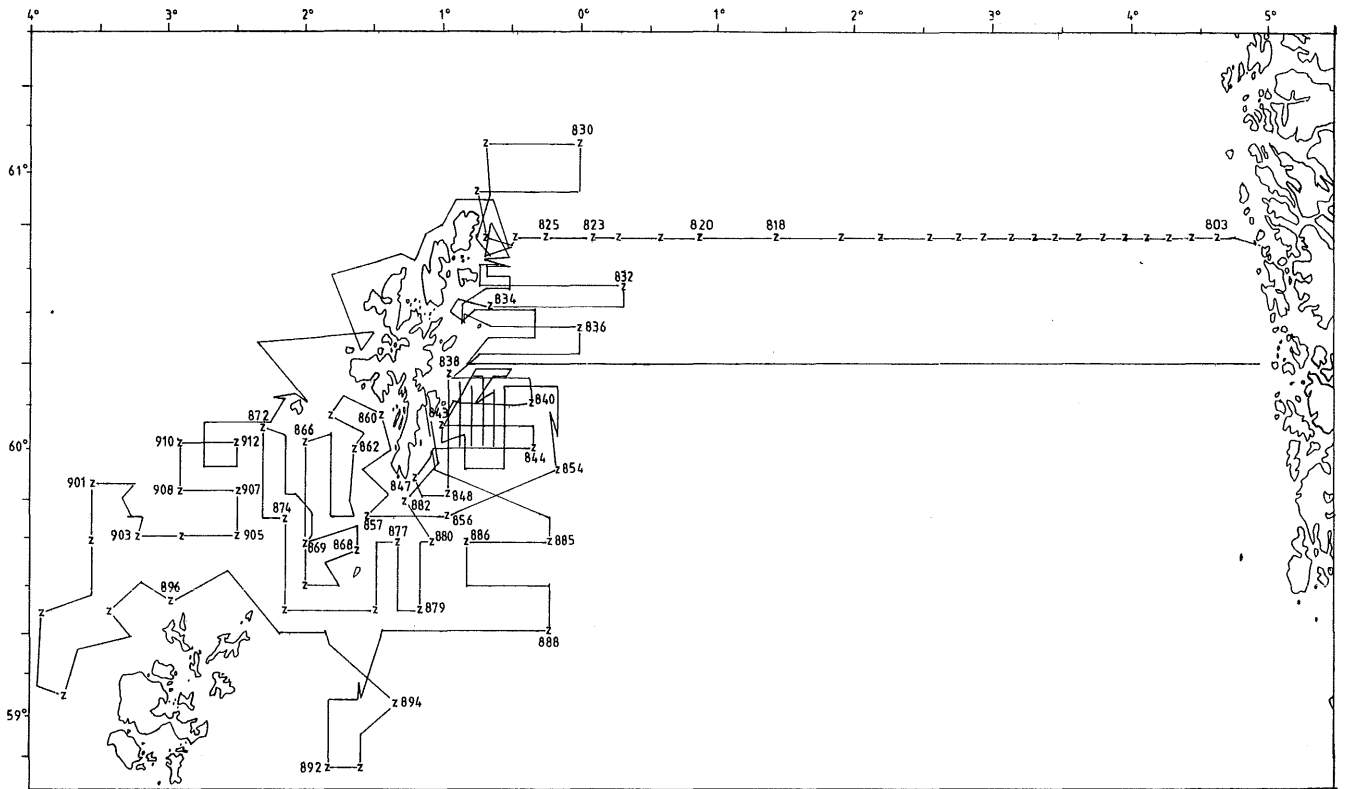
28 APR. - 13 MAY 1983 ST.NO. 611 TRAWL ST.NO. 603 - 623

"G.O. SARS"



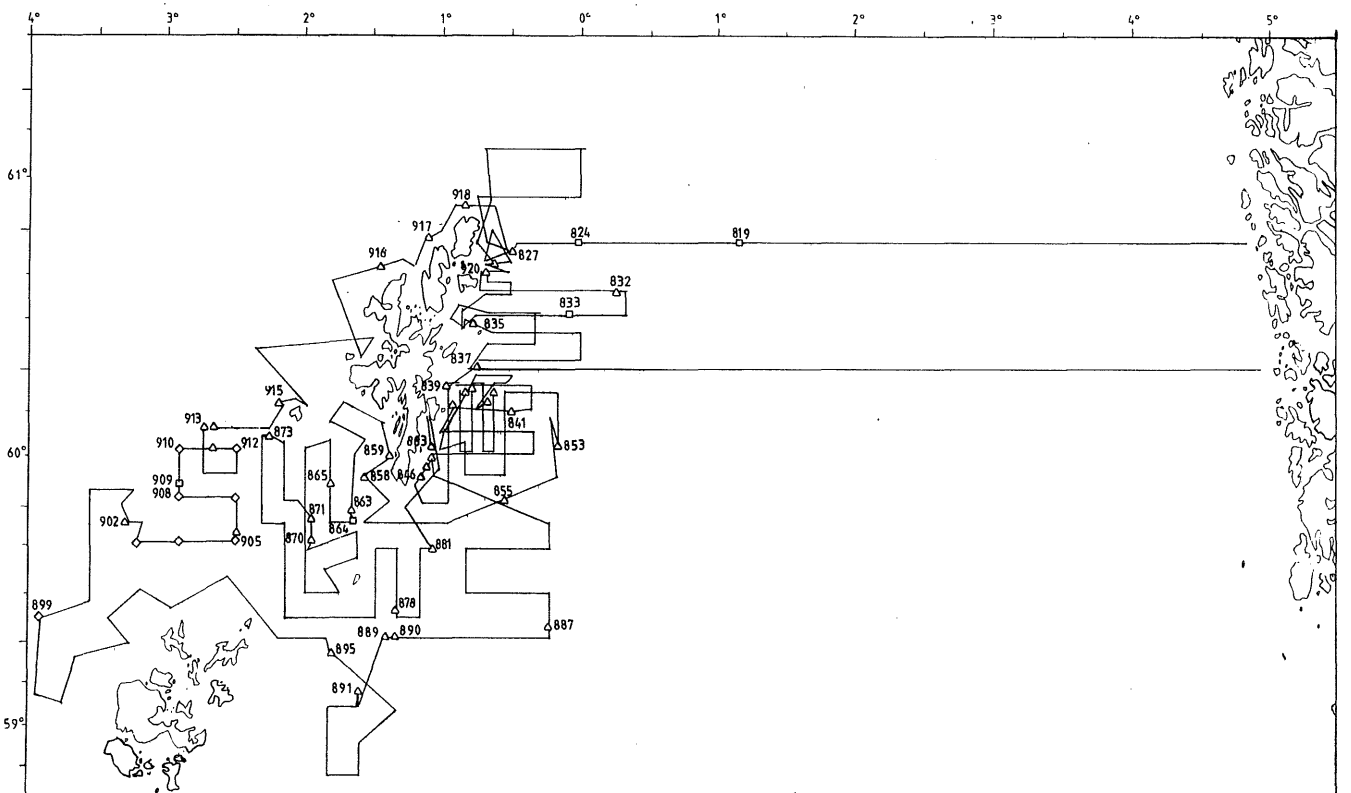






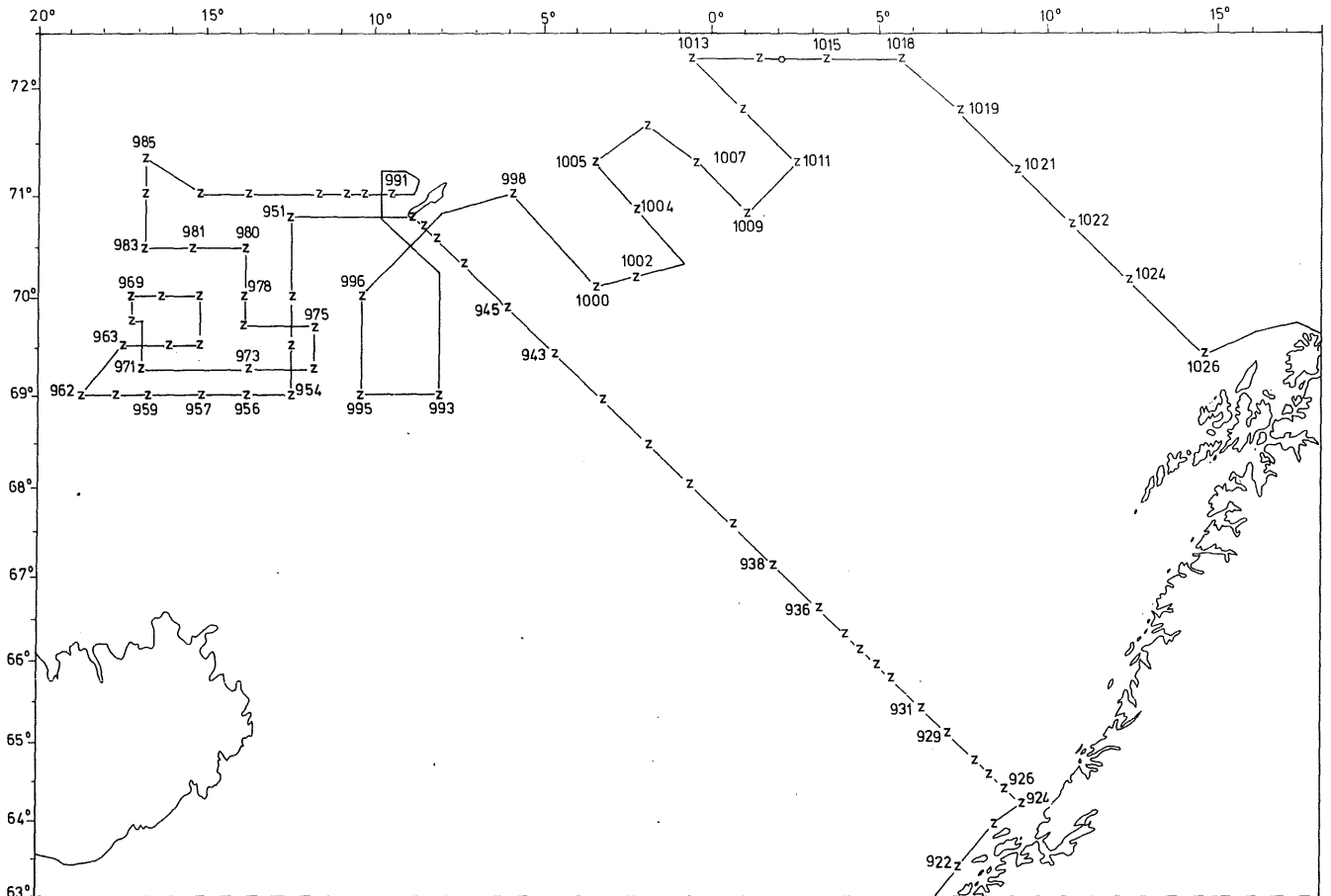
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"G.O. SARS"



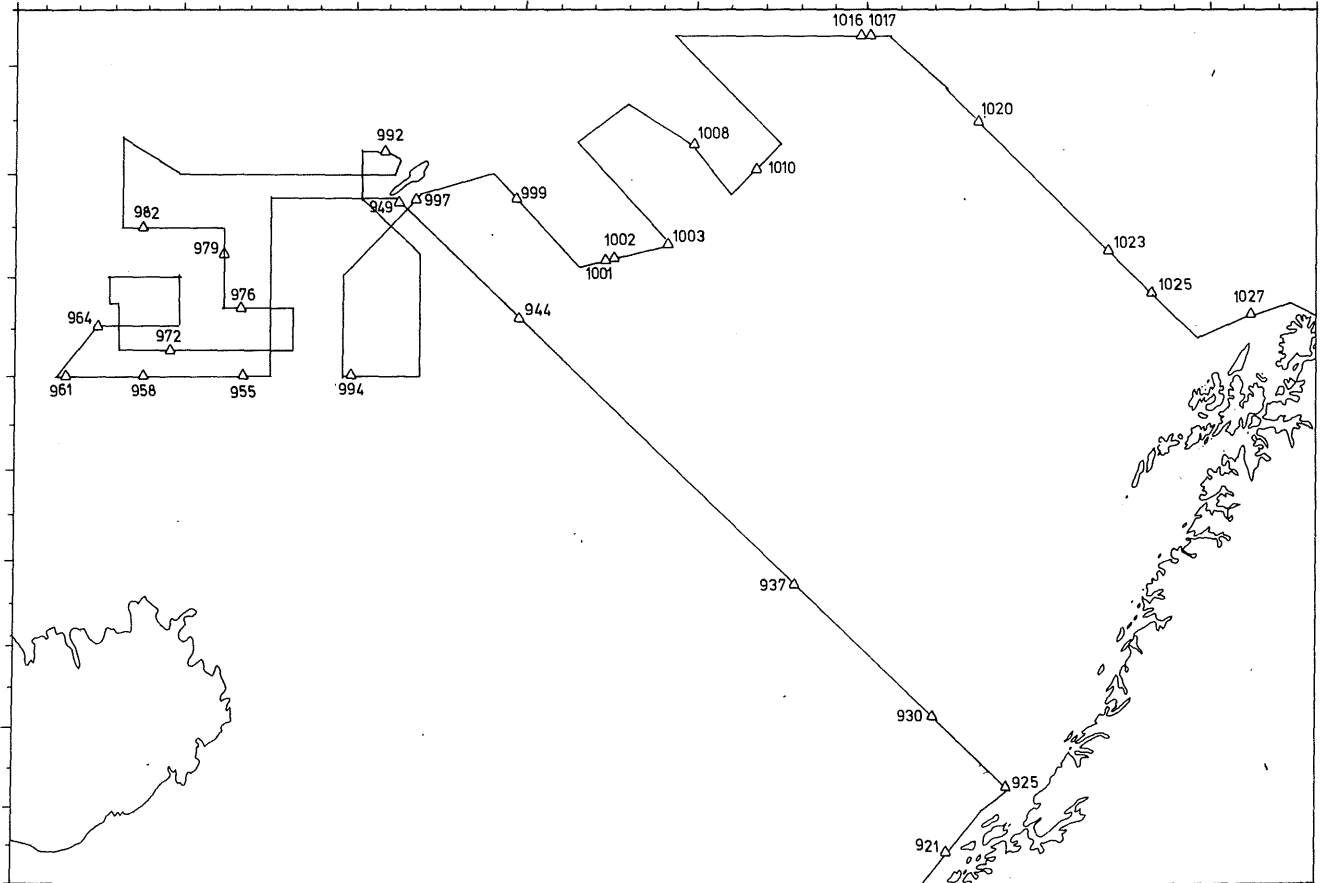
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"G.O. SARS"



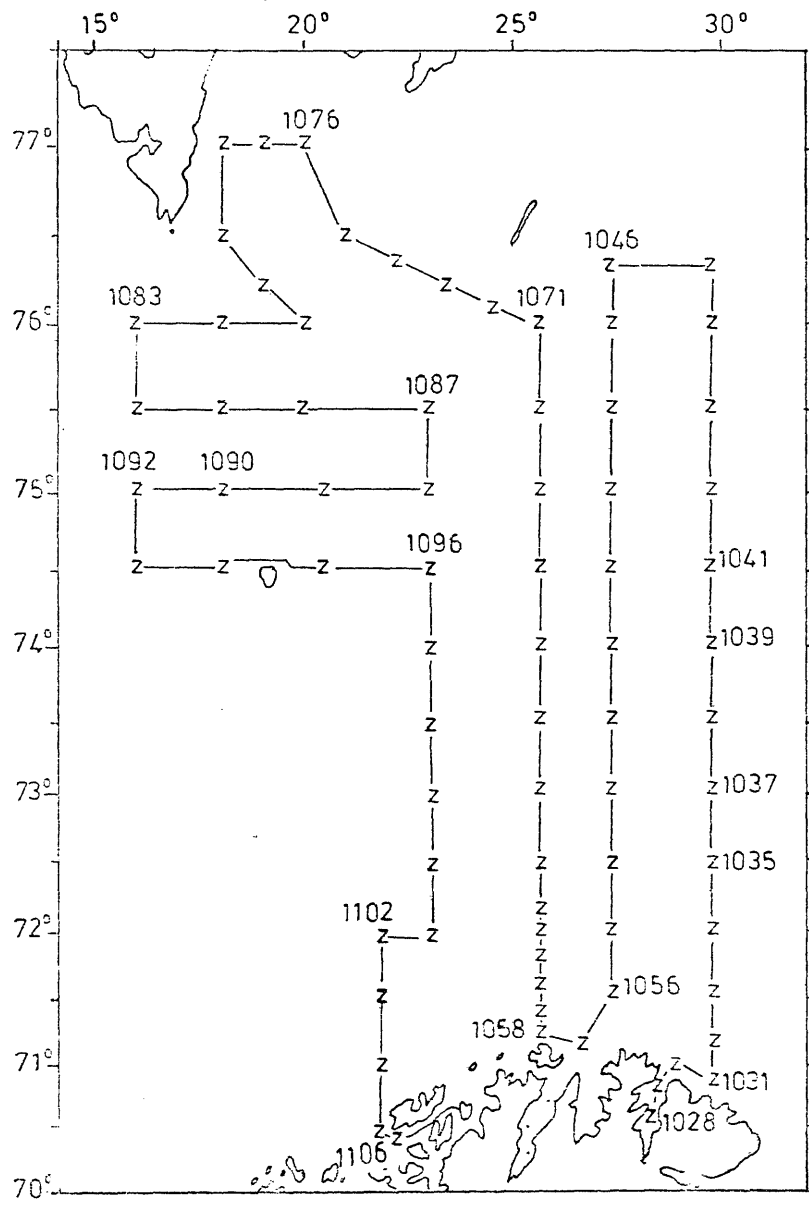
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"G. O. SARS"

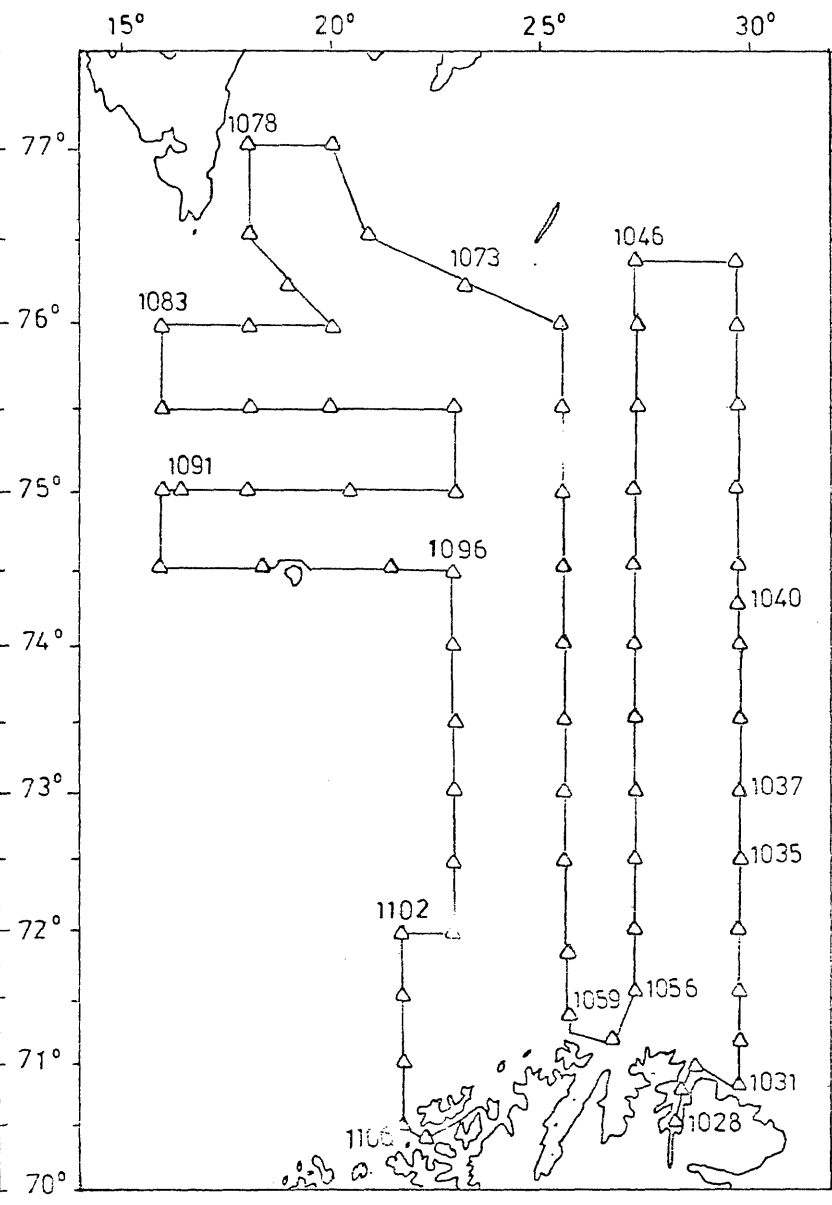


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"G. O. SARS"

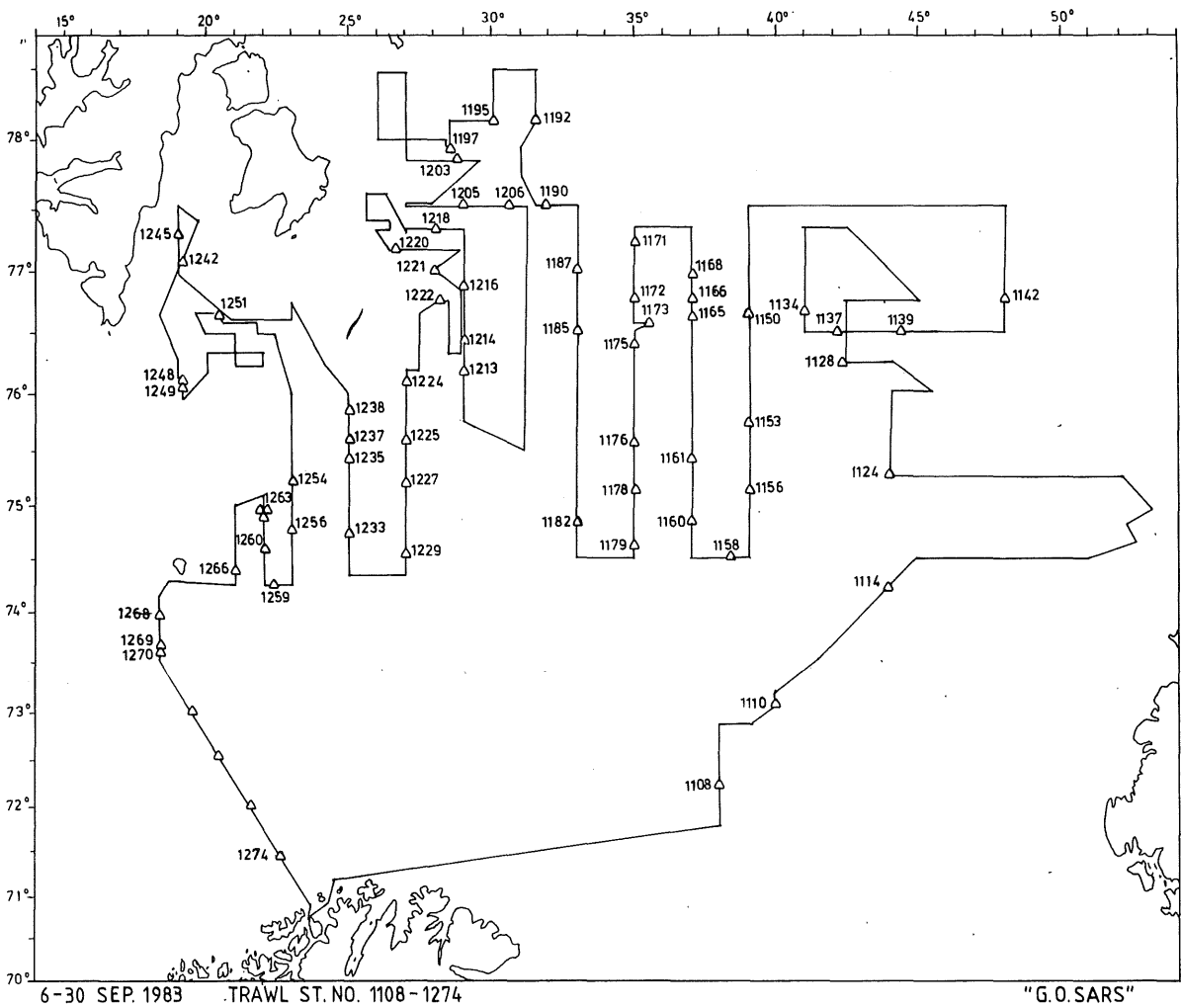
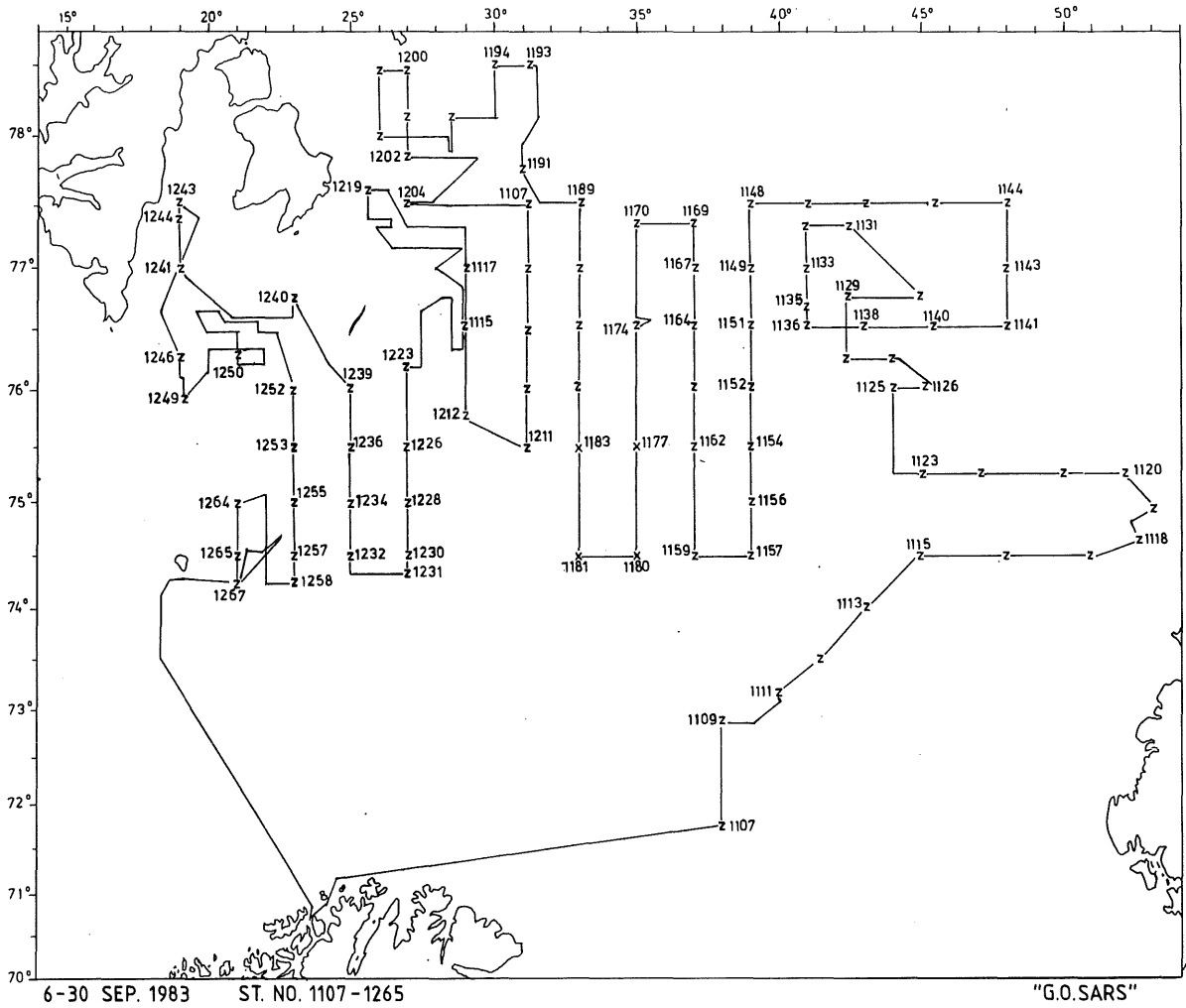


22 AUG. - 5 SEP. 1983 ST. NO. 1028 - 1106

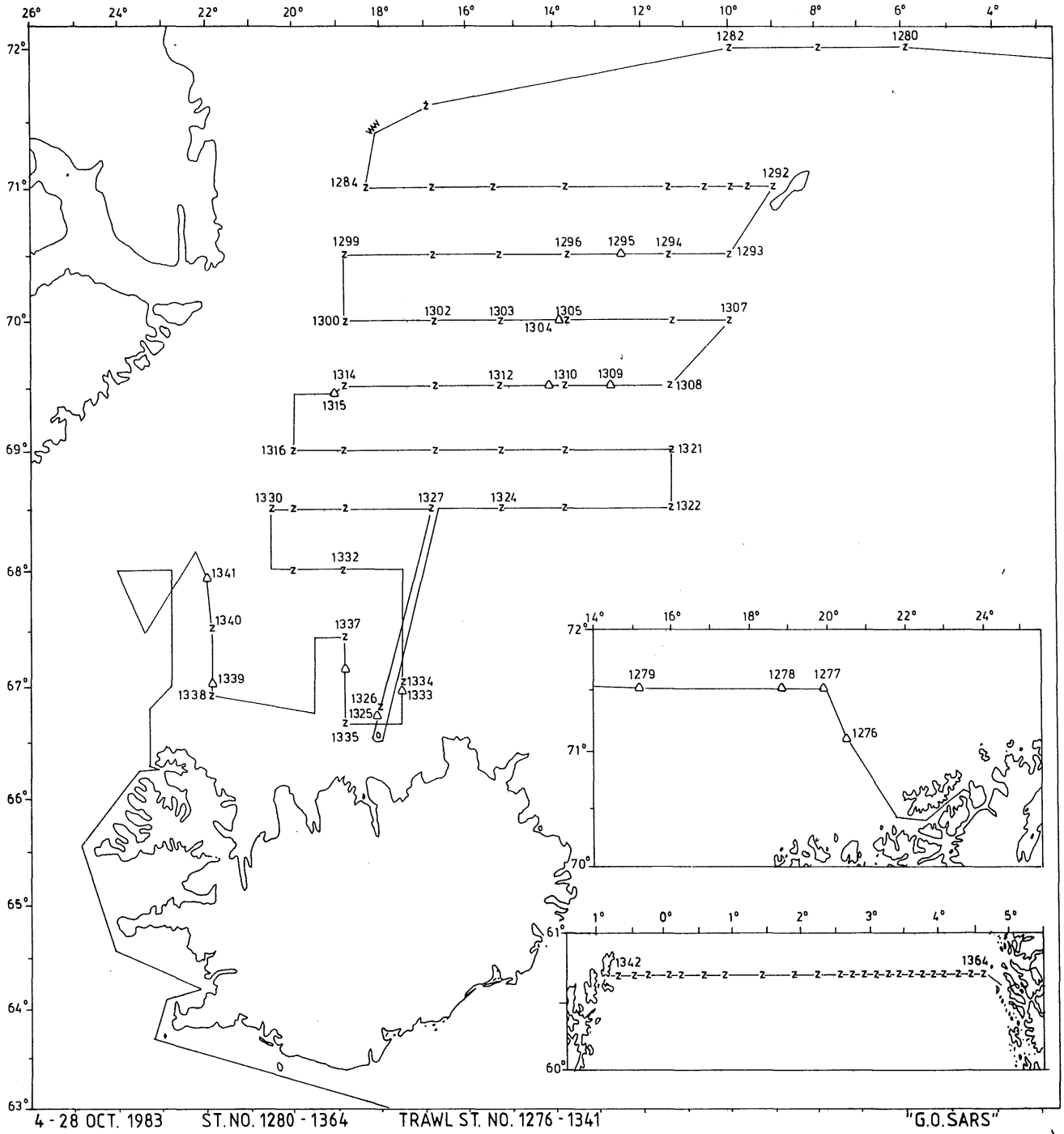


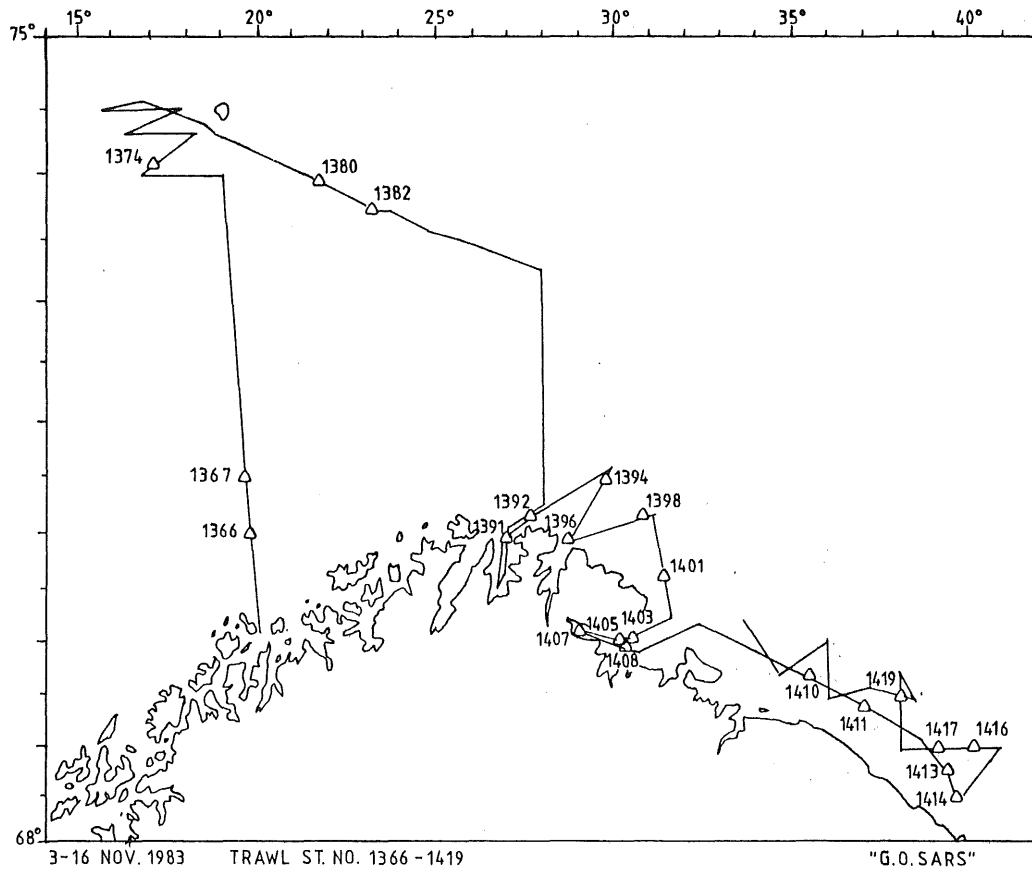
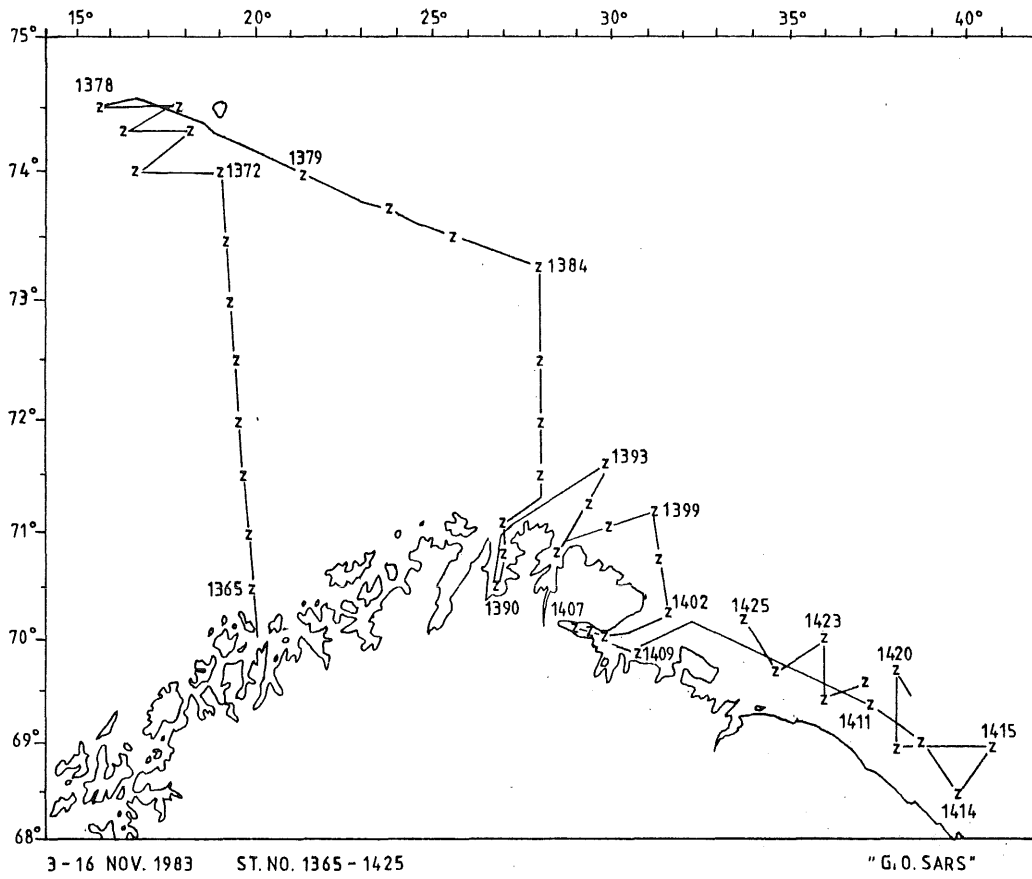
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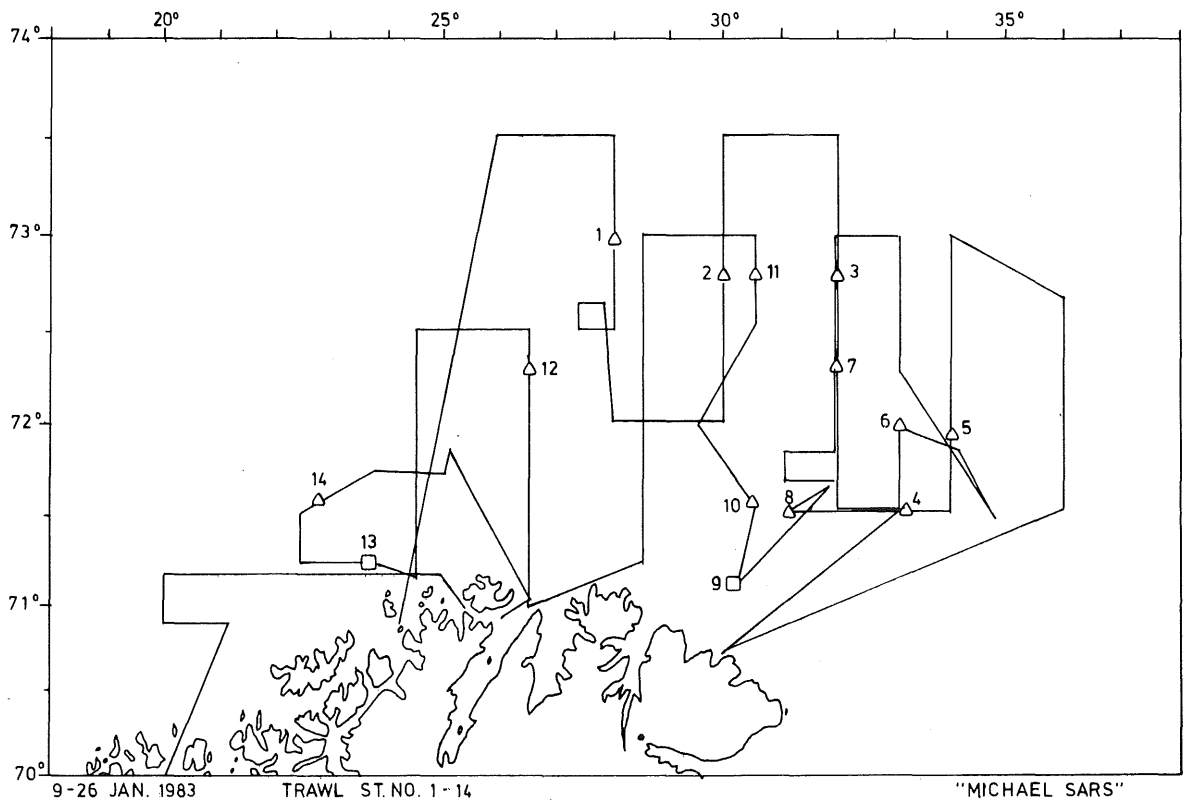
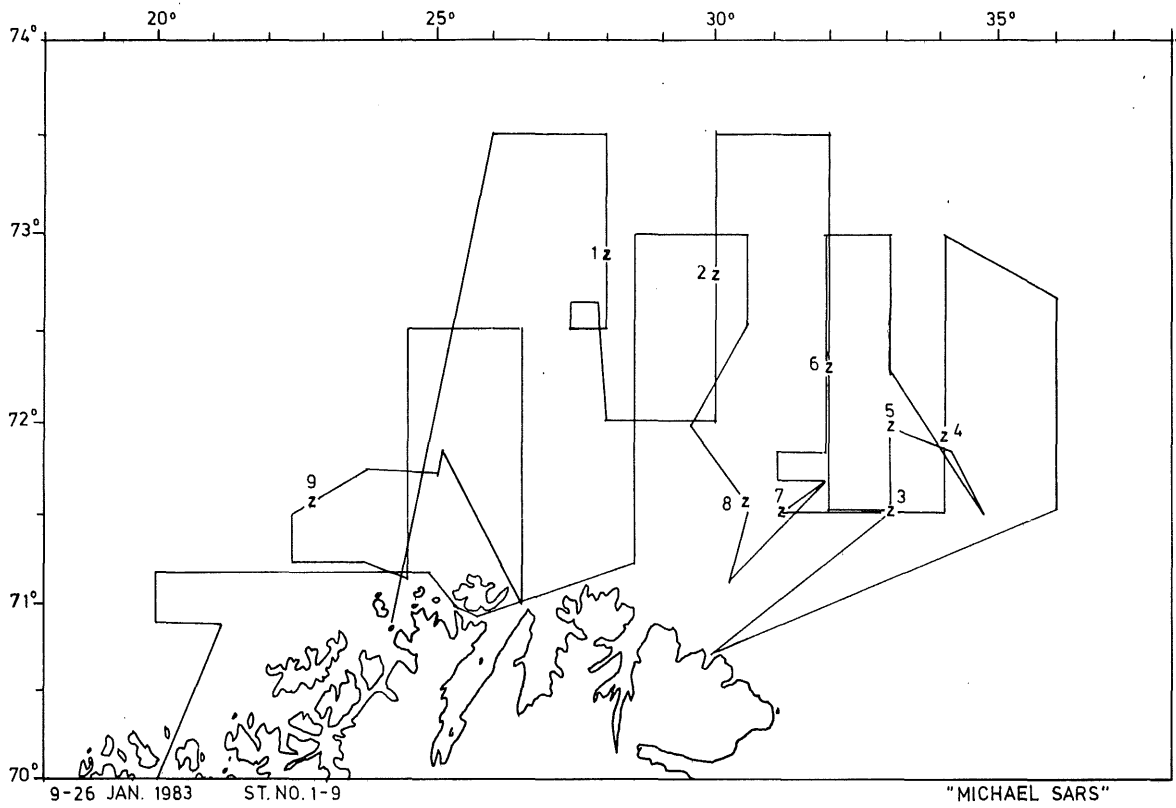
"G. O. SARS"

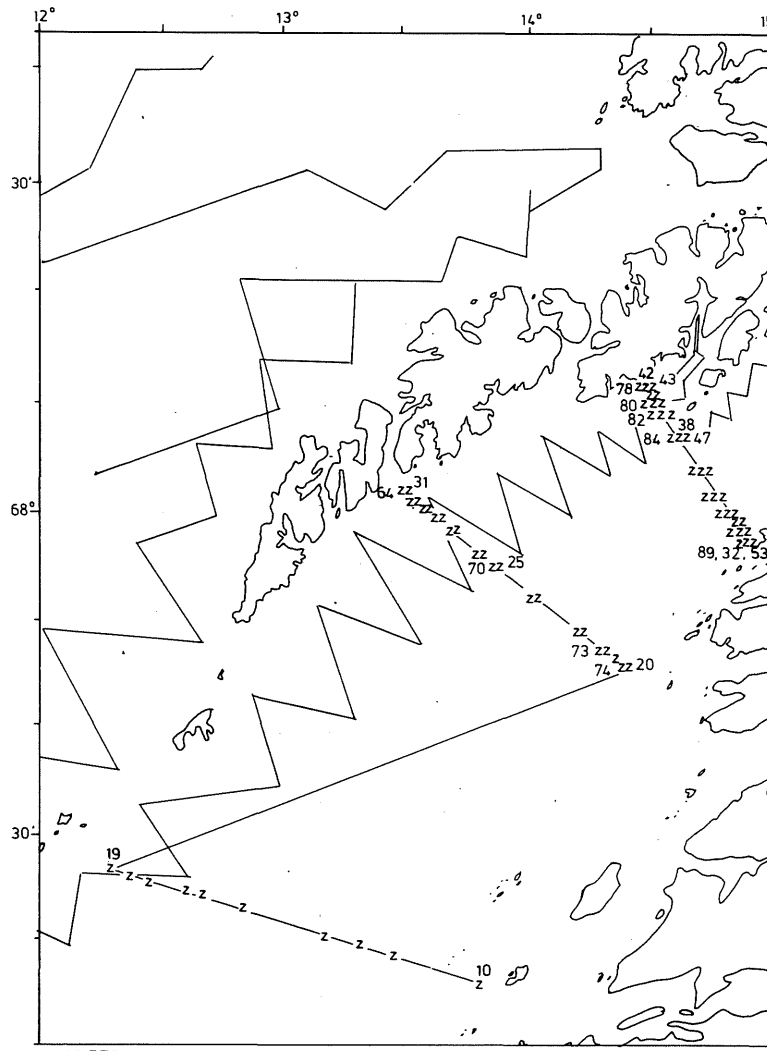






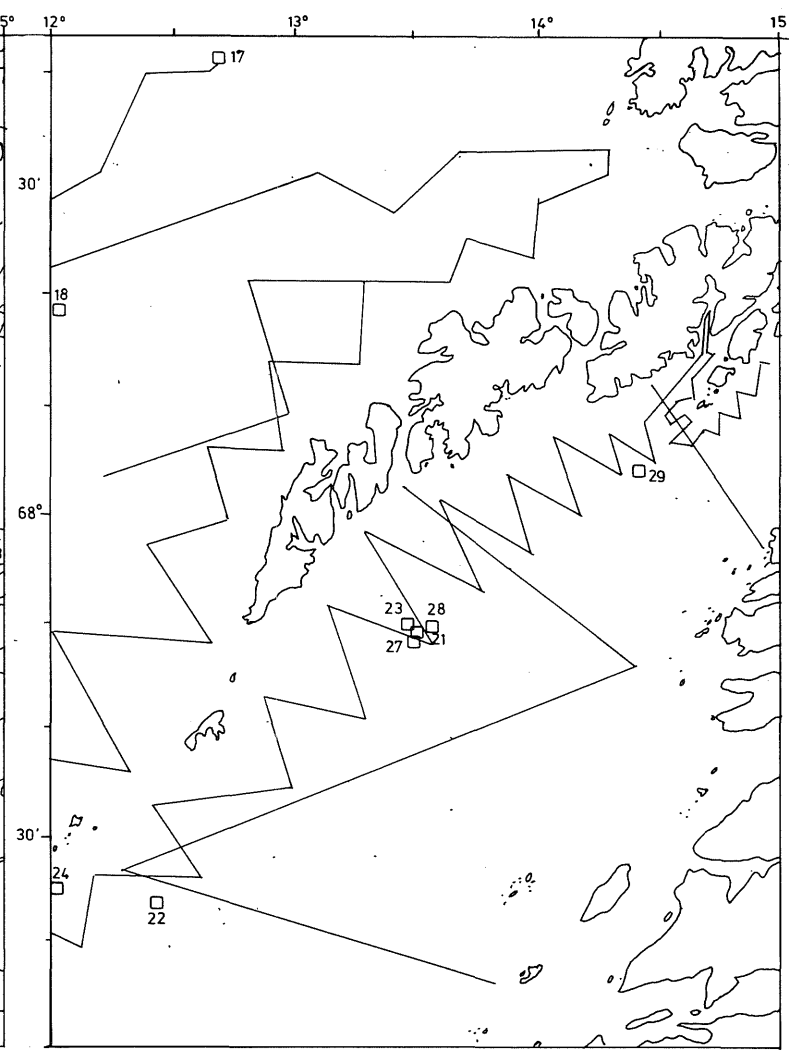






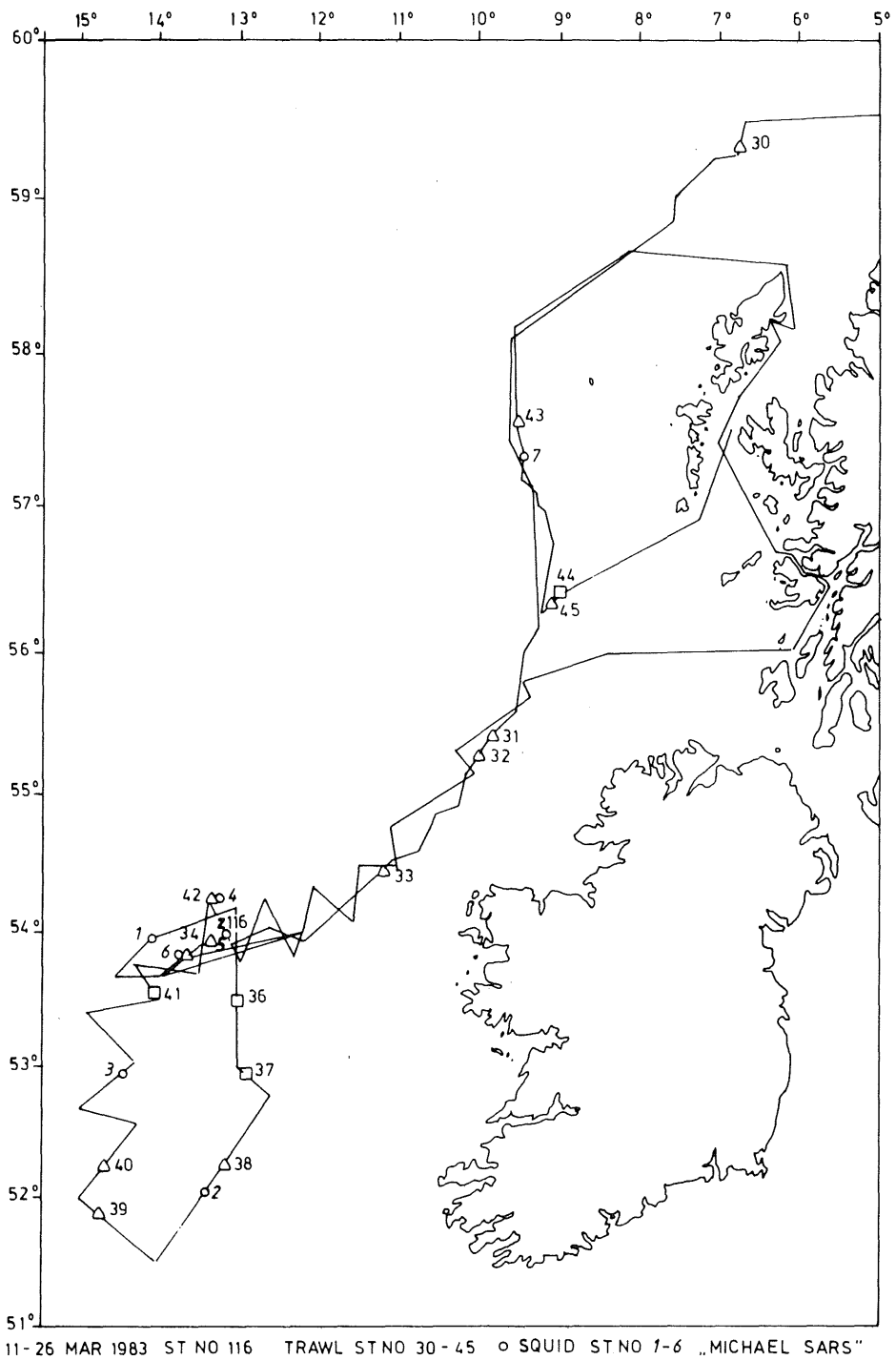
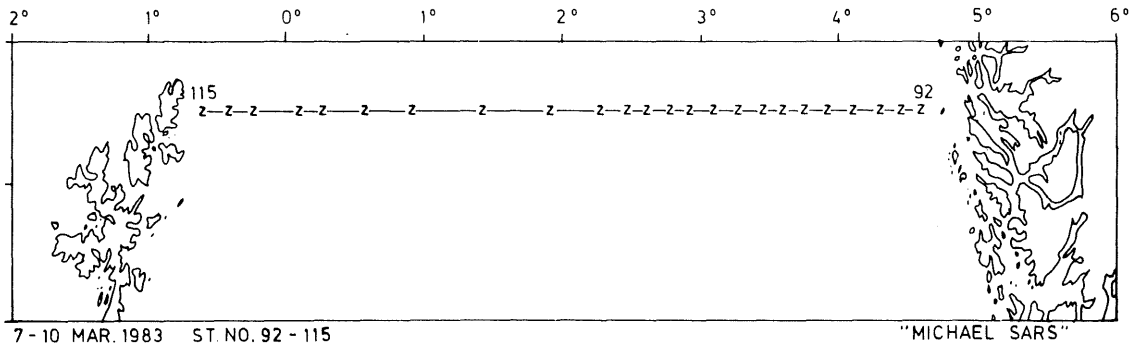
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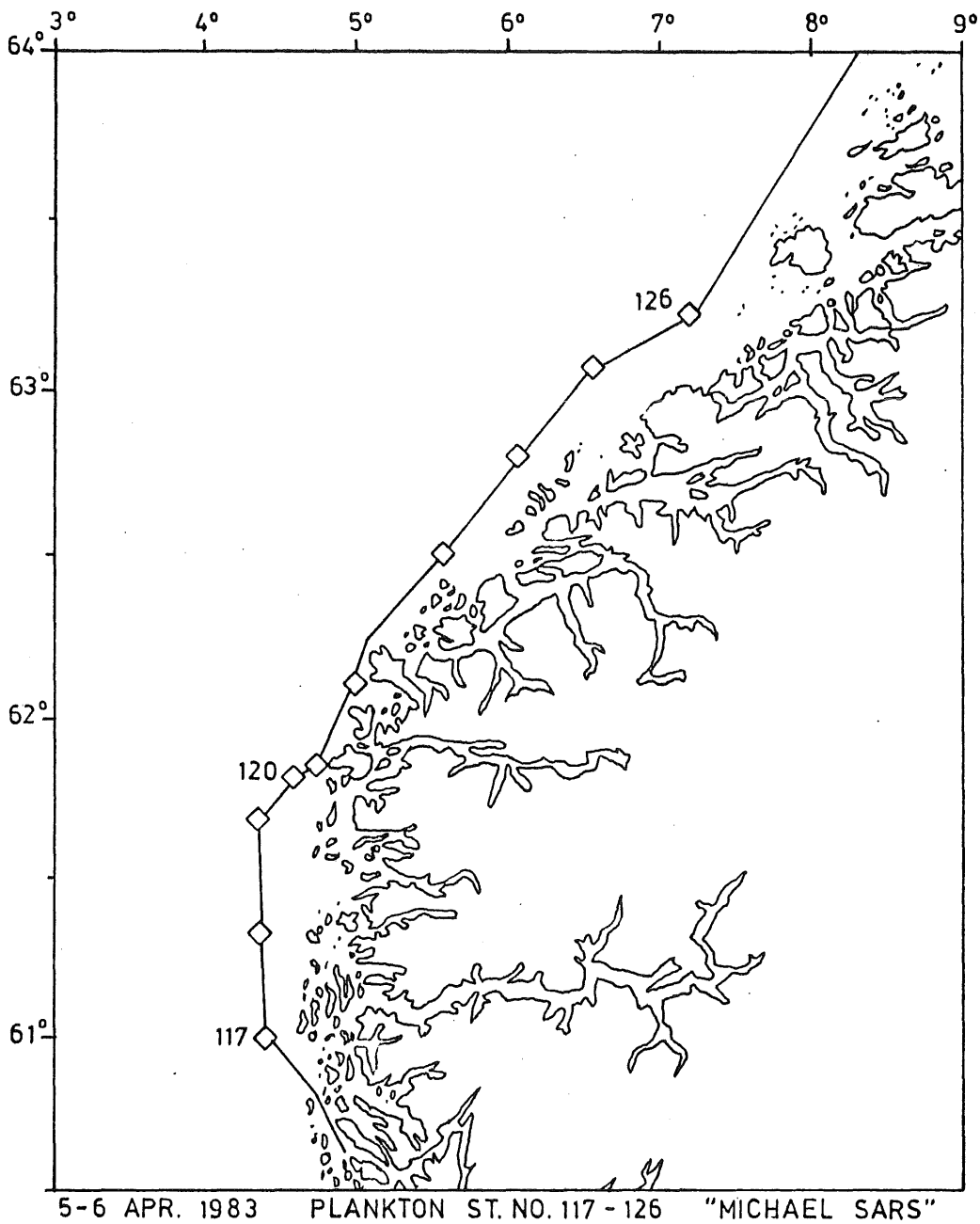
"MICHAEL SARS"

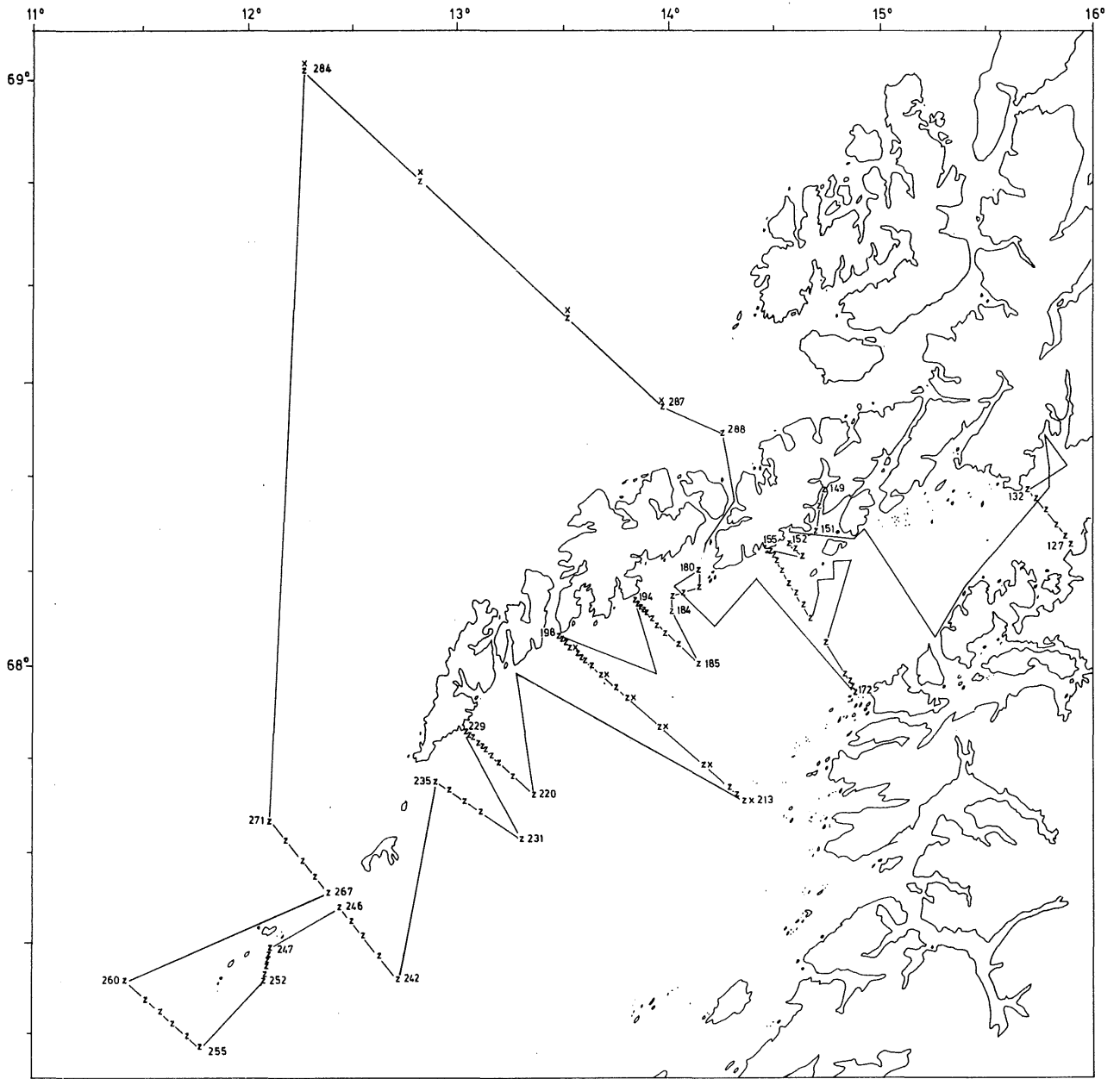


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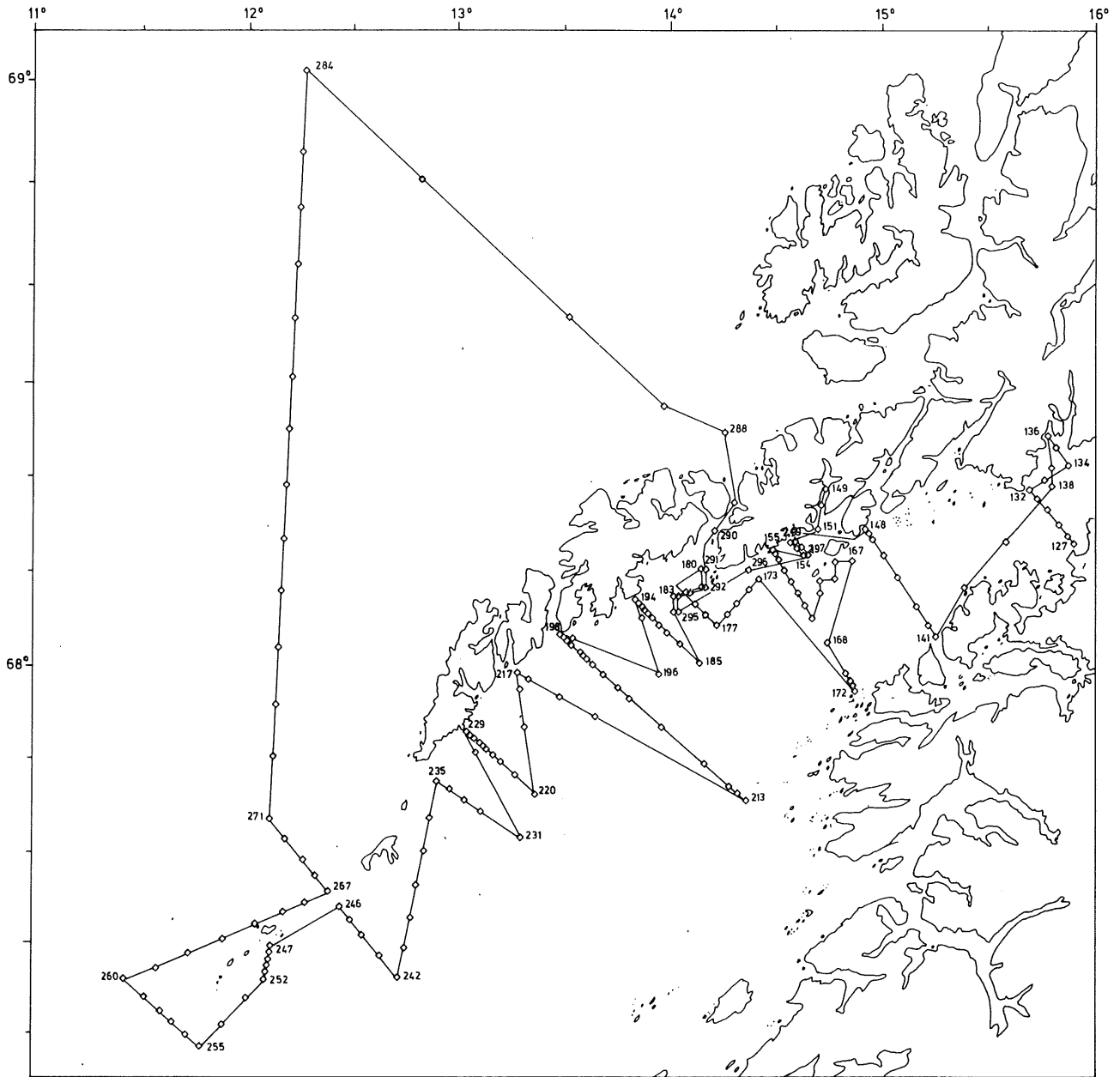






8 - 10 APR. 1983 ST. NO. 127 - 288

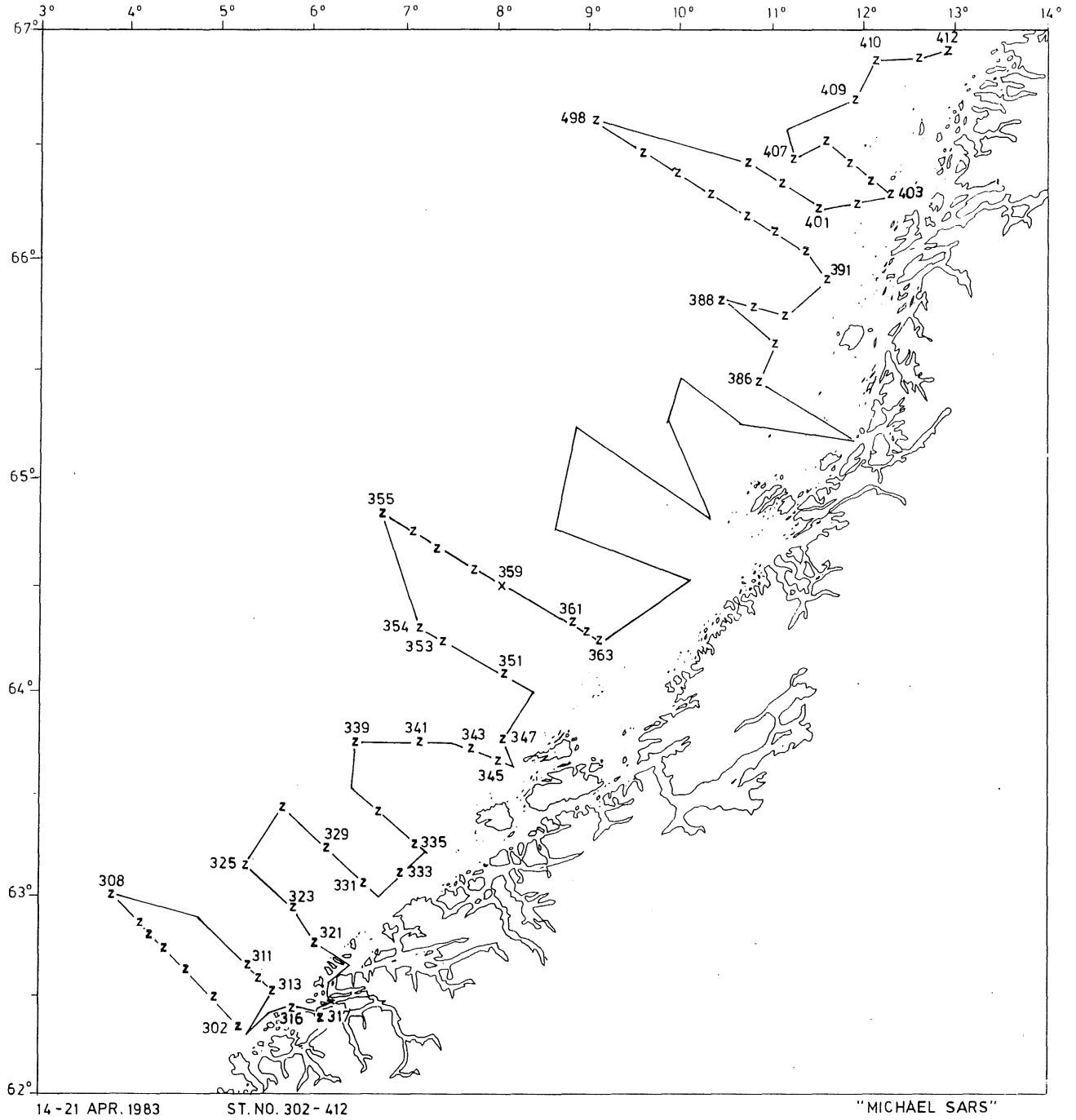
"MICHAEL SARS"

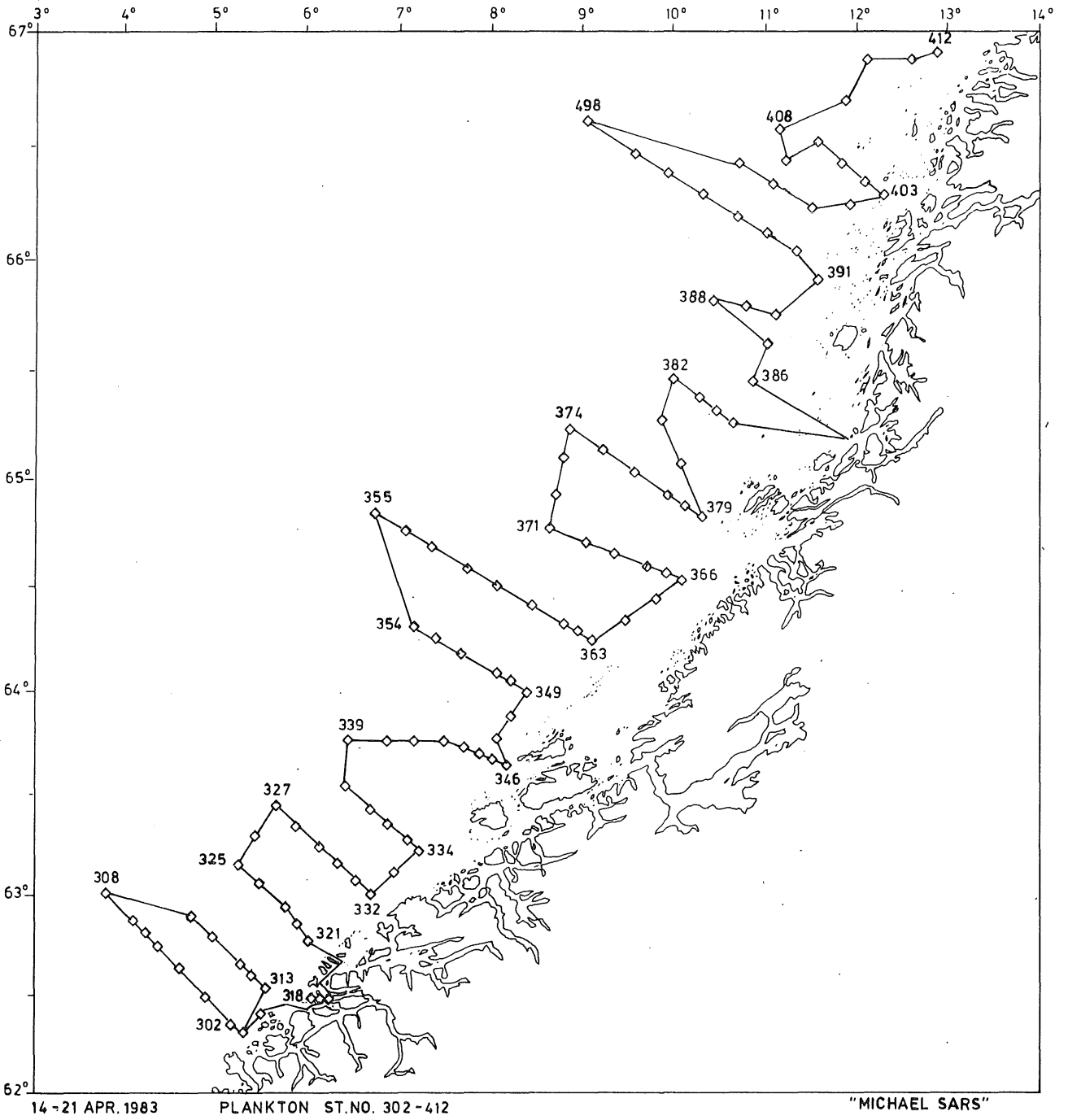


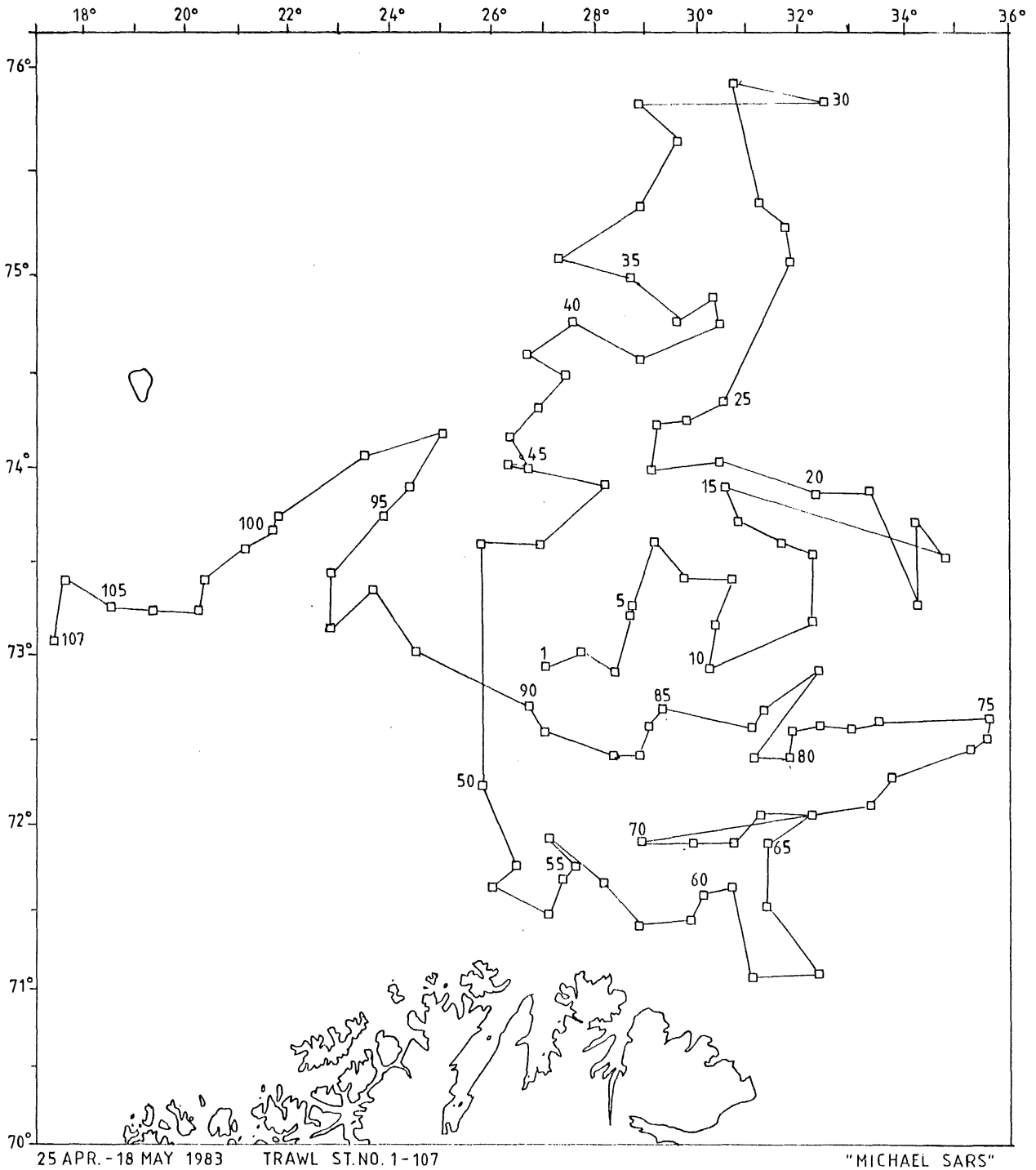
8 -10 APR. 1983 PLANKTON ST.NO. 127 - 299

"MICHAEL SARS"



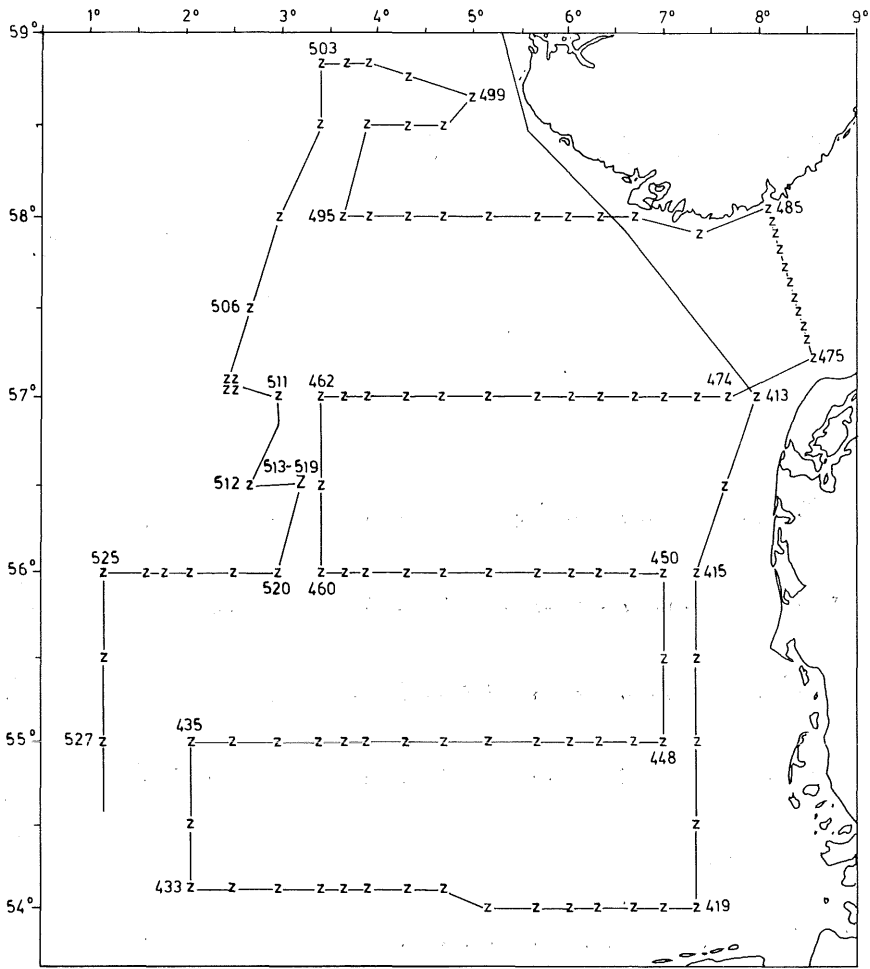






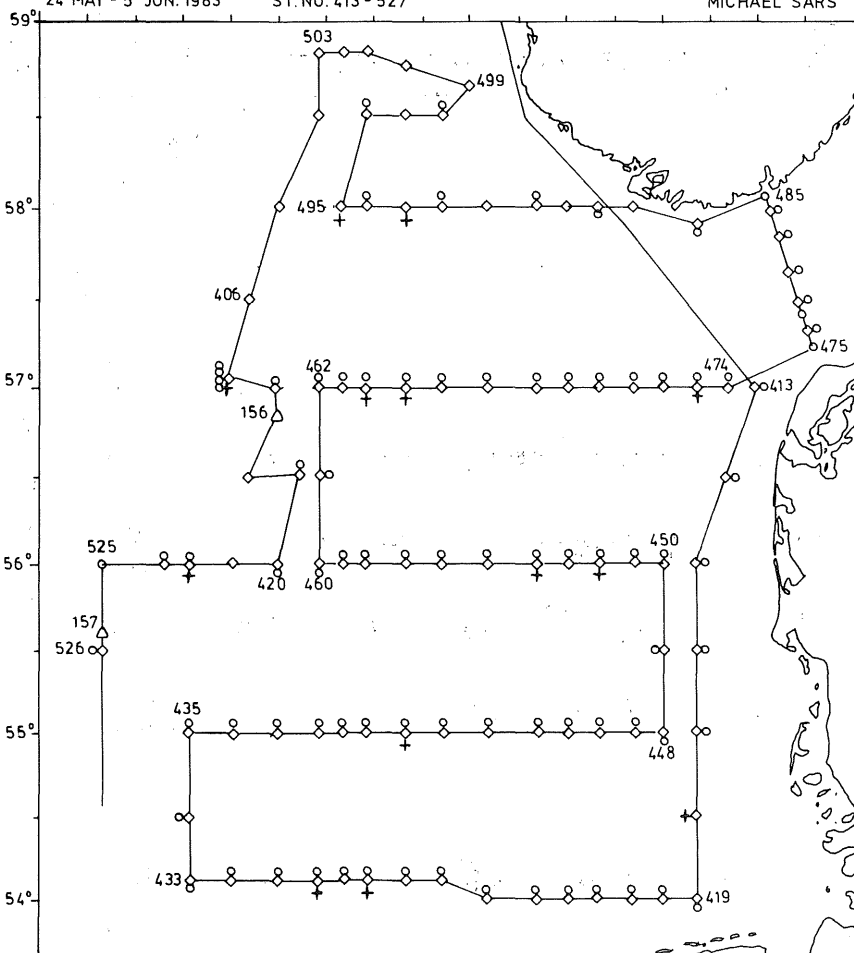
25 APR. - 18 MAY 1983 TRAWL ST.NO. 1-107

"MICHAEL SARS"

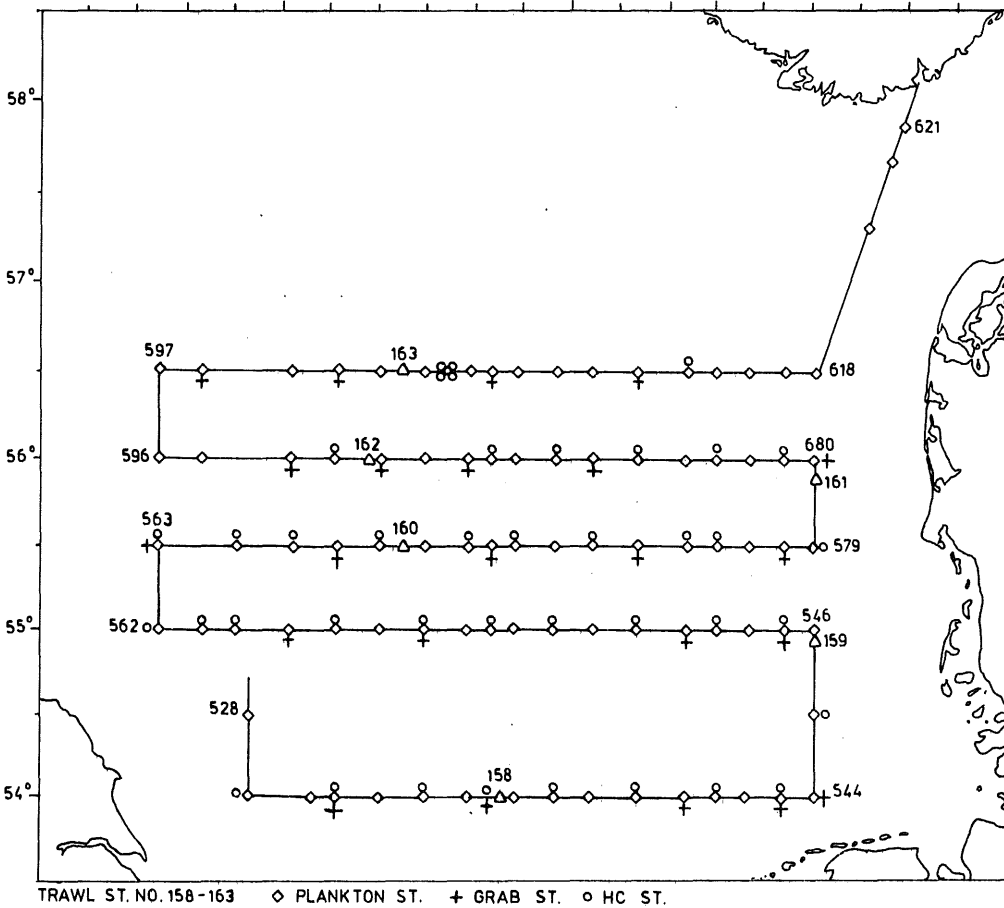
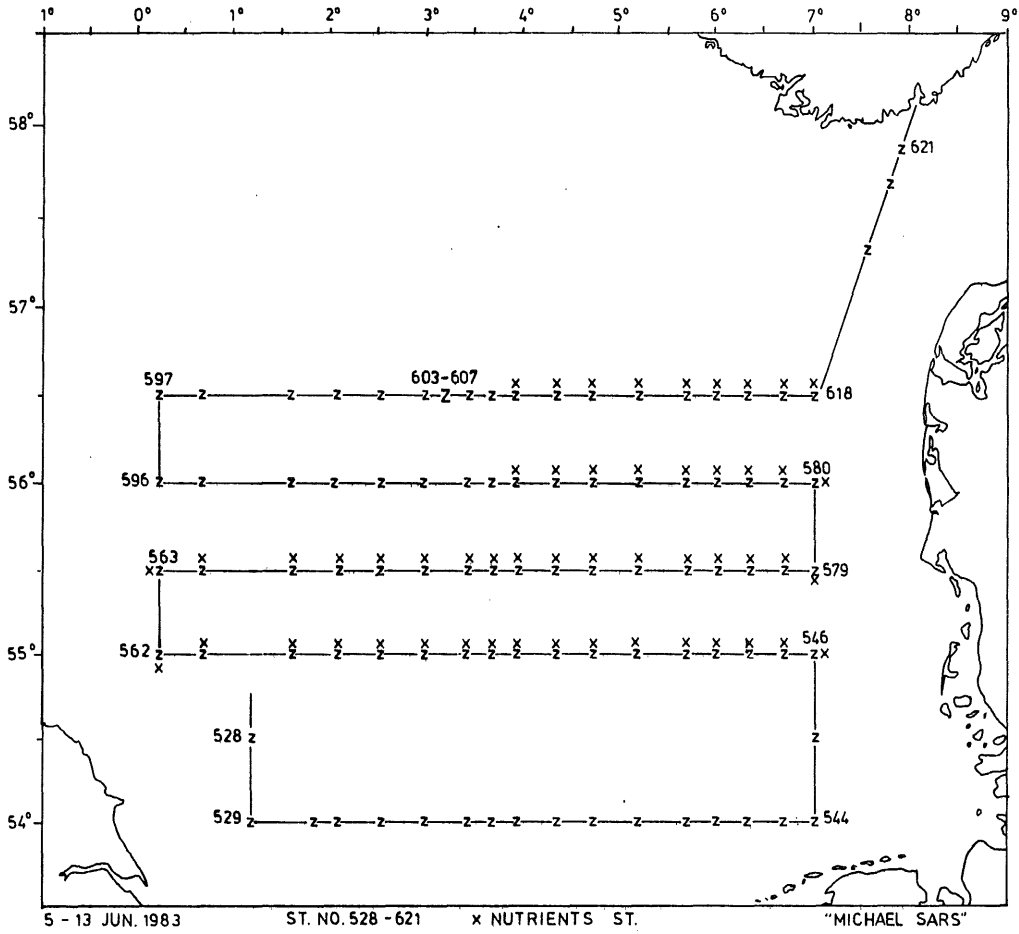


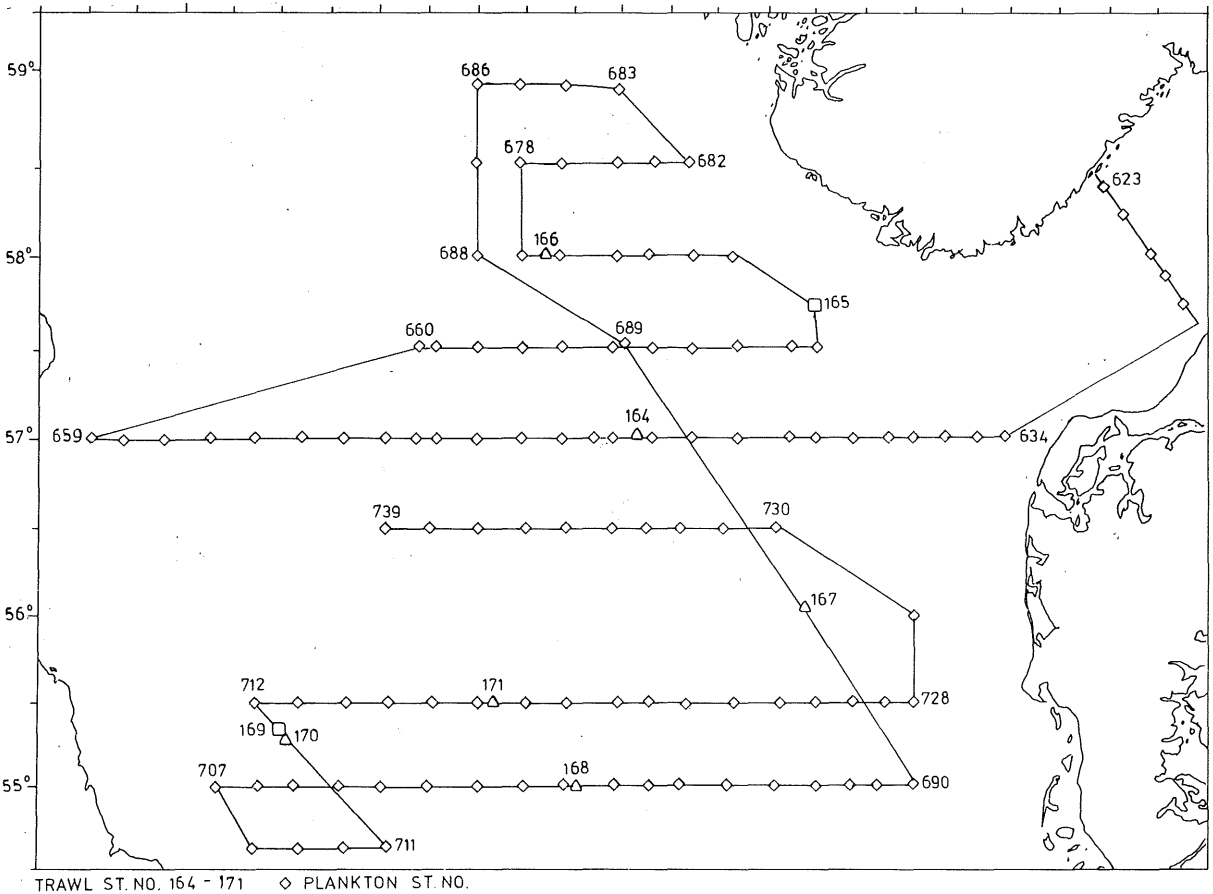
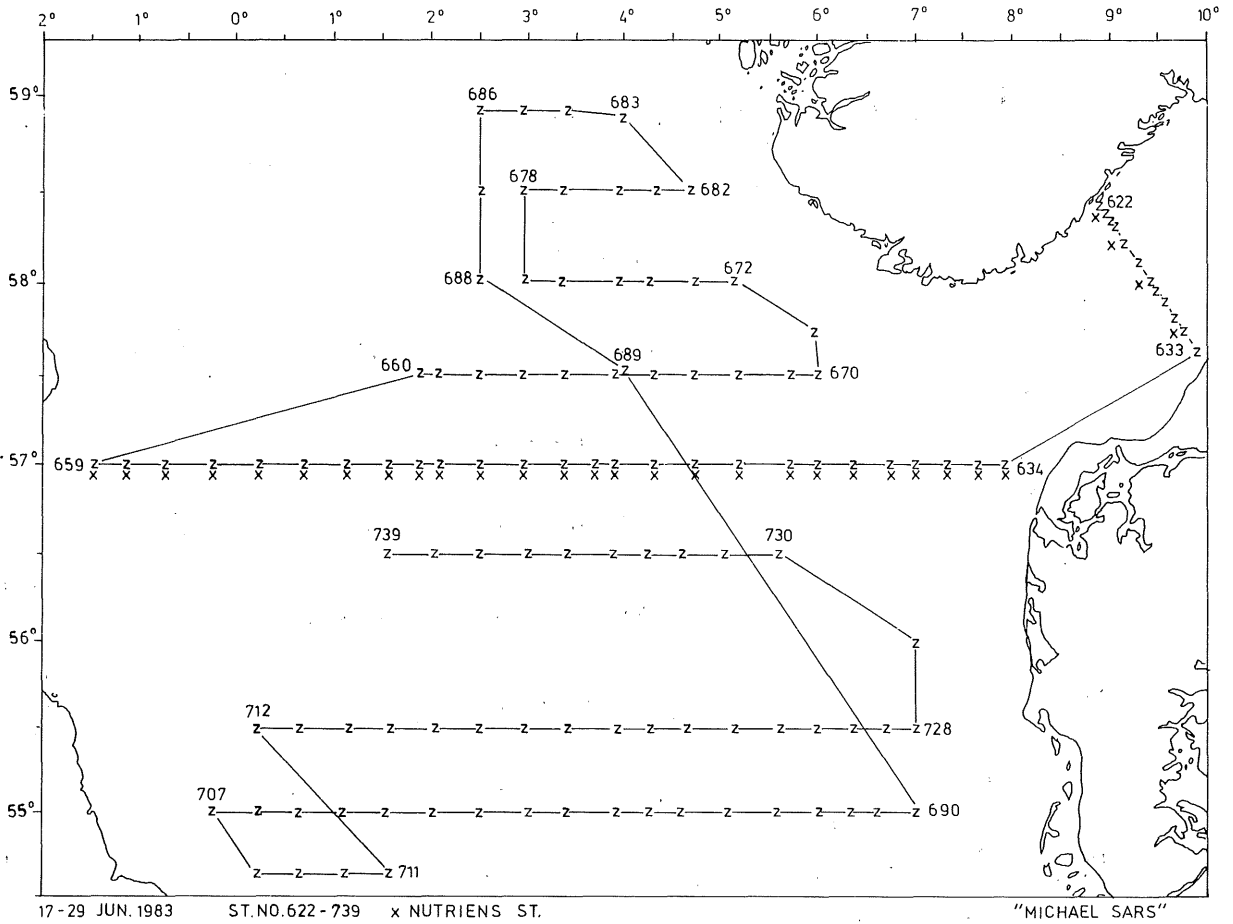
24 MAY - 5 JUN. 1983 ST. NO. 413 - 527

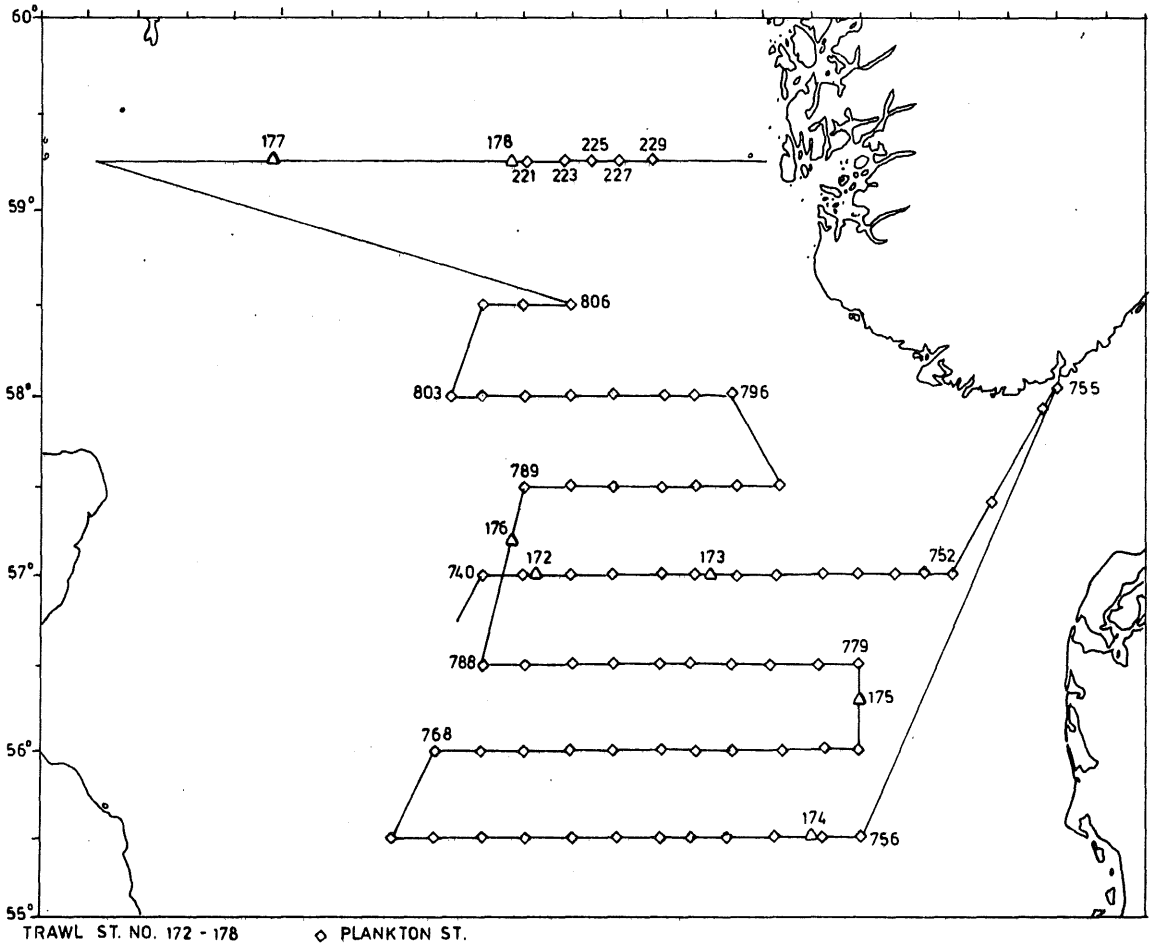
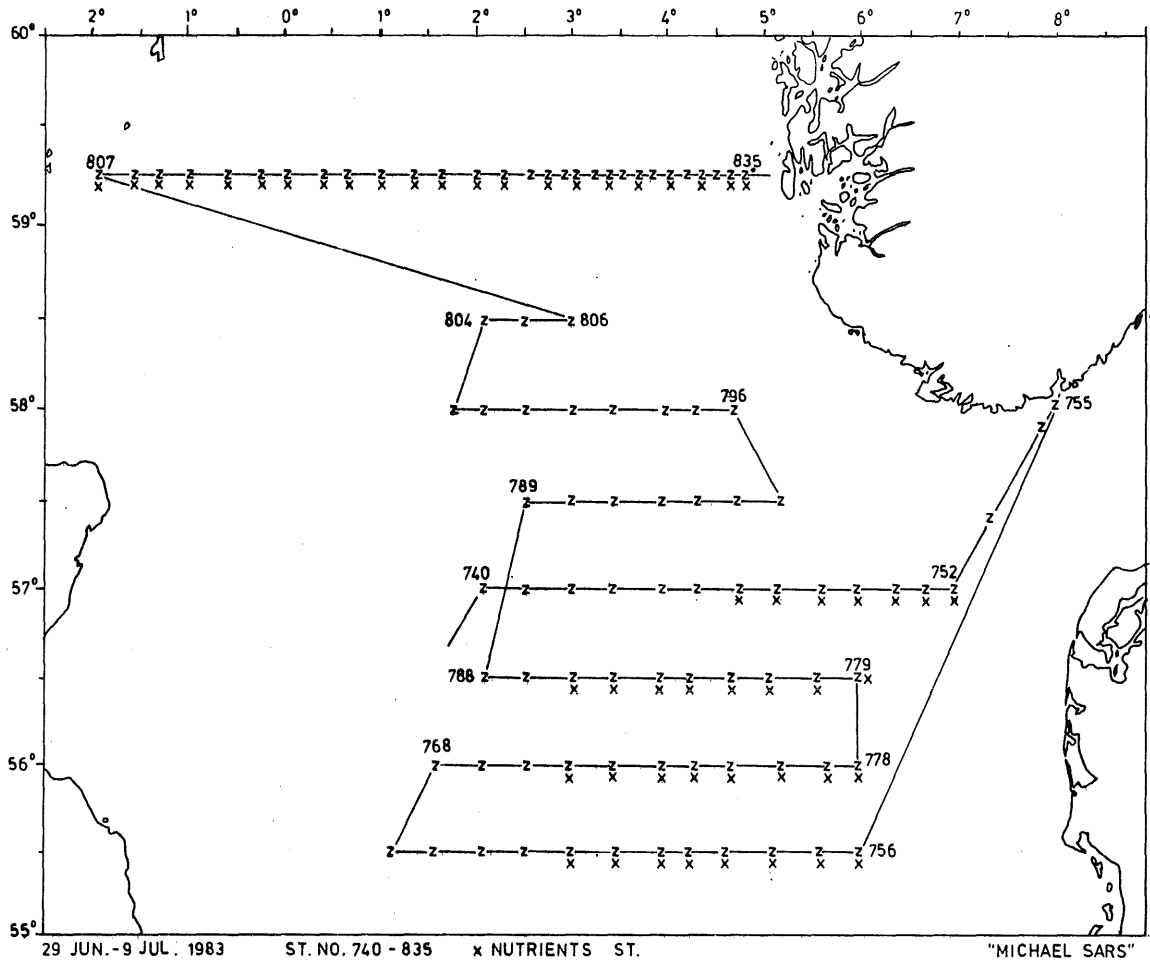
"MICHAEL SARS"

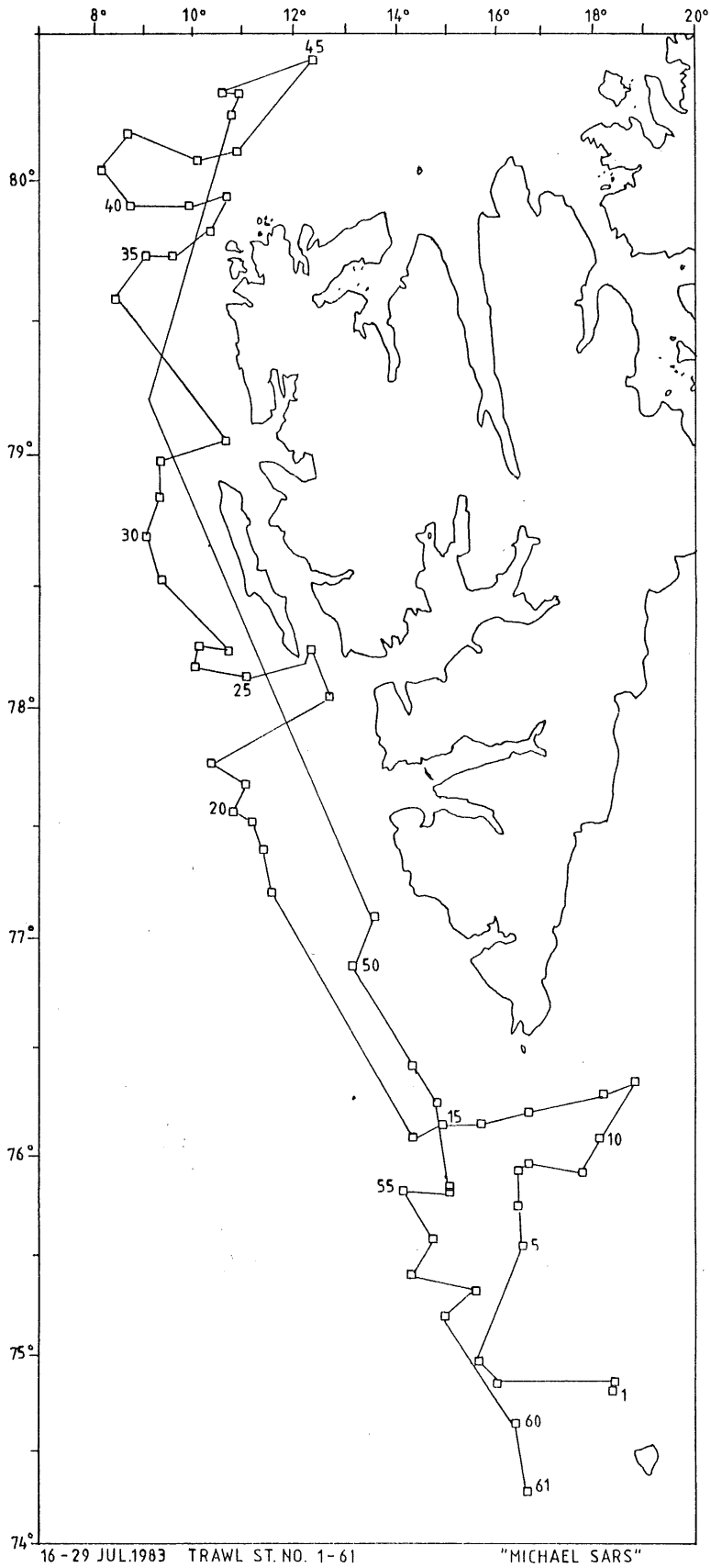


TRAWL ST. NO. 156-157 ◊ PLANKTON ST. + GRAB ST. ○ HC ST.

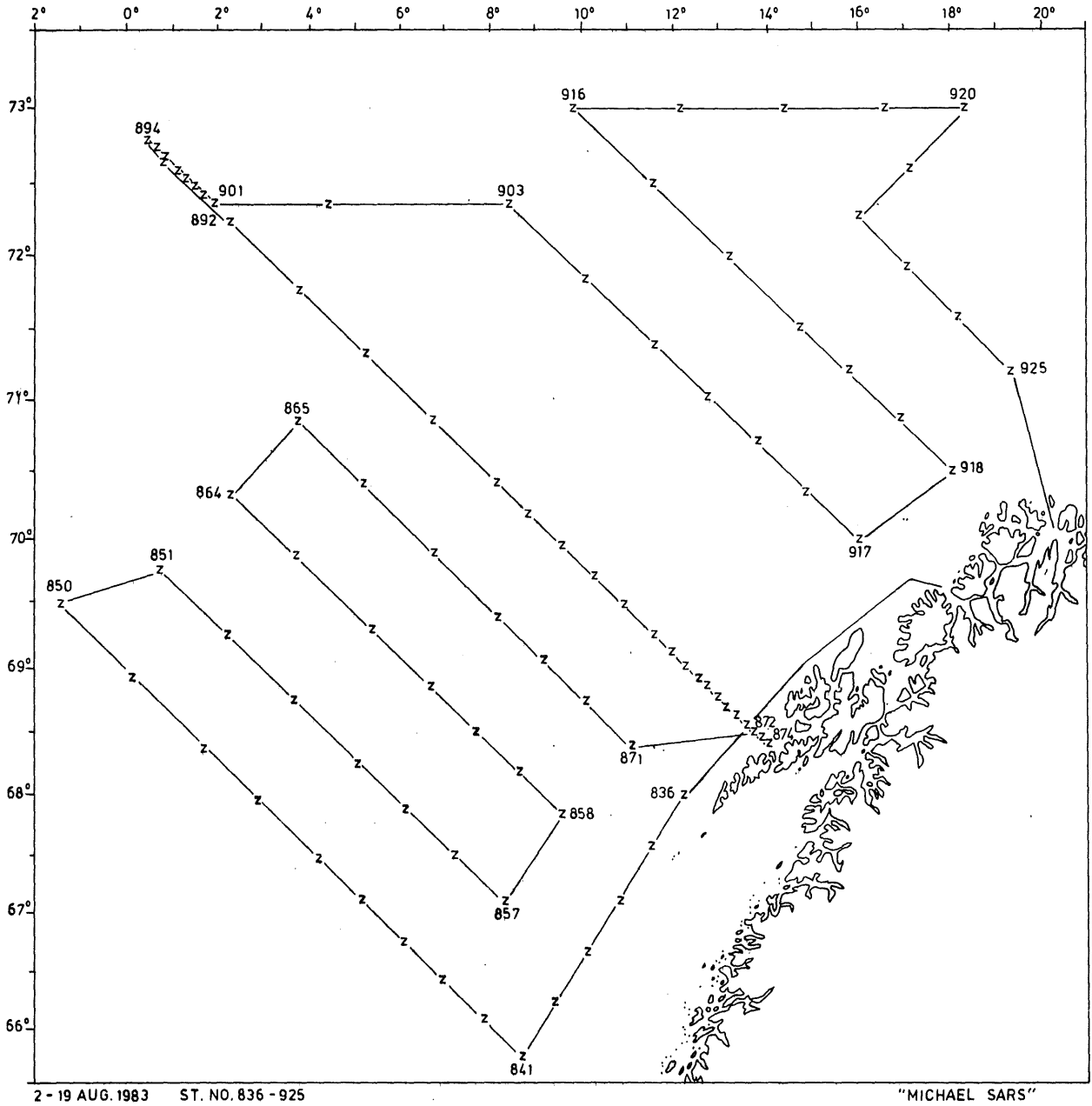


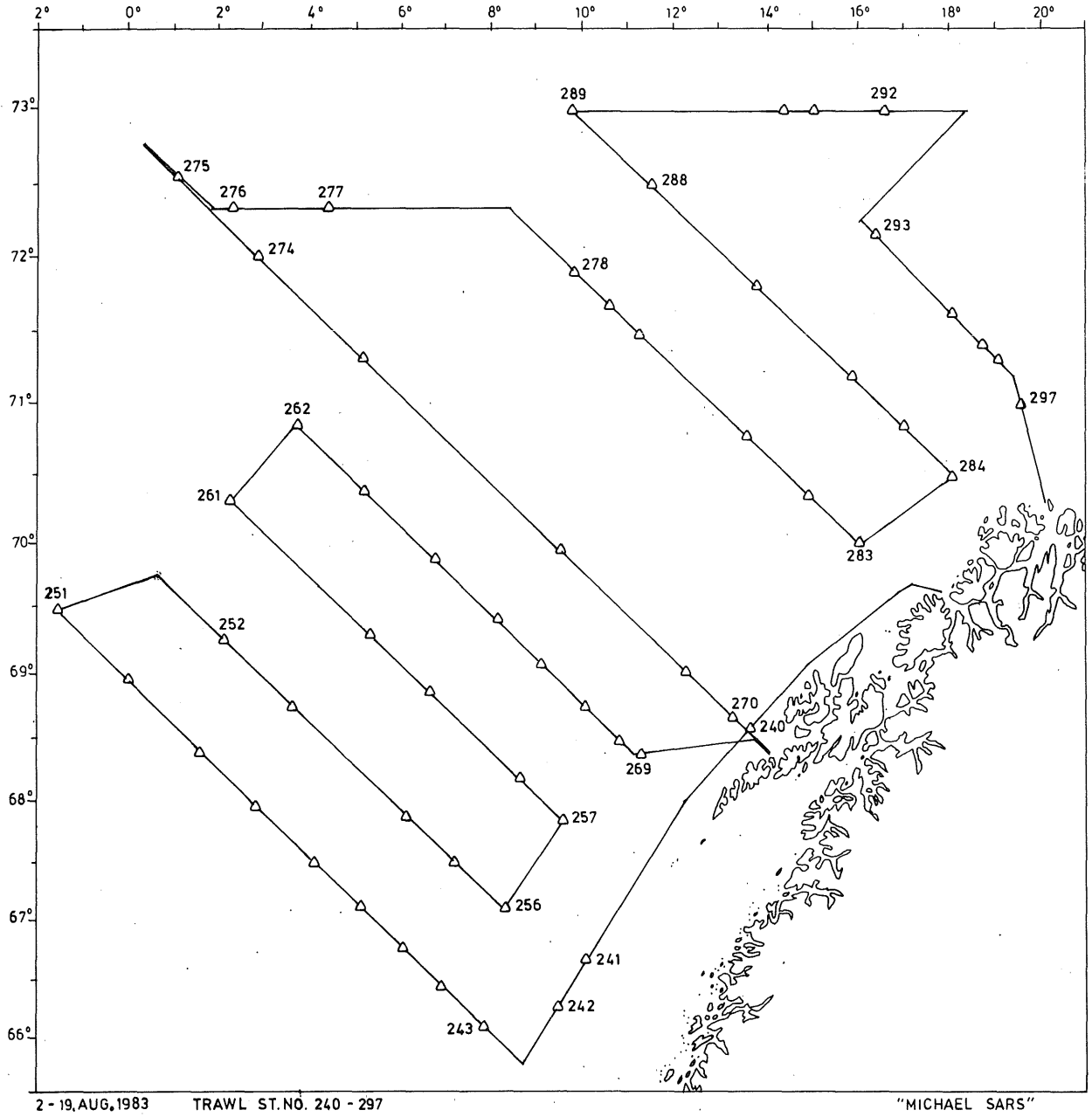


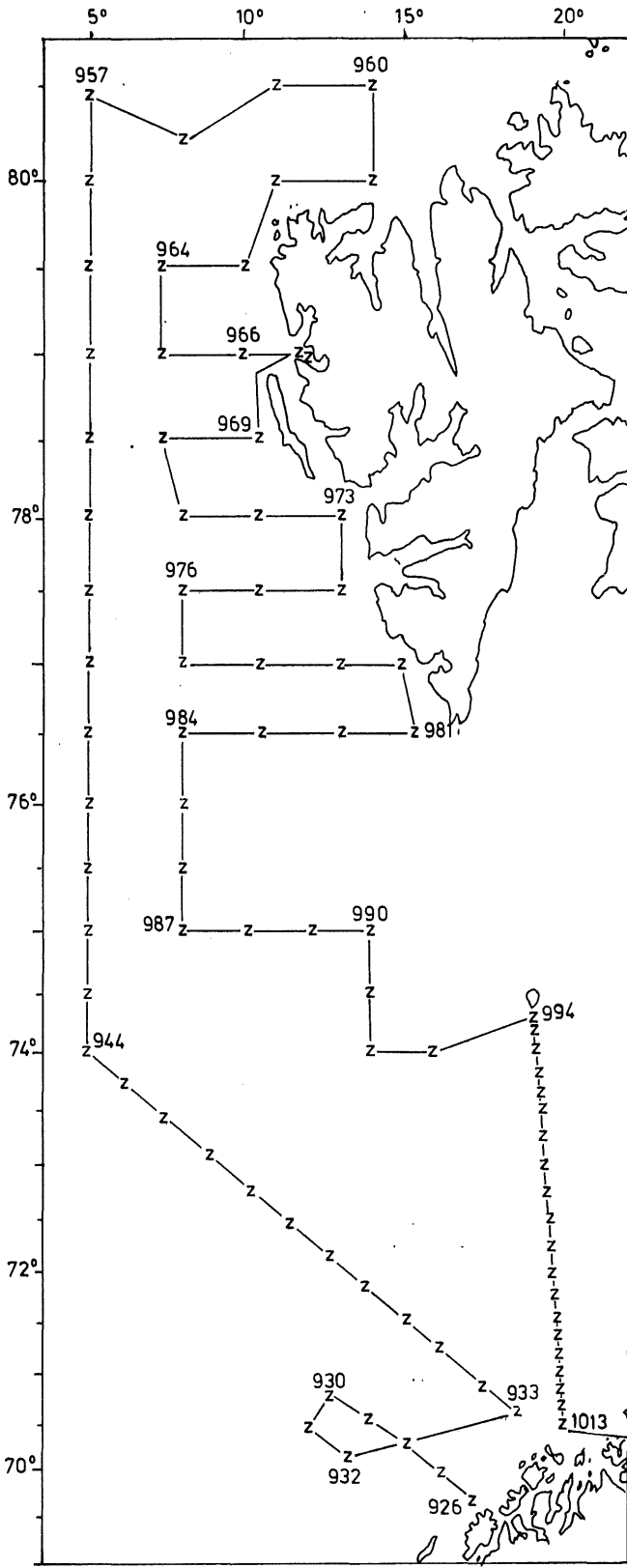




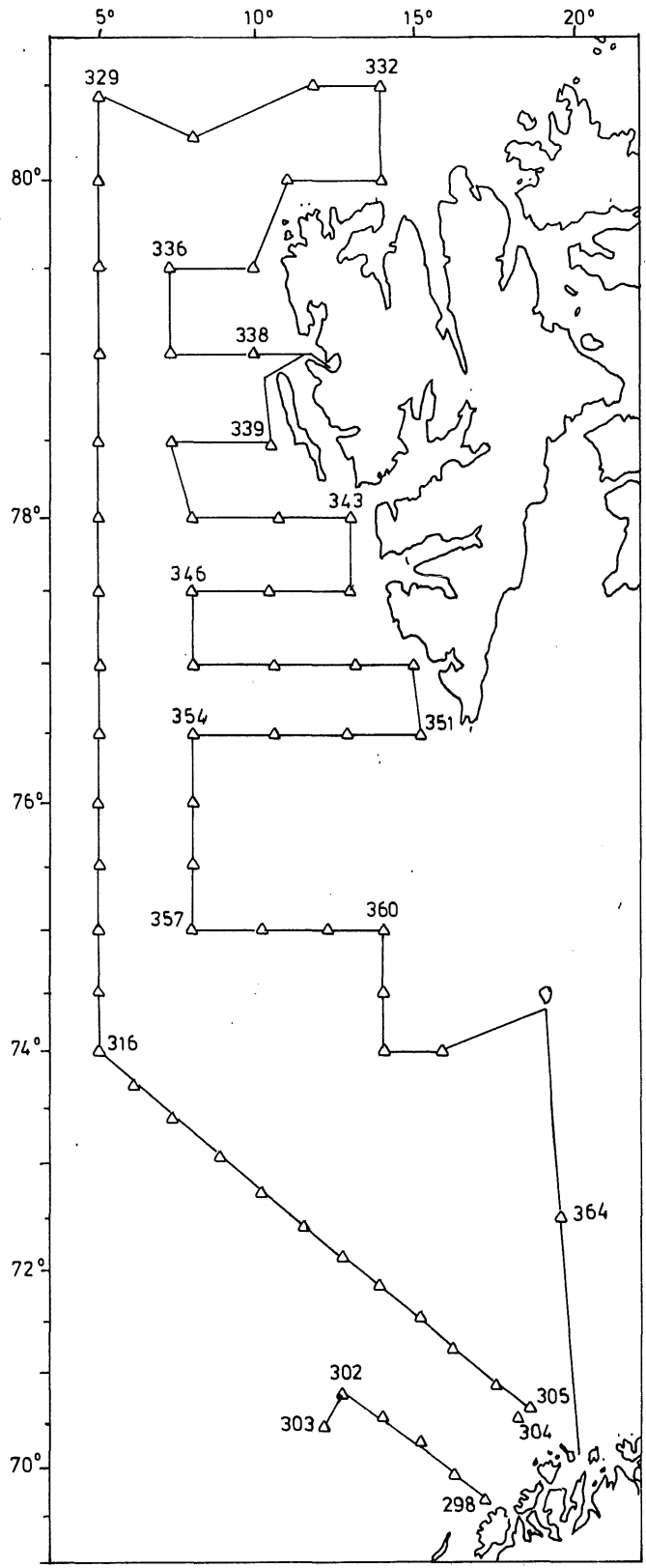






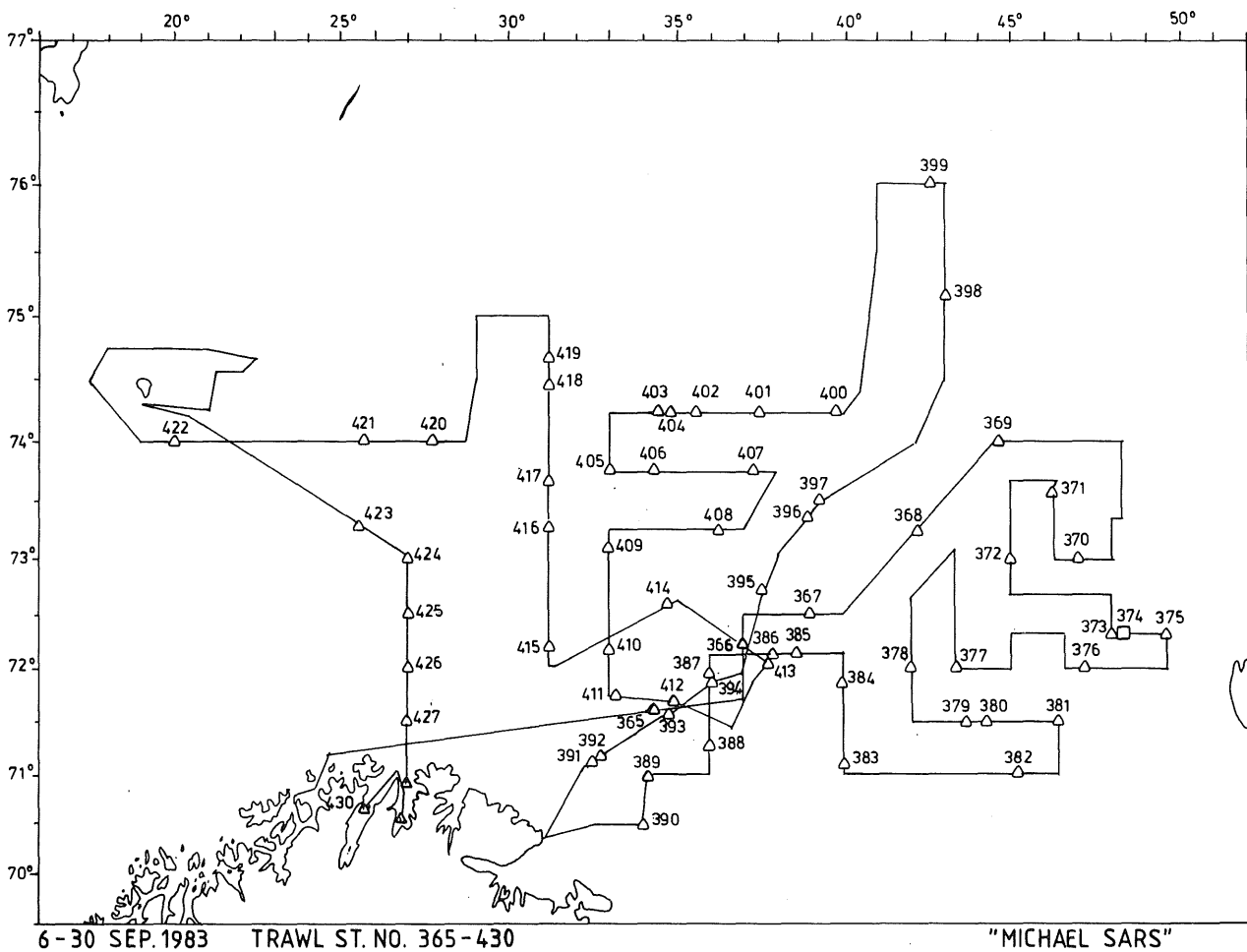
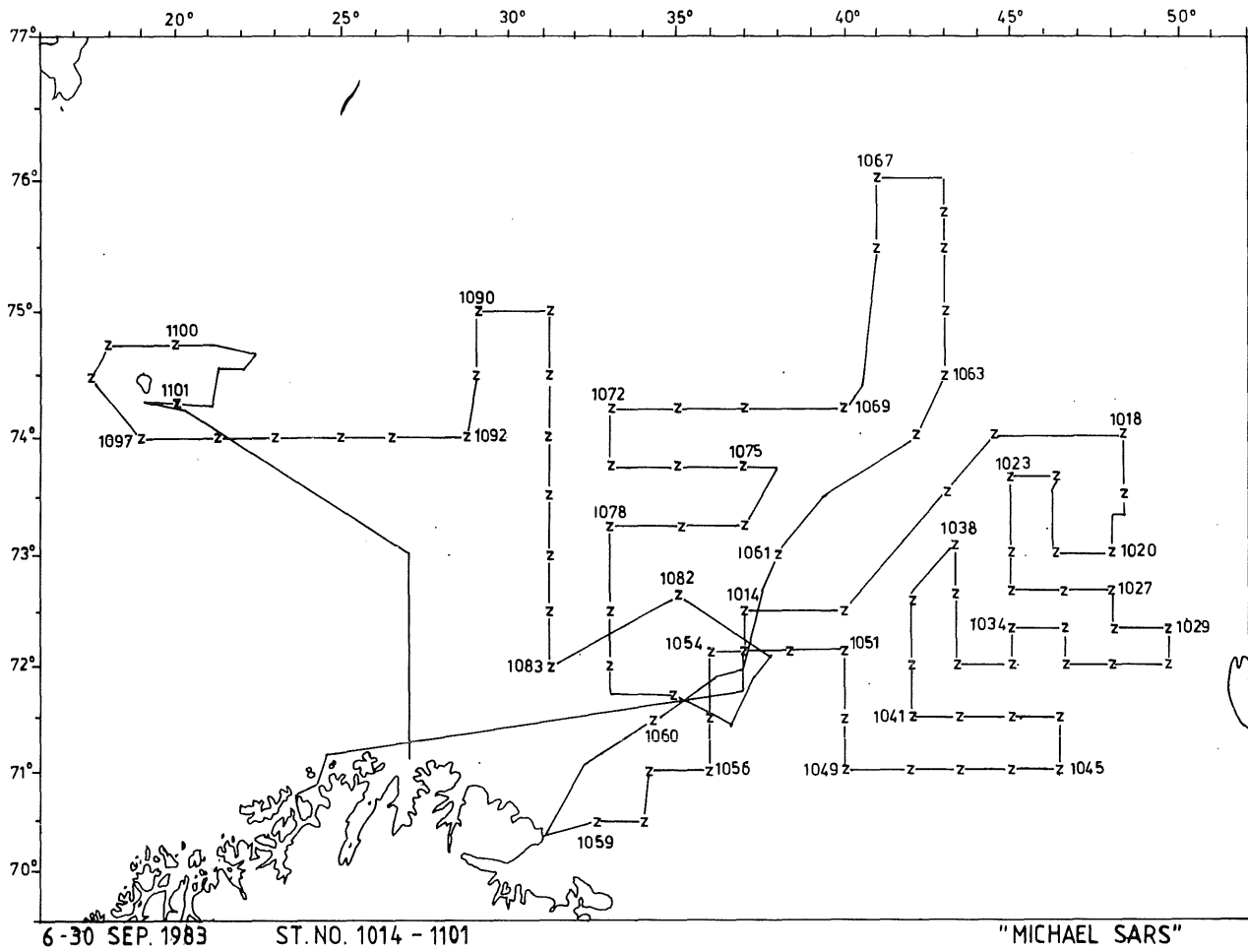


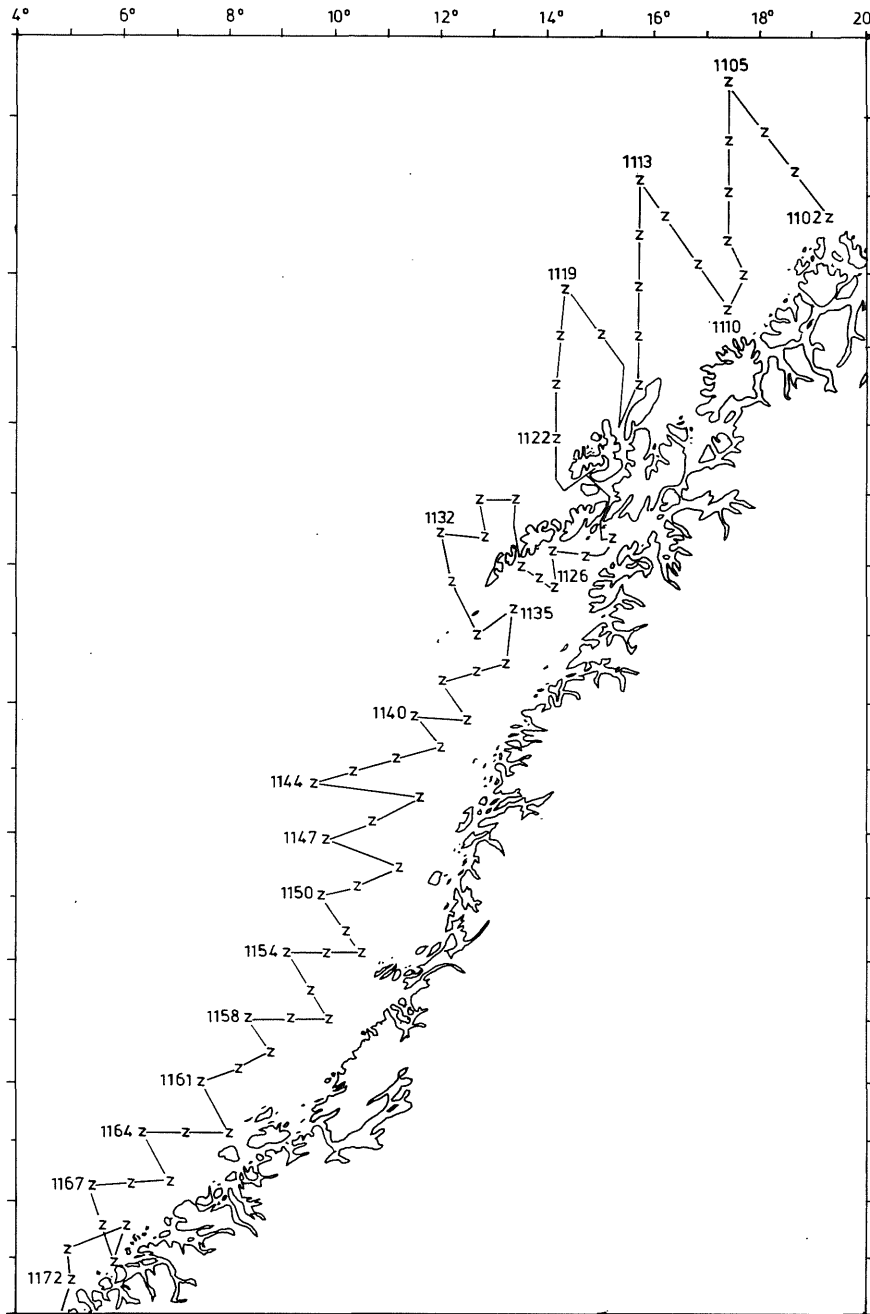
21 AUG. - 5 SEP. 1983 ST. NO. 926 - 1013



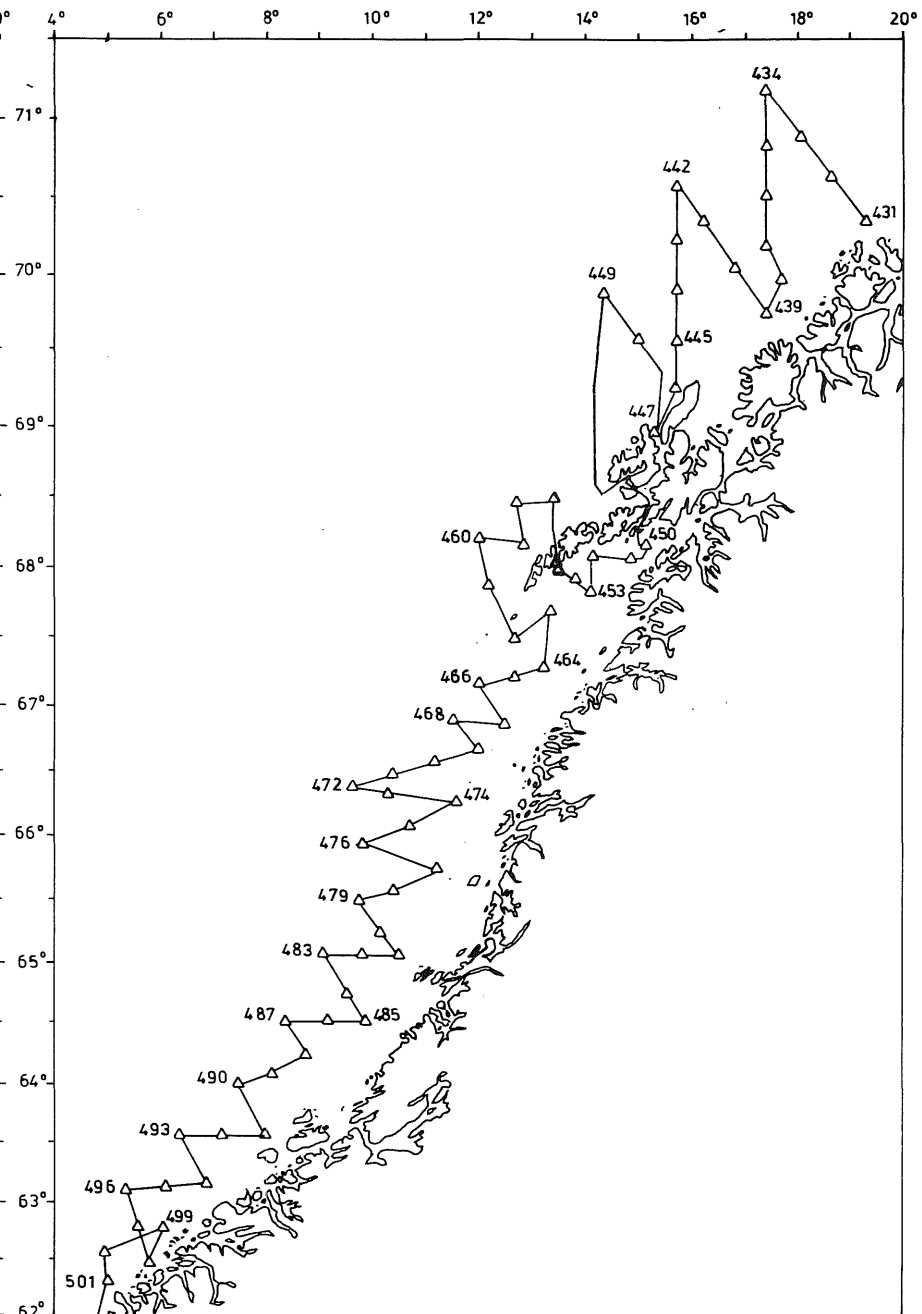
TRAWL ST. NO. 298 - 364

"MICHAEL SARS"



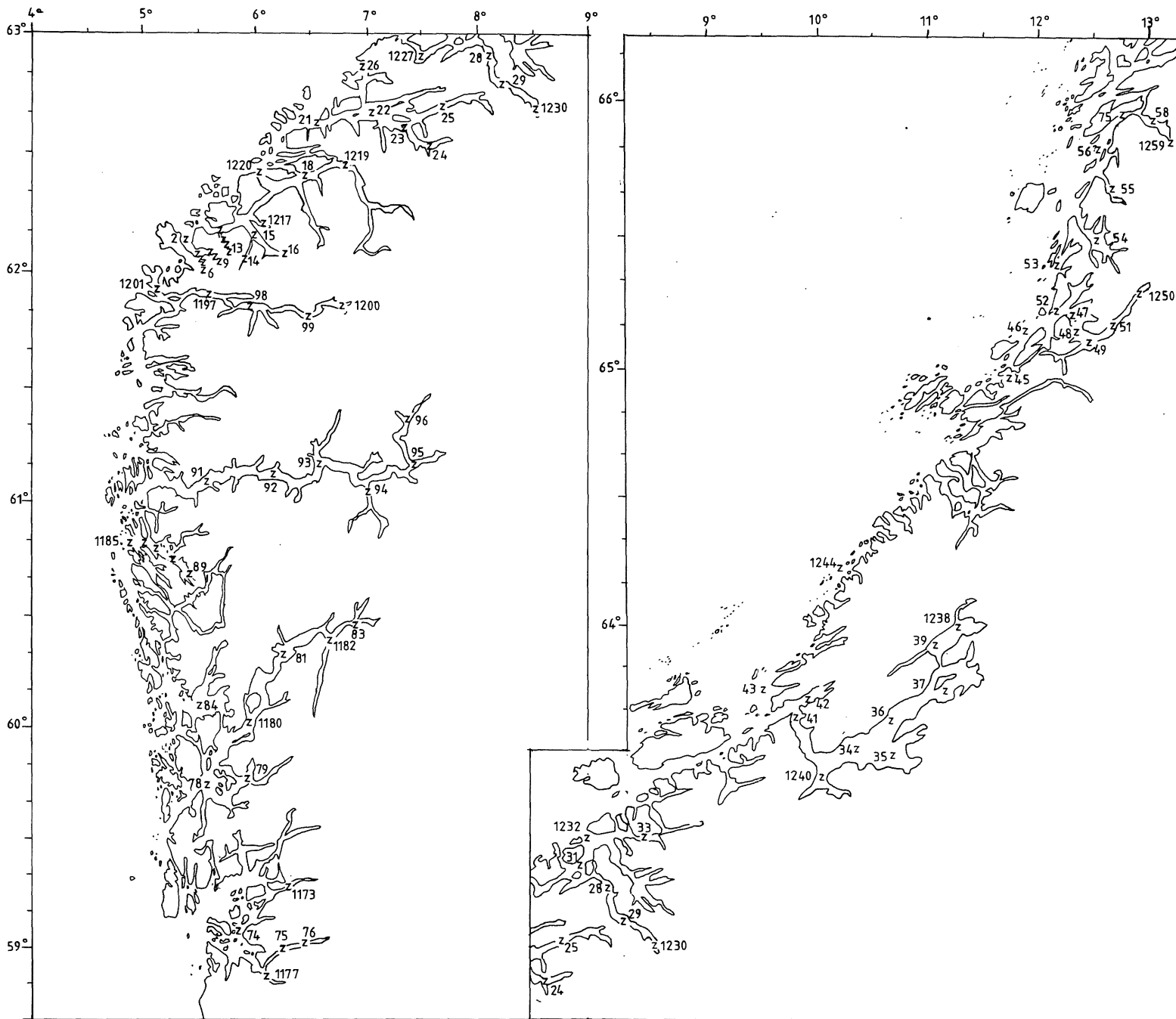


2-14 OCT. 1983 ST. NO. 1102-1172



TRAWL ST. NO. 431-501

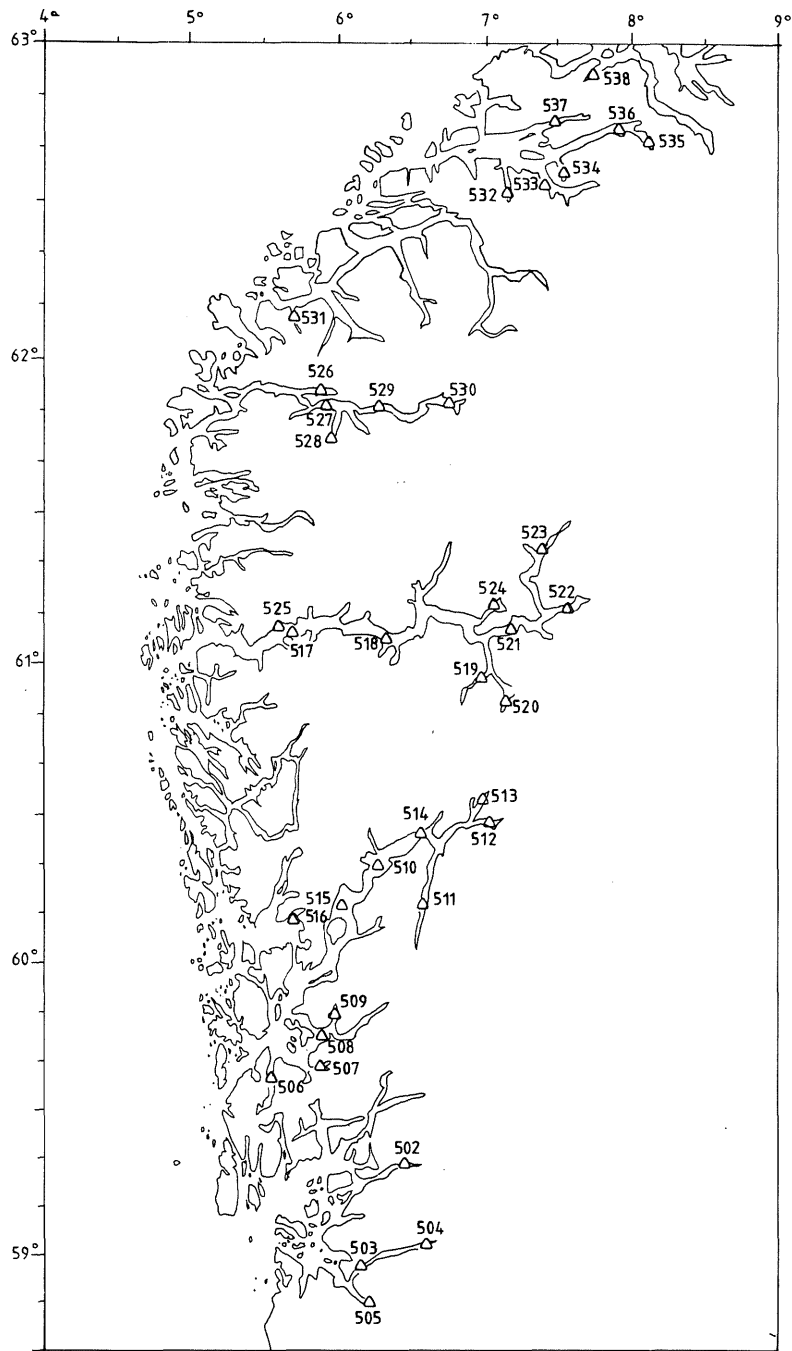
"MICHAEL SARIS"



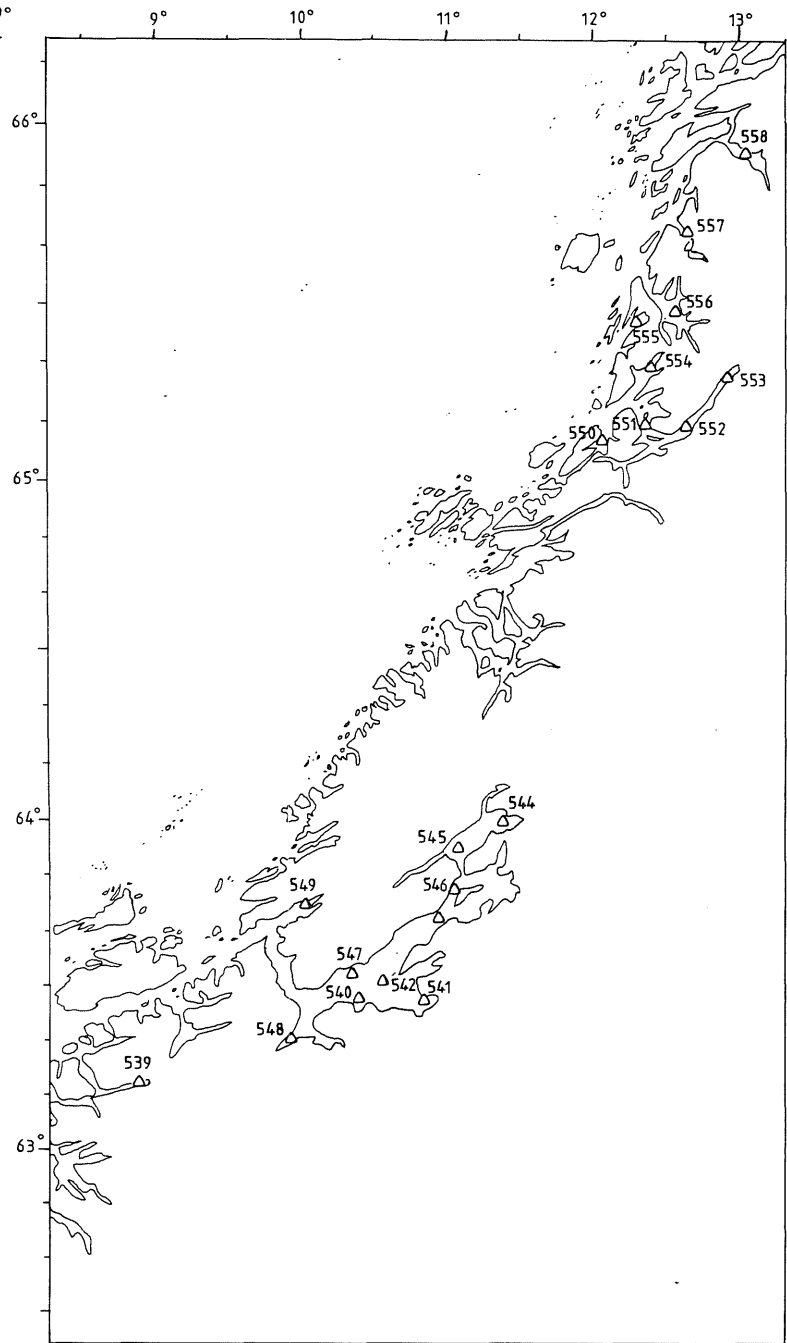
17 OCT. - 3 NOV. 1982

ST. NO. 1173 - 1259

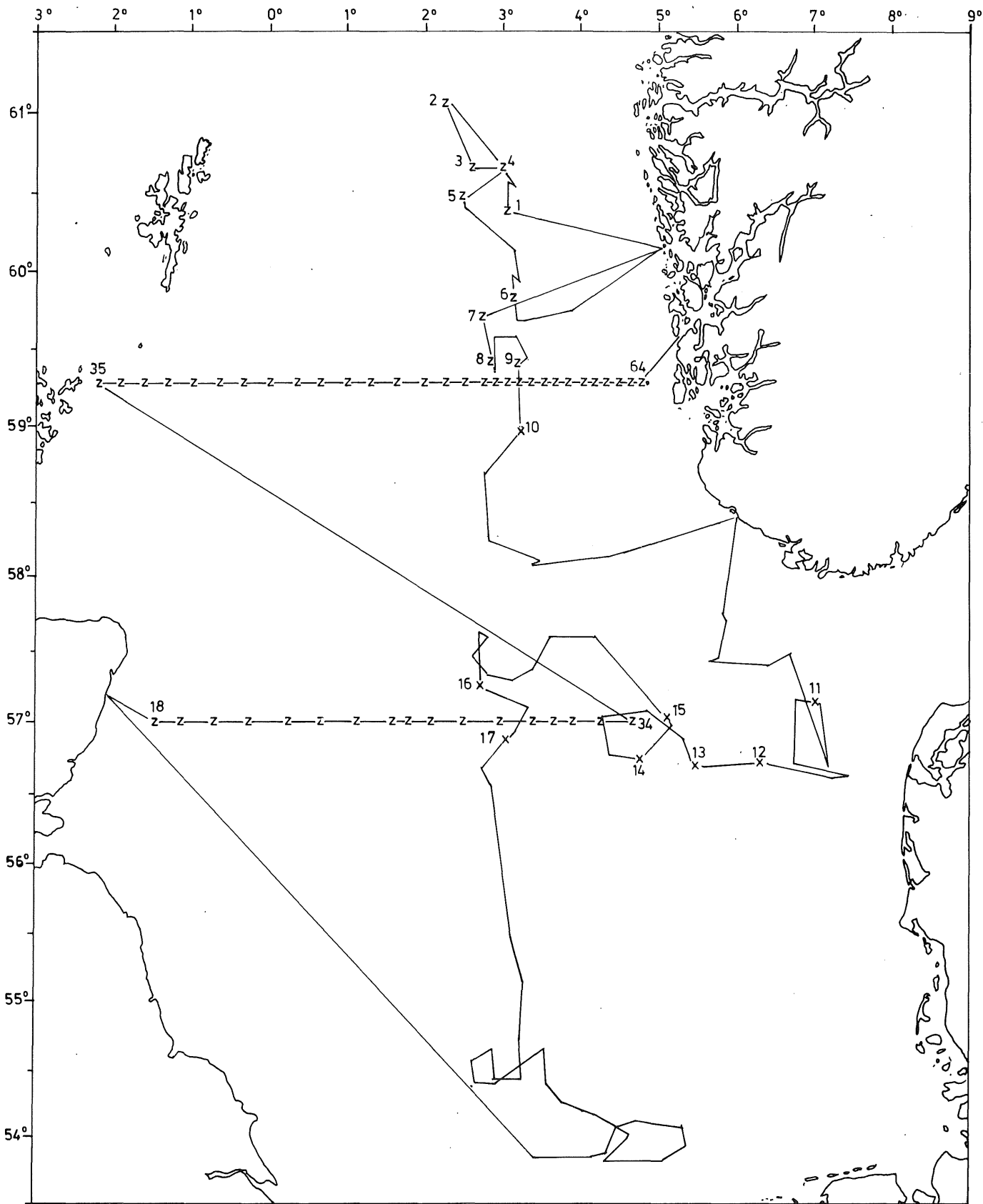
"MICHAEL SARIS"



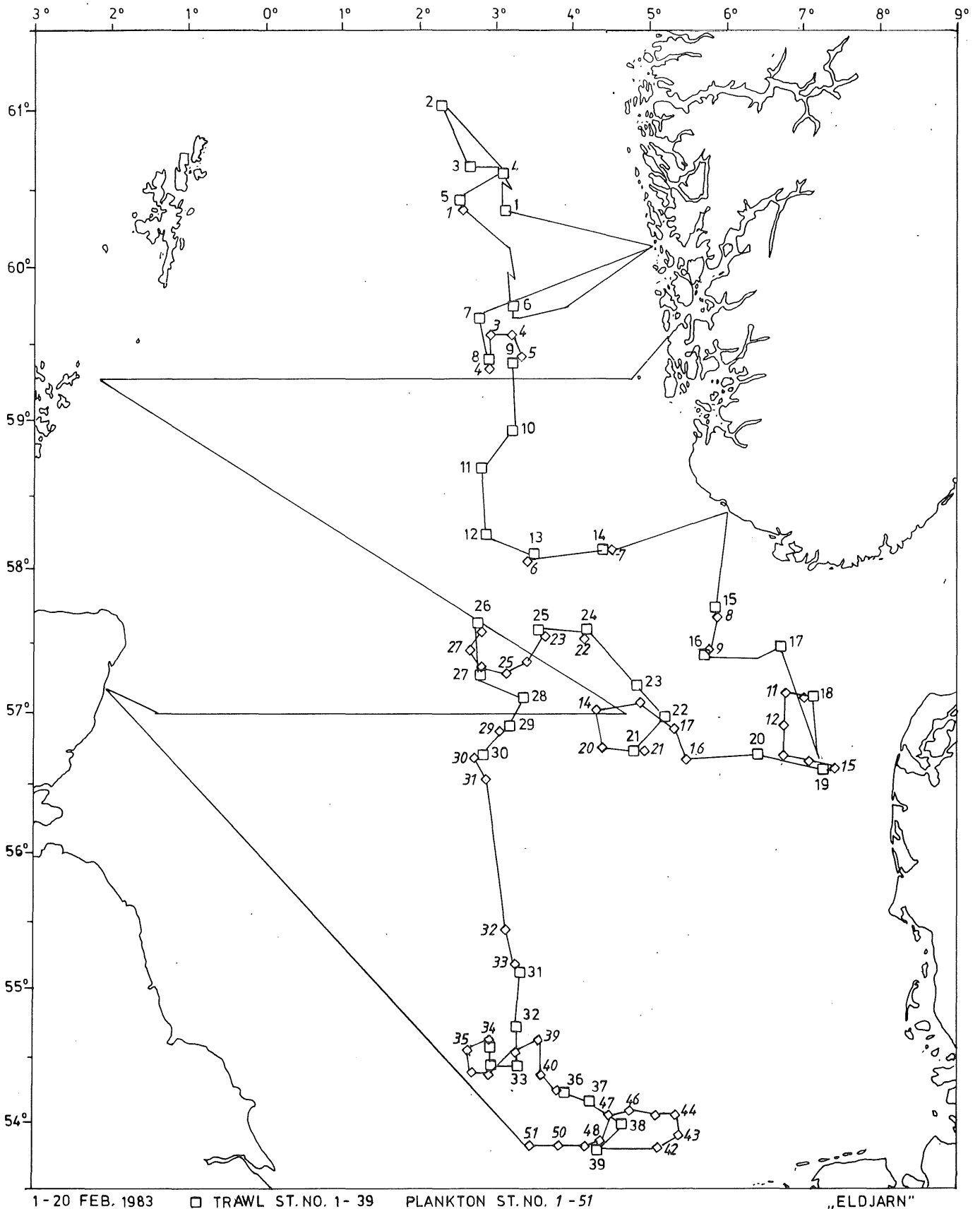
17 OCT. - 3 NOV. 1982      TRAWL ST. NO. 502-558



"MICHAEL SARS"

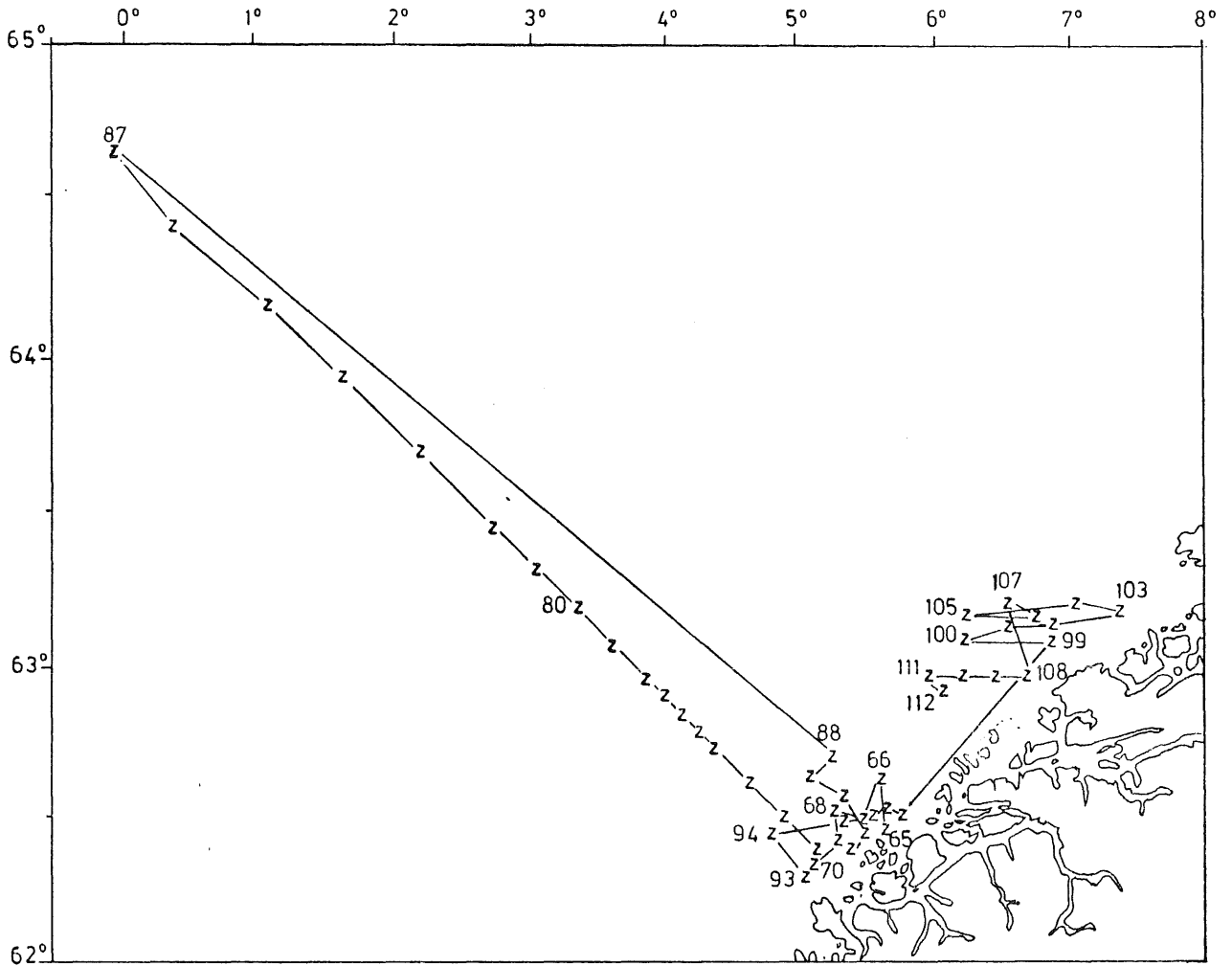




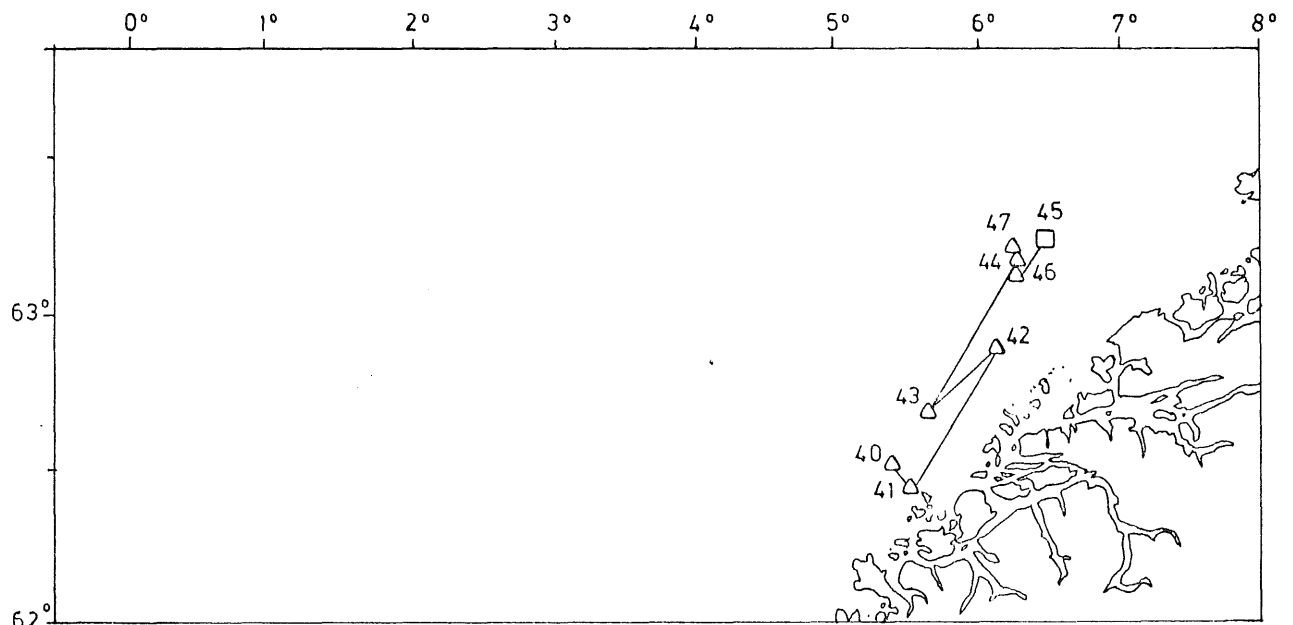


1 - 20 FEB. 1983    □ TRAWL ST. NO. 1 - 39    PLANKTON ST. NO. 1 - 51

„ELDJARN“

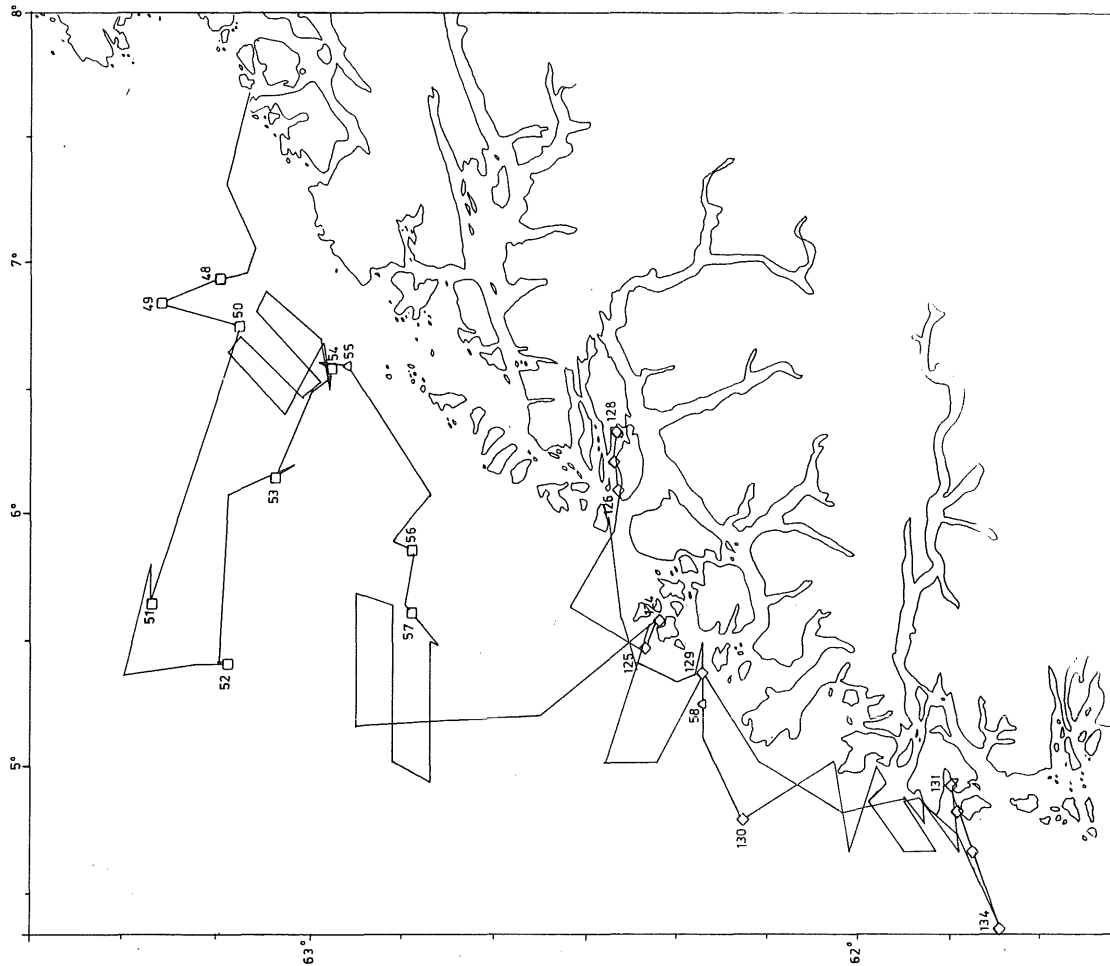


ST.NO. 65 - 112



23 FEB. - 13 MAR. 1983 TRAWL ST.NO. 40-47

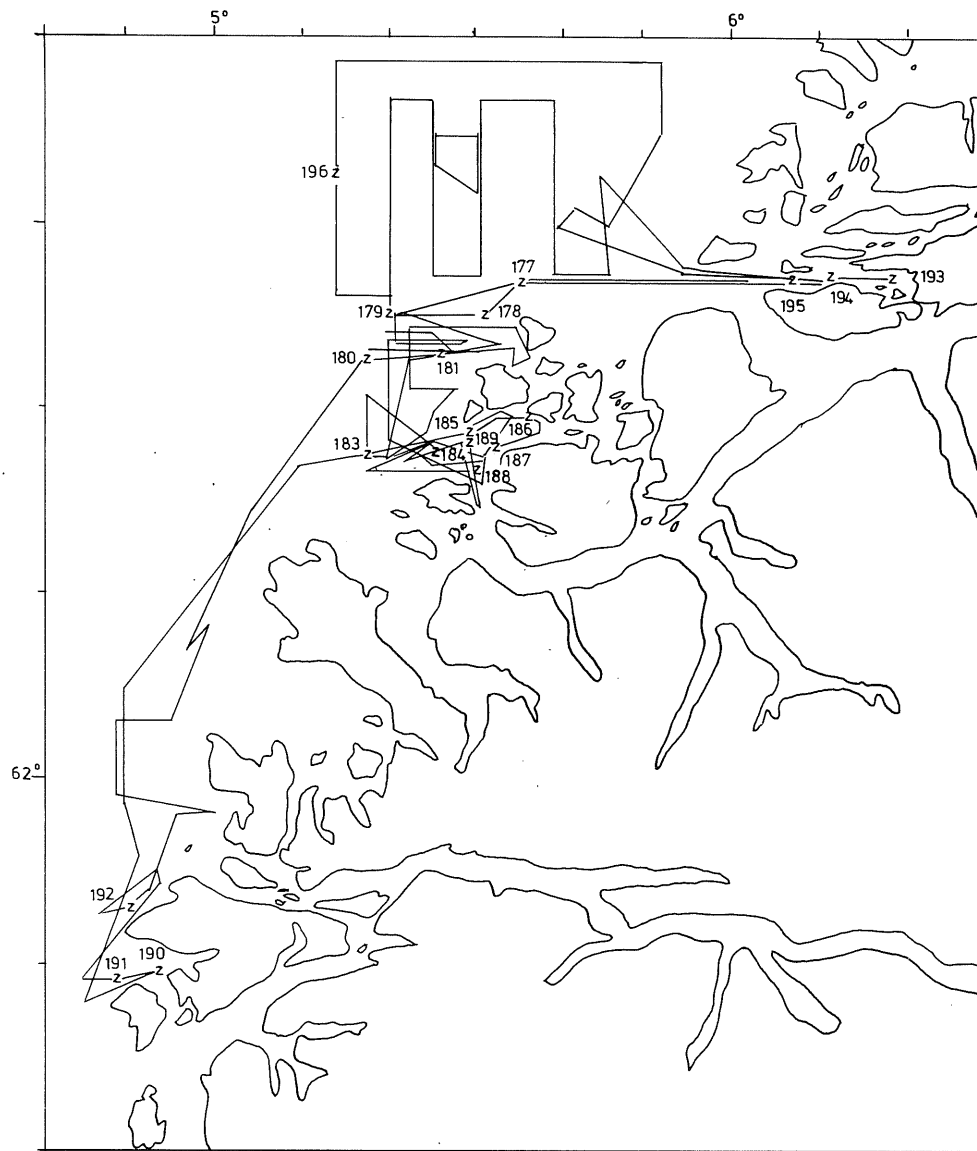
"ELD JARN"



14 - 20 MAR 1983 TRAVEL ST. NO. 113 - 50 "ELDJARN"

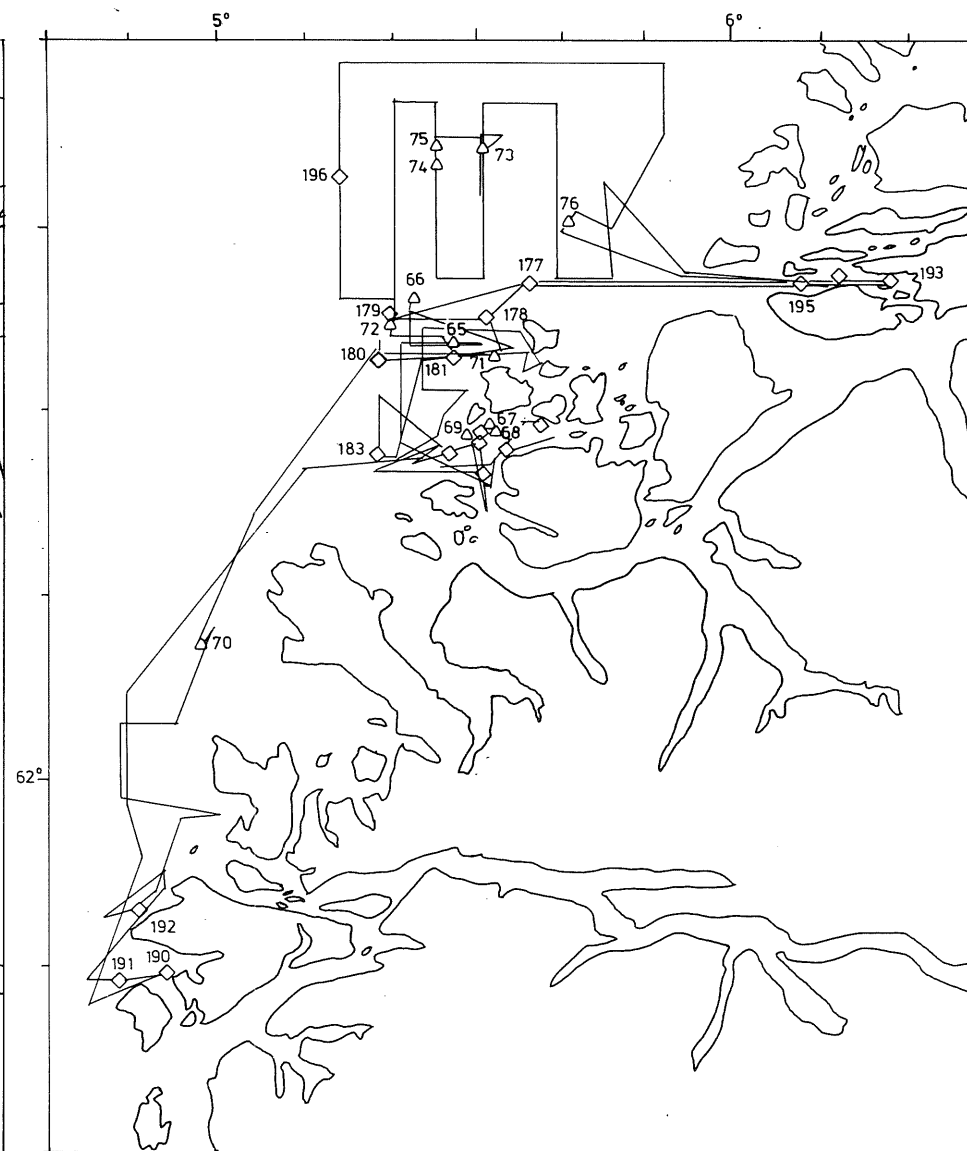


14 - 20 MAR 1983 ST. NO. 113 - 134 "ELDJARN"

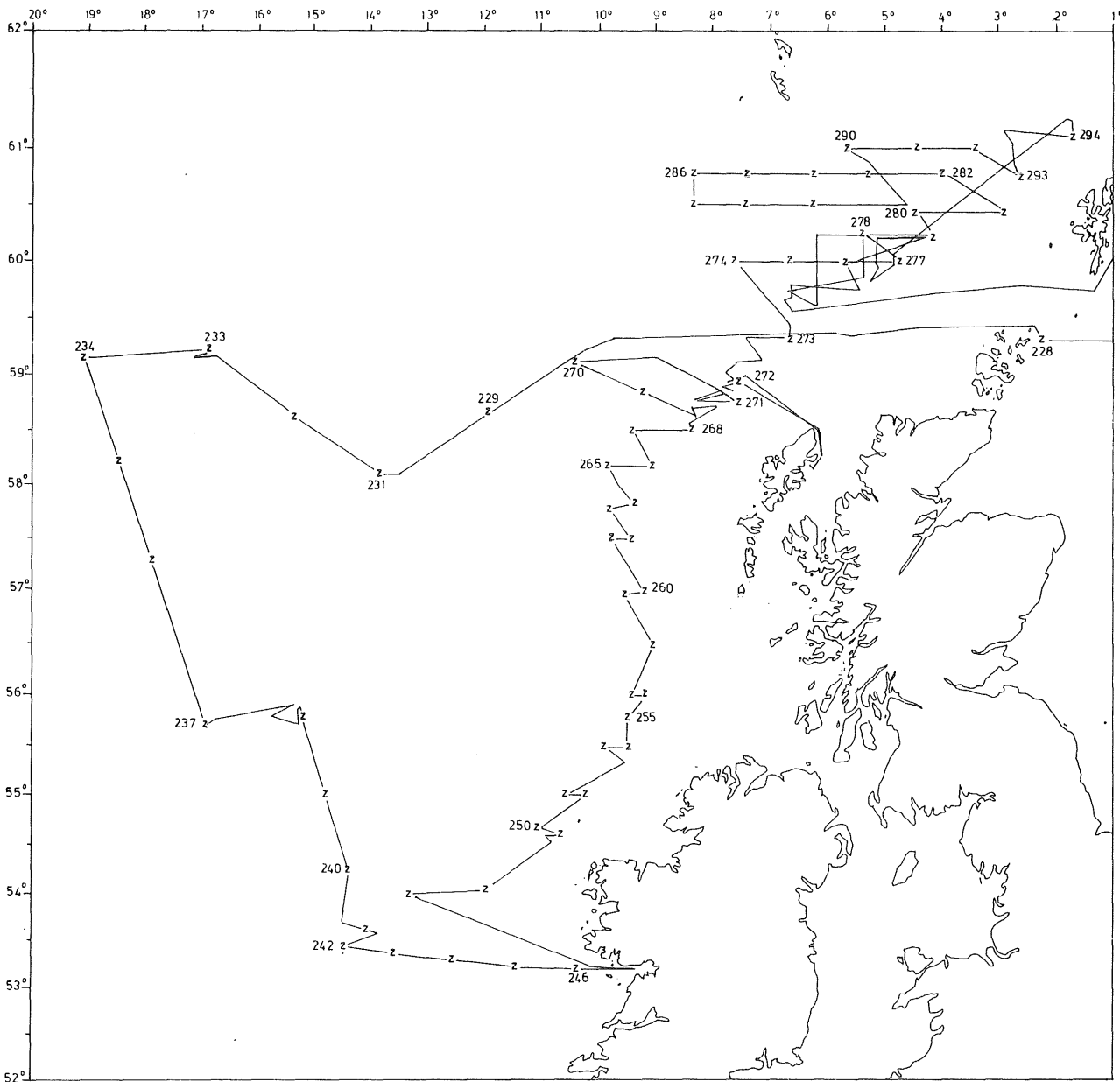
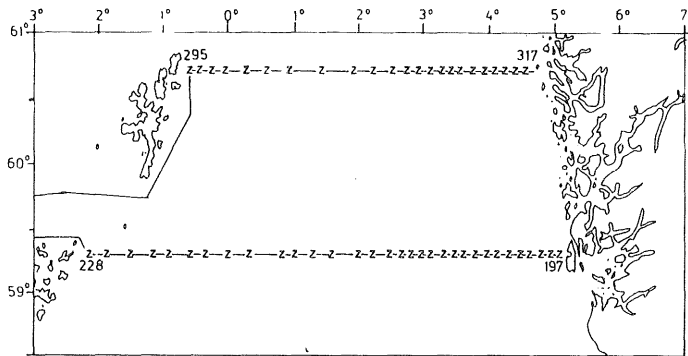


25 - 29 MAR. 1983 ST. NO. 177 - 195

"ELDJARN"

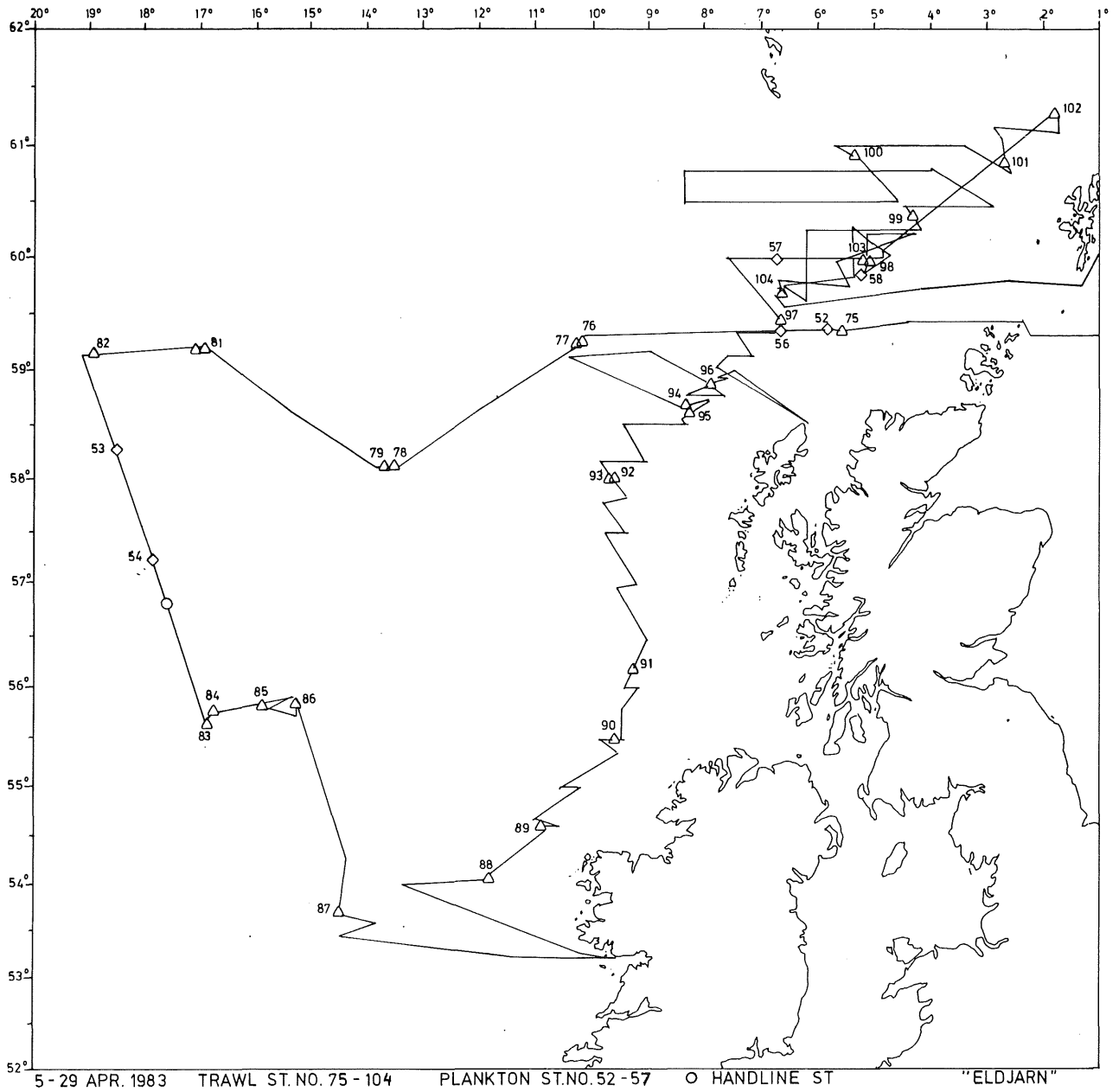


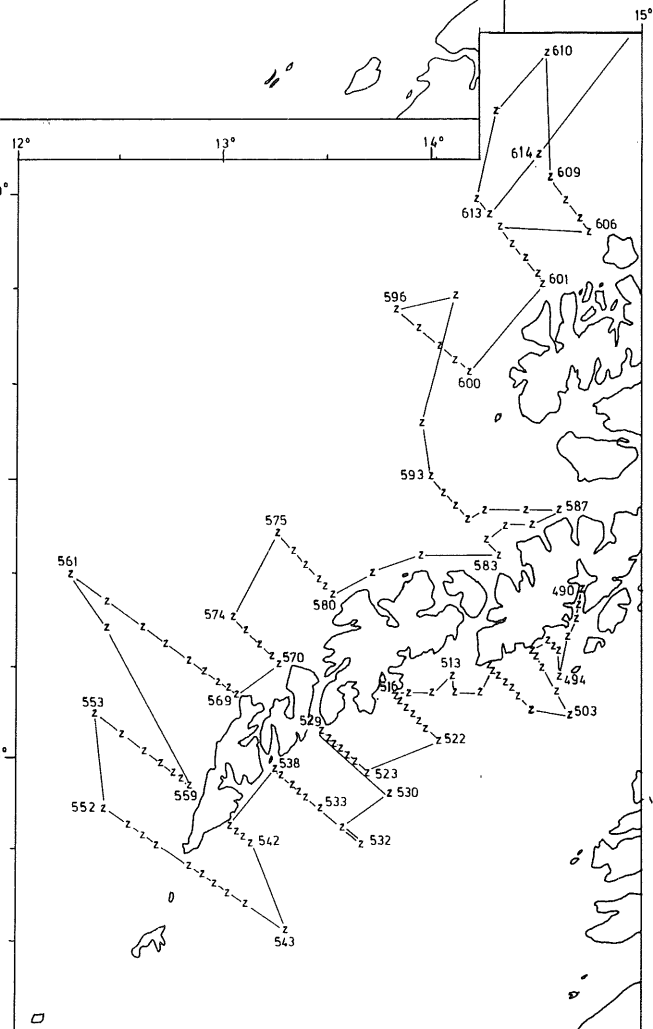
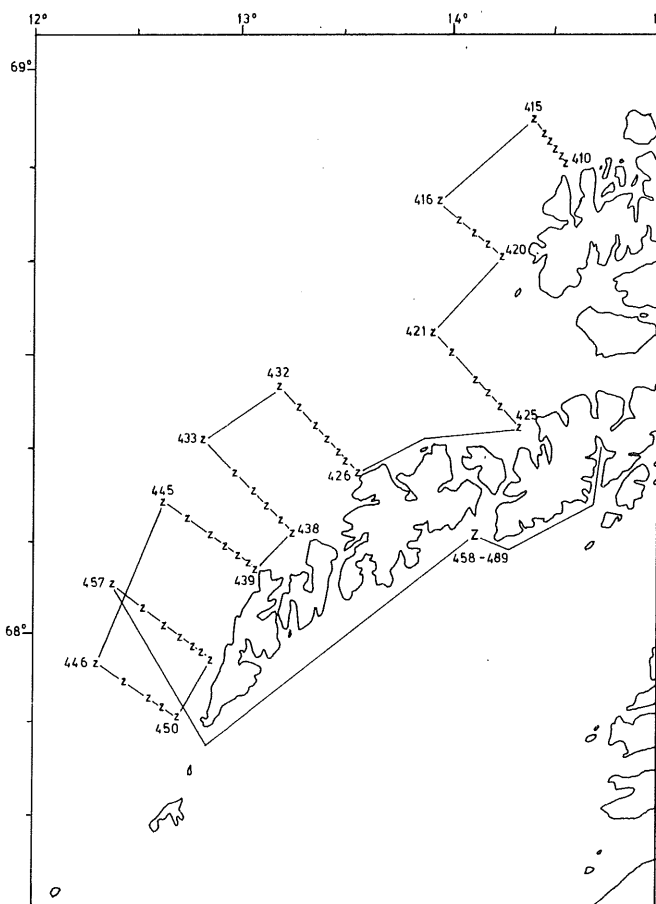
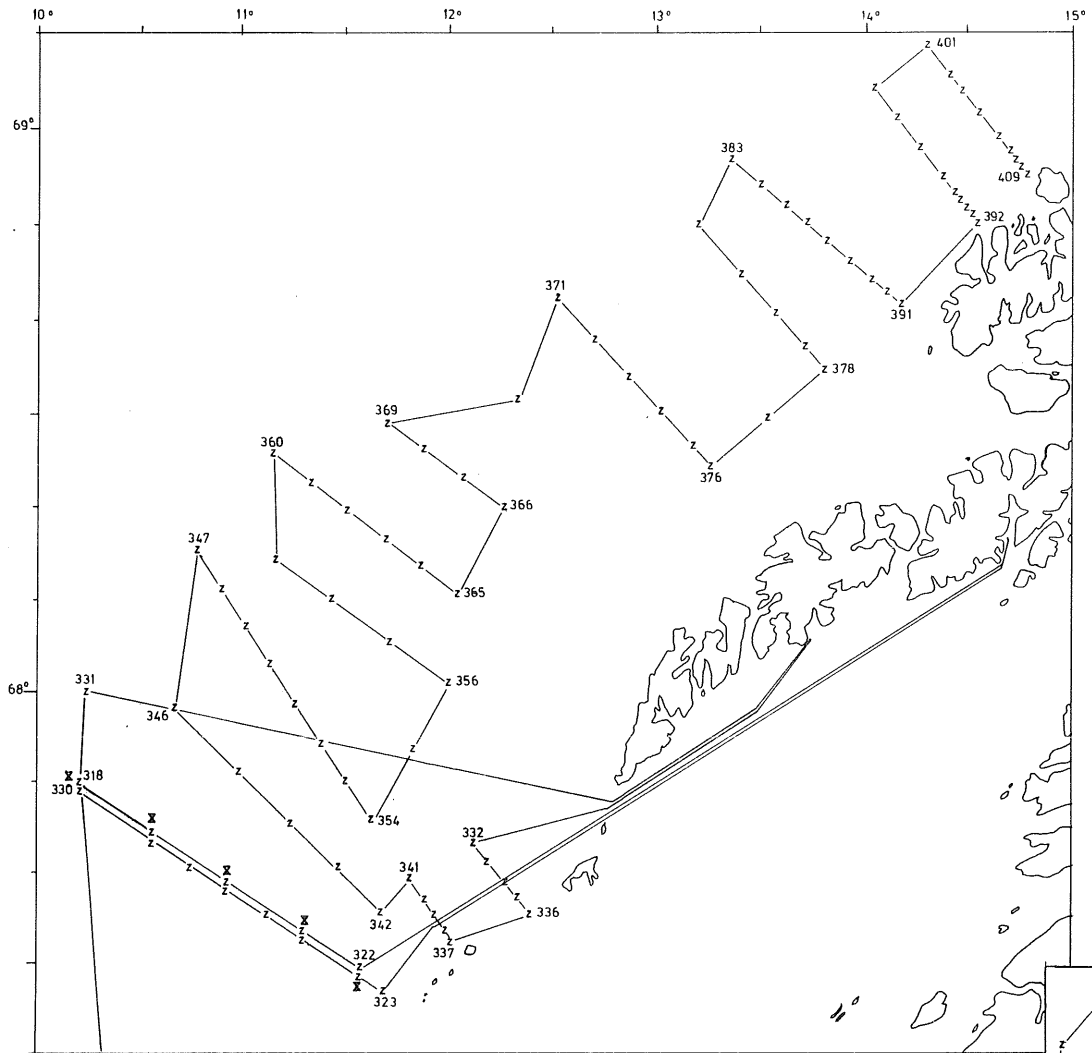
25 - 29 MAR. 1983 TRAWL ST. NO. 65 - 76 JUDAY HOV ST. NO. 177 - 195 "ELDJARN"

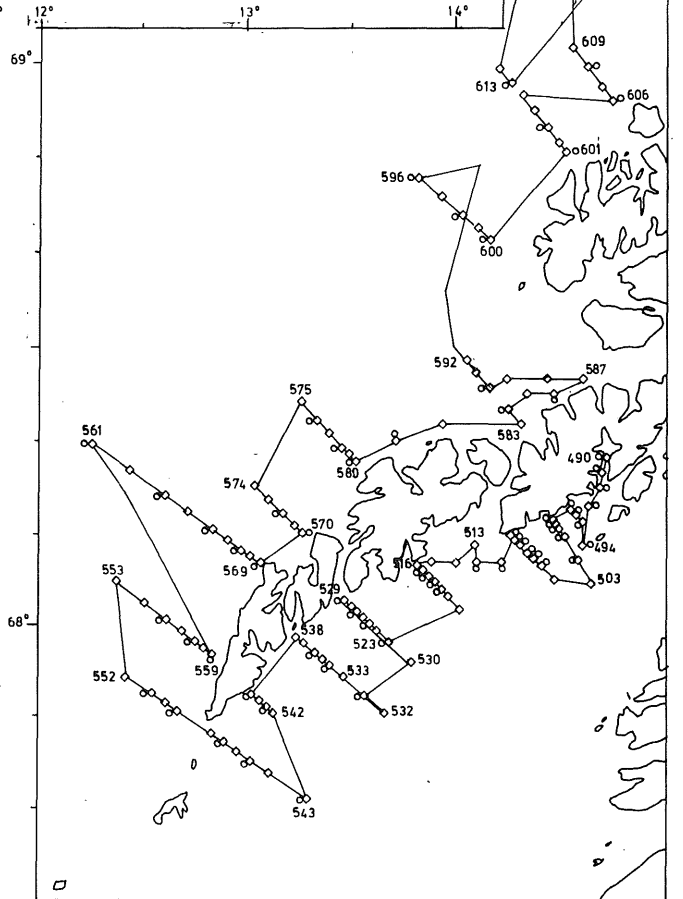
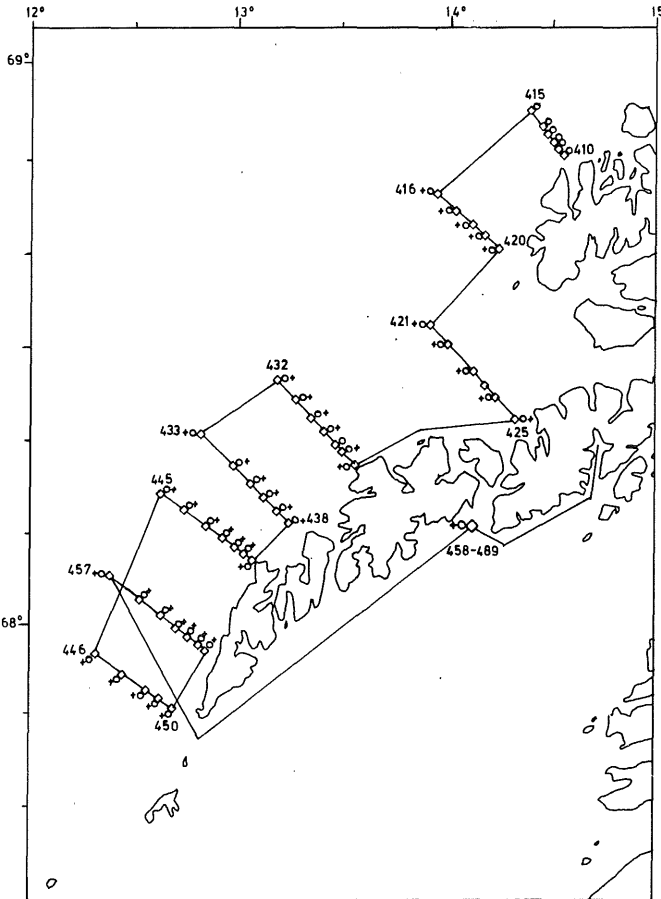
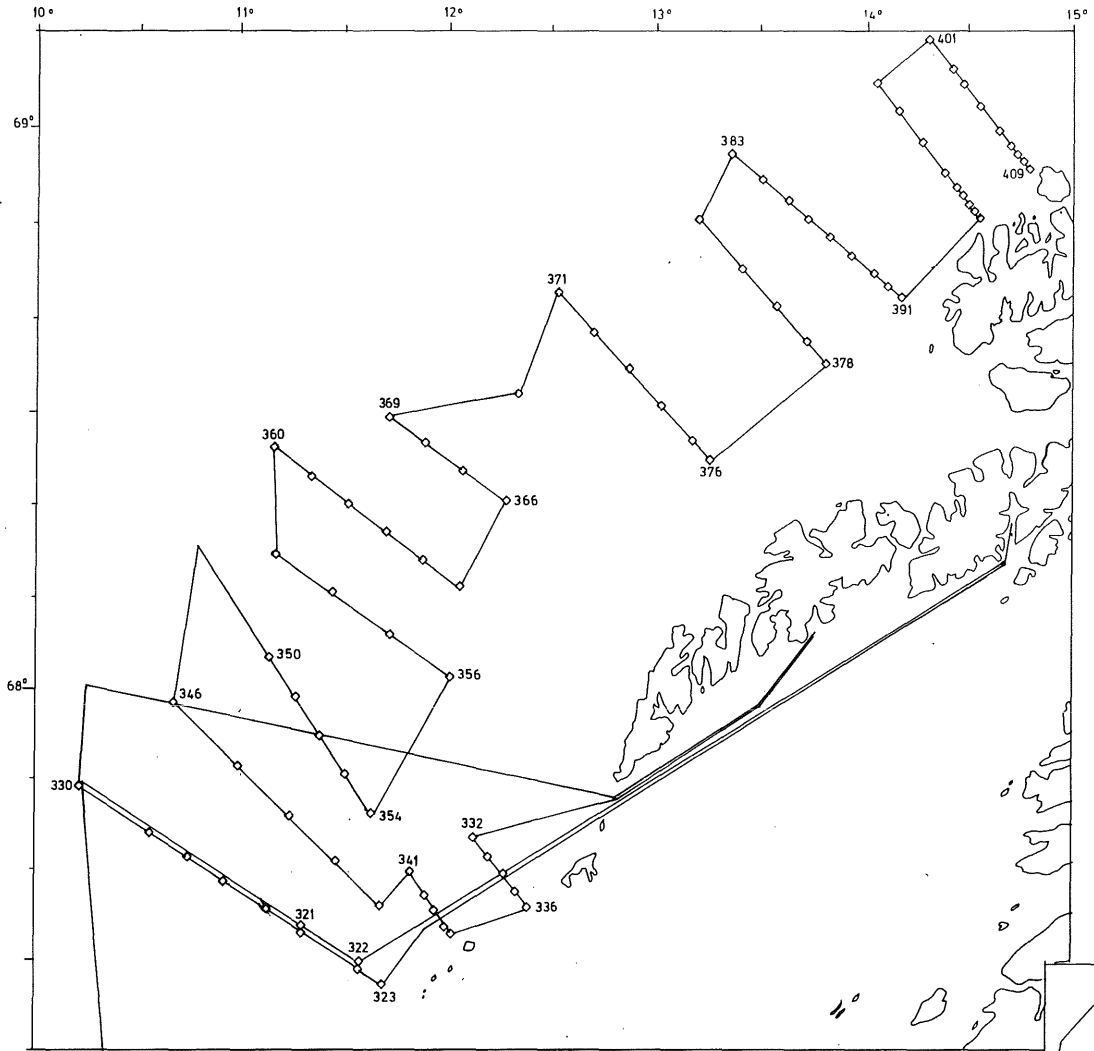


5 - 29 APR. 1983 ST. NO. 197 - 317

"ELD JARN"







4-19 MAY 1983

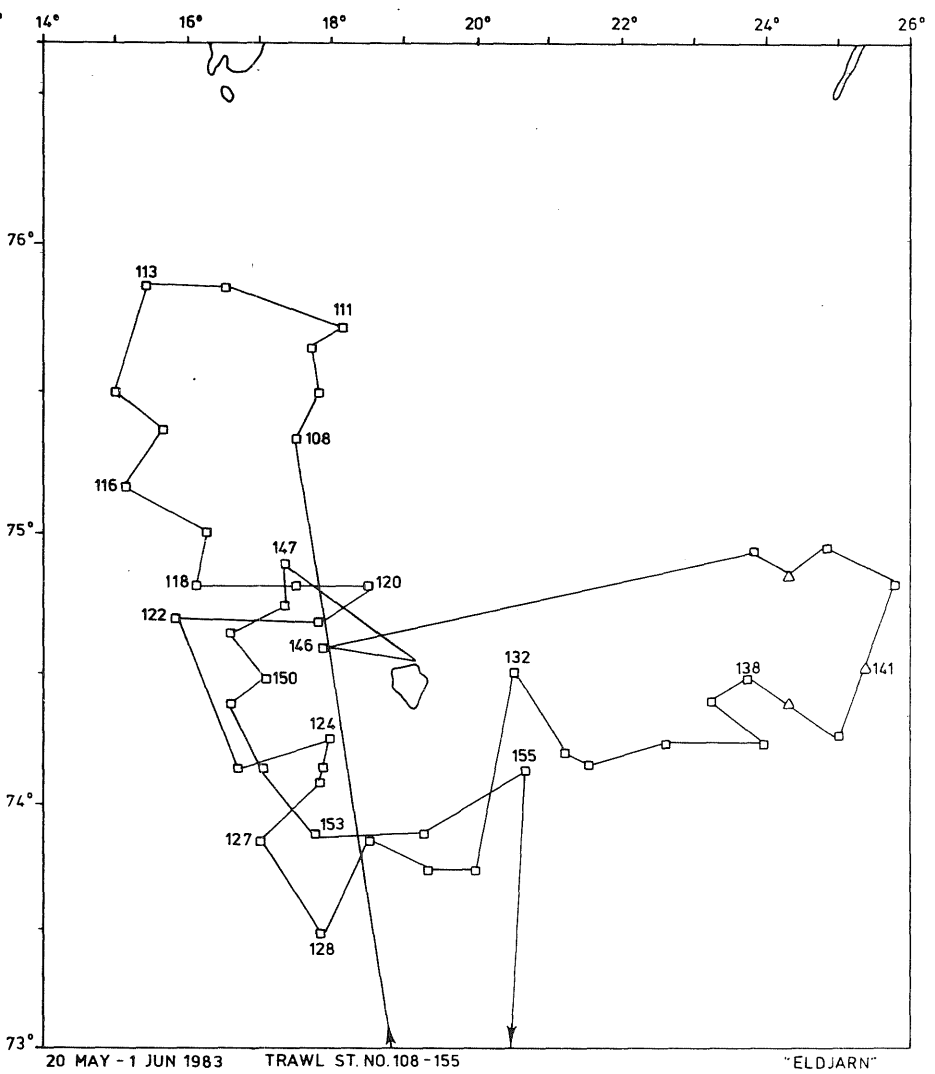
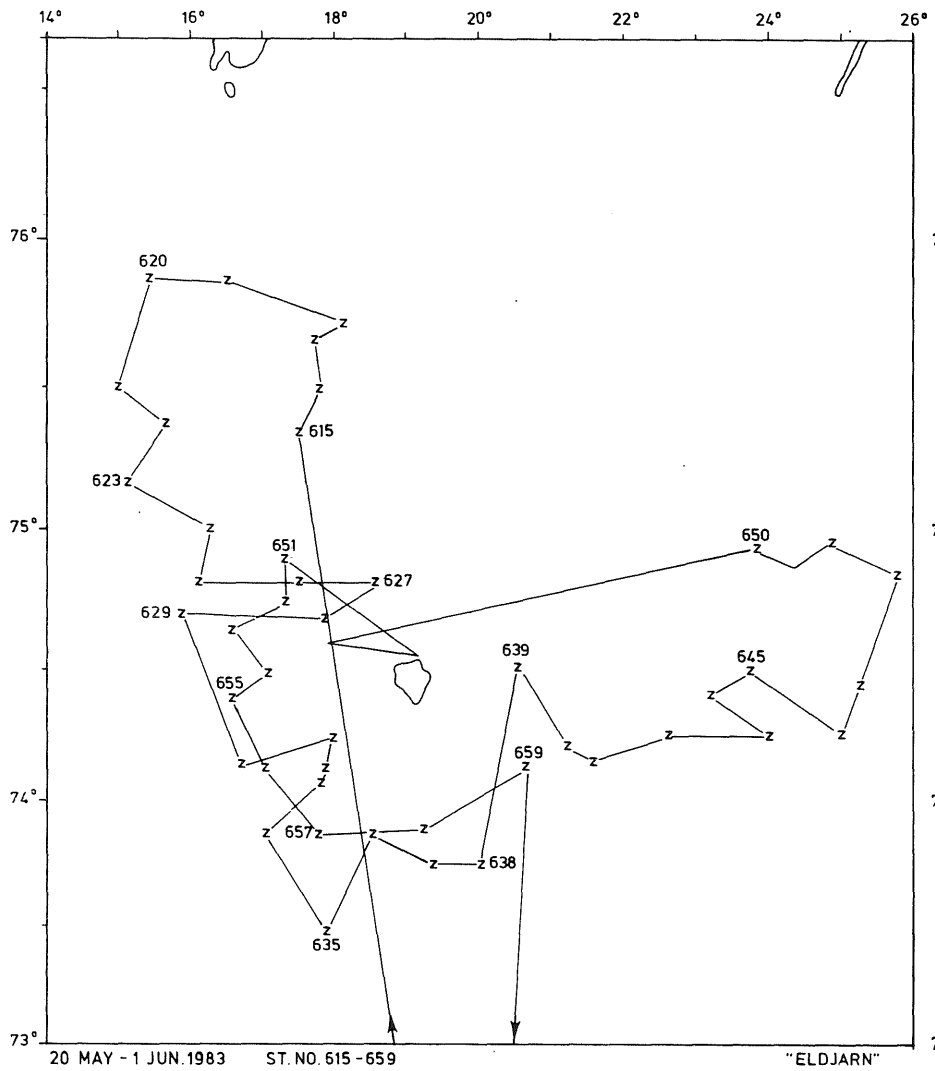
◊ PLANKTON ST. NO. 321-613

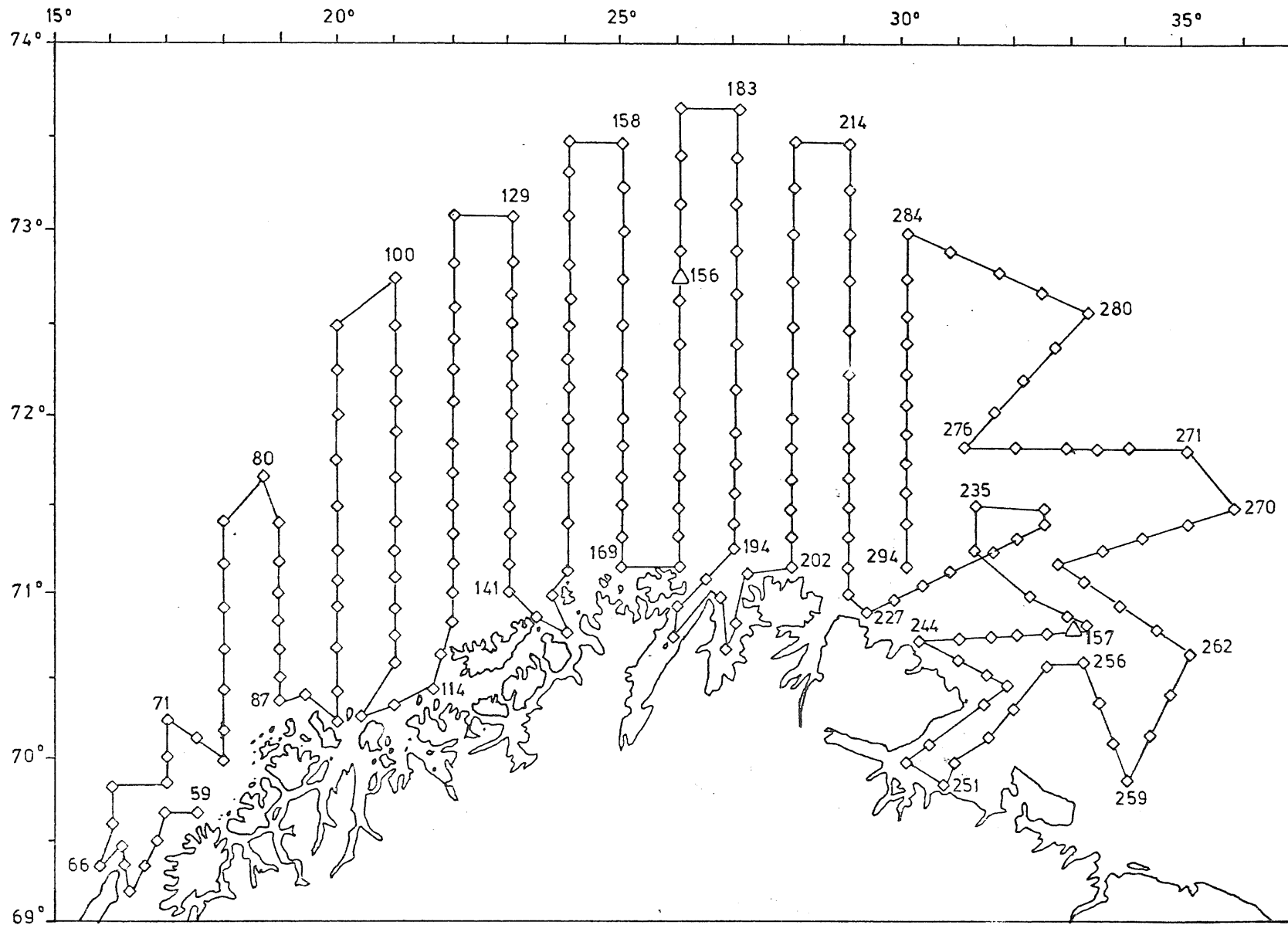
+ IN SITU FLUOREMETER

◊ PLANKTONPUMP

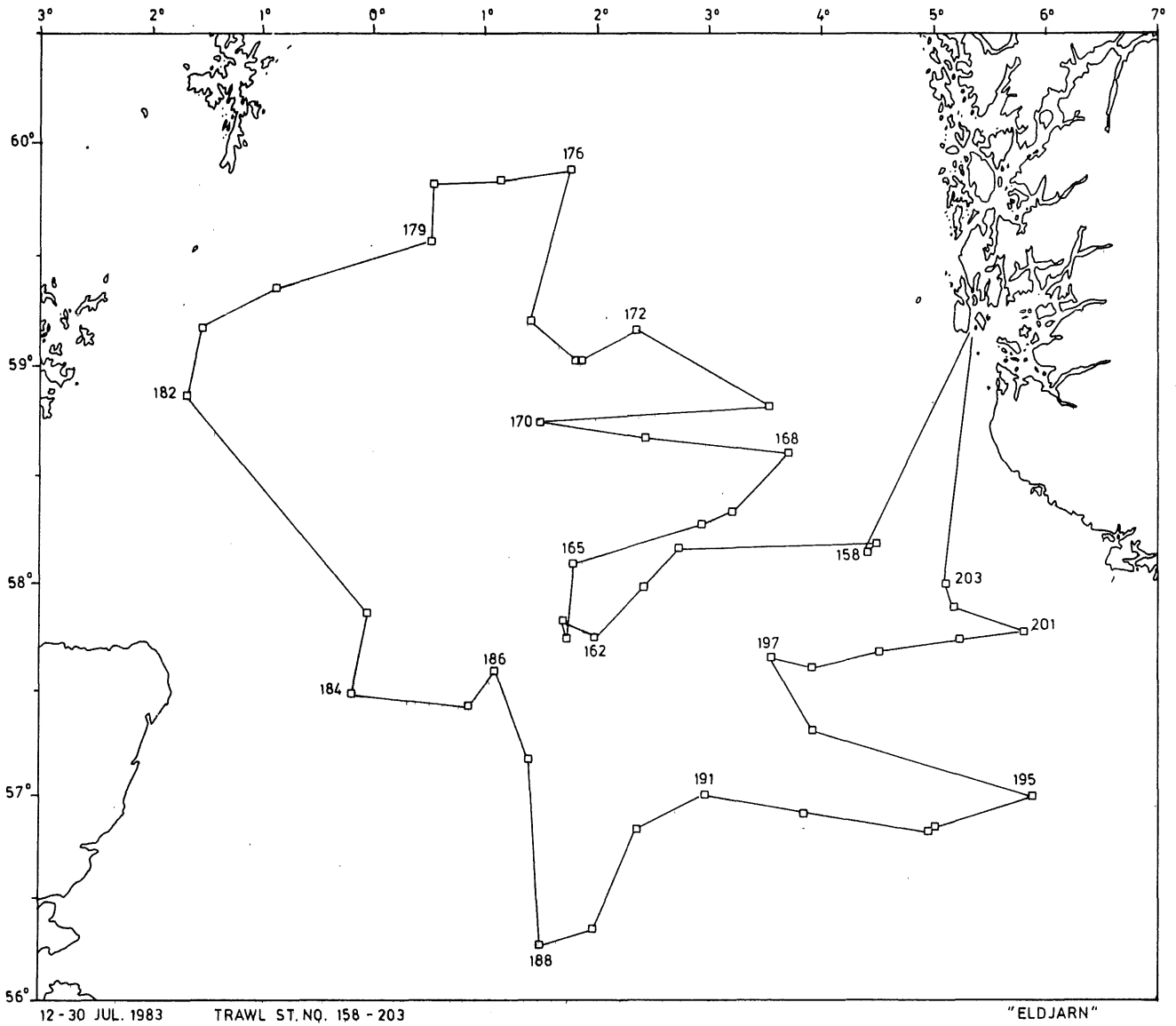
"ELD JARN"

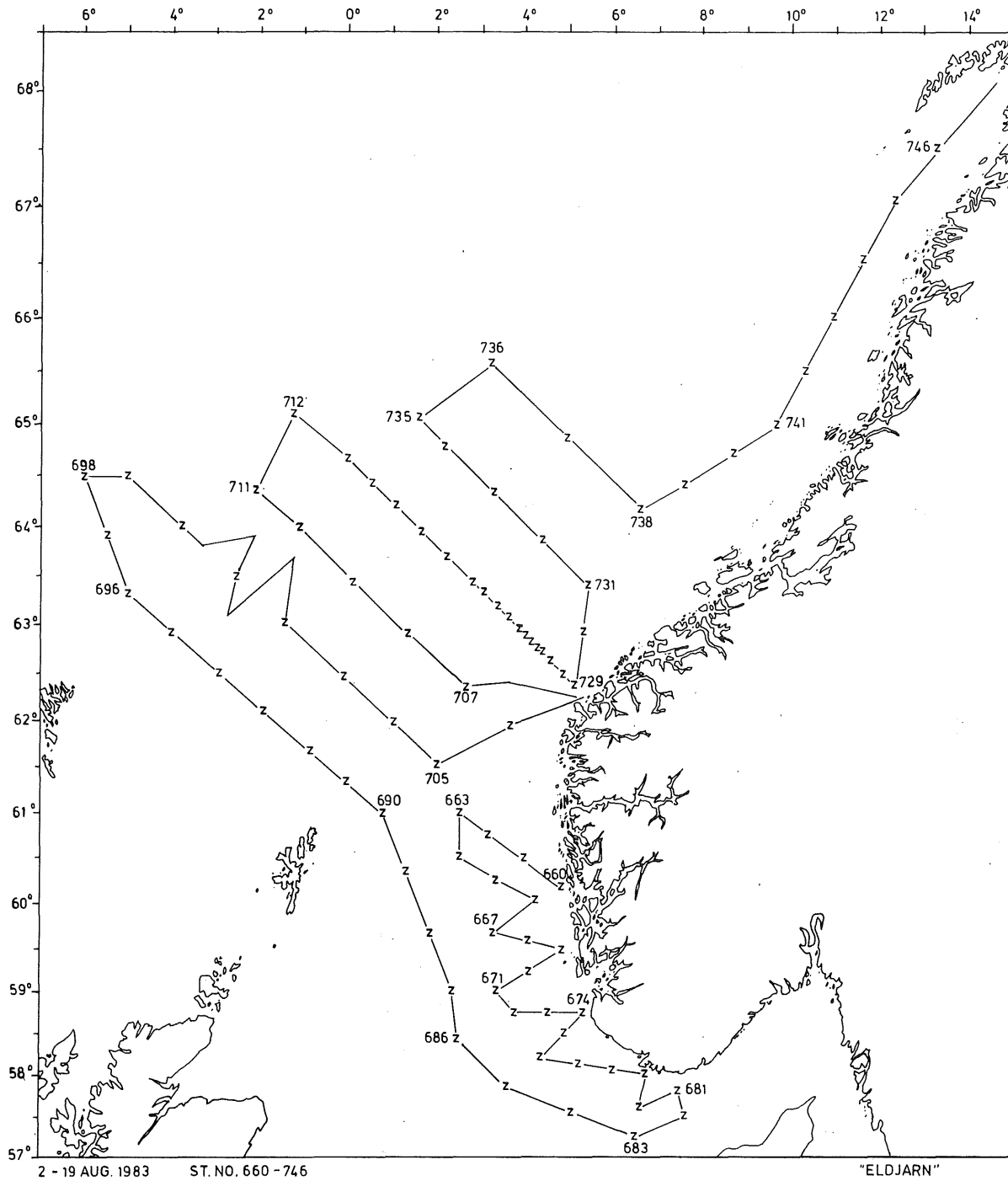


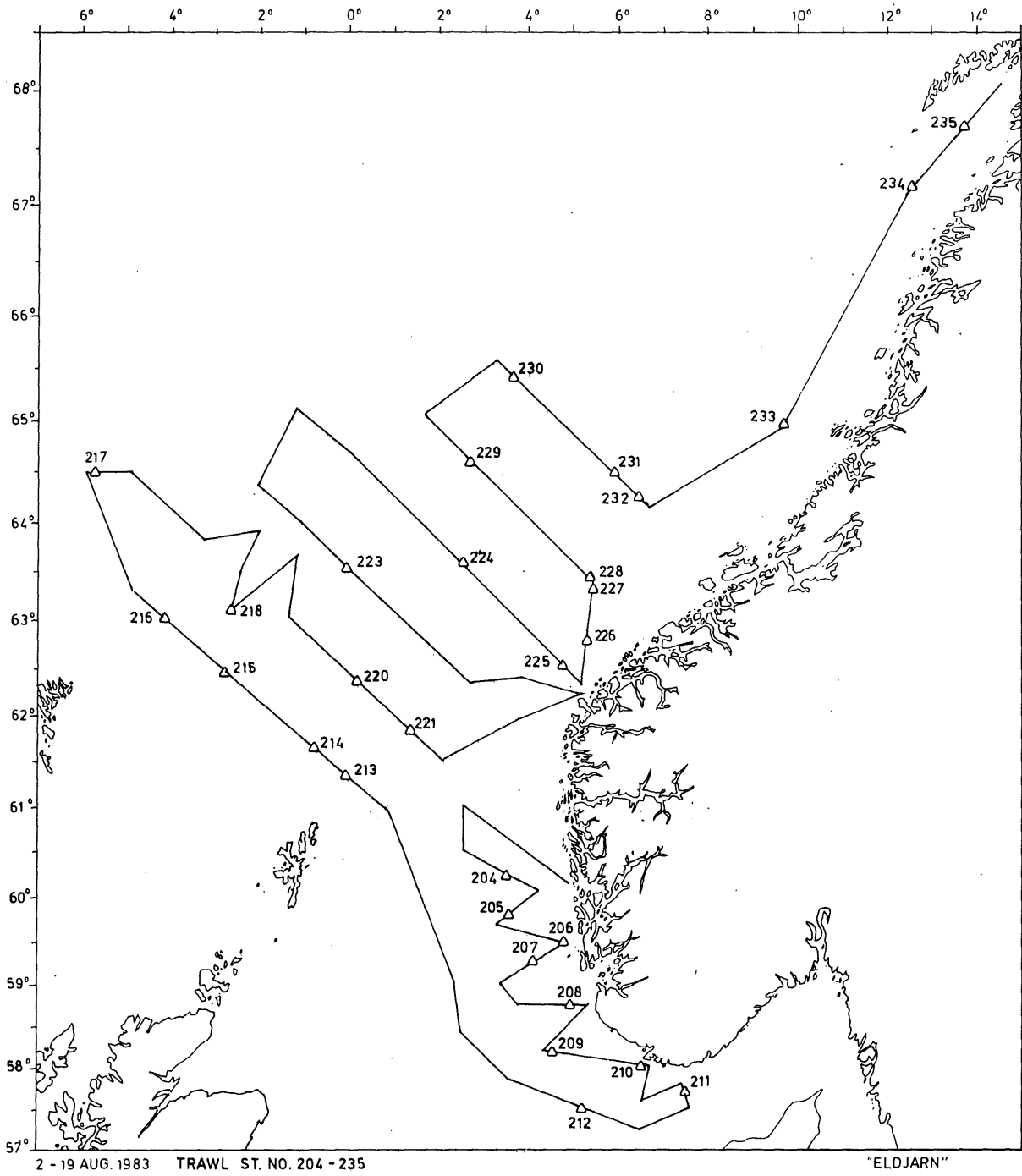


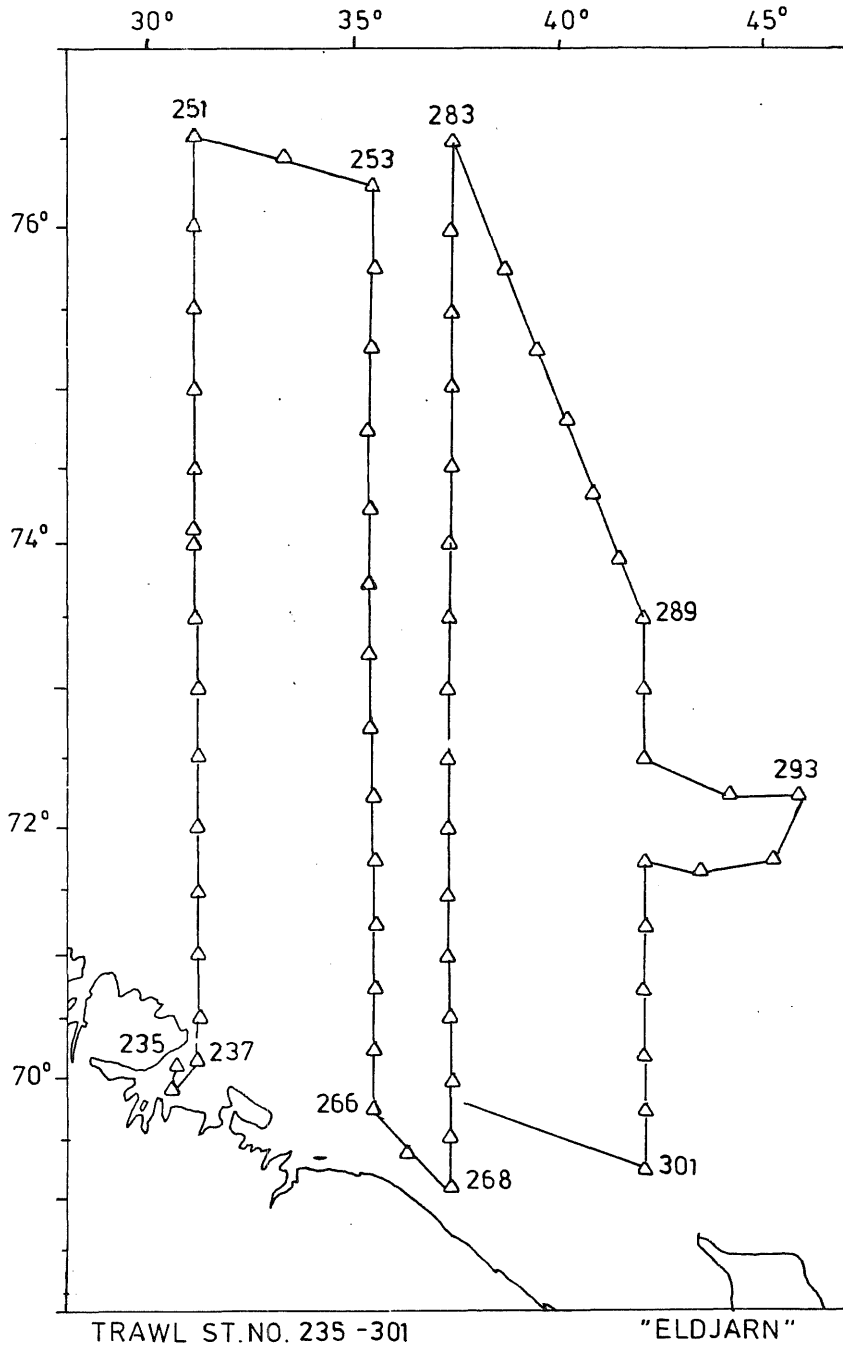
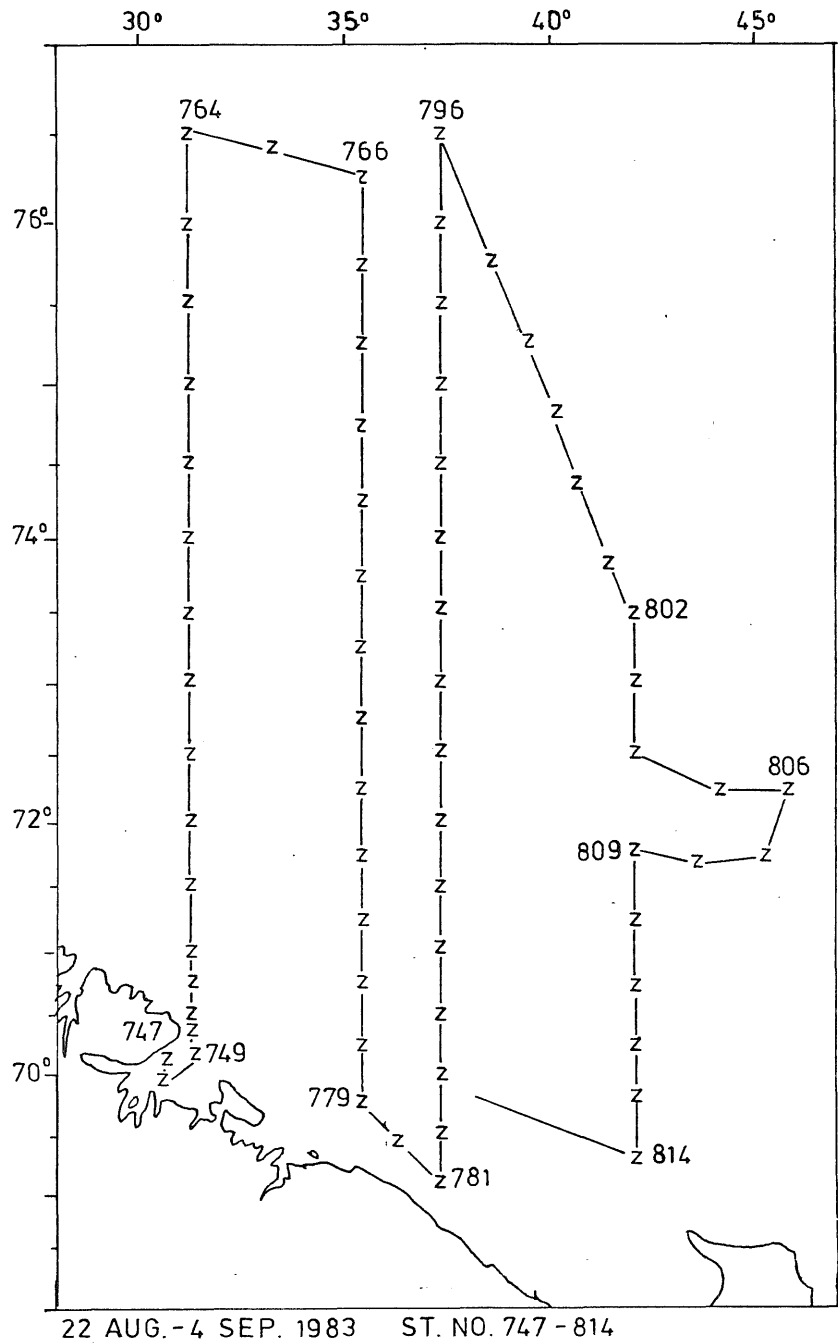


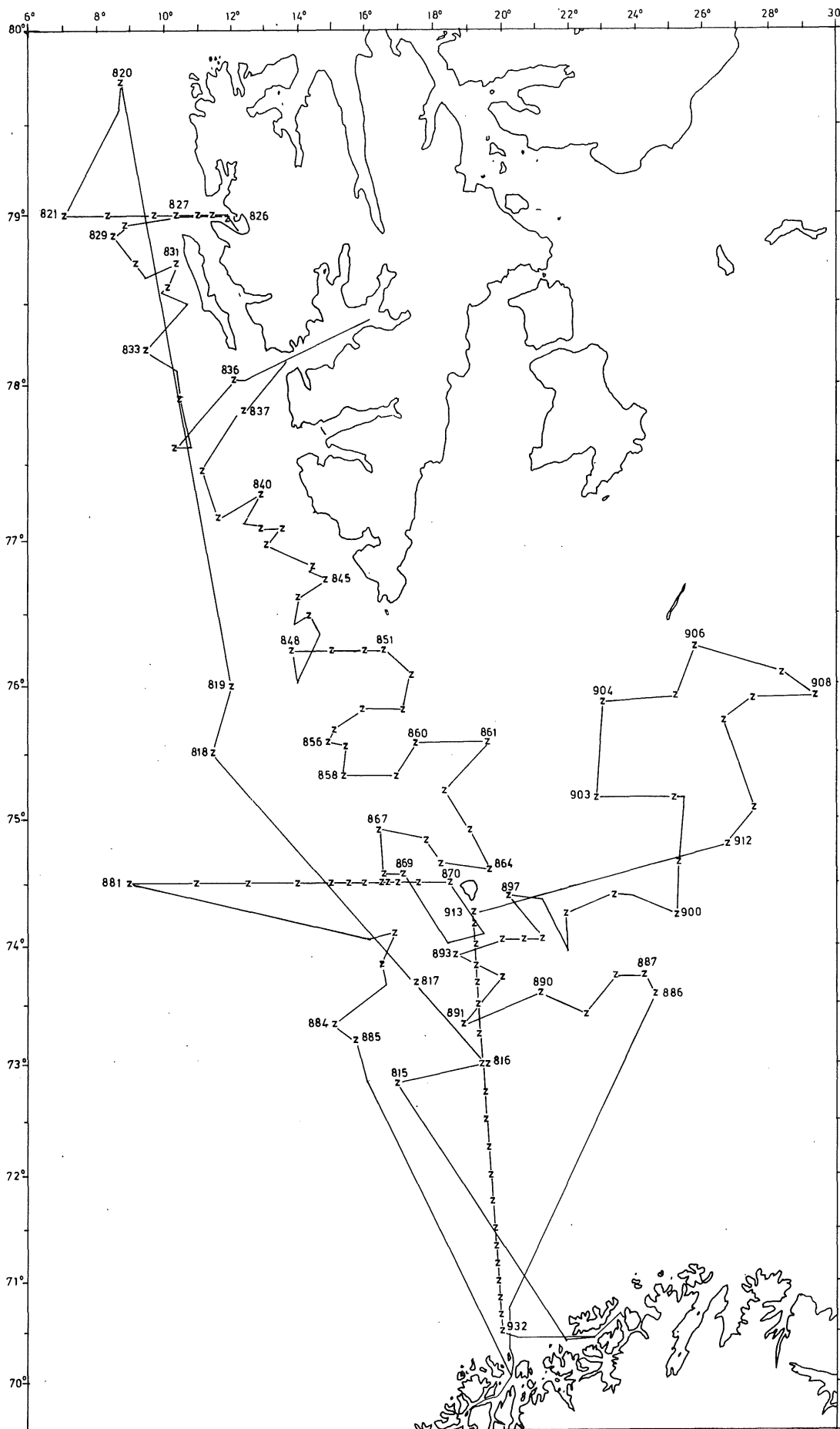
1-16 JUN. 1983      TRAWL ST. NO. 156 - 157      GULF III ST. NO. 59 - 294      "ELDJARN"





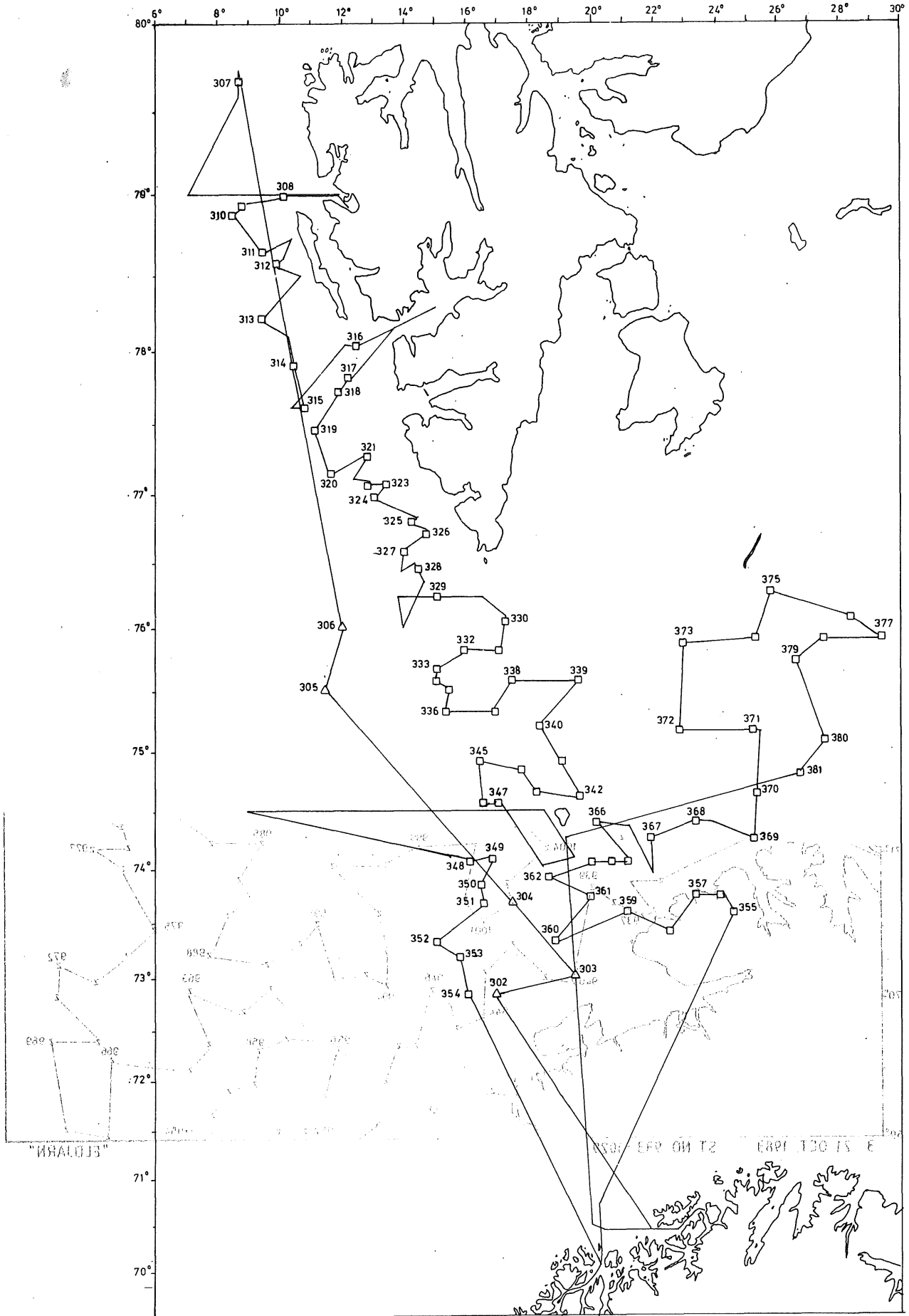






6 SEP. - 1 OCT. 1983 ST. NO. 815 - 932

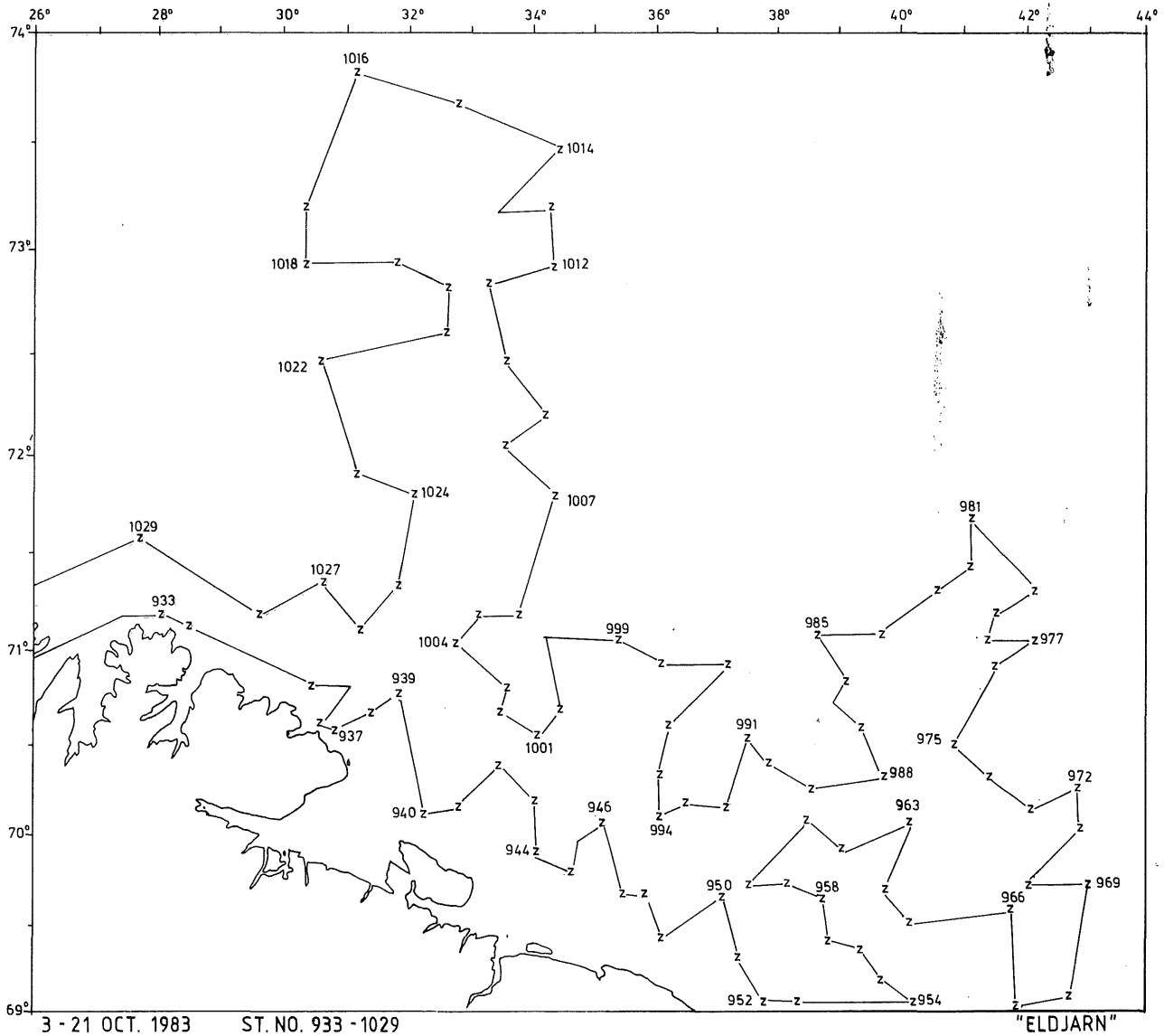
"ELDJARN"

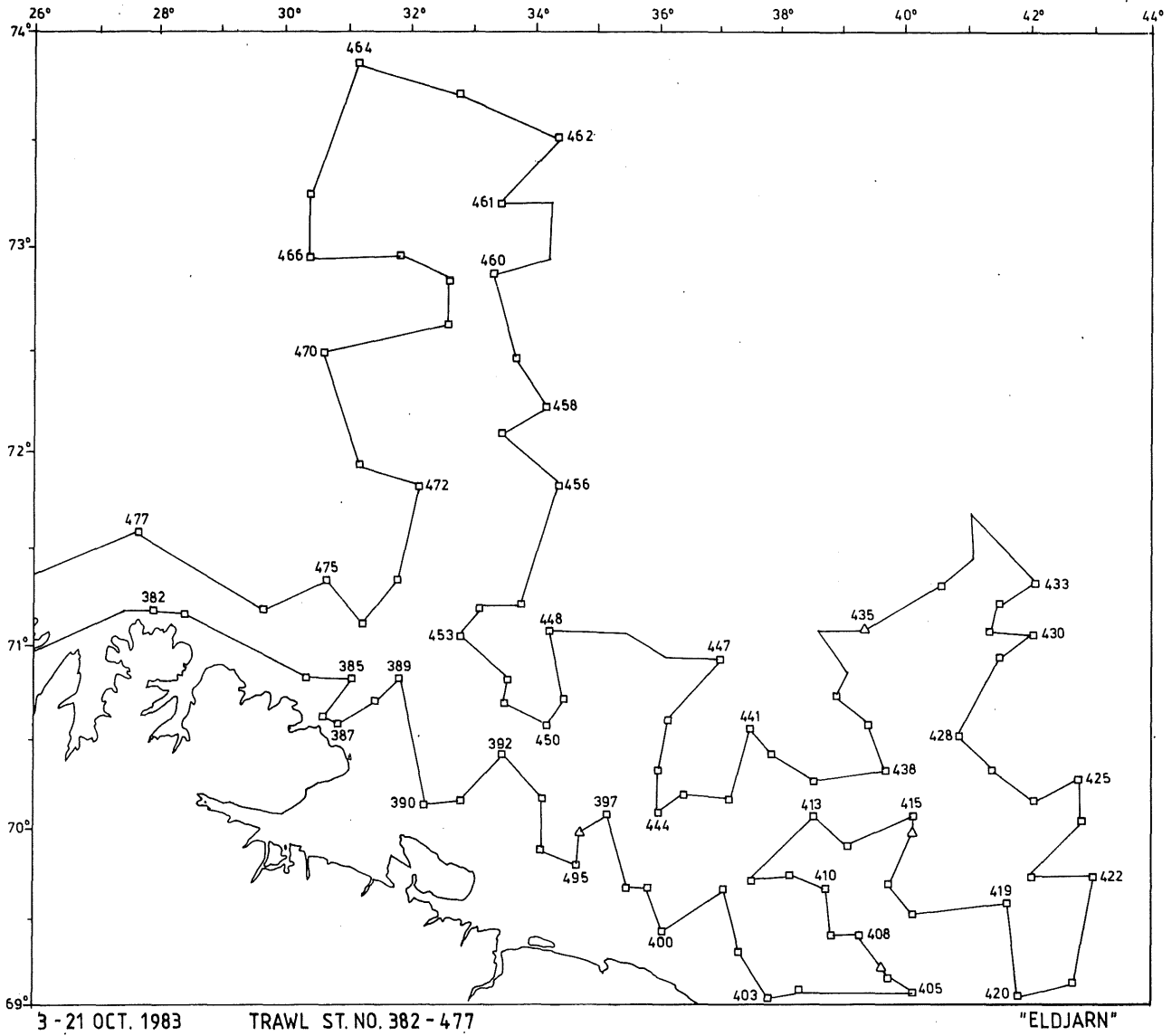


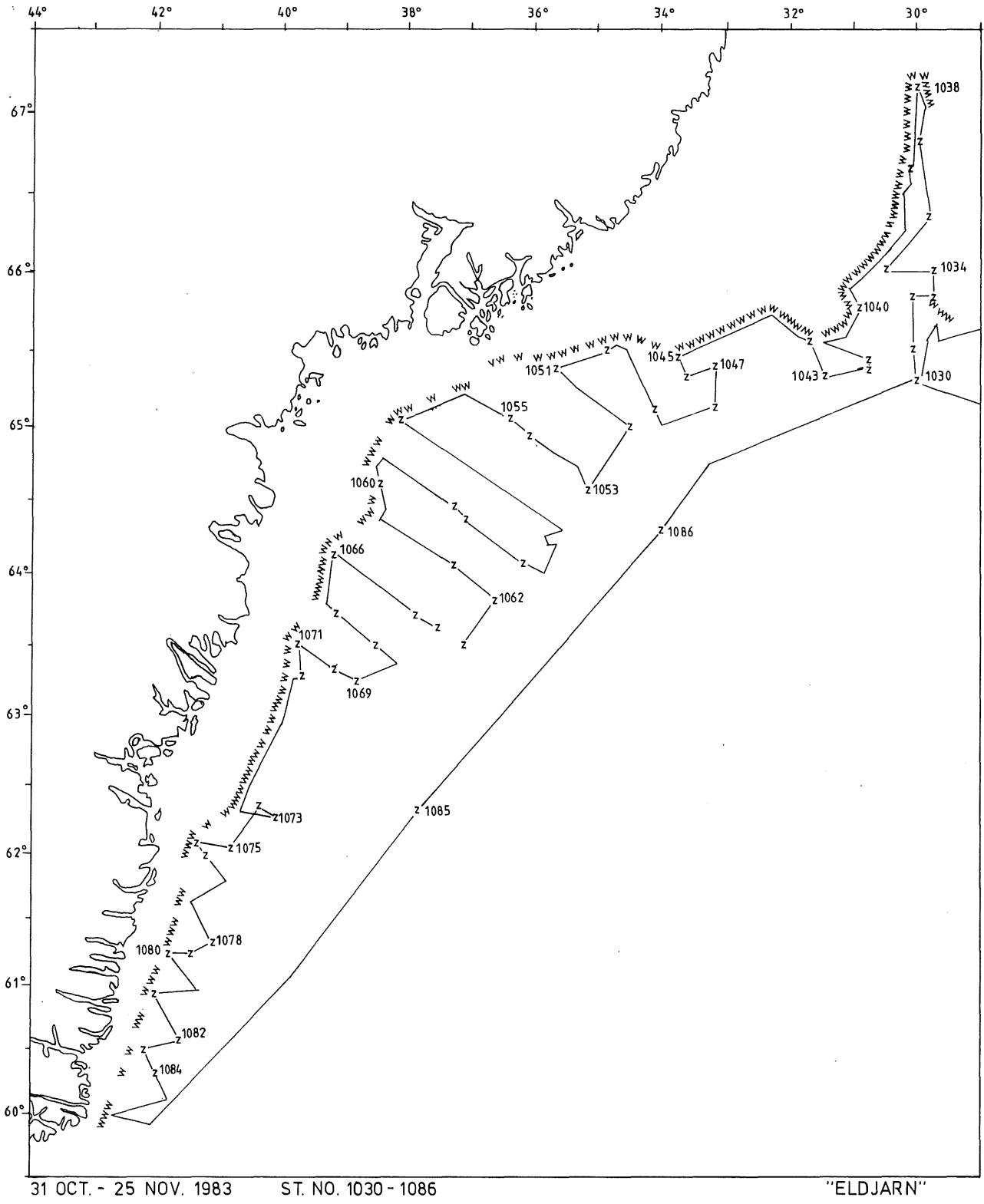
6 SEP. - 1 OCT. 1983 TRAWL ST. NO. 302 - 381

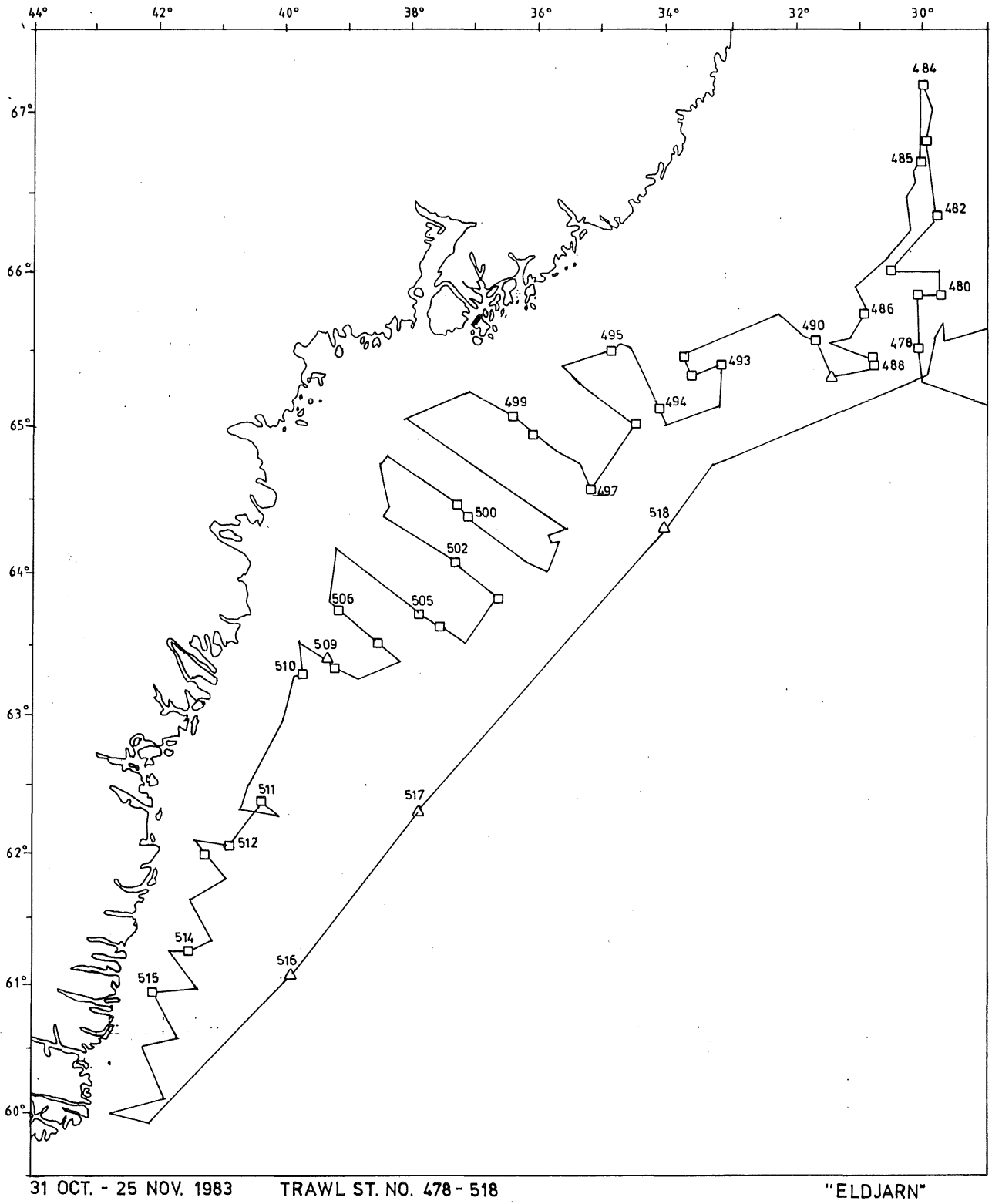
"ELDJARN"

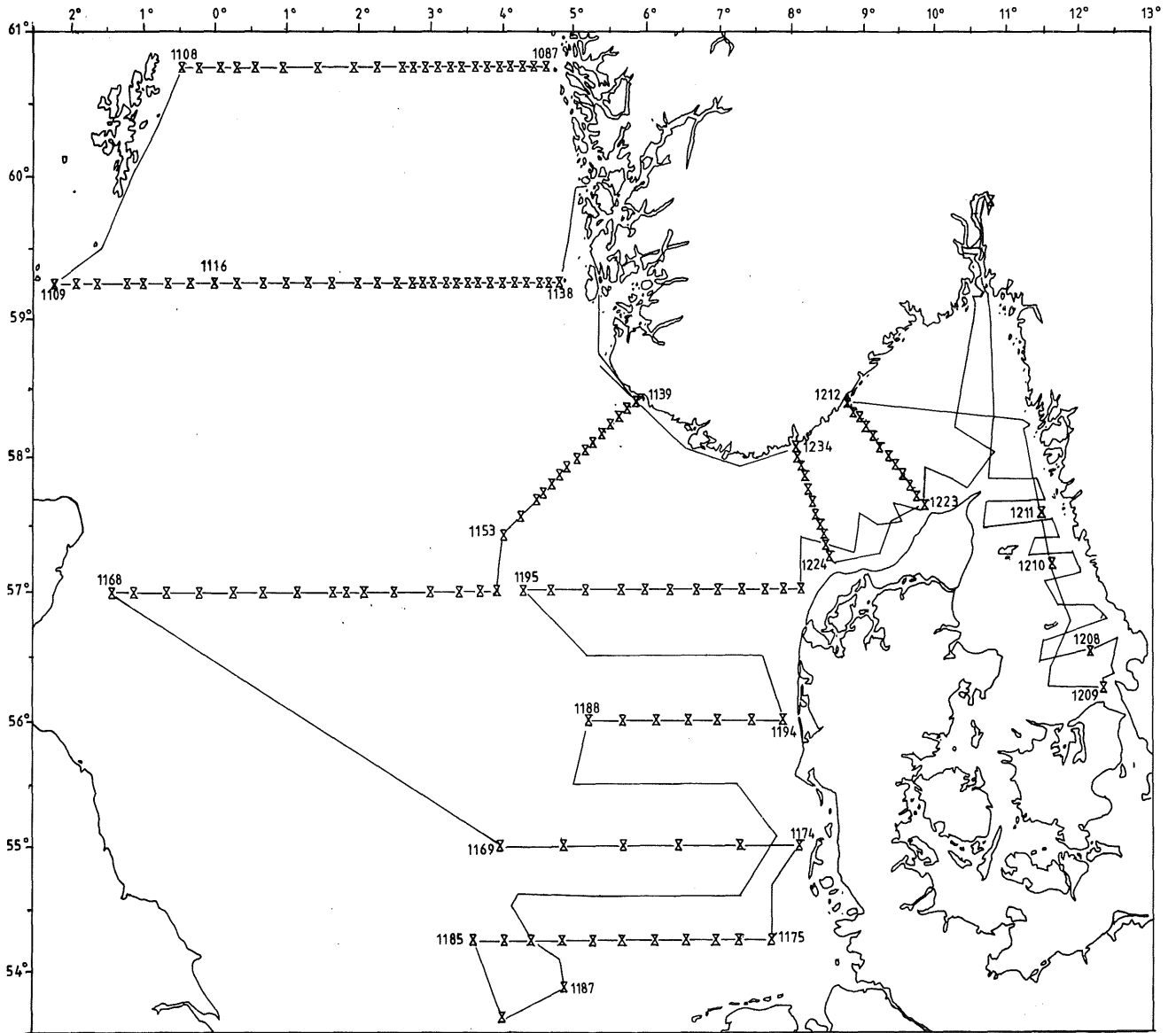






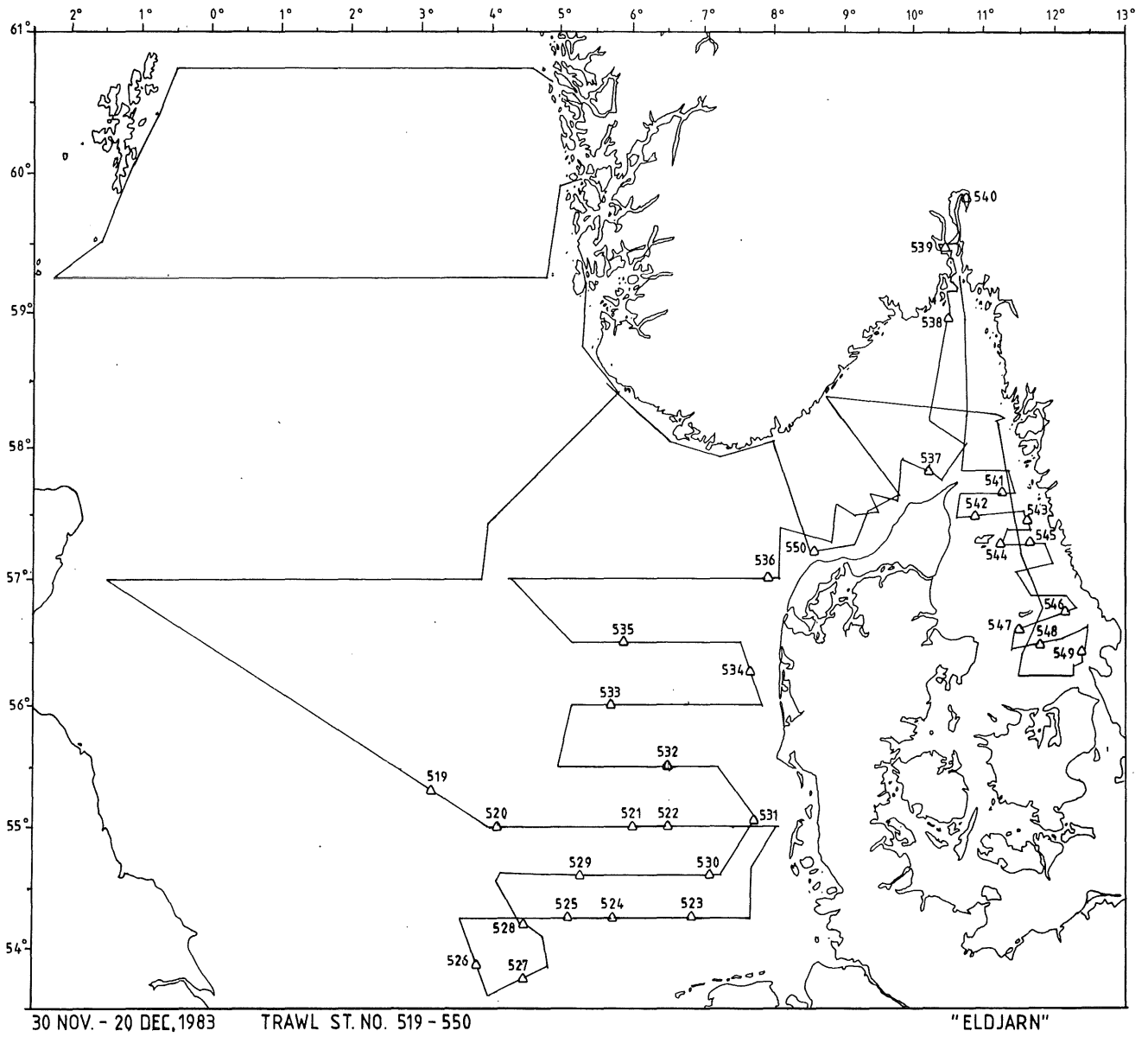


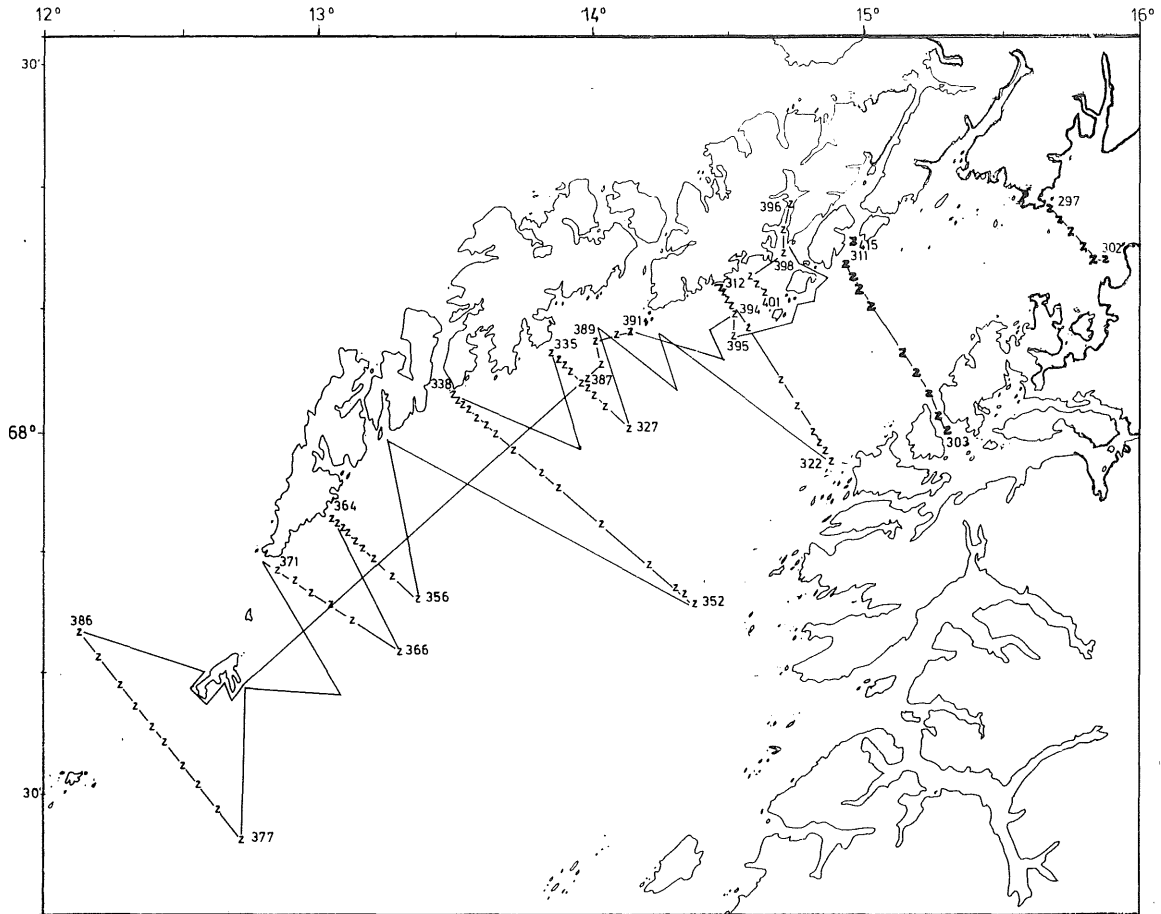




30 NOV. - 20 DEC. 1983 ST.NO. 1087-1234 x ZTD ROSETTE MULTI-BOTTLE ARRAY  
148 ST.NO. PHOSPHATES, NITRATES, NITRITES, SILICATES. 140 ST.NO. O<sub>2</sub>

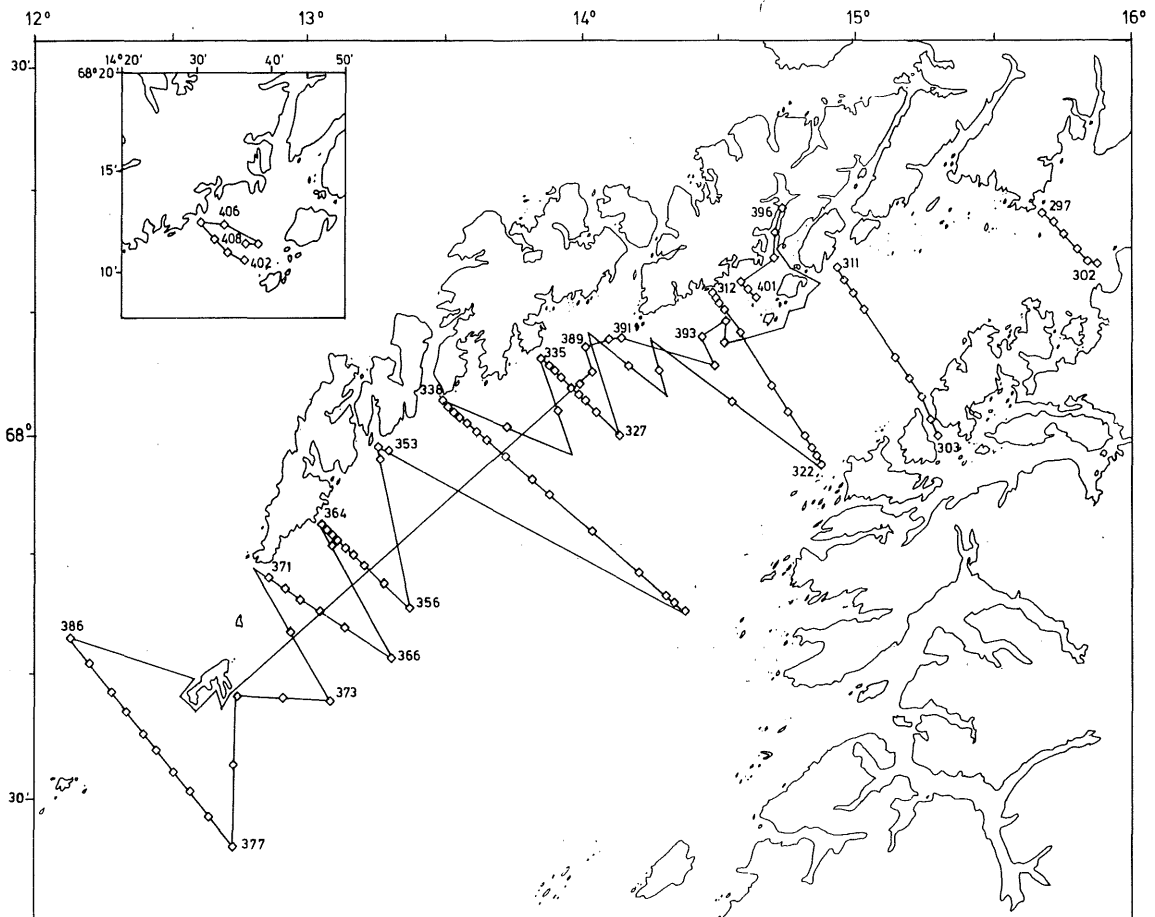
"ELDJARIN"





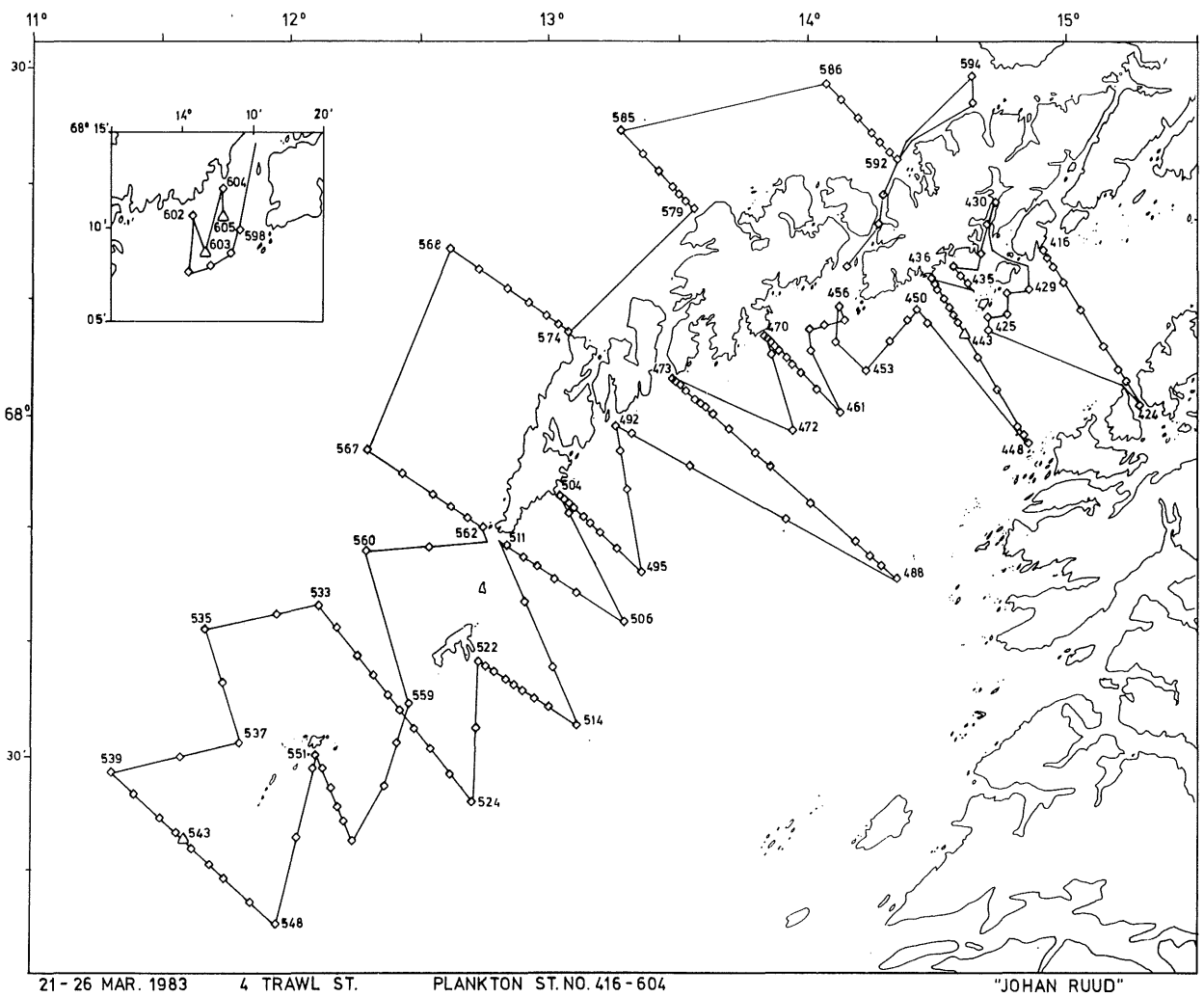
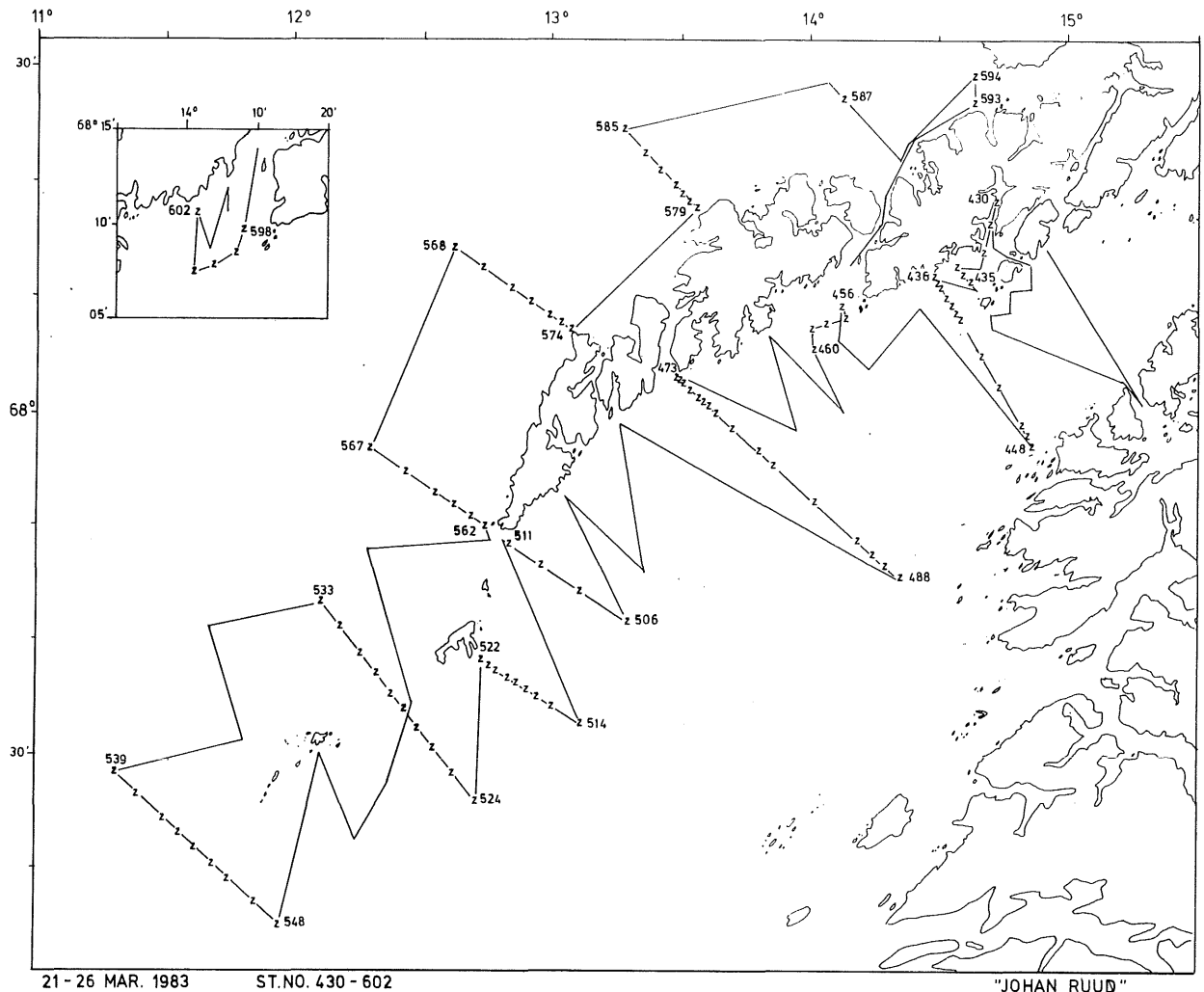
15 - 21 MAR. 1983 ST. NO. 297-415

"JOHAN RUUD"

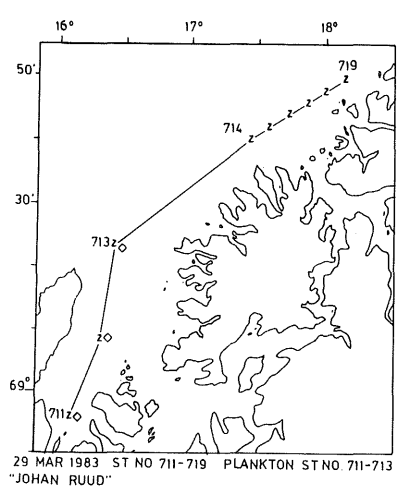
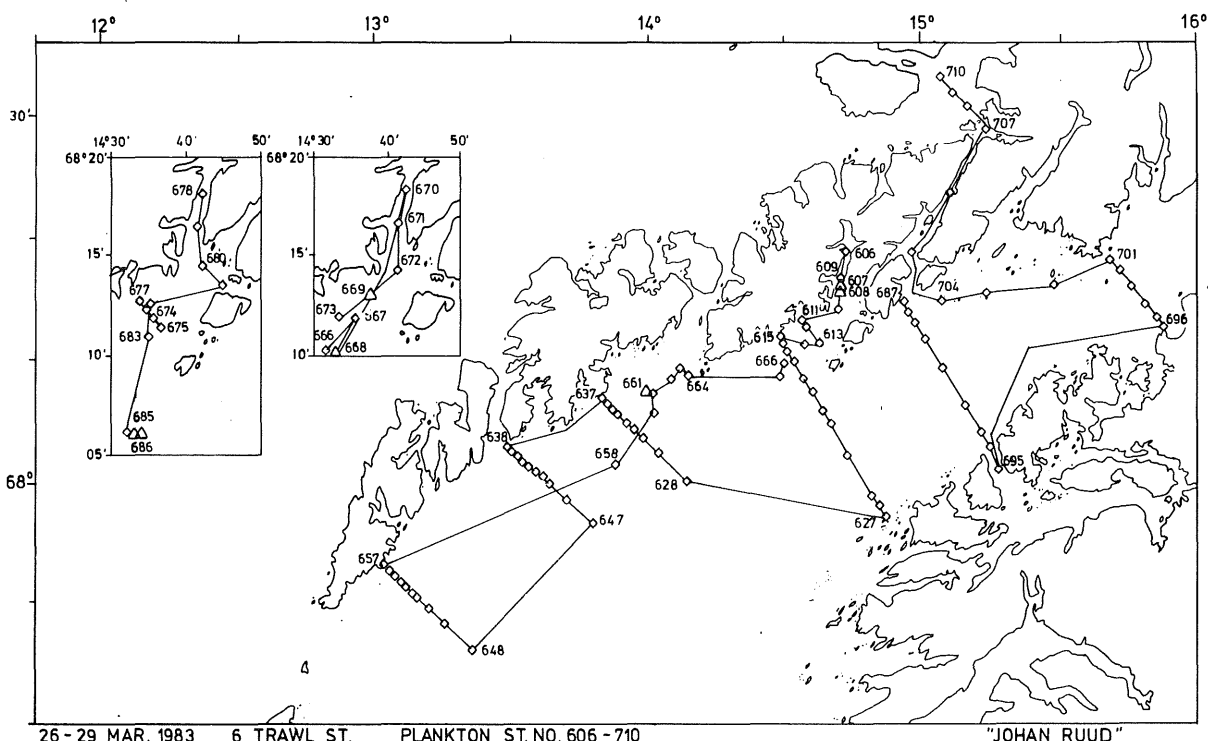
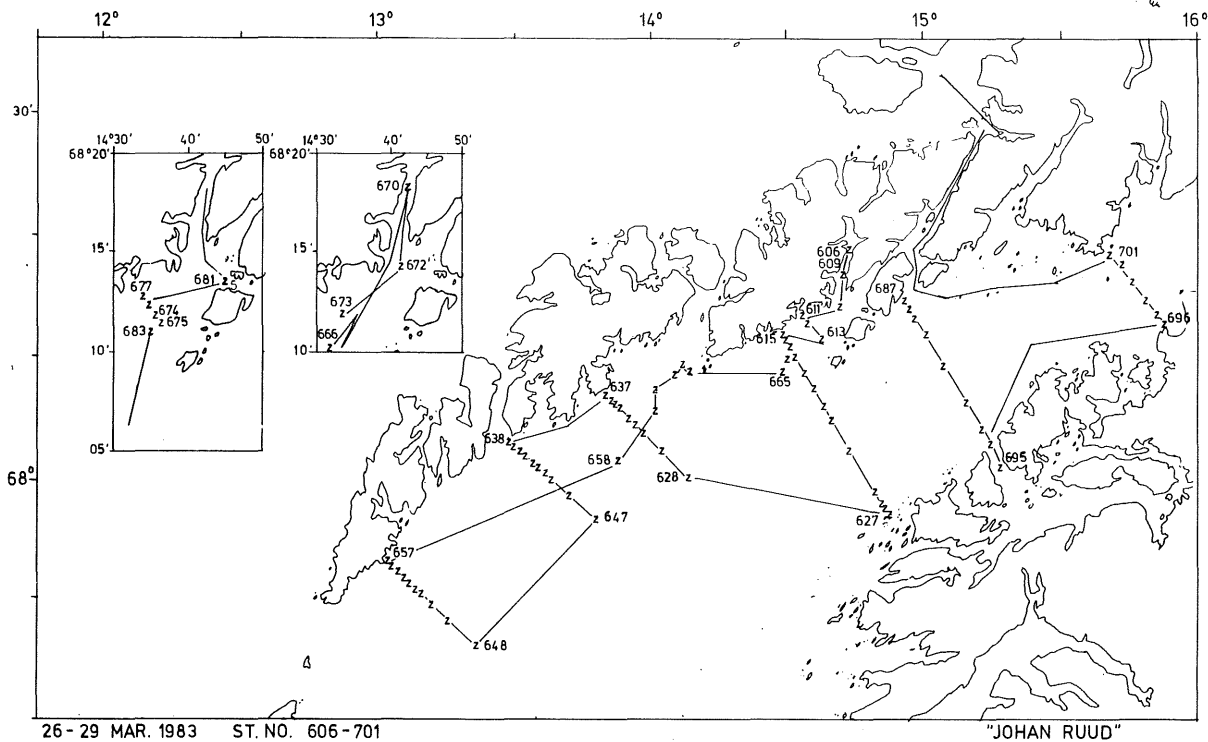


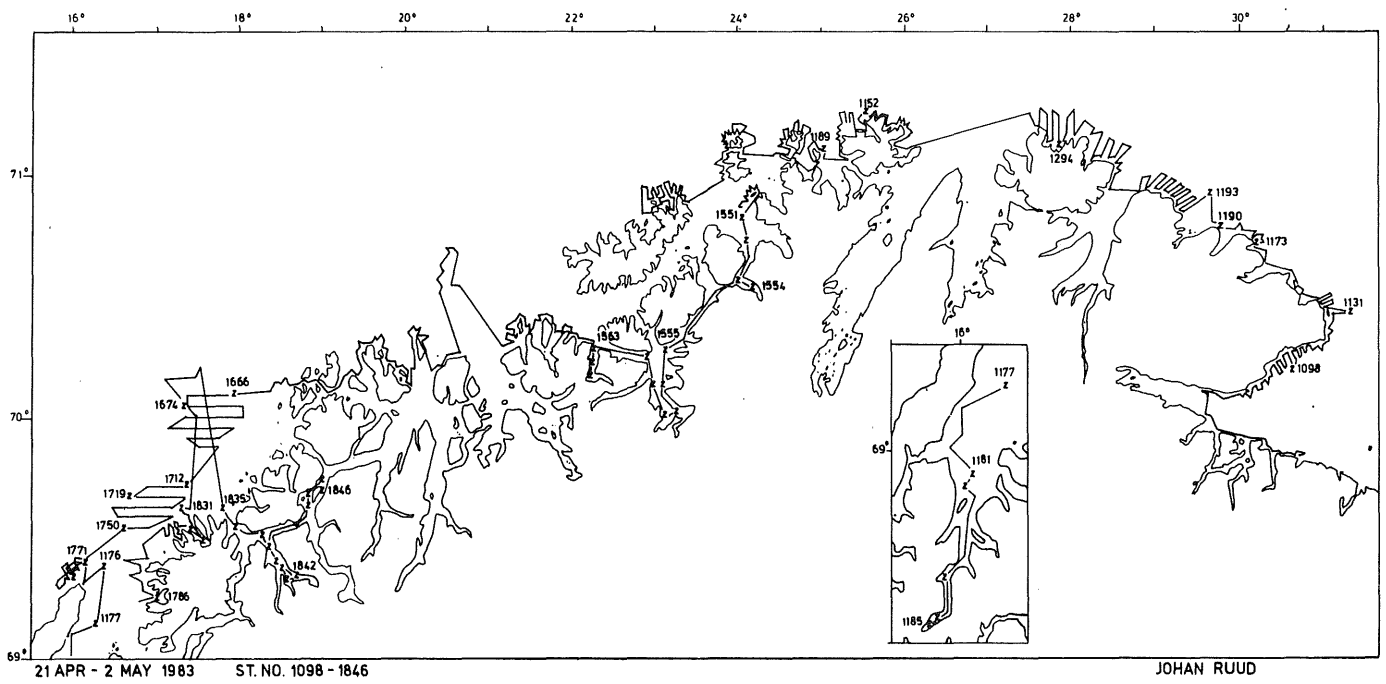
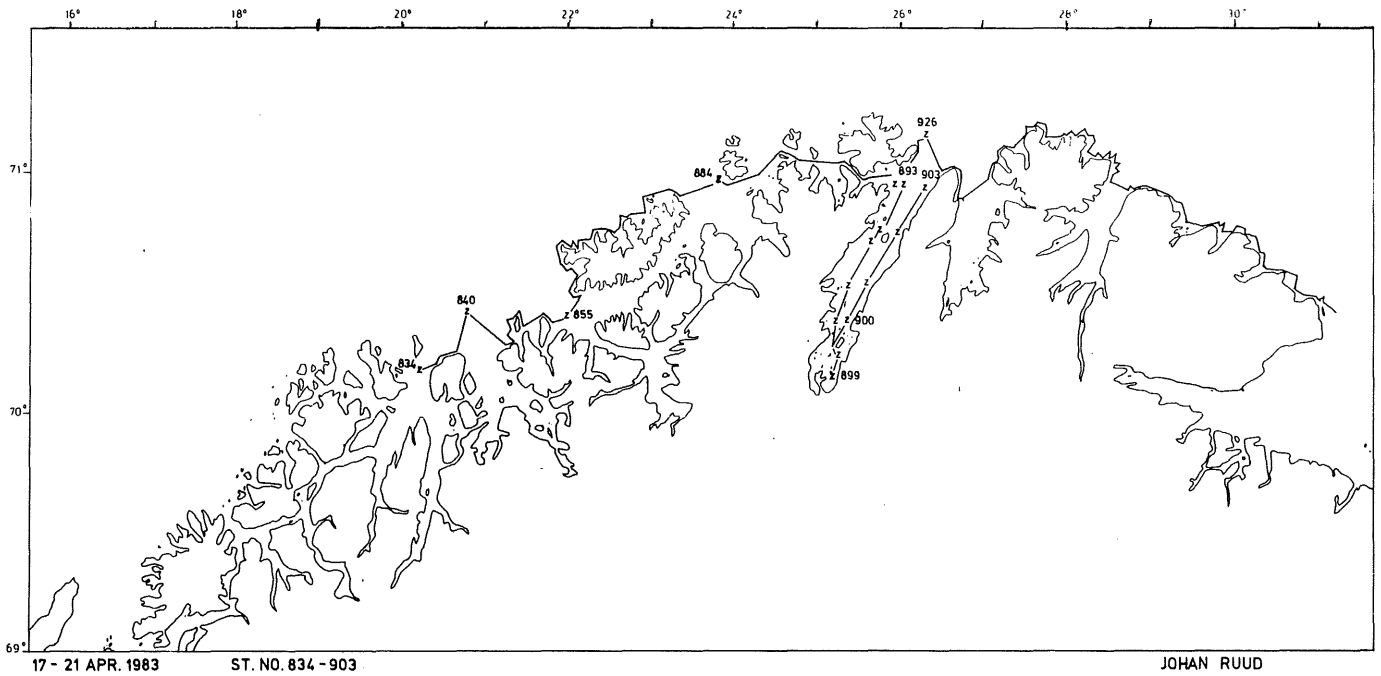
15 21 MAR. 1983 PLANKTON ST. NO. 297-408

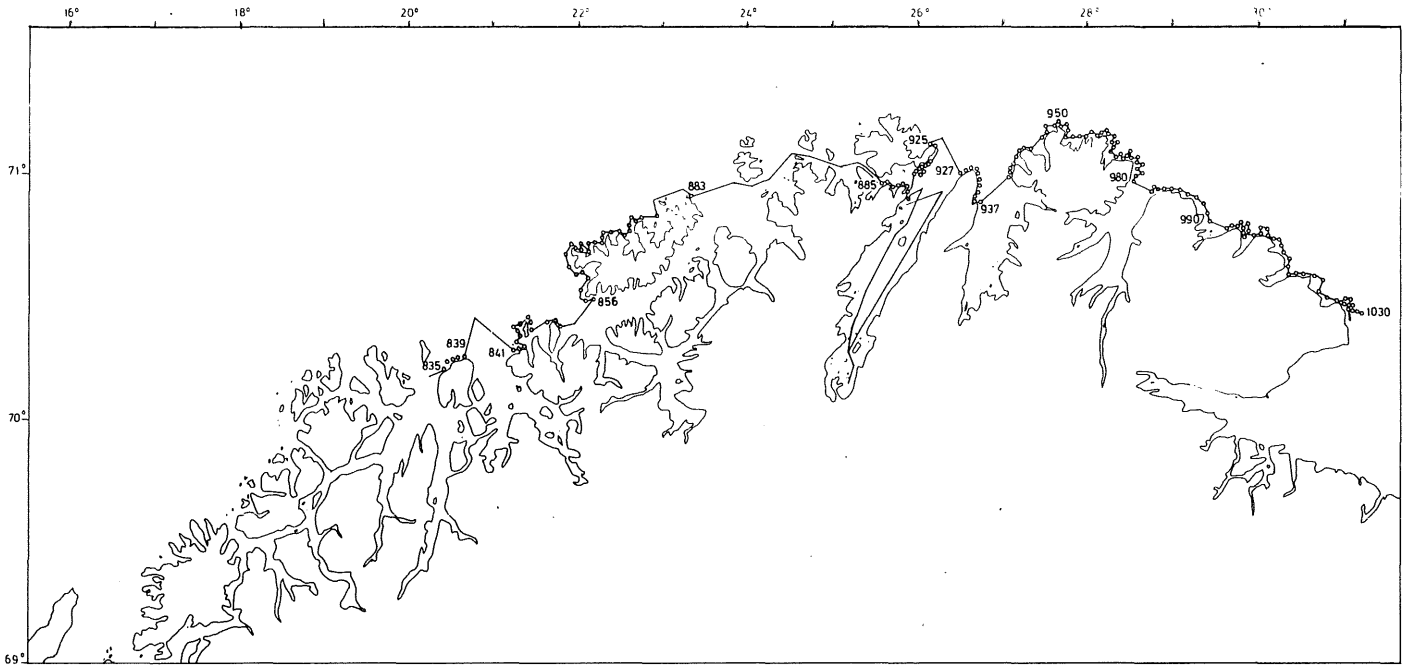
"JOHAN RUUD"





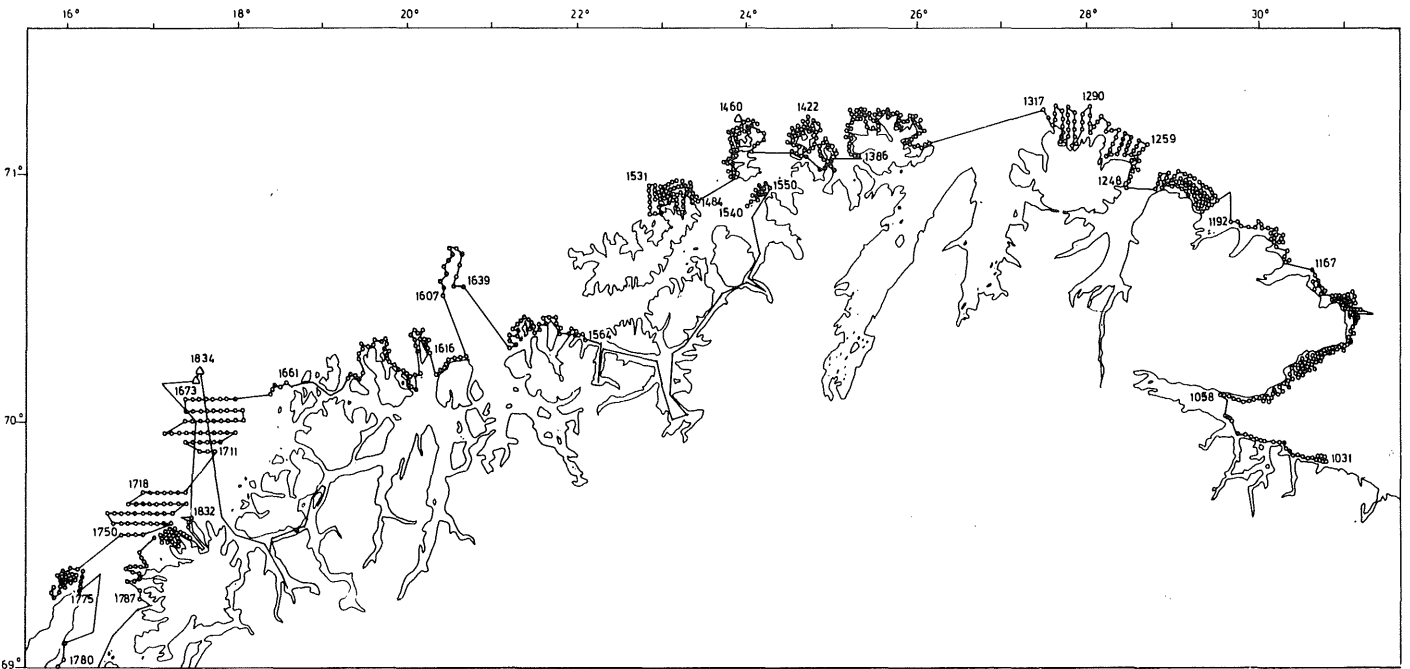






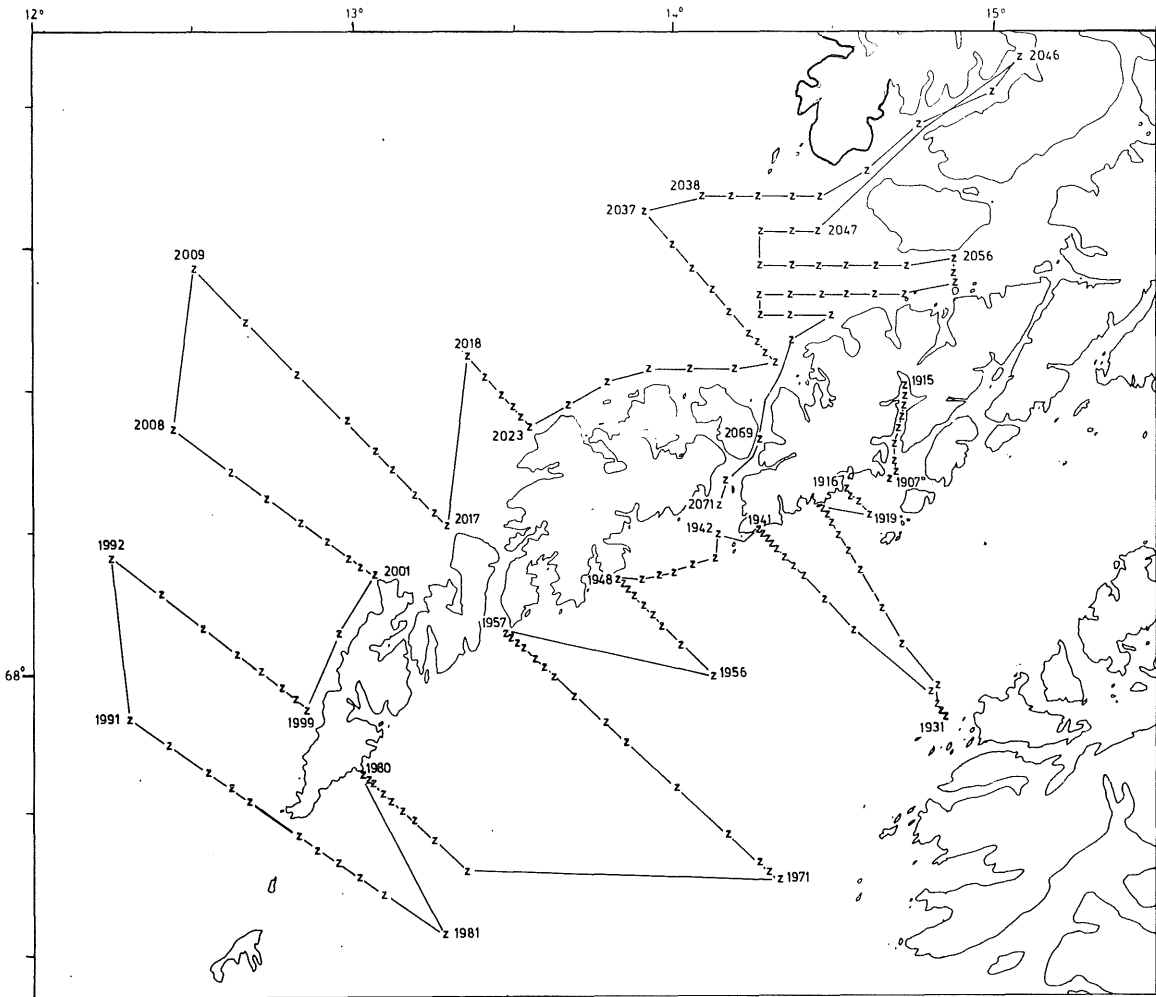
17 - 21 APR 1983 PETERSEN GRAB ST. NO. 835 - 1030

"JOHAN RUUD"



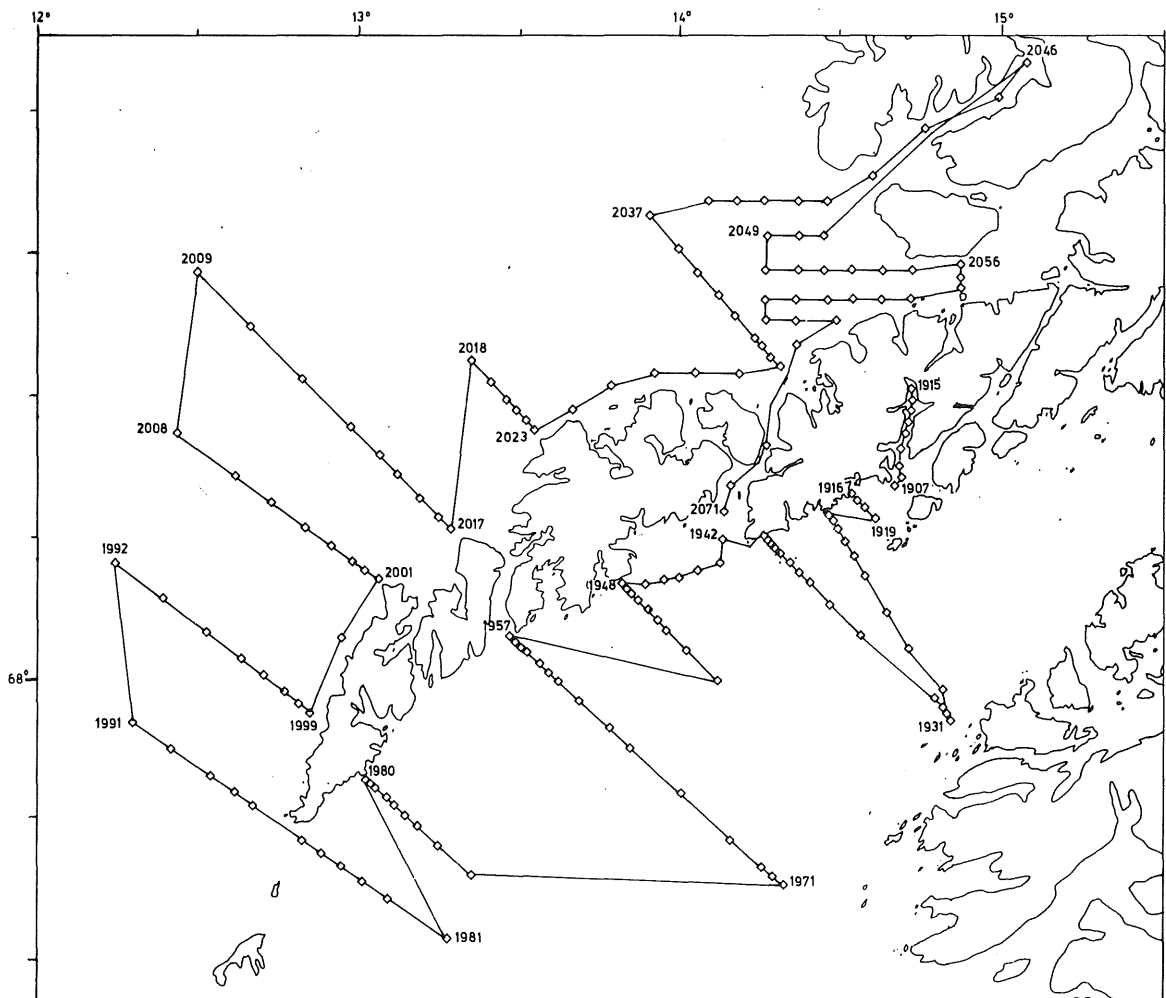
21 APR - 2 MAY 1983 TRAWL ST. NO. 1460, 1833 and 1834 PETERSEN GRAB ST. NO. 1031 - 1832

"JOHAN RUUD"



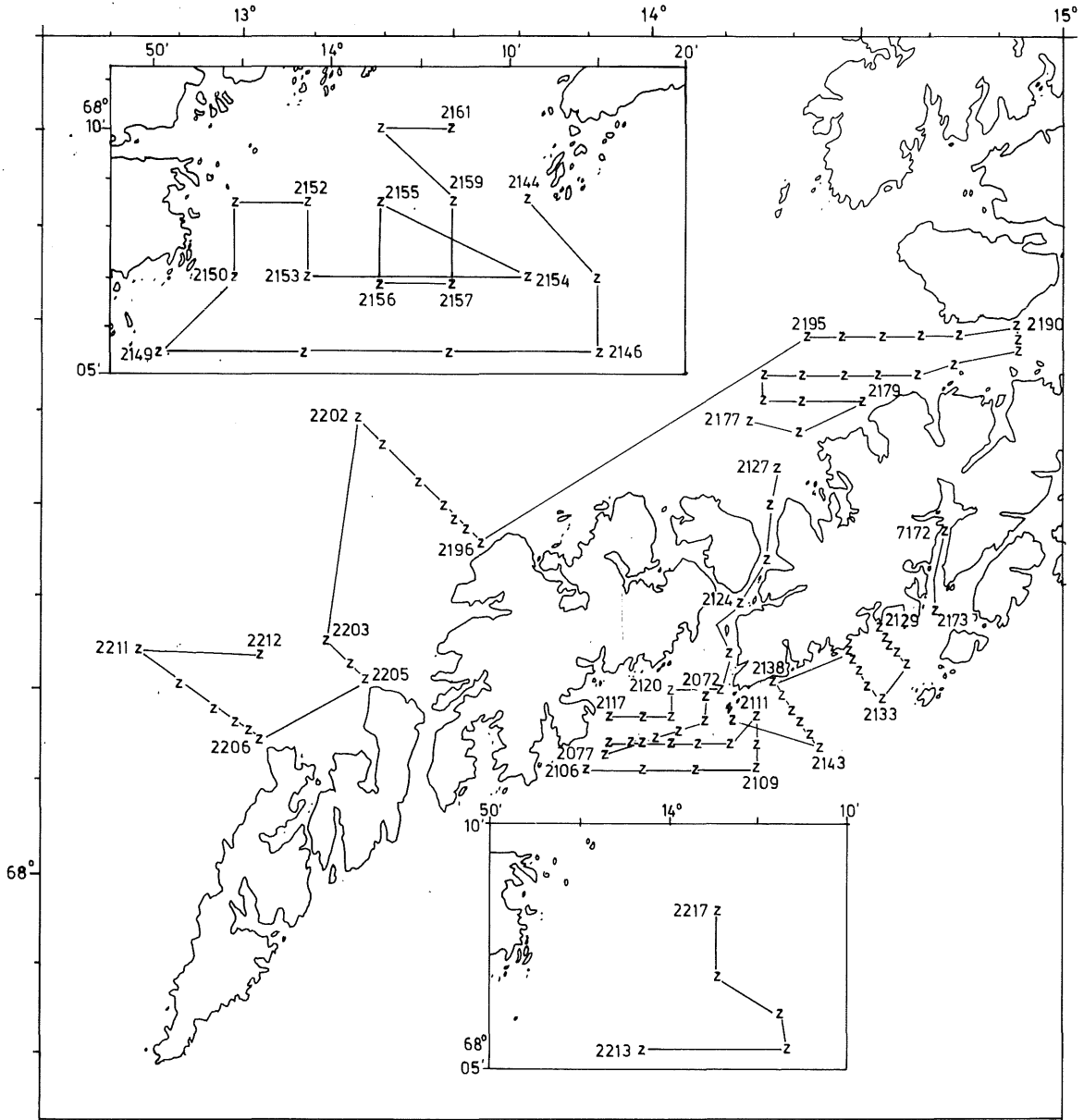
6-9 MAY 1983 ST. NO. 1907 - 2071

"JOHAN RUUD"



6-9 MAY 1983 PLANKTON ST. NO. 1907 - 2071

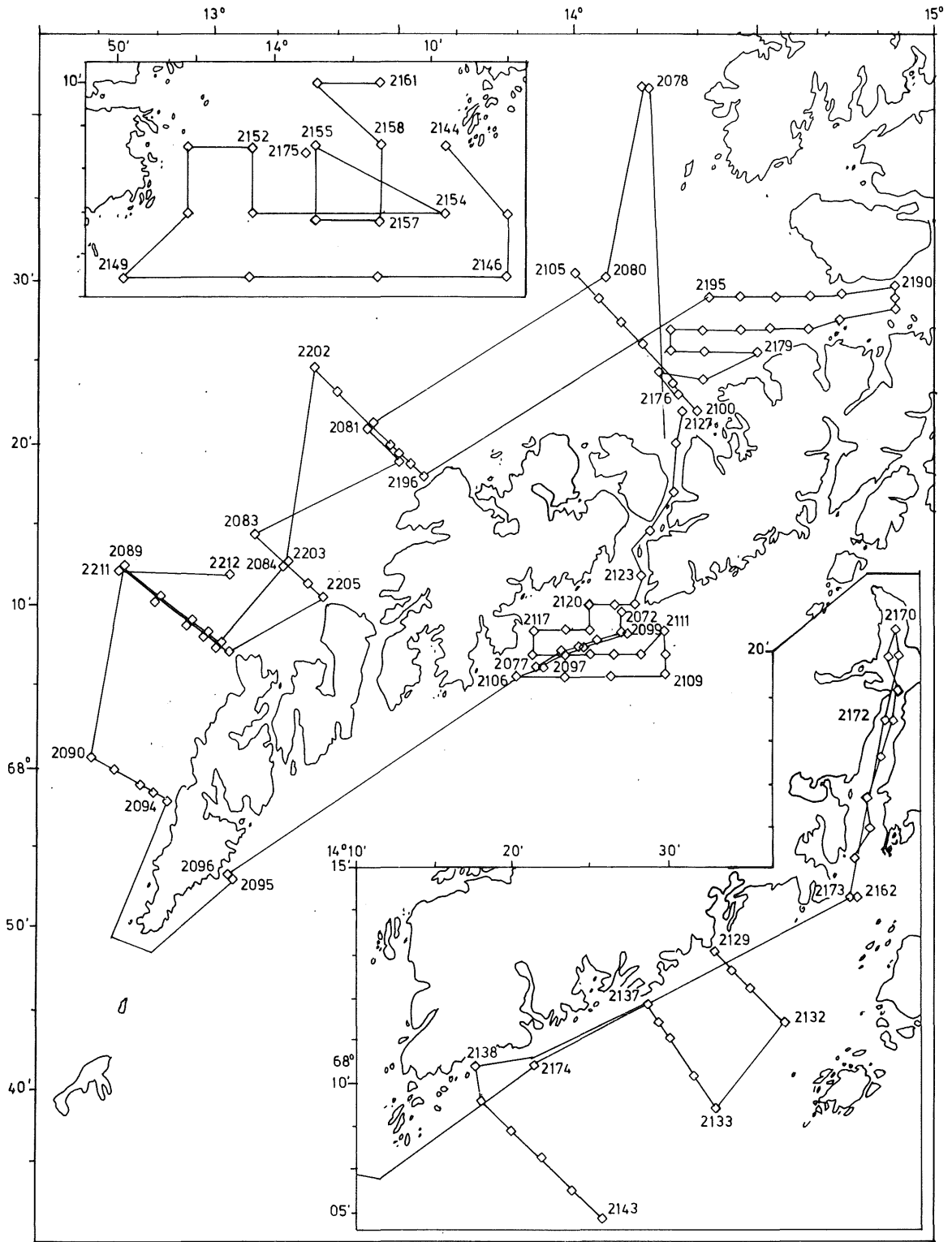
"JOHAN RUUD"



10 -14 MAY 1983

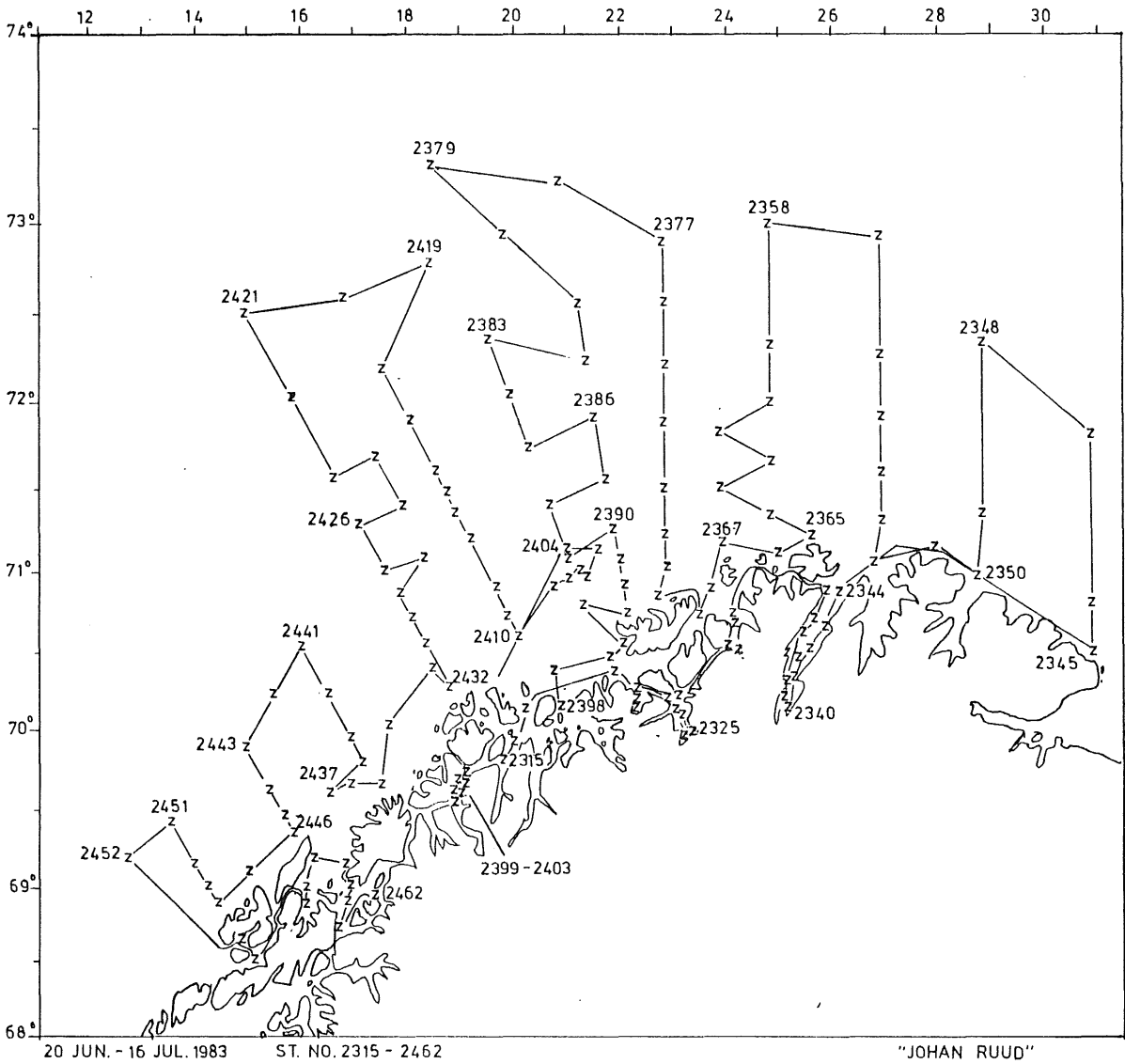
ST.NO. 2072 - 2217

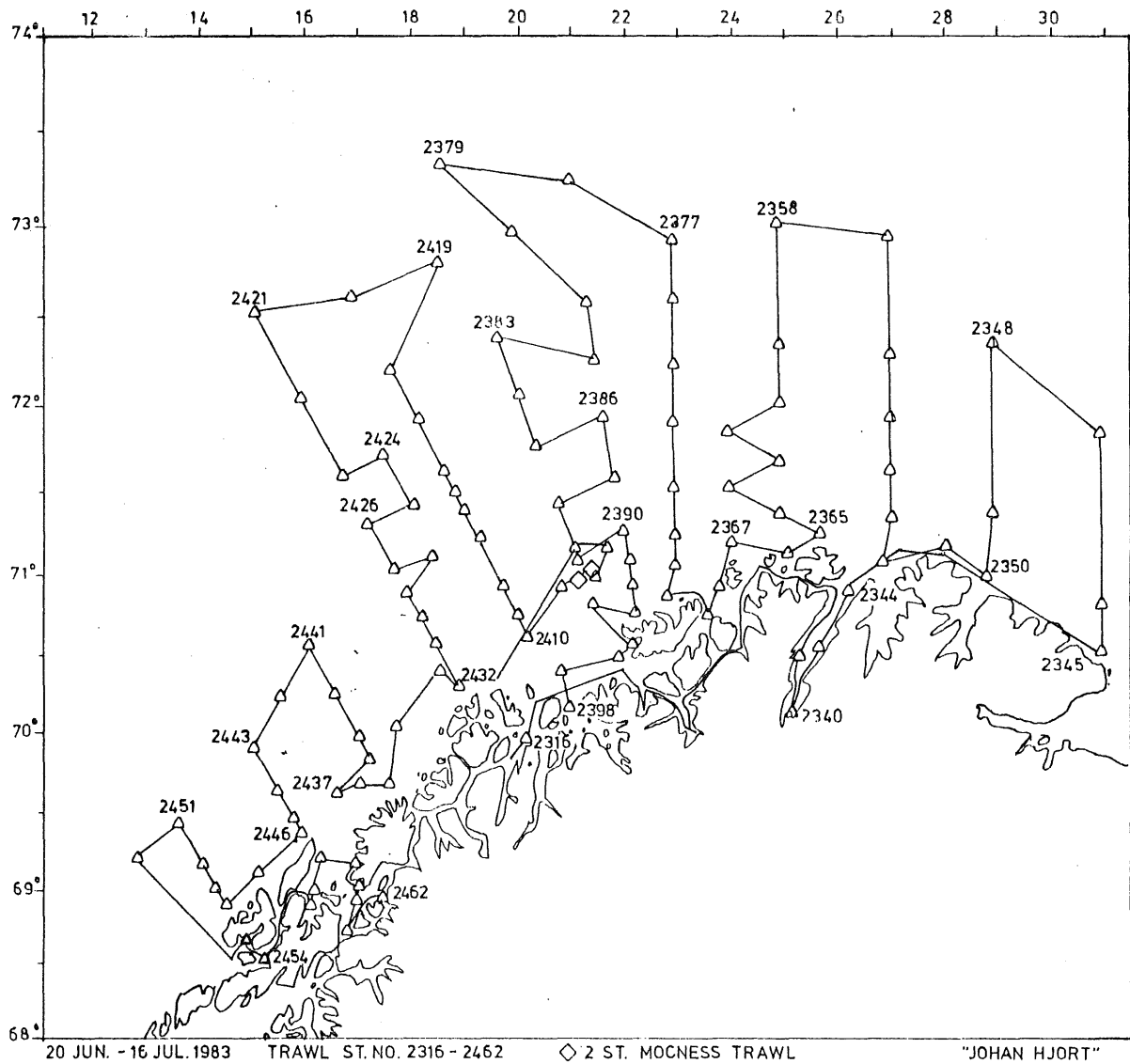
"JOHAN RUUD"



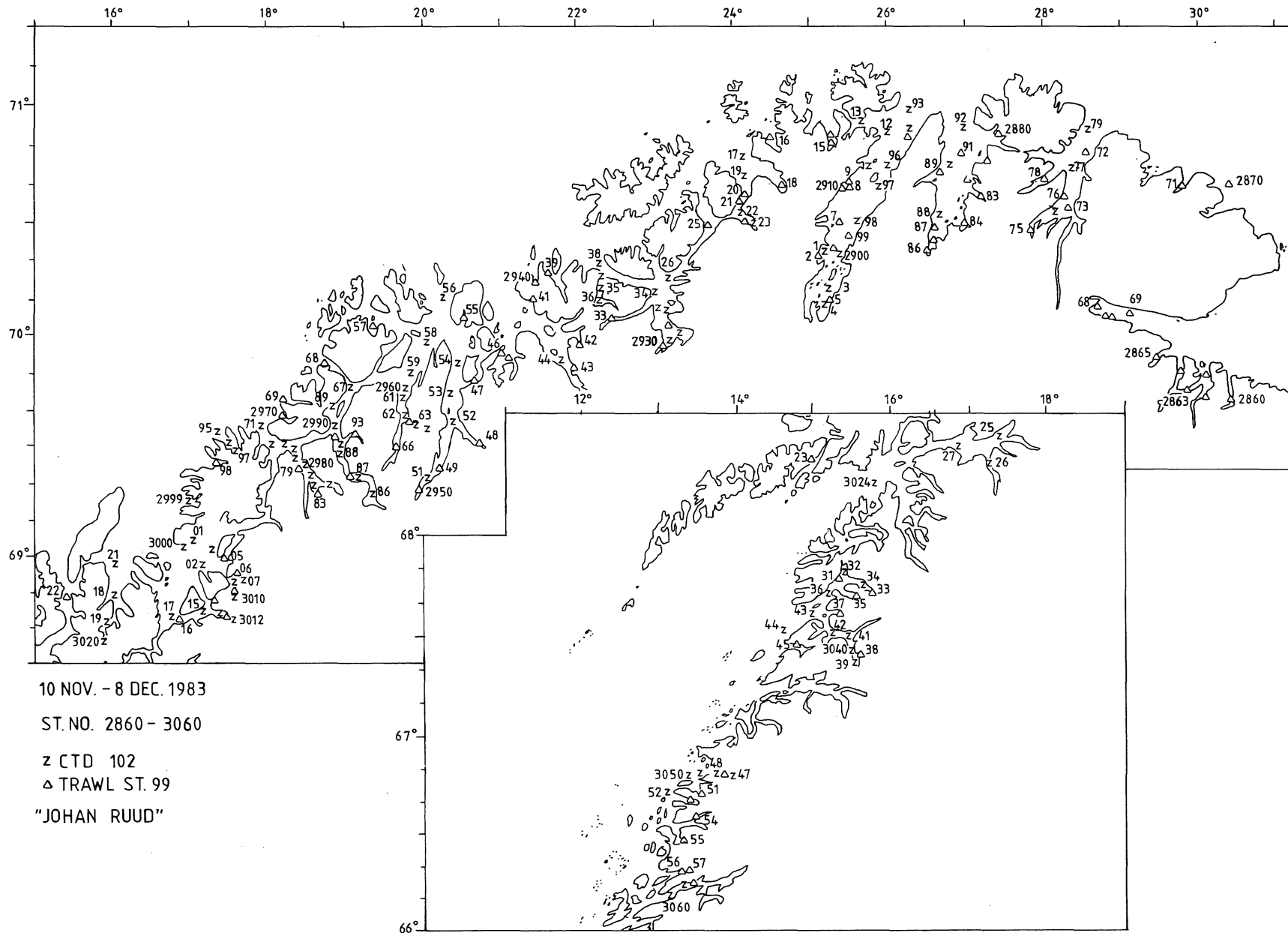
10-14 MAY 1983 PLANKTON ST.NO. 2072 - 2212

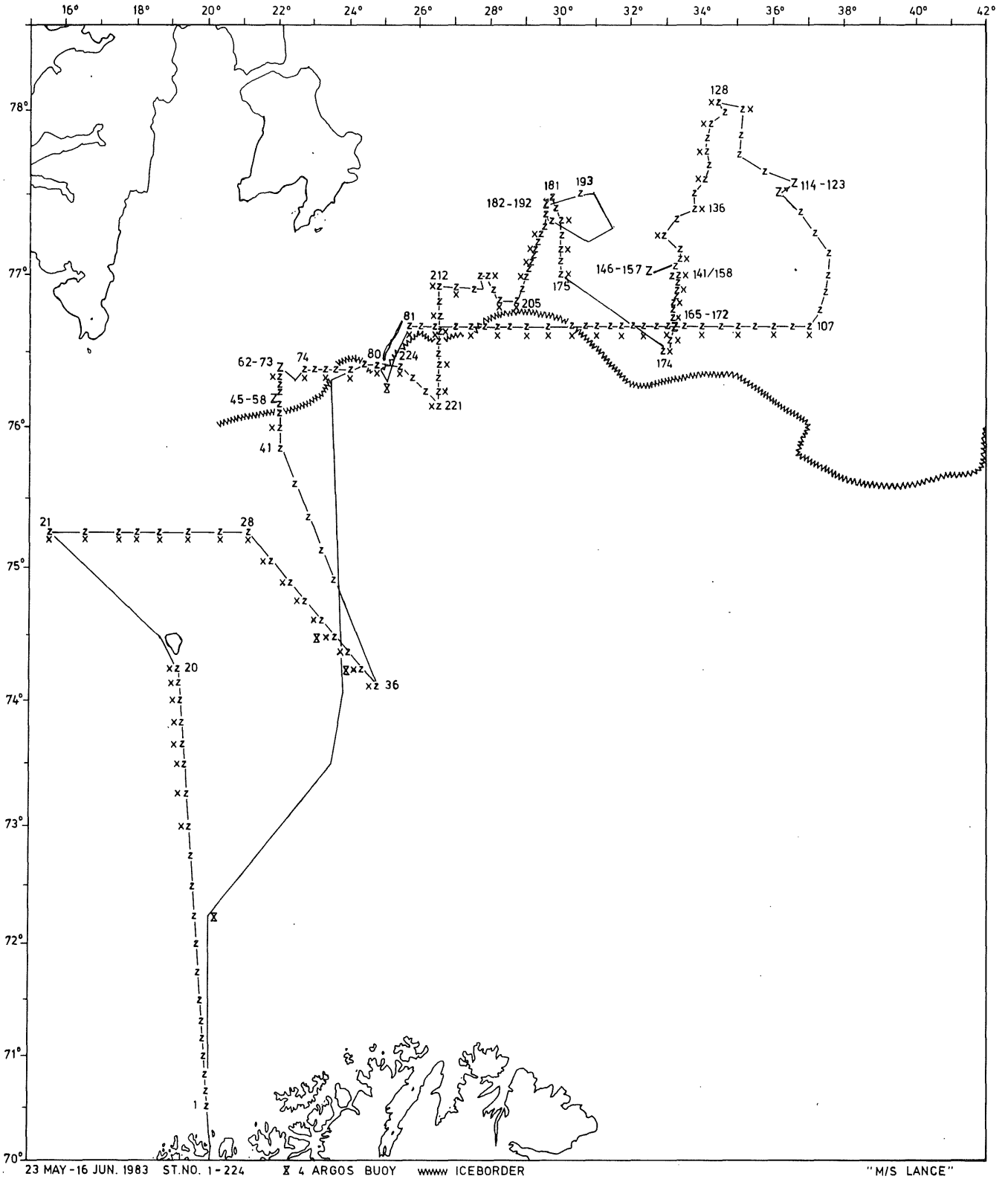
"JOHAN RUUD"

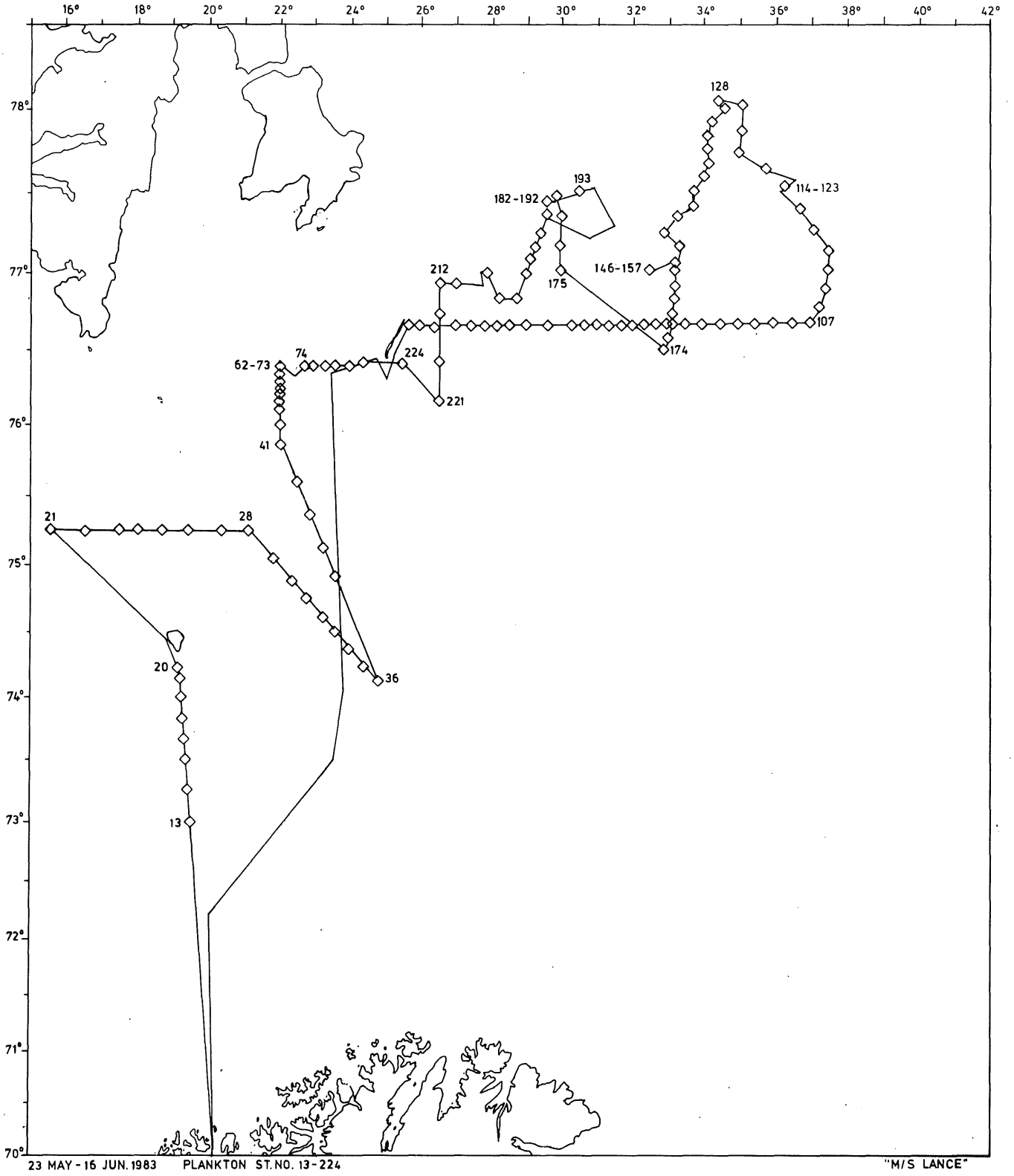


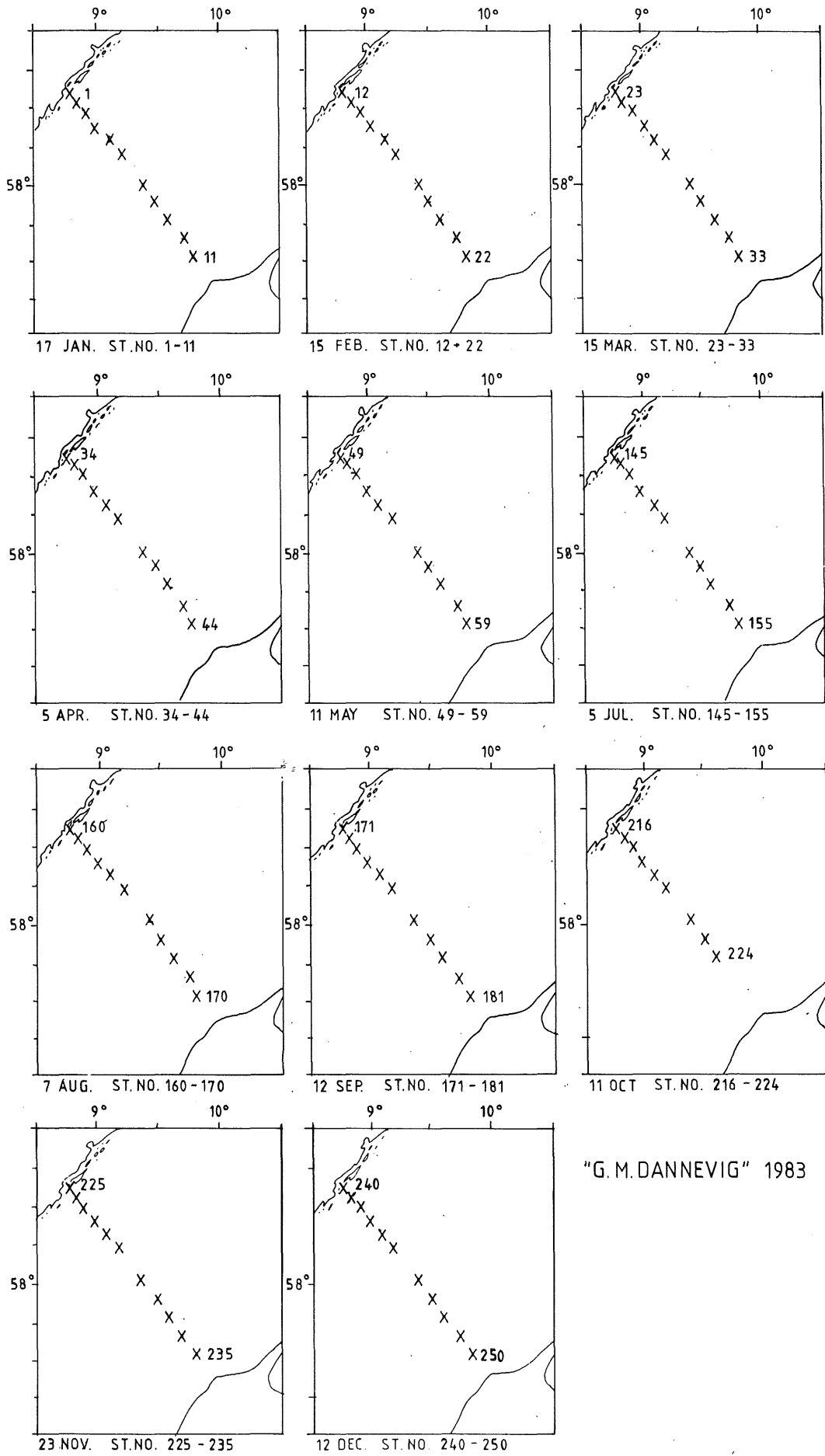




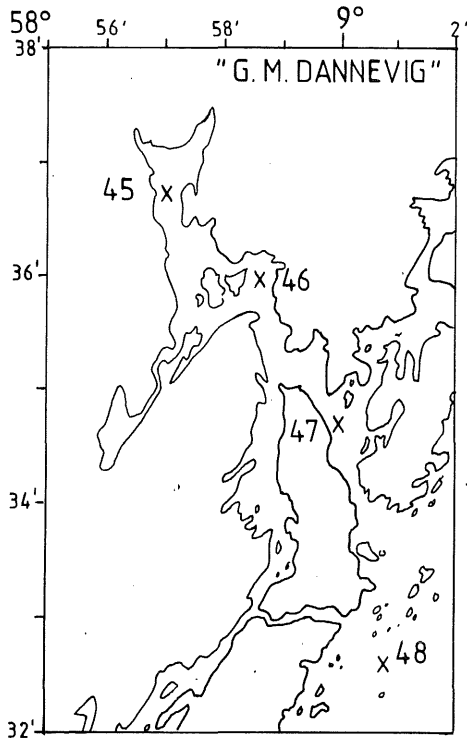




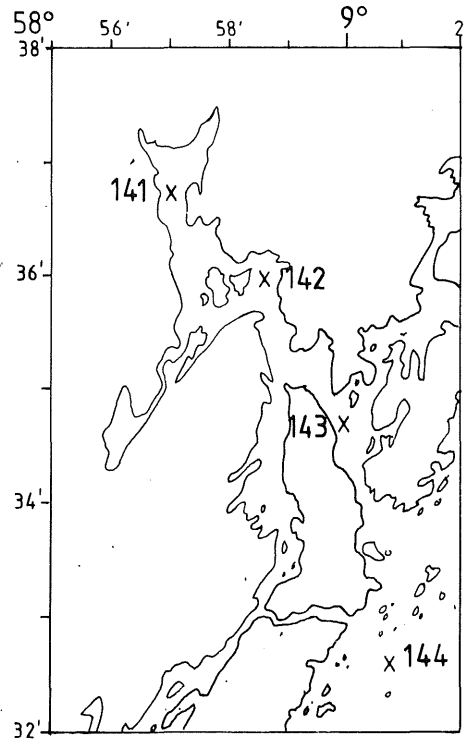




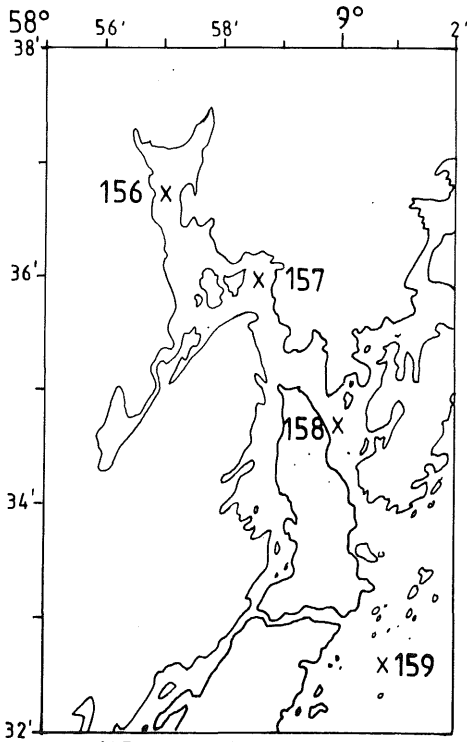
"G. M. DANNEVIG" 1983



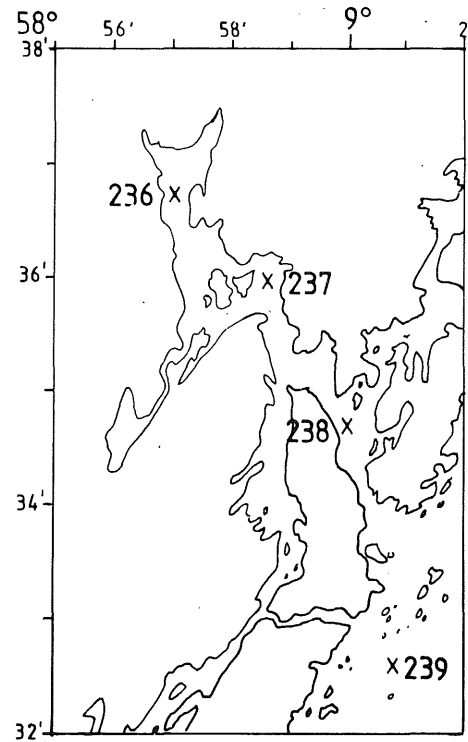
29 APR. ST. NO. 45-48



7 JUL. ST. NO. 141-143



16 AUG. ST. NO. 156-159



6 DEC. ST. NO. 236-239

