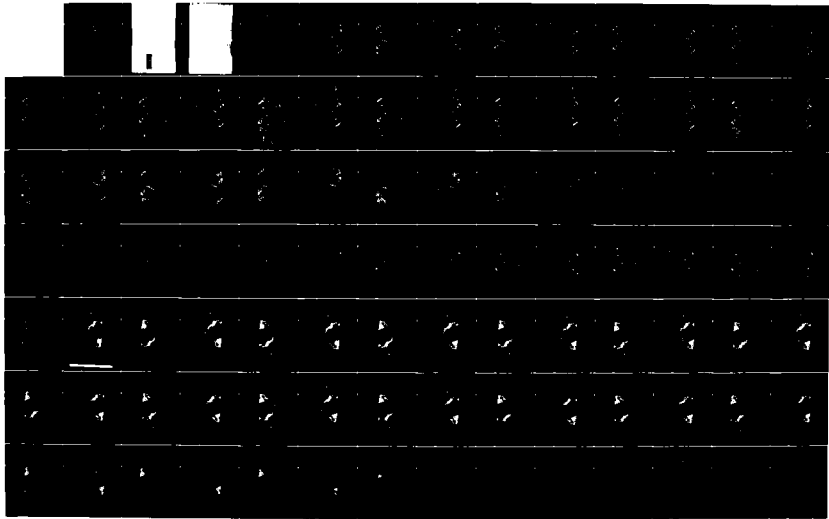


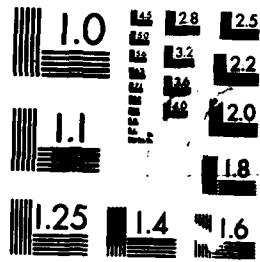
AD-A184 016

EASTERN - WESTERN ARCTIC SEA ICE ANALYSIS 1986 (U) NAVAL 1/2
POLAR OCEANOGRAPHY CENTER WASHINGTON DC AUG 87

UNCLASSIFIED

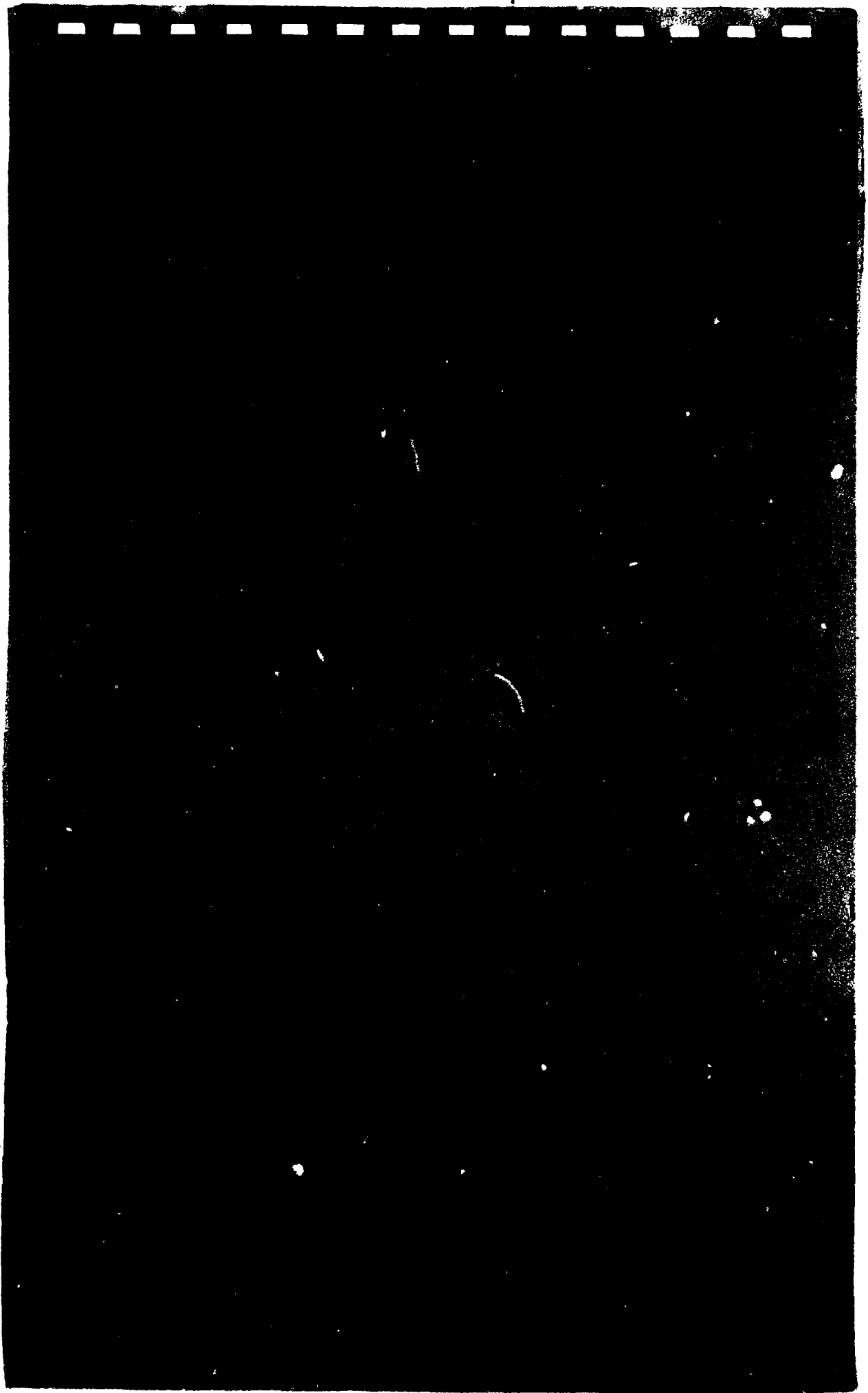
FIG 3/12 NL





MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A





SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

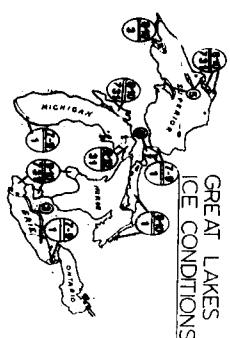
REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-A184016	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) EASTERN-WESTERN ARCTIC SEA ICE ANALYSIS 1986	5. TYPE OF REPORT & PERIOD COVERED Reference Report 1986	
	6. PERFORMING ORG. REPORT NUMBER	
7. AUTHOR(s) Naval Polar Oceanography Center, Suitland, MD	8. CONTRACT OR GRANT NUMBER(s)	
9. PERFORMING ORGANIZATION NAME AND ADDRESS Naval Oceanography Command Detachment Federal Building Asheville, NC 28801-2696	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS	
11. CONTROLLING OFFICE NAME AND ADDRESS Commander Naval Oceanography Command NSTL, MS 39529-5000	12. REPORT DATE August 1987	
	13. NUMBER OF PAGES	
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office)	15. SECURITY CLASS. (of this report)	
	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE	
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Sea ice, polar ice fields; satellite imagery, concentration, stage of development; fast ice, concentration of thickness, theoretical thickness, Arctic		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <i>data,</i> <i>These are approximately 7-days analysis of sea ice prepared by the Naval Polar Oceanography Center, Suitland, MD. Included are ice concentration and ice thickness (age). <i>no pads</i> is presented.</i>		

DD FORM 1 JAN 73 1473

EDITION OF 1 NOV 68 IS OBSOLETE
S/N 0102-LF-014-6601

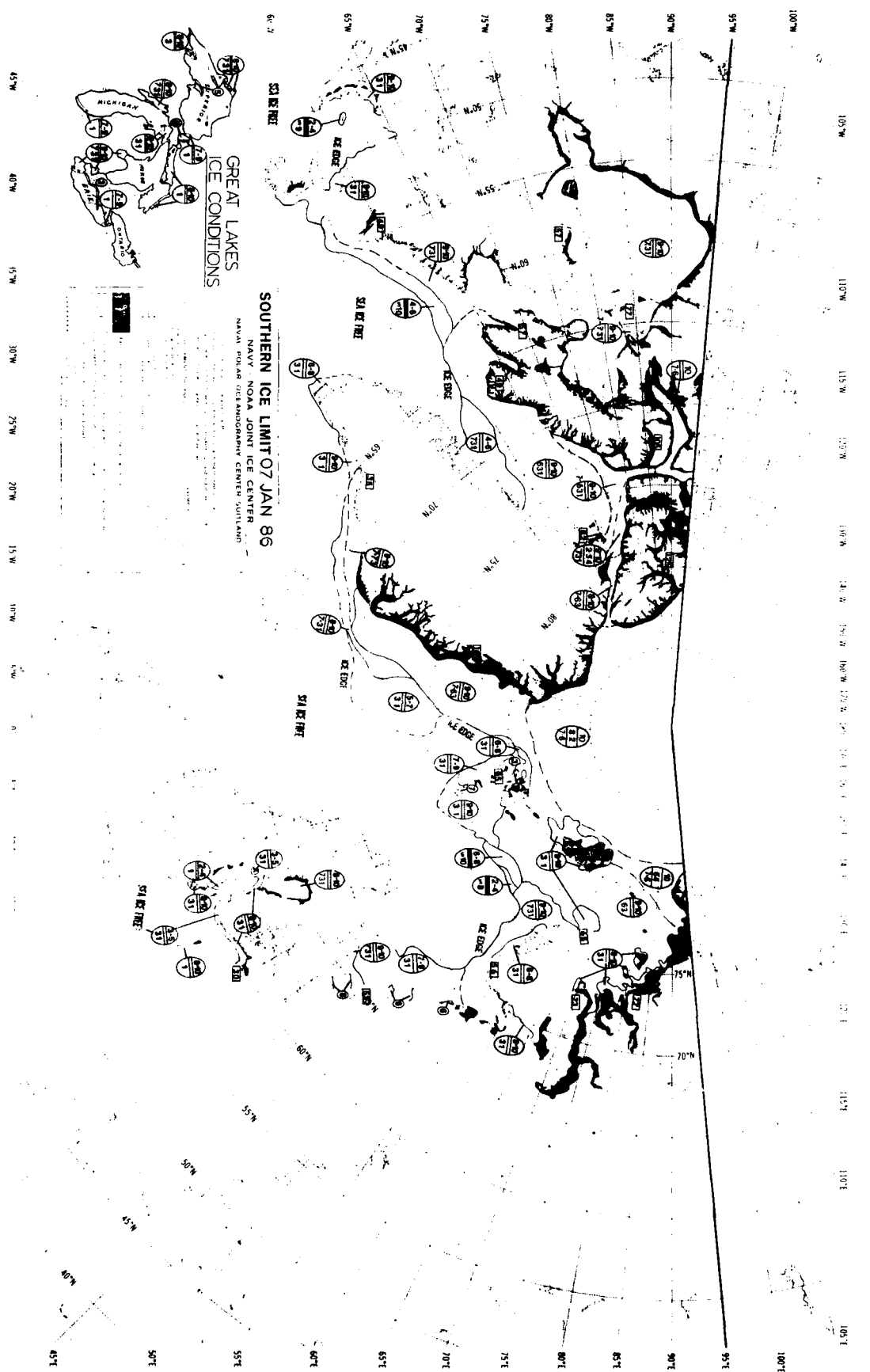
UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)



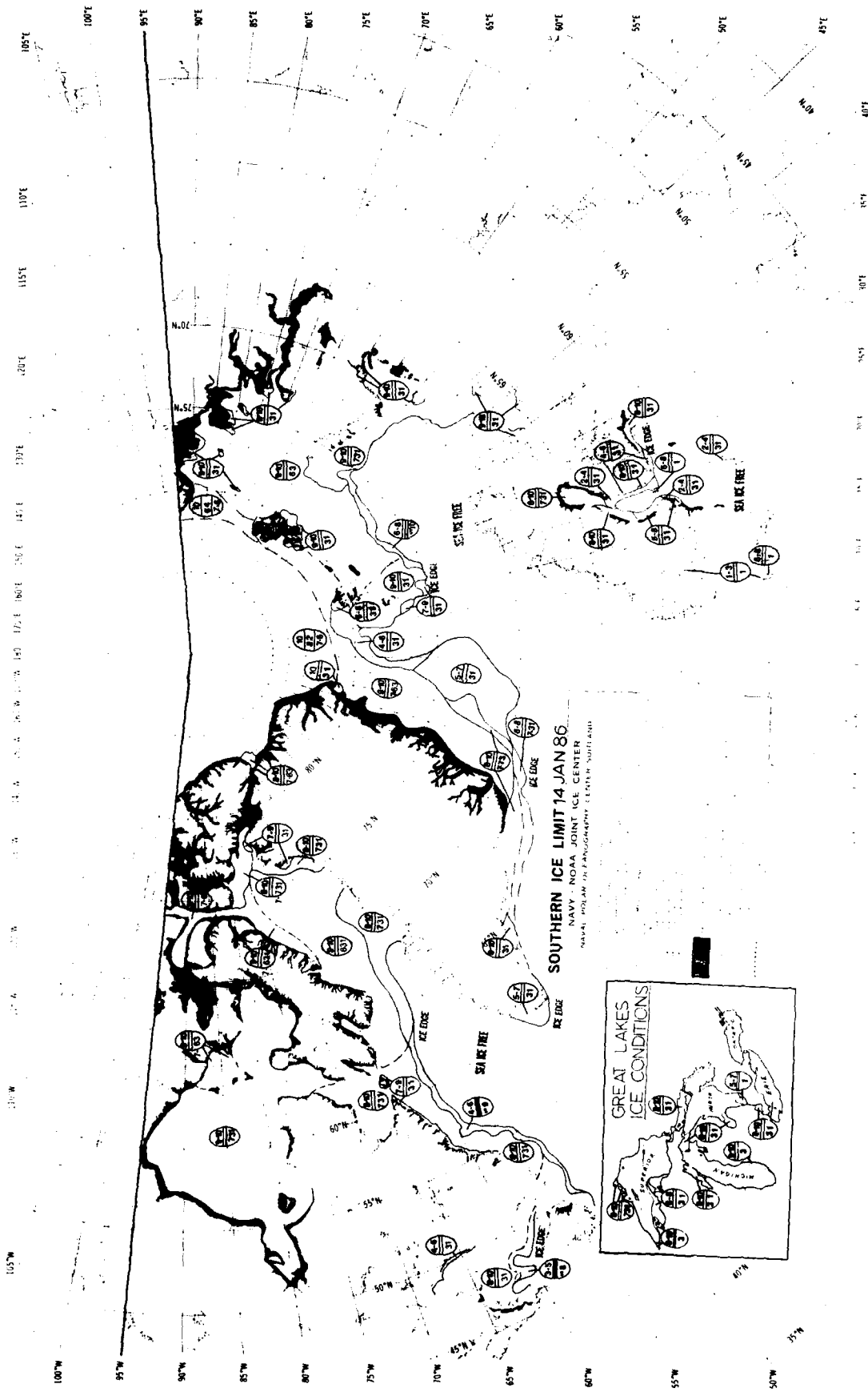
GREAT LAKES ICE CONDITIONS

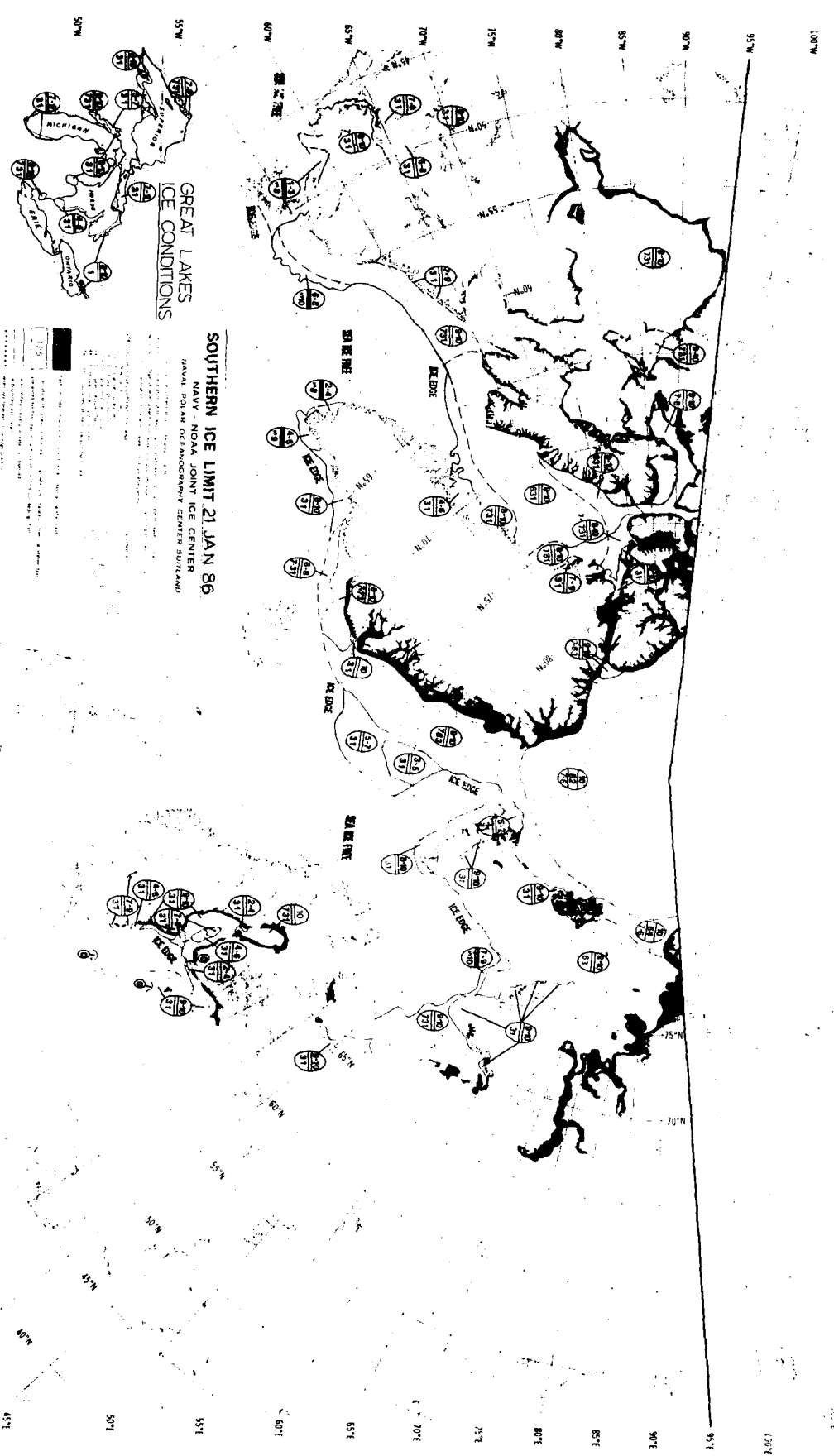
SOUTHERN ICE LIMIT 07 JAN 86
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OPERATIONS CENTER SULLAND



100°W 95°W 90°W 85°W 80°W 75°W 70°W 65°W 60°W
100°E 95°E 90°E 85°E 80°E 75°E 70°E 65°E 60°E

45°N 50°N 55°N 60°N 65°N 70°N 75°N 80°N 85°N 90°N 95°N 100°N





**GREAT LAKES
ICE CONDITIONS**

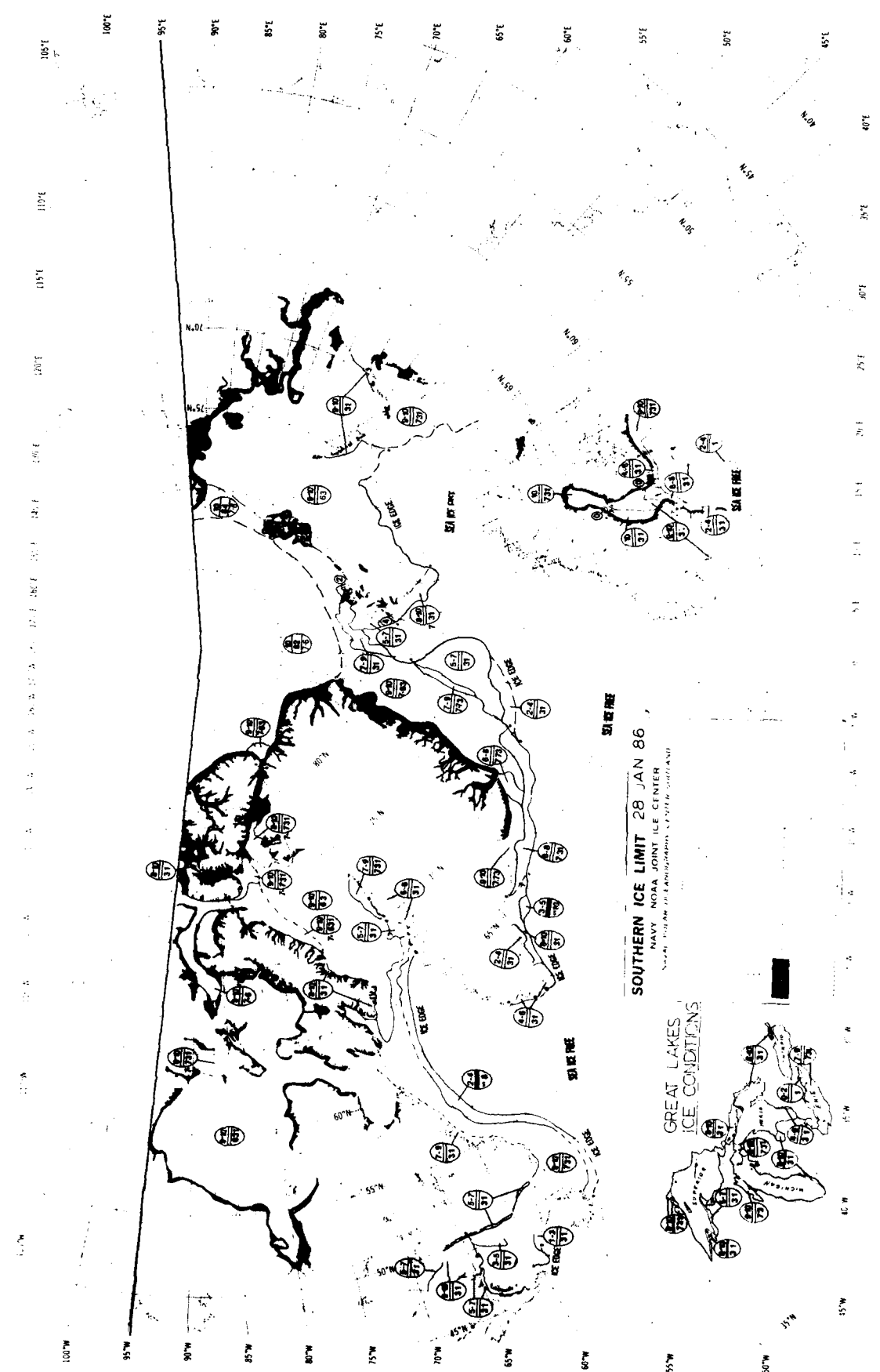
SOUTHERN ICE LIMIT 21 JAN 86
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER SUTLAND

SCALE

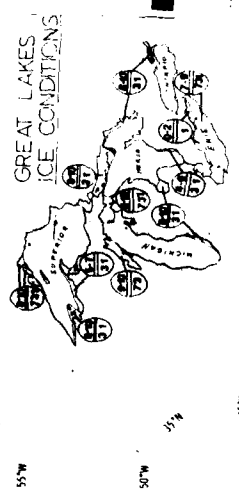
1:50,000
Vertical Exaggeration: 1.0
Horizontal Exaggeration: 1.0
Datum: NAD 83
Projection: UTM
Units: Meters
Scale: 1:50,000
Scale Denominator: 50,000
Scale Numerator: 1
Scale Units: Meters
Scale Type: Graphic
Scale Description: 1:50,000
Scale Date: 1986
Scale Author: NPOAS
Scale Version: 1.0

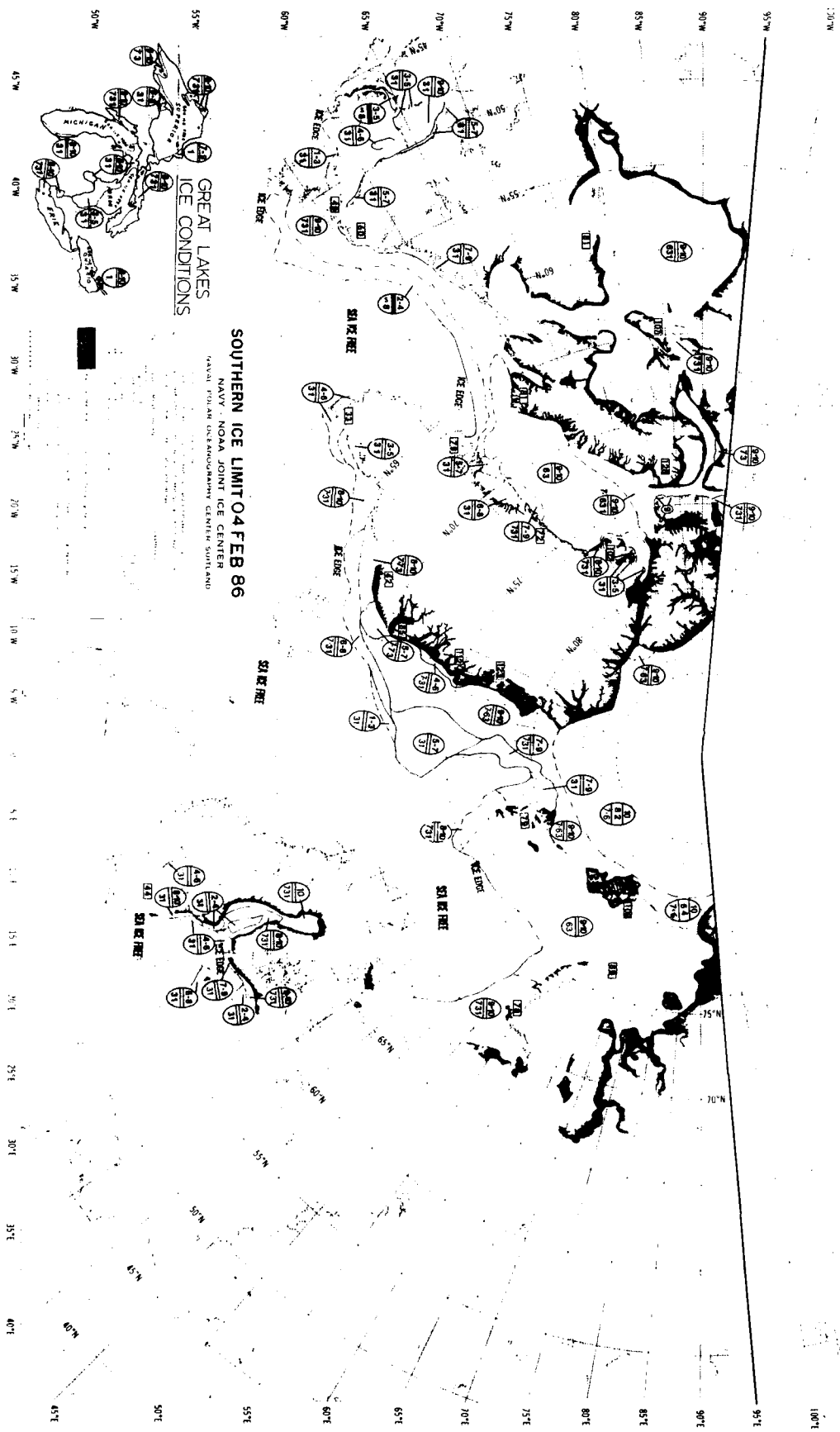
55°N
50°N
45°N
100°W
95°W
90°W
85°W
80°W
75°W

100°W
95°W
90°W
85°W
80°W
75°W
100°E
105°E
110°E
115°E
120°E



SOUTHERN ICE LIMIT 28 JAN 86
 NAVY NOAA JOINT ICE CENTER
 NAVY CENTER FOR ENVIRONMENTAL SCIENCE (NCEAS)





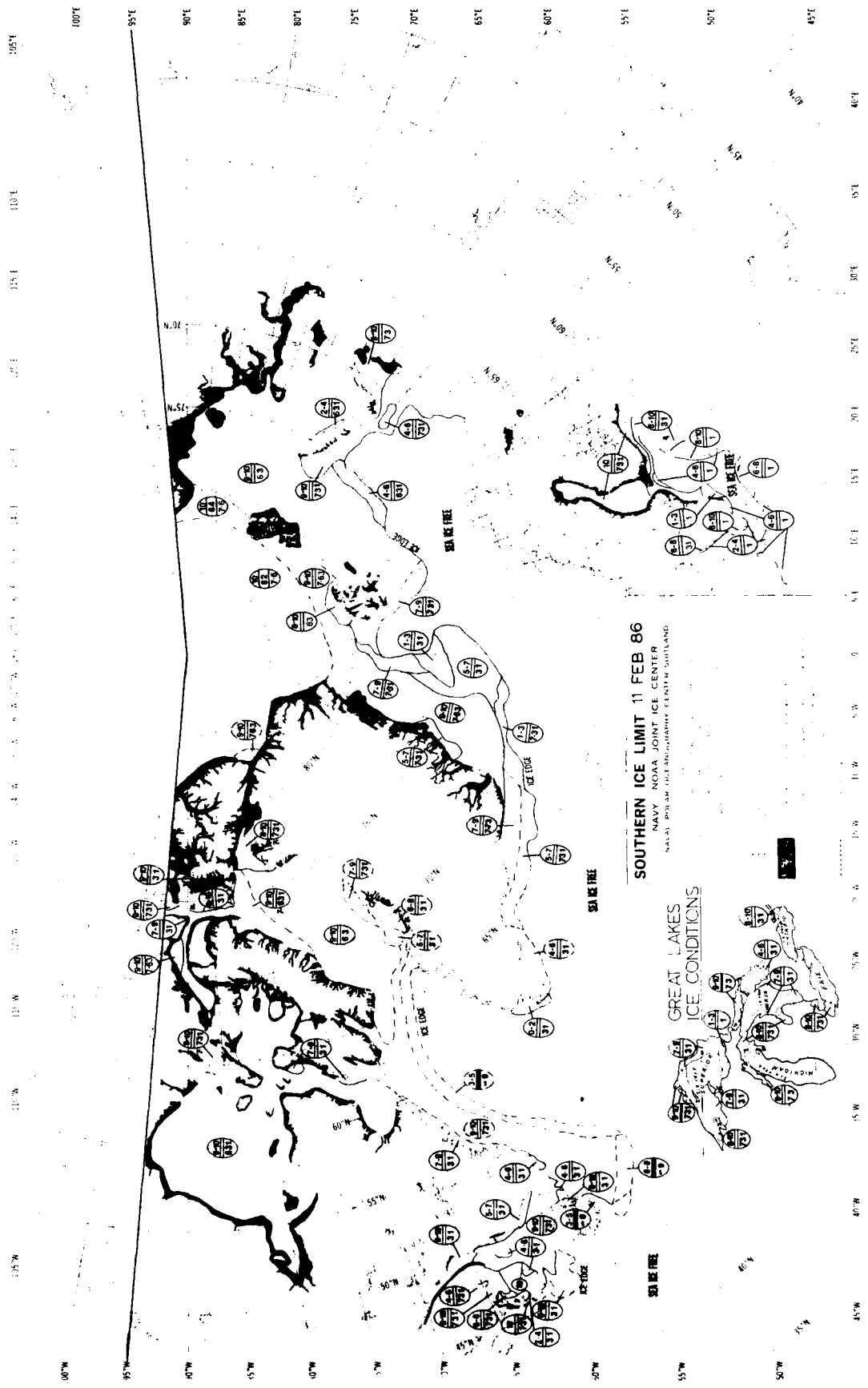
**GREAT LAKES
ICE CONDITIONS**

SOUTHERN ICE LIMIT 04 FEB 86

NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OBSERVATORY CENTER, SUITLAND

45°N 45°W 50°W 55°W 60°W 65°W 70°W 75°W 80°W 85°W 90°W 95°W 100°W 105°W 110°W 115°W 120°W 125°W 130°W 135°W 140°W 145°W 150°W

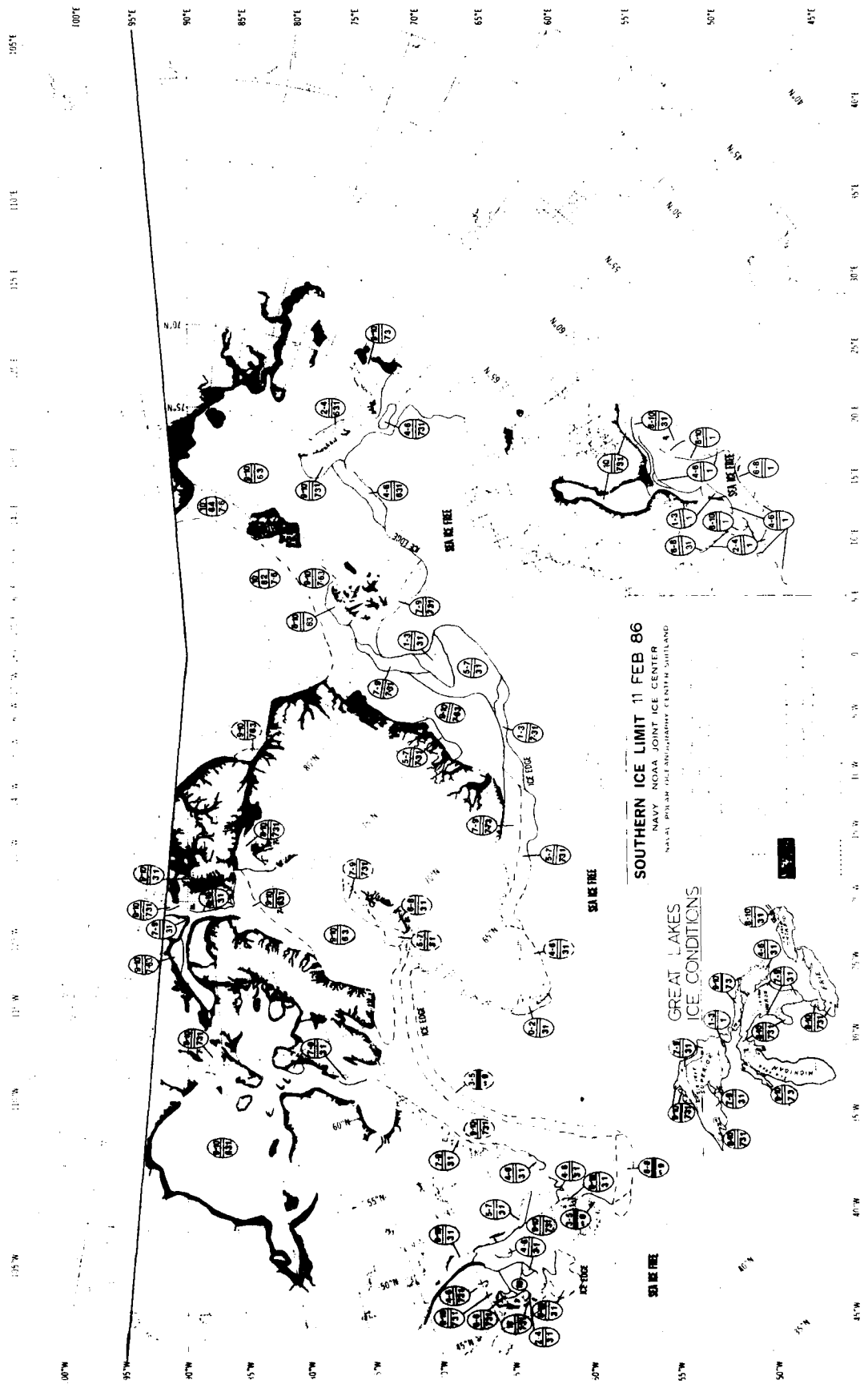
45°N 50°N 55°N 60°N 65°N 70°N 75°N 80°N 85°N 90°N 95°N 100°N

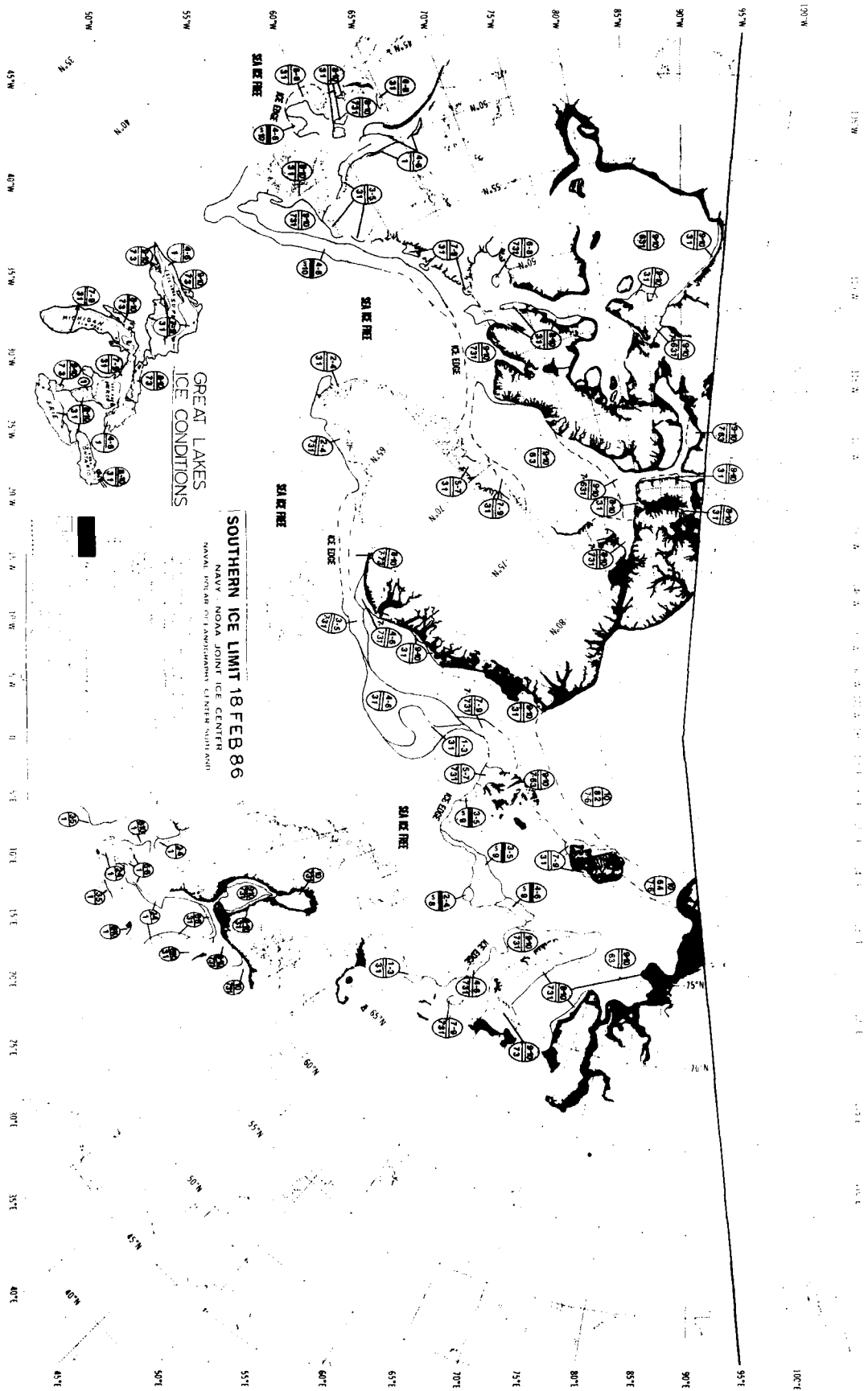


SOUTHERN ICE LIMIT 11 FEB 86

NAVY NOAA JOINT ICE CENTER
 NAVAL OCEANIC OPERATIONS CENTER, SUTCLIFF

**GREAT LAKES
 ICE CONDITIONS**



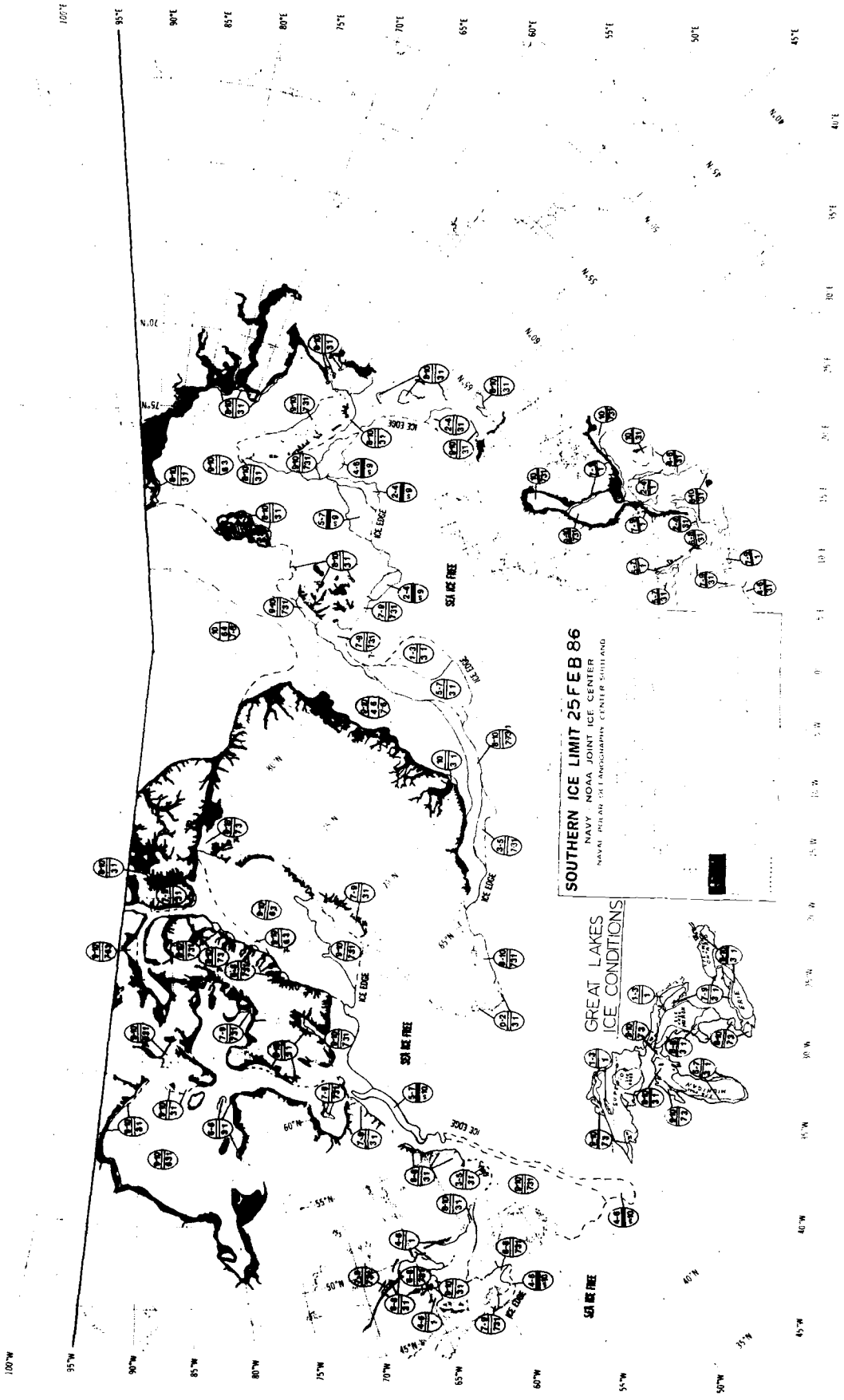


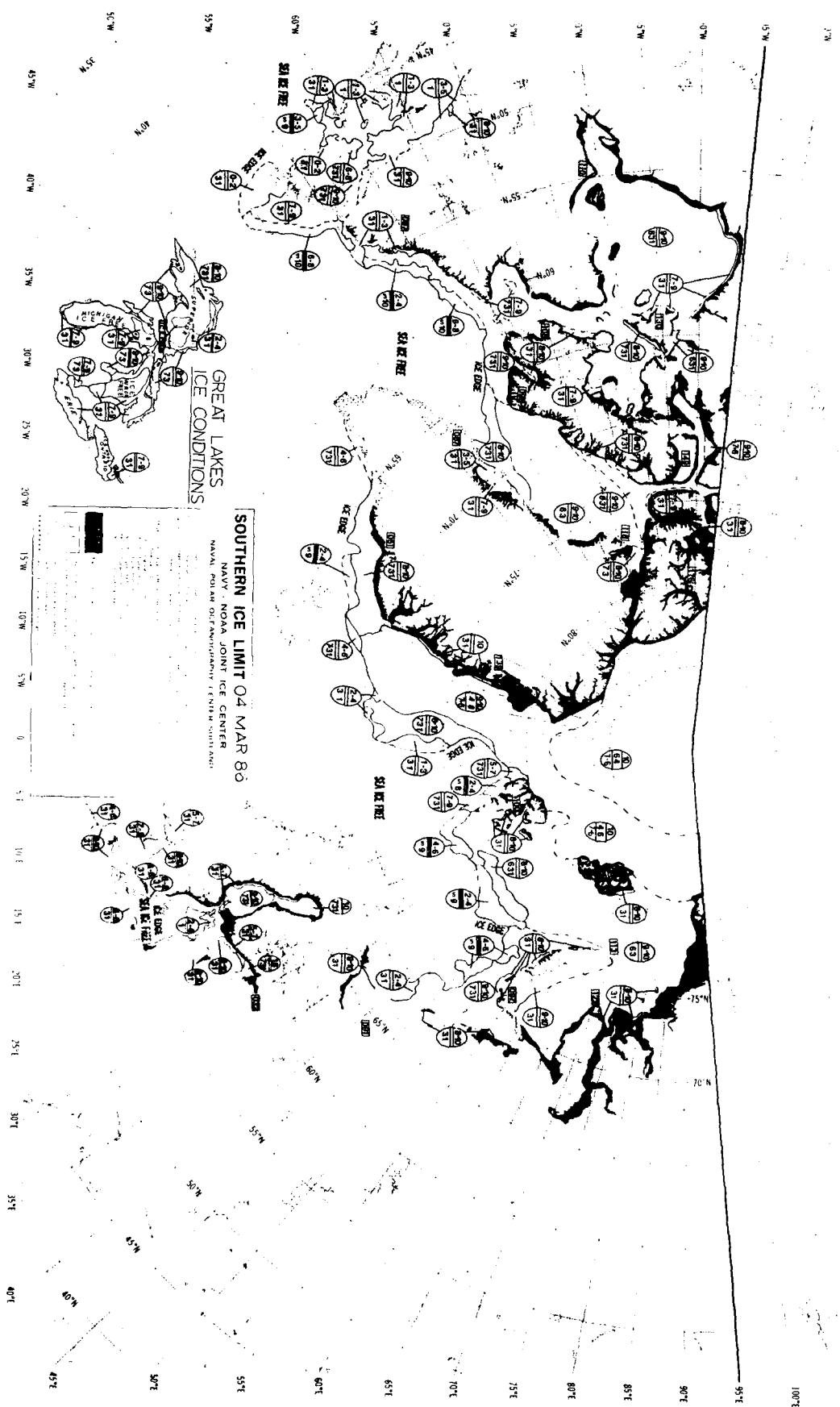
SOUTHERN ICE LIMIT 18 FEB 86
 NAVY - NOAA JOINT ICE CENTER
 NAVAL SCHOOL OF LANDGARDEN, CENTER SOUTH AID

55°N 50°N 45°N
 80°W 75°W 70°W

100°E 105°E 110°E 115°E 120°E 125°E 130°E 135°E 140°E 145°E 150°E 155°E 160°E 165°E 170°E 175°E 180°E

0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180





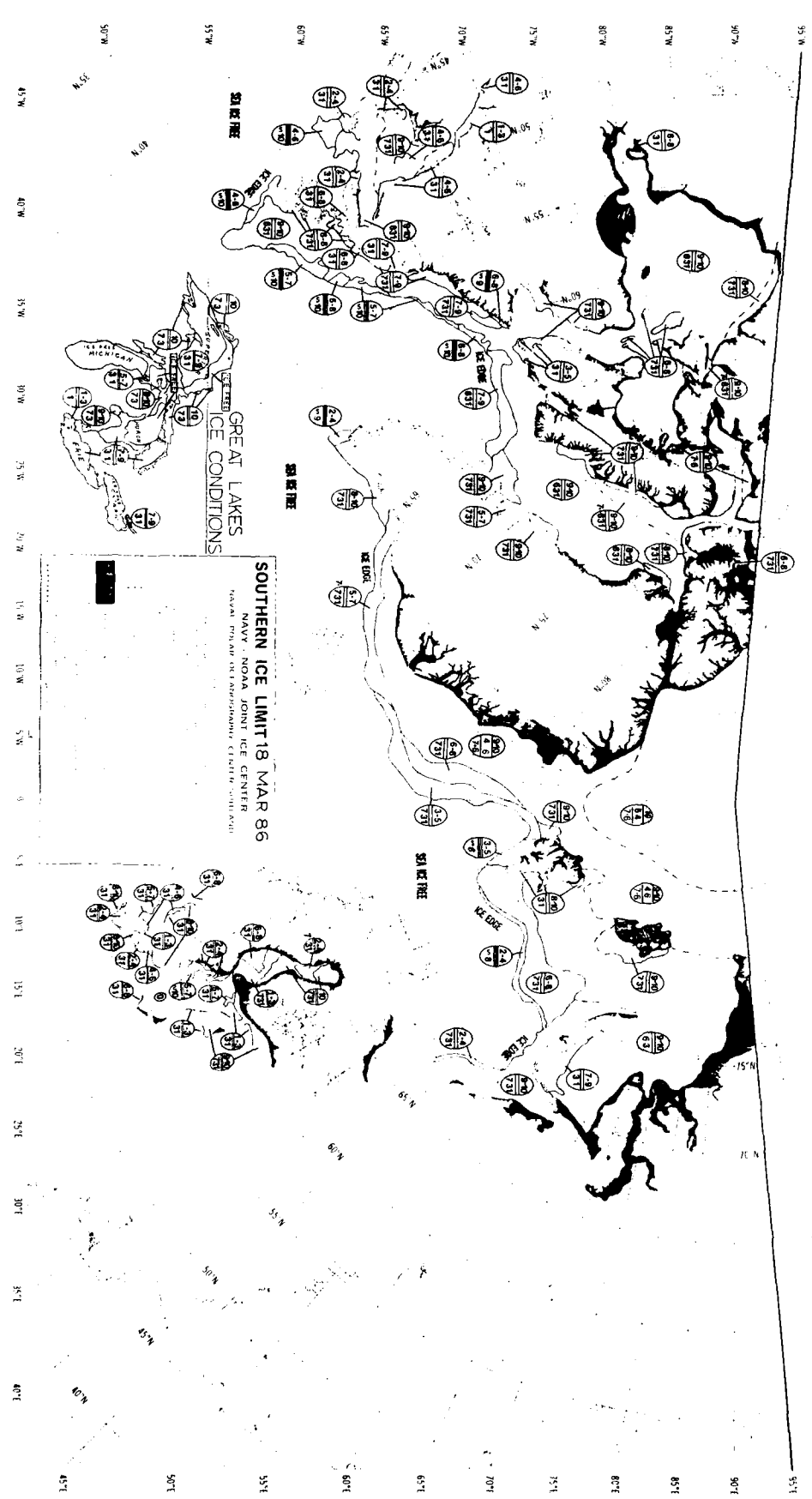
**GREAT LAKES
ICE CONDITIONS**

SOUTHERN ICE LIMIT 04 MAR 86

NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR AND OCEANOGRAPHIC CENTER, GREENSBORO, NC

Legend for ice conditions symbols:

Symbol Description	Meaning
Circle with number	Ice observations
Circle with 'I'	Ice
Circle with 'O'	Open water
Circle with 'S'	Sea ice
Circle with 'M'	Mud
Circle with 'R'	Rocks
Circle with 'L'	Land
Circle with 'A'	Algae
Circle with 'V'	Vegetation
Circle with 'B'	Buildings
Circle with 'T'	Trees
Circle with 'C'	Catchment
Circle with 'D'	Dredging
Circle with 'E'	Embayment
Circle with 'F'	Freshwater
Circle with 'G'	Groundwater
Circle with 'H'	Hydrology
Circle with 'J'	Jetty
Circle with 'K'	Kayaking
Circle with 'N'	Navigational
Circle with 'P'	Pollution
Circle with 'Q'	Quarrying
Circle with 'U'	Urban
Circle with 'W'	Watershed
Circle with 'X'	Wetland
Circle with 'Y'	Yacht
Circle with 'Z'	Zoo



1971

55°N

50°N

45°N

40°N

35°N

30°N

25°N

20°N

15°N

10°N

5°N

0°N

5°S

10°S

15°S

20°S

25°S

30°S

35°S

40°S

107°W

105°W

103°W

101°W

99°W

97°W

95°W

93°W

91°W

89°W

87°W

85°W

83°W

81°W

79°W

77°W

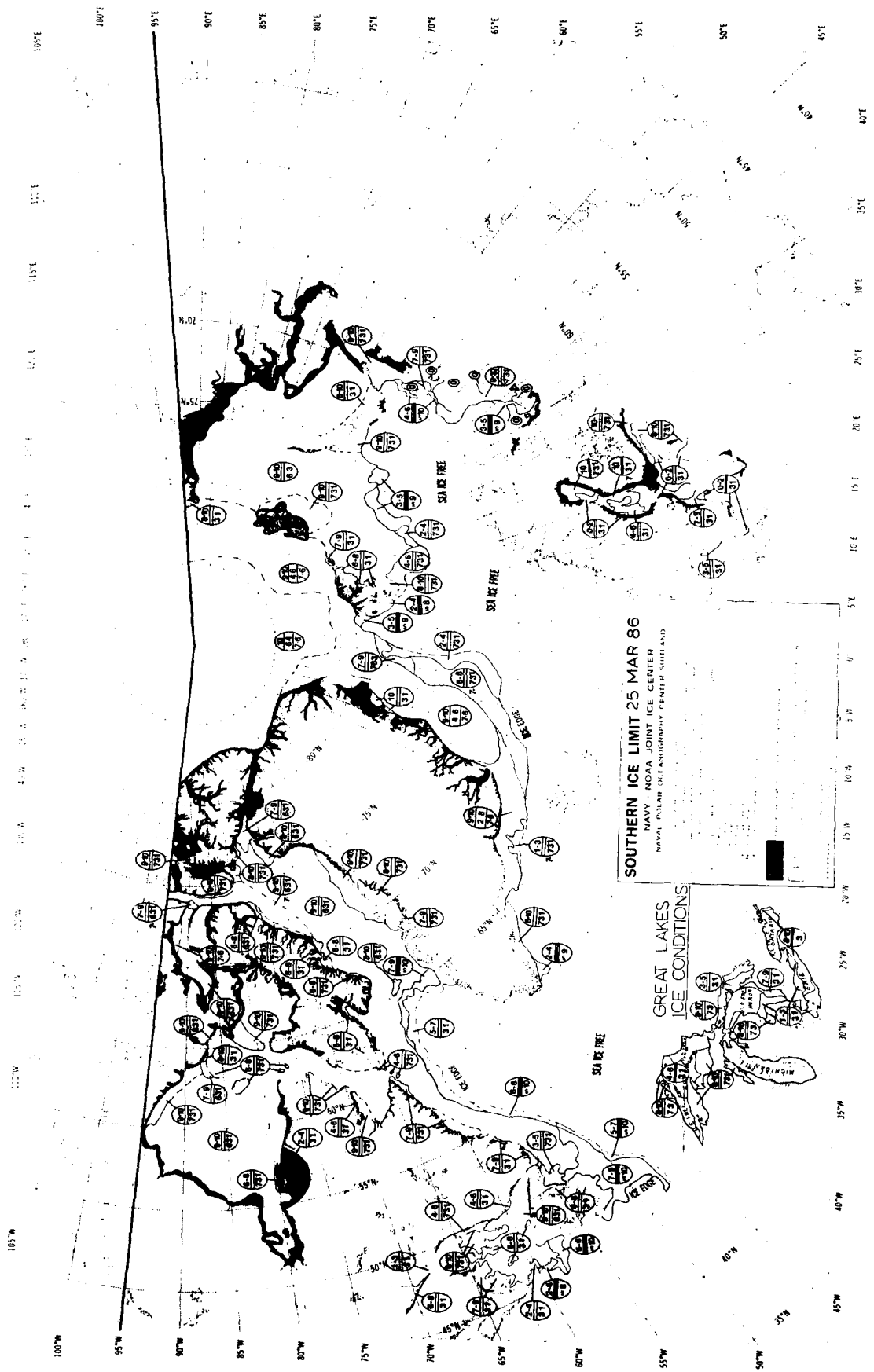
75°W

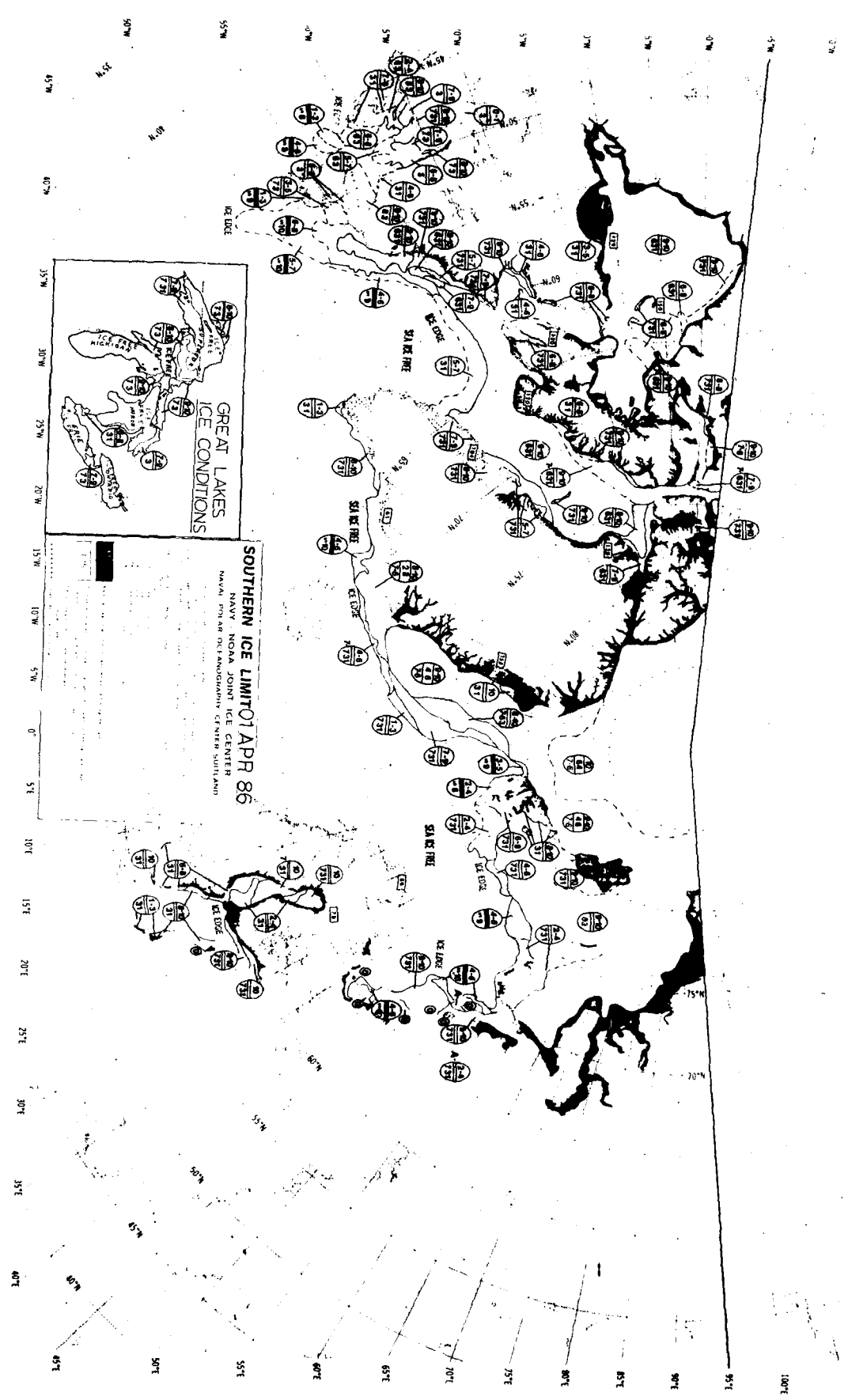
73°W

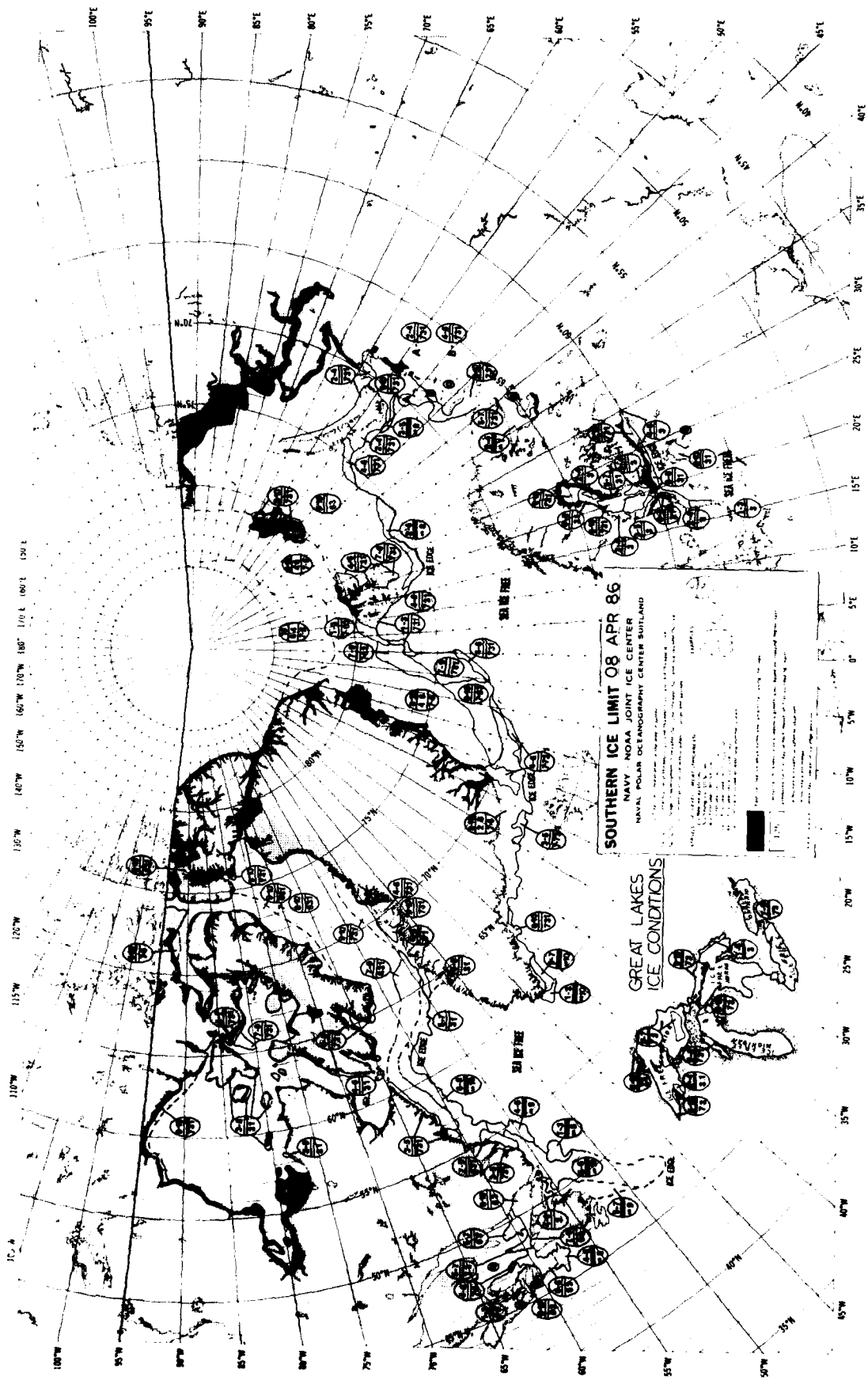
71°W

69°W

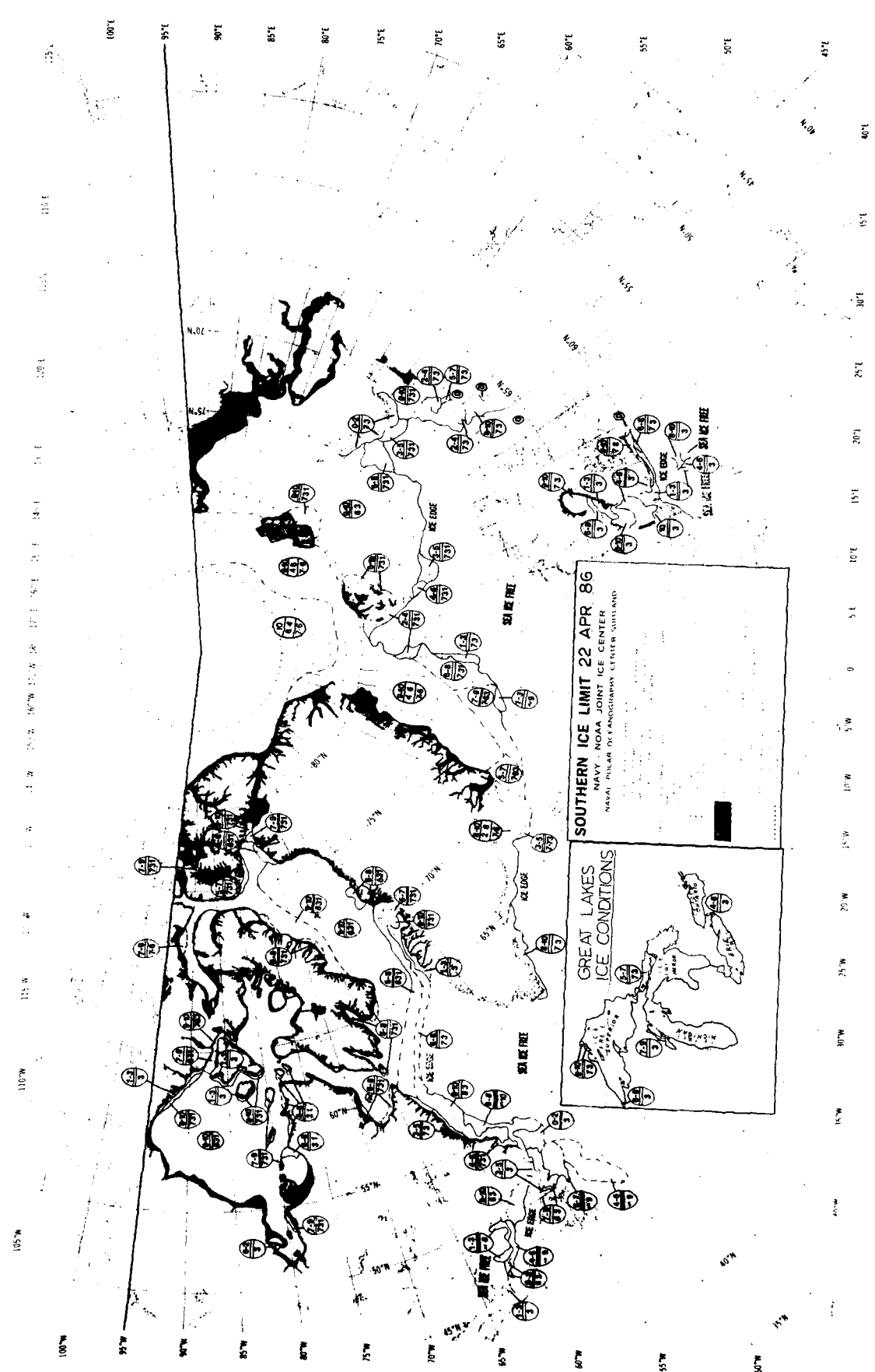
67°W



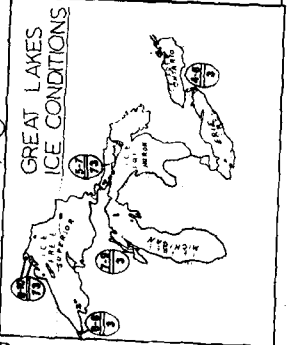


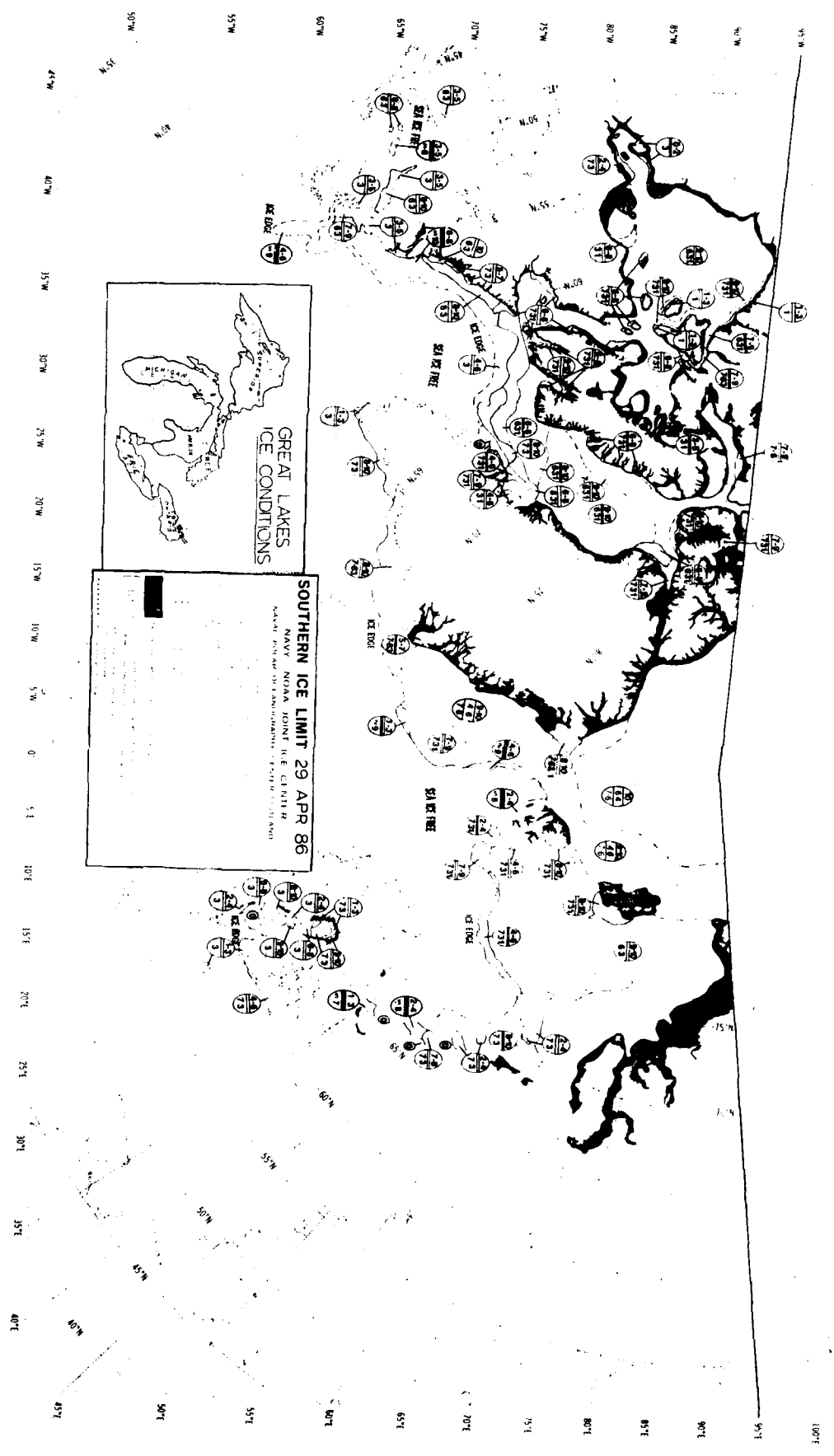






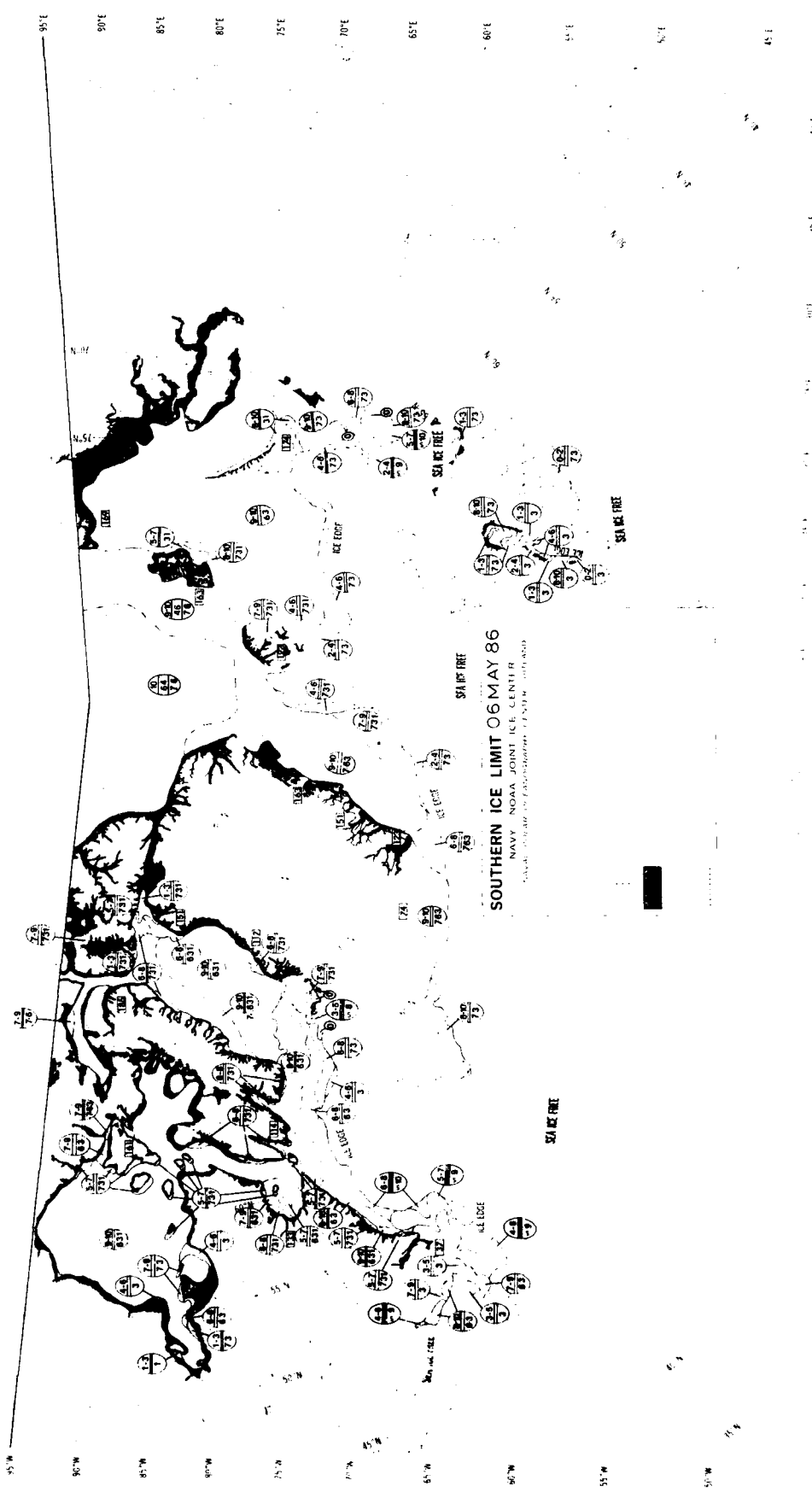
SOUTHERN ICE LIMIT 22 APR 86
 NAVY - NOAA JOINT ICE CENTER
 NAVAL POLAR OCEANOGRAPHY CENTER SUDBURY





GREAT LAKES
ICE CONDITIONS

SOUTHERN ICE LIMIT 29 APR 86
NAVY-NODA JOINT I.C.E. CENTER
NAVAL POSTGRADUATE SCHOOL, MONTEREY, CALIF. 94064



SOUTHERN ICE LIMIT 06 MAY 86

NAVY - NOAA JOINT ILC CENTER
SCALE: 1:500,000 (SOUTH OF 75°S) 1:1,000,000 (NORTH OF 75°S)

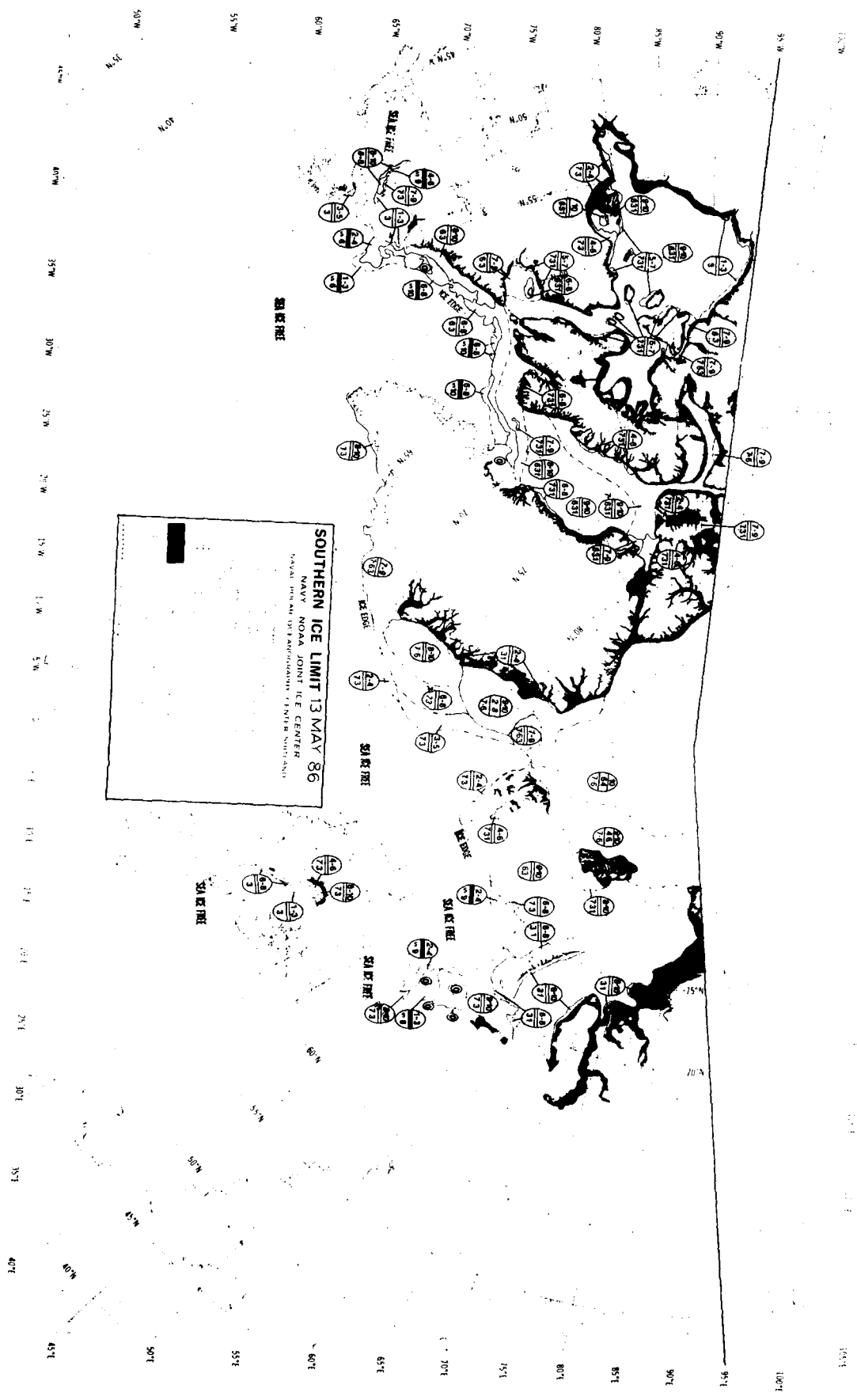
SEA ICE FREE

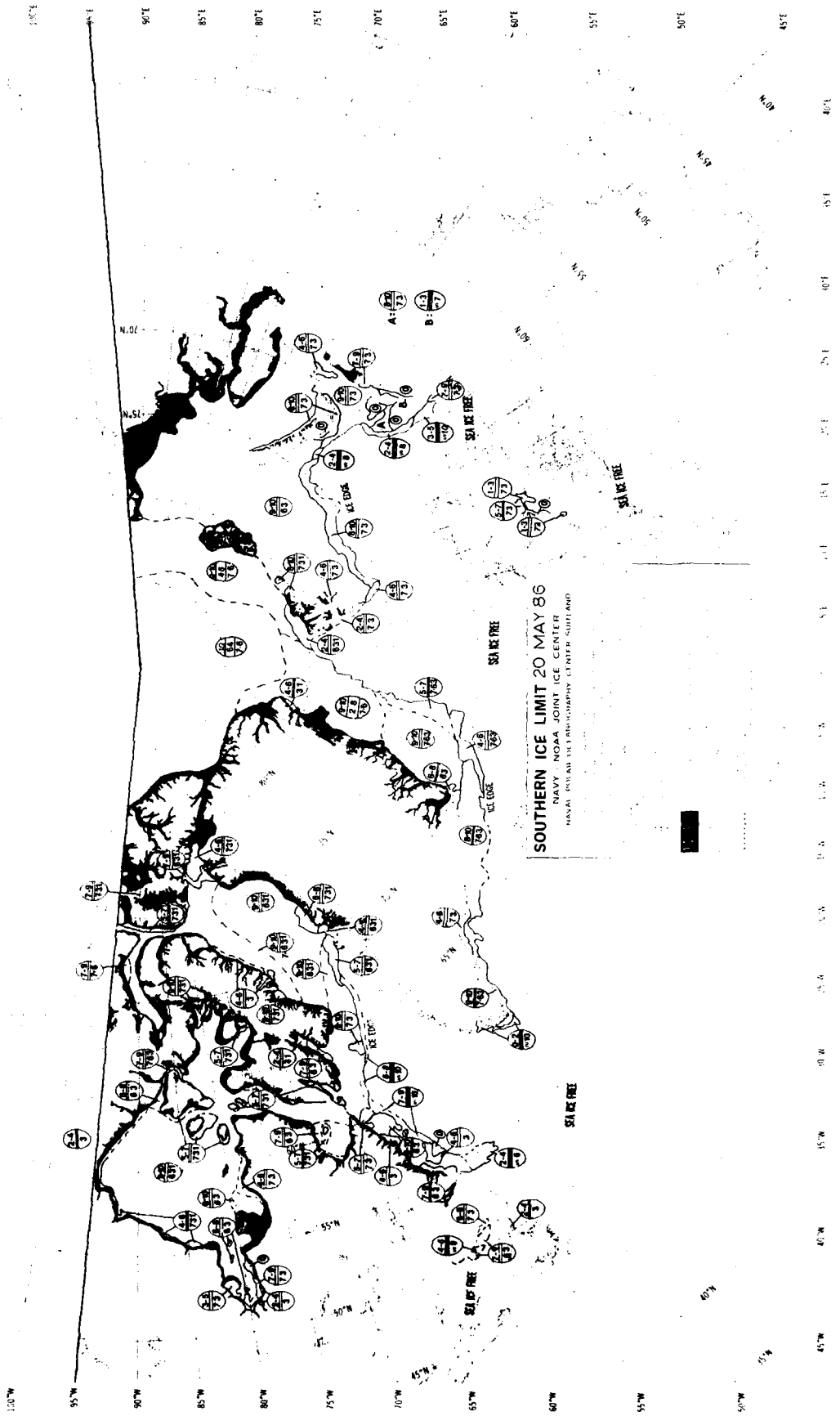
SEA ICE FREE

SEA ICE FREE

85
84
83
82
81
80
79
78
77
76
75
74
73
72
71
70
69
68
67
66
65

155
154
153
152
151
150
149
148
147
146
145
144
143
142
141
140
139
138
137
136
135
134
133
132
131
130
129
128
127
126
125
124
123
122
121
120
119
118
117
116
115
114
113
112
111
110
109
108
107
106
105
104
103
102
101
100
99
98
97
96
95
94
93
92
91
90
89
88
87
86
85





1.00

1.05

1.10

1.15

1.20

1.25

1.30

1.35

1.40

1.45

1.50

1.55

1.60

1.65

1.70

1.75

1.80

1.85

1.90

1.95

2.00

2.05

2.10

2.15

2.20

2.25

2.30

2.35

2.40

2.45

2.50

2.55

2.60

2.65

2.70

2.75

2.80

2.85

2.90

2.95

3.00

3.05

3.10

3.15

3.20

3.25

3.30

3.35

3.40

3.45

3.50

3.55

3.60

3.65

3.70

3.75

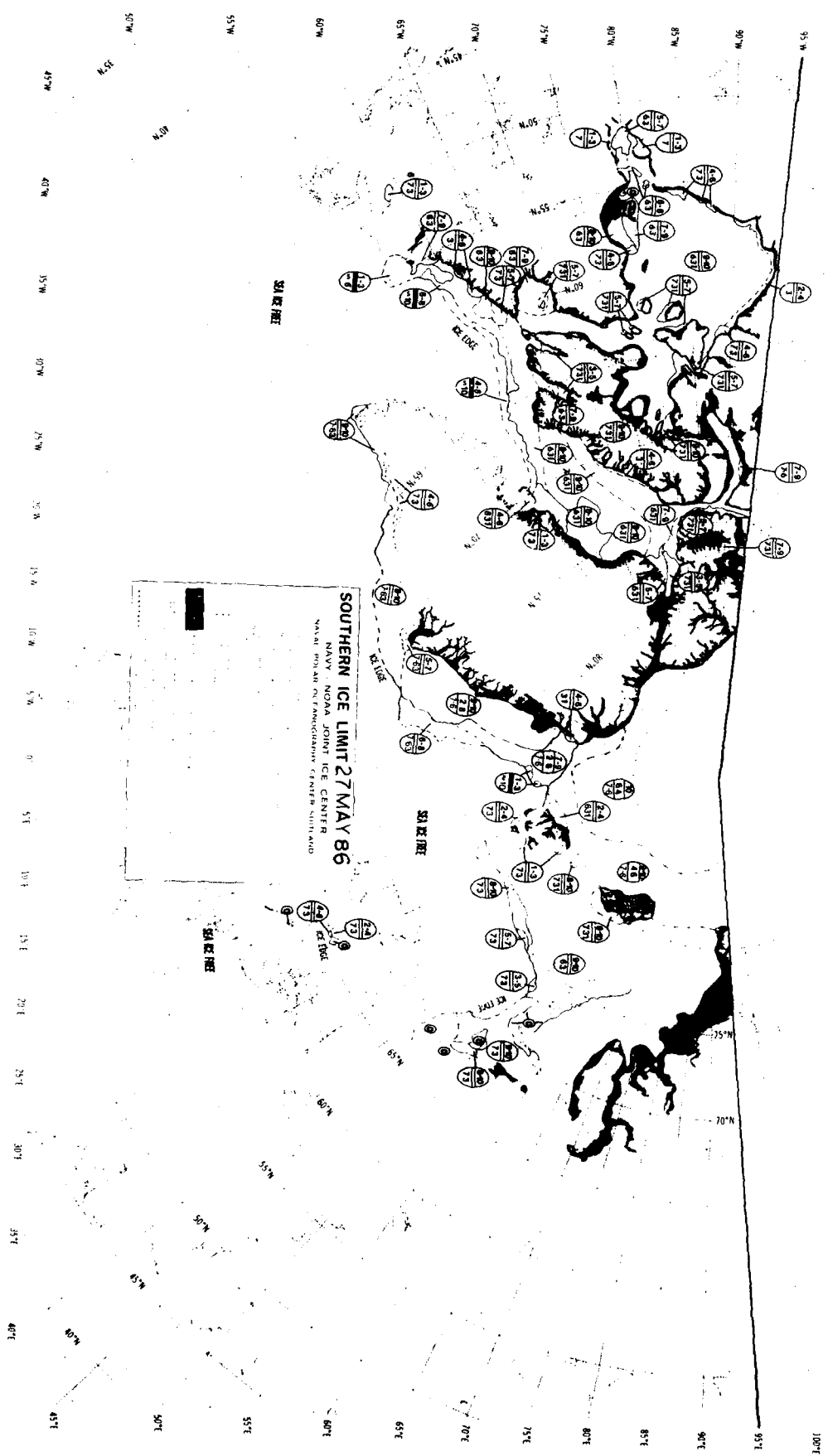
3.80

3.85

3.90

3.95

4.00

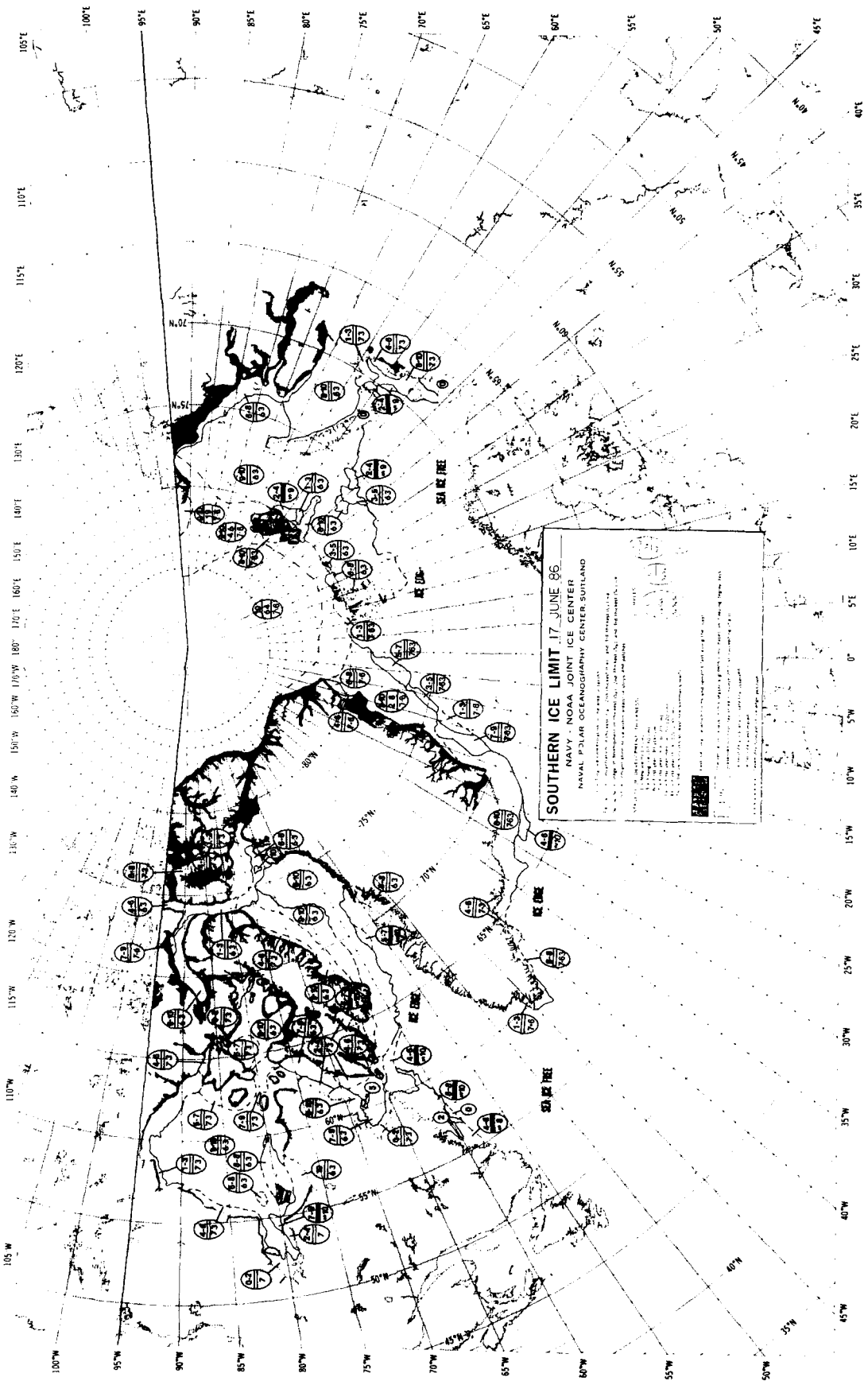


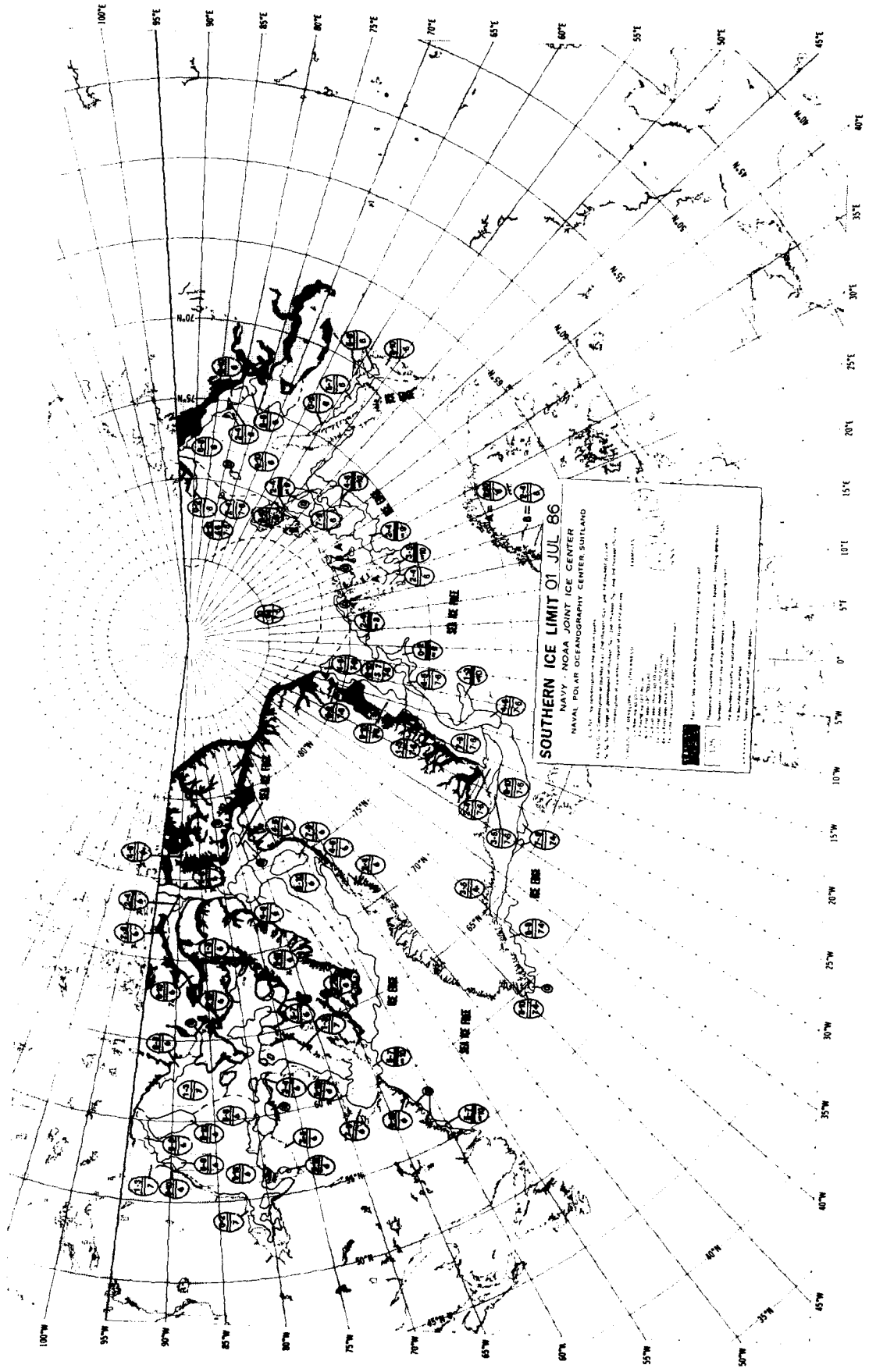
100%

100%

100%



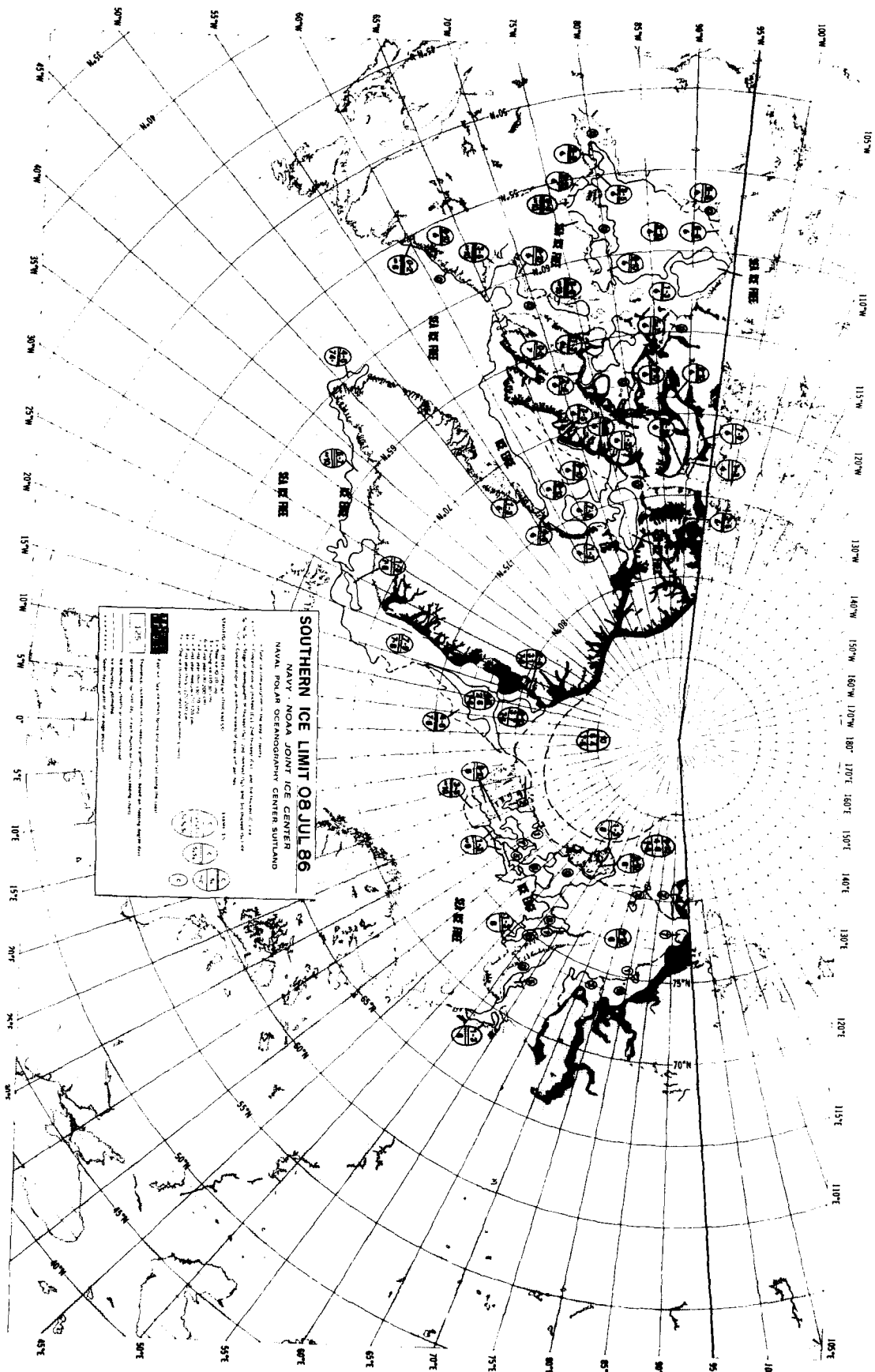




SOUTHERN ICE LIMIT 01 JUL 86
 NAVY - NOAA JOINT ICE CENTER
 NAVAL POLAR OCEANOGRAPHY CENTER SUTLAND

1:100,000
 1:500,000
 1:1,000,000
 1:2,000,000
 1:5,000,000
 1:10,000,000
 1:20,000,000
 1:50,000,000
 1:100,000,000
 1:200,000,000
 1:500,000,000
 1:1,000,000,000

1:100,000
 1:500,000
 1:1,000,000
 1:2,000,000
 1:5,000,000
 1:10,000,000
 1:20,000,000
 1:50,000,000
 1:100,000,000
 1:200,000,000
 1:500,000,000
 1:1,000,000,000

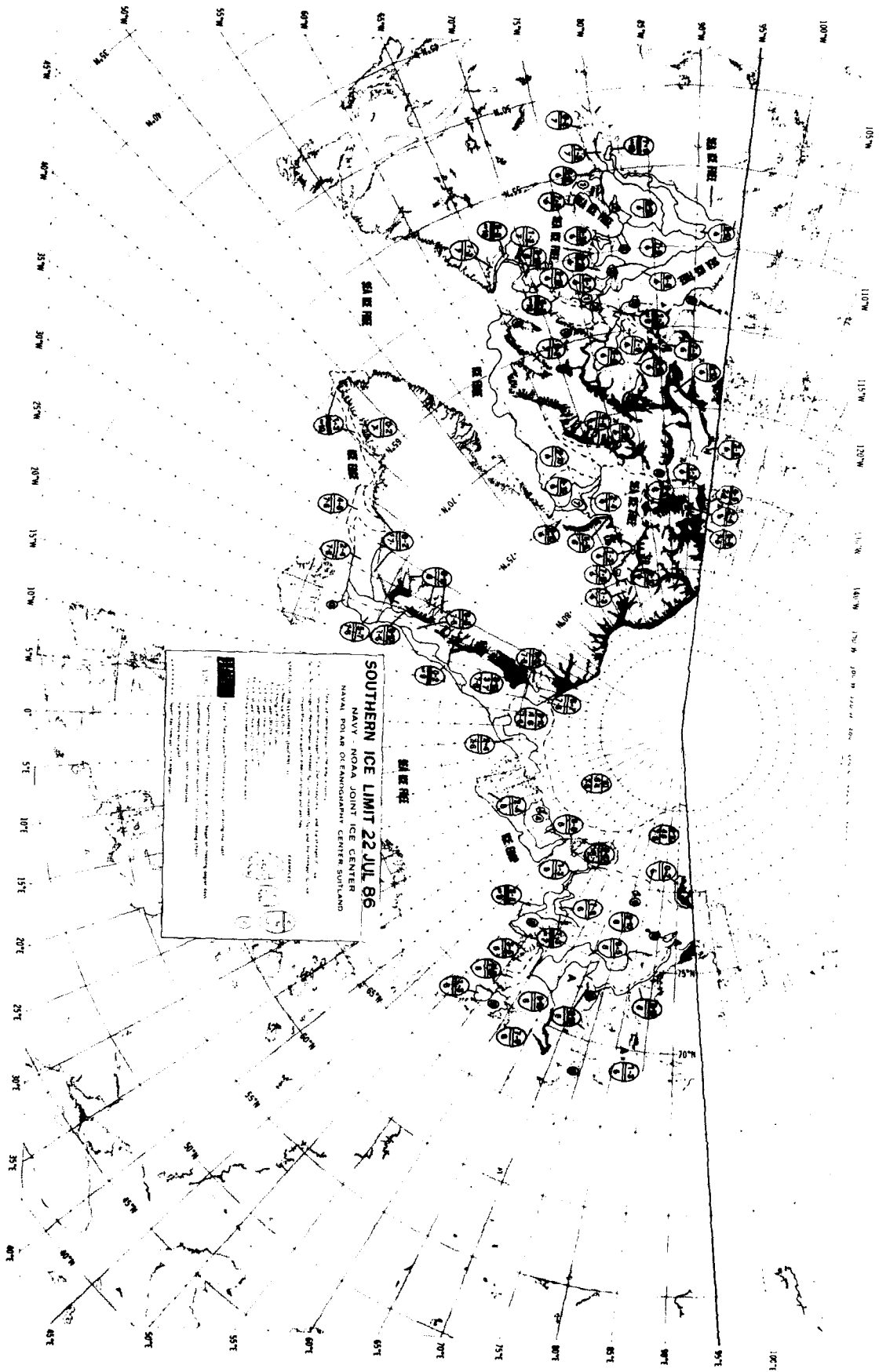


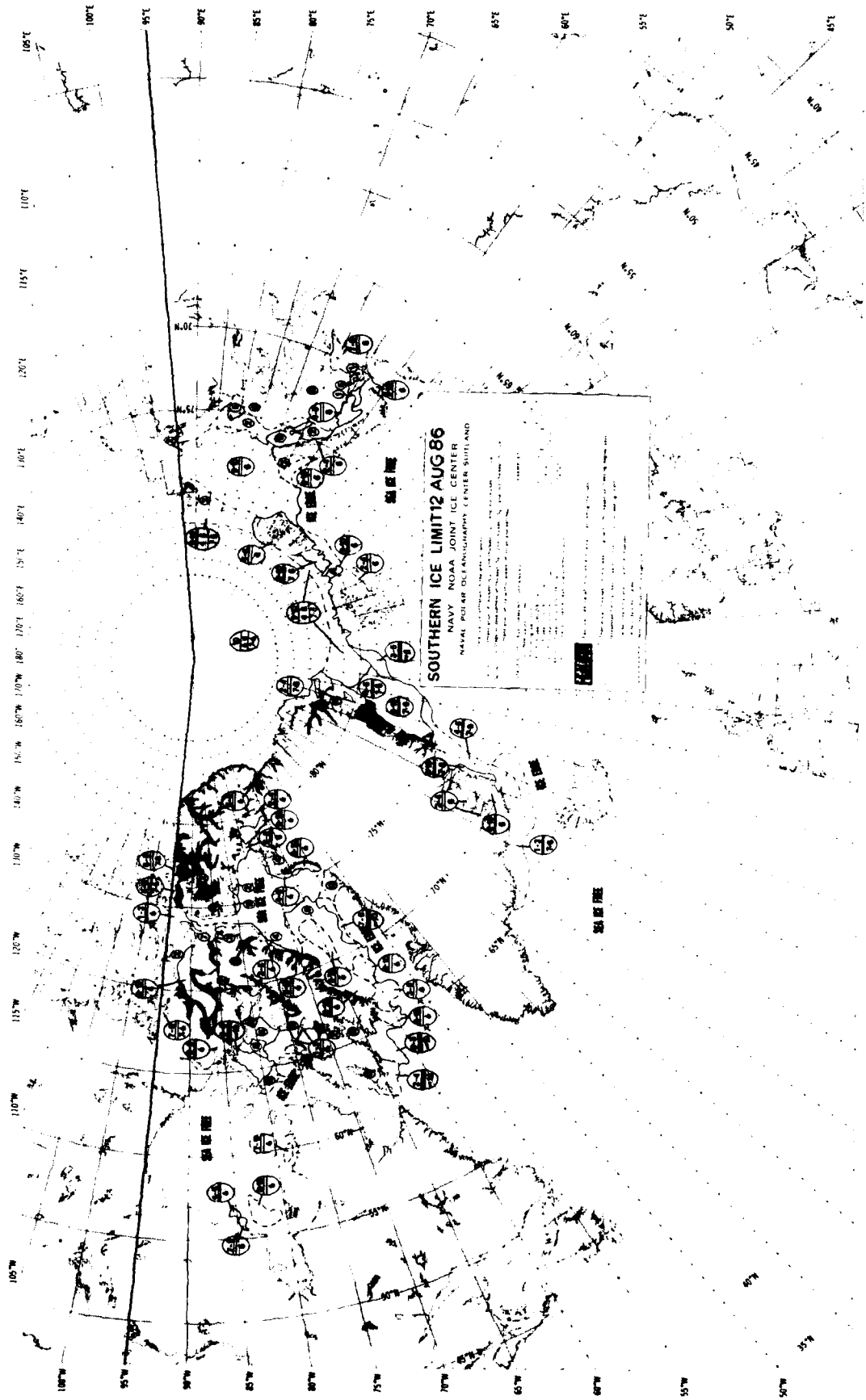
SOUTHERN ICE LIMIT 08 JUL 86

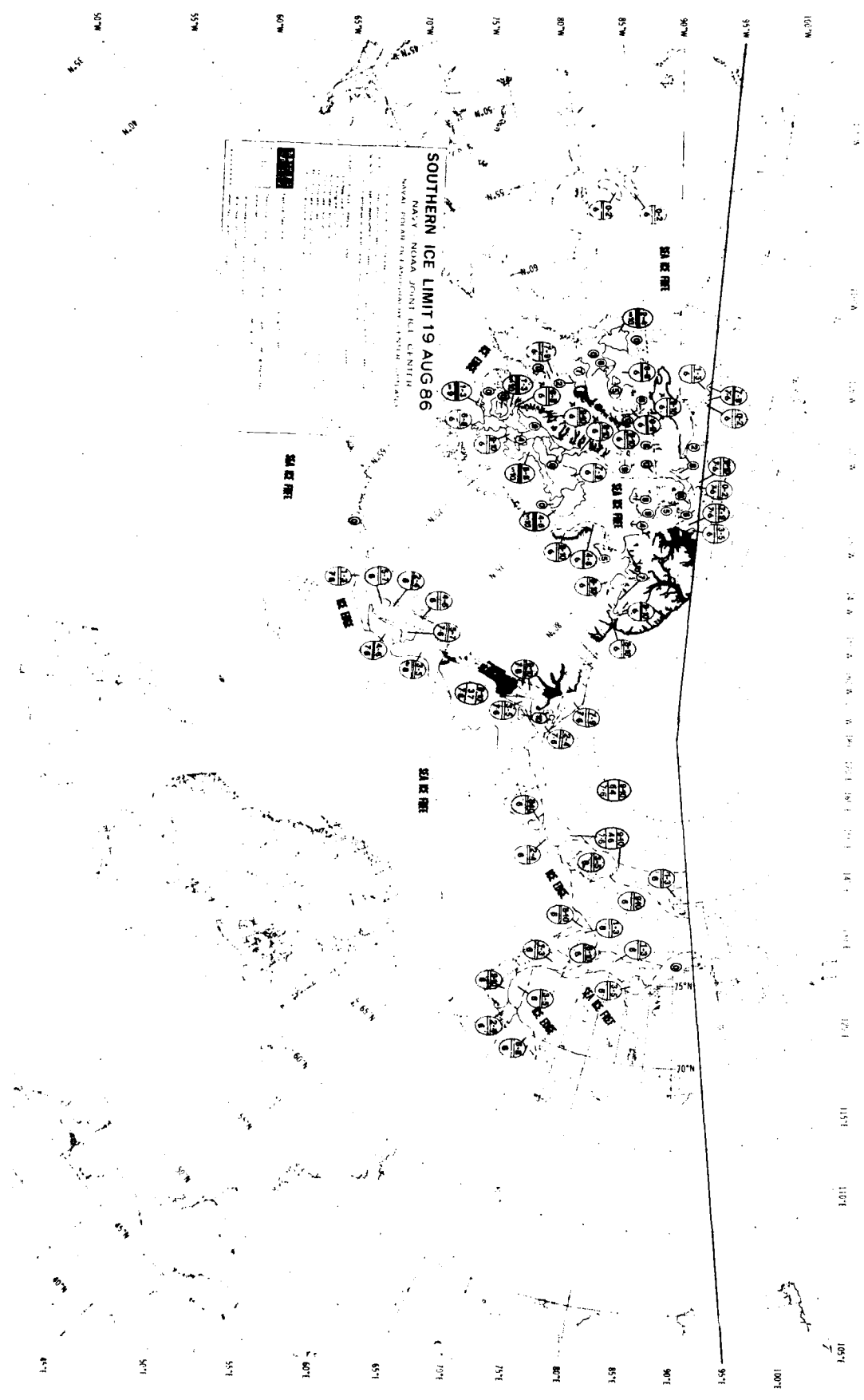
NAVY - NOAA JOINT ICE CENTER
 NAVAL POLAR OCEANOGRAPHY CENTER SUTLAND

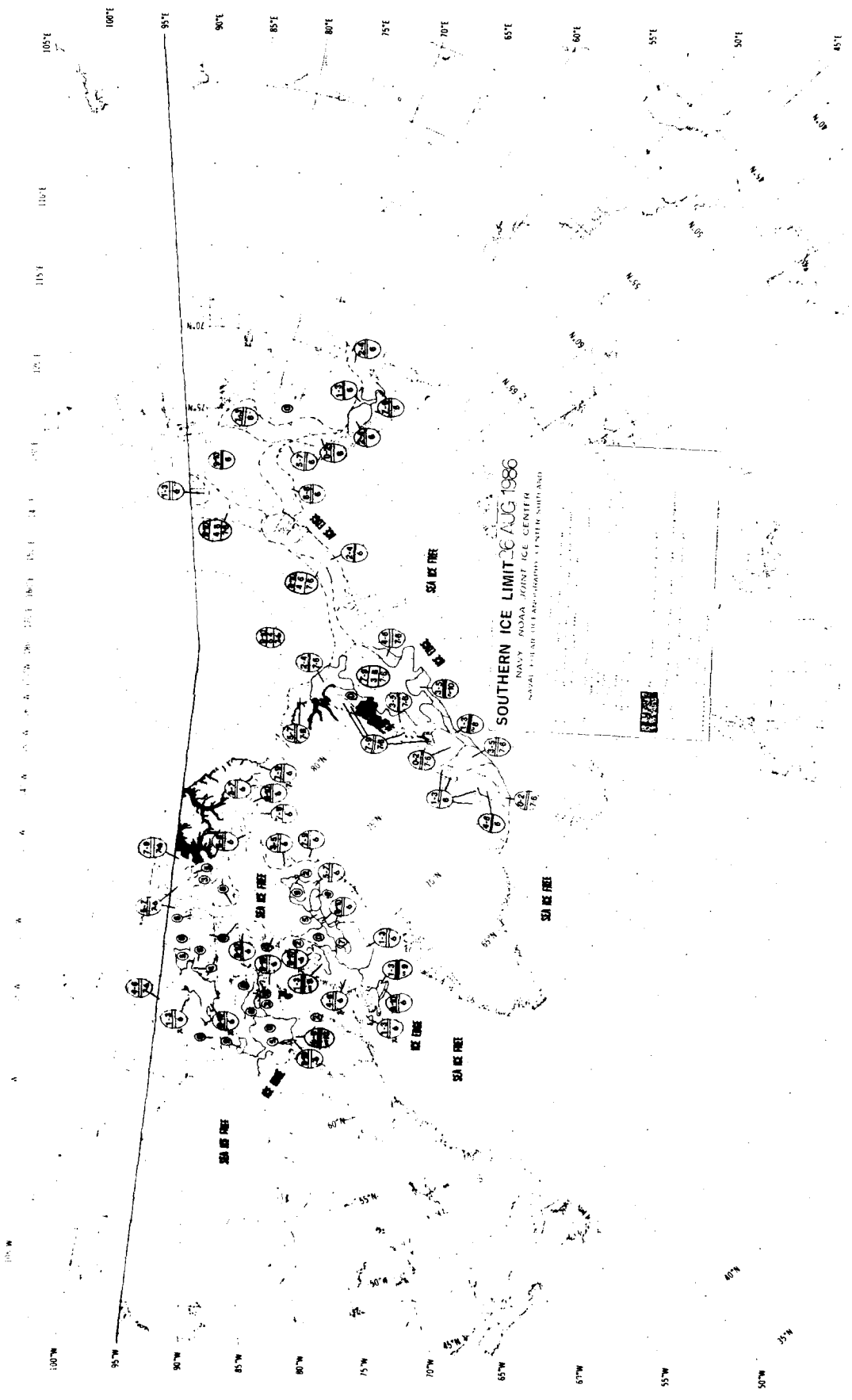
1. Ice Limit (thick black line)
 2. Ice Edge (dashed line)
 3. Ice Concentration (circles with numbers)
 4. Ice Type (circles with letters)



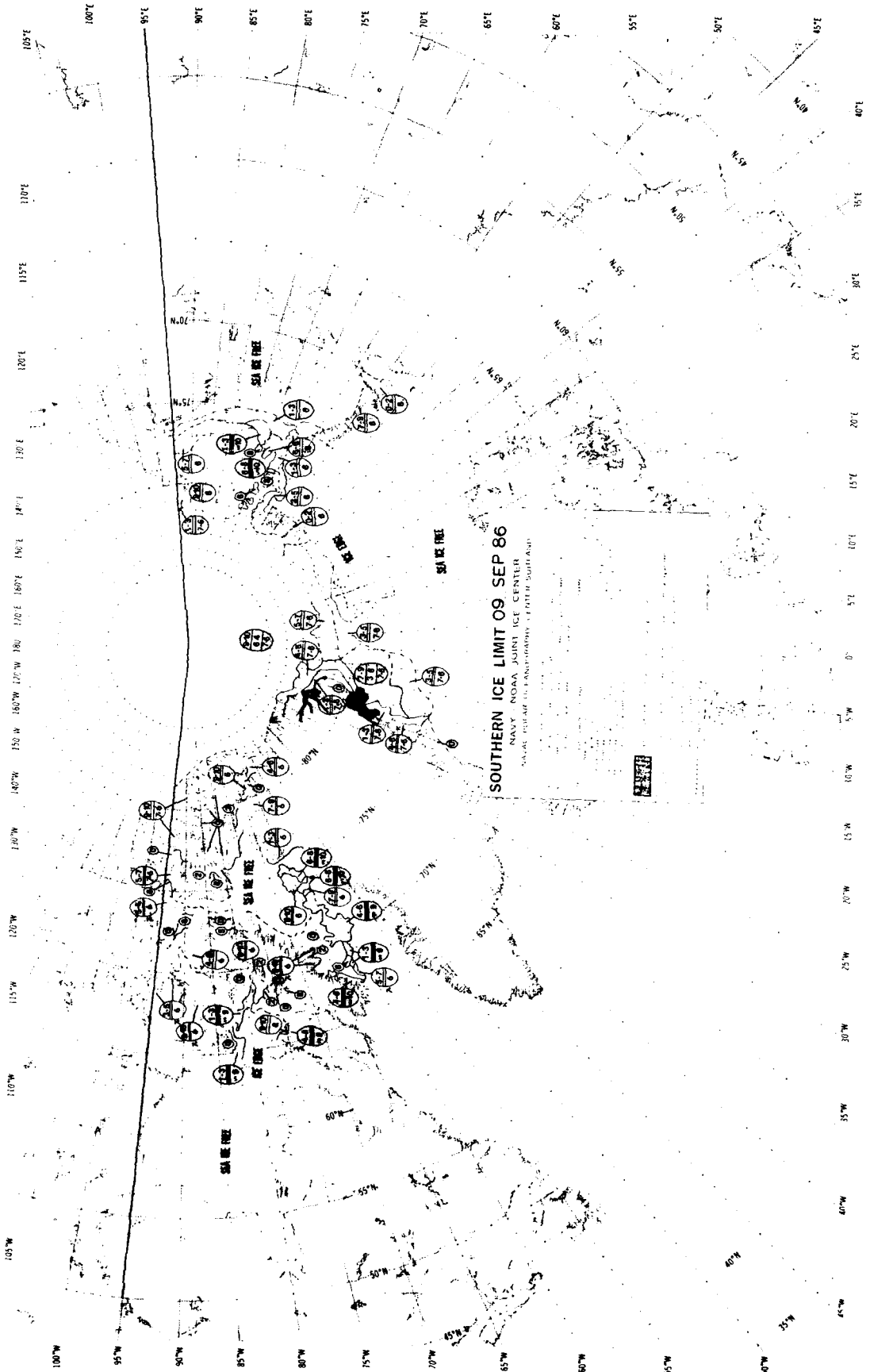




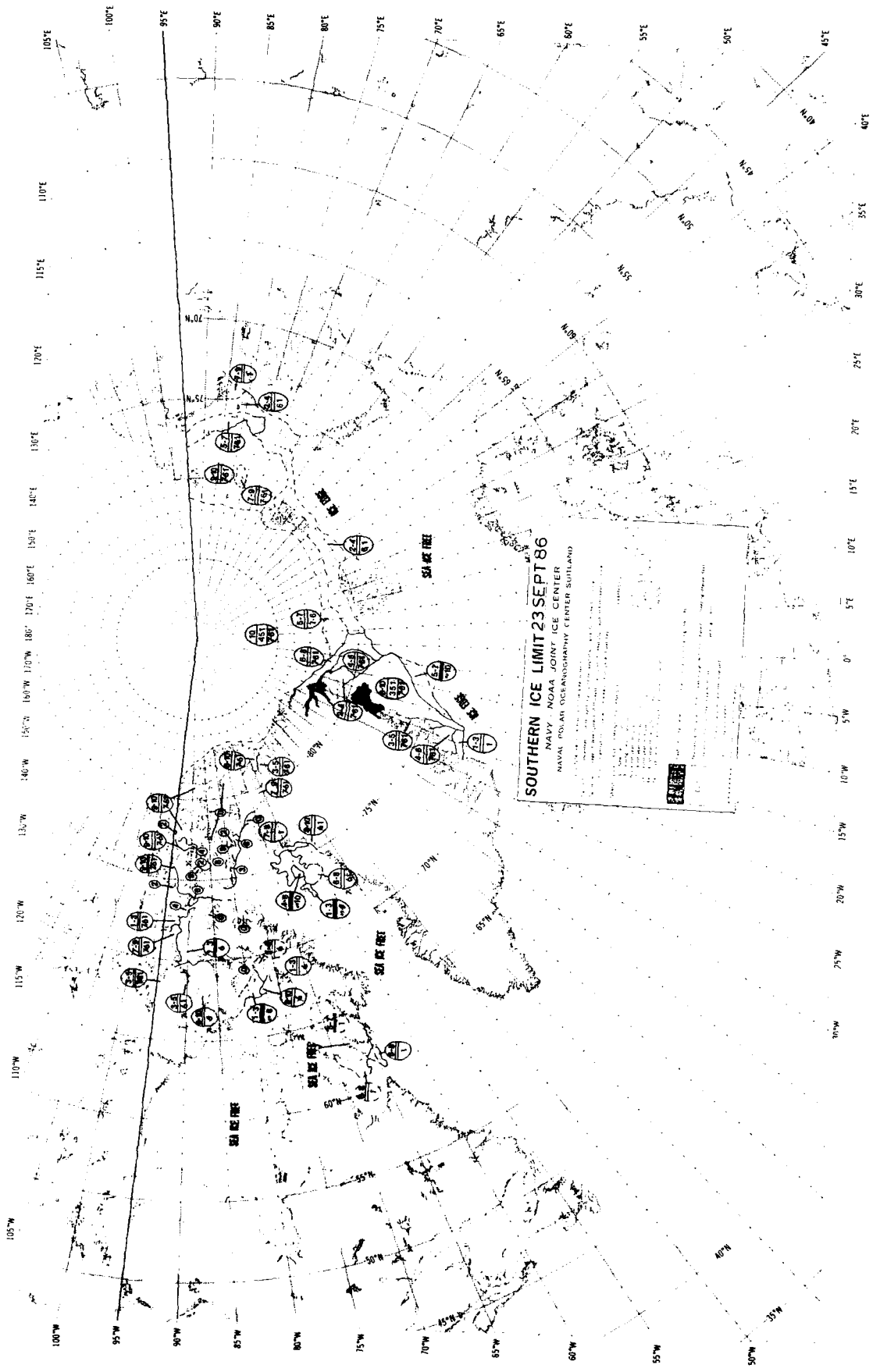






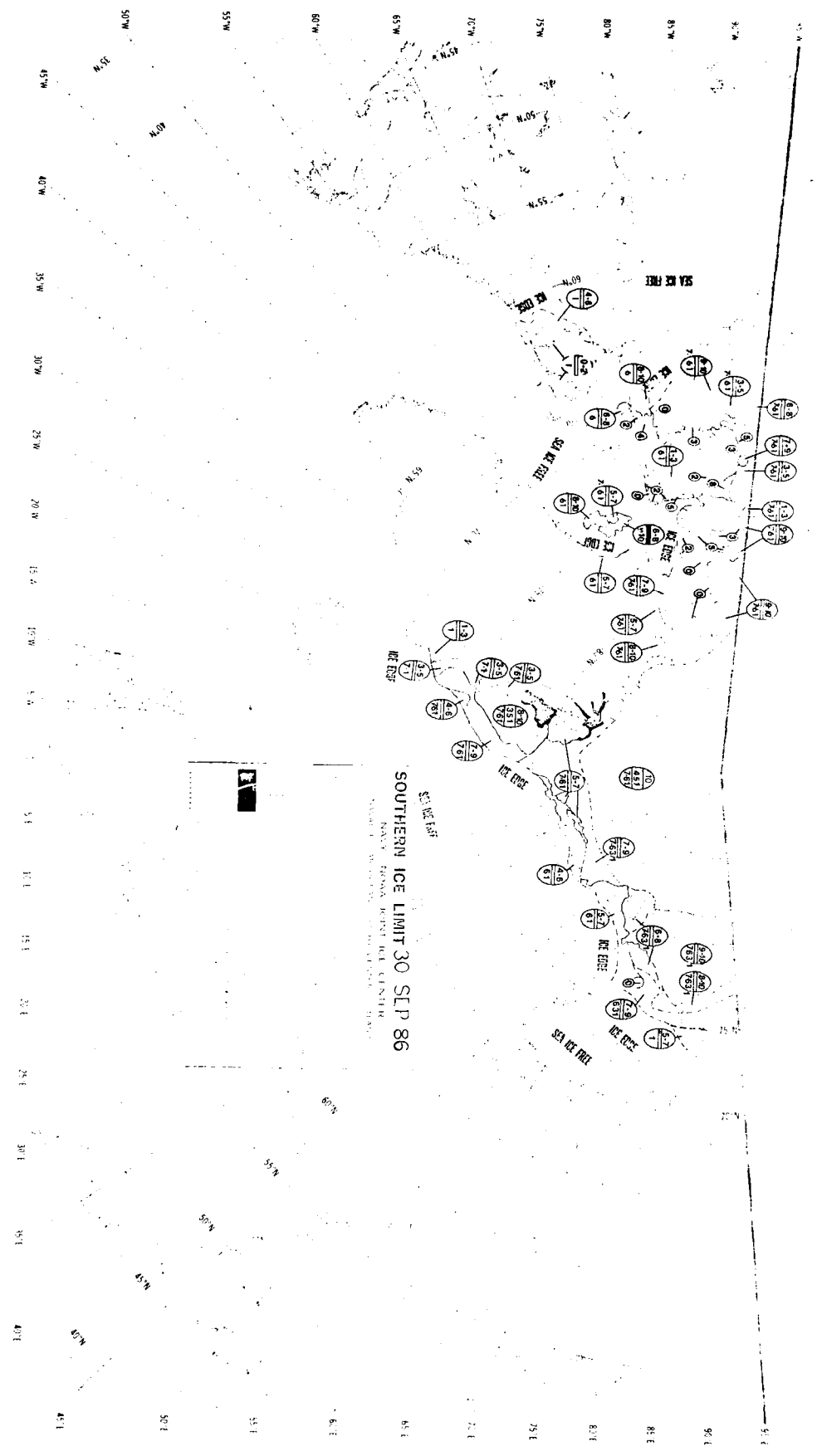


SOUTHERN ICE LIMIT 09 SEP 86
NAVY, NOAA, JAPANESE ICE CENTER
BASED UPON THE PARTICIPATION OF THE SOUTHERN OCEAN SURVEY

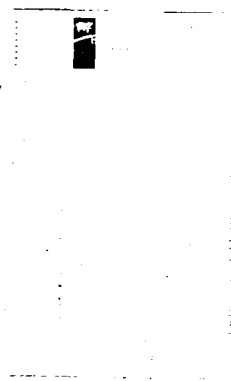


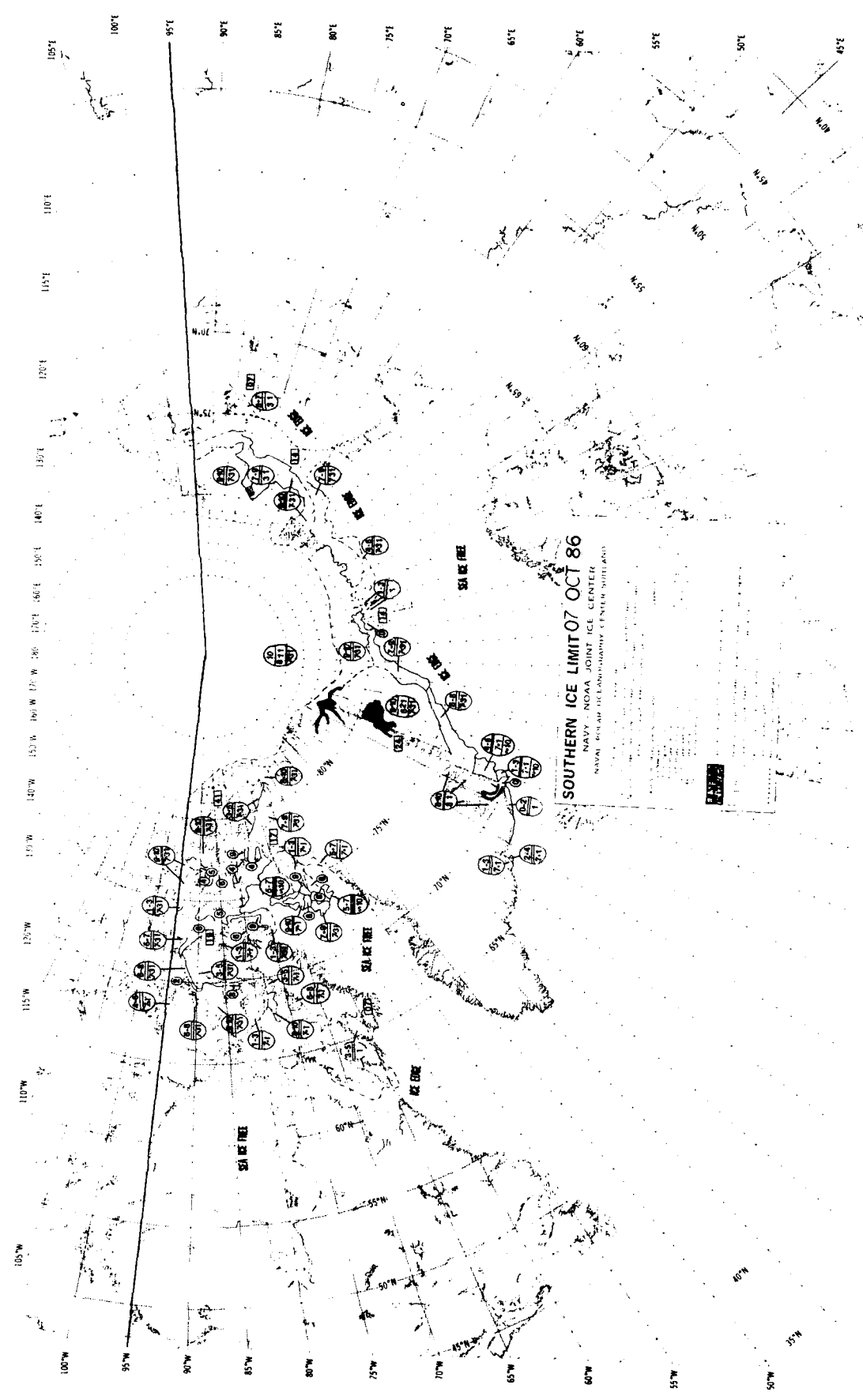


SOUTHERN ICE LIMIT 16 SEP 86
 NAVY - NOAA JOINT ICE CENTER
 NAVAL OPERATIONAL INFORMATION CENTER - GAITHERSBURG



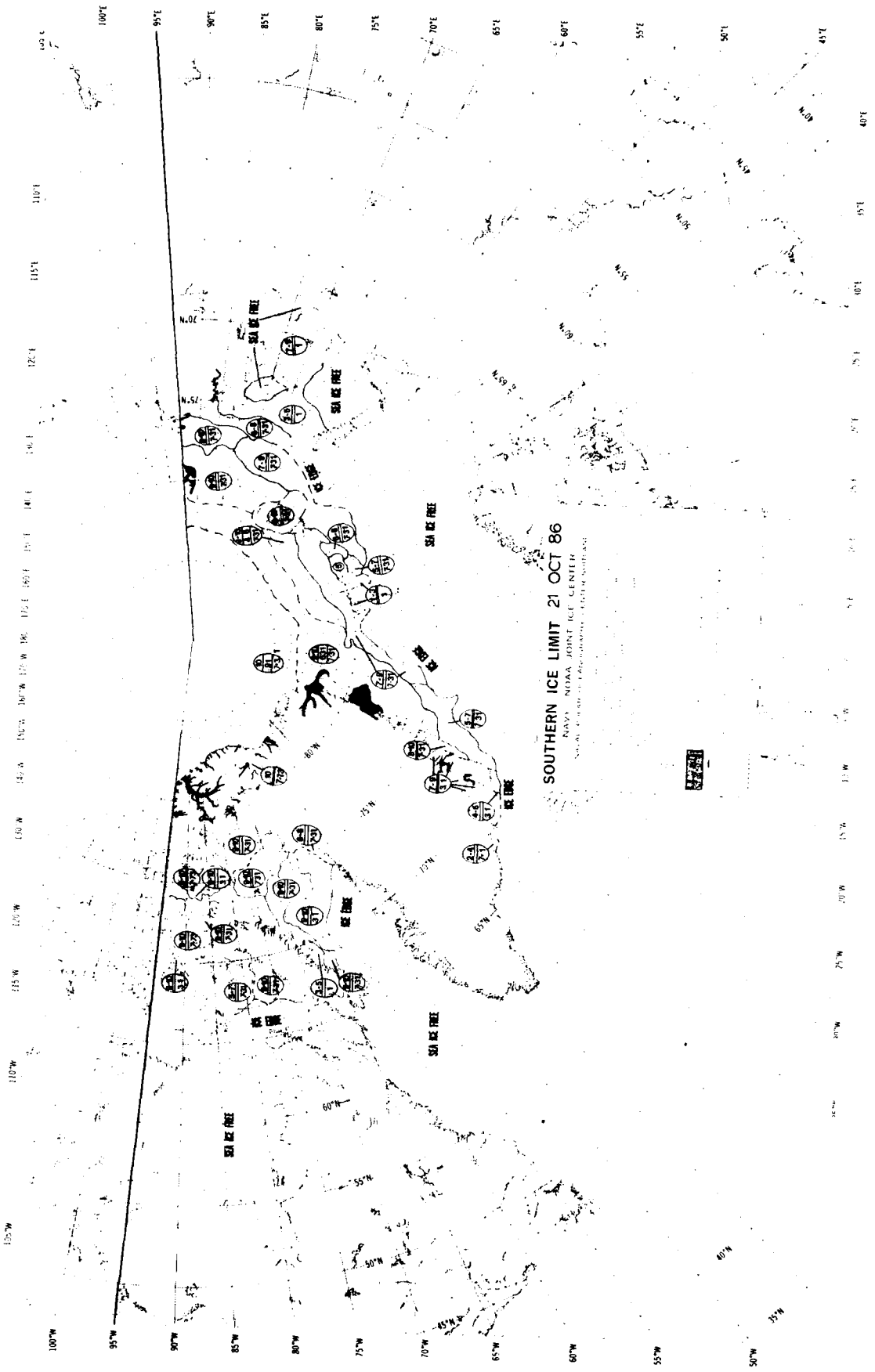
SOUTHERN ICE LIMIT 30 SEP 86
 NANTUCKET OBSERVING STATION DATA





SOUTHERN ICE LIMIT 07 OCT 86
NAVY - NOAA JOINT ICE CENTER
NAVAL OPERATIONAL CENTER (SOUTH)

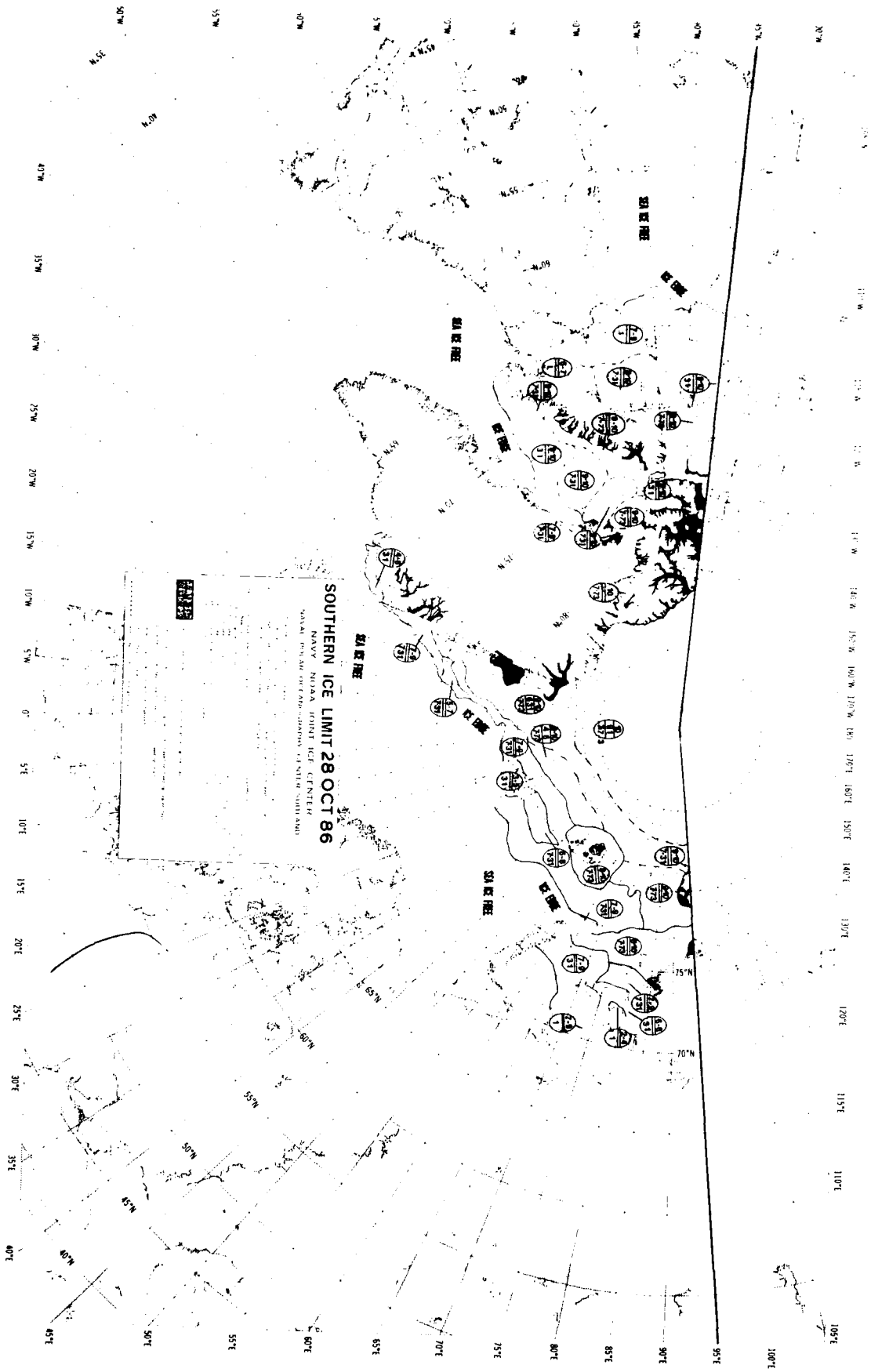
14,501

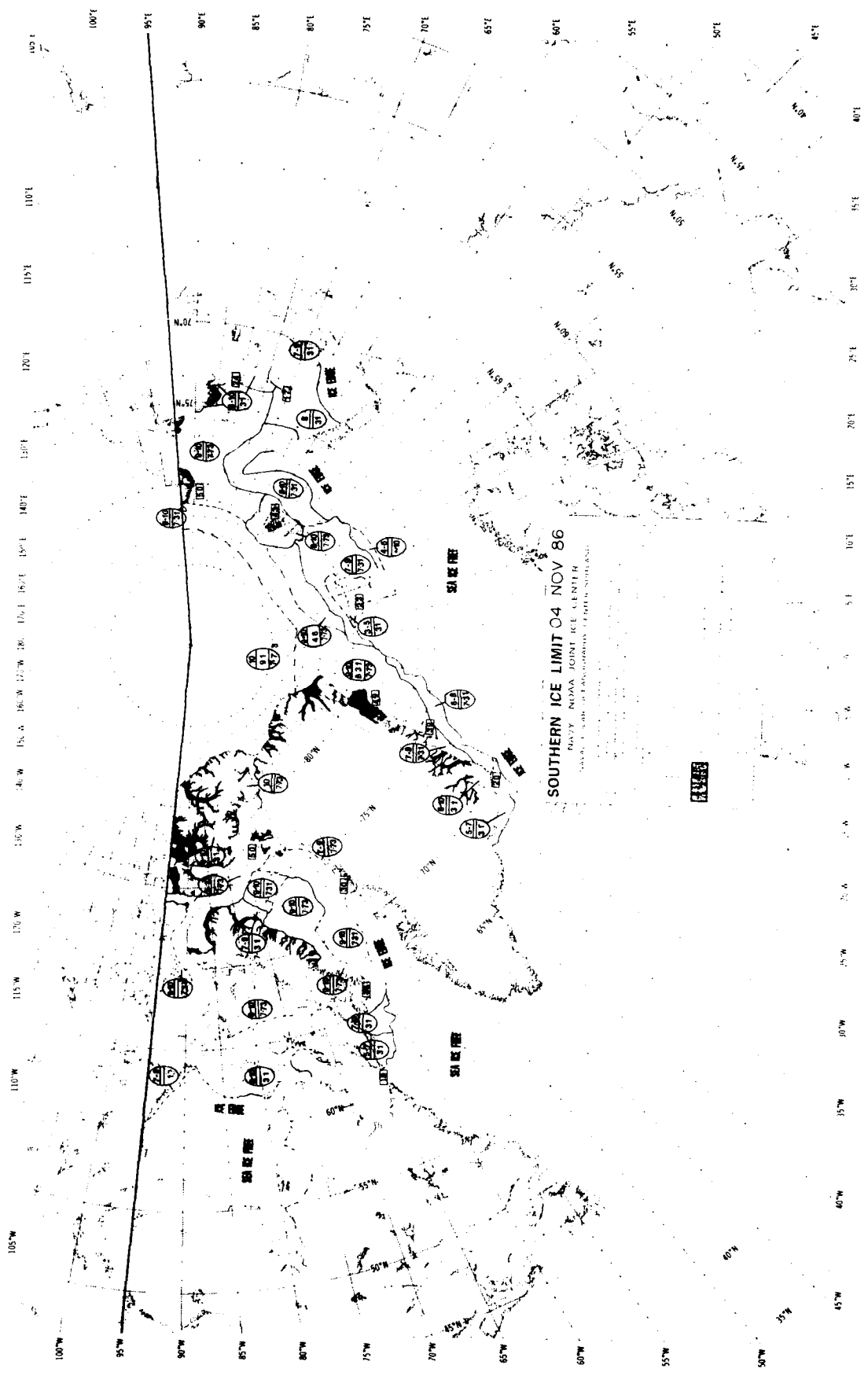


SOUTHERN ICE LIMIT 21 OCT 86

NAVY - NOAA JOINT ICE CENTER
NAVY AIR STATION - GAITHERSBURG - TEXAS

11/11/86



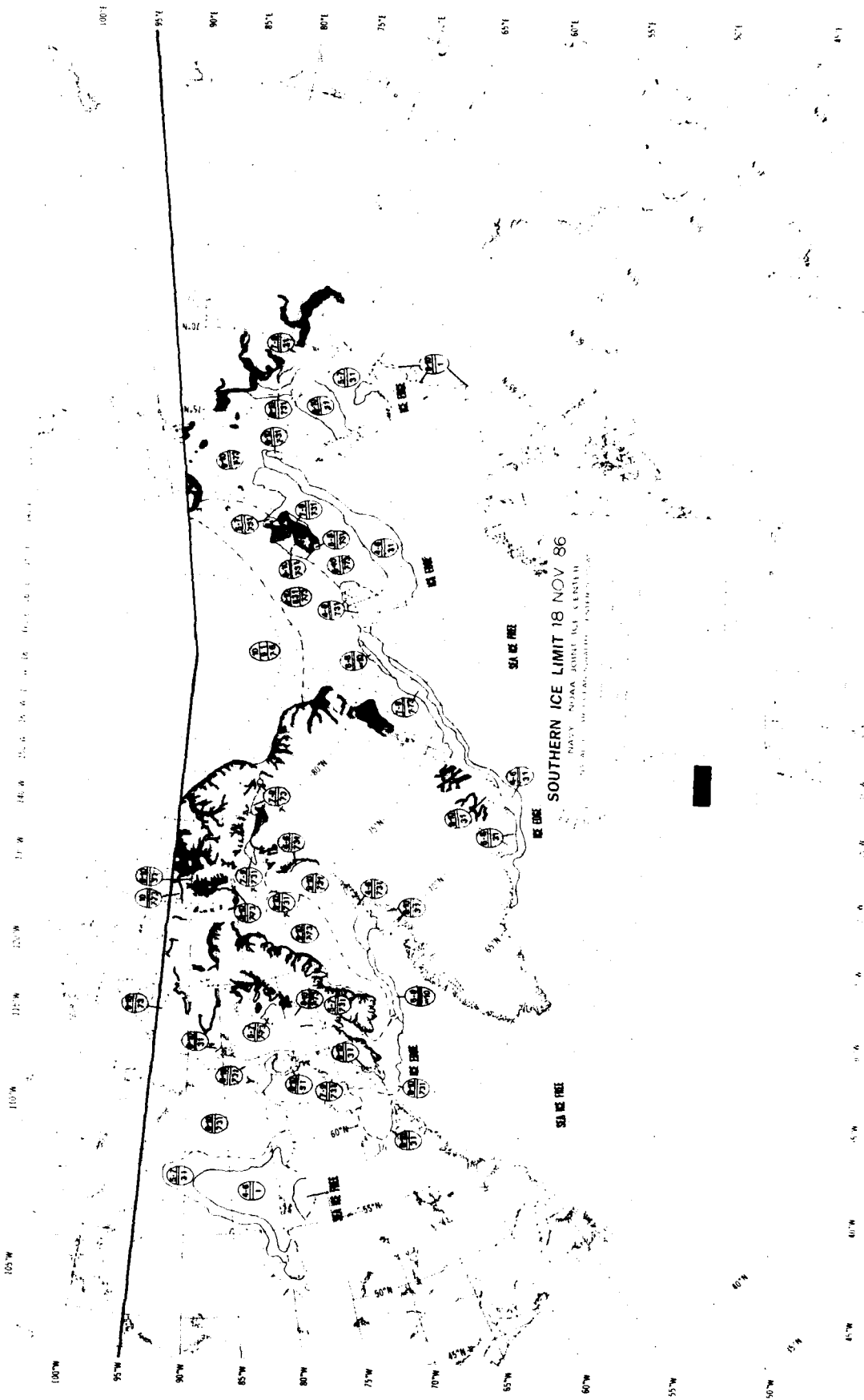




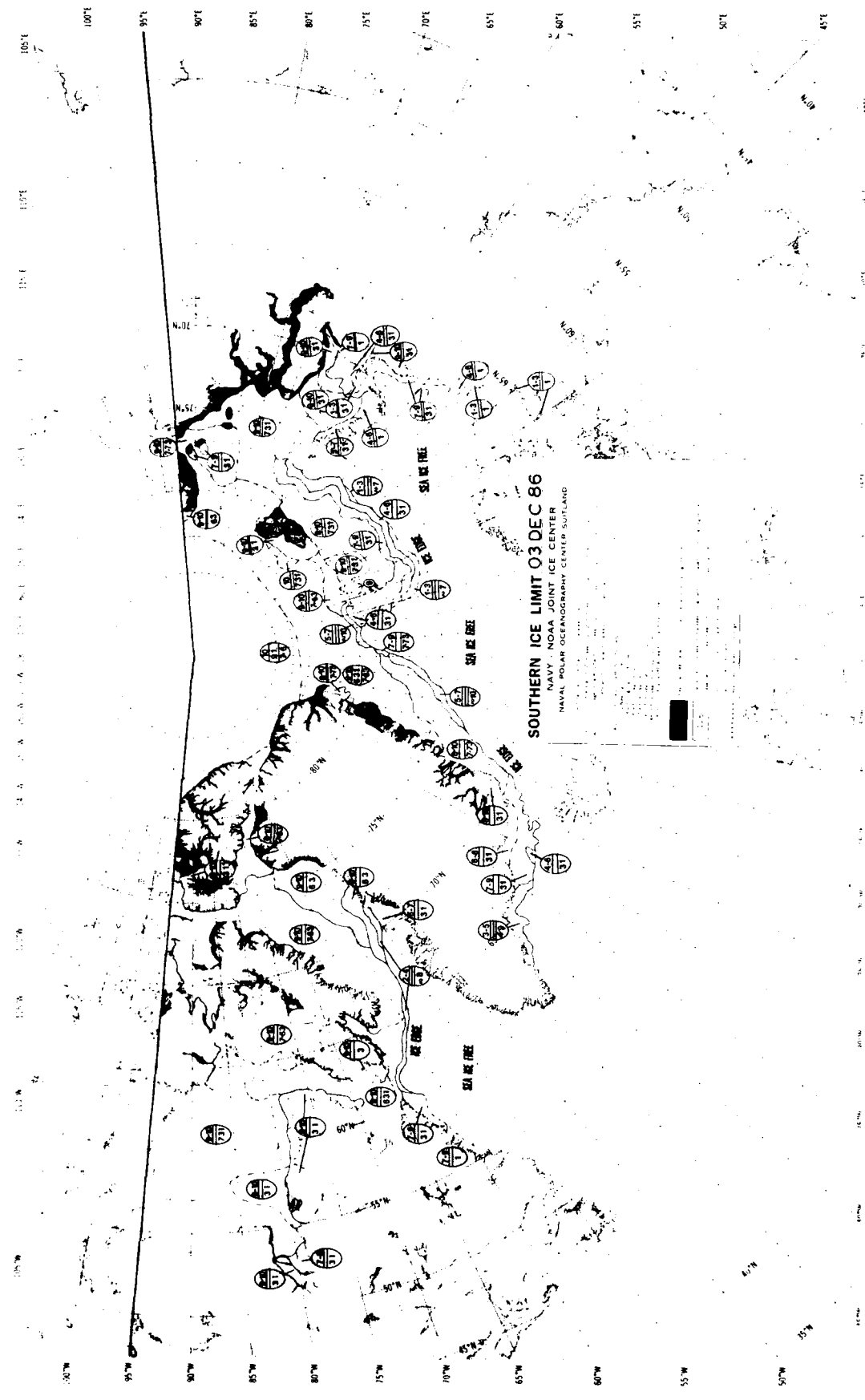
SOUTHERN ICE LIMIT 11 NOV 86
NAVY - NOAA JOINT ICE CENTER
NAVAL OPERATIONAL DEVELOPMENT CENTER
PACIFIC SUBCOMANDANT'S OFFICE
SAN DIEGO, CALIFORNIA

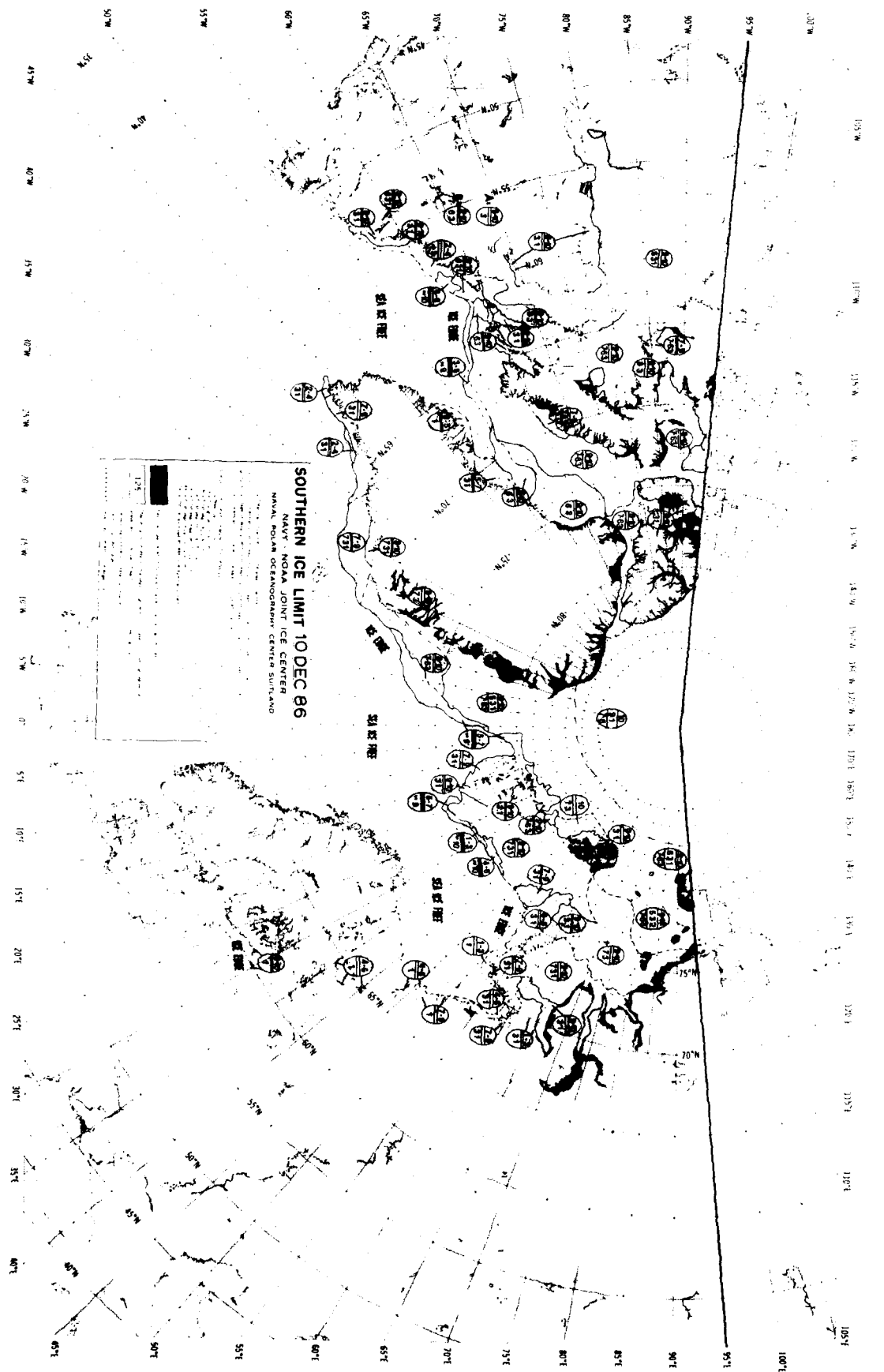
150°E 140°E 130°E 120°E 110°E 100°E 90°E 80°E 70°E 60°E 50°E 40°E 30°E 20°E 10°E 0° 10°W 20°W 30°W 40°W 50°W 60°W 70°W 80°W 90°W 100°W 110°W 120°W 130°W 140°W 150°W

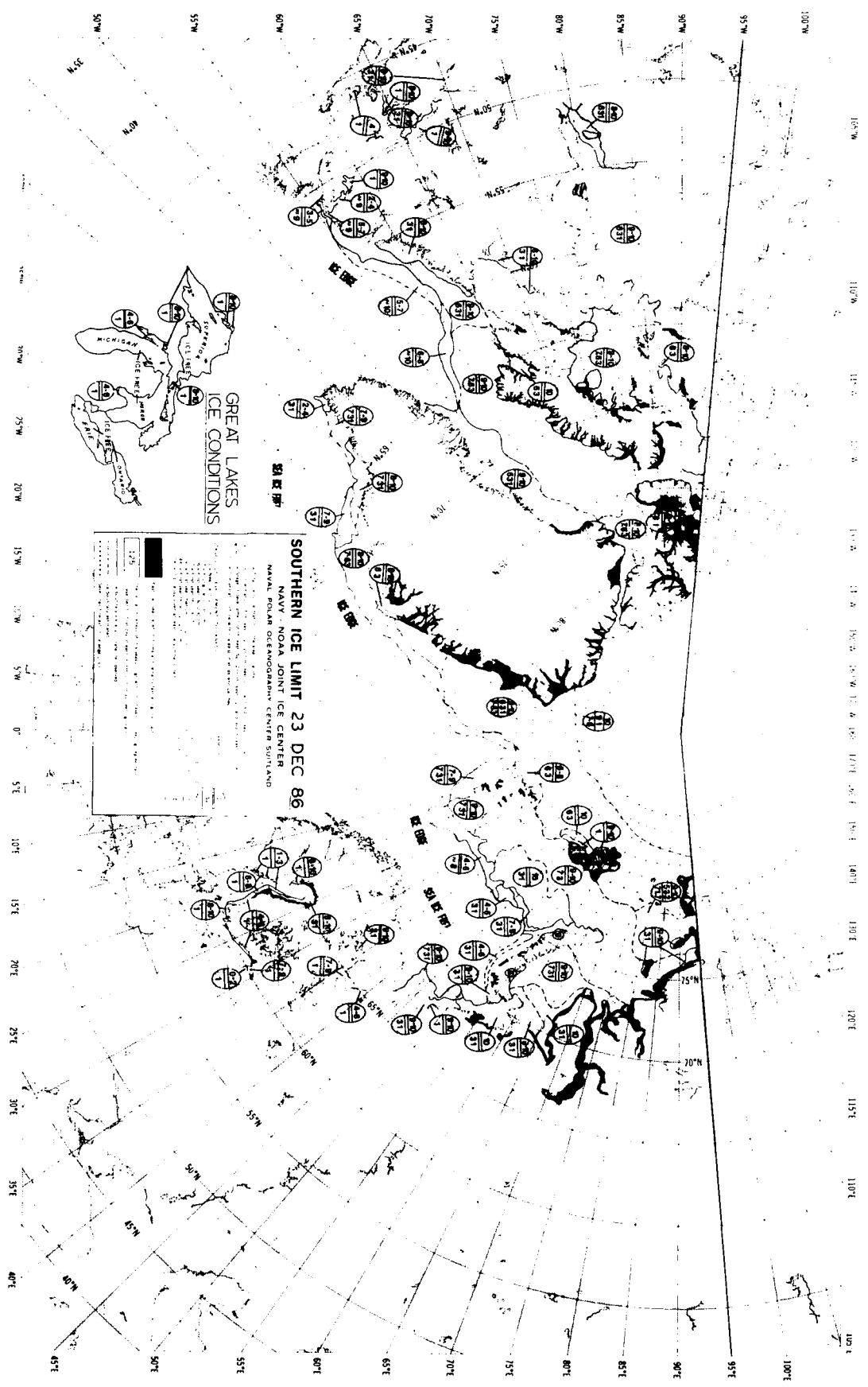
150° 140° 130° 120° 110° 100° 90° 80° 70° 60° 50° 40° 30° 20° 10° 0° 10° 20° 30° 40° 50° 60° 70° 80° 90° 100° 110° 120° 130° 140° 150°

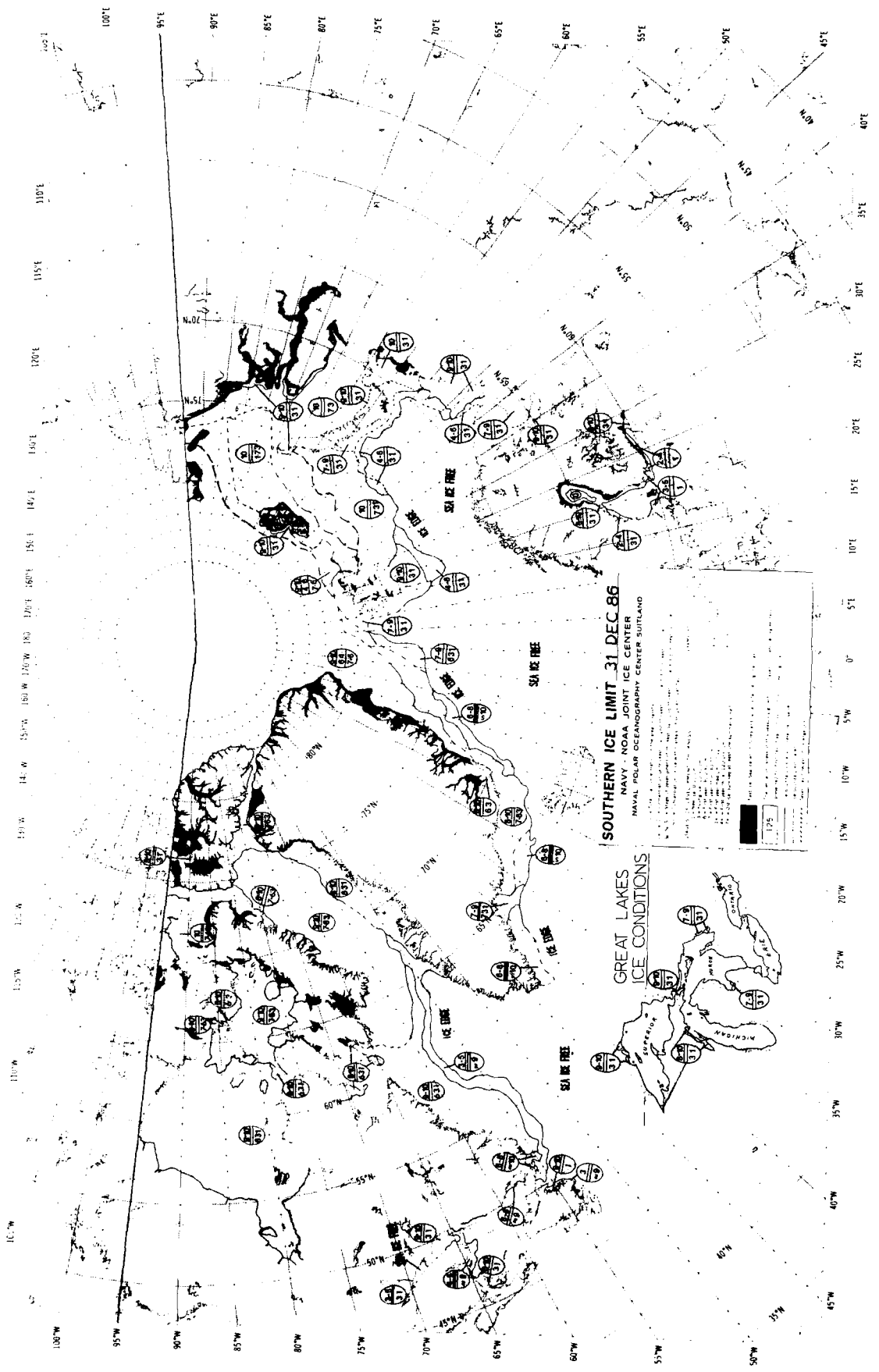


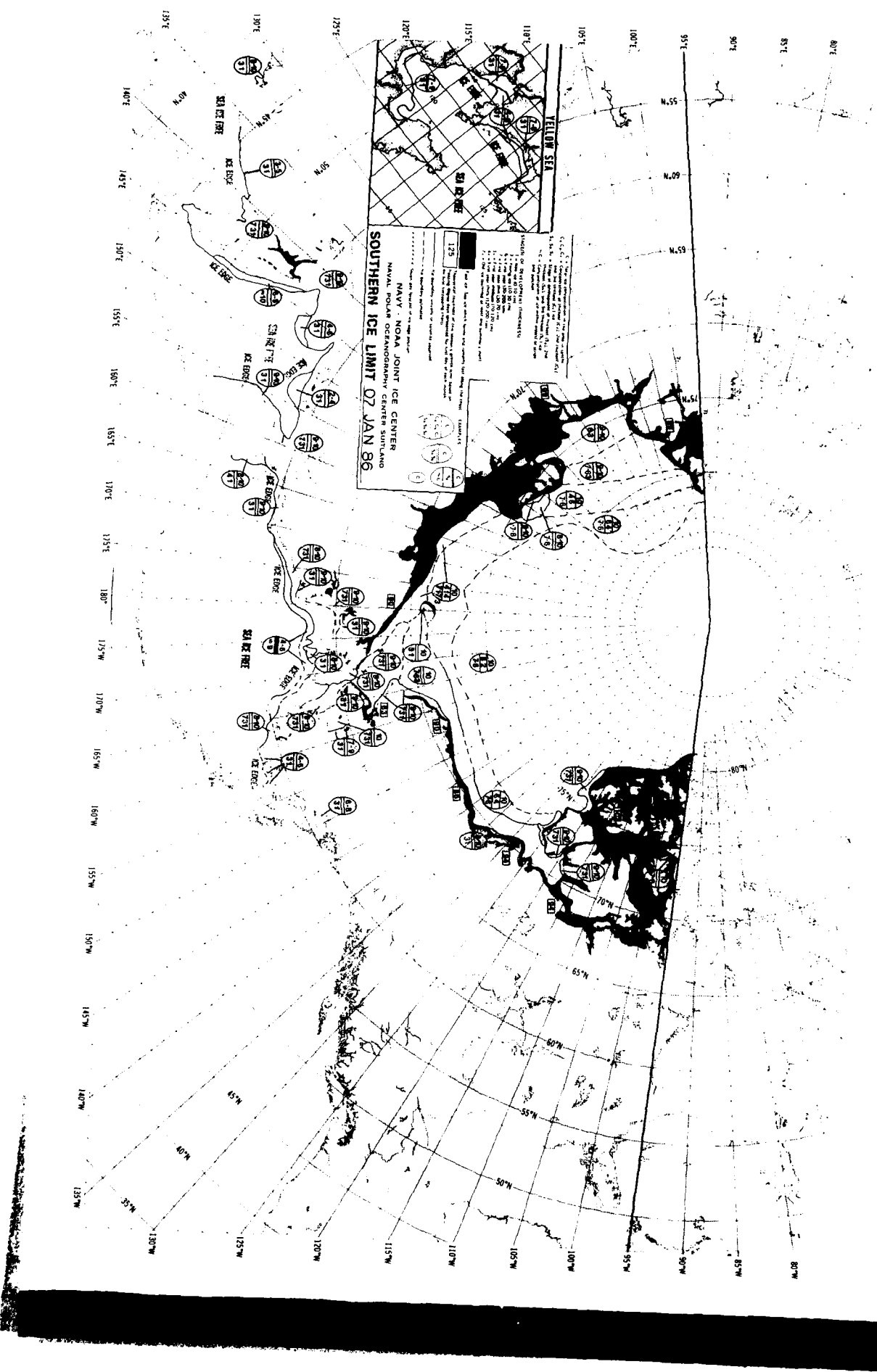


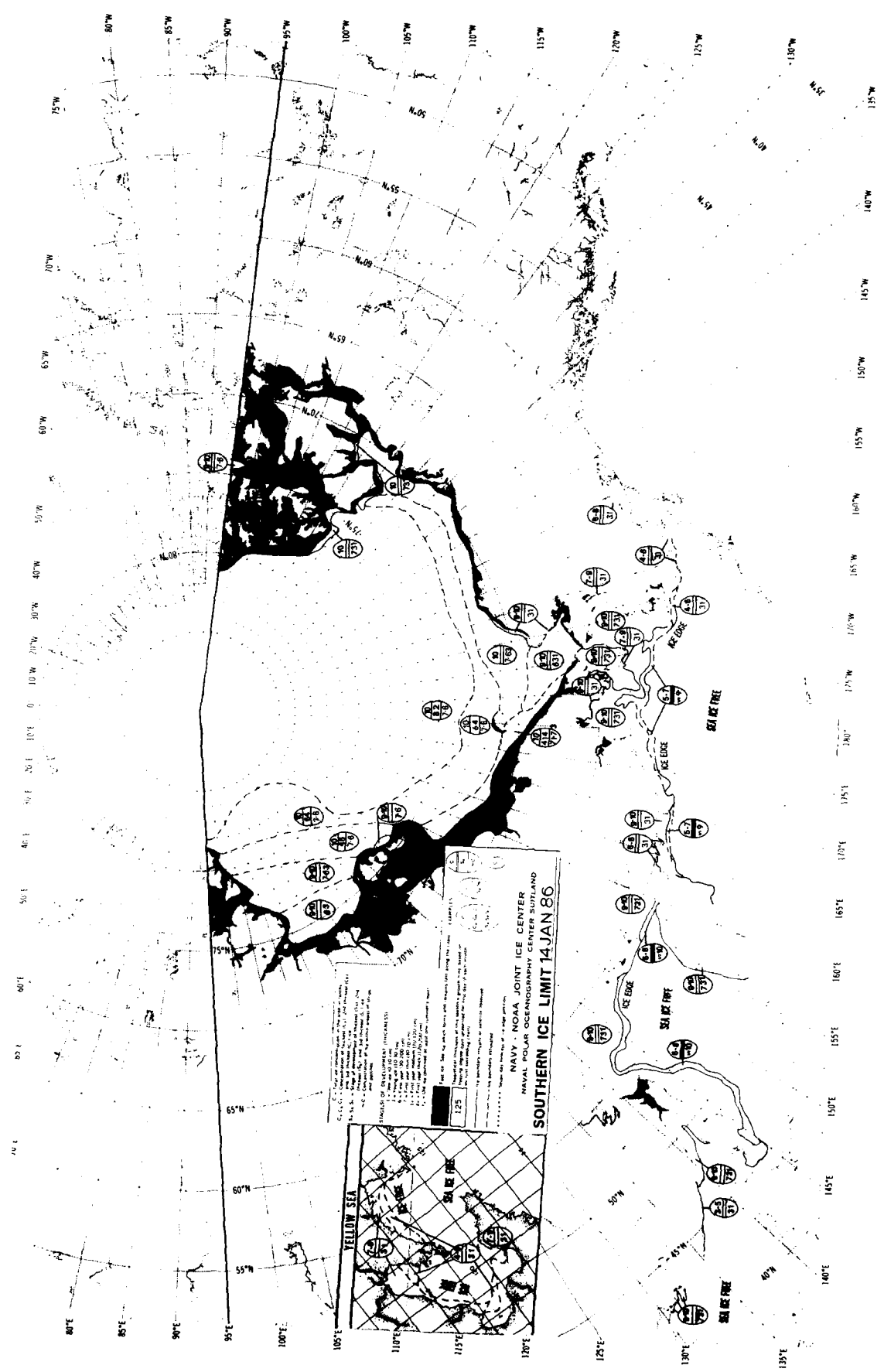












NAVY, NOAA JOINT ICE CENTER
 NAVAL POLAR OCEANOGRAPHY CENTER SUTLAND
SOUTHERN ICE LIMIT 14 JAN 86

125

For use with the "Ice Edge and Ice Limit" chart series. This chart is a part of the "Ice Edge and Ice Limit" chart series. It is a nautical chart showing the Southern Ice Limit for January 1986. The chart is based on data from the Navy, NOAA Joint Ice Center and the Naval Polar Oceanography Center Sutland. The chart is a part of the "Ice Edge and Ice Limit" chart series. It is a nautical chart showing the Southern Ice Limit for January 1986. The chart is based on data from the Navy, NOAA Joint Ice Center and the Naval Polar Oceanography Center Sutland.

PROVIDER OF DEVELOPMENT (PROMISES)

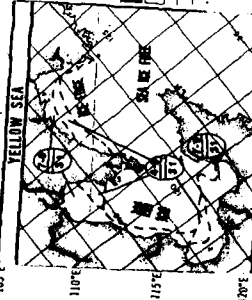
1. This chart is a part of the "Ice Edge and Ice Limit" chart series. It is a nautical chart showing the Southern Ice Limit for January 1986. The chart is based on data from the Navy, NOAA Joint Ice Center and the Naval Polar Oceanography Center Sutland.

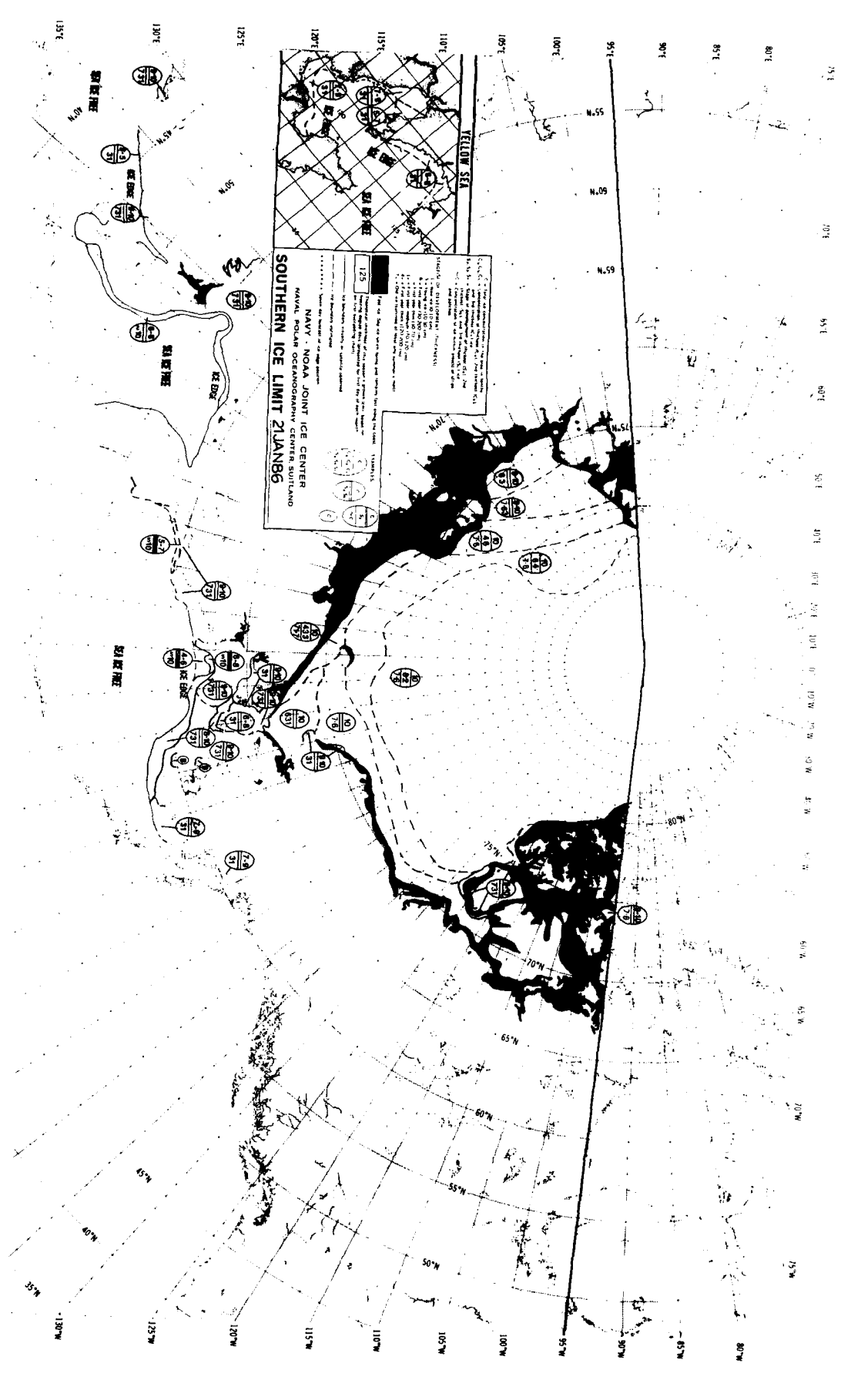
2. This chart is a part of the "Ice Edge and Ice Limit" chart series. It is a nautical chart showing the Southern Ice Limit for January 1986. The chart is based on data from the Navy, NOAA Joint Ice Center and the Naval Polar Oceanography Center Sutland.

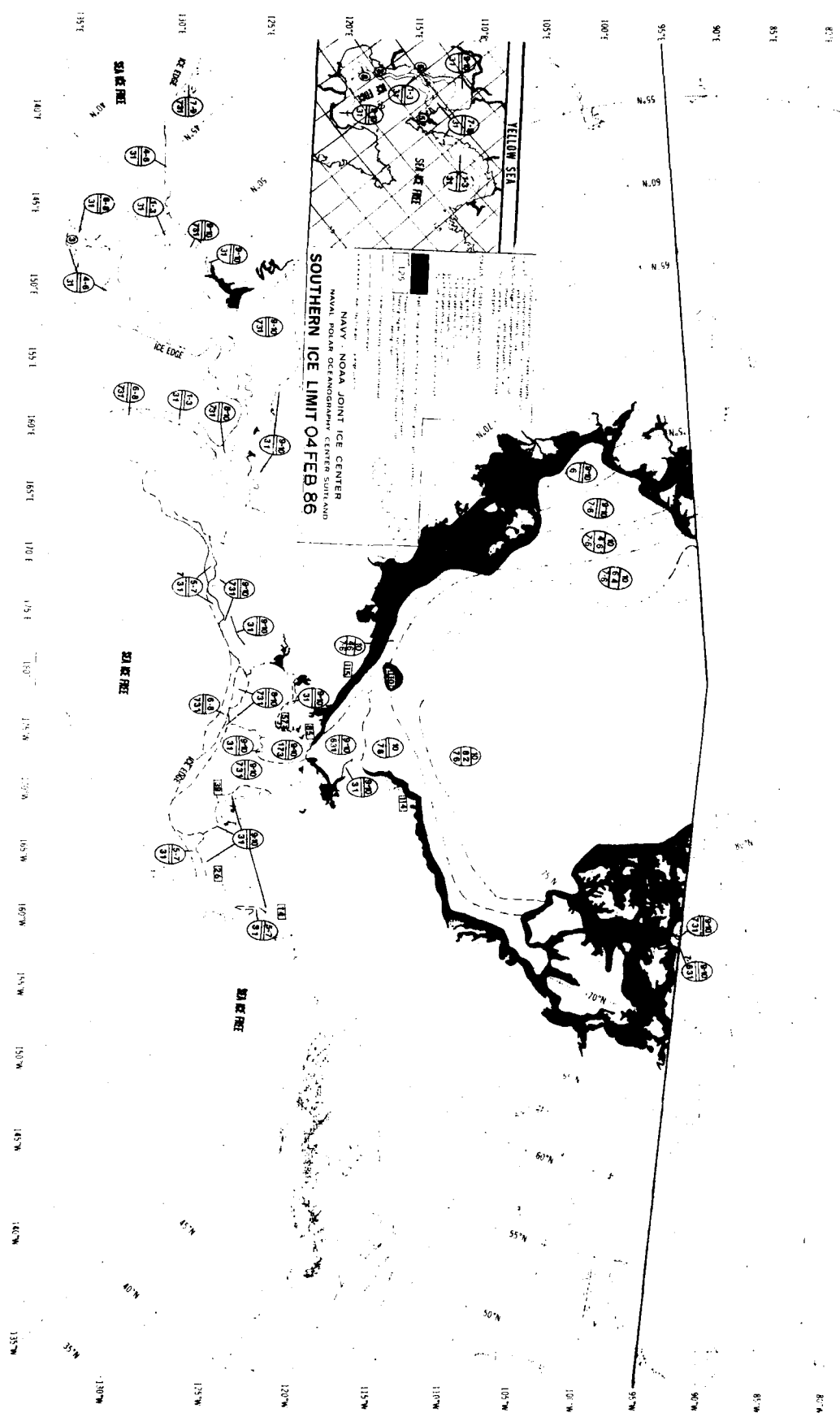
3. This chart is a part of the "Ice Edge and Ice Limit" chart series. It is a nautical chart showing the Southern Ice Limit for January 1986. The chart is based on data from the Navy, NOAA Joint Ice Center and the Naval Polar Oceanography Center Sutland.

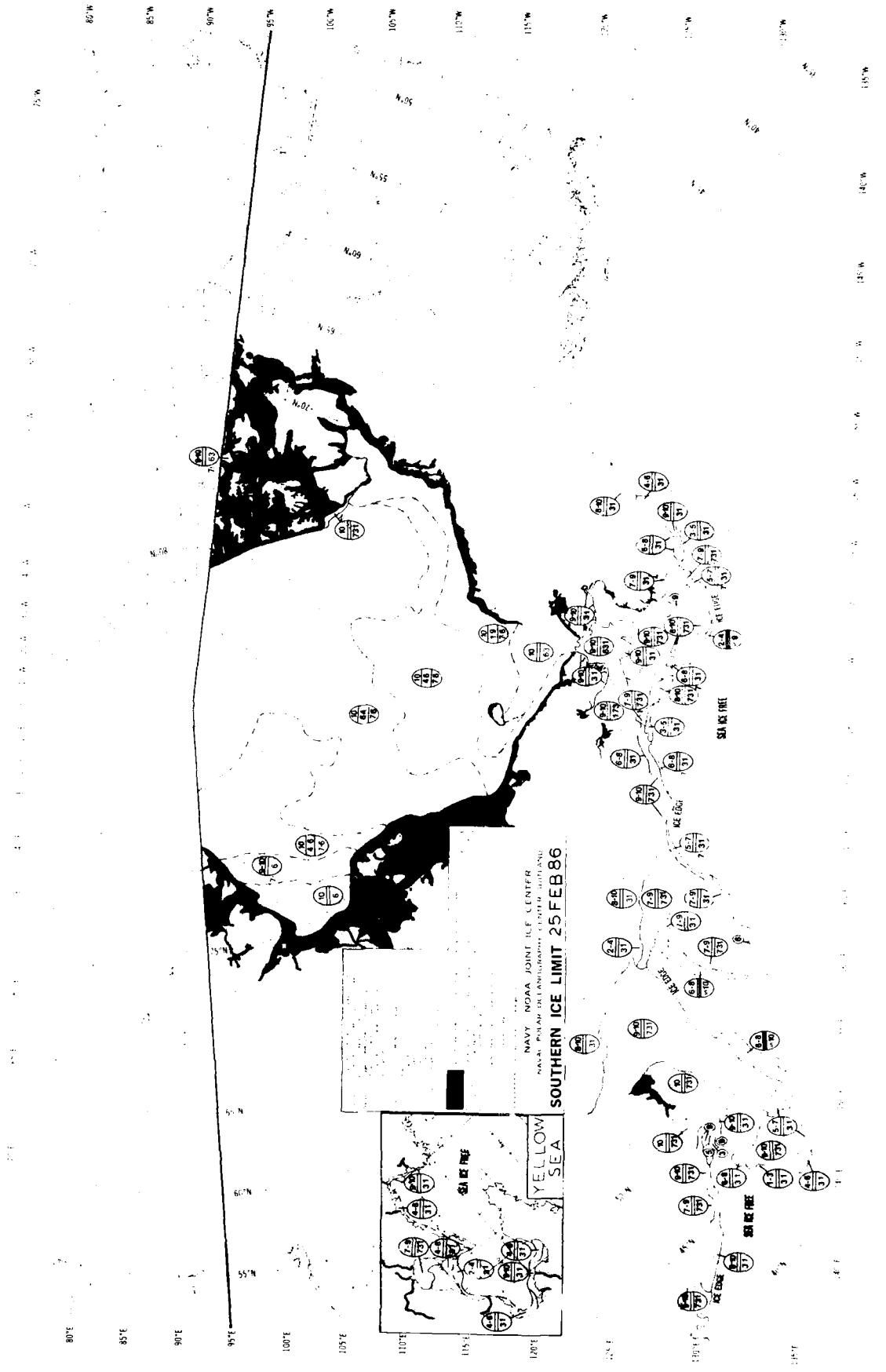
4. This chart is a part of the "Ice Edge and Ice Limit" chart series. It is a nautical chart showing the Southern Ice Limit for January 1986. The chart is based on data from the Navy, NOAA Joint Ice Center and the Naval Polar Oceanography Center Sutland.

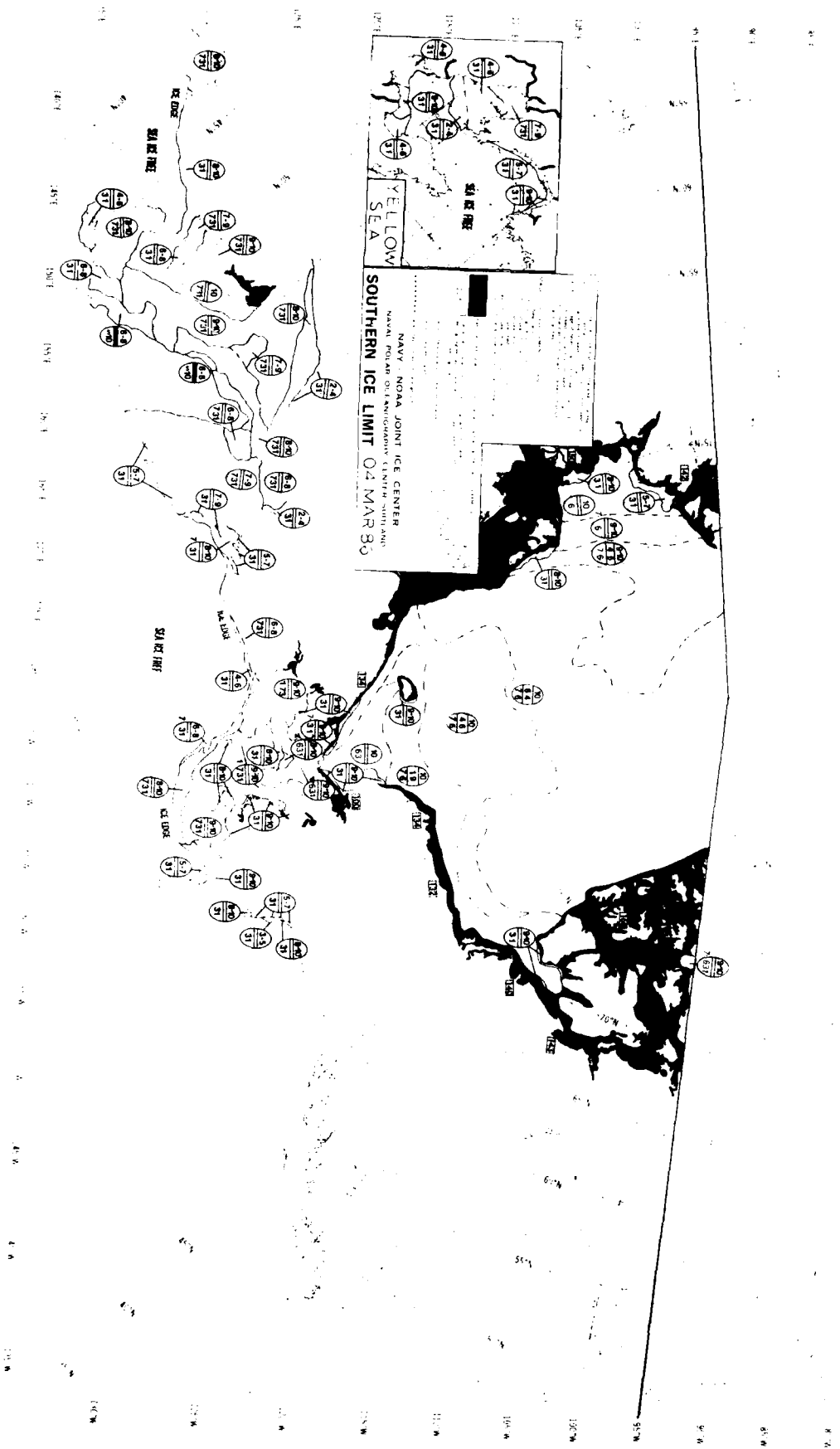
5. This chart is a part of the "Ice Edge and Ice Limit" chart series. It is a nautical chart showing the Southern Ice Limit for January 1986. The chart is based on data from the Navy, NOAA Joint Ice Center and the Naval Polar Oceanography Center Sutland.

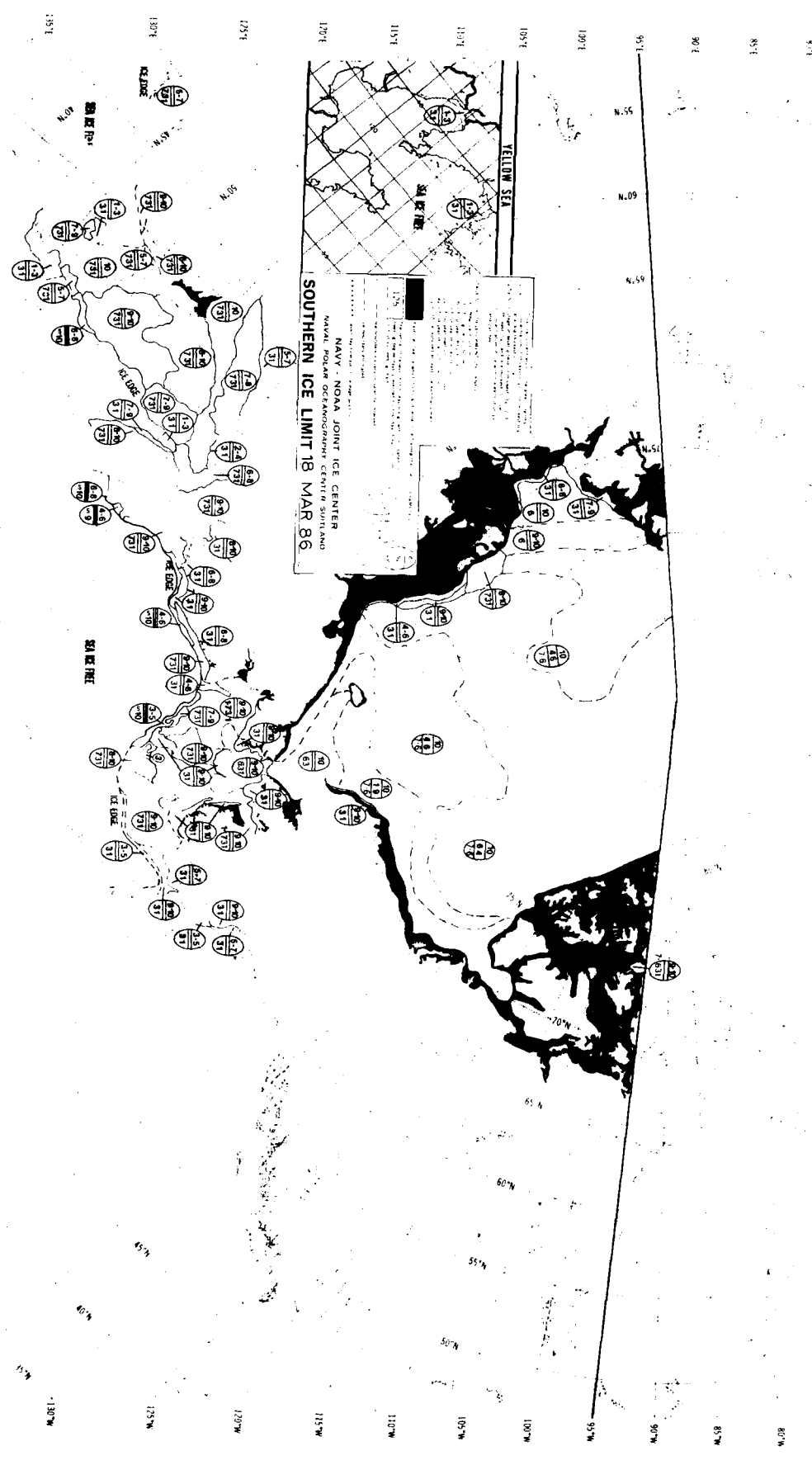






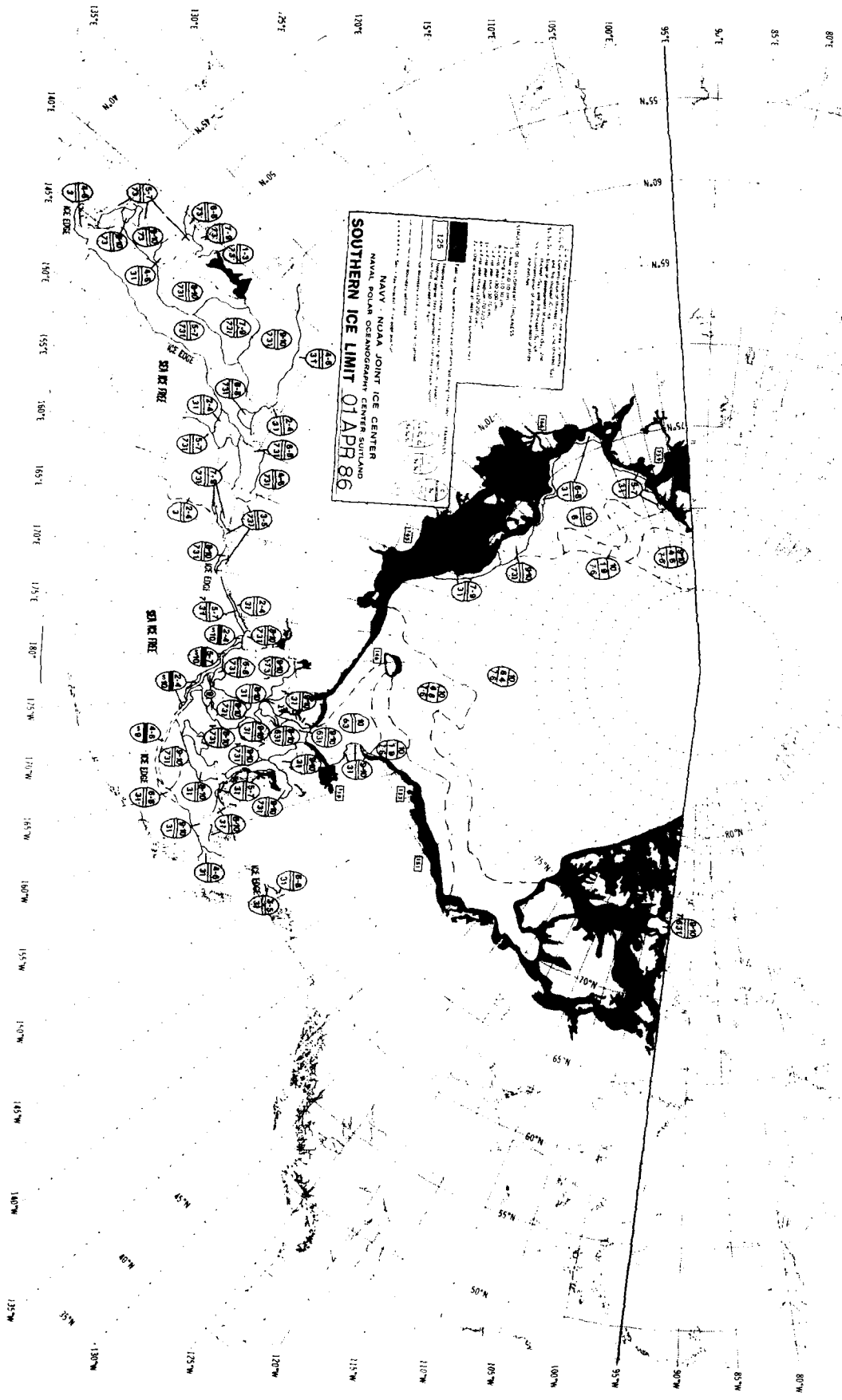


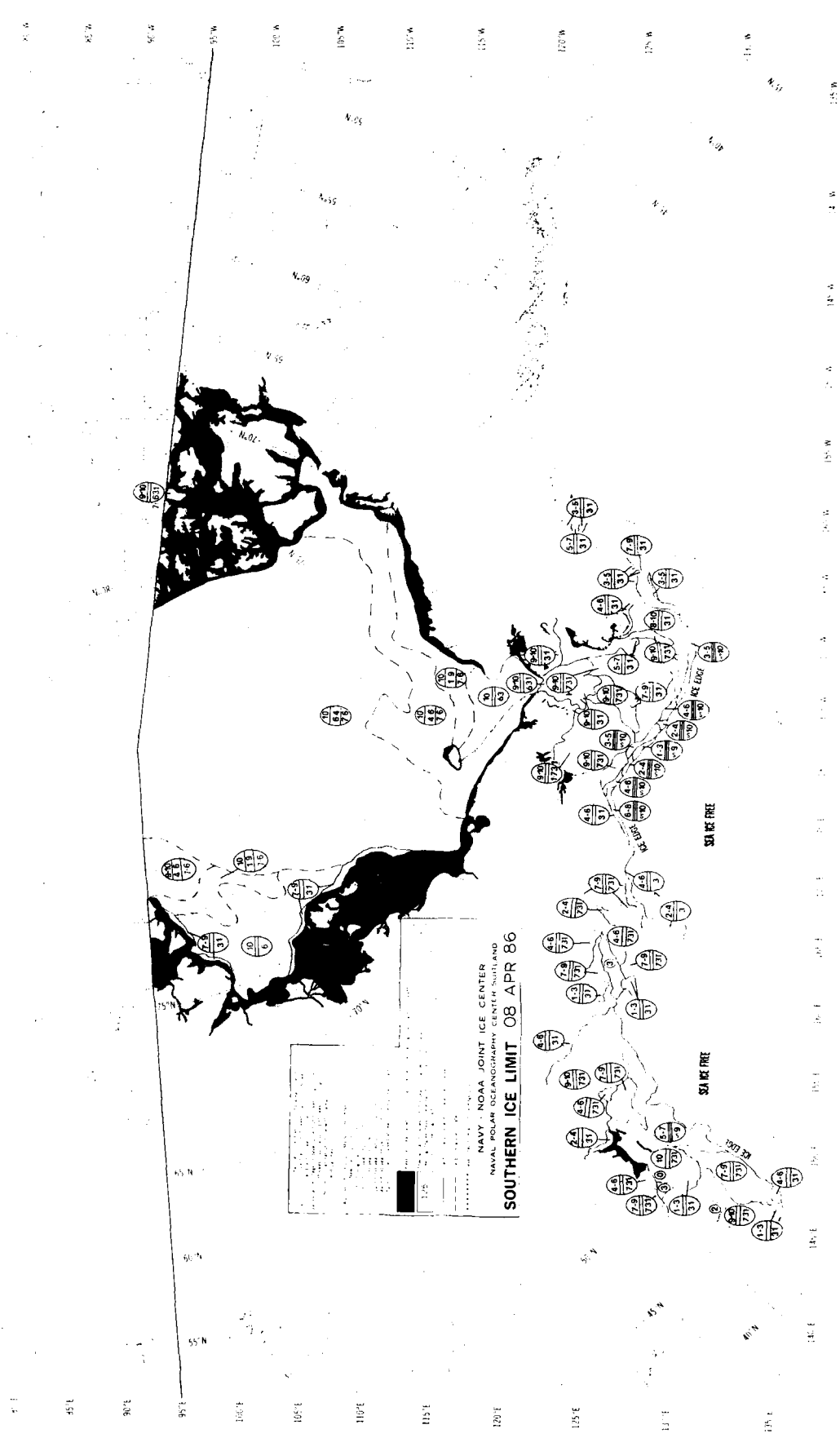


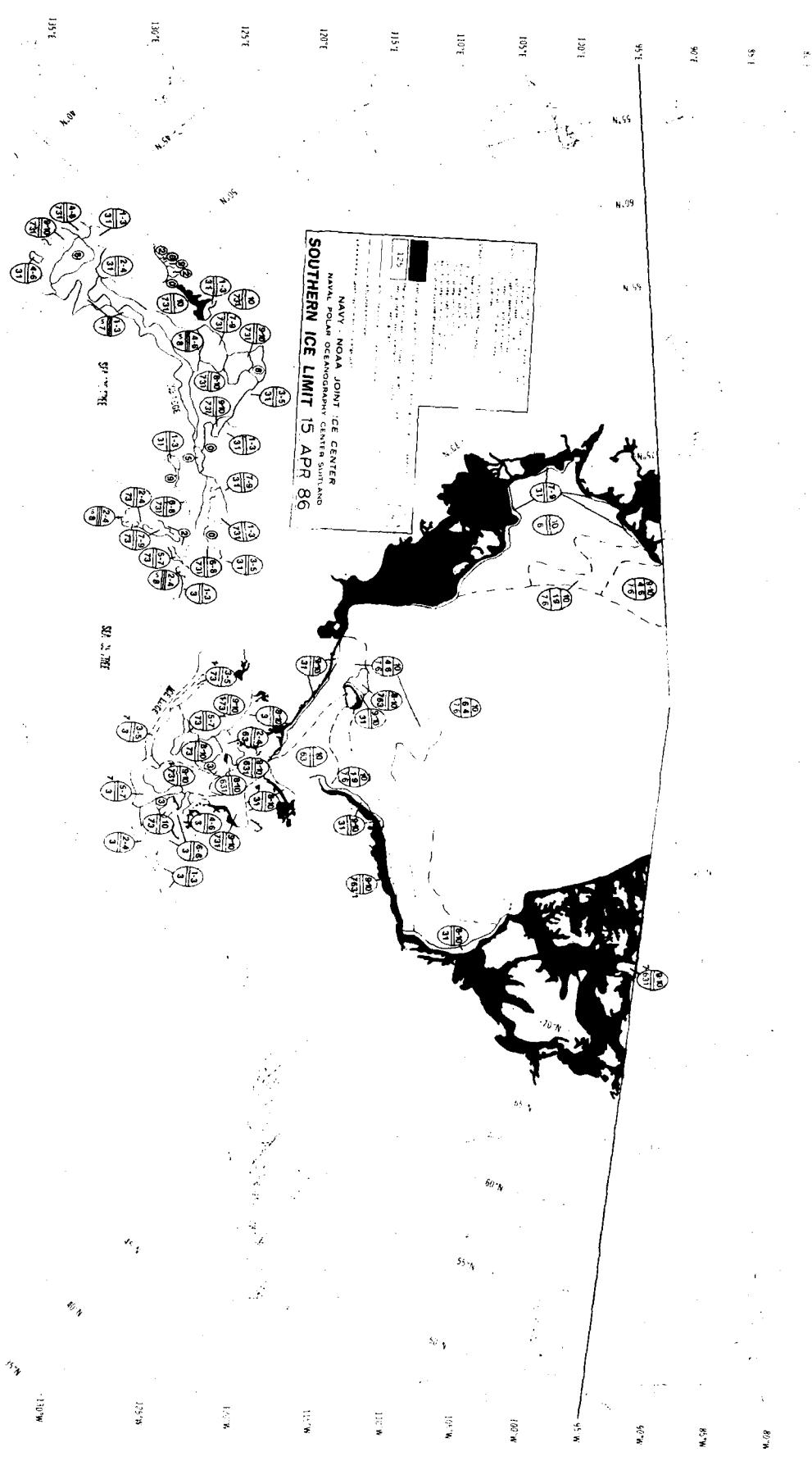


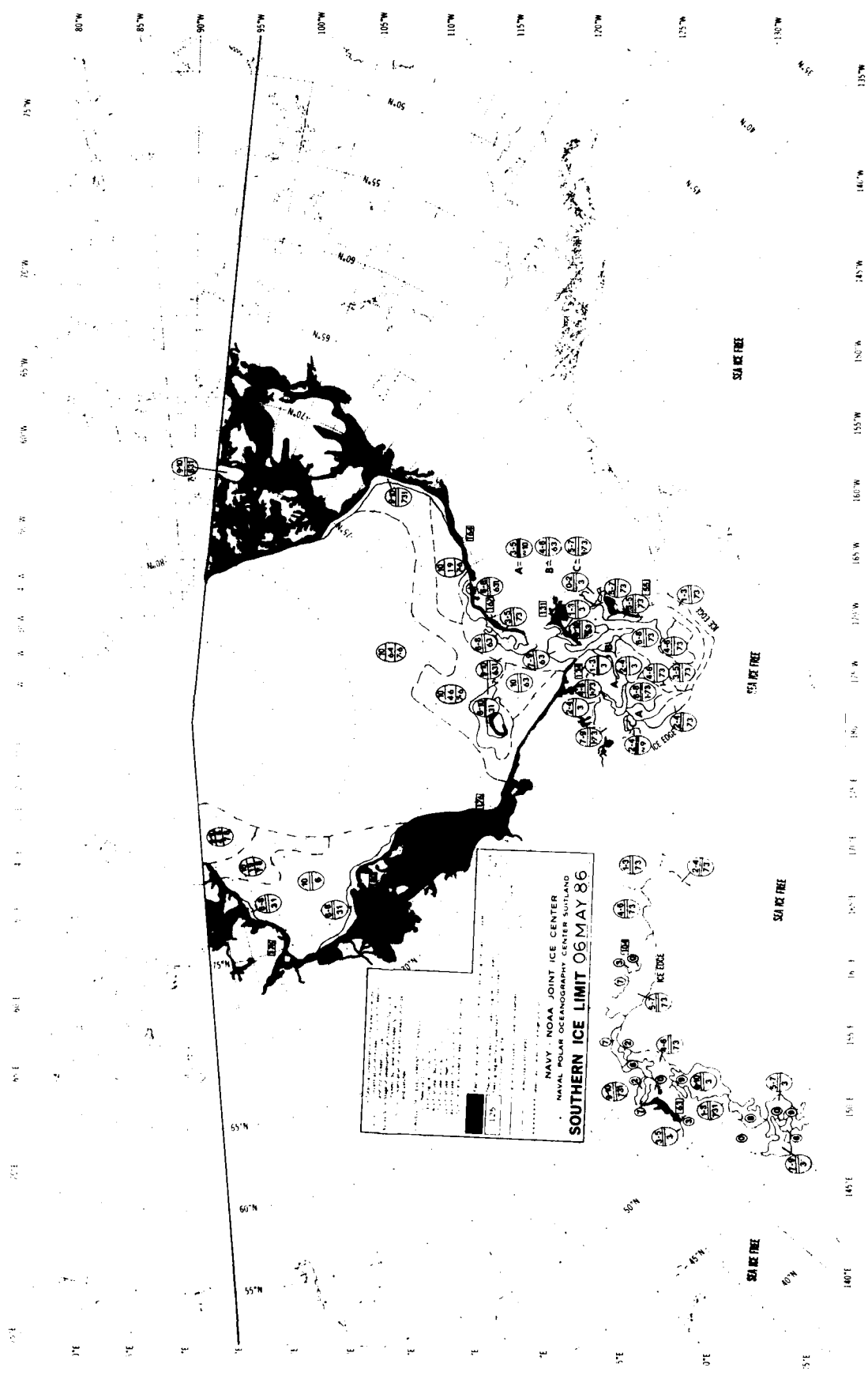
1000
 900
 800
 700
 600
 500
 400
 300
 200
 100
 0

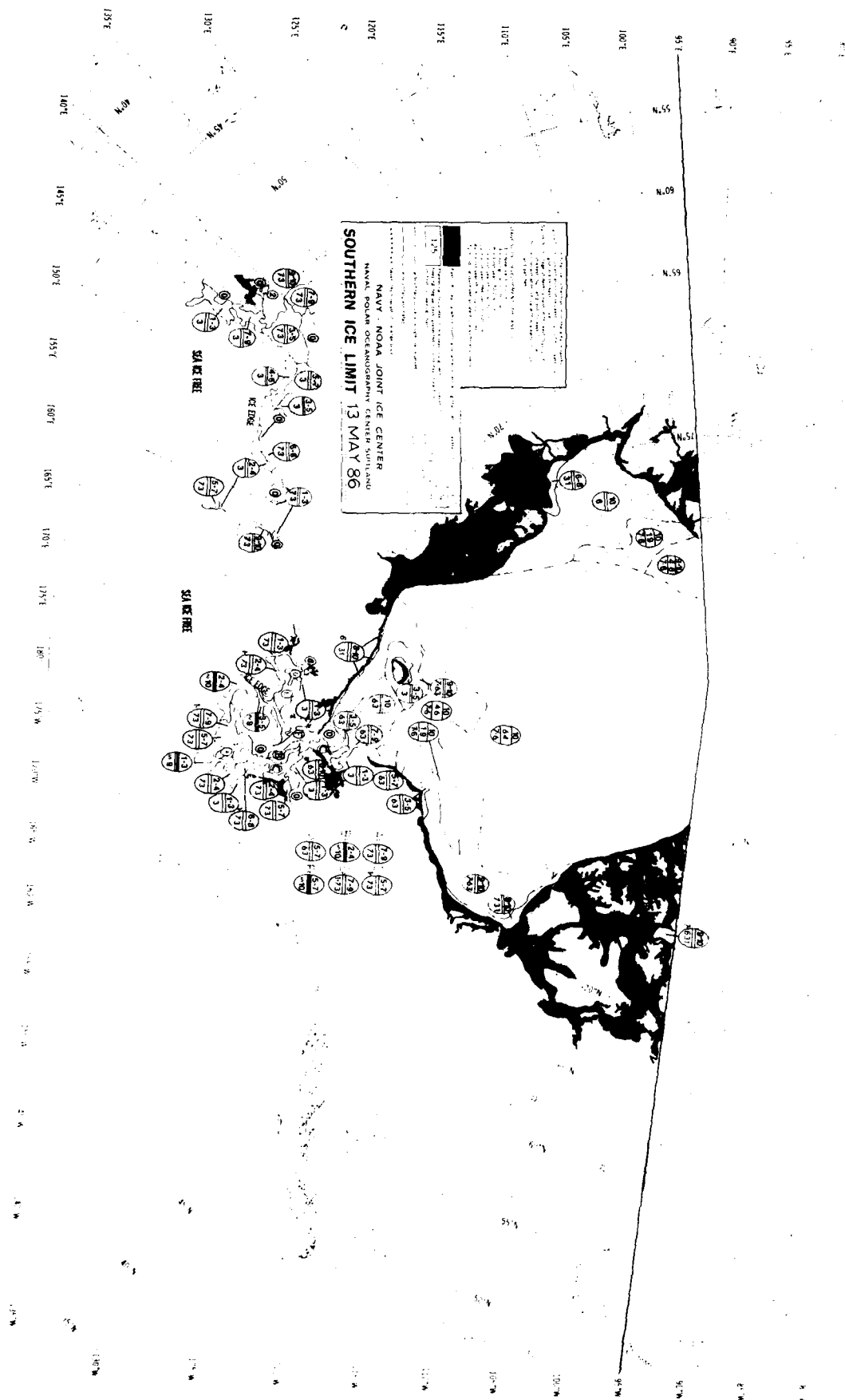












1.2%
 1.0%
 0.8%
 0.6%
 0.4%
 0.2%
 0.0%

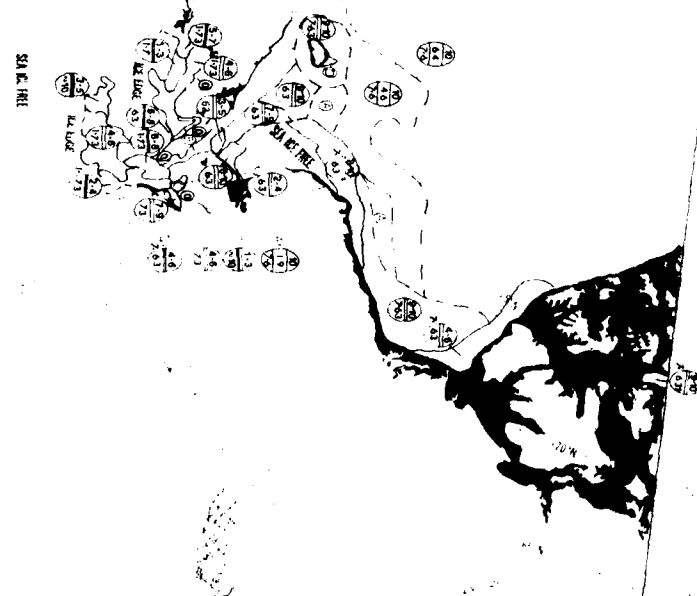
135°E 130°E 125°E 120°E 115°E 110°E 105°E 100°E 95°E
 60°S 59°S 58°S 57°S 56°S 55°S

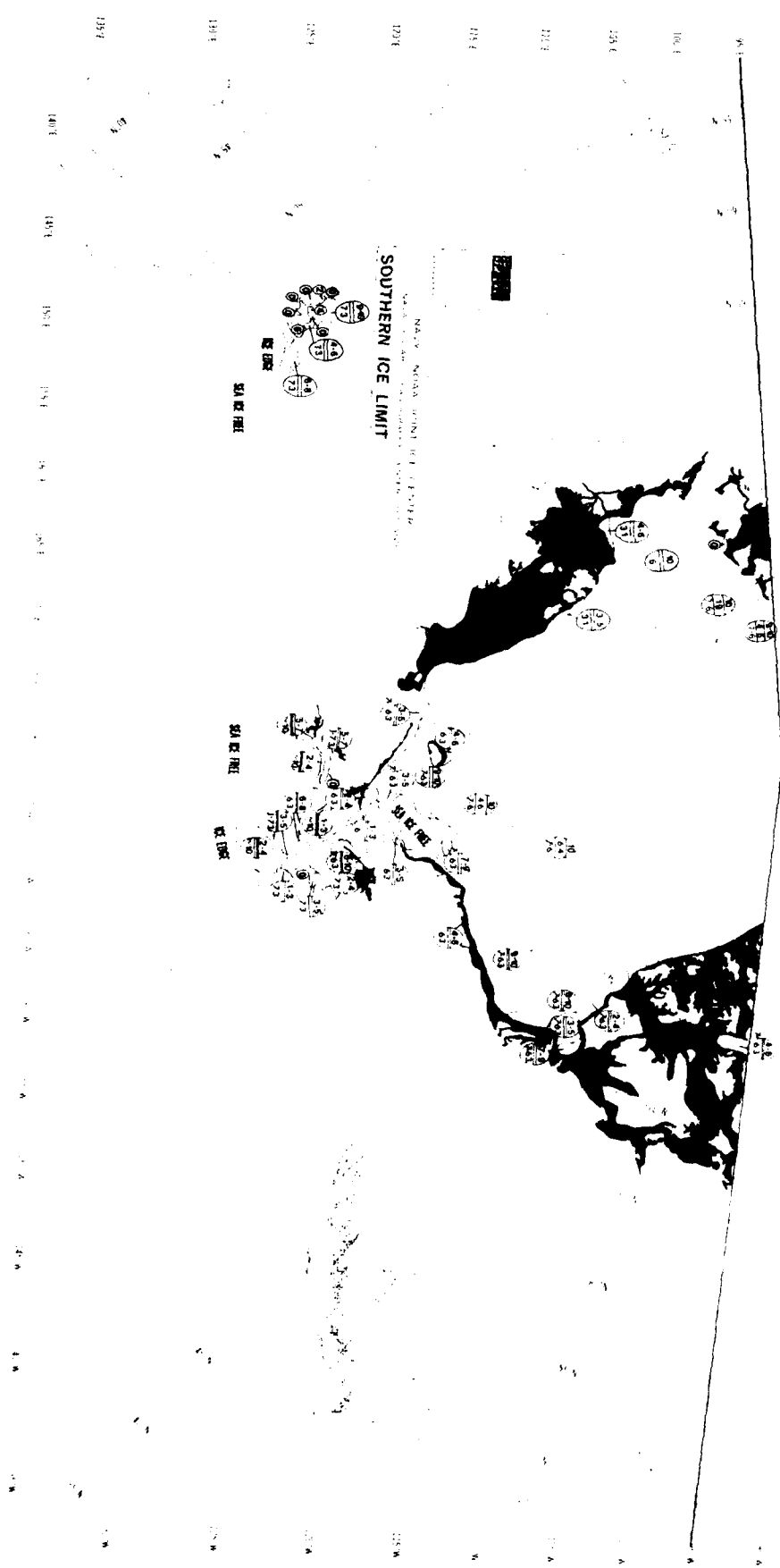
140°E 145°E 150°E 155°E 160°E 165°E 170°E 175°E 180°E 185°E 190°E 195°E 200°E 205°E 210°E 215°E 220°E 225°E 230°E 235°E 240°E 245°E 250°E 255°E 260°E 265°E 270°E 275°E 280°E 285°E 290°E 295°E 300°E 305°E 310°E 315°E 320°E 325°E 330°E 335°E 340°E 345°E 350°E 355°E 360°E

55°N 60°N 65°N 70°N 75°N 80°N 85°N 90°N 95°N 100°N 105°N 110°N 115°N 120°N 125°N 130°N 135°N 140°N 145°N 150°N 155°N 160°N 165°N 170°N 175°N 180°N 185°N 190°N 195°N 200°N 205°N 210°N 215°N 220°N 225°N 230°N 235°N 240°N 245°N 250°N 255°N 260°N 265°N 270°N 275°N 280°N 285°N 290°N 295°N 300°N 305°N 310°N 315°N 320°N 325°N 330°N 335°N 340°N 345°N 350°N 355°N 360°N

SOUTHERN ICE LIMIT 27 MAY 86
NAVY · NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHIC CENTER SUITLAND

1. Ice Limit	2. Ice Edge	3. Ice Lead	4. Ice Edge	5. Ice Lead	6. Ice Edge	7. Ice Lead	8. Ice Edge	9. Ice Lead	10. Ice Edge	11. Ice Lead	12. Ice Edge	13. Ice Lead	14. Ice Edge	15. Ice Lead	16. Ice Edge	17. Ice Lead	18. Ice Edge	19. Ice Lead	20. Ice Edge	21. Ice Lead	22. Ice Edge	23. Ice Lead	24. Ice Edge	25. Ice Lead	26. Ice Edge	27. Ice Lead	28. Ice Edge	29. Ice Lead	30. Ice Edge	31. Ice Lead	32. Ice Edge	33. Ice Lead	34. Ice Edge	35. Ice Lead	36. Ice Edge	37. Ice Lead	38. Ice Edge	39. Ice Lead	40. Ice Edge	41. Ice Lead	42. Ice Edge	43. Ice Lead	44. Ice Edge	45. Ice Lead	46. Ice Edge	47. Ice Lead	48. Ice Edge	49. Ice Lead	50. Ice Edge	51. Ice Lead	52. Ice Edge	53. Ice Lead	54. Ice Edge	55. Ice Lead	56. Ice Edge	57. Ice Lead	58. Ice Edge	59. Ice Lead	60. Ice Edge	61. Ice Lead	62. Ice Edge	63. Ice Lead	64. Ice Edge	65. Ice Lead	66. Ice Edge	67. Ice Lead	68. Ice Edge	69. Ice Lead	70. Ice Edge	71. Ice Lead	72. Ice Edge	73. Ice Lead	74. Ice Edge	75. Ice Lead	76. Ice Edge	77. Ice Lead	78. Ice Edge	79. Ice Lead	80. Ice Edge	81. Ice Lead	82. Ice Edge	83. Ice Lead	84. Ice Edge	85. Ice Lead	86. Ice Edge	87. Ice Lead	88. Ice Edge	89. Ice Lead	90. Ice Edge	91. Ice Lead	92. Ice Edge	93. Ice Lead	94. Ice Edge	95. Ice Lead	96. Ice Edge	97. Ice Lead	98. Ice Edge	99. Ice Lead	100. Ice Edge
--------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	-------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	--------------	---------------



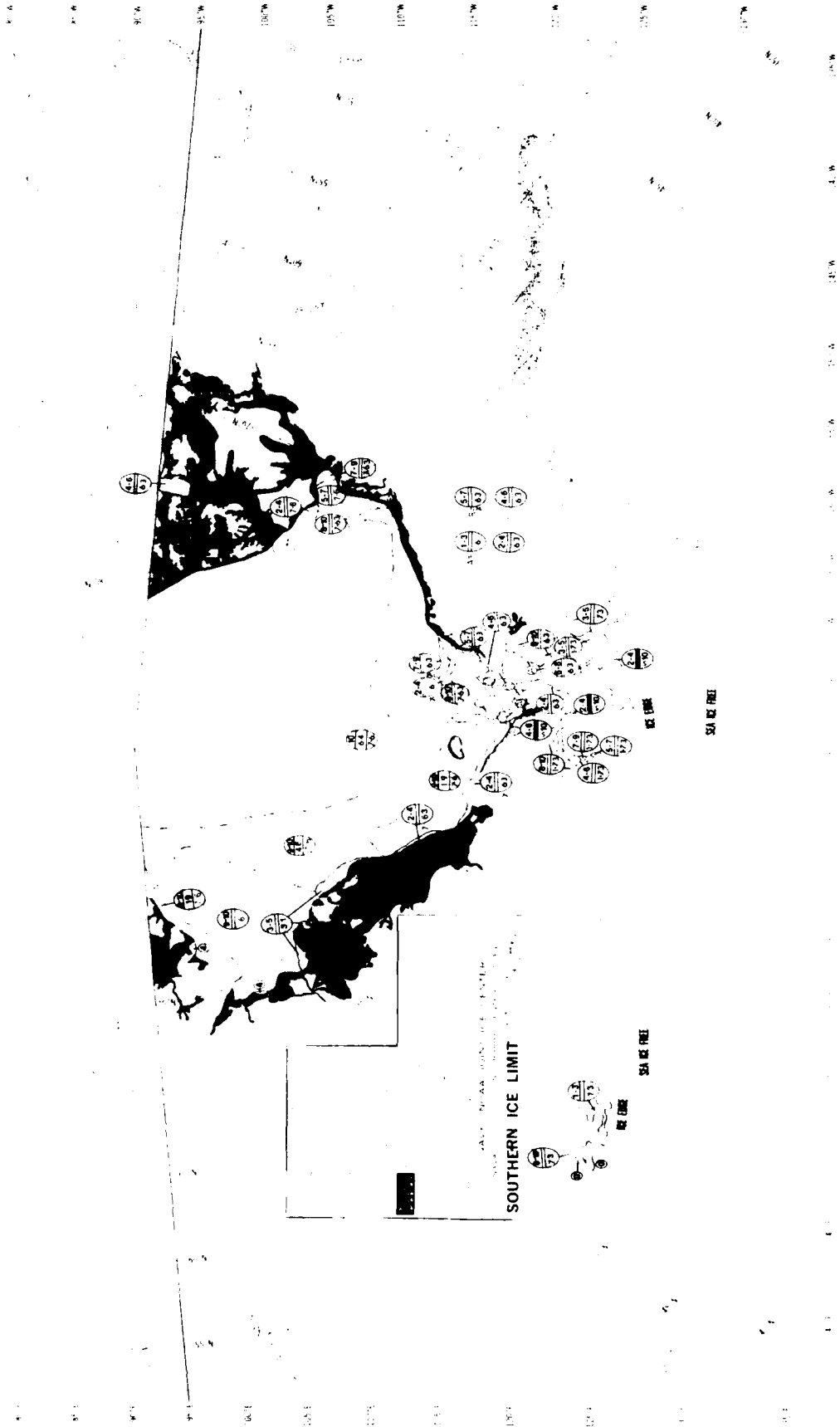


SOUTHERN ICE LIMIT

NAVY - NAVY JOURNAL OF SCIENCE

60°S 62°S 64°S 66°S 68°S 70°S 72°S 74°S 76°S 78°S 80°S 82°S 84°S 86°S 88°S 90°S

0° 2°E 4°E 6°E 8°E 10°E 12°E 14°E 16°E 18°E 20°E 22°E 24°E 26°E 28°E 30°E 32°E 34°E 36°E 38°E 40°E 42°E 44°E 46°E 48°E 50°E 52°E 54°E 56°E 58°E 60°E 62°E 64°E 66°E 68°E 70°E 72°E 74°E 76°E 78°E 80°E 82°E 84°E 86°E 88°E 90°E 92°E 94°E 96°E 98°E 100°E 102°E 104°E 106°E 108°E 110°E 112°E 114°E 116°E 118°E 120°E 122°E 124°E 126°E 128°E 130°E 132°E 134°E 136°E 138°E 140°E 142°E 144°E 146°E 148°E 150°E 152°E 154°E 156°E 158°E 160°E 162°E 164°E 166°E 168°E 170°E 172°E 174°E 176°E 178°E 180°E



SOUTHERN ICE LIMIT

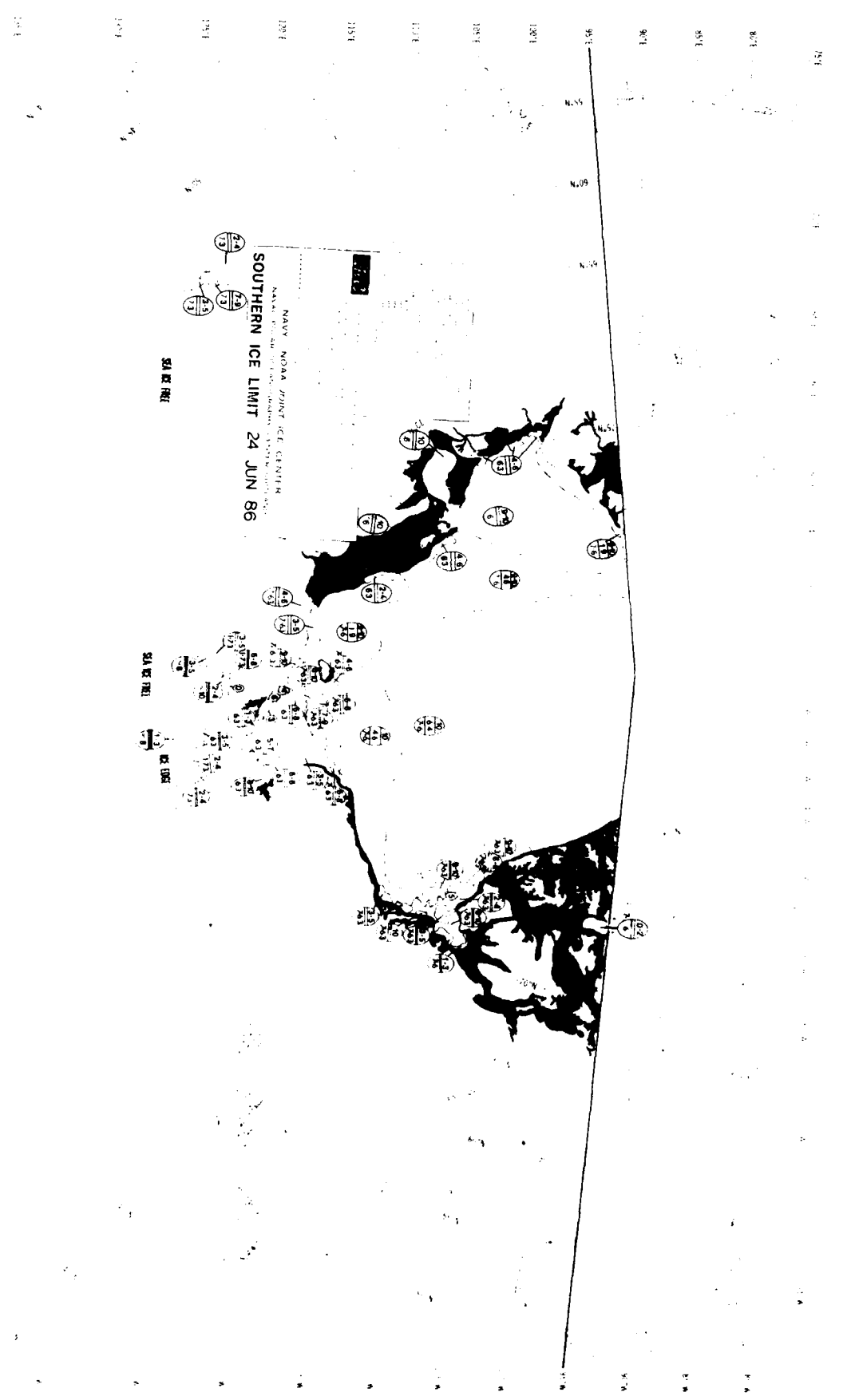
LAST KNOWN POSITION OF CENTER

SEA ICE FREE

SEA ICE FREE

SEA ICE FREE

SEA ICE FREE

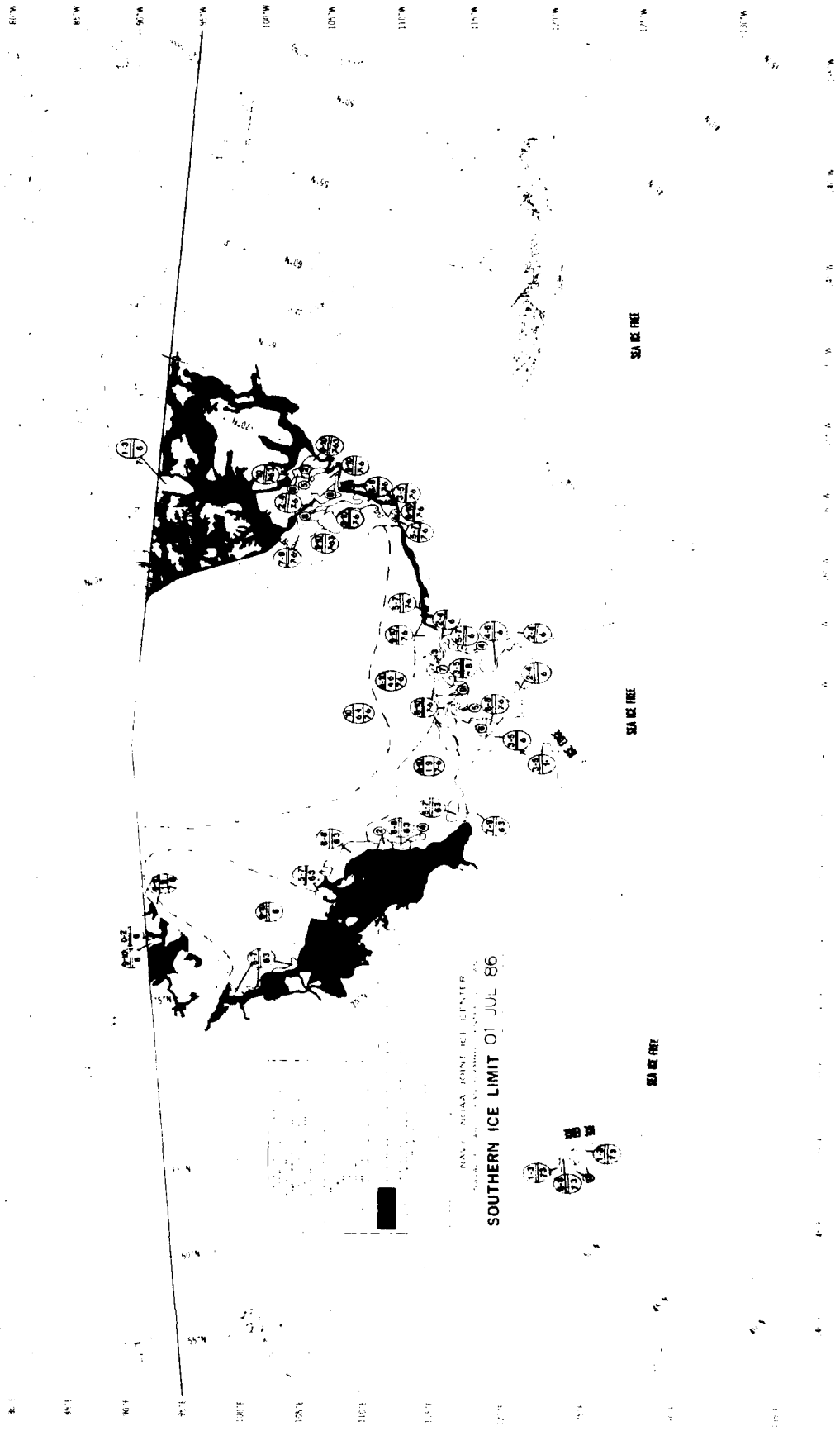


NAVY NOAA JOINT ICE CENTER
NAVAL OBSERVATION REPORT
SOUTHERN ICE LIMIT 24 JUN 86

SEA ICE

SEA ICE

SEA ICE



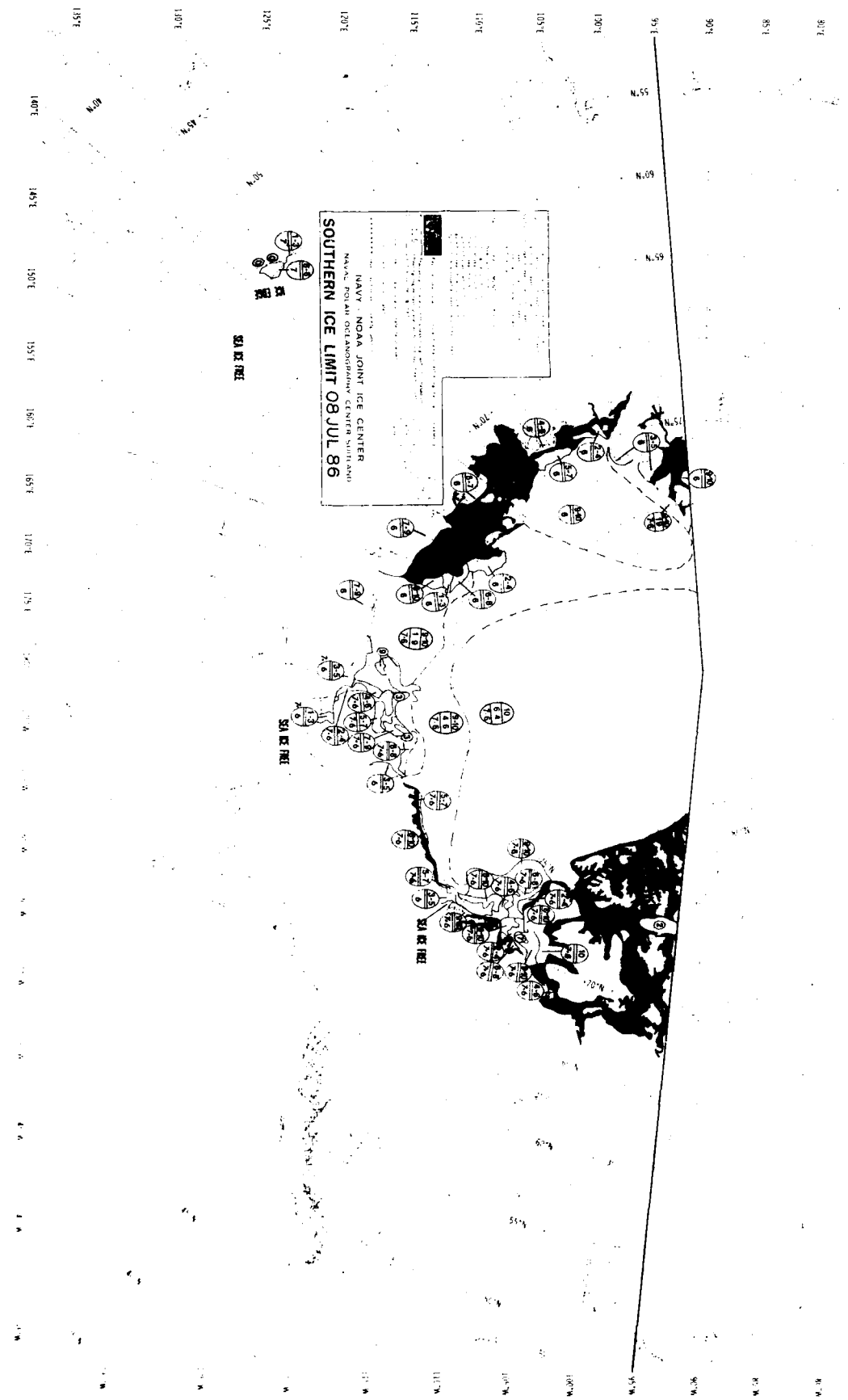
SOUTHERN ICE LIMIT 01 JUL 86

NAVY NEAR-AQUA POINT ICE CENTER

SEA ICE FREE

SEA ICE FREE

SEA ICE FREE



NAVY - NOAA JOINT ICE CENTER
 NAVAL POLAR OCEANOGRAPHY CENTER SOUTHWEST
SOUTHERN ICE LIMIT 08 JUL 86

SIX DE FEET

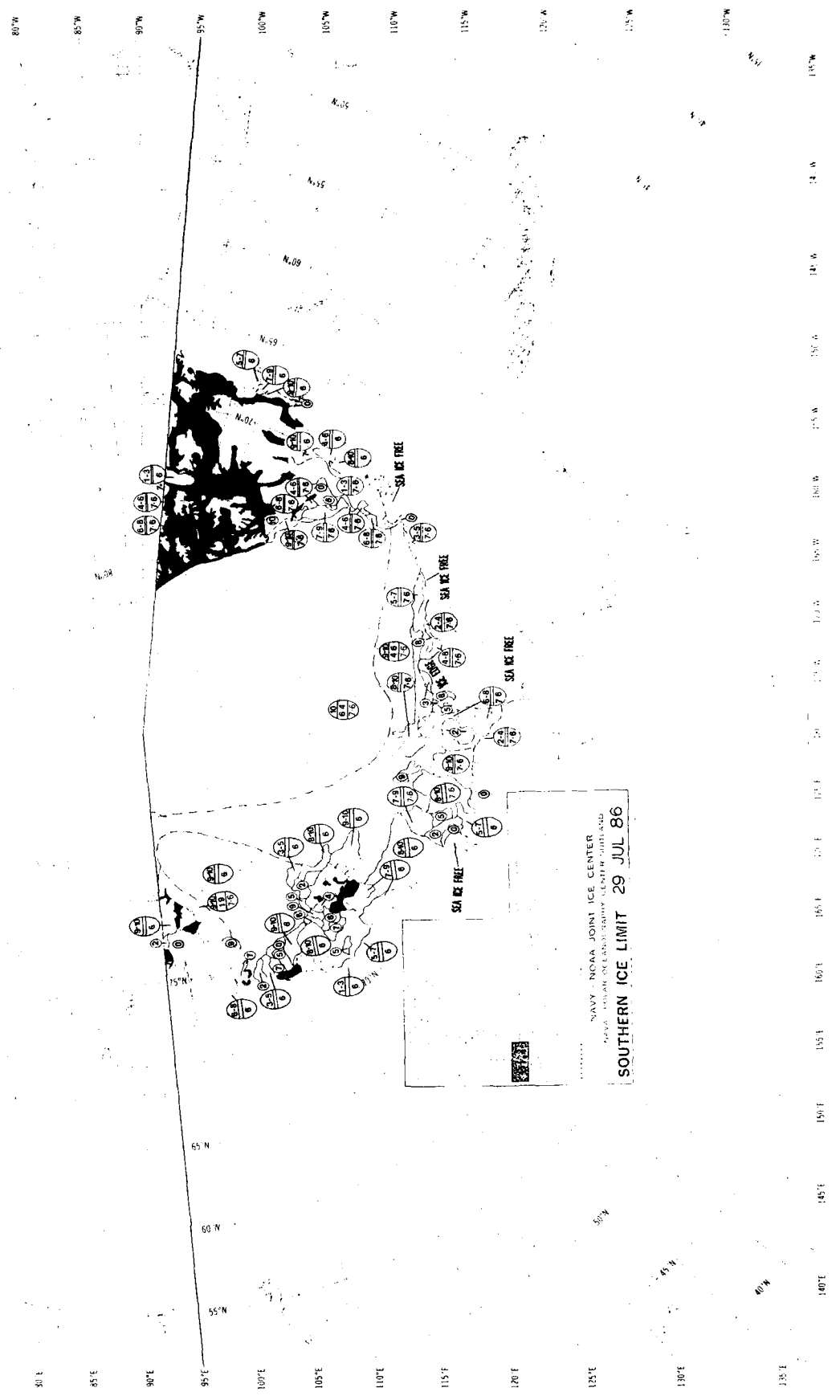
SIX DE FEET

SIX DE FEET

95°E 90°E 85°E 80°E
 155°E 150°E 145°E 140°E 135°E 130°E 125°E 120°E 115°E 110°E 105°E 100°E 95°E
 95°S 90°S 85°S 80°S



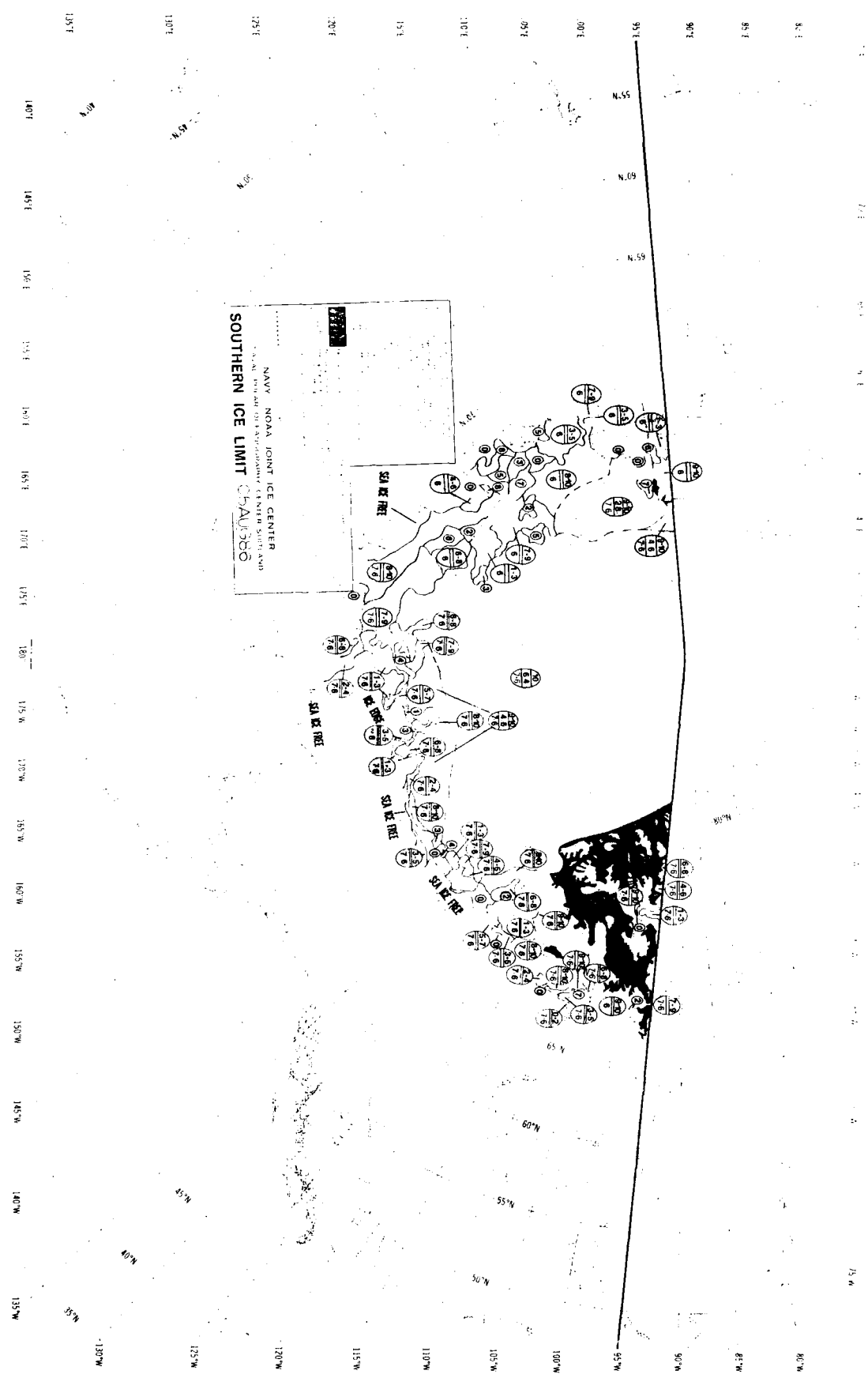
75 W



80°N
 75°N
 70°N
 65°N
 60°N
 55°N

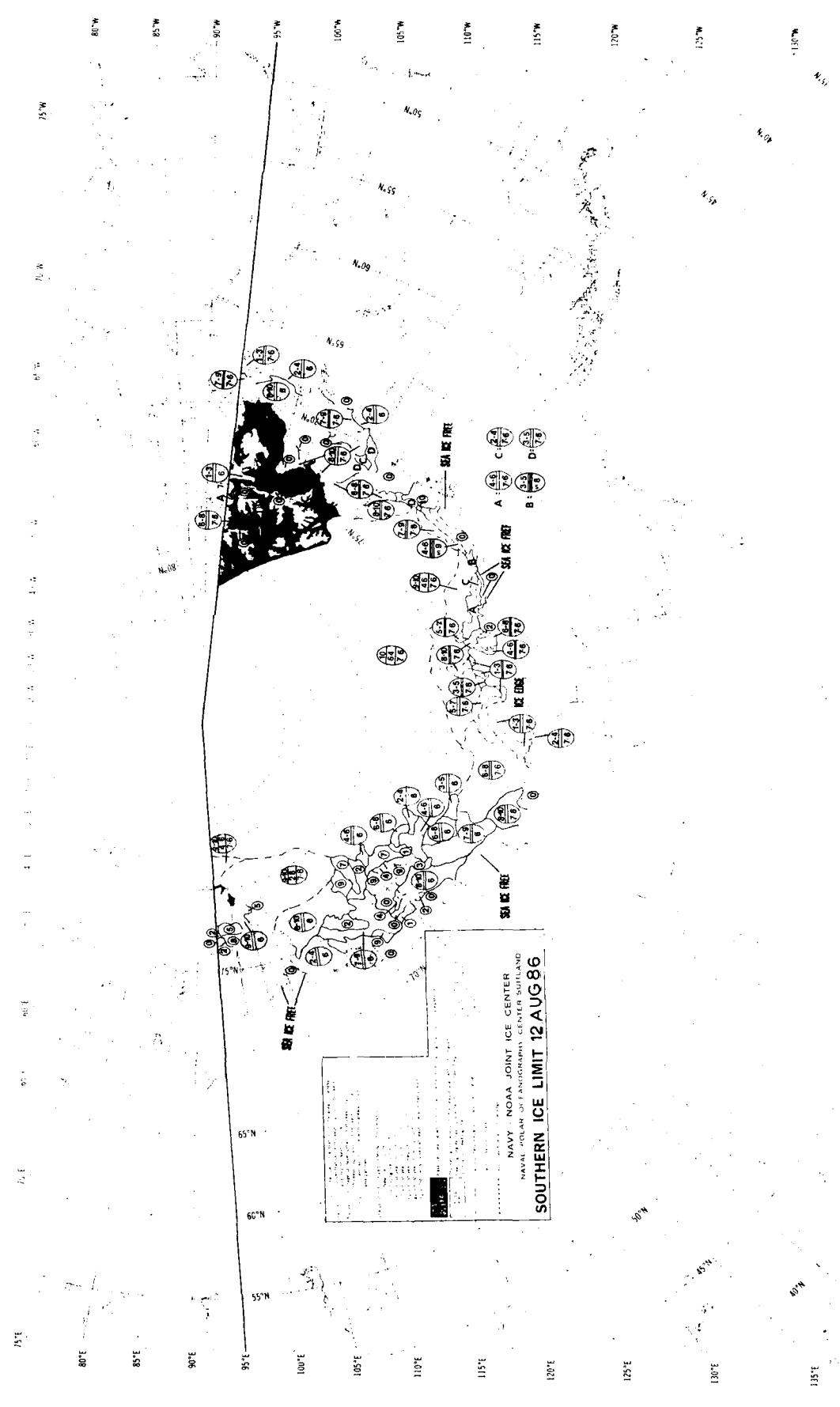
130°E
 135°E
 140°E
 145°E
 150°E
 155°E
 160°E
 165°E
 170°E
 175°E
 180°E

M.508
 M.509
 M.510
 M.511
 M.512
 M.513
 M.514
 M.515
 M.516
 M.517
 M.518
 M.519
 M.520
 M.521
 M.522
 M.523
 M.524
 M.525
 M.526
 M.527
 M.528
 M.529
 M.530
 M.531
 M.532
 M.533
 M.534
 M.535
 M.536
 M.537
 M.538
 M.539
 M.540
 M.541
 M.542
 M.543
 M.544
 M.545
 M.546
 M.547
 M.548
 M.549
 M.550
 M.551
 M.552
 M.553
 M.554
 M.555
 M.556
 M.557
 M.558
 M.559
 M.560
 M.561
 M.562
 M.563
 M.564
 M.565
 M.566
 M.567
 M.568
 M.569
 M.570
 M.571
 M.572
 M.573
 M.574
 M.575
 M.576
 M.577
 M.578
 M.579
 M.580
 M.581
 M.582
 M.583
 M.584
 M.585
 M.586
 M.587
 M.588
 M.589
 M.590
 M.591
 M.592
 M.593
 M.594
 M.595
 M.596
 M.597
 M.598
 M.599
 M.600



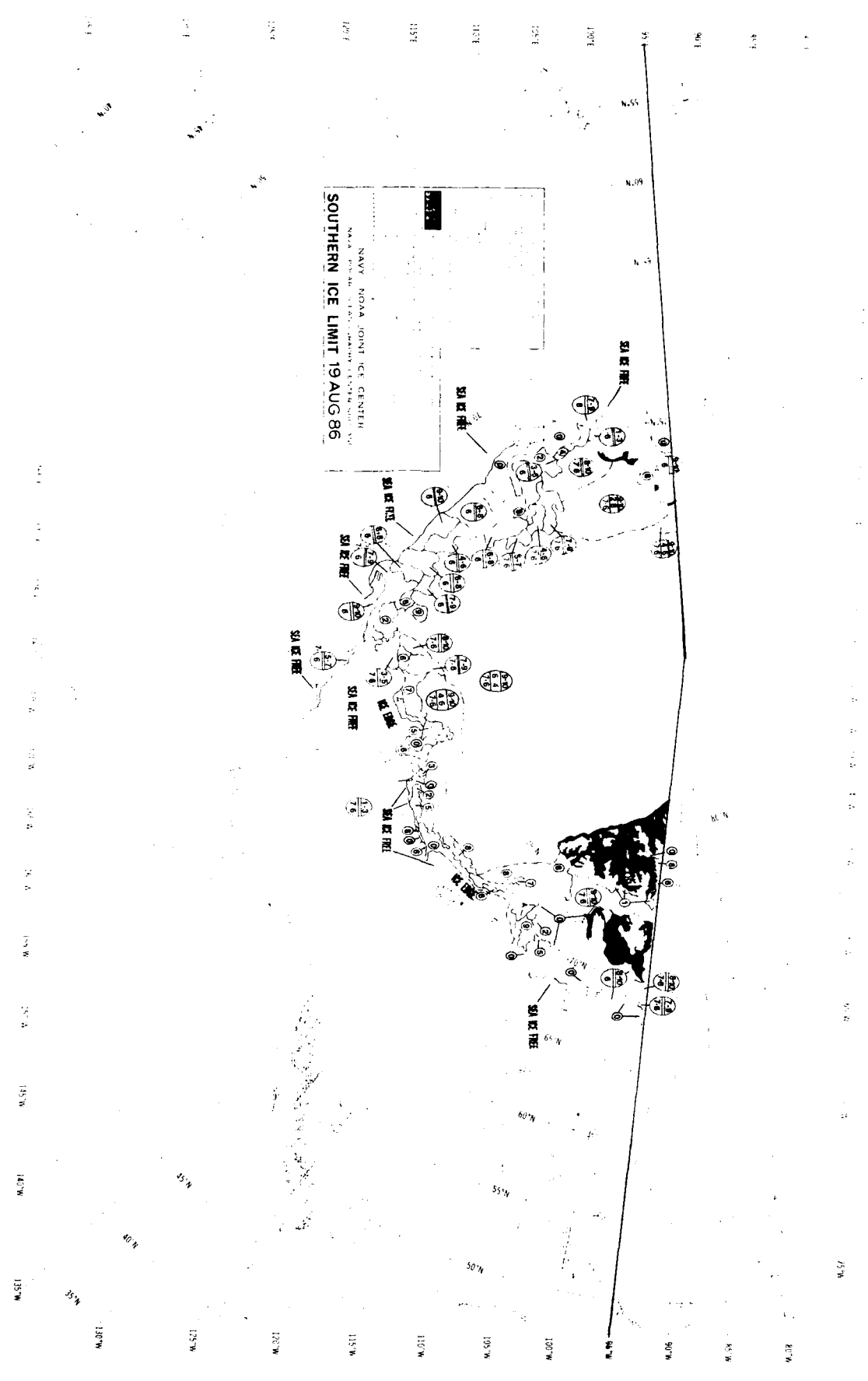
NAVY NOAA JOINT ICE CENTER
 NAVAL HEADQUARTERS ANTARCTIC CENTER SOUTLAND
 CHALICE
 75°S 135°E
 SOUTHERN ICE LIMIT

90°E 95°E 100°E 105°E 110°E 115°W 120°W 125°W 130°W 135°W
 60°S 65°S 70°S 75°S
 N.55 N.60 N.65
 W.55 W.60 W.65 W.70 W.75 W.80 W.85 W.90 W.95 W.100 W.105 W.110 W.115 W.120 W.125 W.130 W.135



NAVY NOAA JOINT ICE CENTER
 NAVAL POLAR OCEANOGRAPHIC CENTER GUILFORD
SOUTHERN ICE LIMIT 12 AUG 86

Lat	Long	Ice Limit
55°N	100°E	100
55°N	105°E	100
55°N	110°E	100
55°N	115°E	100
55°N	120°E	100
55°N	125°E	100
55°N	130°E	100
55°N	135°E	100
60°N	100°E	100
60°N	105°E	100
60°N	110°E	100
60°N	115°E	100
60°N	120°E	100
60°N	125°E	100
60°N	130°E	100
60°N	135°E	100
65°N	100°E	100
65°N	105°E	100
65°N	110°E	100
65°N	115°E	100
65°N	120°E	100
65°N	125°E	100
65°N	130°E	100
65°N	135°E	100

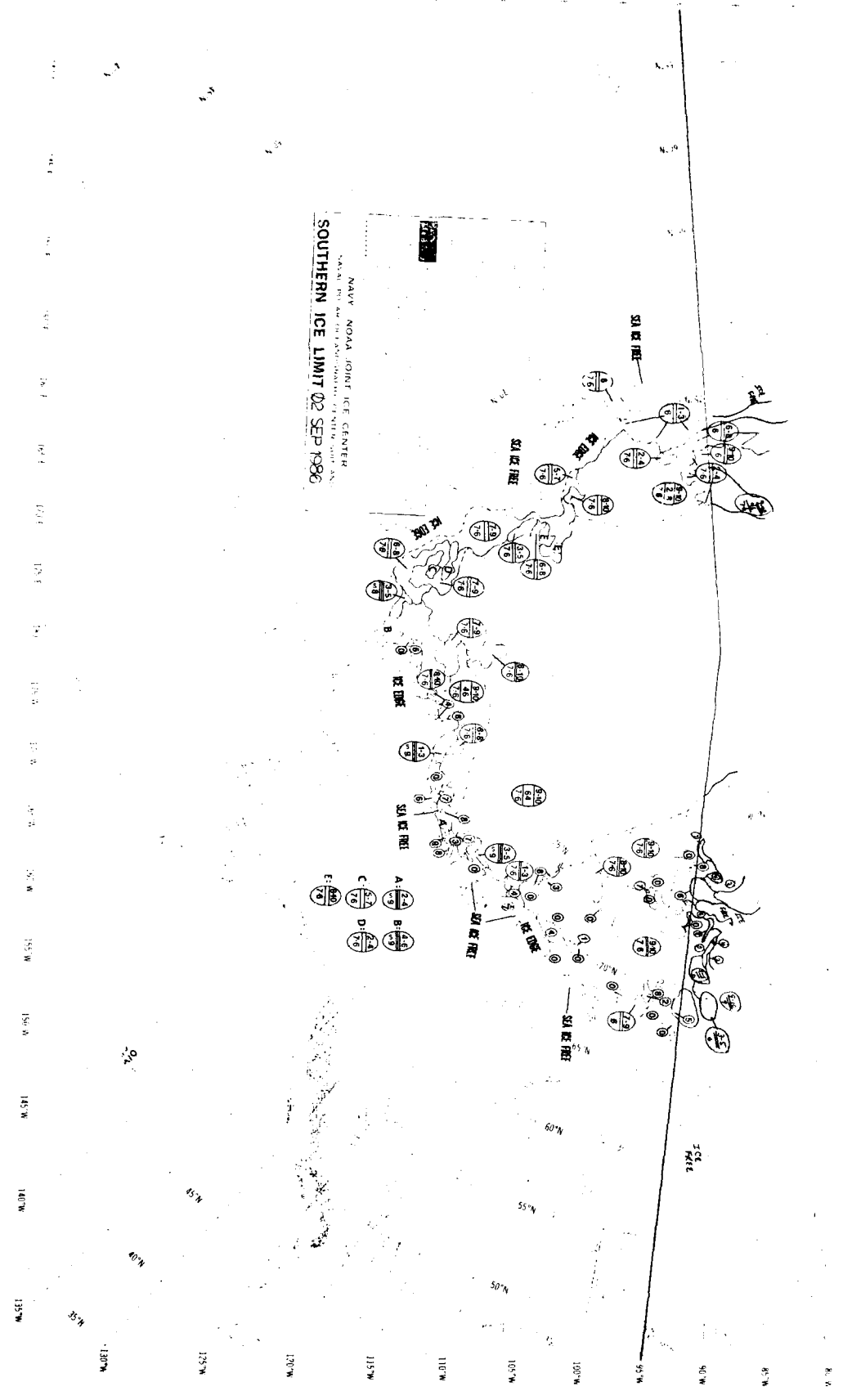




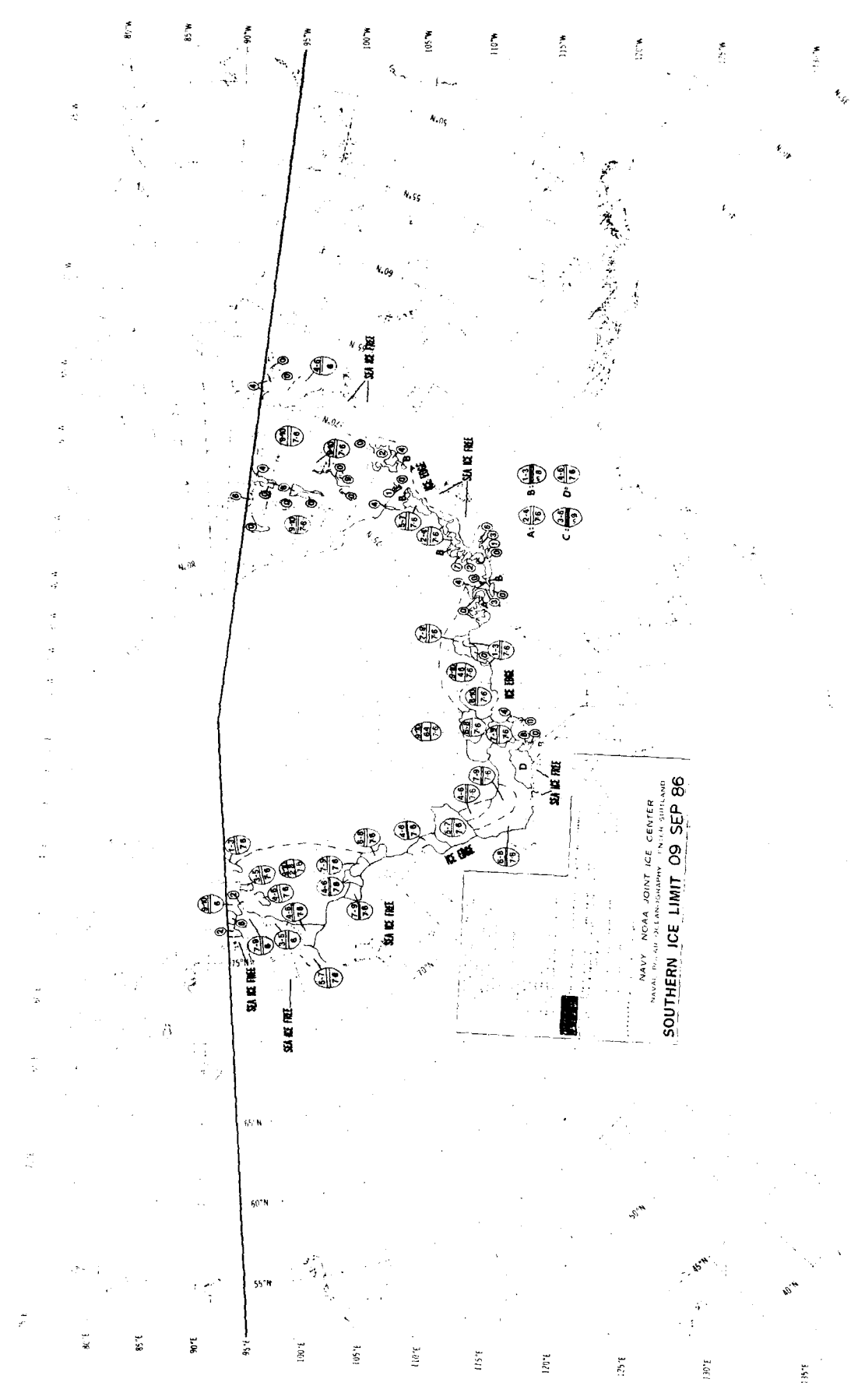
NAVY NOAA JOINT ICE CENTER
 NAVY OPERATIONAL GRAPHICS CENTER
 SOUTHERN ICE LIMIT 1958

3,560
3,520
3,480
3,440
3,400
3,360
3,320
3,280
3,240
3,200
3,160
3,120
3,080
3,040
3,000
2,960
2,920
2,880
2,840
2,800
2,760
2,720
2,680
2,640
2,600
2,560

NAVY-NOAA JOINT ICE CENTER
 NAVAL DISTRICT PACIFIC HONOLULU, HAWAII, U.S.A.
SOUTHERN ICE LIMIT 02 SEP 1986

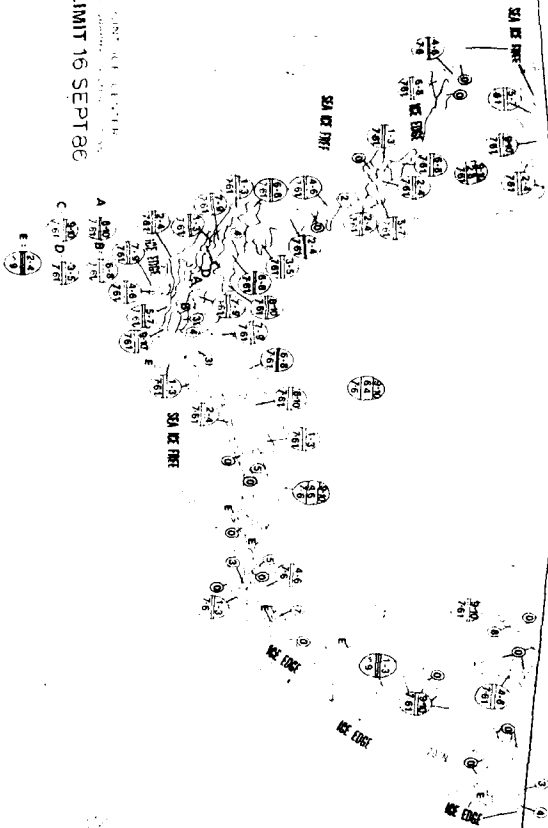


120°W 115°W 110°W 105°W 100°W 95°W 90°W 85°W 80°W
 125°W 120°W 115°W 110°W 105°W 100°W 95°W 90°W 85°W 80°W

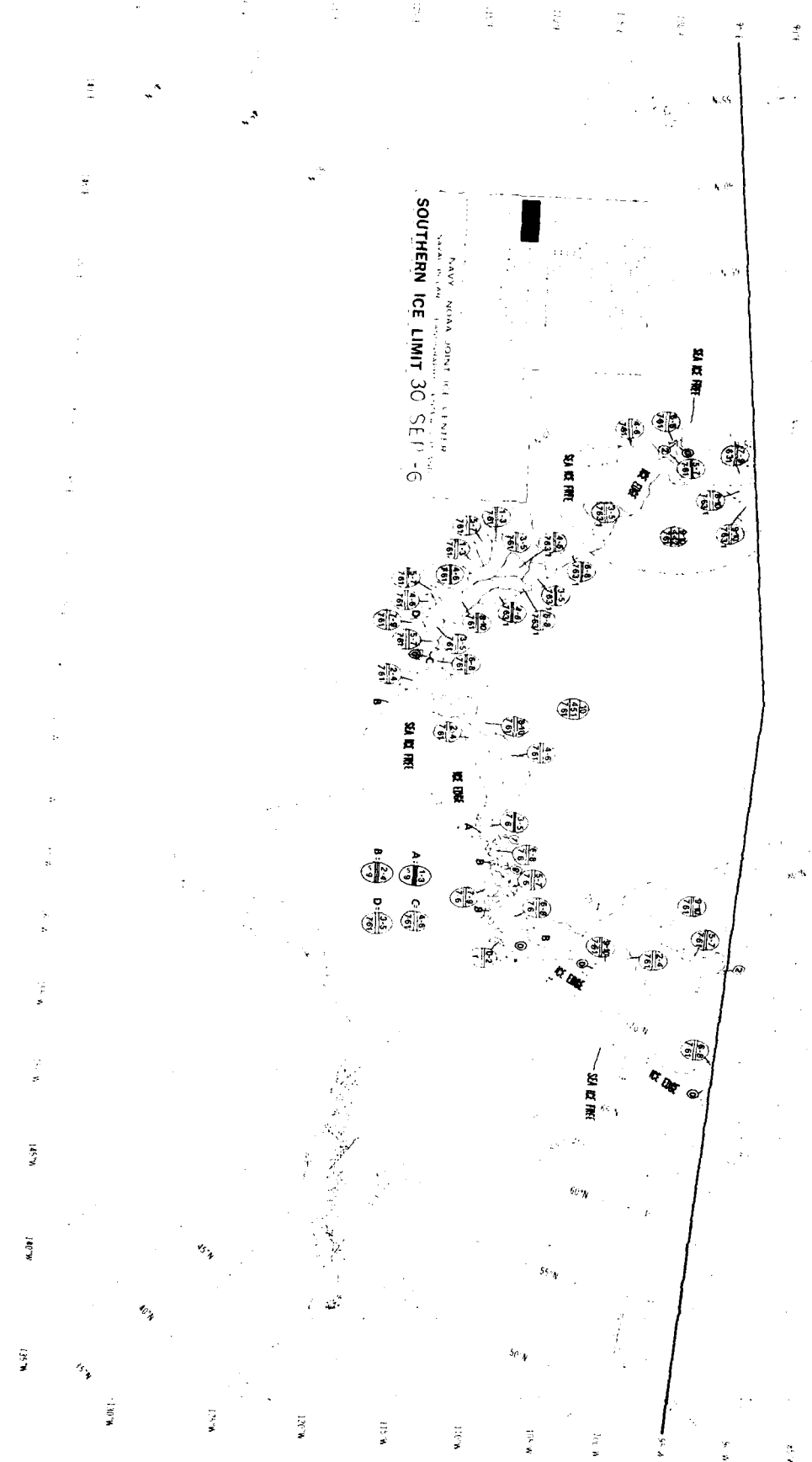


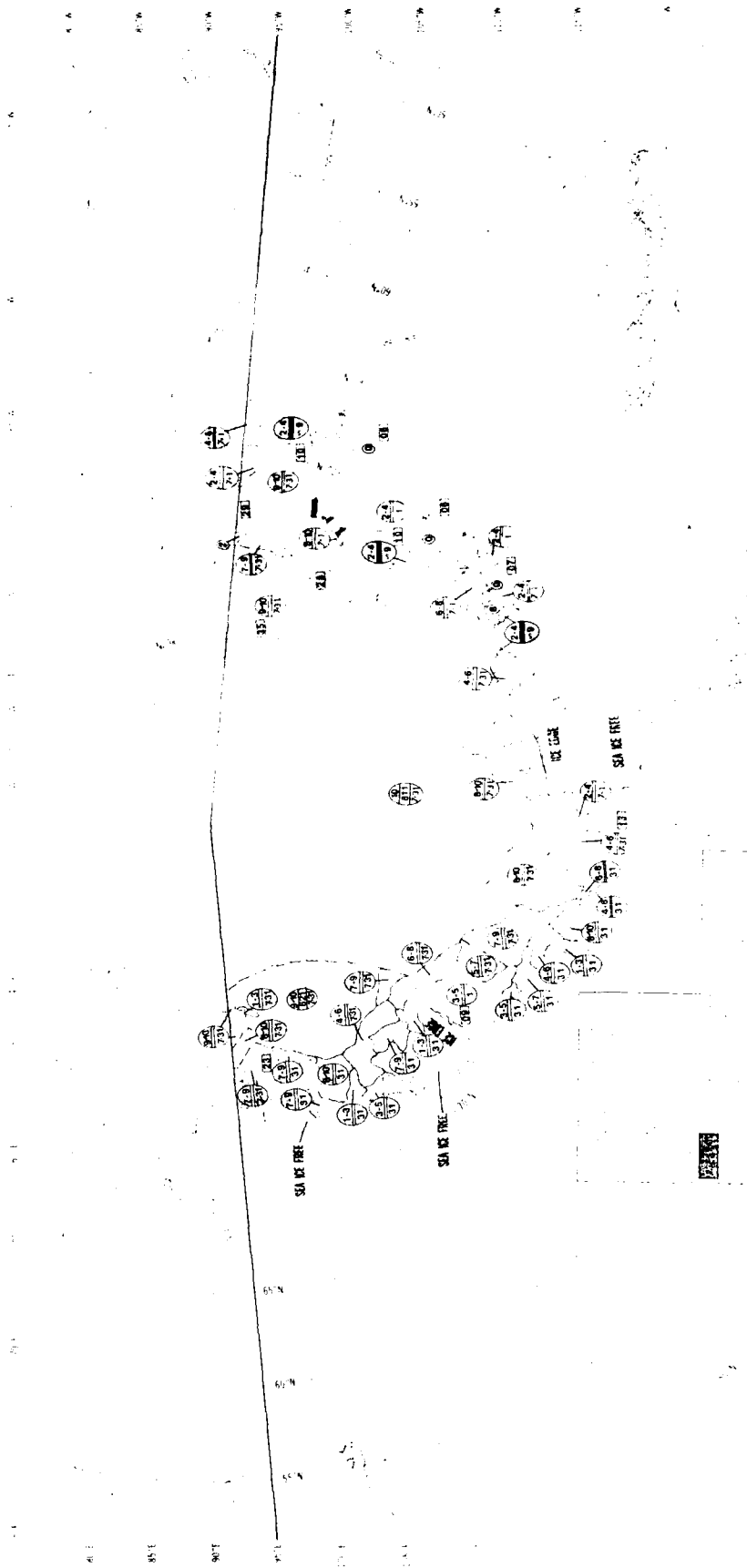
SOUTHERN ICE LIMIT 16 SEPT 86

NAVY AREA CENTER

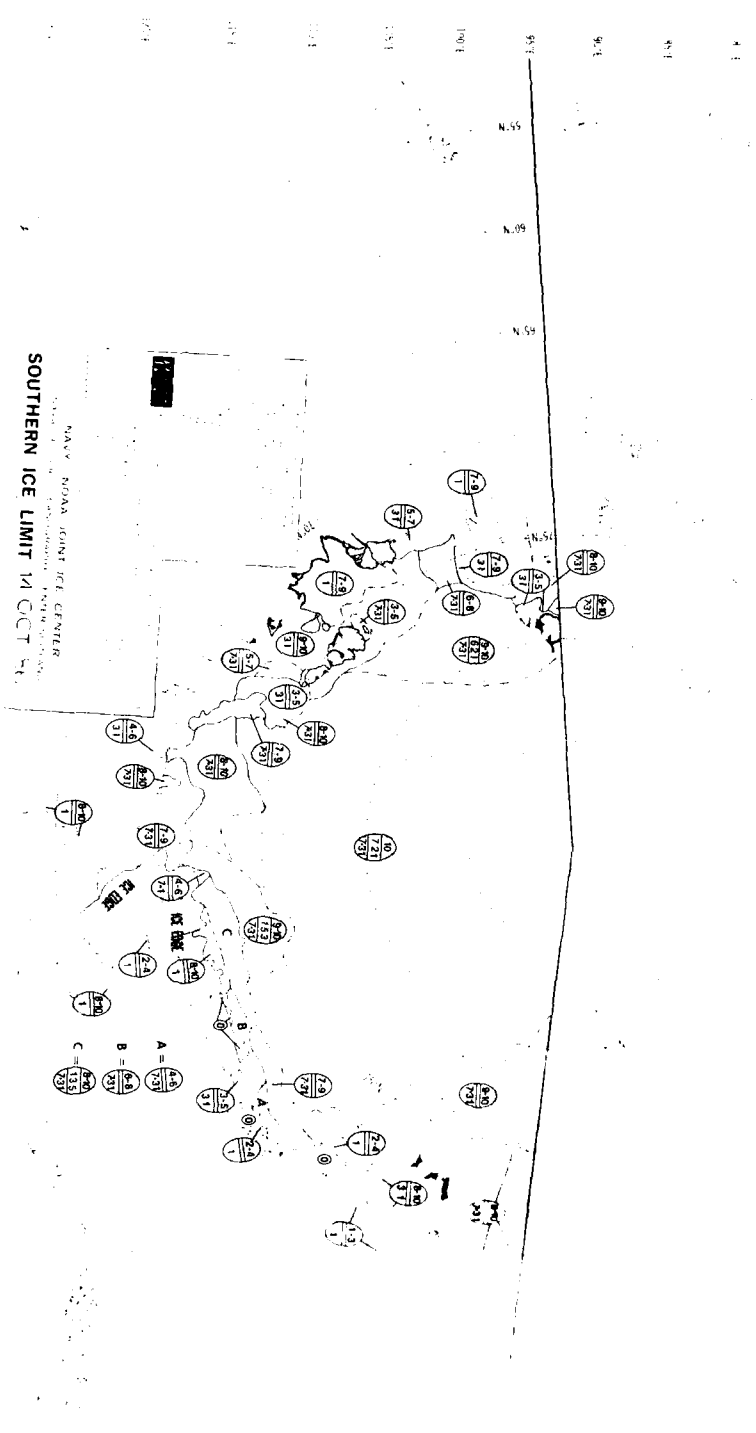


180° 170° 160° 150° 140° 130° 120° 110° 100° 90° 80° 70° 60° 50° 40° 30° 20° 10° 0° 10° N 20° N 30° N 40° N 50° N 60° N 70° N 80° N 90° N 100° N 110° N 120° N 130° N 140° N 150° N 160° N 170° N 180° N





NAVY - NODANA POINT ICE CENTER
 SOUTHERN ICE LIMIT 07 OCT 86



AD-A184 016

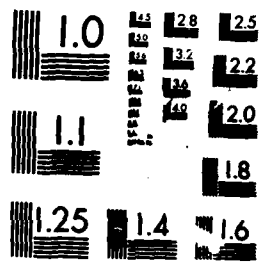
EASTERN - WESTERN ARCTIC SEA ICE ANALYSIS 1986 U.S. NAVAL 2/2
POLAR OCEANOGRAPHY CENTER WASHINGTON DC AUG 87

UNCLASSIFIED

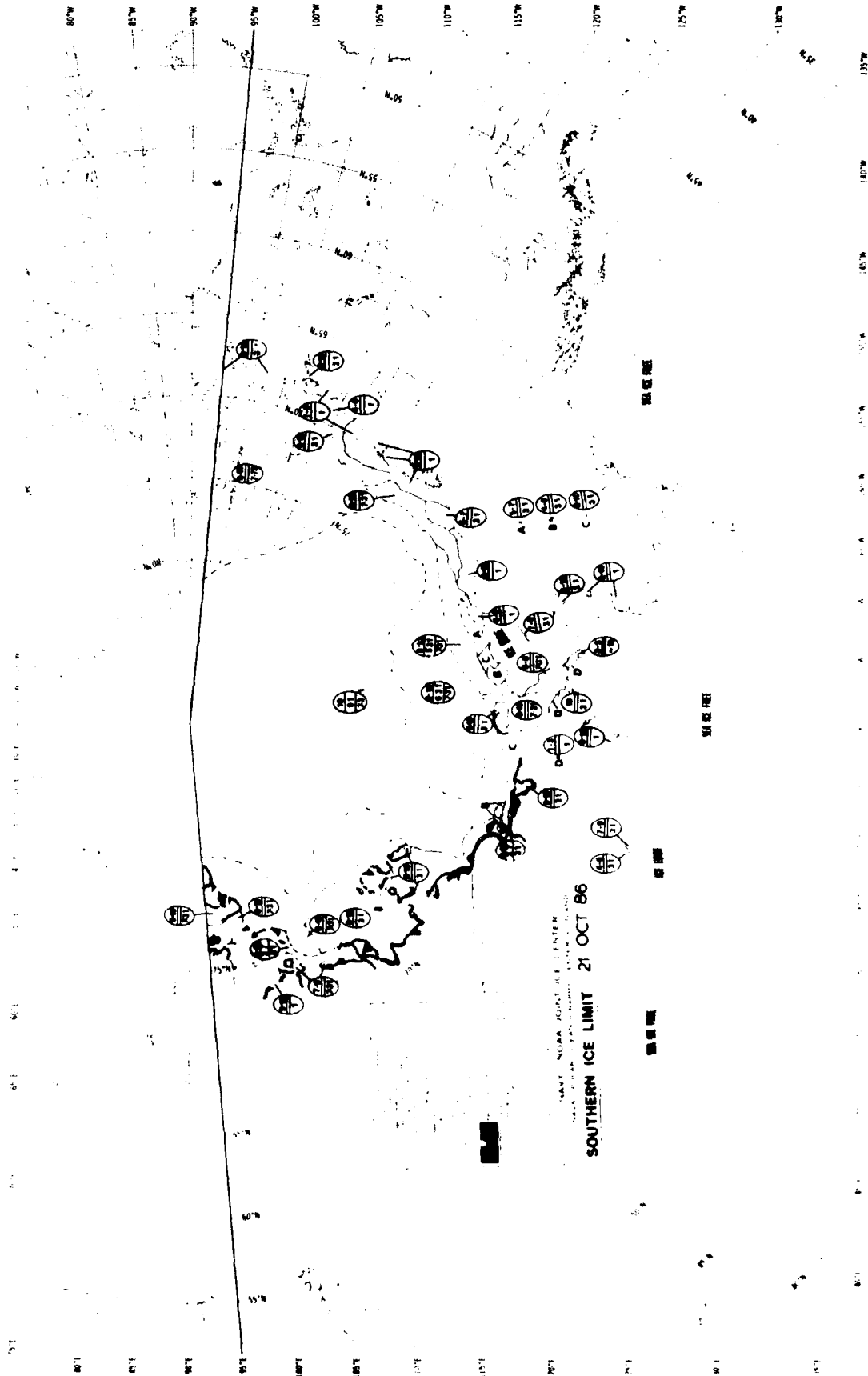
PAG 3/12 NL



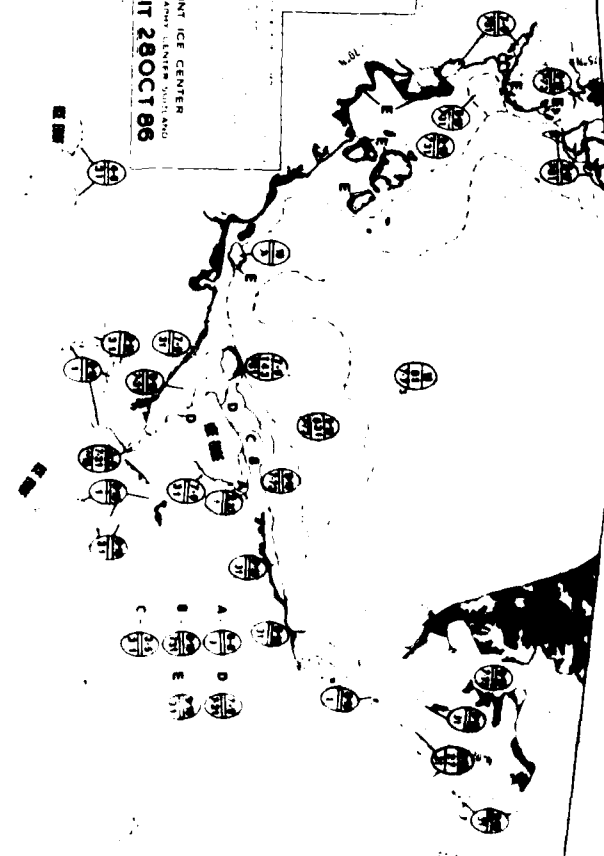
END
PAGE
1/8



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS-1963-A



NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OPERATIONS CENTER, SUTHERLAND
SOUTHERN ICE LIMIT 29 OCT 86



SEA AREA

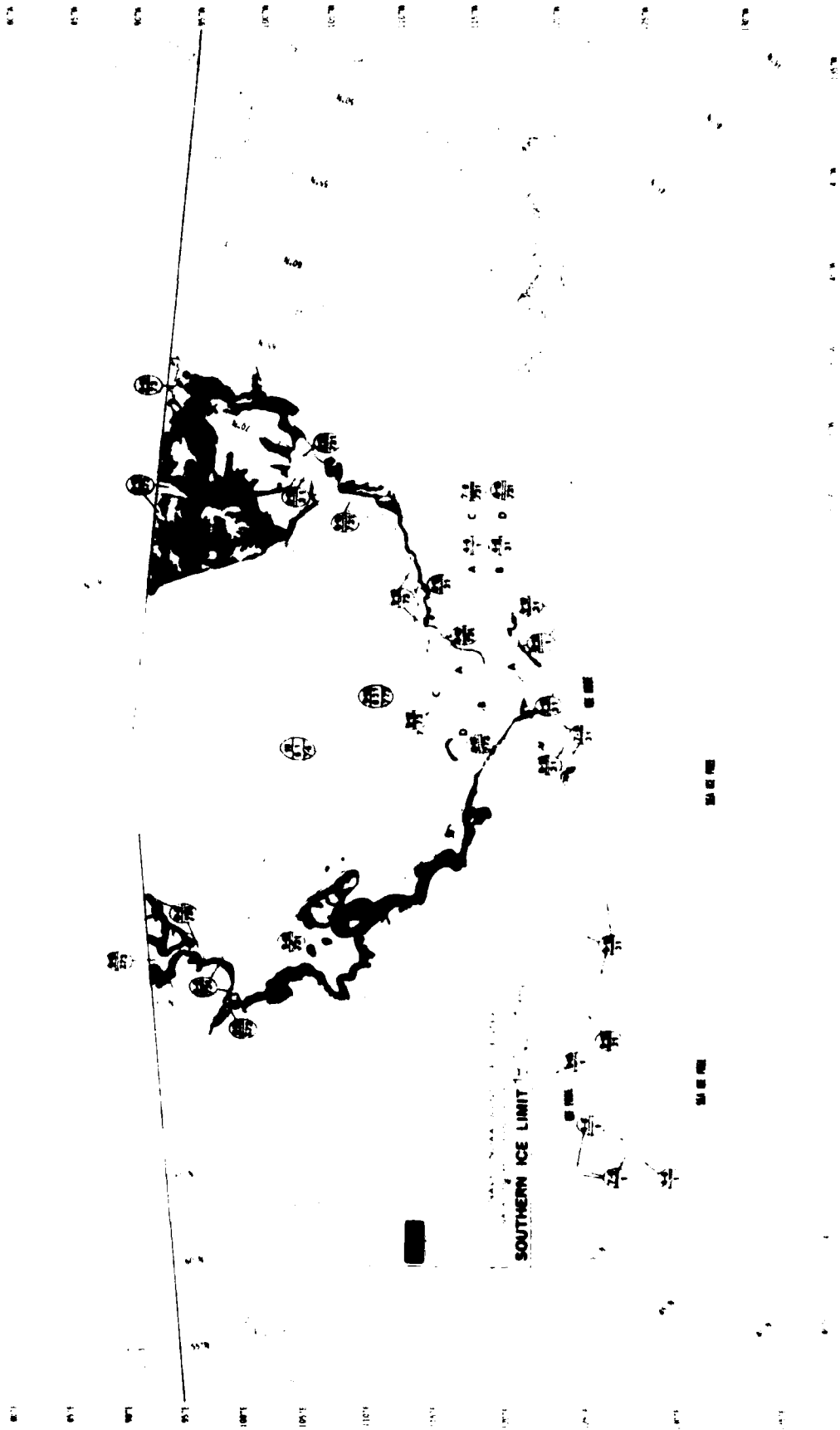
1601
1501
1401
1301
1201
1101
1001
901

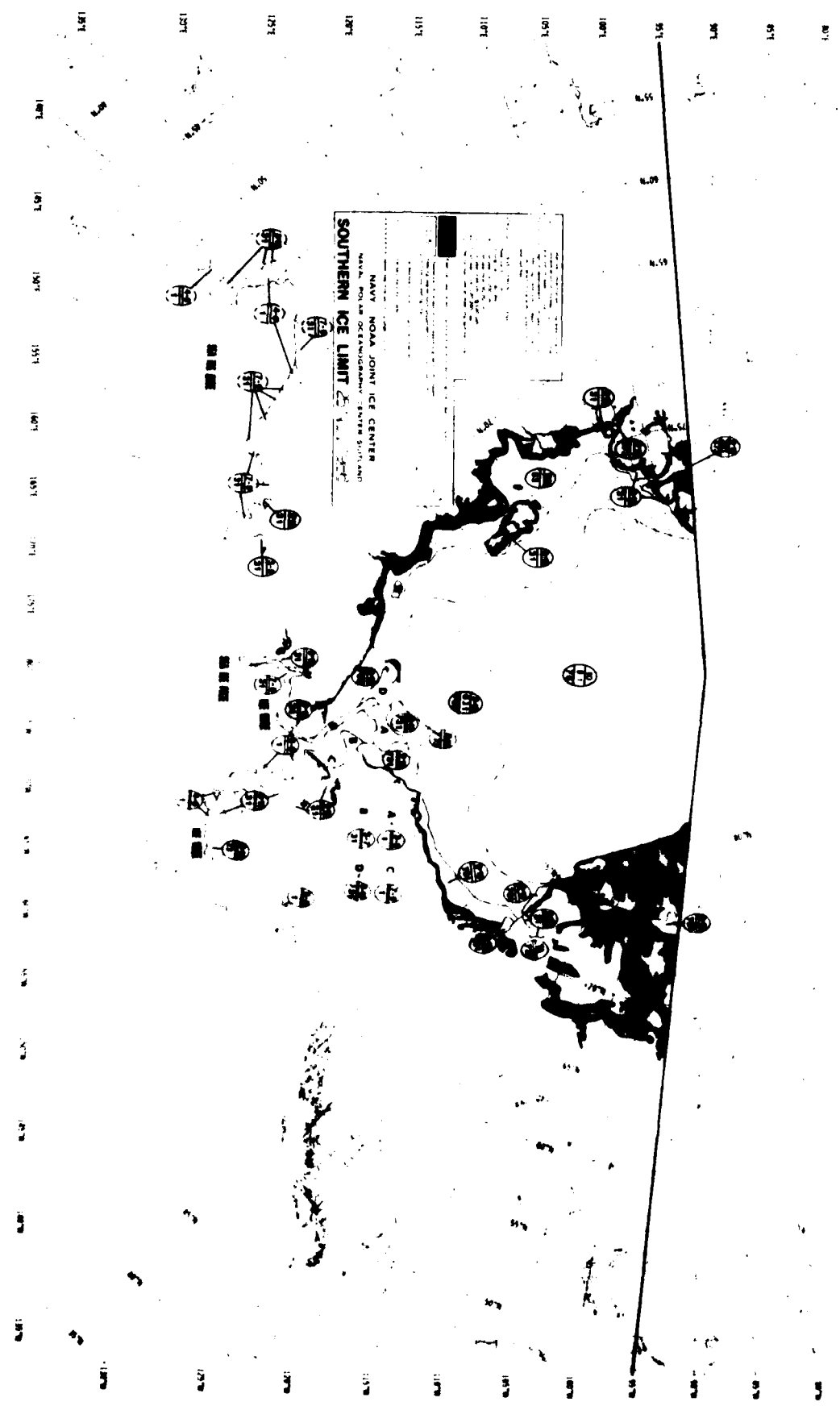
1501
1401
1301
1201
1101
1001
901



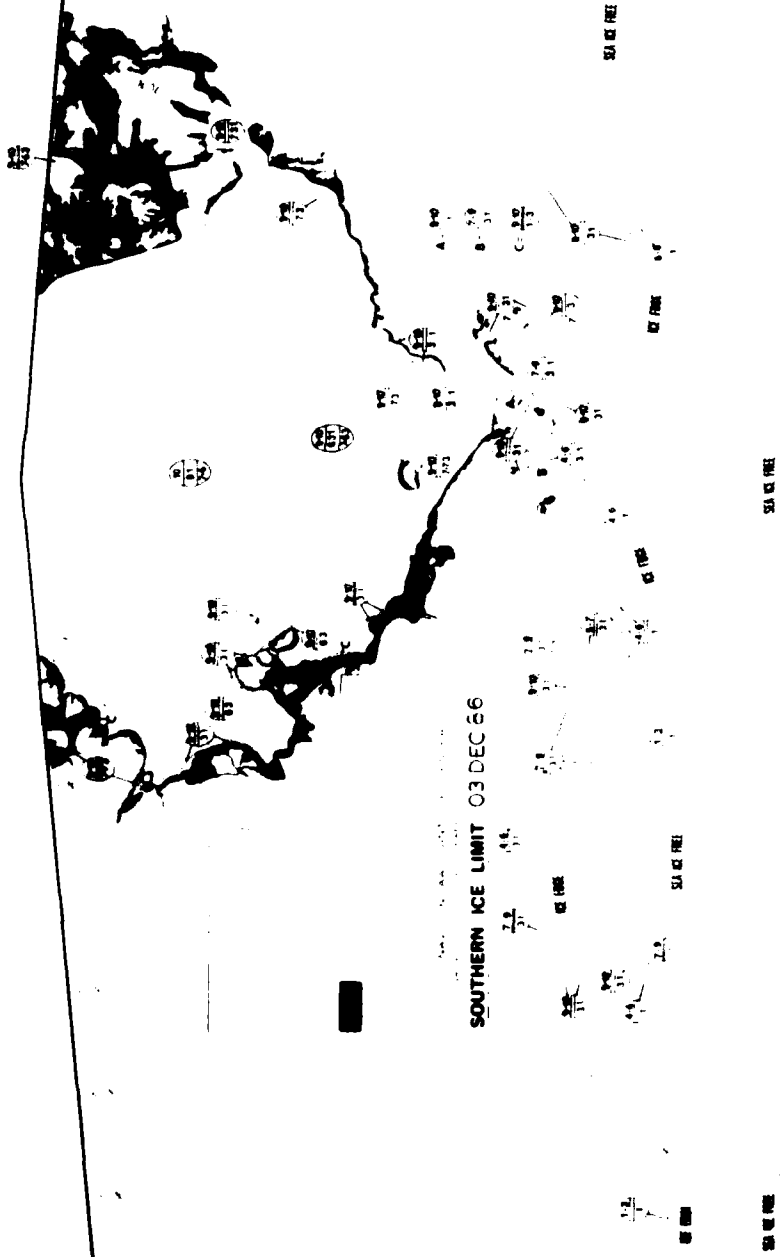
SOUTHERN ICE LIMIT







9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



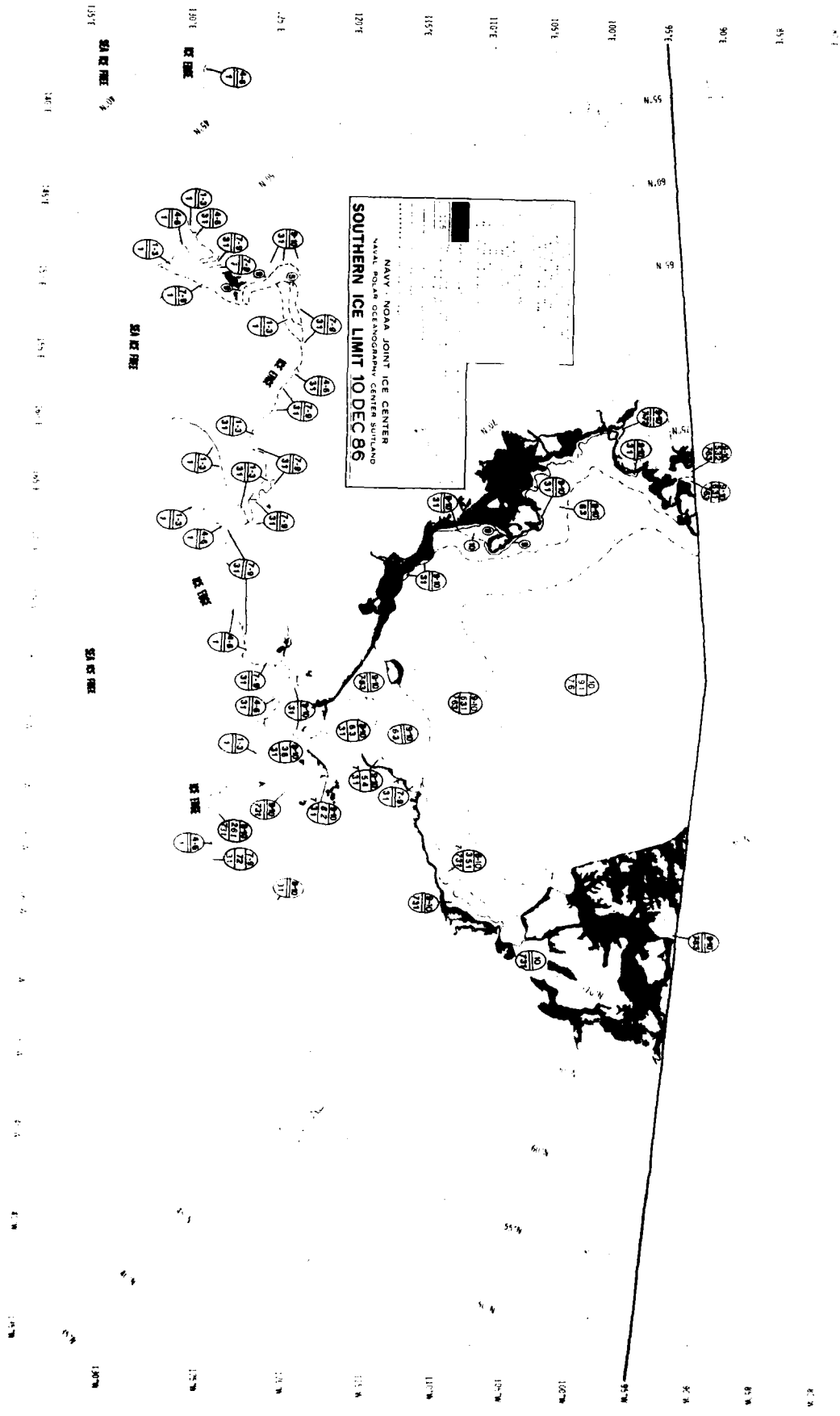
SOUTHERN ICE LIMIT 03 DEC 66

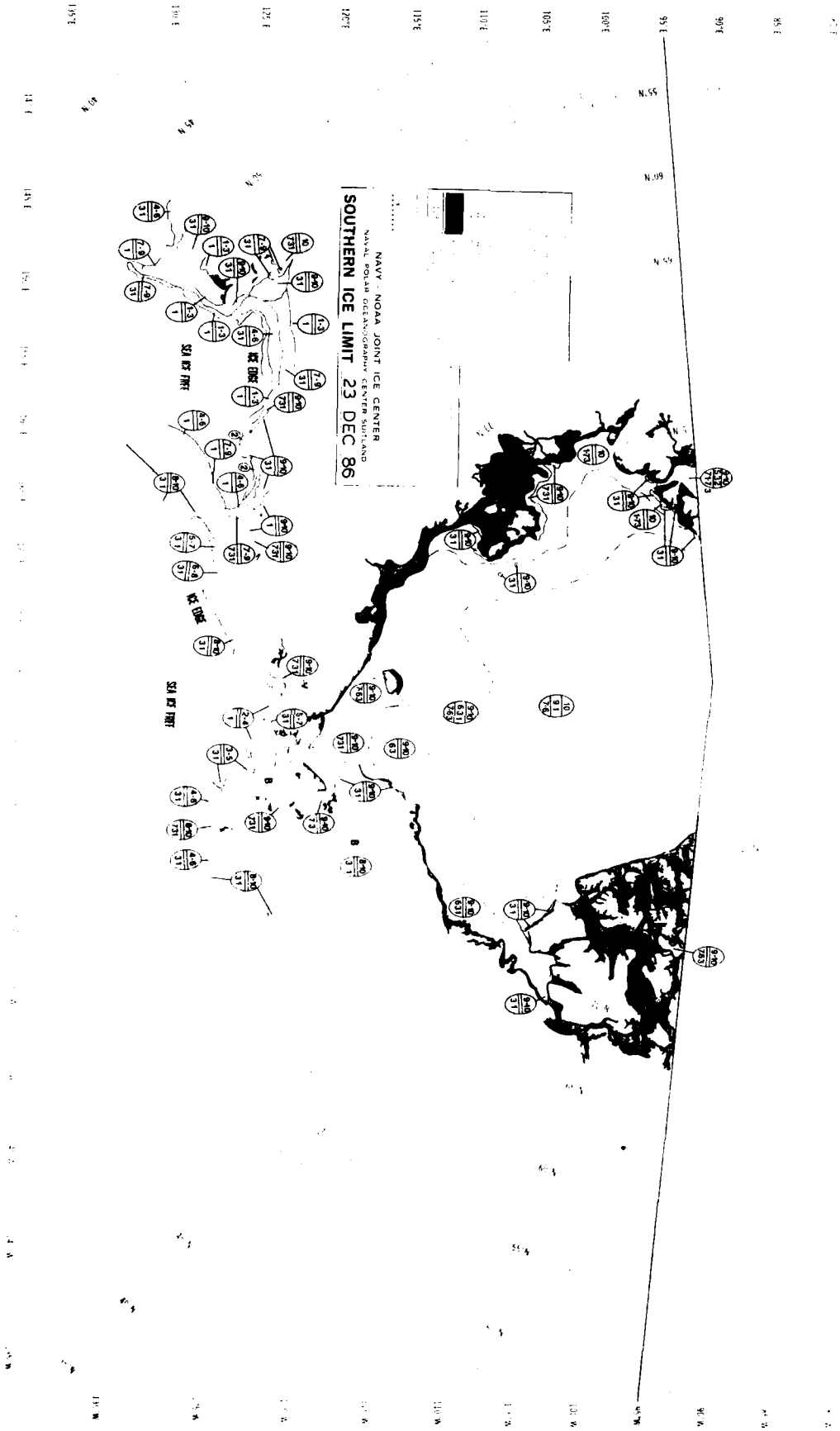
SEA ICE FREE

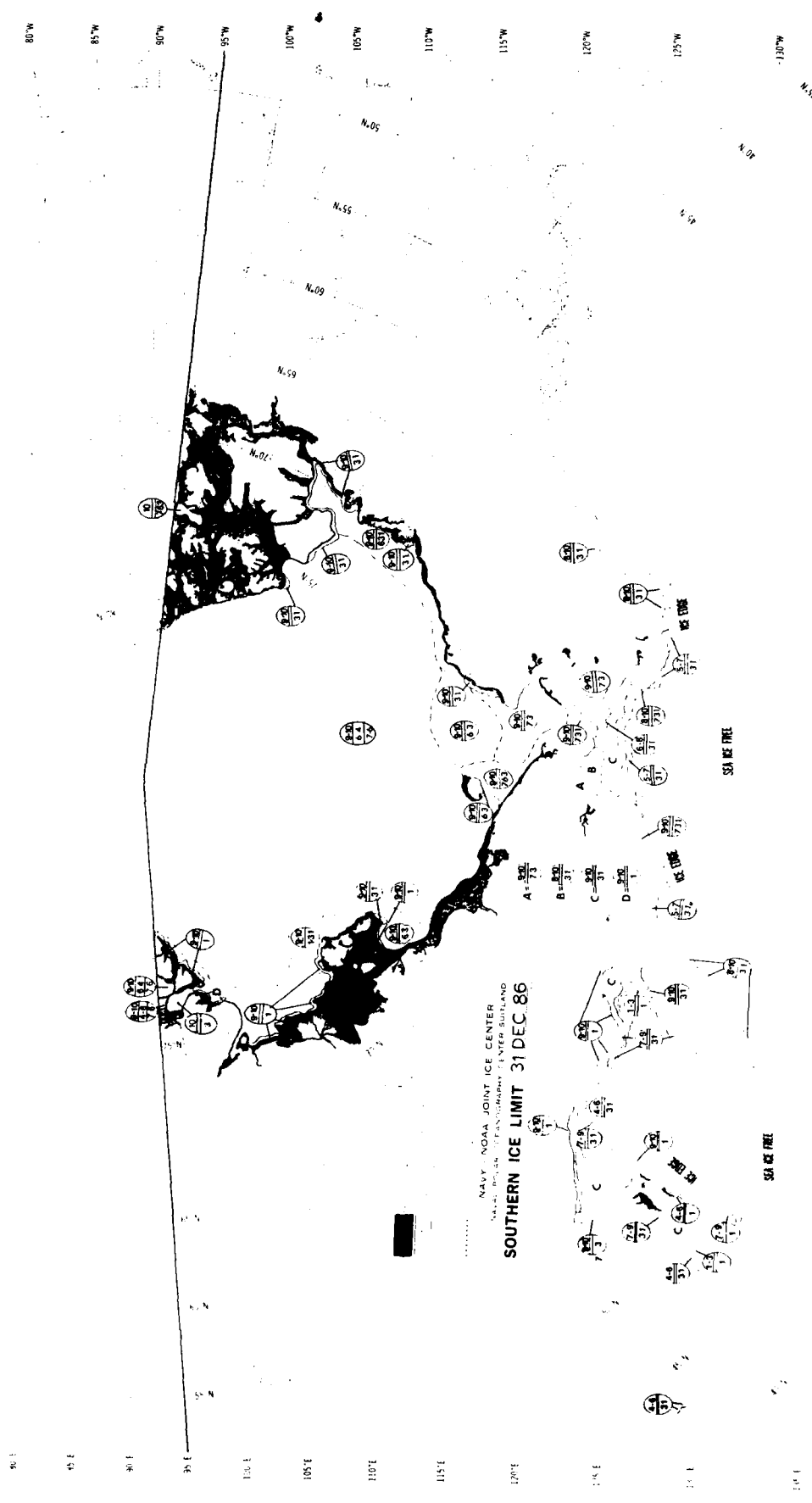
SEA ICE FREE

SEA ICE FREE

SEA ICE FREE

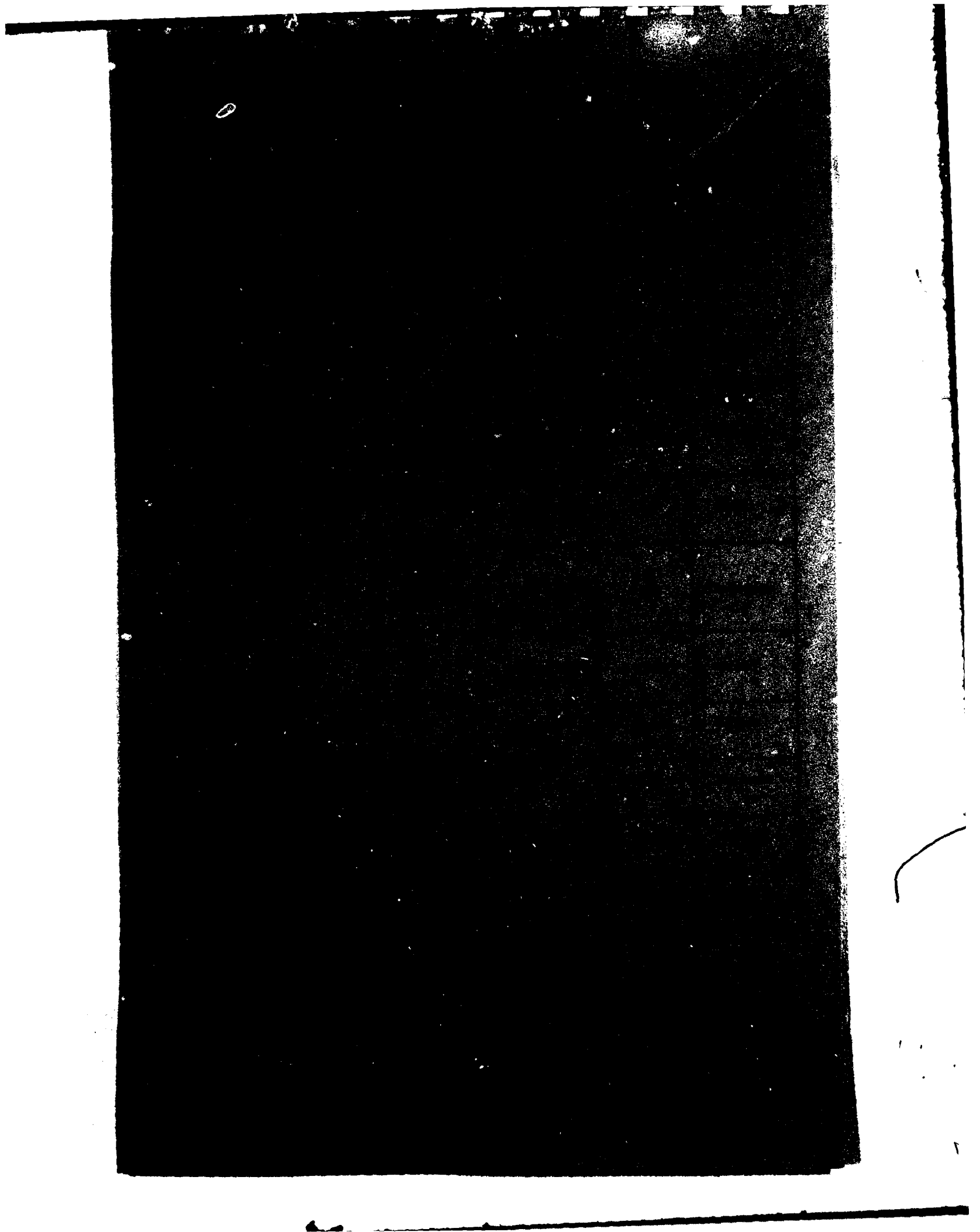






NAVY-NOAA JOINT ICE CENTER
 150° 00' W. 53° 00' N. JOINT CENTER BUILDING
SOUTHERN ICE LIMIT 31 DEC. 86

USCGM-3000-AASHVILLE, N. C. 6-87-175



END

DATE

FILMED

10-87