

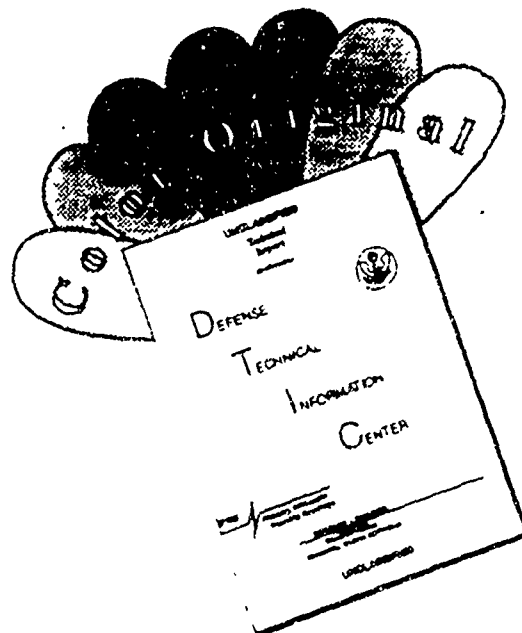
Antarctic Ice Charts 1989-1990.

NAVAL POLAR OCEANOGRAPHY CENTER WASHINGTON DC

1992

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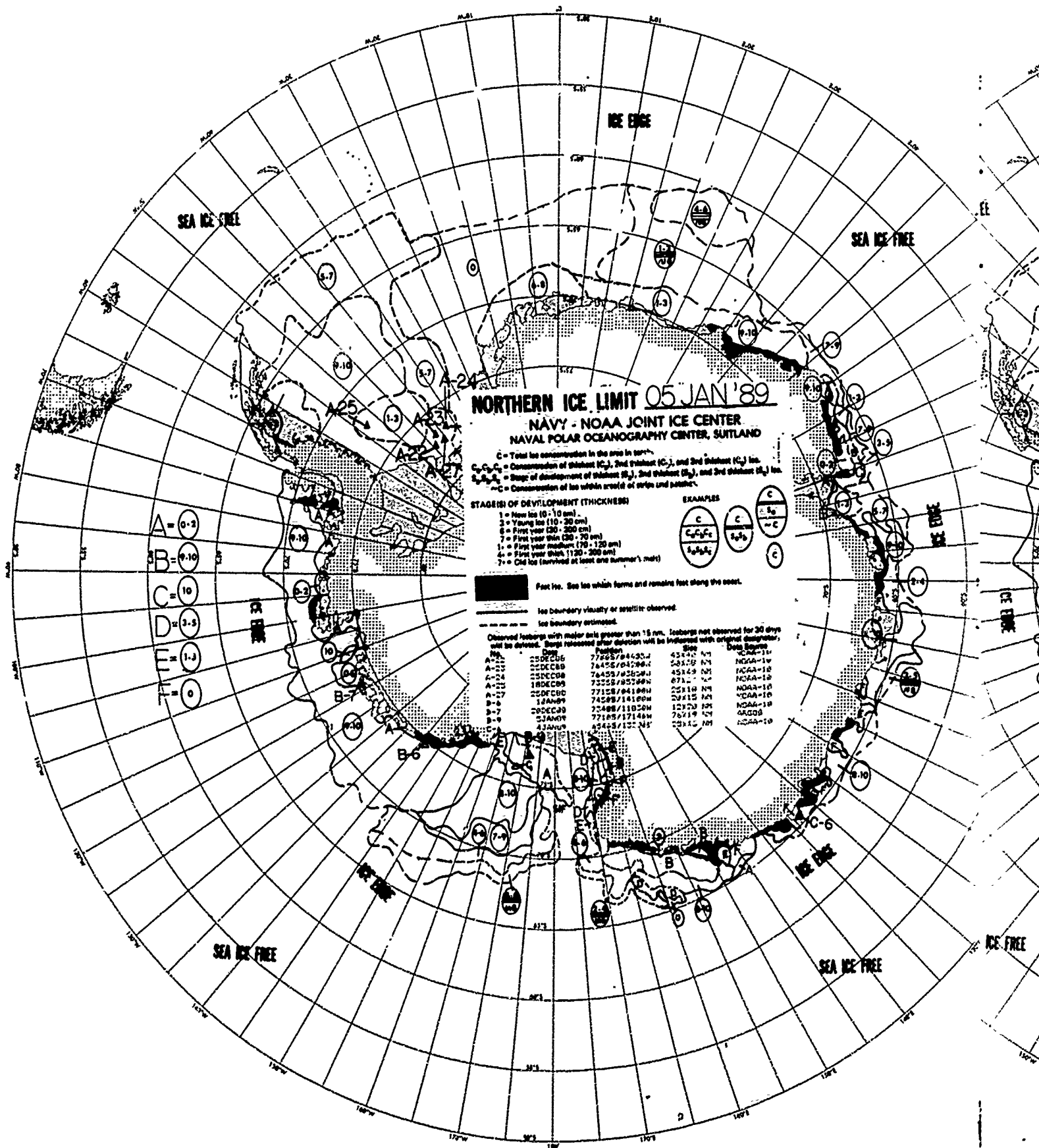
REPORT DOCUMENTATION PAGE

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OMB No. 0704-0188

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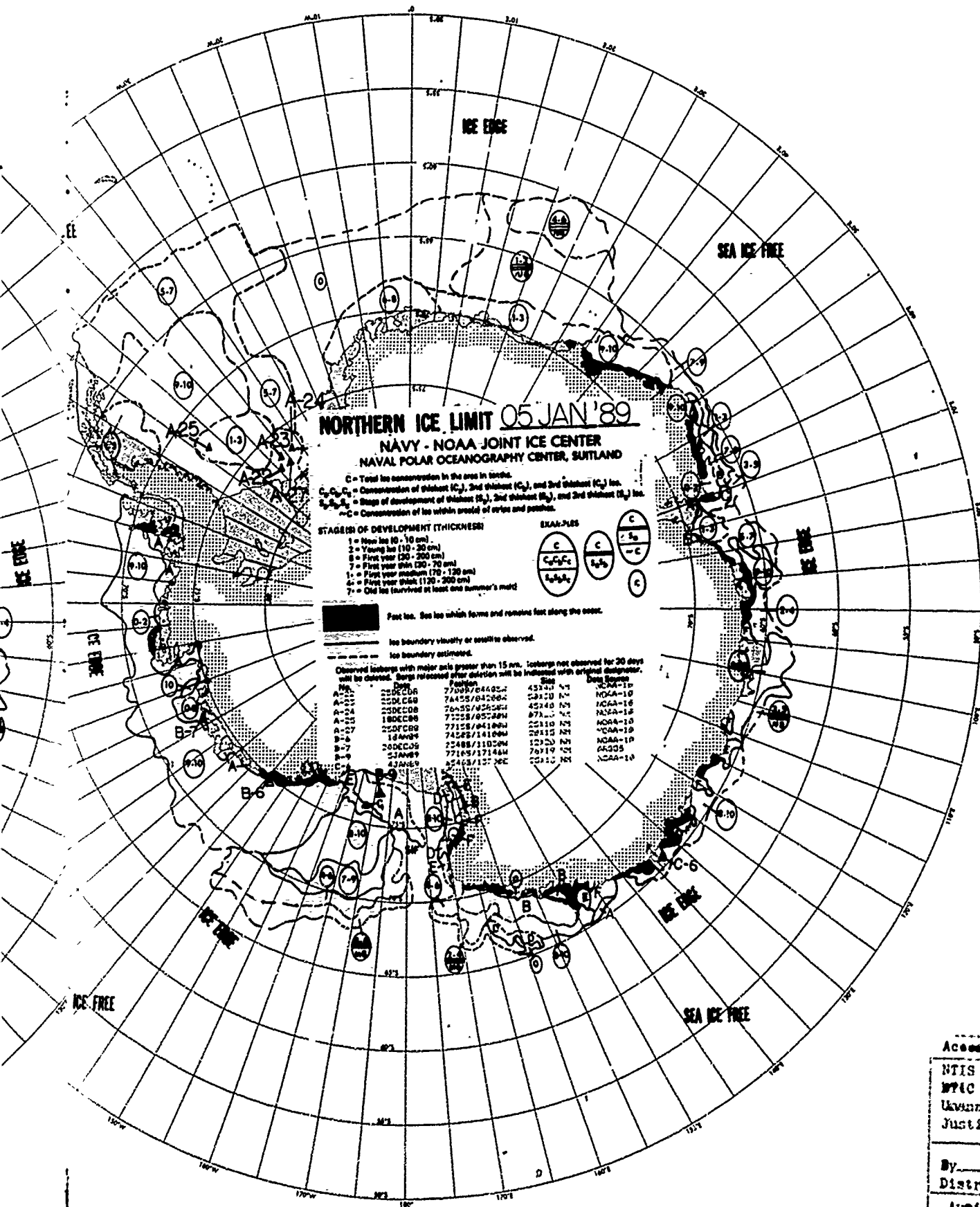


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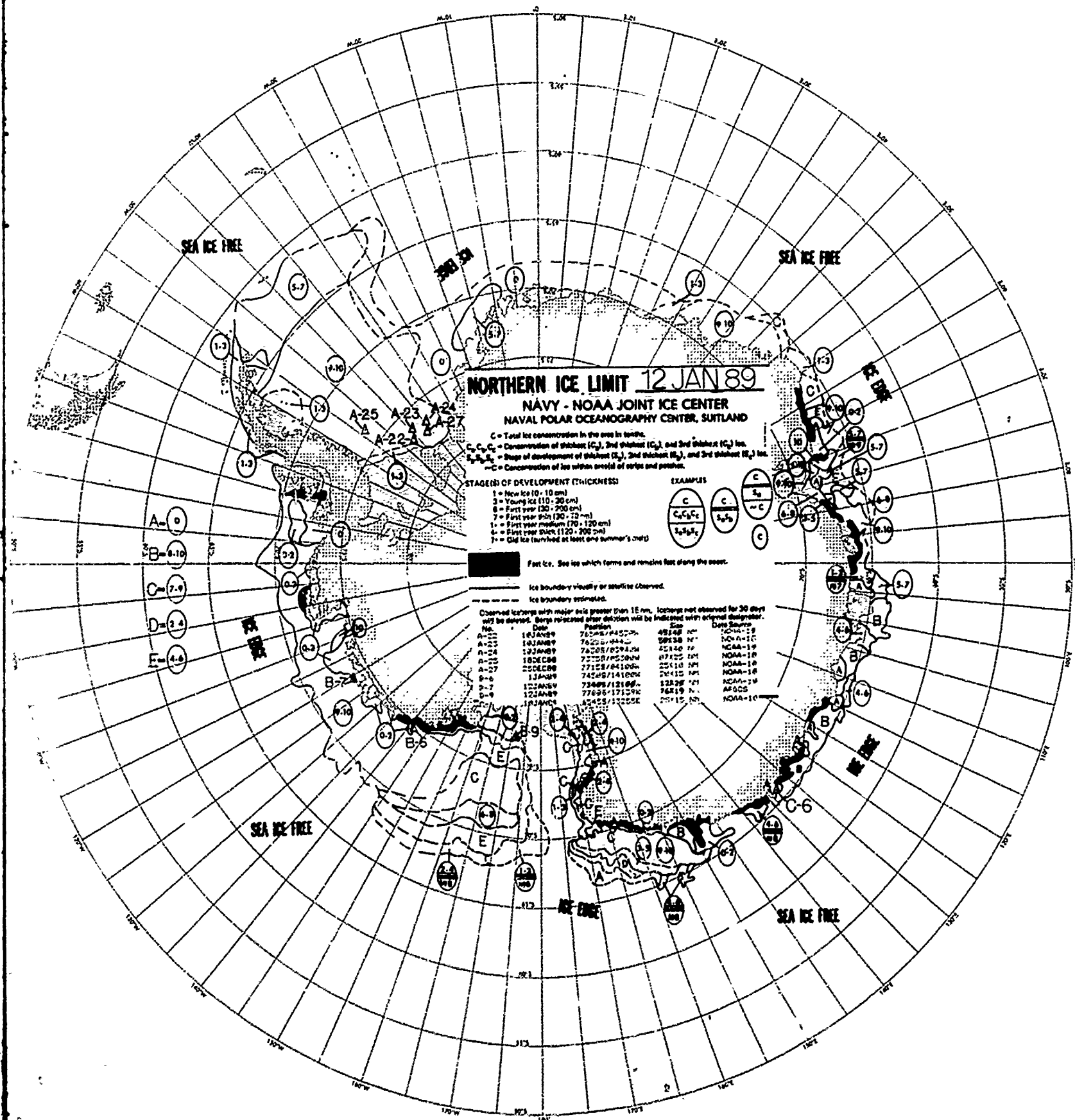
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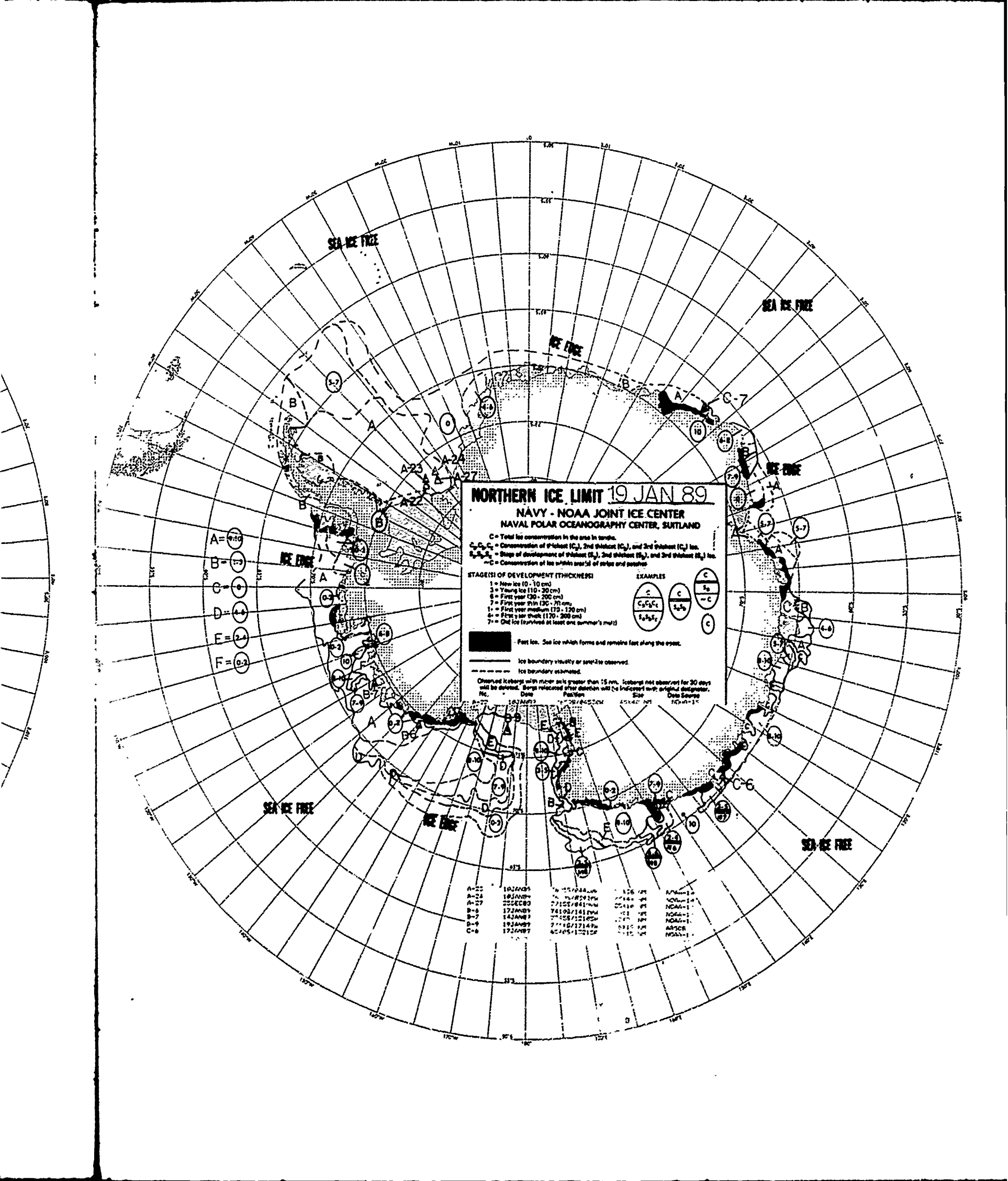


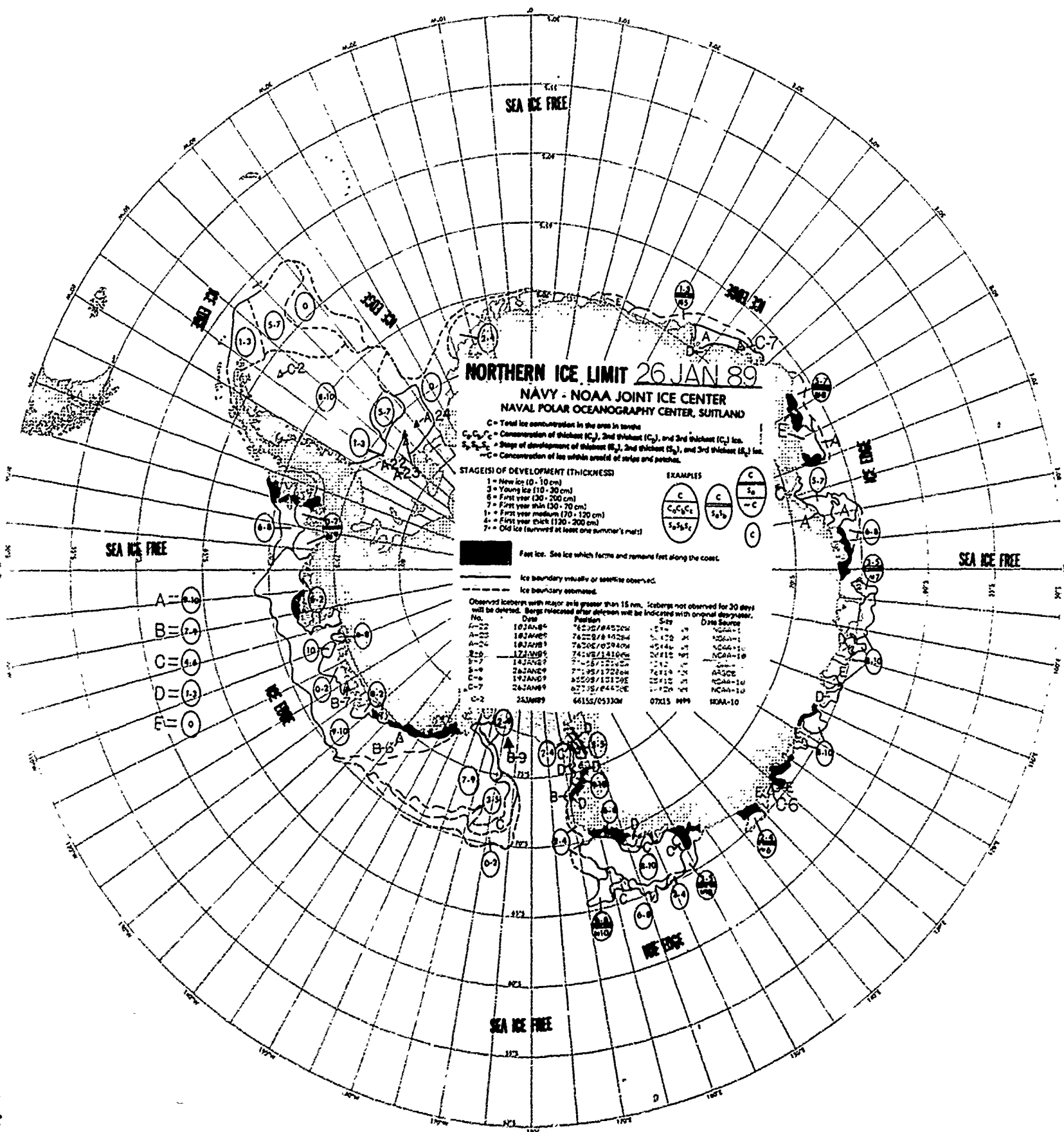
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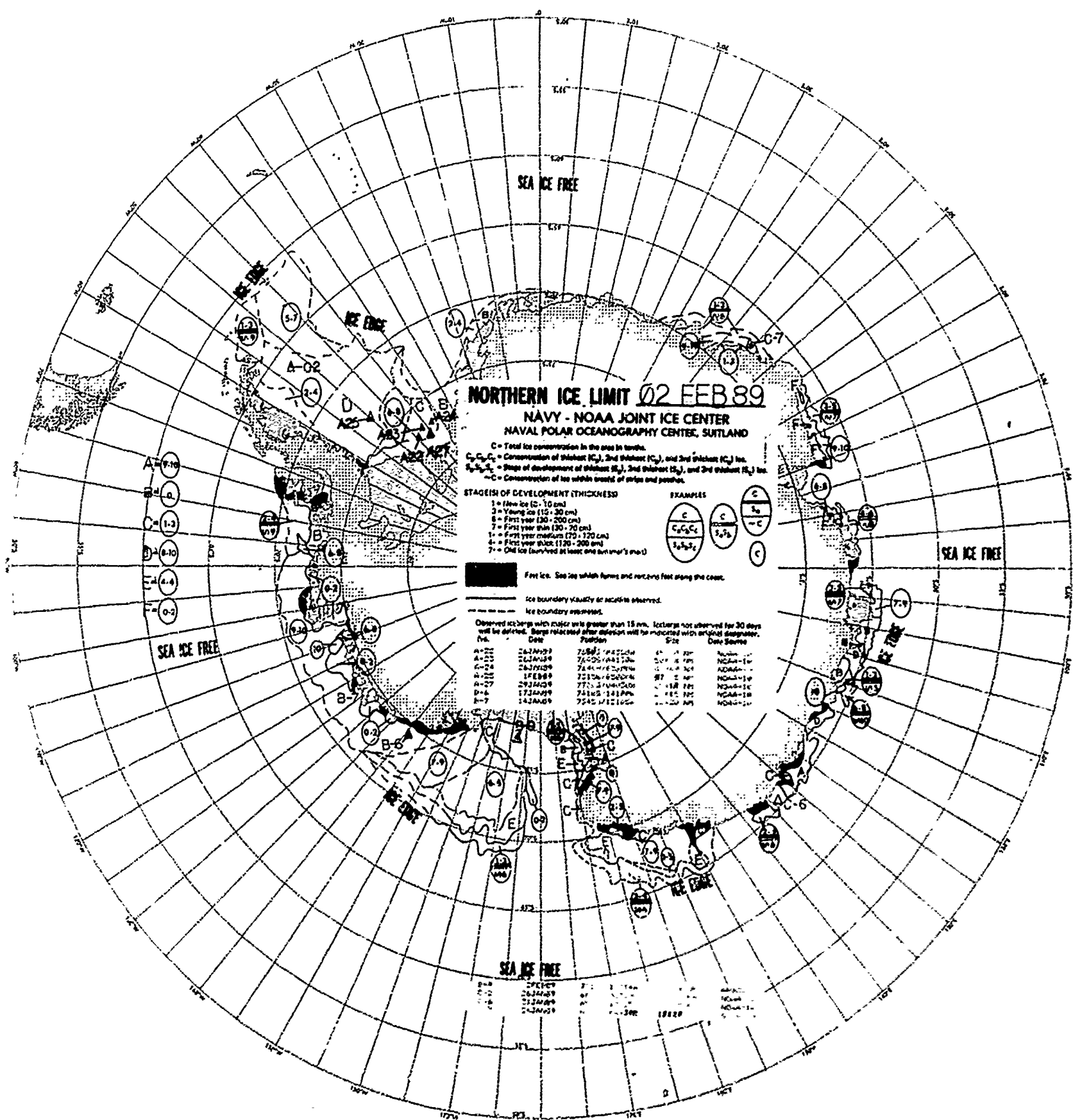
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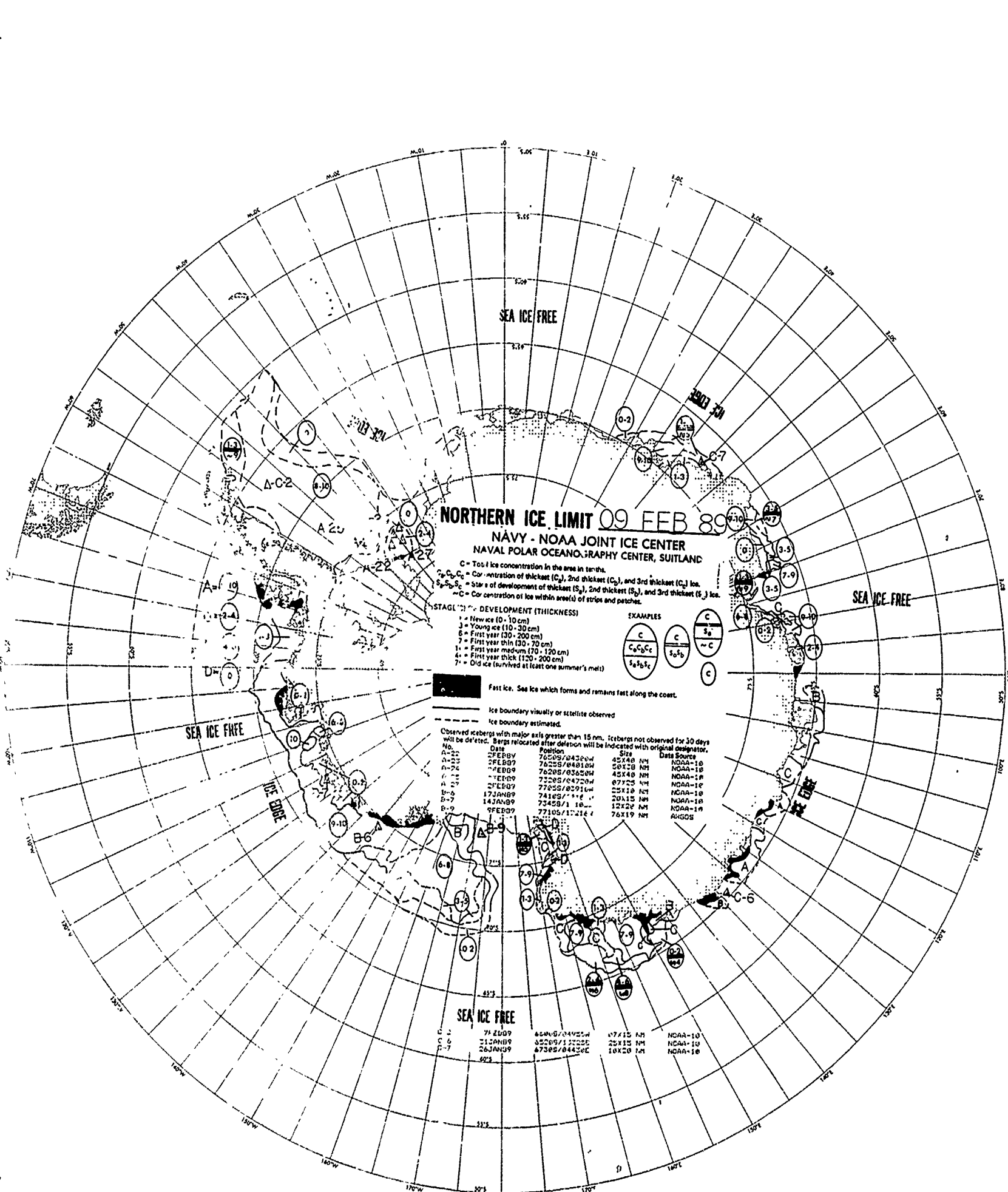
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NORTHERN ICE LIMIT 09 FEB 89
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND

C = Total ice concentration in the area in tenths.
 C₁C₂C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
 S₁S₂S₃ = Size of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
 C = Concentration of ice within area(s) of stripes and patches.

STAGL - DEVELOPMENT (THICKNESS)

- 1 = New ice (0-10 cm)
- 2 = Young ice (10-30 cm)
- 3 = First year thin (30-70 cm)
- 4 = First year medium (70-120 cm)
- 5 = First year thick (120-200 cm)
- 6 = Old ice (survived at least one summer's melt)

EXAMPLES

$\frac{C}{C_1C_2C_3}$	$\frac{C}{S_1S_2S_3}$	$\frac{C}{S_1}$	$\frac{C}{S_2}$	$\frac{C}{S_3}$
$\frac{C}{S_1S_2S_3}$	$\frac{C}{S_1}$	$\frac{C}{S_2}$	$\frac{C}{S_3}$	$\frac{C}{S_1}$

Fast ice. Sea ice which forms and remains fast along the coast.

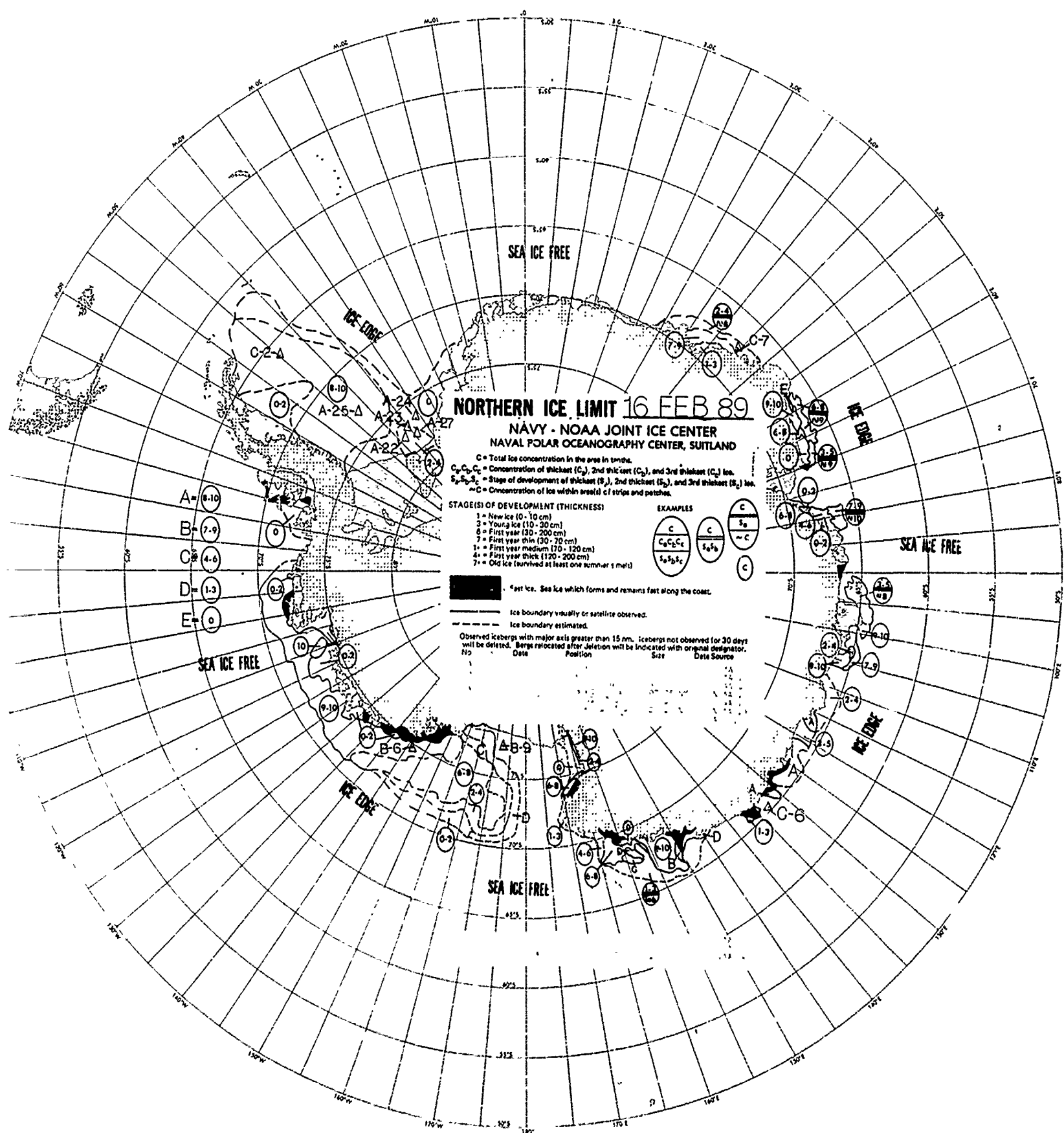
Ice boundary visually or satellite observed
 Ice boundary estimated.

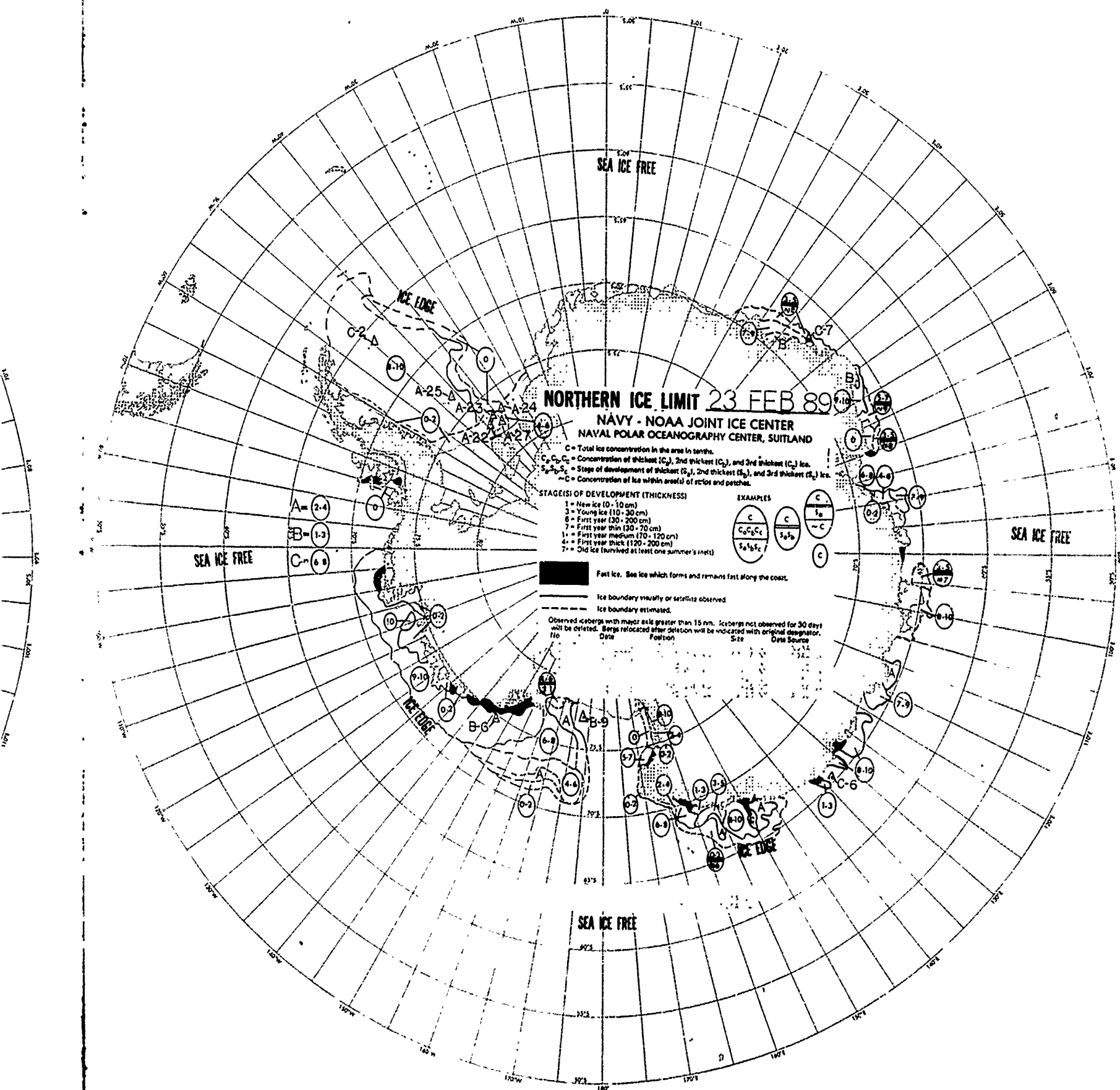
Observed icebergs with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Bergs relocated after deletion will be indicated with original designator.

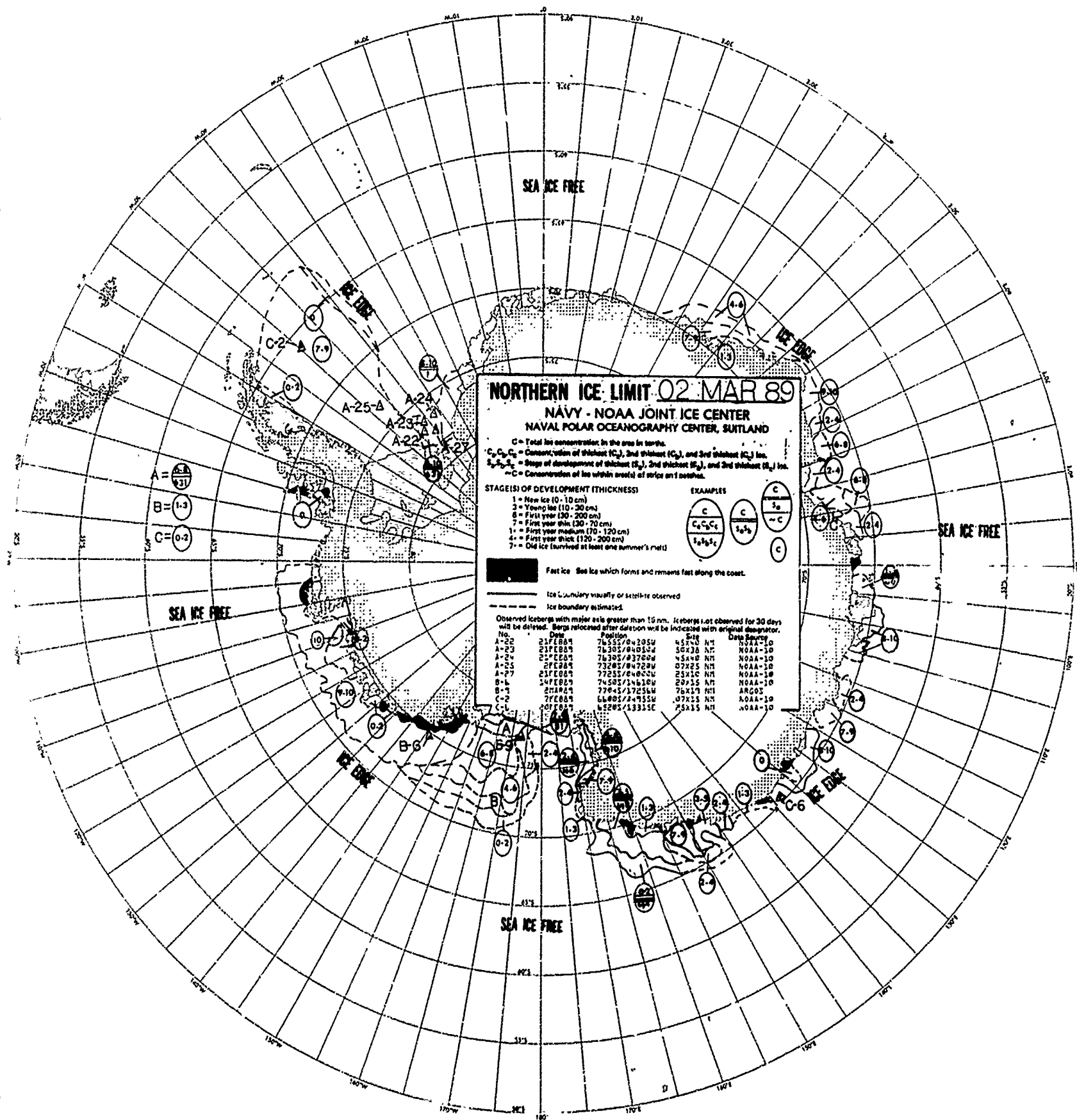
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A-23	2 FEB 89	76205/04010W	50X70 NM	NOAA-10
A-24	2 FEB 89	76205/03650W	45X40 NM	NOAA-10
A-25	2 FEB 89	75205/04720W	67X25 NM	NOAA-10
B-6	17 JAN 89	77055/03910W	25X10 NM	NOAA-10
B-7	14 JAN 89	74105/11110W	20X15 NM	NOAA-10
B-8	9 FEB 89	73455/11010W	12X20 NM	NOAA-10
B-9		77105/11210W	76X19 NM	ARGOS

SEA ICE FREE

No.	Date	Position	Size	Data Source
C-2	71 JUN 89	66005/04920W	47X15 NM	NOAA-10
C-6	21 JAN 89	65205/11220E	25X15 NM	NOAA-10
C-7	26 JAN 89	67305/04450E	10X20 NM	NOAA-10







NORTHERN ICE LIMIT 09 MAR '89

**NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUTLAND**

C = Total ice concentration in the area in tenths.
C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
-C = Concentration of ice within areal of series and patches.

STAGES OF DEVELOPMENT (THICKNESS)

- 1 = New ice (10 - 10 cm)
- 2 = Young ice (10 - 30 cm)
- 3 = First year (30 - 200 cm)
- 4 = First year thin (30 - 70 cm)
- 5 = First year medium (70 - 120 cm)
- 6 = First year thick (120 - 200 cm)
- 7 = Old ice (survived at least one summer melt)

EXAMPLES



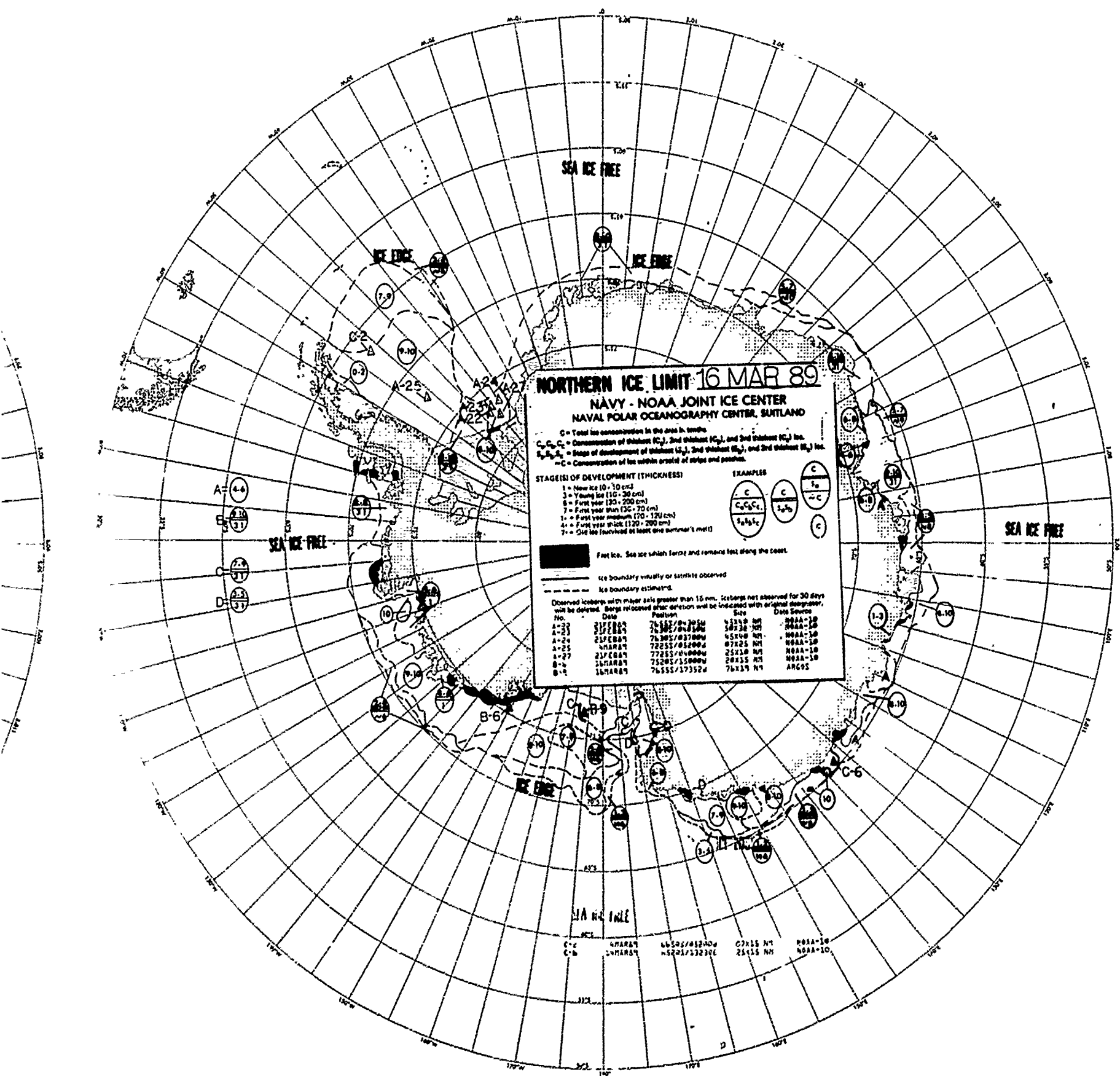
- Fast ice. See ice which forms and remains fast along the coast.
- Ice boundary visually or satellite observed.
- Ice boundary estimated.

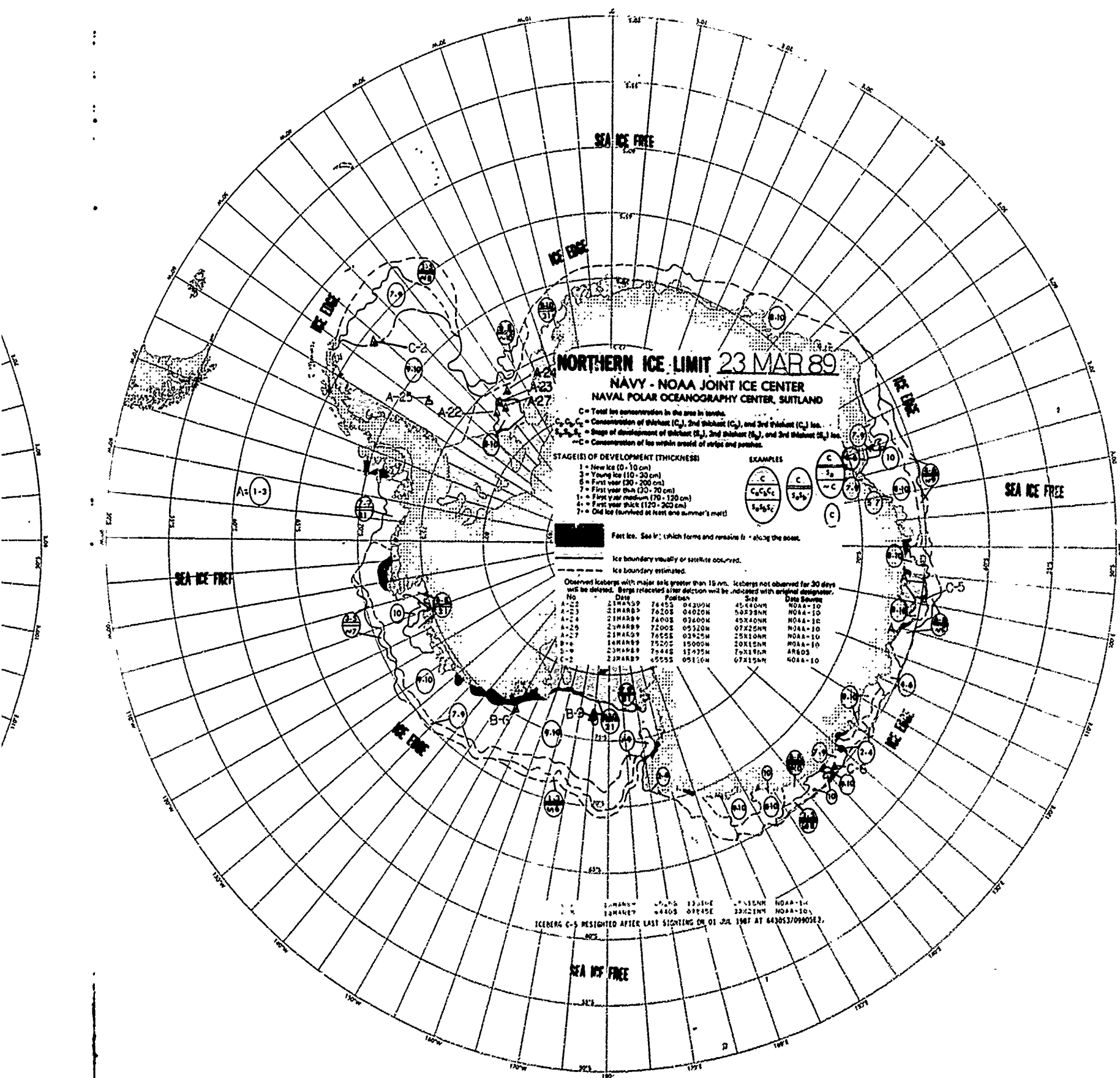
Observed icebergs with major axis greater than 10 nm. Icebergs not observed for 30 days will be deleted. Berge relocated after deletion will be indicated with original designator.

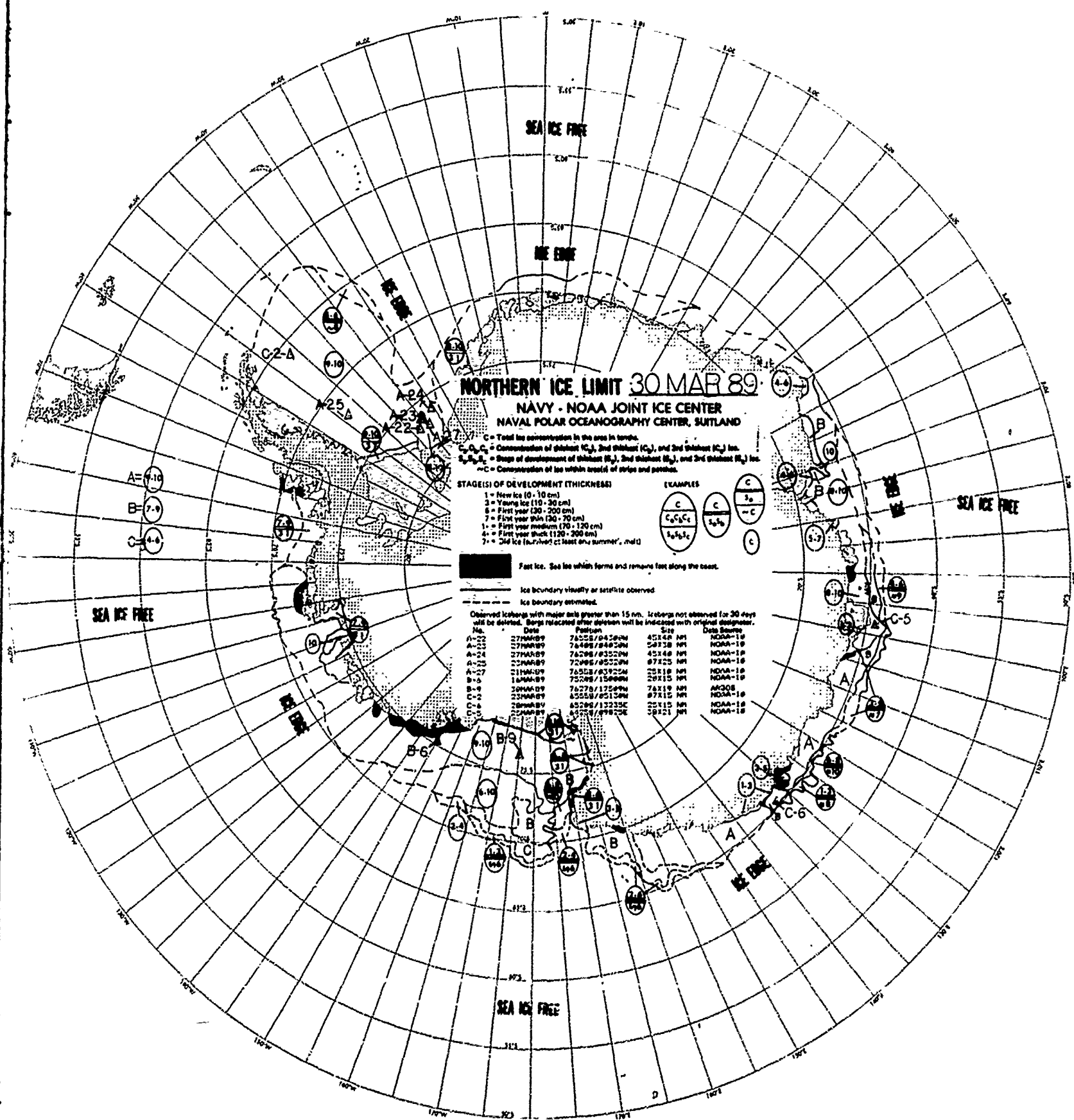
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A-23	21 FEB 89	76305/04610N	50x30 NM	NOAA-10
A-24	21 FEB 89	76305/03700N	45x40 NM	NOAA-10
A-25	21 FEB 89	72255/05200N	07x05 NM	NOAA-10
A-27	21 FEB 89	77255/04000N	25x10 NM	NOAA-10
B-6	21 MAR 89	75555/15000N	20x15 NM	NOAA-10
B-7	21 MAR 89	77035/17320N	70x15 NM	APGOS

SEA ICE FREE

C-2 21 MAR 89 66505/05200N 07x15 NM NOAA-10
C-6 21 MAR 89 65205/17310E 25x15 NM NOAA-10







NORTHERN ICE LIMIT 30 MAR 89

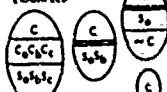
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUTLAND

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S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
-C = Concentration of ice within areas of strips and patches.

STAGE(S) OF DEVELOPMENT (THICKNESS)

- 1 = New ice (10 - 10 cm)
- 2 = Young ice (10 - 30 cm)
- 3 = First year (30 - 200 cm)
- 4 = First year thin (30 - 70 cm)
- 5 = First year medium (70 - 120 cm)
- 6 = First year thick (120 - 200 cm)
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EXAMPLES



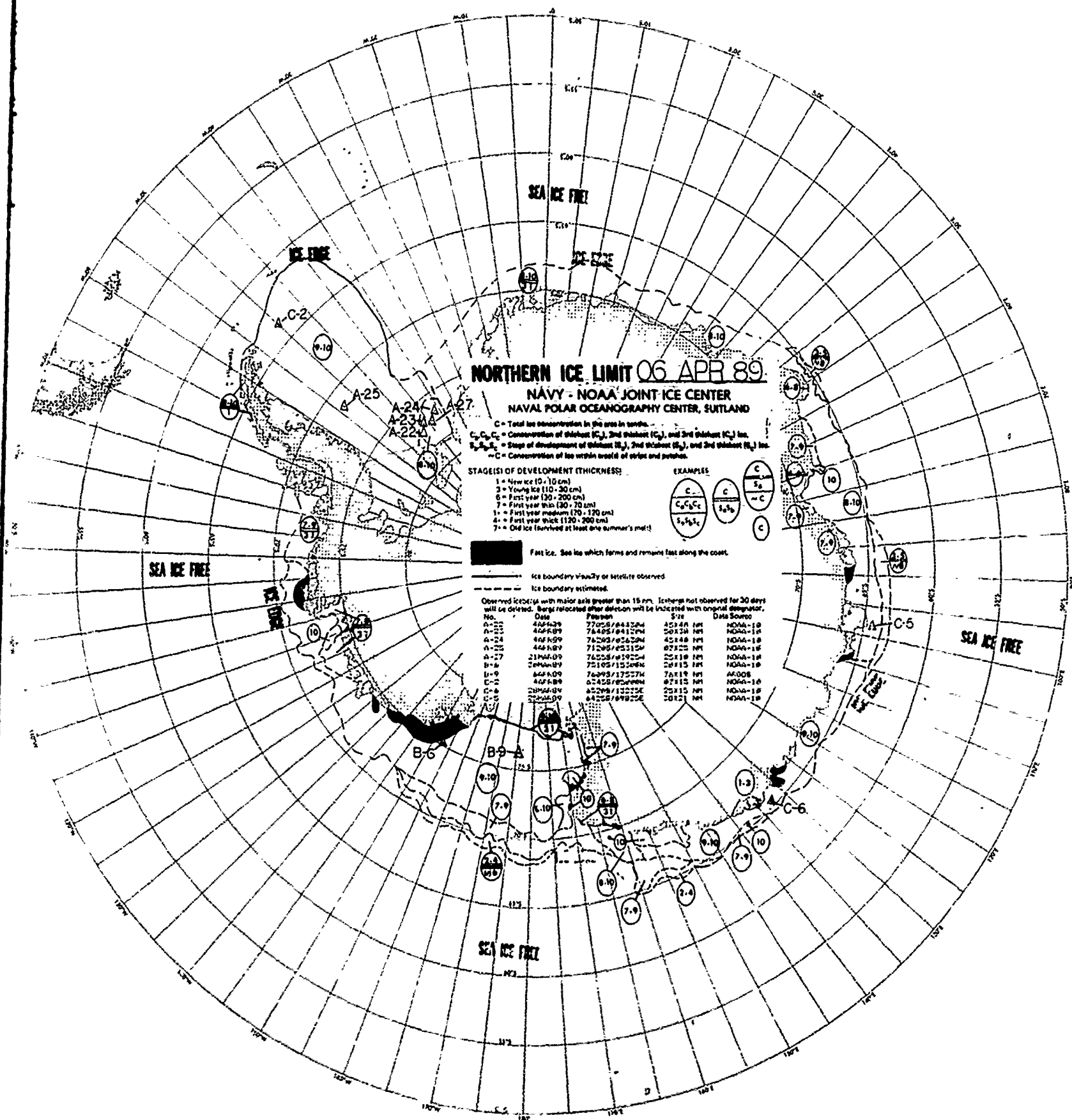
Fast ice. See ice when forms and remains fast along the coast.

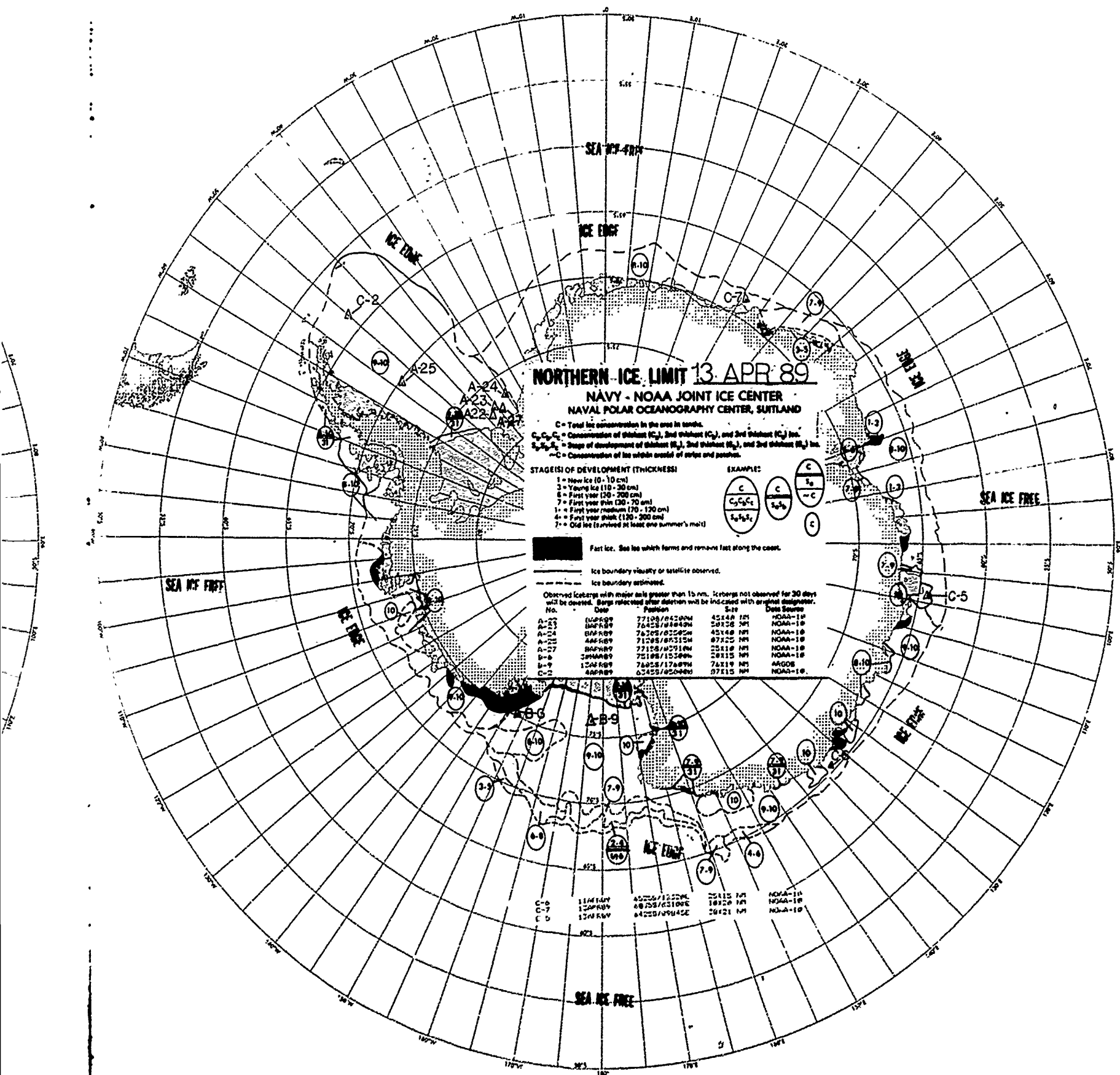
Ice boundary visually or satellite observed

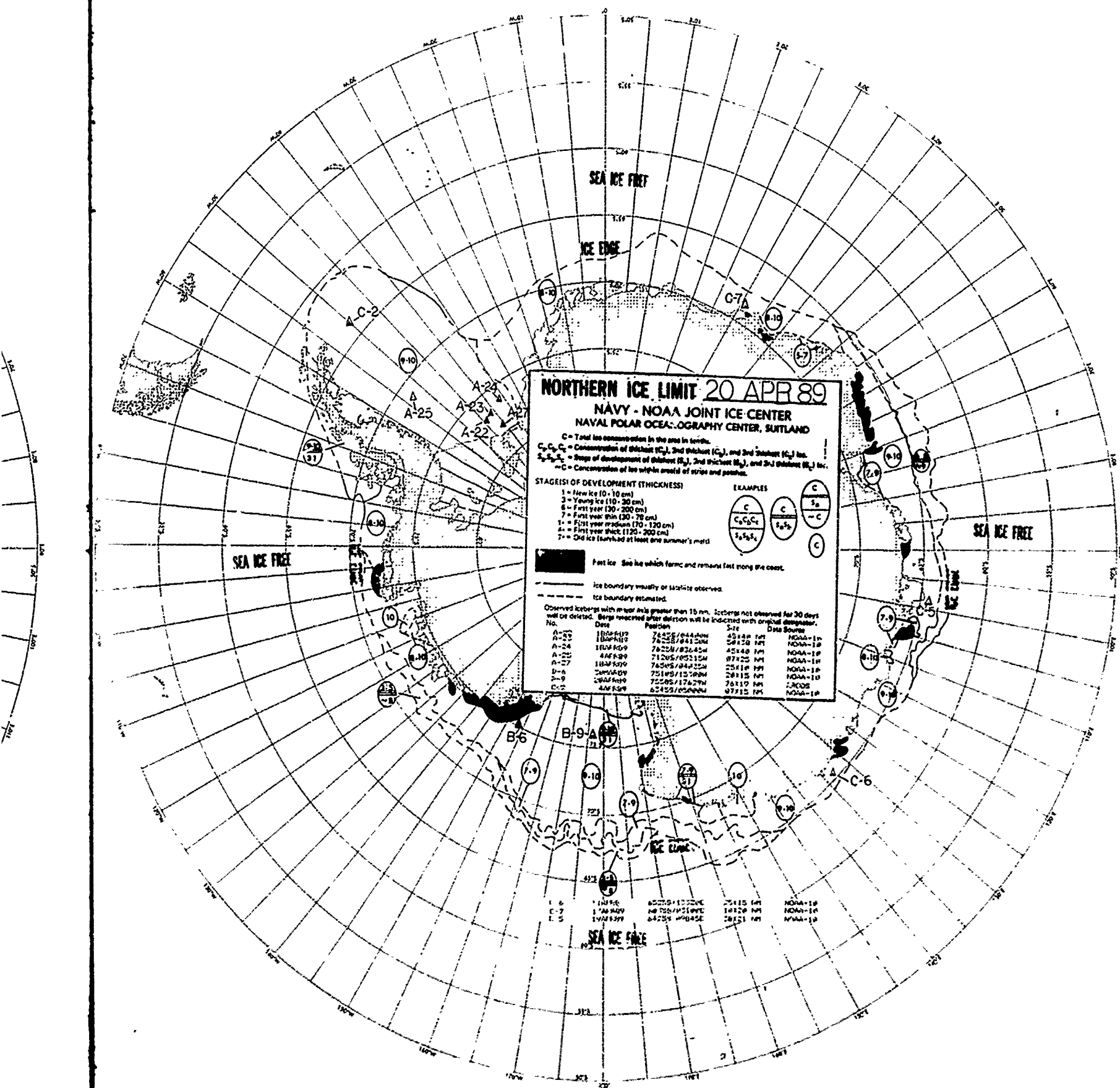
Ice boundary estimated.

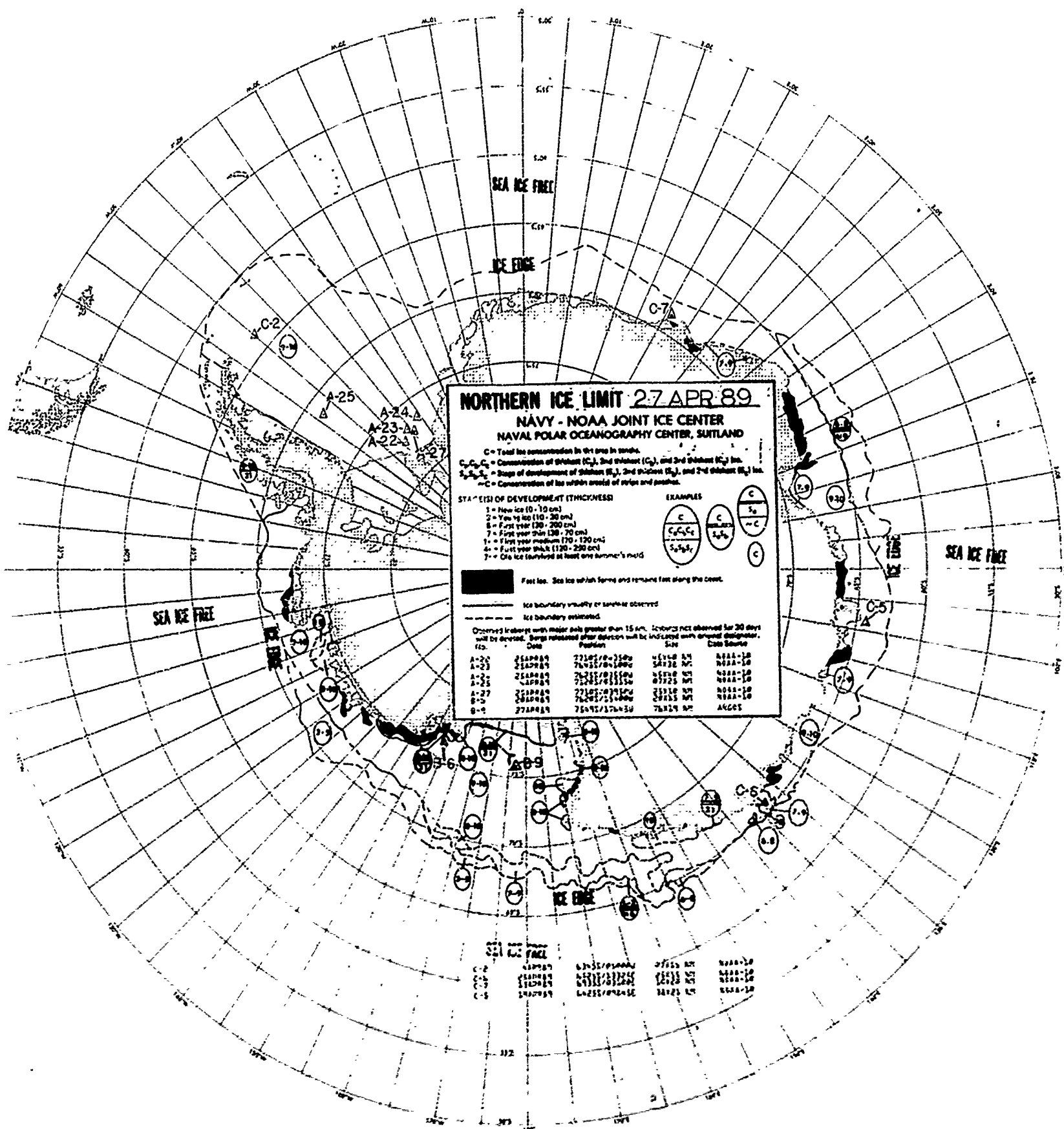
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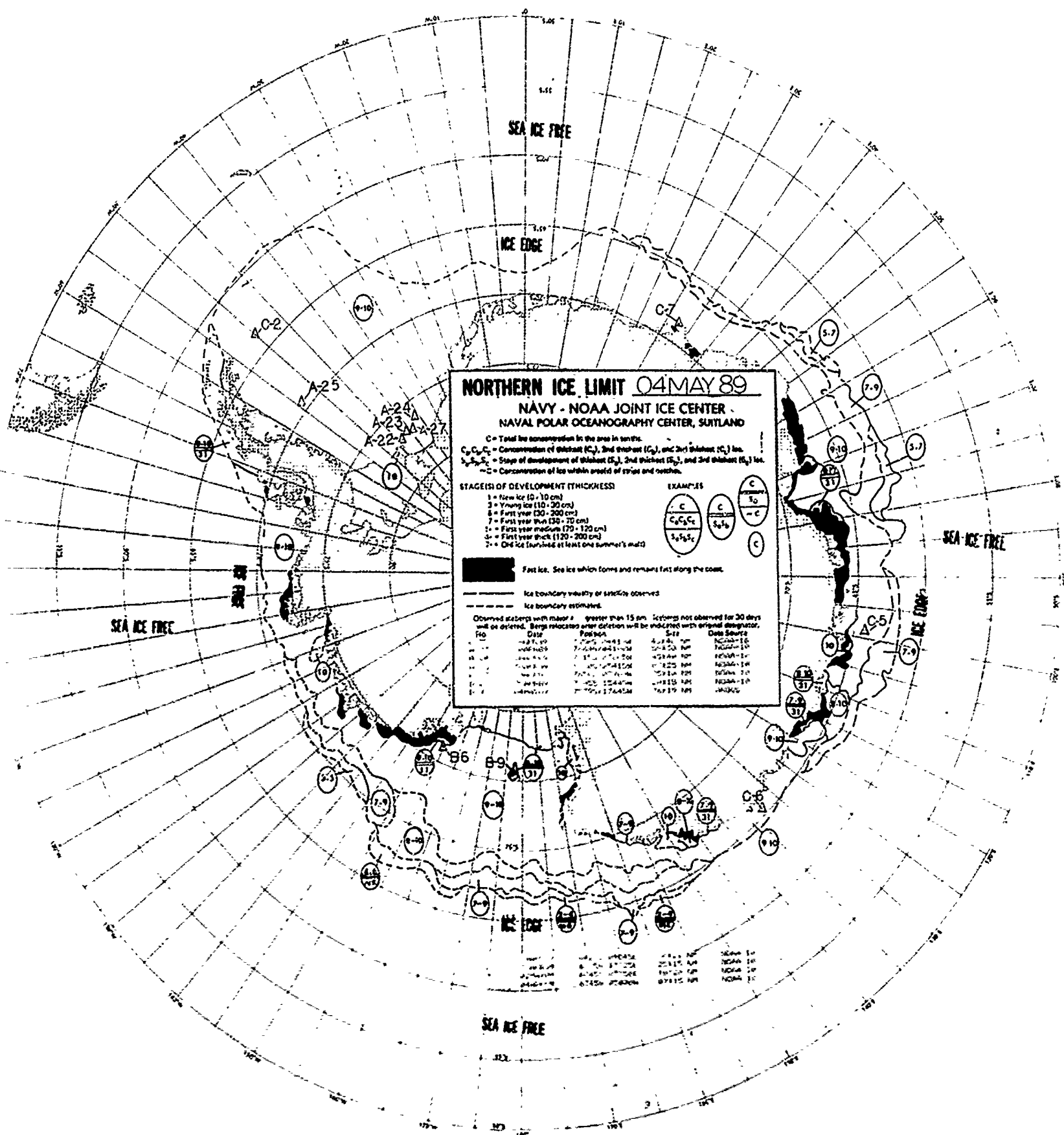
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A-24	27MAR89	74298/0352N	45148 NM	NOAA-18
A-25	23MAR89	72498/0552N	87125 NM	NOAA-18
A-27	21MAR89	74508/0392N	25118 NM	NOAA-18
B-6	18MAR89	75298/1560N	26115 NM	NOAA-18
B-9	20MAR89	74278/1758N	74119 NM	ARCS
C-2	23MAR89	65558/0513N	87115 NM	NOAA-18
C-4	28MAR89	65298/1323N	25115 NM	NOAA-18
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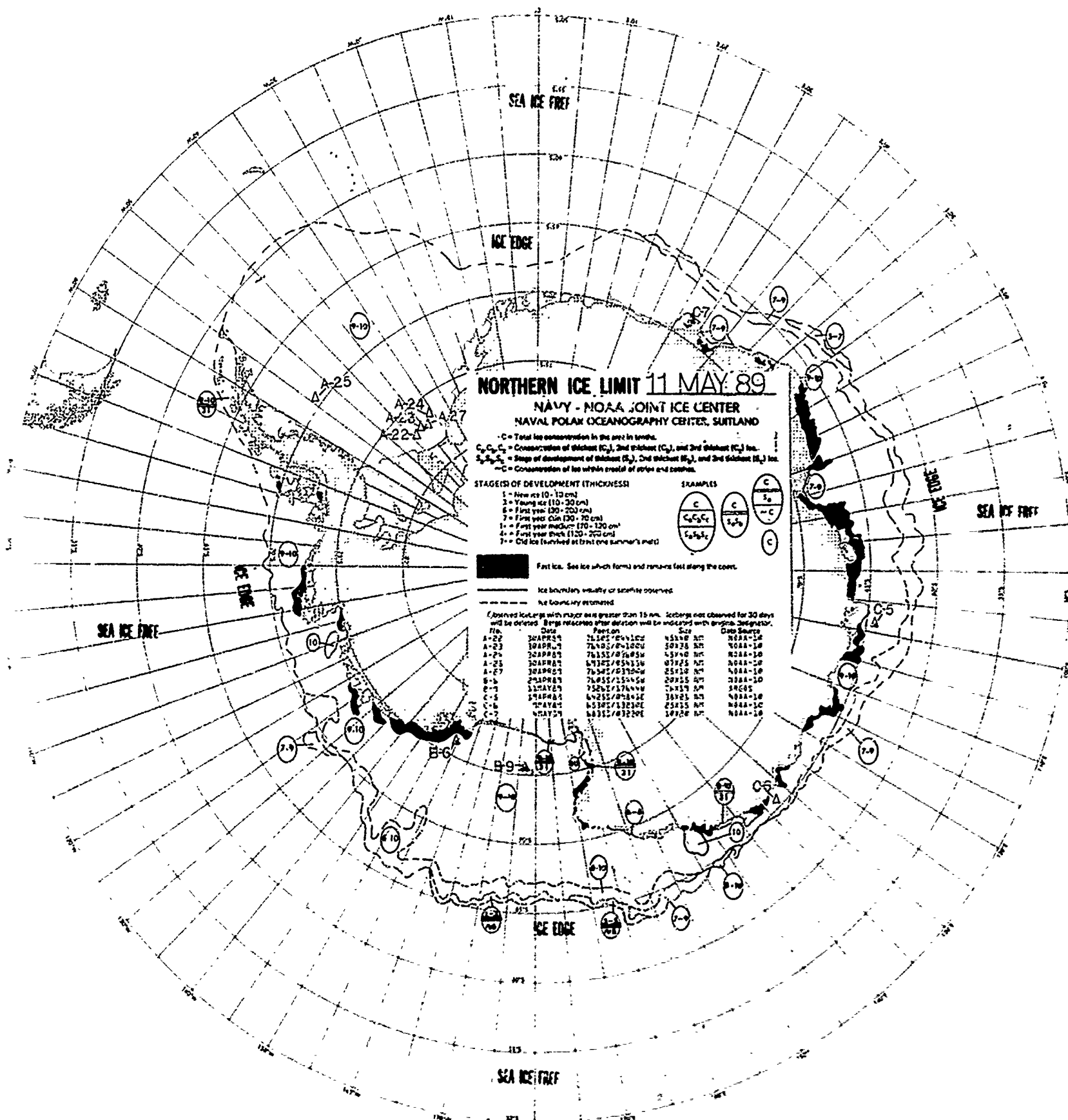












NORTHERN ICE LIMIT 11 MAY 89

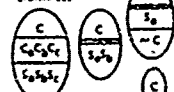
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NAVAL POLAR OCEANOGRAPHY CENTER, SUTLAND

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S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
C = Concentration of ice within coastal of slope and contour.

STAGES OF DEVELOPMENT (THICKNESS)

- 1 = New ice (10 - 12 cm)
- 2 = Young ice (12 - 20 cm)
- 3 = First year (20 - 30 cm)
- 4 = First year (30 - 40 cm)
- 5 = First year (40 - 50 cm)
- 6 = First year (50 - 60 cm)
- 7 = First year (60 - 70 cm)
- 8 = First year (70 - 80 cm)
- 9 = First year (80 - 90 cm)
- 10 = First year (90 - 100 cm)
- 11 = First year (100 - 120 cm)
- 12 = First year (120 - 140 cm)
- 13 = First year (140 - 160 cm)
- 14 = First year (160 - 180 cm)
- 15 = First year (180 - 200 cm)
- 16 = First year (200 - 220 cm)
- 17 = First year (220 - 240 cm)
- 18 = First year (240 - 260 cm)
- 19 = First year (260 - 280 cm)
- 20 = First year (280 - 300 cm)
- 21 = First year (300 - 320 cm)
- 22 = First year (320 - 340 cm)
- 23 = First year (340 - 360 cm)
- 24 = First year (360 - 380 cm)
- 25 = First year (380 - 400 cm)
- 26 = First year (400 - 420 cm)
- 27 = First year (420 - 440 cm)
- 28 = First year (440 - 460 cm)
- 29 = First year (460 - 480 cm)
- 30 = First year (480 - 500 cm)
- 31 = First year (500 - 520 cm)
- 32 = First year (520 - 540 cm)
- 33 = First year (540 - 560 cm)
- 34 = First year (560 - 580 cm)
- 35 = First year (580 - 600 cm)
- 36 = First year (600 - 620 cm)
- 37 = First year (620 - 640 cm)
- 38 = First year (640 - 660 cm)
- 39 = First year (660 - 680 cm)
- 40 = First year (680 - 700 cm)
- 41 = First year (700 - 720 cm)
- 42 = First year (720 - 740 cm)
- 43 = First year (740 - 760 cm)
- 44 = First year (760 - 780 cm)
- 45 = First year (780 - 800 cm)
- 46 = First year (800 - 820 cm)
- 47 = First year (820 - 840 cm)
- 48 = First year (840 - 860 cm)
- 49 = First year (860 - 880 cm)
- 50 = First year (880 - 900 cm)
- 51 = First year (900 - 920 cm)
- 52 = First year (920 - 940 cm)
- 53 = First year (940 - 960 cm)
- 54 = First year (960 - 980 cm)
- 55 = First year (980 - 1000 cm)
- 56 = First year (1000 - 1020 cm)
- 57 = First year (1020 - 1040 cm)
- 58 = First year (1040 - 1060 cm)
- 59 = First year (1060 - 1080 cm)
- 60 = First year (1080 - 1100 cm)
- 61 = First year (1100 - 1120 cm)
- 62 = First year (1120 - 1140 cm)
- 63 = First year (1140 - 1160 cm)
- 64 = First year (1160 - 1180 cm)
- 65 = First year (1180 - 1200 cm)
- 66 = First year (1200 - 1220 cm)
- 67 = First year (1220 - 1240 cm)
- 68 = First year (1240 - 1260 cm)
- 69 = First year (1260 - 1280 cm)
- 70 = First year (1280 - 1300 cm)
- 71 = First year (1300 - 1320 cm)
- 72 = First year (1320 - 1340 cm)
- 73 = First year (1340 - 1360 cm)
- 74 = First year (1360 - 1380 cm)
- 75 = First year (1380 - 1400 cm)
- 76 = First year (1400 - 1420 cm)
- 77 = First year (1420 - 1440 cm)
- 78 = First year (1440 - 1460 cm)
- 79 = First year (1460 - 1480 cm)
- 80 = First year (1480 - 1500 cm)
- 81 = First year (1500 - 1520 cm)
- 82 = First year (1520 - 1540 cm)
- 83 = First year (1540 - 1560 cm)
- 84 = First year (1560 - 1580 cm)
- 85 = First year (1580 - 1600 cm)
- 86 = First year (1600 - 1620 cm)
- 87 = First year (1620 - 1640 cm)
- 88 = First year (1640 - 1660 cm)
- 89 = First year (1660 - 1680 cm)
- 90 = First year (1680 - 1700 cm)
- 91 = First year (1700 - 1720 cm)
- 92 = First year (1720 - 1740 cm)
- 93 = First year (1740 - 1760 cm)
- 94 = First year (1760 - 1780 cm)
- 95 = First year (1780 - 1800 cm)
- 96 = First year (1800 - 1820 cm)
- 97 = First year (1820 - 1840 cm)
- 98 = First year (1840 - 1860 cm)
- 99 = First year (1860 - 1880 cm)
- 100 = First year (1880 - 1900 cm)

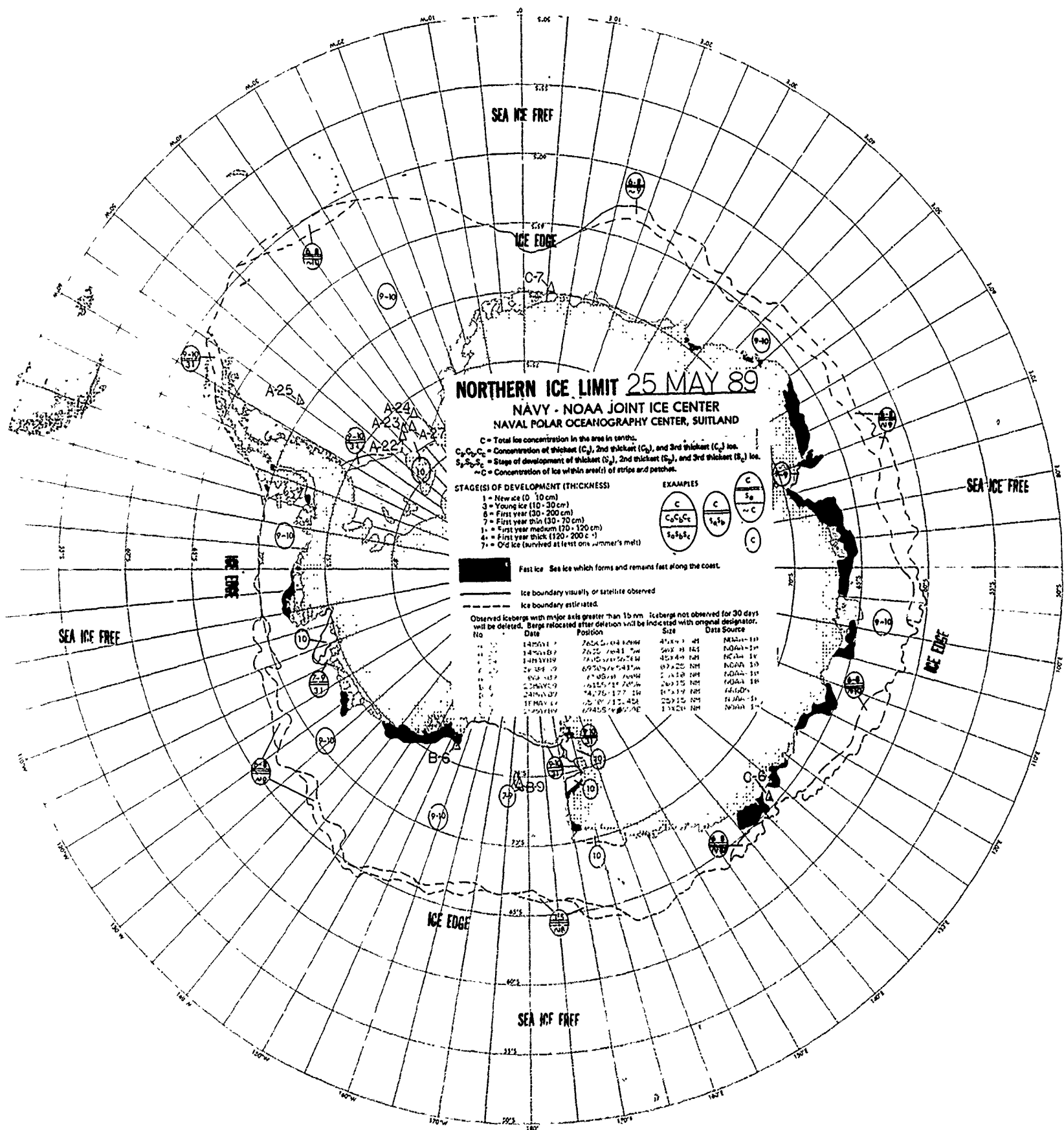
EXAMPLES

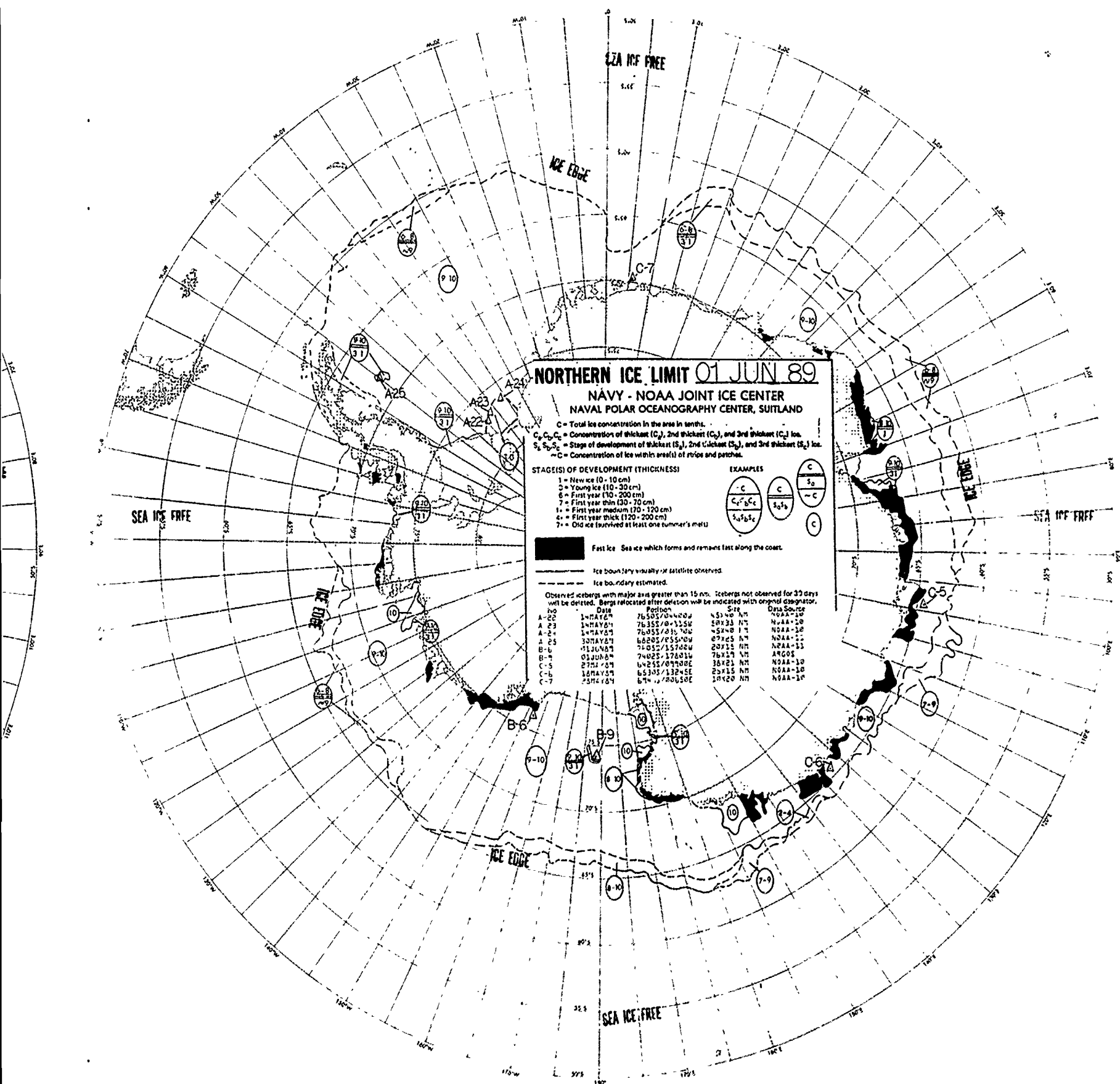


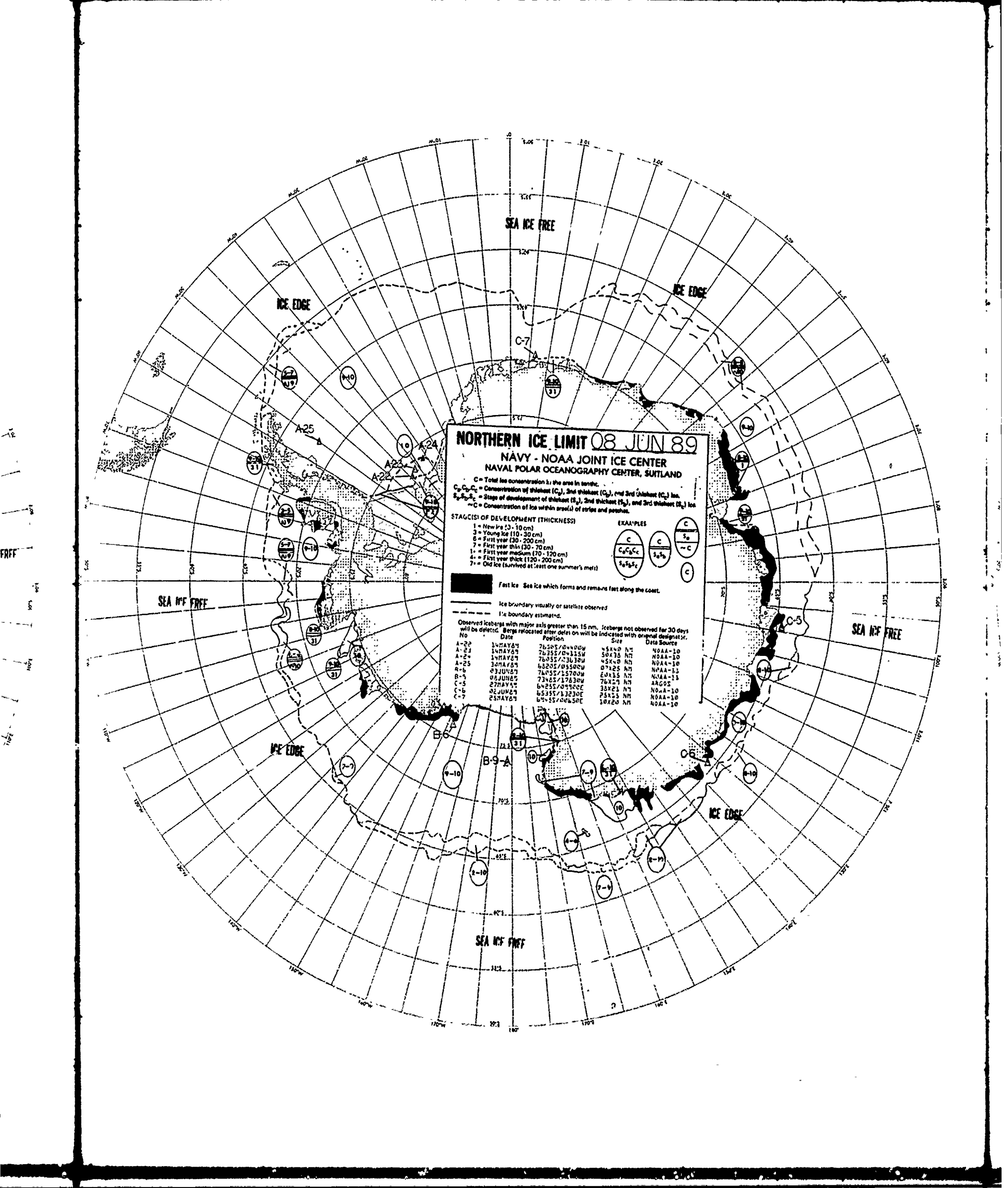
First ice. See ice which forms and remains fast along the coast.
Ice boundary visually or satellite observed.
Ice boundary estimated.

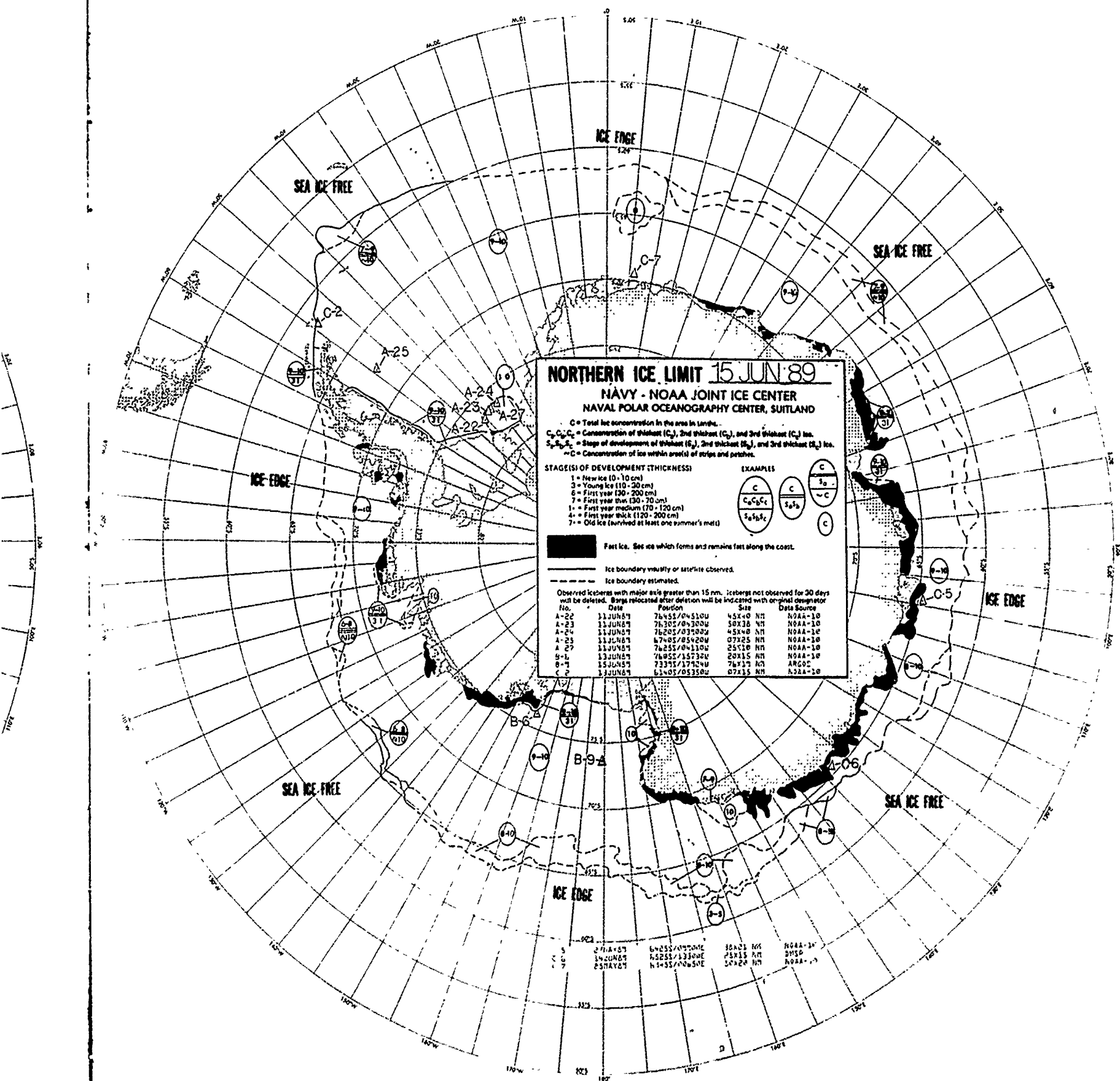
Observed icebergs with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Berge released after deletion will be indicated with original designation.

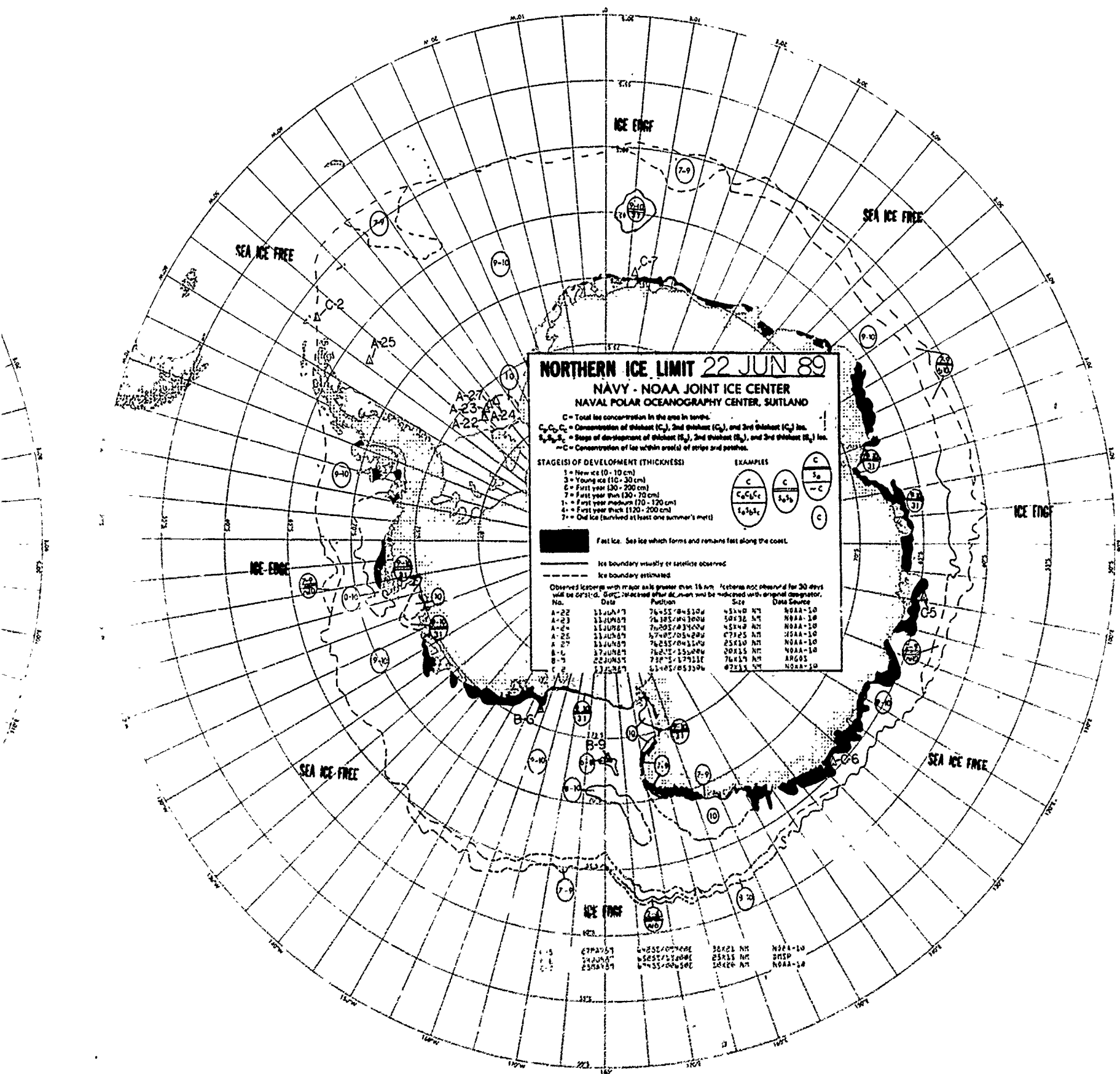
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A-22	30 APR 89	76 105 / 05 41 N	15300 NM	NOAA-10
A-23	30 APR 89	76 055 / 05 10 N	30725 NM	NOAA-10
A-24	30 APR 89	76 155 / 05 05 N	15700 NM	NOAA-10
A-25	30 APR 89	76 155 / 05 15 N	07825 NM	NOAA-10
A-27	30 APR 89	76 345 / 05 10 N	25110 NM	NOAA-10
B-6	29 APR 89	76 055 / 15 45 N	20725 NM	NOAA-10
B-9	13 MAY 89	76 255 / 15 45 N	70150 NM	NOAA-10
C-5	17 APR 89	66 255 / 07 45 E	36125 NM	NOAA-10
C-6	17 APR 89	65 305 / 13 21 E	25825 NM	NOAA-10
C-7	17 APR 89	66 315 / 03 20 E	10700 NM	NOAA-10

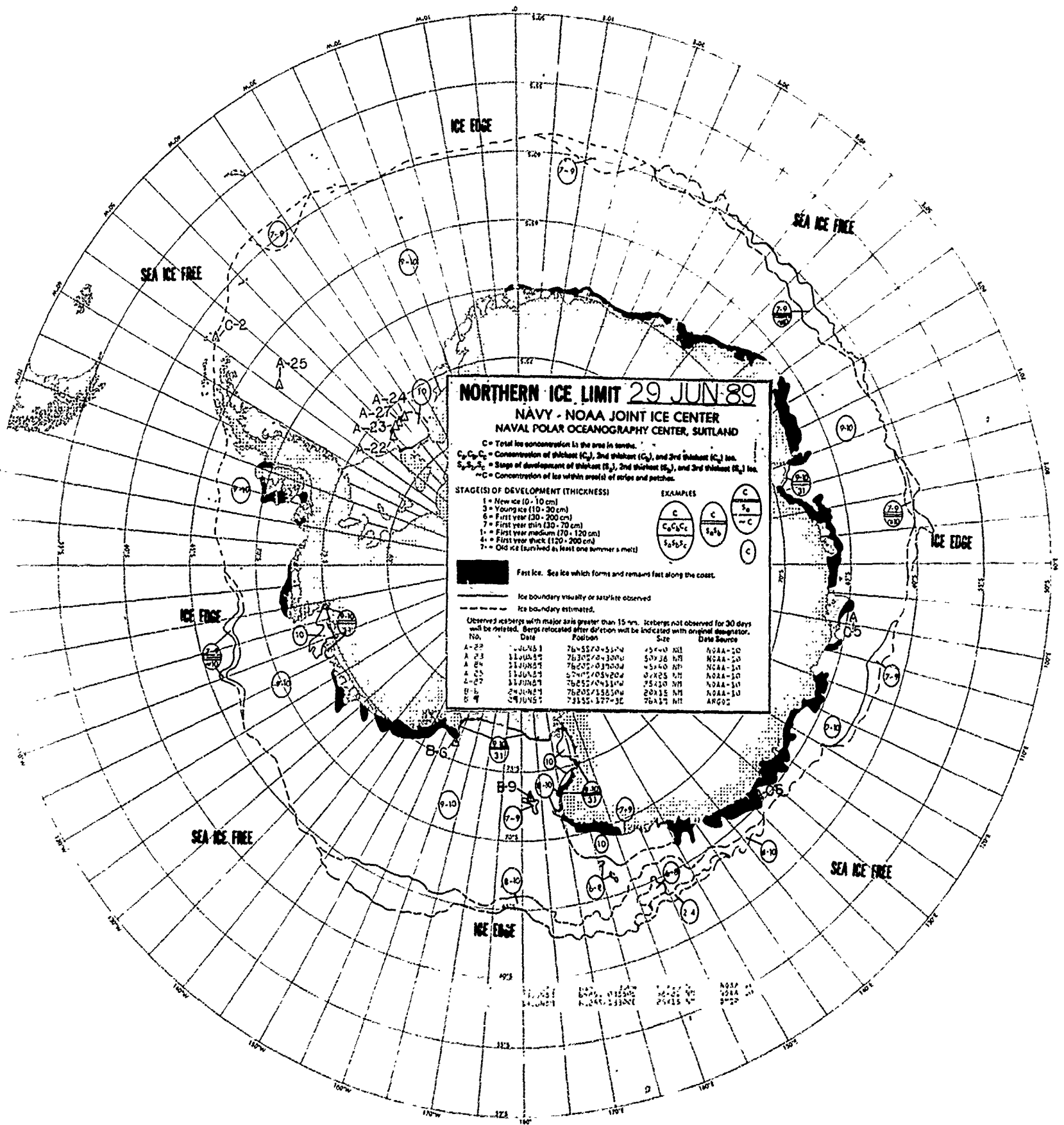


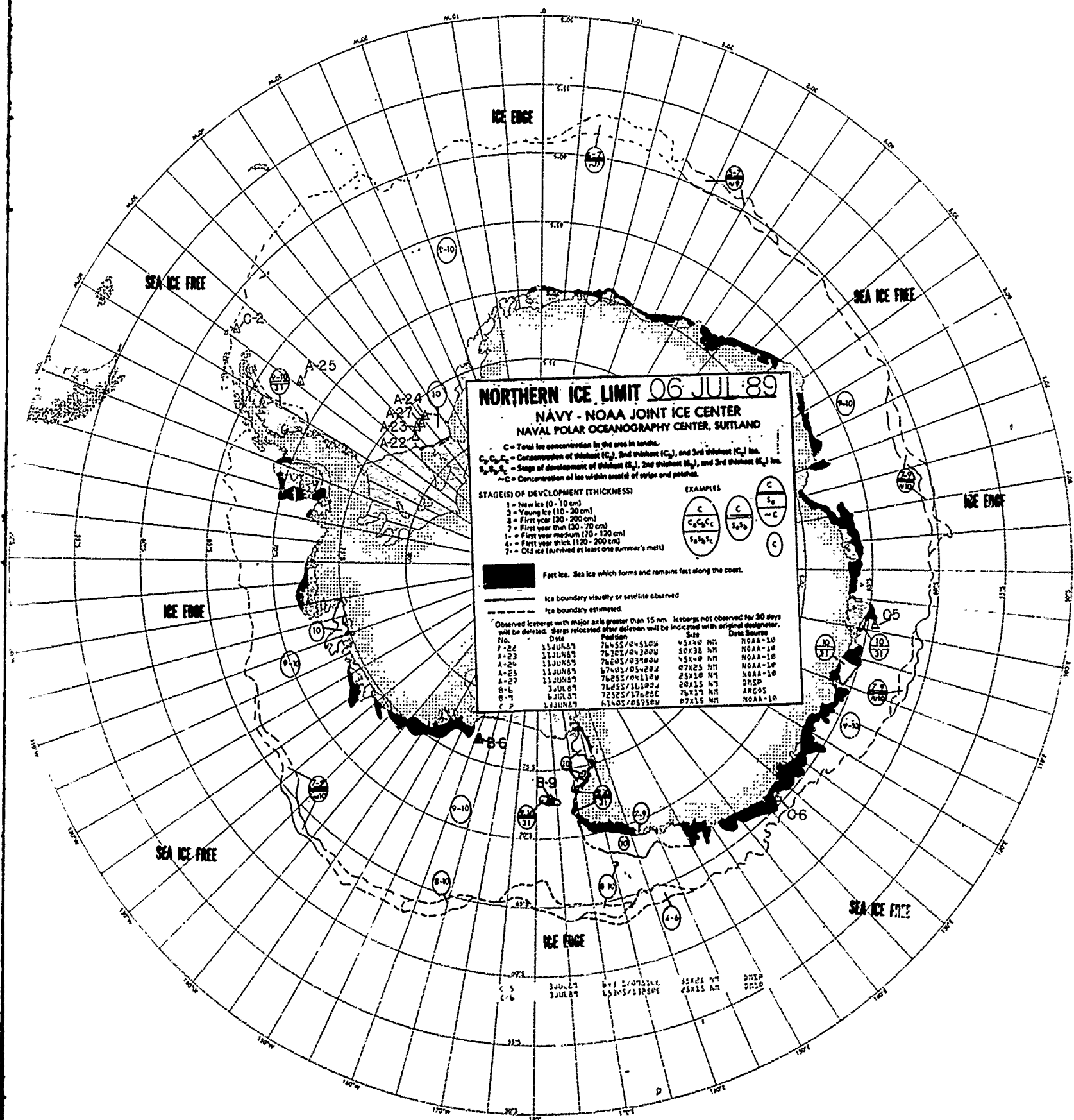


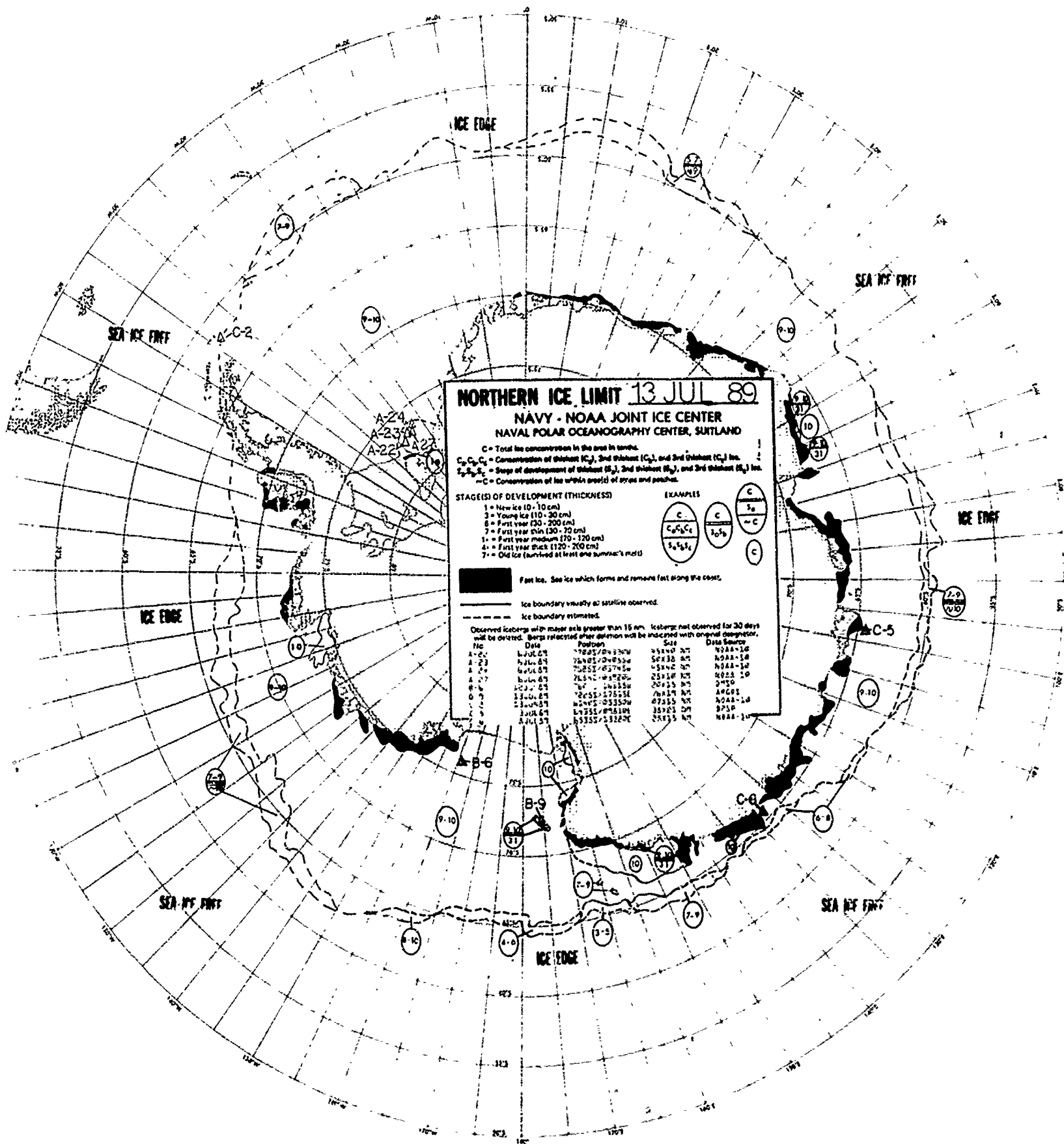


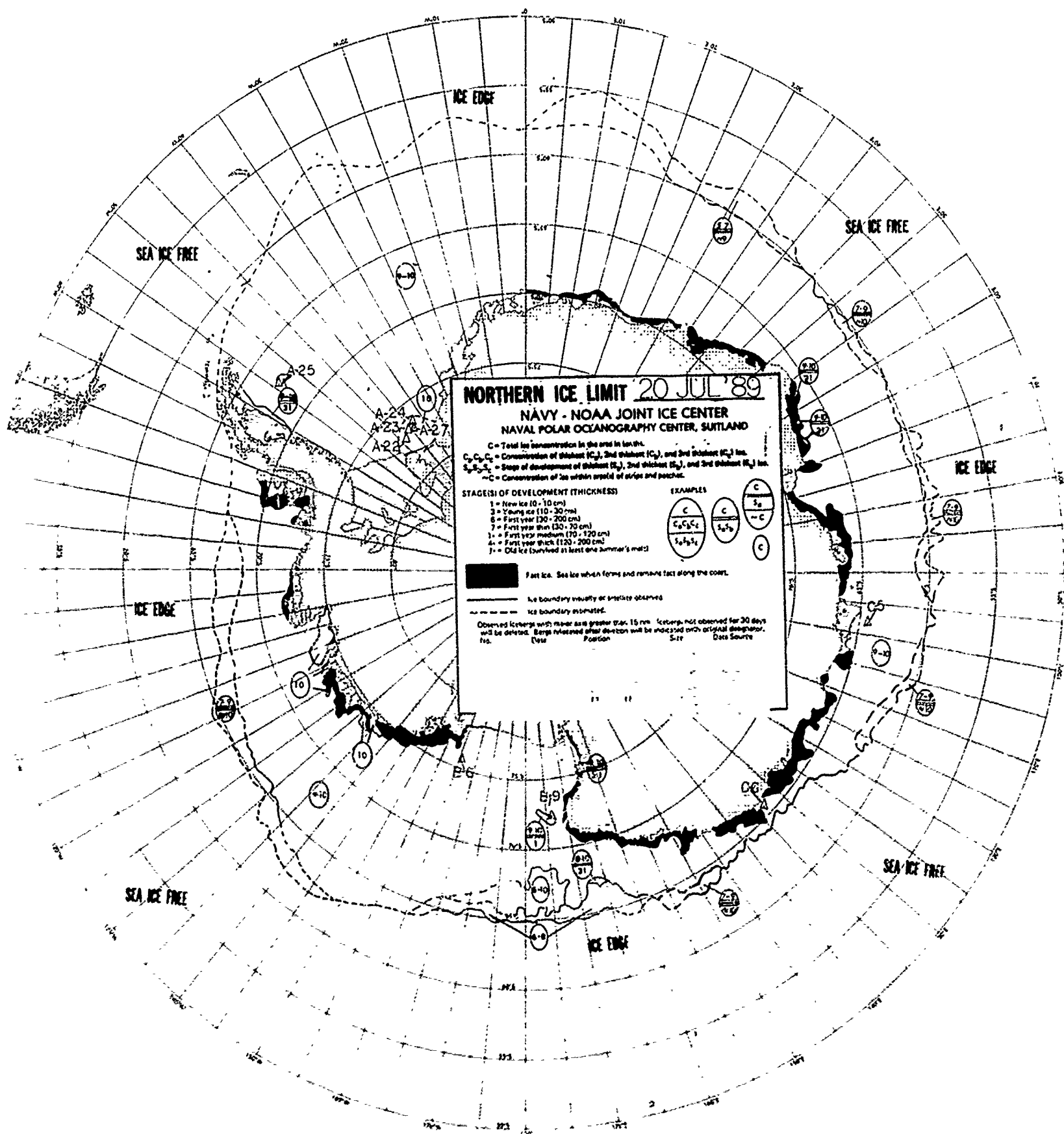


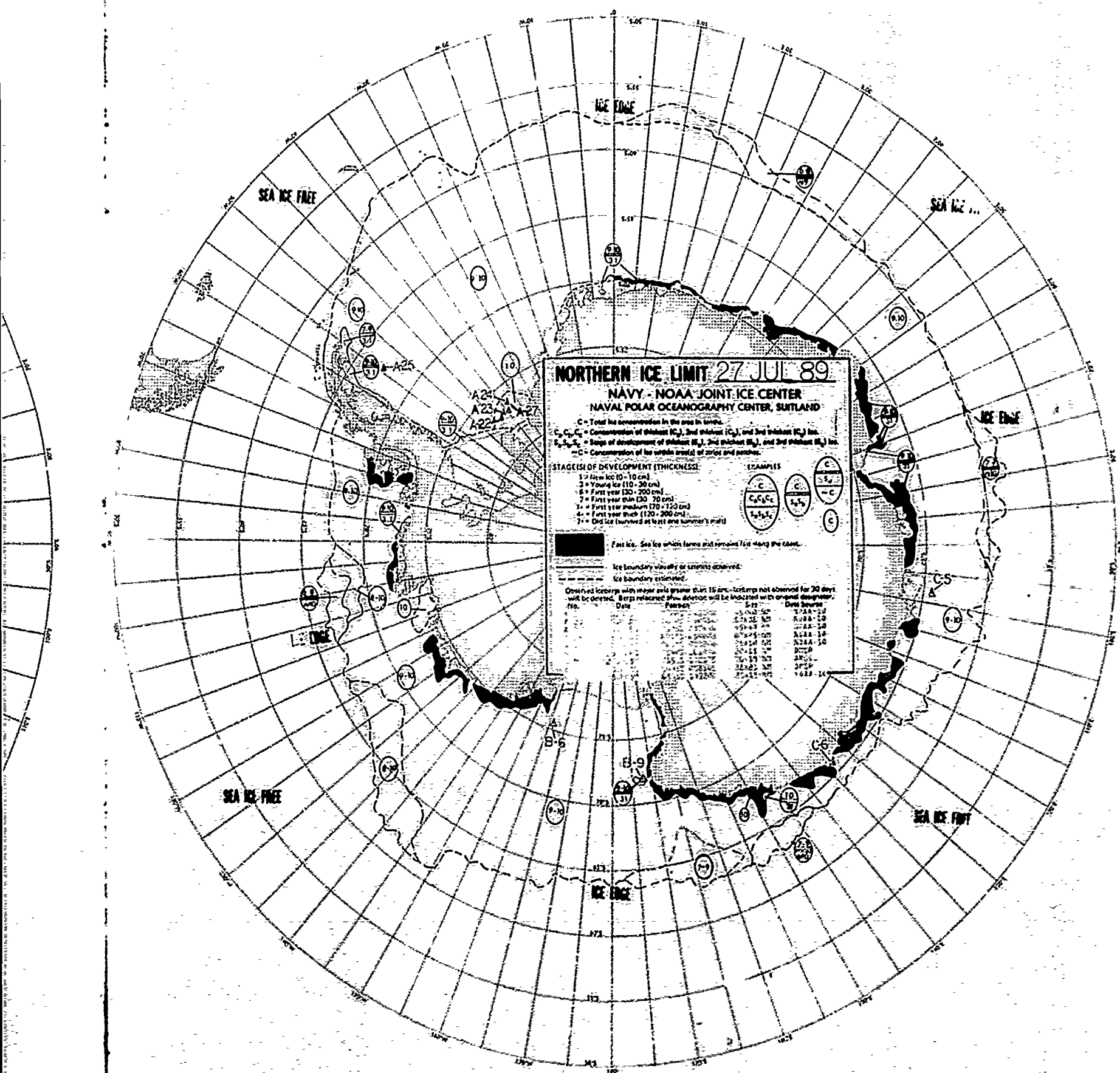


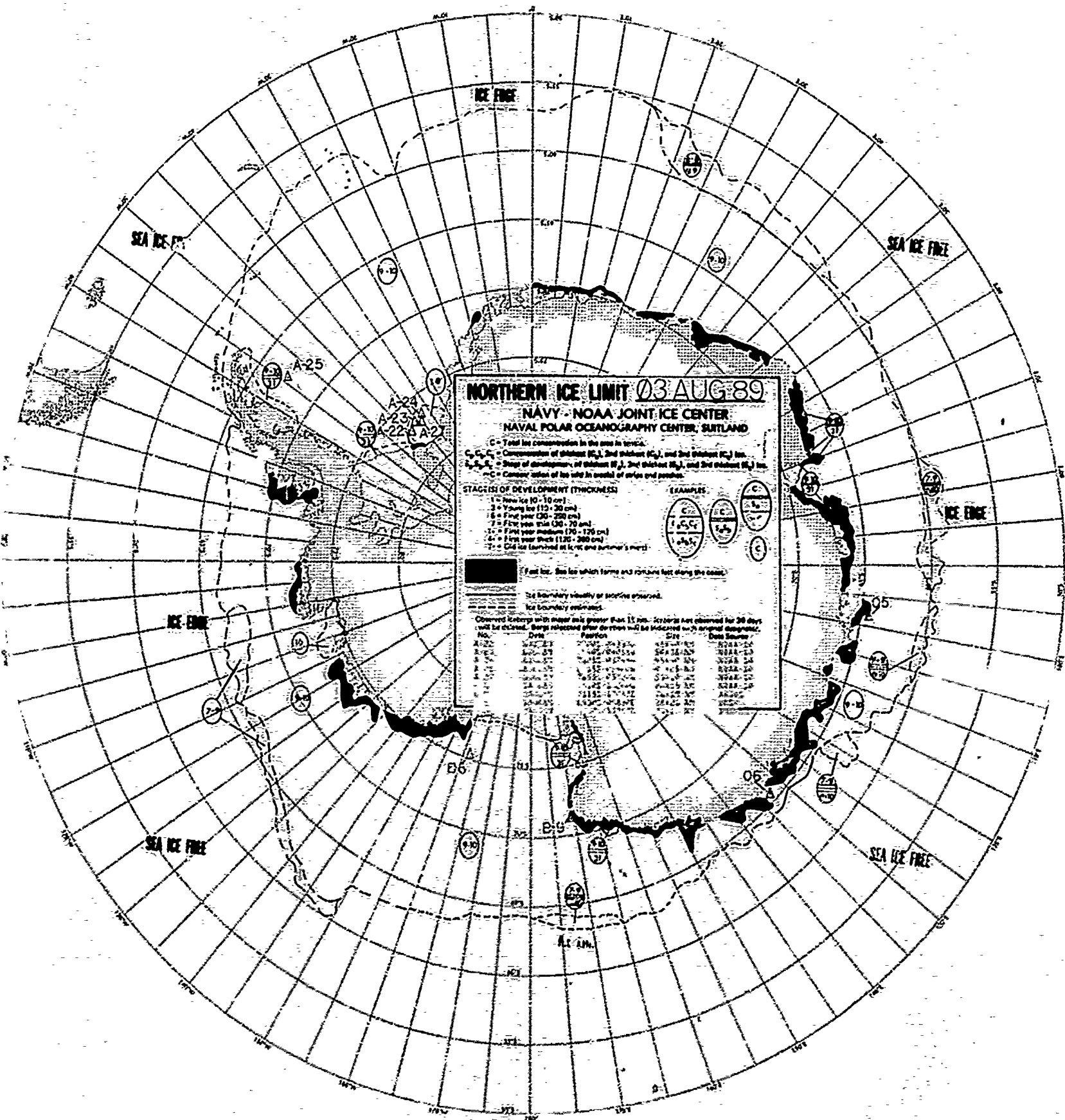


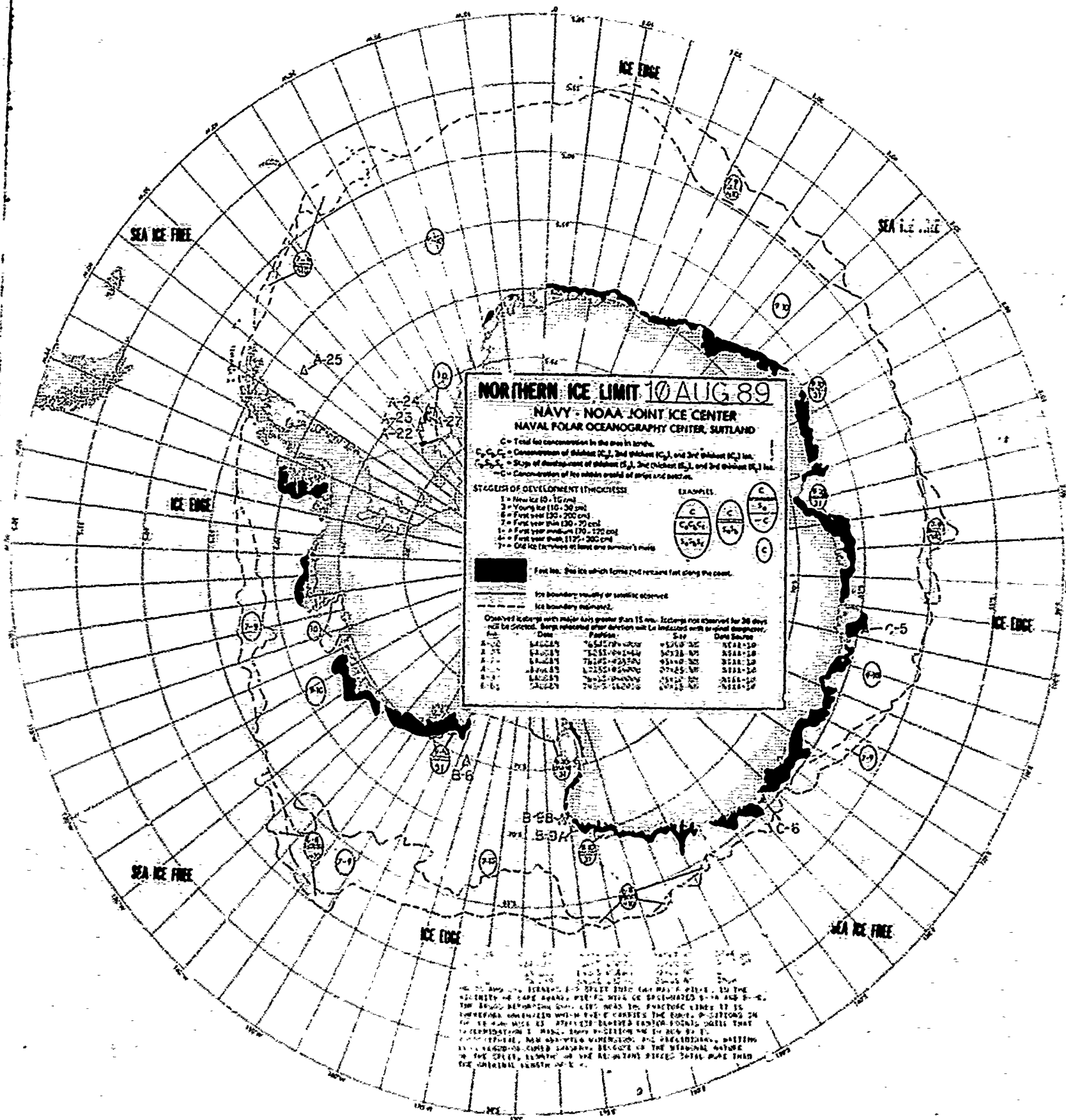


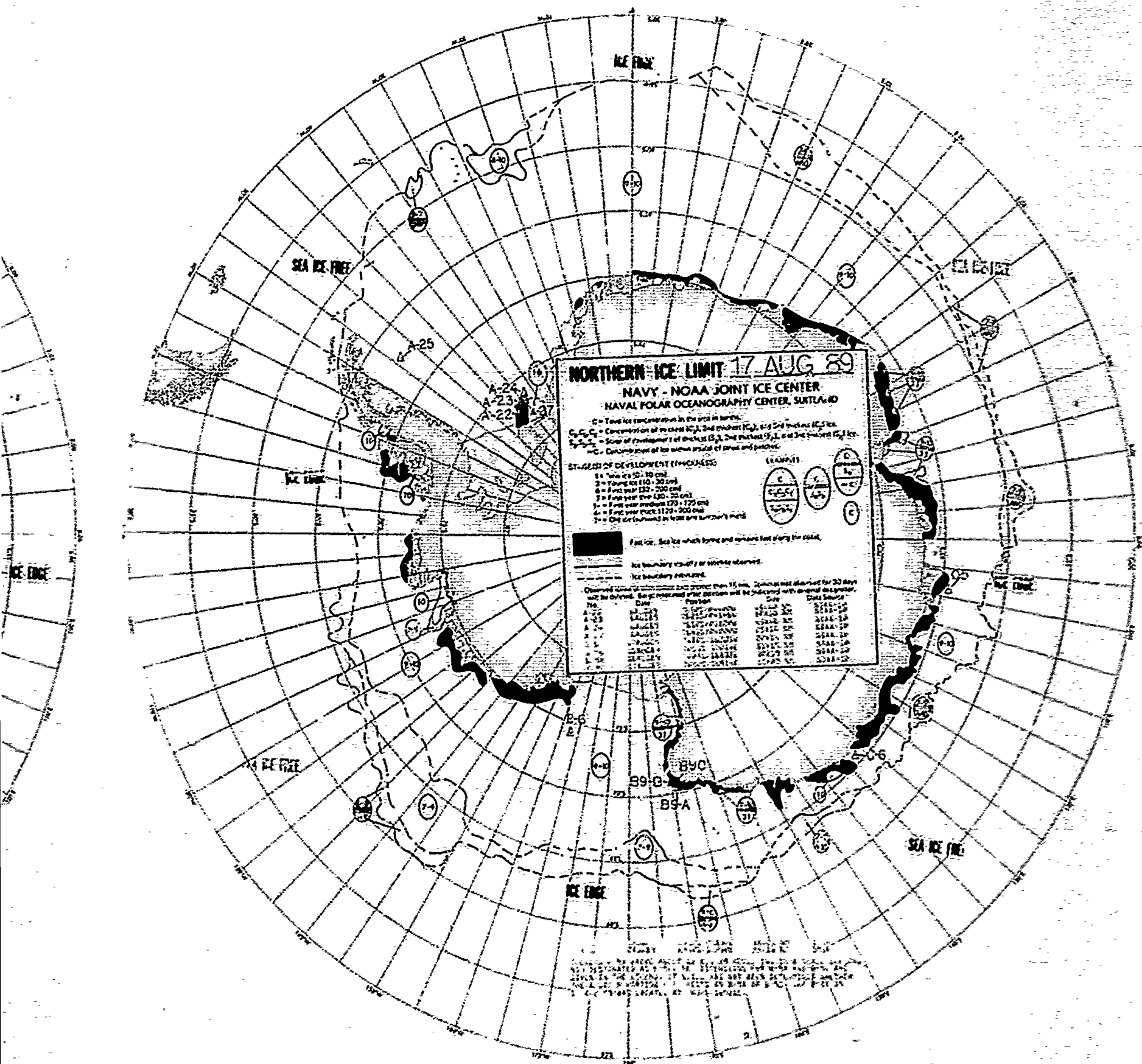


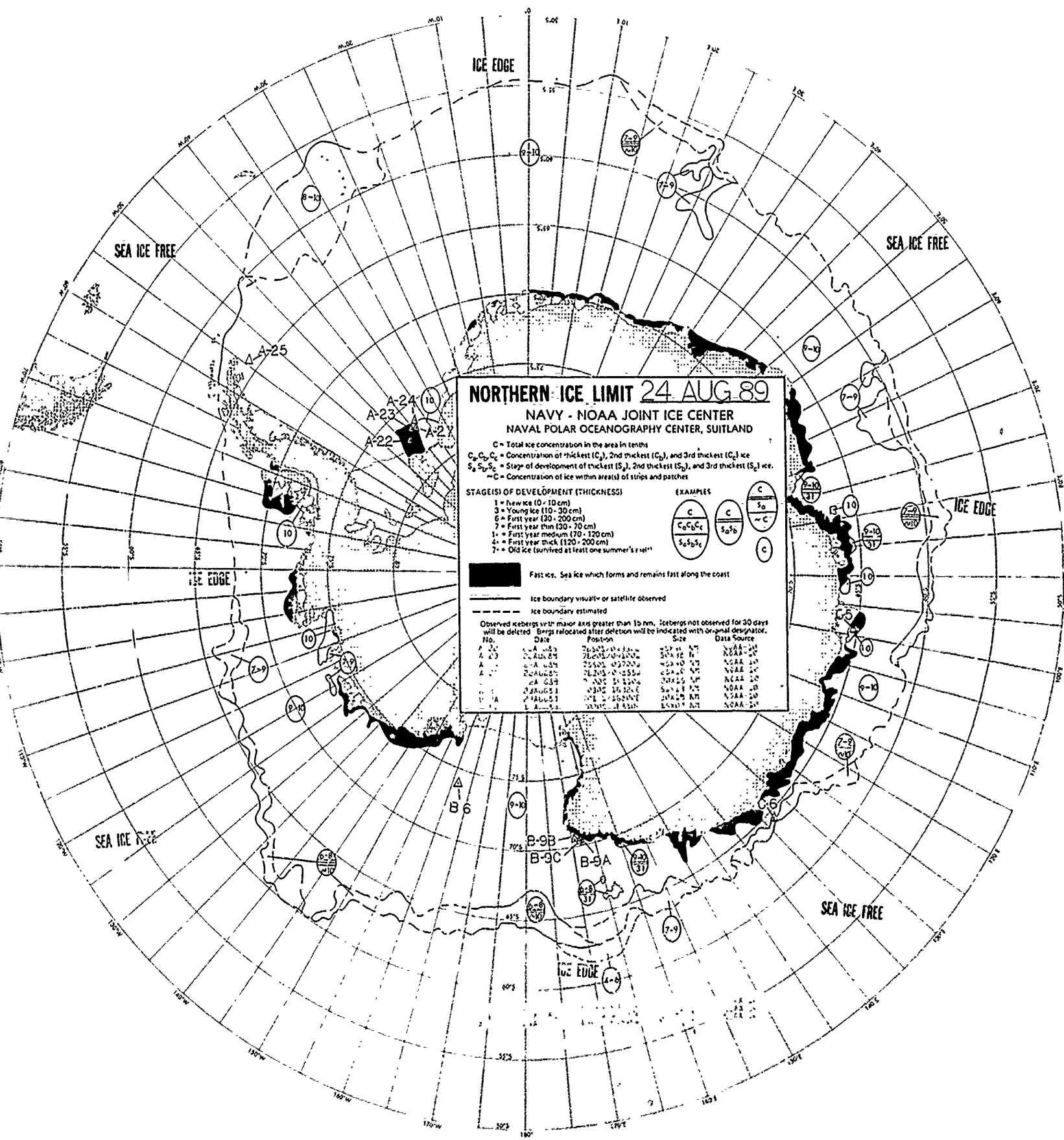












NORTHERN ICE LIMIT 24 AUG 89

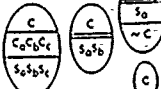
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND

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EXAMPLES



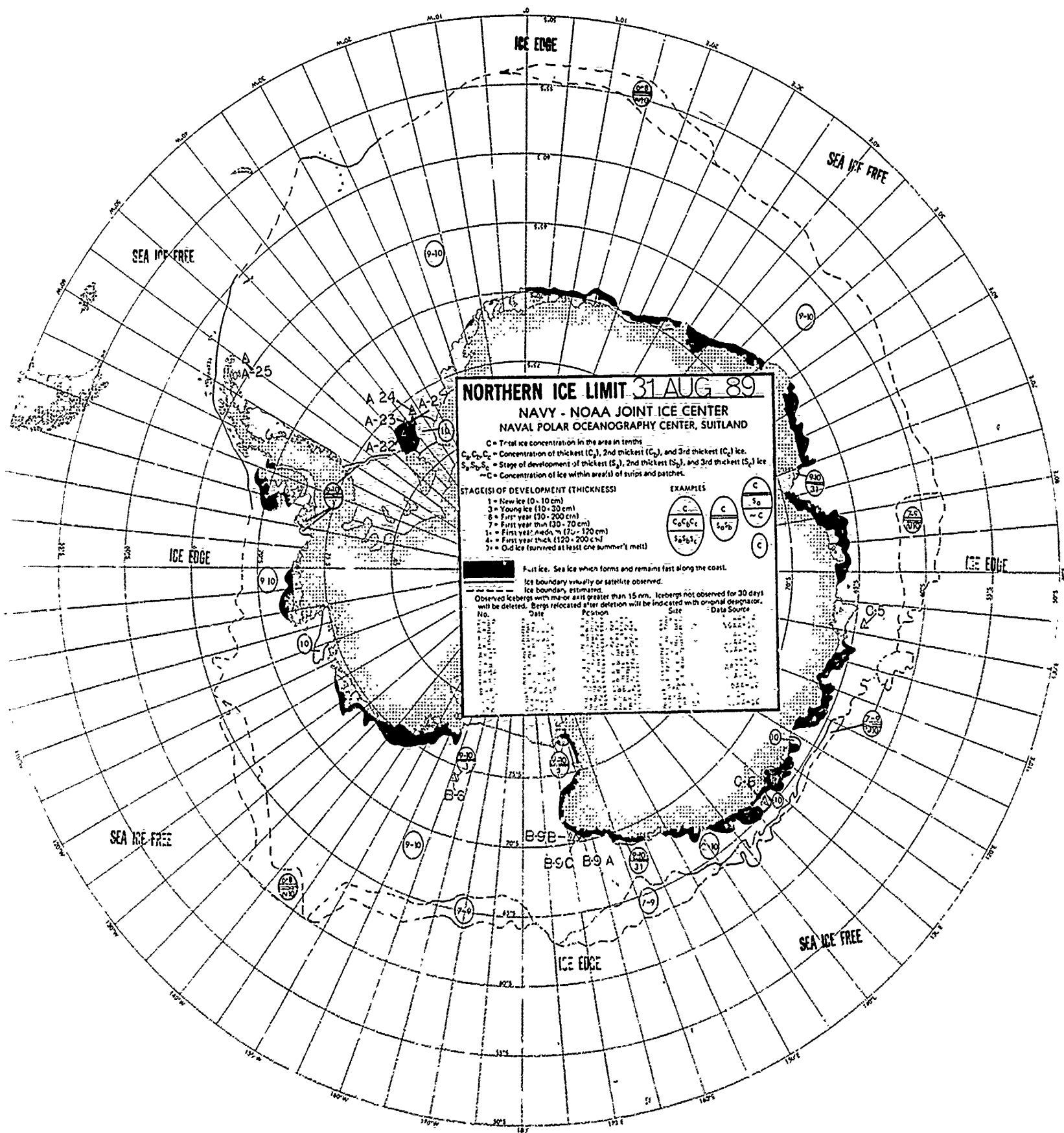
Fast ice. Sea ice which forms and remains fast along the coast

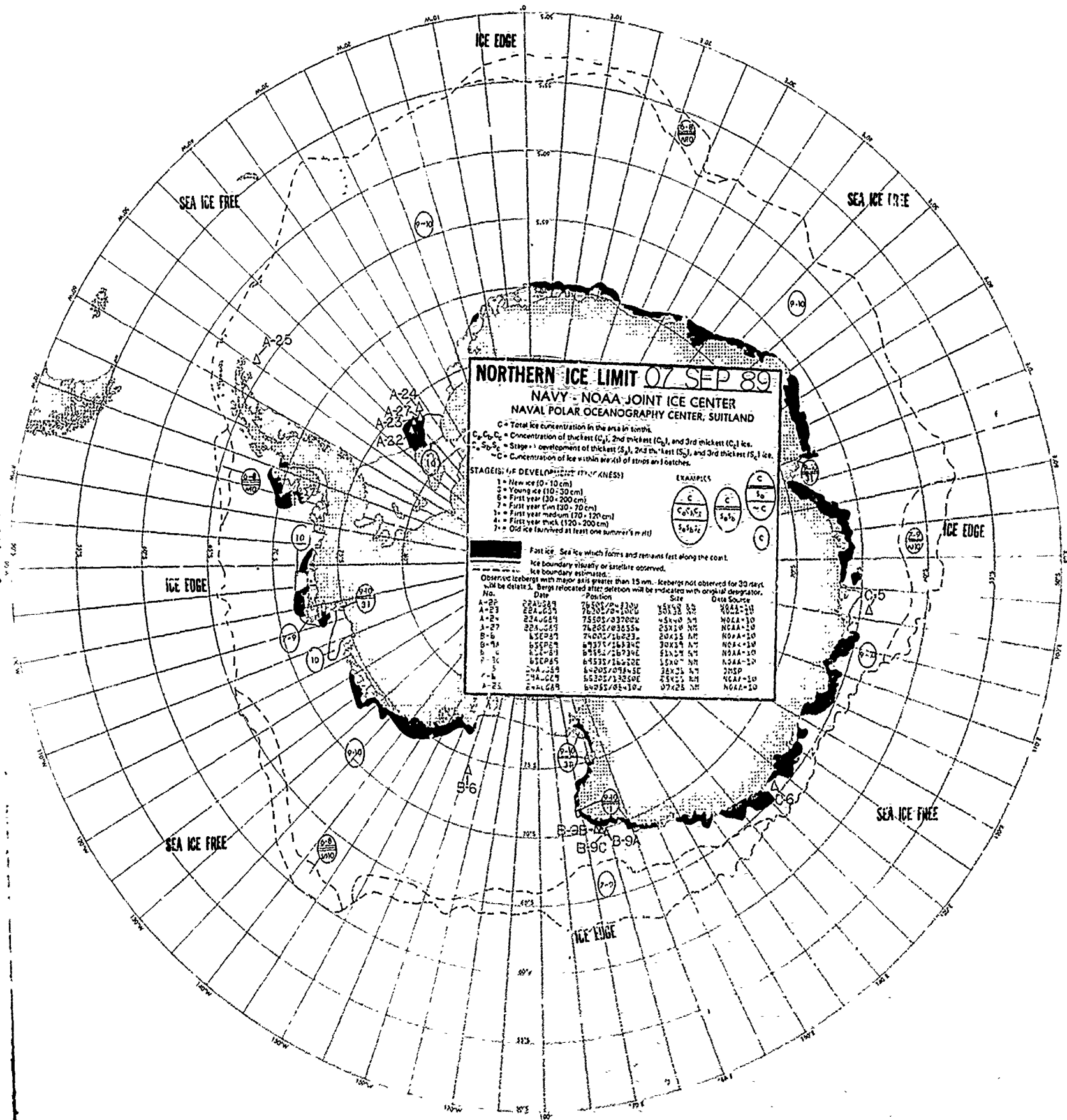
Ice boundary visual or satellite observed

Ice boundary estimated

Observed icebergs with major axis greater than 10 nm. Icebergs not observed for 30 days will be deleted. Bergs relocated after deletion will be indicated with original designator.

No.	Date	Position	Size	Data Source
A-22	24 AUG 89	71.5N 15.5W	250 x 100	NOAA
A-23	24 AUG 89	71.5N 15.5W	250 x 100	NOAA
A-24	24 AUG 89	71.5N 15.5W	250 x 100	NOAA
A-25	24 AUG 89	71.5N 15.5W	250 x 100	NOAA
B-6	24 AUG 89	71.5N 15.5W	250 x 100	NOAA
B-9B	24 AUG 89	71.5N 15.5W	250 x 100	NOAA
B-9C	24 AUG 89	71.5N 15.5W	250 x 100	NOAA
B-9A	24 AUG 89	71.5N 15.5W	250 x 100	NOAA
B-9	24 AUG 89	71.5N 15.5W	250 x 100	NOAA





NORTHERN ICE LIMIT 07 SEP 89

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

C = Total ice concentration in the area in tenths.
 C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
 S₁, S₂, S₃ = Stage 1 development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
 C = Concentration of ice within area(s) of strips and latches.

STAGES OF DEVELOPMENT (IN % AREA)

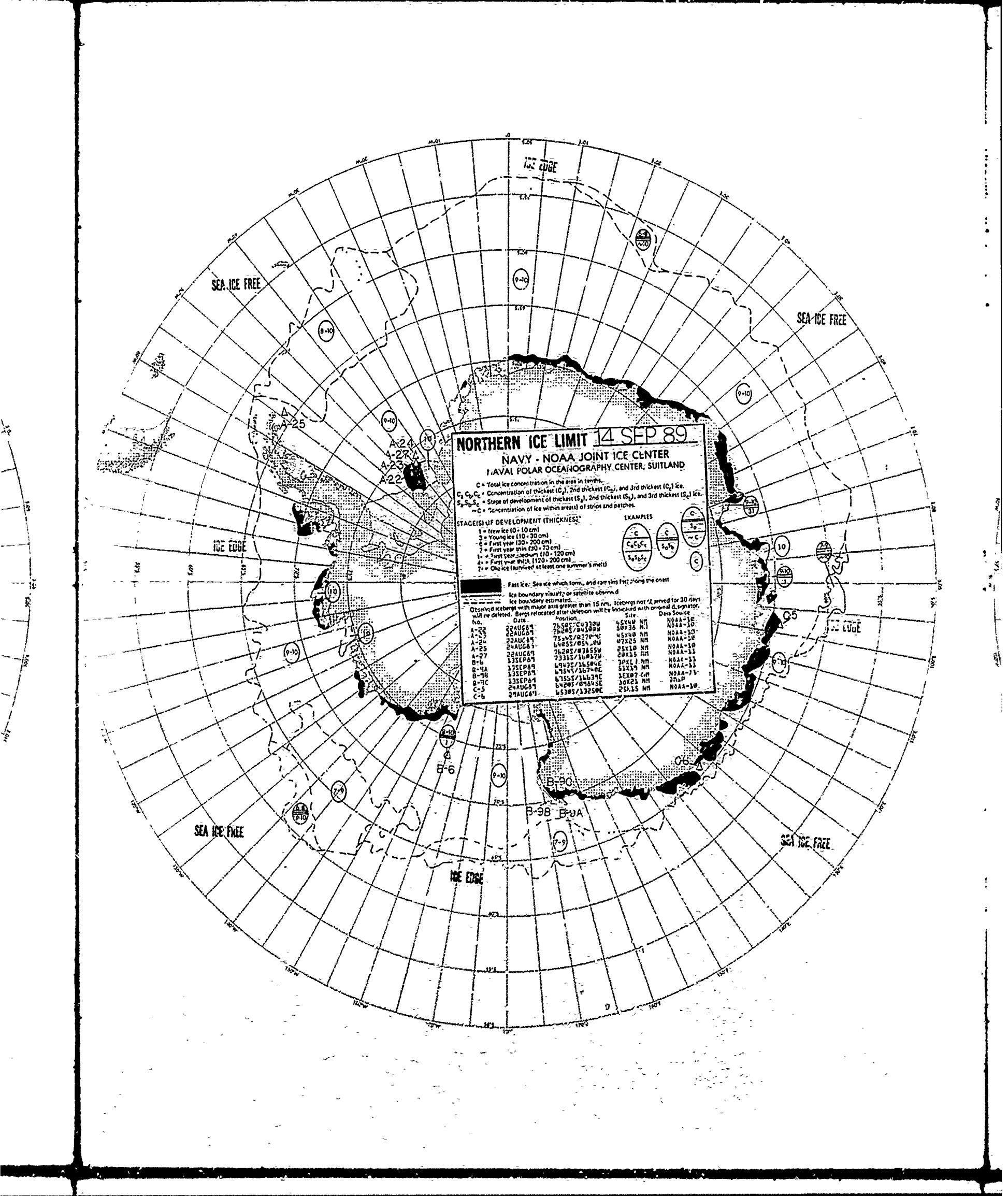
- 1 = New ice (0-10 cm)
- 2 = Young ice (10-30 cm)
- 3 = First year (30-200 cm)
- 4 = First year thin (20-70 cm)
- 5 = First year medium (70-120 cm)
- 6 = First year thick (120-200 cm)
- 7 = Old ice (survived at least one summer's melt)

EXAMPLES

$\frac{C}{C_1 C_2 C_3}$	$\frac{C}{S_1 S_2 S_3}$	$\frac{C}{C_1 C_2 C_3}$	$\frac{C}{S_1 S_2 S_3}$
$\frac{C}{S_1 S_2 S_3}$	$\frac{C}{C_1 C_2 C_3}$	$\frac{C}{S_1 S_2 S_3}$	$\frac{C}{C_1 C_2 C_3}$

Fast ice - Sea ice which forms and remains fast along the coast.
 Ice boundary visually or satellite observed.
 Ice boundary estimated.
 Observed icebergs with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Berge relocated after deletion will be indicated with original designator.

No.	Date	Position	Size	Data Source
A-25	22 AUG 89	76 505 / 04 1100	55X35 NM	NOAA-10
A-23	22 AUG 89	76 105 / 04 1000	45X30 NM	NOAA-10
A-24	23 AUG 89	75 505 / 03 0000	45X30 NM	NOAA-10
A-27	22 AUG 89	76 205 / 03 5500	25X15 NM	NOAA-10
B-6	6 SEP 89	74 005 / 16 0230	20X15 NM	NOAA-10
B-9A	6 SEP 89	67 375 / 16 3340	30X15 NM	NOAA-10
B-9C	6 SEP 89	67 555 / 16 3300	51X25 NM	NOAA-10
C-6	6 SEP 89	65 535 / 16 1200	15X10 NM	NOAA-10
C-7	6 SEP 89	64 205 / 07 0400	28X25 NM	NOAA-10
C-8	6 SEP 89	65 305 / 13 3300	28X25 NM	NOAA-10
C-9	6 SEP 89	64 555 / 08 1000	07X25 NM	NOAA-10



NORTHERN ICE LIMIT 14 SEP 89

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

C = Total ice concentration in the area in tenths.
 C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
 S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
 ~C = "Concentration of ice within areas of strips and patches."

STAGE(S) OF DEVELOPMENT (THICKNESS)

- 1 = New ice (10 - 10 cm)
- 2 = Young ice (10 - 30 cm)
- 3 = First year (30 - 200 cm)
- 4 = First year (100 - 120 cm)
- 5 = First year (120 - 200 cm)
- 6 = Old ice (survived at least one summer's melt)

EXAMPLES



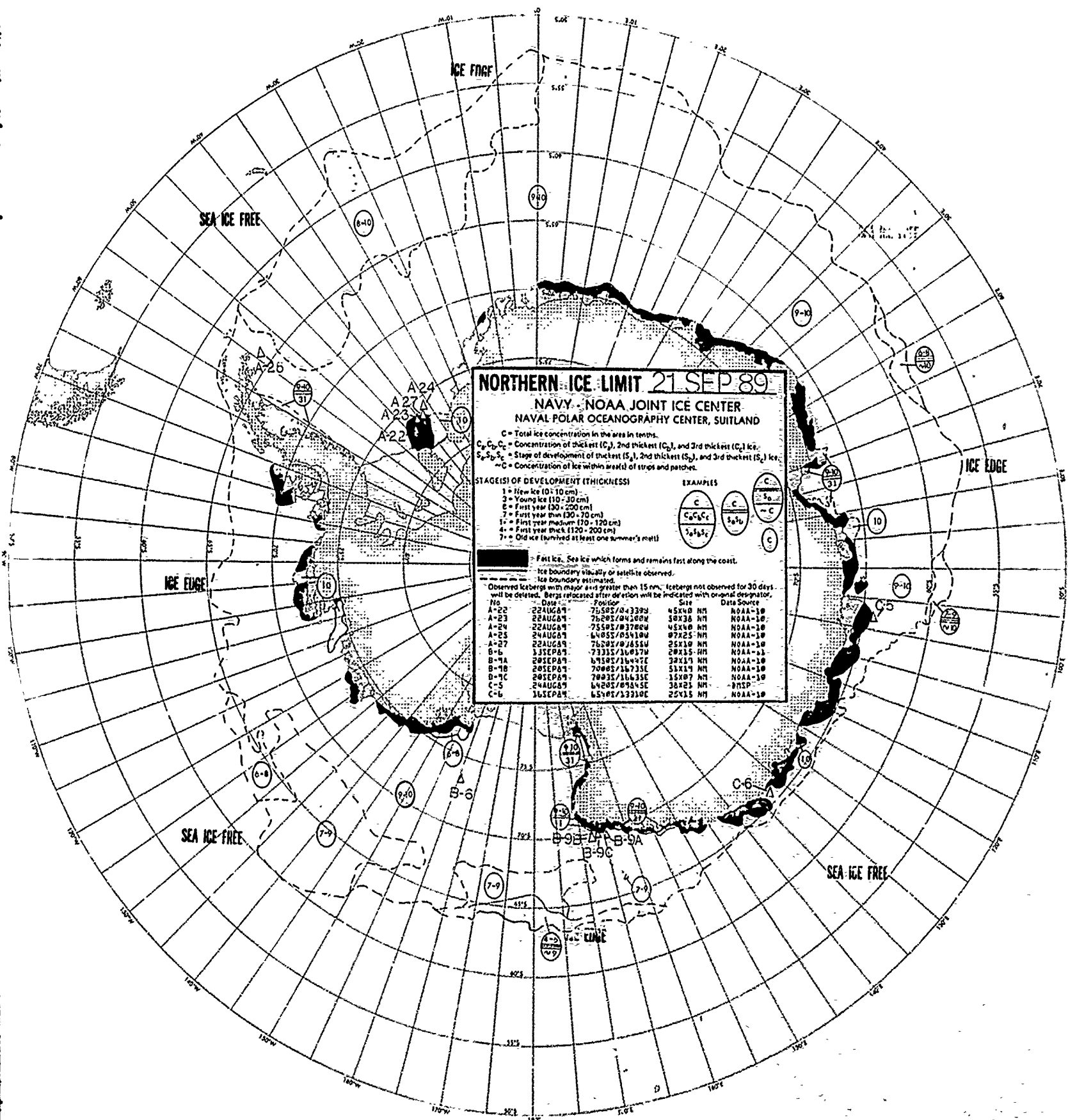
Fast ice: Sea ice which forms and remains fast along the coast

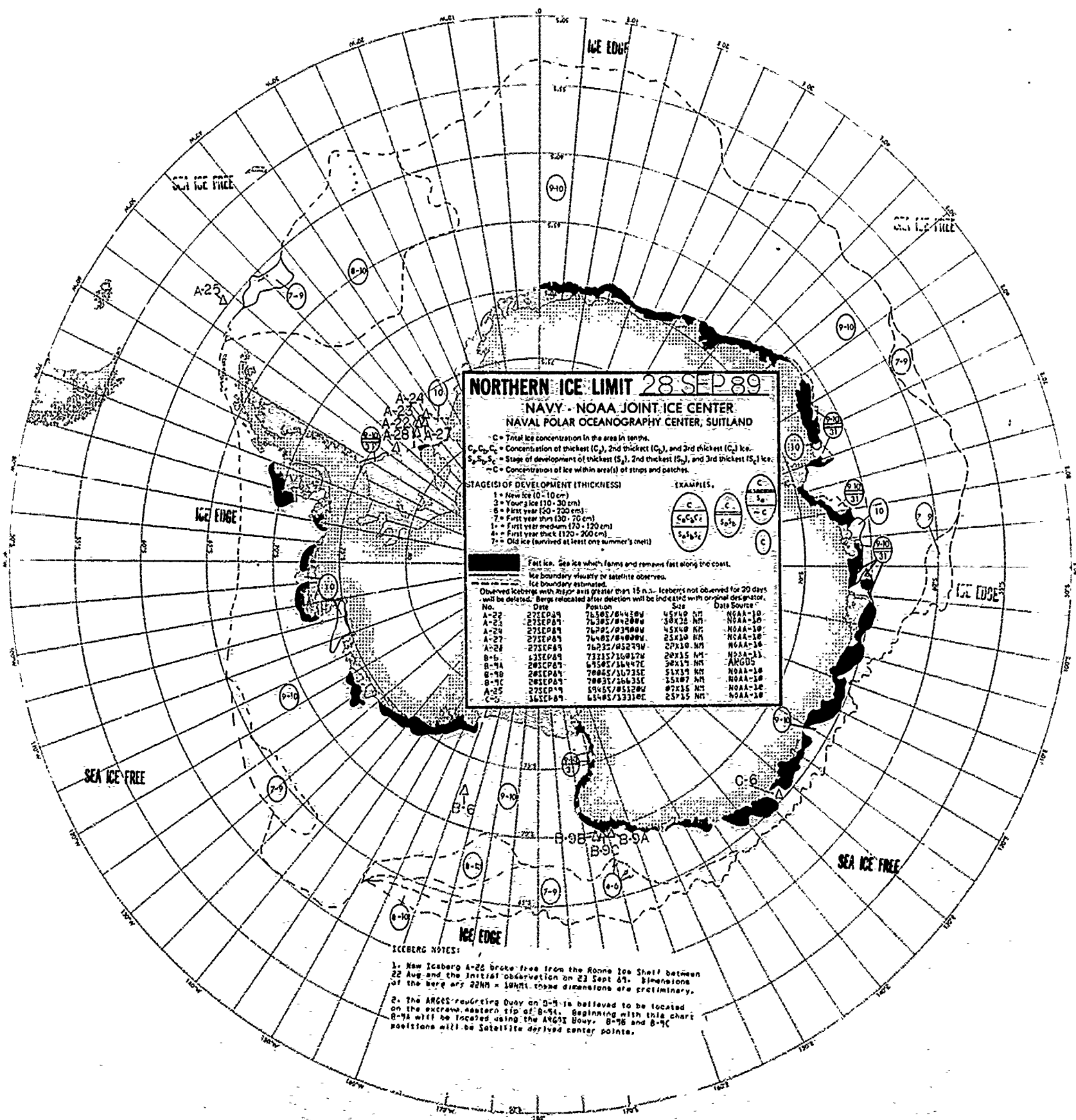
Ice boundary visually or satellite observed

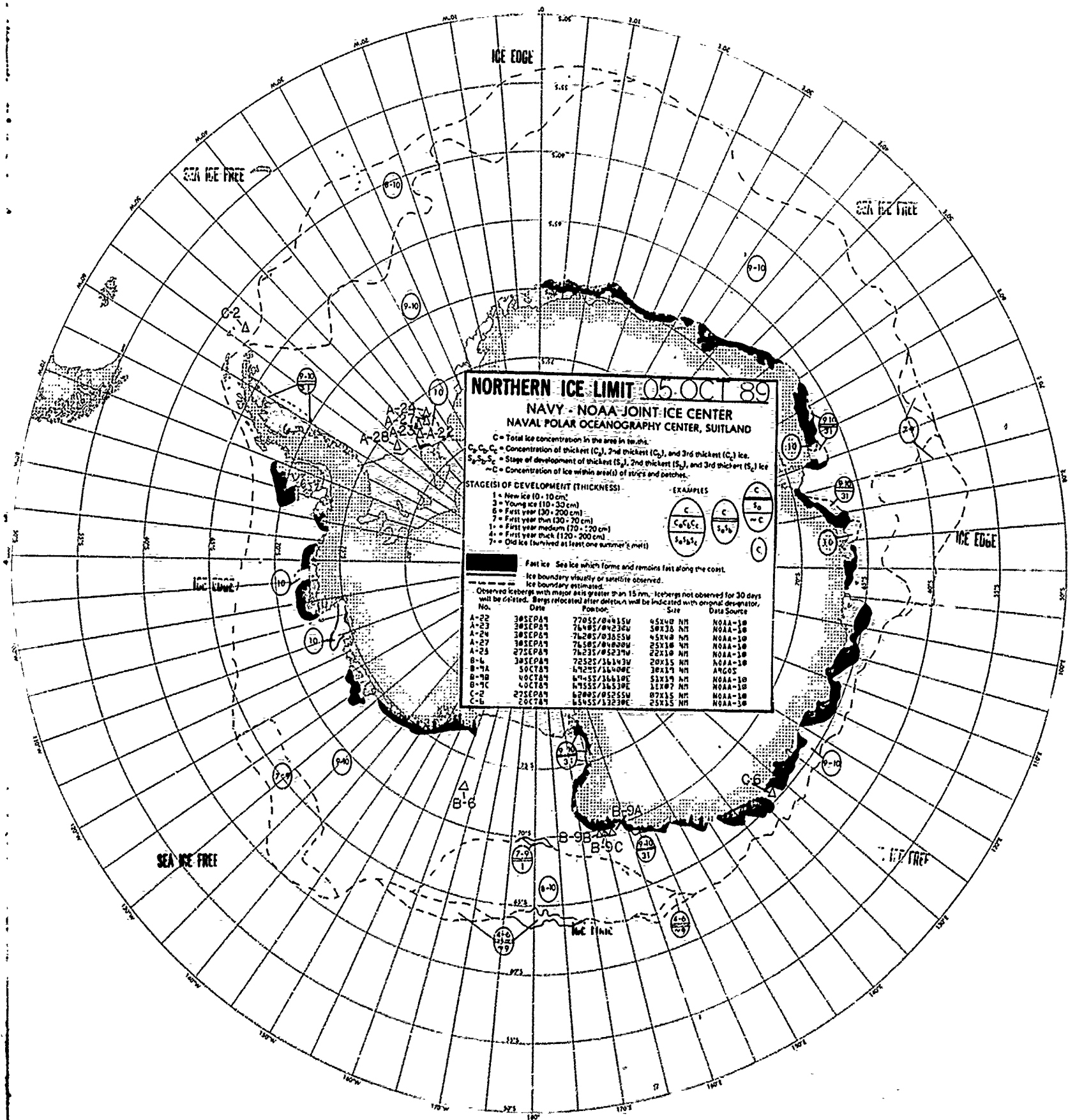
Ice boundary estimated

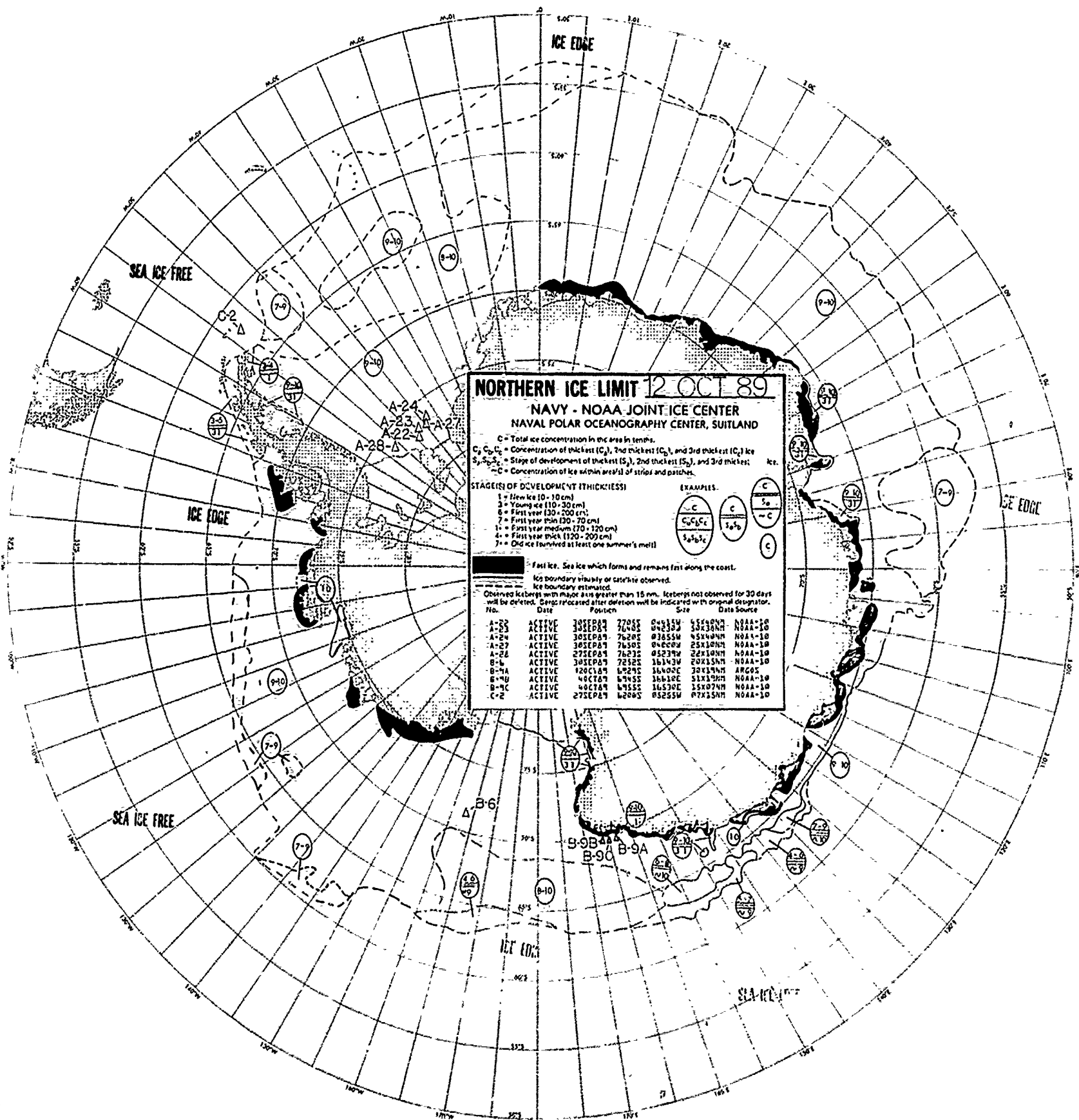
Observed icebergs with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Berge reobserved after deletion will be indicated with original designation.

No.	Date	Position	Size	Source
A-22	22AUG89	7650N/0330W	45X10 NM	NOAA-10
A-23	22AUG89	7650N/0440W	50X30 NM	NOAA-10
A-24	22AUG89	7650N/0270W	45X10 NM	NOAA-10
A-25	22AUG89	6405N/0540W	07X25 NM	NOAA-10
A-27	22AUG89	7620N/0365W	25X10 NM	NOAA-10
B-6	13SEP89	7331S/3605W	20X11 NM	NOAA-11
B-14	13SEP89	6405N/0540W	51X19 NM	NOAA-11
B-18	13SEP89	6755N/1663W	16X07 NM	NOAA-11
B-19	13SEP89	6755N/1663W	16X07 NM	NOAA-11
C-5	24AUG89	6420N/0484W	30X21 NM	NOAA-10
C-6	24AUG89	6530N/1325W	25X15 NM	NOAA-10









NORTHERN ICE LIMIT 12 OCT 89

**NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND**

C = Total ice concentration in the area in tenths.
C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest.
-C = Concentration of ice within area(s) of strips and patches.

STAGES OF DEVELOPMENT (THICKNESS)

- 1 = New ice (10 - 10 cm)
- 2 = Young ice (10 - 30 cm)
- 3 = First year (30 - 200 cm)
- 4 = First year thin (30 - 70 cm)
- 5 = First year medium (70 - 120 cm)
- 6 = First year thick (120 - 200 cm)
- 7 = Old ice (survived at least one summer's melt)

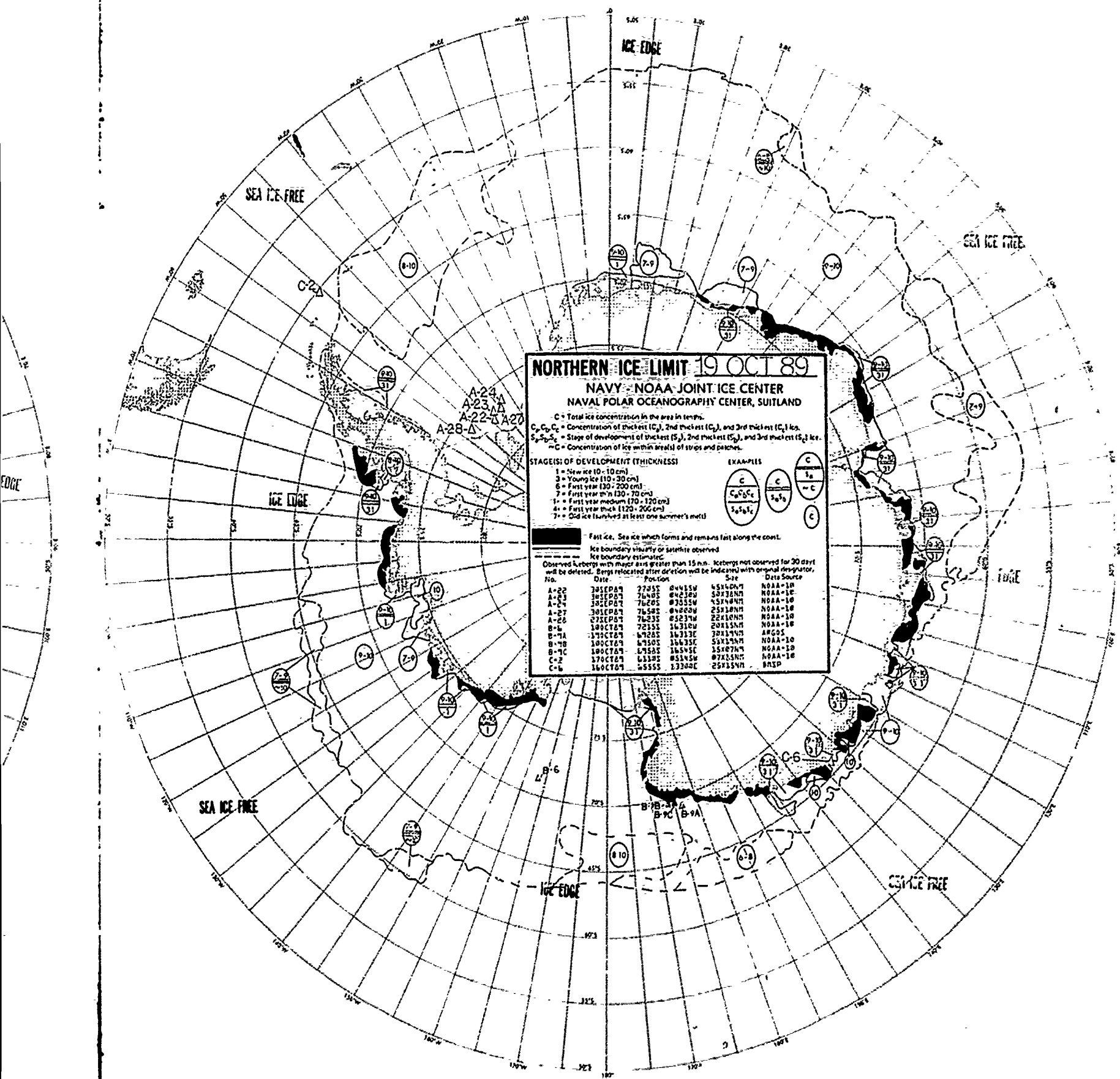
EXAMPLES



Fast ice. Sea ice which forms and remains fast along the coast.
No boundary visibility or satellite observed.
Ice boundary estimated.

Observed icebergs with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Berge relocated after deletion will be indicated with original designator.

No.	Date	Position	Size	Date Source
A-25	ACTIVE	30SEP89 7205S	04335W	55190NM NOAA-10
A-24	ACTIVE	30SEP89 7620S	03655W	45X40NM NOAA-10
A-27	ACTIVE	30SEP89 7650S	04000W	25X10NM NOAA-10
A-28	ACTIVE	27SEP89 7620S	05239W	26X10NM NOAA-10
B-6	ACTIVE	30SEP89 7252S	16143W	20X15NM NOAA-10
B-9A	ACTIVE	12OCT89 6629S	16400E	30X15NM ARGOS
B-9B	ACTIVE	4OCT89 6445S	16610E	51X10NM NOAA-10
B-9C	ACTIVE	4OCT89 6455S	16530E	55X07NM NOAA-10
C-2	ACTIVE	27SEP89 6200S	05255W	07X15NM NOAA-10



NORTHERN ICE LIMIT 19 OCT 89

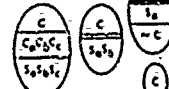
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND

C = Total ice concentration in the area in tenths.
C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
-C = Concentration of ice within areas of strips and patches.

STAGES OF DEVELOPMENT (THICKNESS)

- 1 = New ice (10-10 cm)
- 2 = Young ice (10-30 cm)
- 3 = First year (30-200 cm)
- 4 = First year thin (20-70 cm)
- 5 = First year medium (70-120 cm)
- 6 = First year thick (120-200 cm)
- 7 = Old ice (thinned at least one summer's melt)

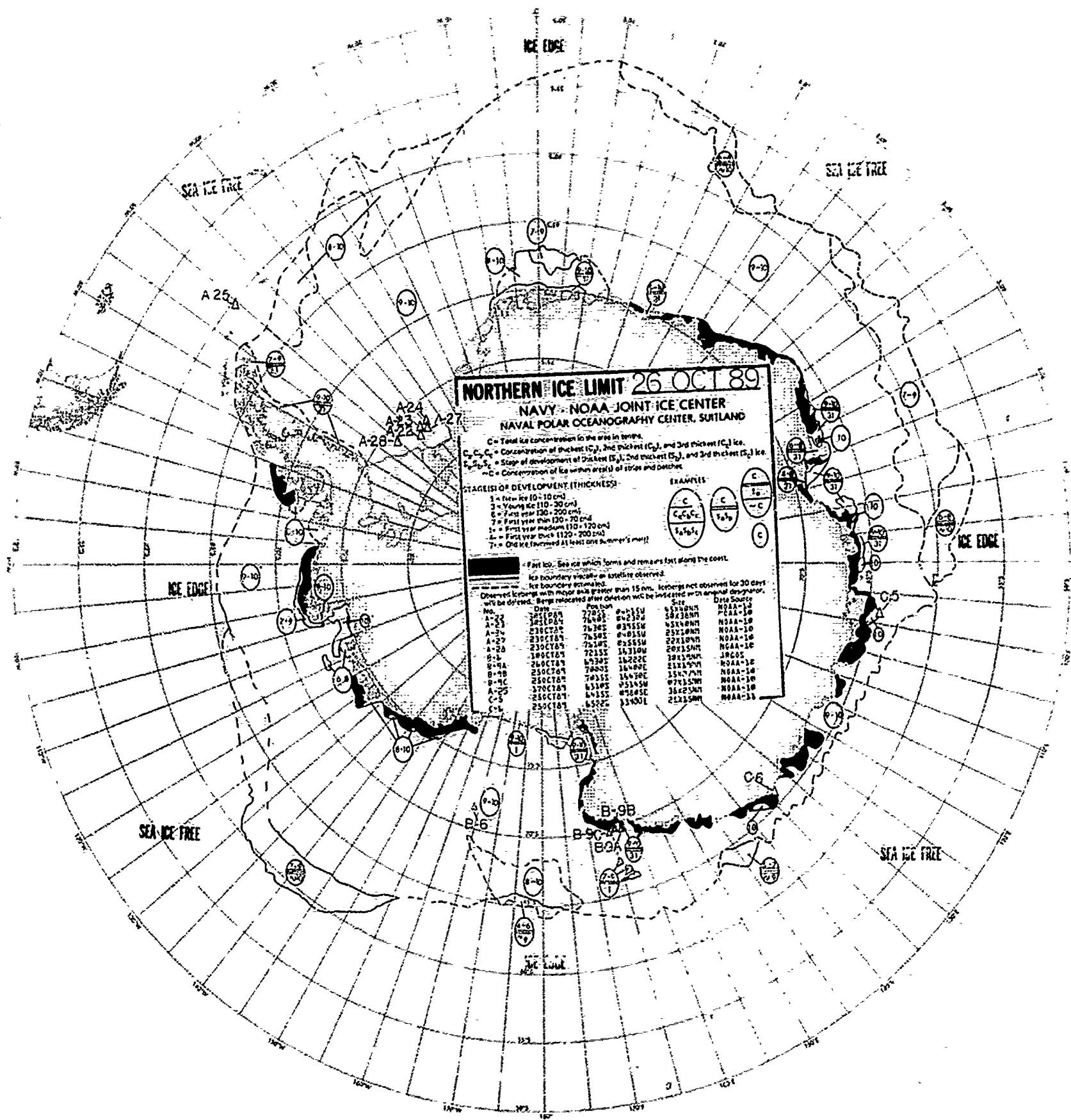
EXAMPLES

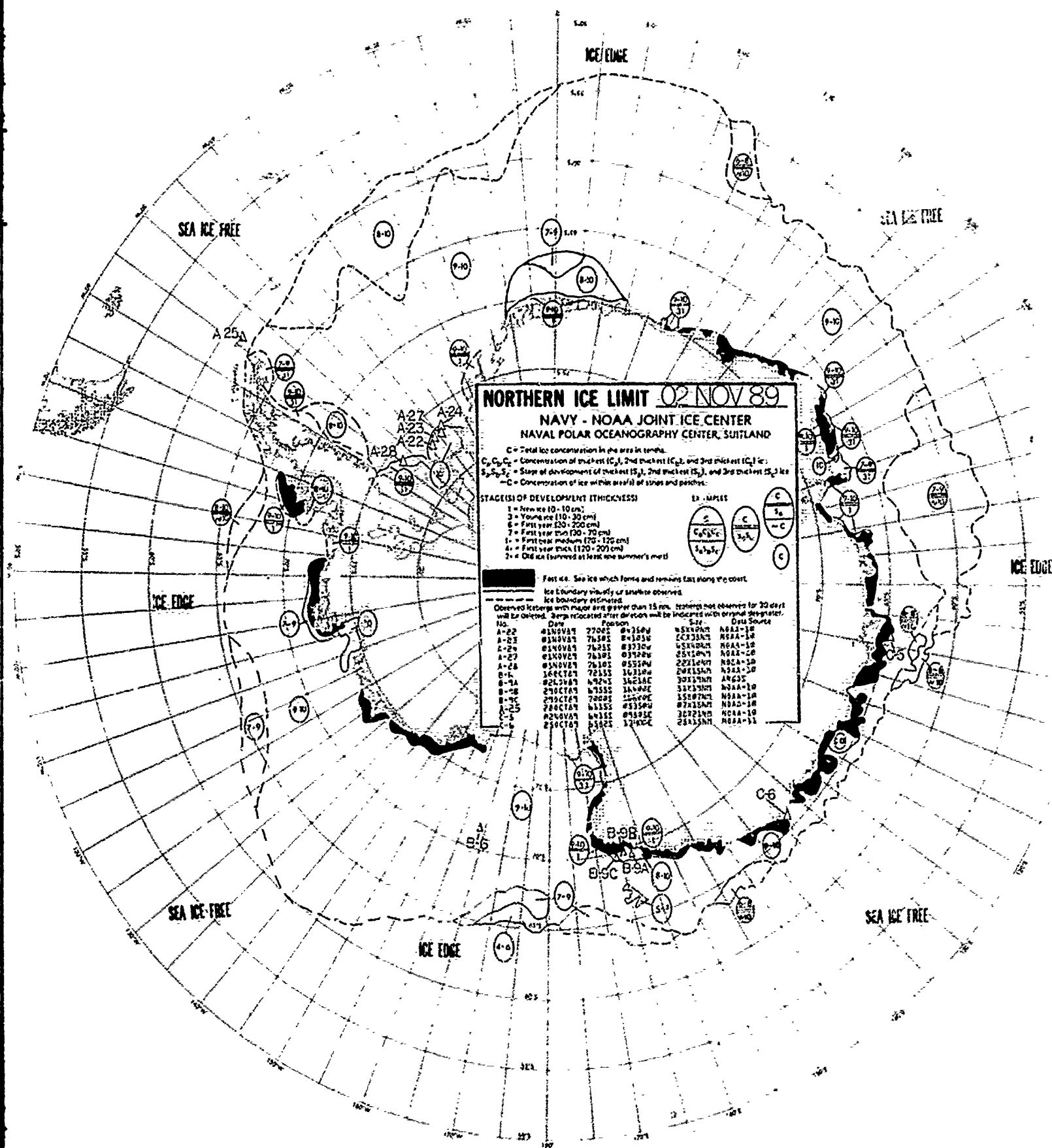


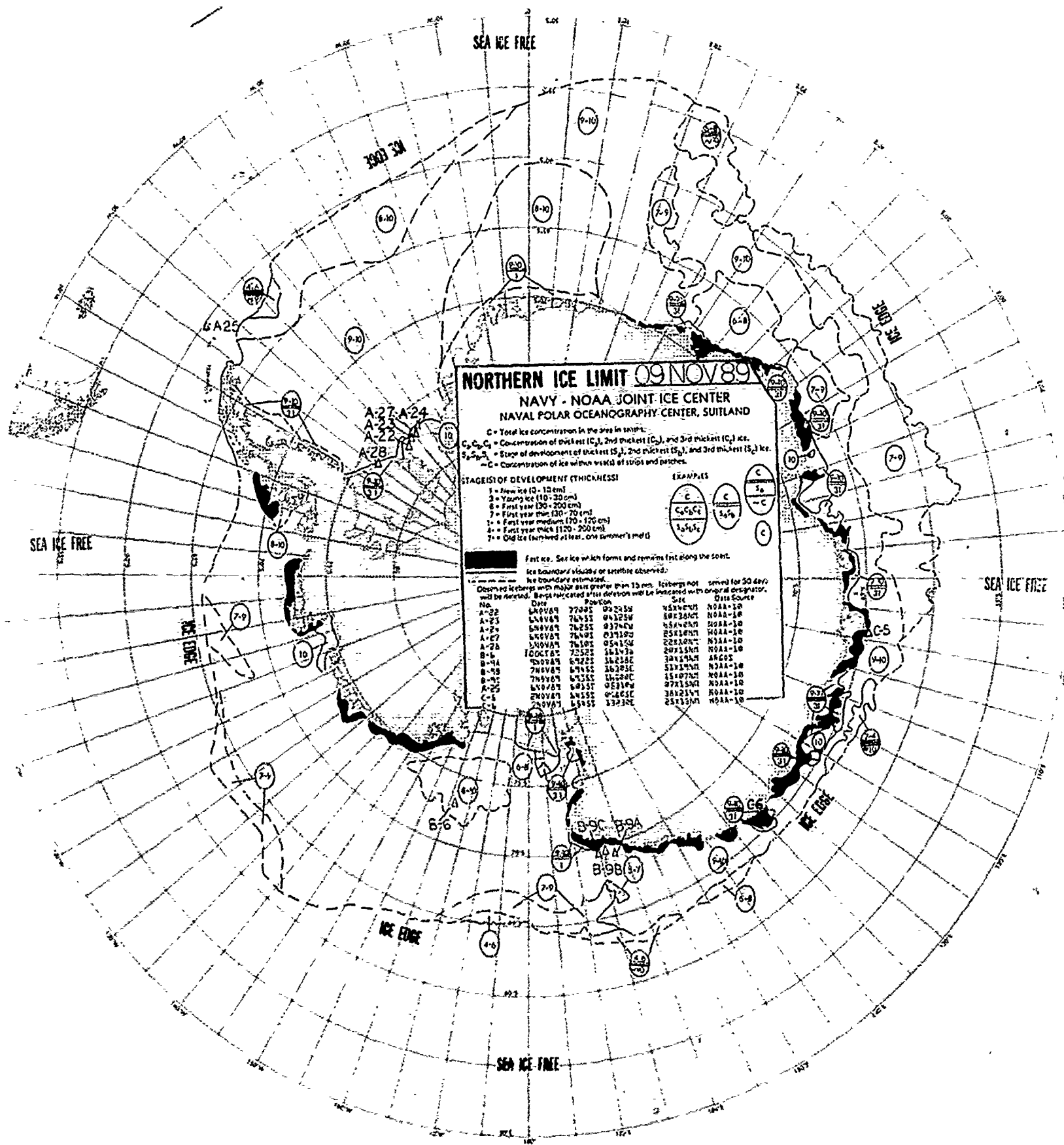
Fast ice. Sea ice which forms and remains fast along the coast.
Ice boundary visibility or satellite observed.
Ice boundary estimated.

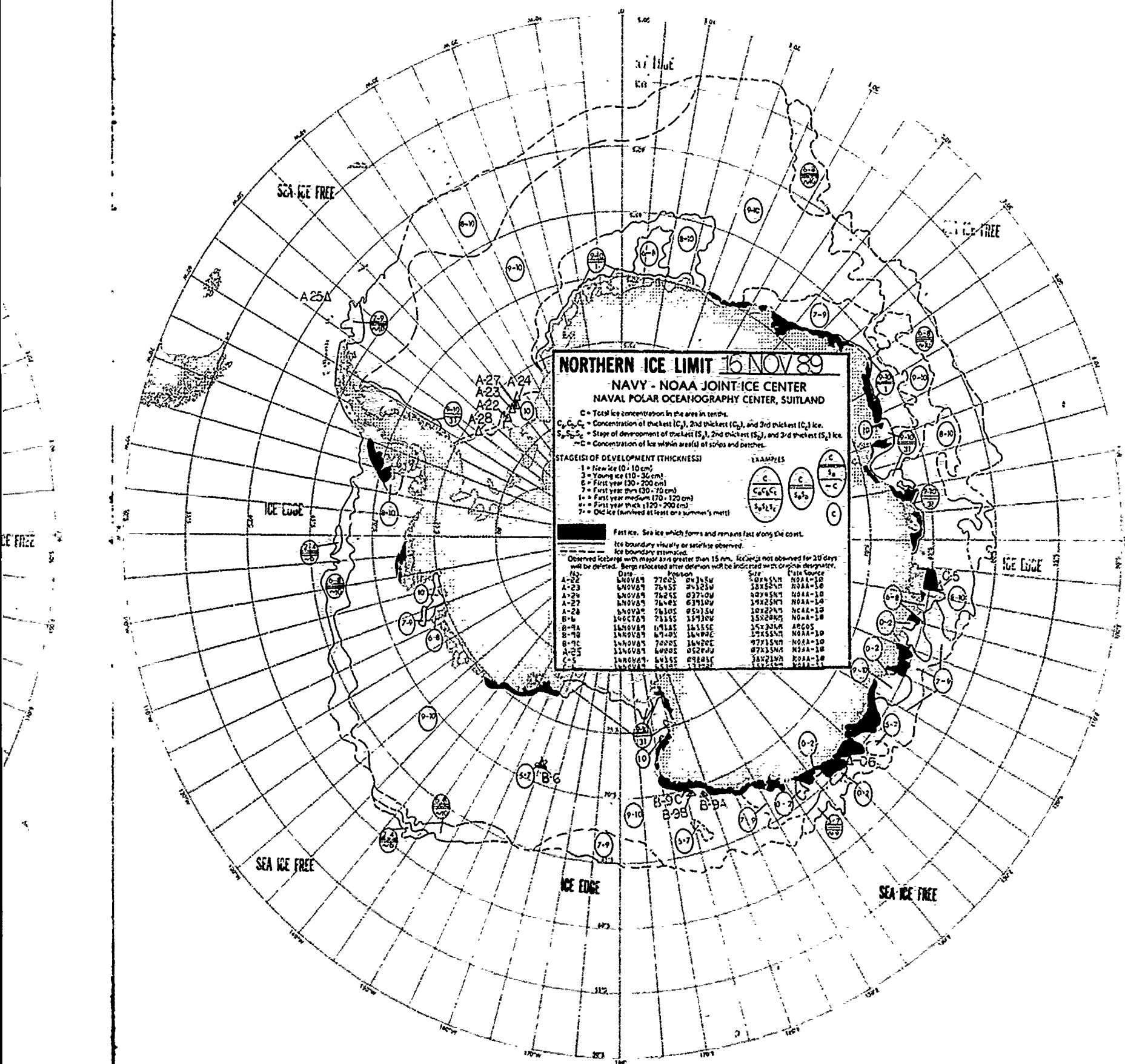
Observed icebergs with major axis greater than 15 m. Icebergs not observed for 30 days will be deleted. Berge relocated after deletion will be indicated with original designator, No.

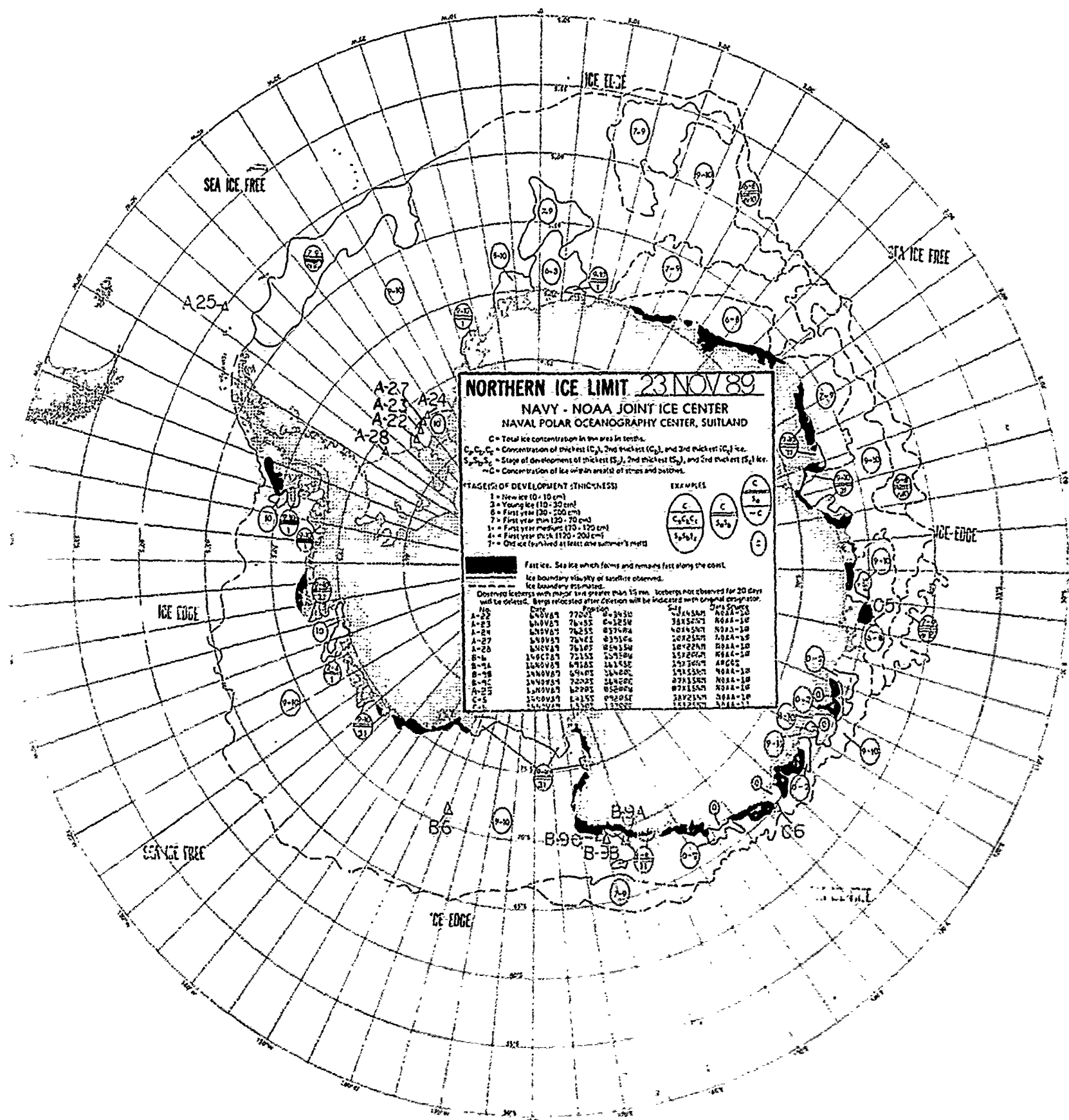
No.	TIME	POSITION		
A-22	7010P07	77355	04415W	45140N
A-23	7010P07	76405	04230W	50132N
A-24	7010P07	76205	07055W	45140N
A-27	7010P07	76505	04000W	25110N
A-28	7010P07	76235	05237W	22110N
B-6	160CT07	72335	16310W	20115N
B-7A	170CT07	67205	16313E	20115N
B-7B	180CT07	67505	16635E	51115N
B-7C	190CT07	67505	16545E	55107N
C-2	170CT07	63305	05145W	07115N
C-6	160CT07	65555	13200E	25115N

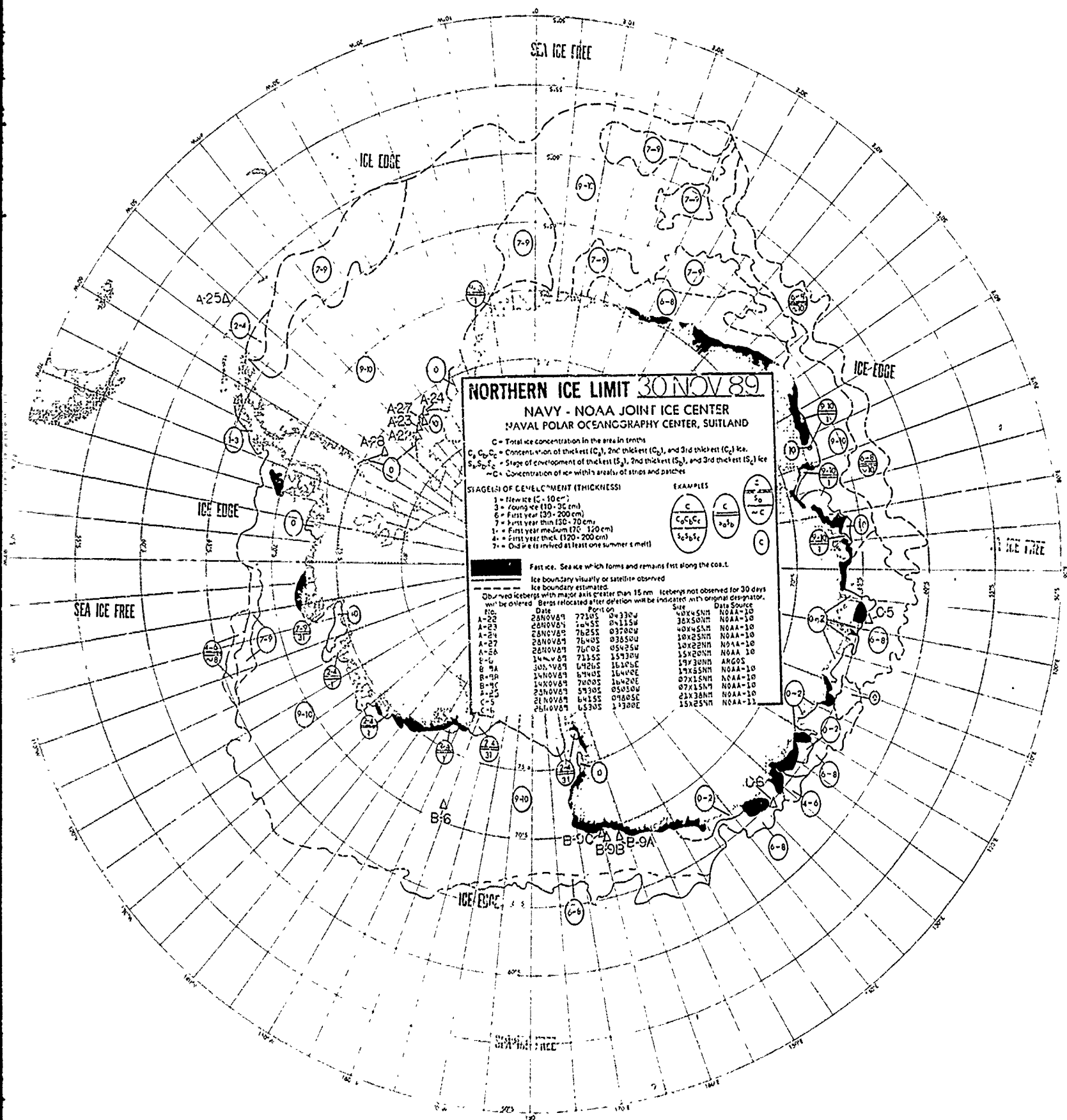


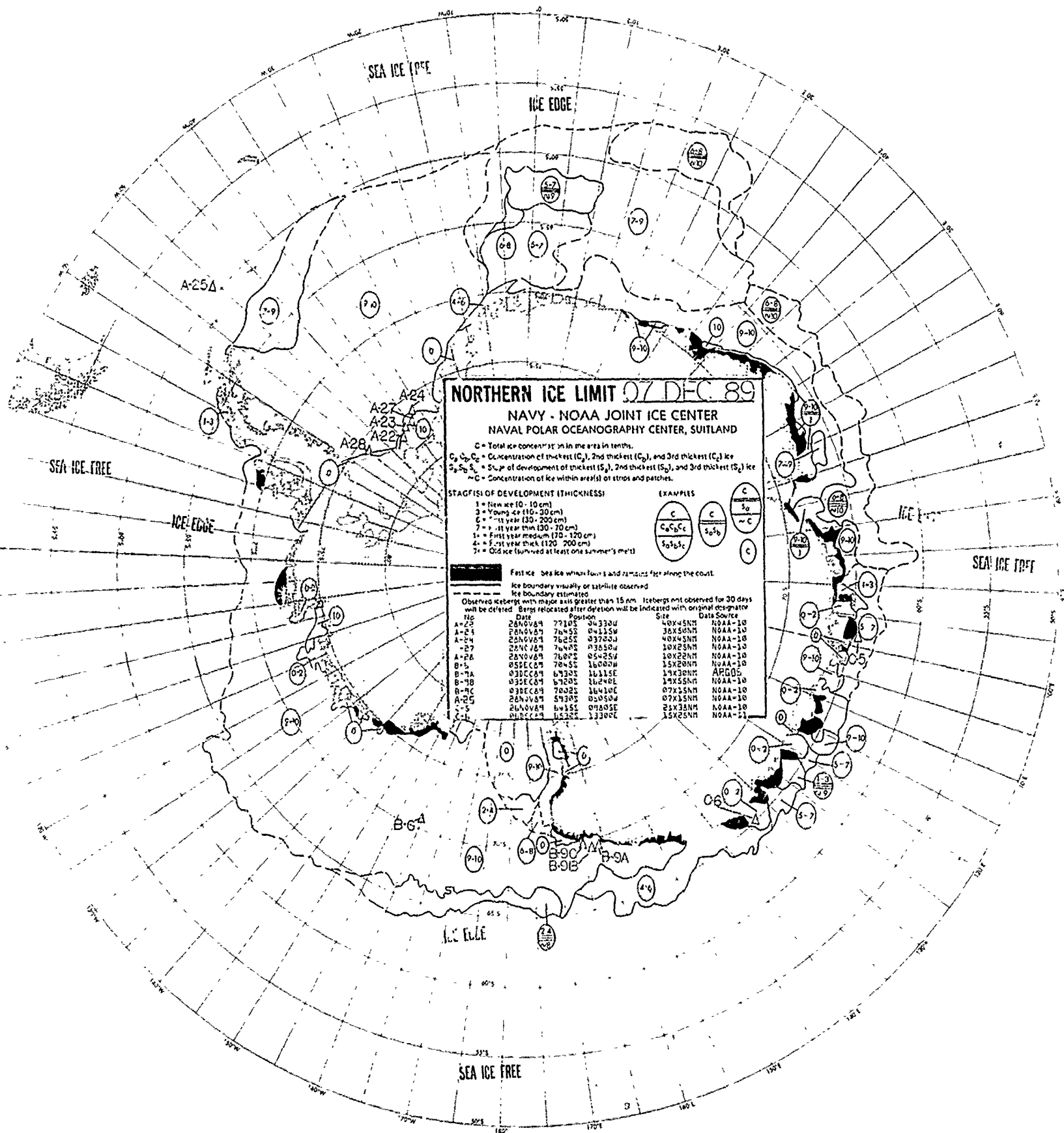










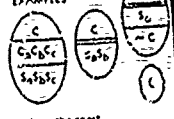


NORTHERN ICE LIMIT 14 DEC 89 **NAVY - NOAA JOINT ICE CENTER** **NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND**

C = Total ice concentration in the area in tenths.
 C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
 S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
 A = Concentration of ice within streaks of strips and patches.

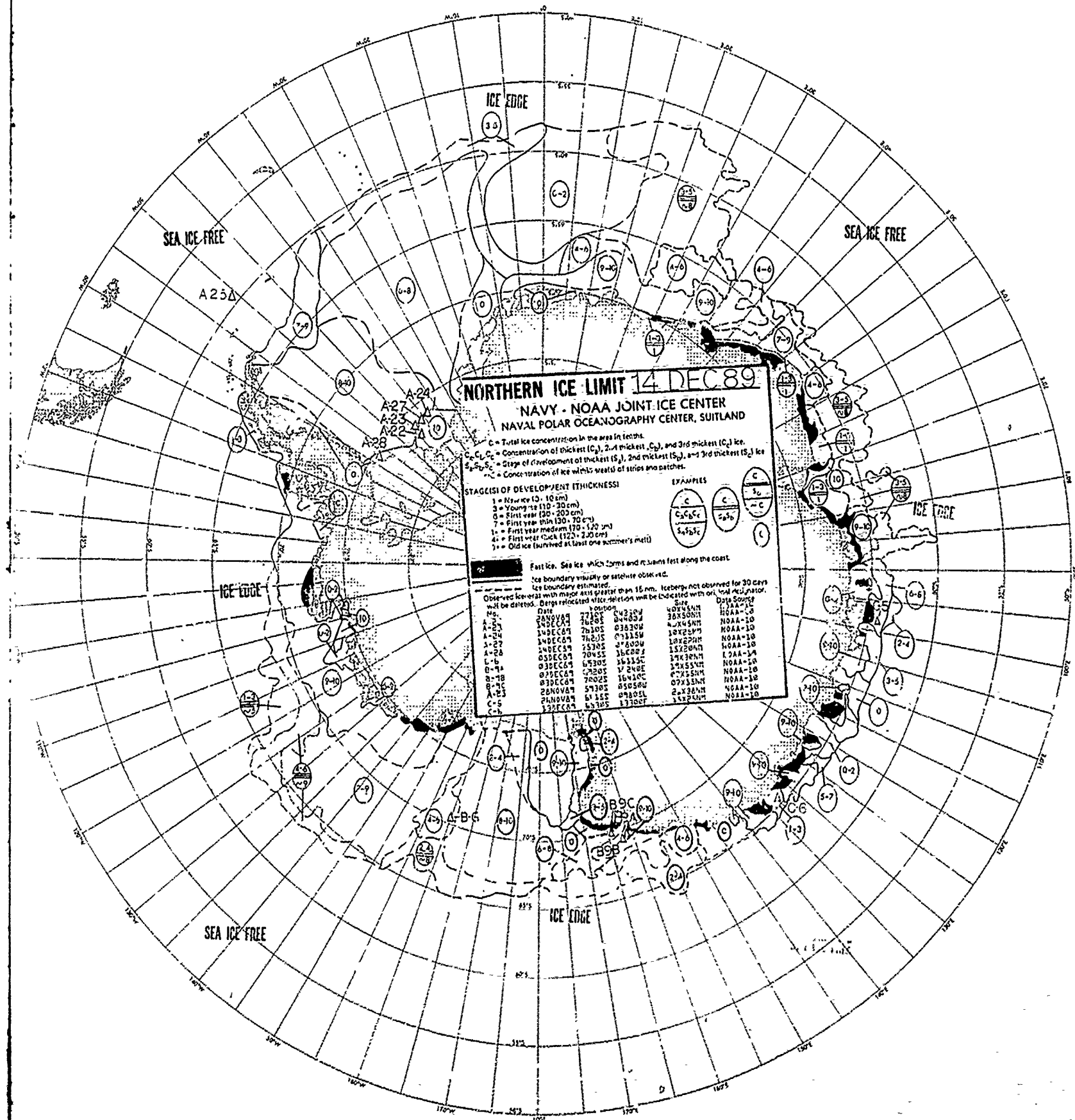
STAGES OF DEVELOPMENT (THICKNESS)

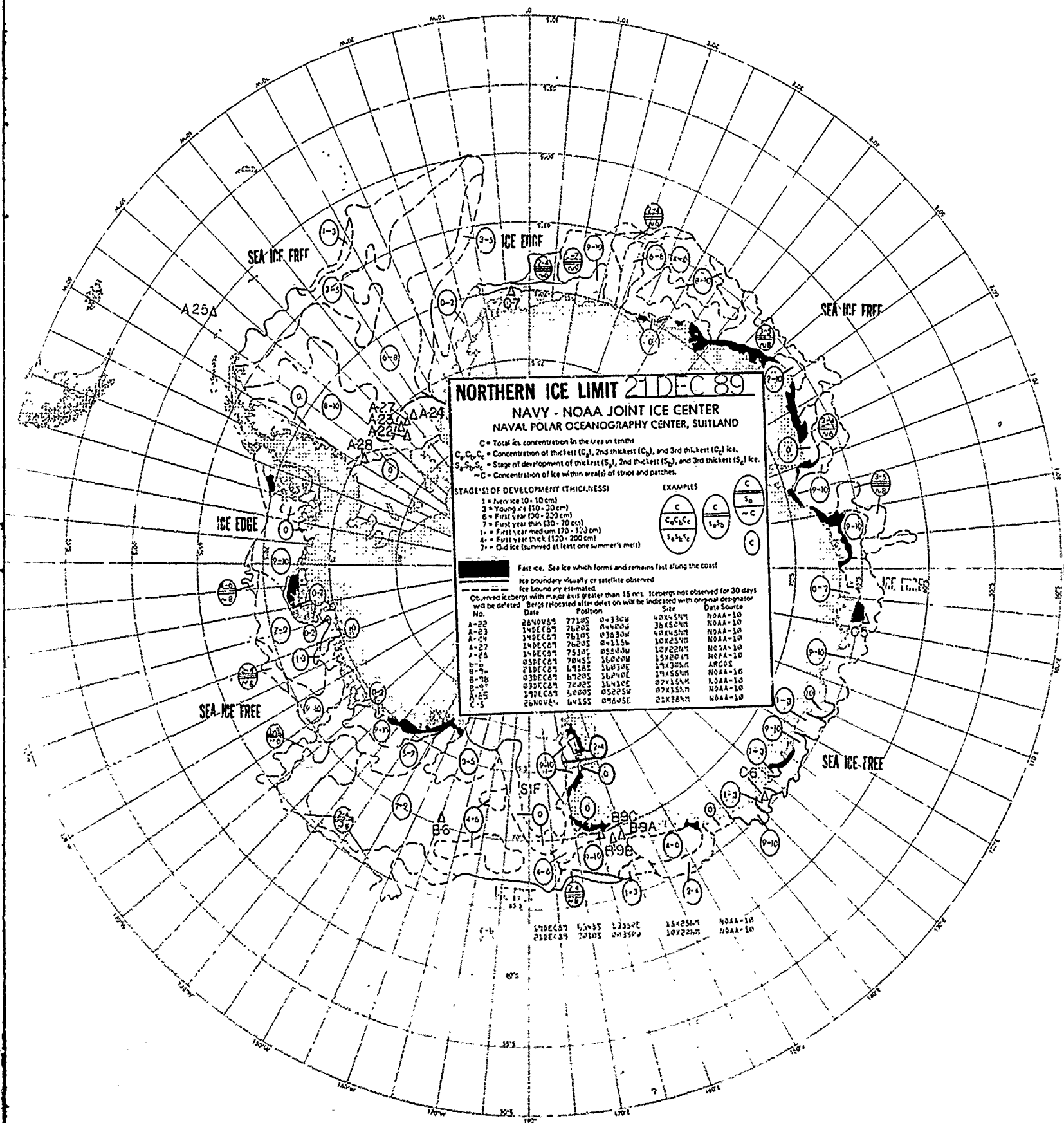
- 1 = New ice (10 - 10 cm)
- 2 = Young ice (10 - 20 cm)
- 3 = First year (20 - 30 cm)
- 4 = First year thin (30 - 50 cm)
- 5 = First year medium (50 - 100 cm)
- 6 = First year thick (100 - 200 cm)
- 7 = Old ice (survived at least one summer's melt)

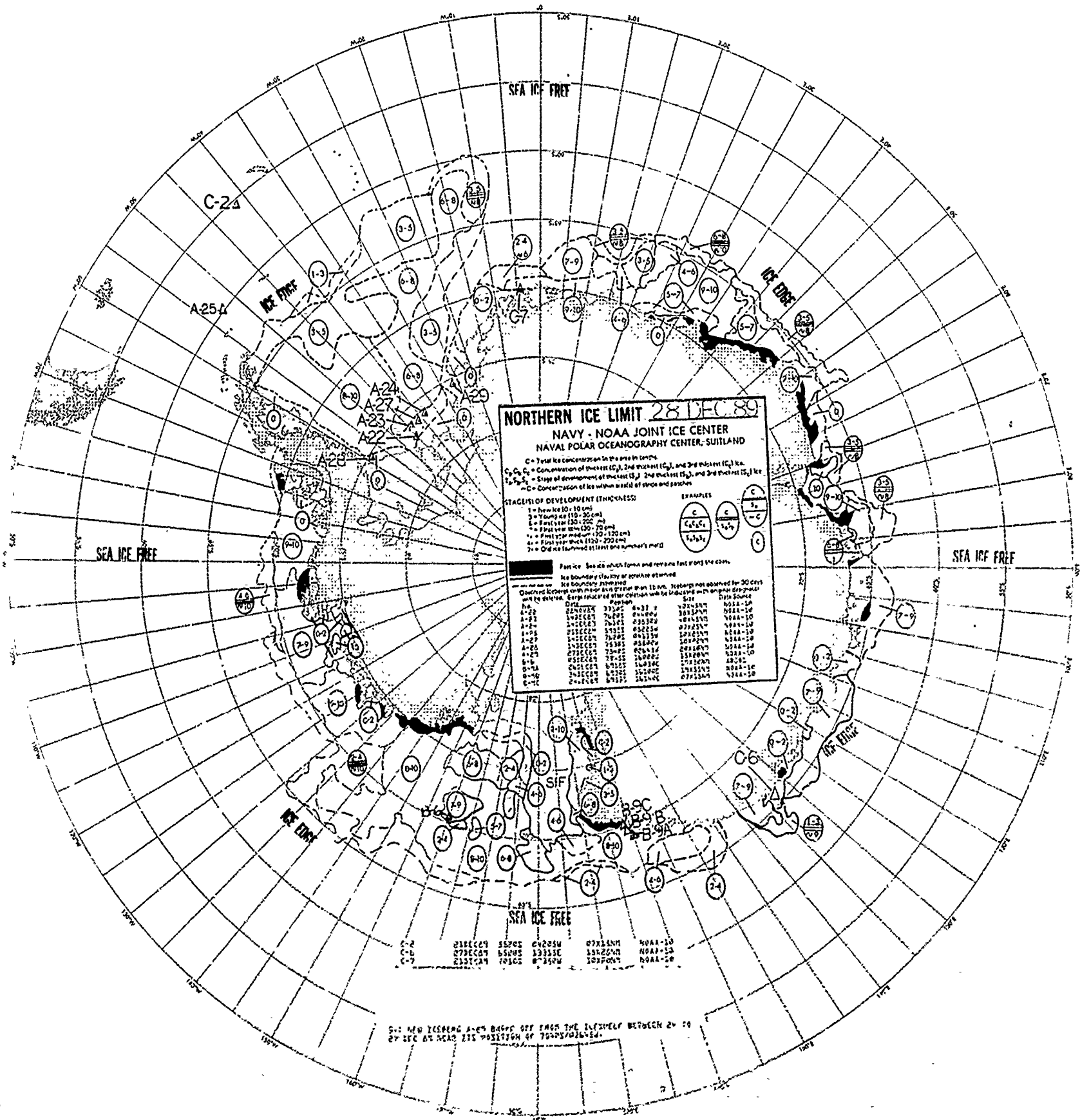


Fast ice. Sea ice which forms and remains fast along the coast.
 Ice boundary visually or satellite observed.
 Ice boundary estimated.
 Observed icebergs with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Berge relocated after deletion will be indicated with an "X" and "X" prior.

No.	Date	Location	Size	Data Source
A-2	28NOV89	7710N 04230W	40X15NM	NOAA-10
A-3	14DEC89	7620N 04435W	30X50NM	NOAA-10
A-4	14DEC89	7610N 03830W	40X45NM	NOAA-10
A-24	14DEC89	7610N 03830W	10X25NM	NOAA-10
A-27	14DEC89	7530N 04600W	15X20NM	NOAA-10
A-28	03DEC89	7045N 16500E	10X30NM	NOAA-10
B-1	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-7	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-18	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-19	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-20	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-21	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-22	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-23	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-24	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-25	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-26	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-27	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-28	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-29	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-30	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-31	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-32	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-33	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-34	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-35	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-36	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-37	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-38	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-39	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-40	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-41	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-42	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-43	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-44	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-45	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-46	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-47	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-48	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-49	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-50	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-51	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-52	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-53	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-54	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-55	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-56	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-57	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-58	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-59	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-60	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-61	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-62	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-63	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-64	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-65	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-66	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-67	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-68	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-69	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-70	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-71	03DEC89	6730N 16150E	10X30NM	NOAA-10
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B-74	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-75	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-76	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-77	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-78	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-79	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-80	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-81	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-82	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-83	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-84	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-85	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-86	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-87	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-88	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-89	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-90	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-91	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-92	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-93	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-94	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-95	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-96	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-97	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-98	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-99	03DEC89	6730N 16150E	10X30NM	NOAA-10
B-100	03DEC89	6730N 16150E	10X30NM	NOAA-10







NORTHERN ICE LIMIT 28 DEC 89
 NAVY - NOAA JOINT ICE CENTER
 NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND

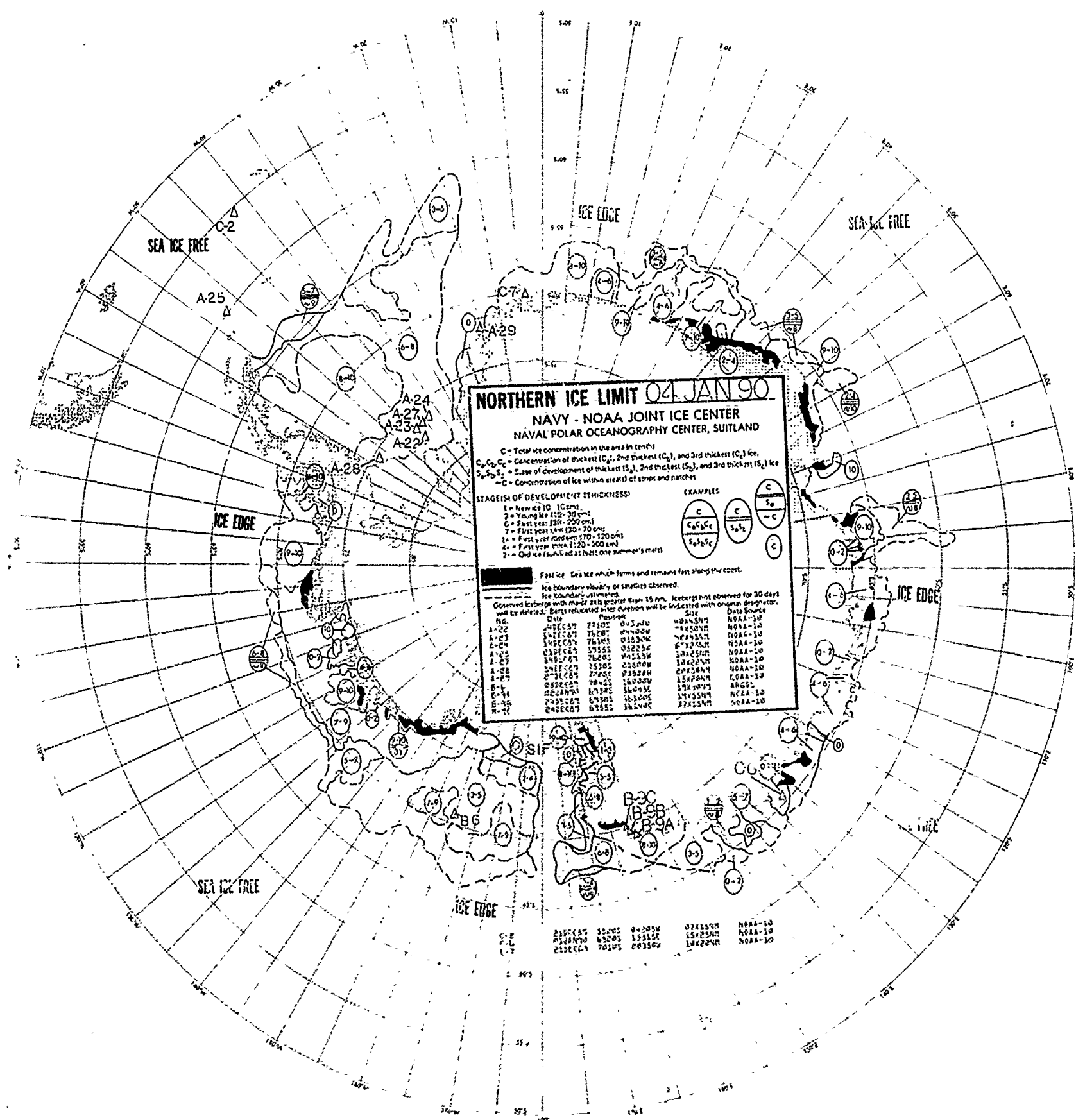
C = Total ice concentration in the area in tenths.
 C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
 T₁, T₂, T₃ = Stage of development of thickest (T₁), 2nd thickest (T₂), and 3rd thickest (T₃) ice.
 C = Concentration of ice within a field of stages and patches.

STAGES OF DEVELOPMENT (THICKNESS)

1 = New ice 10-18 cm
 2 = Young ice 18-30 cm
 3 = First year 30-70 cm
 4 = First year 70-120 cm
 5 = First year 120-200 cm
 6 = First year 200-250 cm
 7 = Old ice 250-300 cm
 8 = Old ice 300-350 cm
 9 = Old ice 350-400 cm
 10 = Old ice 400-450 cm
 11 = Old ice 450-500 cm
 12 = Old ice 500-550 cm
 13 = Old ice 550-600 cm
 14 = Old ice 600-650 cm
 15 = Old ice 650-700 cm
 16 = Old ice 700-750 cm
 17 = Old ice 750-800 cm
 18 = Old ice 800-850 cm
 19 = Old ice 850-900 cm
 20 = Old ice 900-950 cm
 21 = Old ice 950-1000 cm
 22 = Old ice 1000-1050 cm
 23 = Old ice 1050-1100 cm
 24 = Old ice 1100-1150 cm
 25 = Old ice 1150-1200 cm
 26 = Old ice 1200-1250 cm
 27 = Old ice 1250-1300 cm
 28 = Old ice 1300-1350 cm
 29 = Old ice 1350-1400 cm
 30 = Old ice 1400-1450 cm
 31 = Old ice 1450-1500 cm
 32 = Old ice 1500-1550 cm
 33 = Old ice 1550-1600 cm
 34 = Old ice 1600-1650 cm
 35 = Old ice 1650-1700 cm
 36 = Old ice 1700-1750 cm
 37 = Old ice 1750-1800 cm
 38 = Old ice 1800-1850 cm
 39 = Old ice 1850-1900 cm
 40 = Old ice 1900-1950 cm
 41 = Old ice 1950-2000 cm
 42 = Old ice 2000-2050 cm
 43 = Old ice 2050-2100 cm
 44 = Old ice 2100-2150 cm
 45 = Old ice 2150-2200 cm
 46 = Old ice 2200-2250 cm
 47 = Old ice 2250-2300 cm
 48 = Old ice 2300-2350 cm
 49 = Old ice 2350-2400 cm
 50 = Old ice 2400-2450 cm
 51 = Old ice 2450-2500 cm
 52 = Old ice 2500-2550 cm
 53 = Old ice 2550-2600 cm
 54 = Old ice 2600-2650 cm
 55 = Old ice 2650-2700 cm
 56 = Old ice 2700-2750 cm
 57 = Old ice 2750-2800 cm
 58 = Old ice 2800-2850 cm
 59 = Old ice 2850-2900 cm
 60 = Old ice 2900-2950 cm
 61 = Old ice 2950-3000 cm
 62 = Old ice 3000-3050 cm
 63 = Old ice 3050-3100 cm
 64 = Old ice 3100-3150 cm
 65 = Old ice 3150-3200 cm
 66 = Old ice 3200-3250 cm
 67 = Old ice 3250-3300 cm
 68 = Old ice 3300-3350 cm
 69 = Old ice 3350-3400 cm
 70 = Old ice 3400-3450 cm
 71 = Old ice 3450-3500 cm
 72 = Old ice 3500-3550 cm
 73 = Old ice 3550-3600 cm
 74 = Old ice 3600-3650 cm
 75 = Old ice 3650-3700 cm
 76 = Old ice 3700-3750 cm
 77 = Old ice 3750-3800 cm
 78 = Old ice 3800-3850 cm
 79 = Old ice 3850-3900 cm
 80 = Old ice 3900-3950 cm
 81 = Old ice 3950-4000 cm
 82 = Old ice 4000-4050 cm
 83 = Old ice 4050-4100 cm
 84 = Old ice 4100-4150 cm
 85 = Old ice 4150-4200 cm
 86 = Old ice 4200-4250 cm
 87 = Old ice 4250-4300 cm
 88 = Old ice 4300-4350 cm
 89 = Old ice 4350-4400 cm
 90 = Old ice 4400-4450 cm
 91 = Old ice 4450-4500 cm
 92 = Old ice 4500-4550 cm
 93 = Old ice 4550-4600 cm
 94 = Old ice 4600-4650 cm
 95 = Old ice 4650-4700 cm
 96 = Old ice 4700-4750 cm
 97 = Old ice 4750-4800 cm
 98 = Old ice 4800-4850 cm
 99 = Old ice 4850-4900 cm
 100 = Old ice 4900-4950 cm
 101 = Old ice 4950-5000 cm
 102 = Old ice 5000-5050 cm
 103 = Old ice 5050-5100 cm
 104 = Old ice 5100-5150 cm
 105 = Old ice 5150-5200 cm
 106 = Old ice 5200-5250 cm
 107 = Old ice 5250-5300 cm
 108 = Old ice 5300-5350 cm
 109 = Old ice 5350-5400 cm
 110 = Old ice 5400-5450 cm
 111 = Old ice 5450-5500 cm
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 113 = Old ice 5550-5600 cm
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 115 = Old ice 5650-5700 cm
 116 = Old ice 5700-5750 cm
 117 = Old ice 5750-5800 cm
 118 = Old ice 5800-5850 cm
 119 = Old ice 5850-5900 cm
 120 = Old ice 5900-5950 cm
 121 = Old ice 5950-6000 cm
 122 = Old ice 6000-6050 cm
 123 = Old ice 6050-6100 cm
 124 = Old ice 6100-6150 cm
 125 = Old ice 6150-6200 cm
 126 = Old ice 6200-6250 cm
 127 = Old ice 6250-6300 cm
 128 = Old ice 6300-6350 cm
 129 = Old ice 6350-6400 cm
 130 = Old ice 6400-6450 cm
 131 = Old ice 6450-6500 cm
 132 = Old ice 6500-6550 cm
 133 = Old ice 6550-6600 cm
 134 = Old ice 6600-6650 cm
 135 = Old ice 6650-6700 cm
 136 = Old ice 6700-6750 cm
 137 = Old ice 6750-6800 cm
 138 = Old ice 6800-6850 cm
 139 = Old ice 6850-6900 cm
 140 = Old ice 6900-6950 cm
 141 = Old ice 6950-7000 cm
 142 = Old ice 7000-7050 cm
 143 = Old ice 7050-7100 cm
 144 = Old ice 7100-7150 cm
 145 = Old ice 7150-7200 cm
 146 = Old ice 7200-7250 cm
 147 = Old ice 7250-7300 cm
 148 = Old ice 7300-7350 cm
 149 = Old ice 7350-7400 cm
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 152 = Old ice 7500-7550 cm
 153 = Old ice 7550-7600 cm
 154 = Old ice 7600-7650 cm
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 156 = Old ice 7700-7750 cm
 157 = Old ice 7750-7800 cm
 158 = Old ice 7800-7850 cm
 159 = Old ice 7850-7900 cm
 160 = Old ice 7900-7950 cm
 161 = Old ice 7950-8000 cm
 162 = Old ice 8000-8050 cm
 163 = Old ice 8050-8100 cm
 164 = Old ice 8100-8150 cm
 165 = Old ice 8150-8200 cm
 166 = Old ice 8200-8250 cm
 167 = Old ice 8250-8300 cm
 168 = Old ice 8300-8350 cm
 169 = Old ice 8350-8400 cm
 170 = Old ice 8400-8450 cm
 171 = Old ice 8450-8500 cm
 172 = Old ice 8500-8550 cm
 173 = Old ice 8550-8600 cm
 174 = Old ice 8600-8650 cm
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 178 = Old ice 8800-8850 cm
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 182 = Old ice 9000-9050 cm
 183 = Old ice 9050-9100 cm
 184 = Old ice 9100-9150 cm
 185 = Old ice 9150-9200 cm
 186 = Old ice 9200-9250 cm
 187 = Old ice 9250-9300 cm
 188 = Old ice 9300-9350 cm
 189 = Old ice 9350-9400 cm
 190 = Old ice 9400-9450 cm
 191 = Old ice 9450-9500 cm
 192 = Old ice 9500-9550 cm
 193 = Old ice 9550-9600 cm
 194 = Old ice 9600-9650 cm
 195 = Old ice 9650-9700 cm
 196 = Old ice 9700-9750 cm
 197 = Old ice 9750-9800 cm
 198 = Old ice 9800-9850 cm
 199 = Old ice 9850-9900 cm
 200 = Old ice 9900-9950 cm
 201 = Old ice 9950-10000 cm

C-2 018000Z 55005 04200W 07X15M NOAA-10
 C-6 070000Z 55005 13133E 15X20M NOAA-10
 C-7 210000Z 01002 00000W 10X20M NOAA-10

5:1 NEW ICEBERG 8-07 DRIFT OFF FROM THE ICE SHELF BETWEEN 24 00
 27 DEC AT HEAD ITS POSITION OF 7045N/0164E.



NORTHERN ICE LIMIT 04 JAN 90

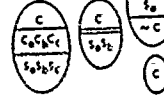
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND

C = Total ice concentration in the area in tenths
C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice
S₁, S₂, S₃ = Size of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice
~C = Concentration of ice within areal of spots and patches

STAGES OF DEVELOPMENT (THICKNESS)

- 1 = New ice 10-15 cm
- 2 = Young ice 15-30 cm
- 3 = First year 30-50 cm
- 4 = First year 50-70 cm
- 5 = First year 70-100 cm
- 6 = First year 100-120 cm
- 7 = First year 120-150 cm
- 8 = First year 150-200 cm
- 9 = Old ice (survived at least one summer's melt)

EXAMPLES

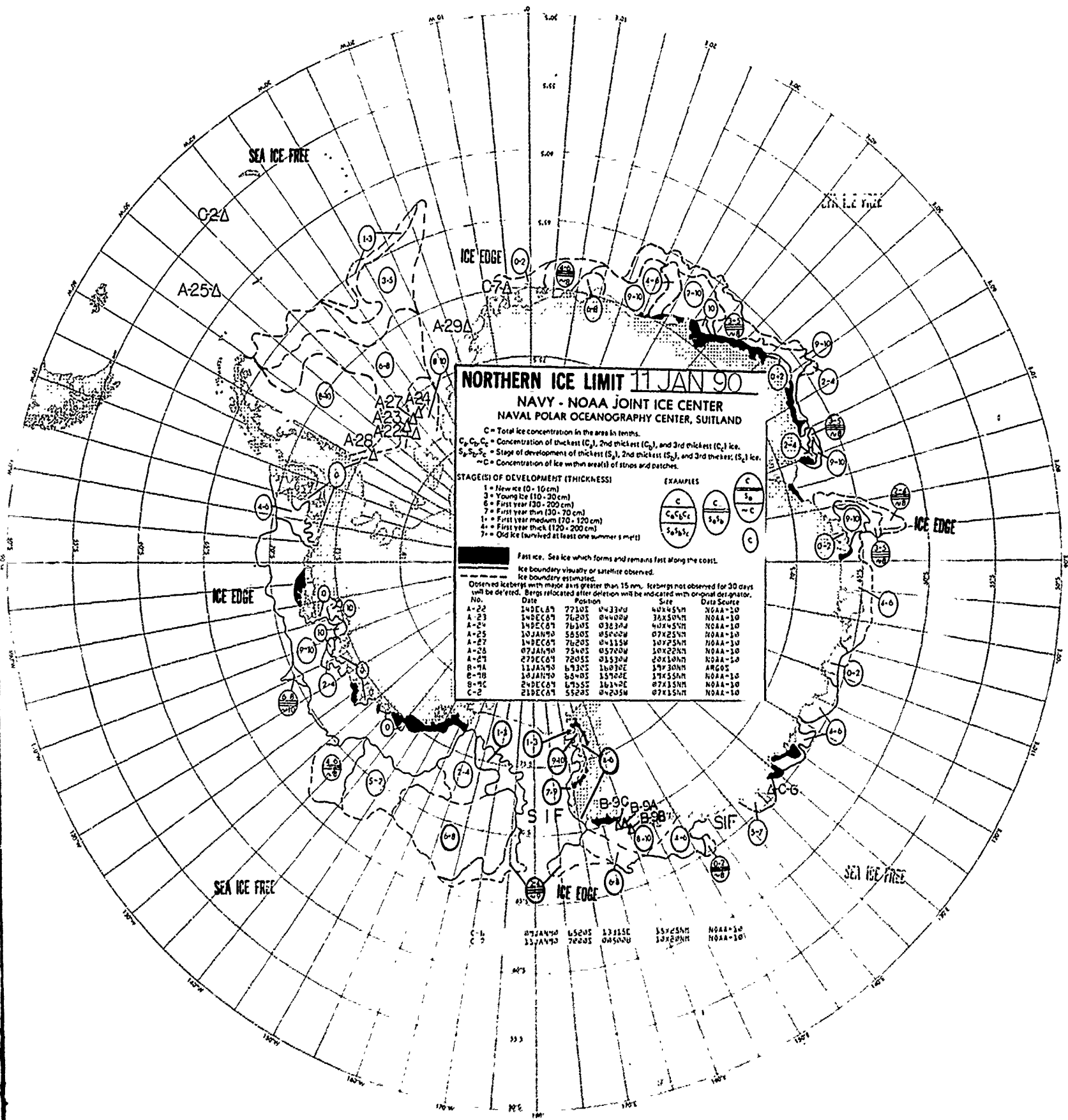


Fast ice - Sea ice which forms and remains fast along the coast.
Ice boundary visually or satellite observed.
Ice boundary estimated.
Observed icebergs with major axis greater than 15 m. Icebergs not observed for 30 days will be deleted. Bergs relocated after deletion will be indicated with original designator.

Ref.	Date	Position	Size	Data Source
A-24	01 DEC 89	77 10'N 04 30'W	0.01 15 NM	NOAA-10
A-25	01 DEC 89	76 20'N 04 40'W	0.01 15 NM	NOAA-10
A-26	01 DEC 89	76 10'N 04 50'W	0.01 15 NM	NOAA-10
A-27	01 DEC 89	75 50'N 05 00'W	0.01 15 NM	NOAA-10
A-28	01 DEC 89	75 40'N 05 10'W	0.01 15 NM	NOAA-10
A-29	01 DEC 89	75 30'N 05 20'W	0.01 15 NM	NOAA-10
A-30	01 DEC 89	75 20'N 05 30'W	0.01 15 NM	NOAA-10
A-31	01 DEC 89	75 10'N 05 40'W	0.01 15 NM	NOAA-10
A-32	01 DEC 89	75 00'N 05 50'W	0.01 15 NM	NOAA-10
A-33	01 DEC 89	74 50'N 06 00'W	0.01 15 NM	NOAA-10
A-34	01 DEC 89	74 40'N 06 10'W	0.01 15 NM	NOAA-10
A-35	01 DEC 89	74 30'N 06 20'W	0.01 15 NM	NOAA-10
A-36	01 DEC 89	74 20'N 06 30'W	0.01 15 NM	NOAA-10
A-37	01 DEC 89	74 10'N 06 40'W	0.01 15 NM	NOAA-10
A-38	01 DEC 89	74 00'N 06 50'W	0.01 15 NM	NOAA-10
A-39	01 DEC 89	73 50'N 07 00'W	0.01 15 NM	NOAA-10
A-40	01 DEC 89	73 40'N 07 10'W	0.01 15 NM	NOAA-10
A-41	01 DEC 89	73 30'N 07 20'W	0.01 15 NM	NOAA-10
A-42	01 DEC 89	73 20'N 07 30'W	0.01 15 NM	NOAA-10
A-43	01 DEC 89	73 10'N 07 40'W	0.01 15 NM	NOAA-10
A-44	01 DEC 89	73 00'N 07 50'W	0.01 15 NM	NOAA-10
A-45	01 DEC 89	72 50'N 08 00'W	0.01 15 NM	NOAA-10
A-46	01 DEC 89	72 40'N 08 10'W	0.01 15 NM	NOAA-10
A-47	01 DEC 89	72 30'N 08 20'W	0.01 15 NM	NOAA-10
A-48	01 DEC 89	72 20'N 08 30'W	0.01 15 NM	NOAA-10
A-49	01 DEC 89	72 10'N 08 40'W	0.01 15 NM	NOAA-10
A-50	01 DEC 89	72 00'N 08 50'W	0.01 15 NM	NOAA-10

A-24	01 DEC 89	77 10'N 04 30'W	0.01 15 NM	NOAA-10
A-25	01 DEC 89	76 20'N 04 40'W	0.01 15 NM	NOAA-10
A-26	01 DEC 89	76 10'N 04 50'W	0.01 15 NM	NOAA-10
A-27	01 DEC 89	75 50'N 05 00'W	0.01 15 NM	NOAA-10
A-28	01 DEC 89	75 40'N 05 10'W	0.01 15 NM	NOAA-10
A-29	01 DEC 89	75 30'N 05 20'W	0.01 15 NM	NOAA-10
A-30	01 DEC 89	75 20'N 05 30'W	0.01 15 NM	NOAA-10
A-31	01 DEC 89	75 10'N 05 40'W	0.01 15 NM	NOAA-10
A-32	01 DEC 89	75 00'N 05 50'W	0.01 15 NM	NOAA-10
A-33	01 DEC 89	74 50'N 06 00'W	0.01 15 NM	NOAA-10
A-34	01 DEC 89	74 40'N 06 10'W	0.01 15 NM	NOAA-10
A-35	01 DEC 89	74 30'N 06 20'W	0.01 15 NM	NOAA-10
A-36	01 DEC 89	74 20'N 06 30'W	0.01 15 NM	NOAA-10
A-37	01 DEC 89	74 10'N 06 40'W	0.01 15 NM	NOAA-10
A-38	01 DEC 89	74 00'N 06 50'W	0.01 15 NM	NOAA-10
A-39	01 DEC 89	73 50'N 07 00'W	0.01 15 NM	NOAA-10
A-40	01 DEC 89	73 40'N 07 10'W	0.01 15 NM	NOAA-10
A-41	01 DEC 89	73 30'N 07 20'W	0.01 15 NM	NOAA-10
A-42	01 DEC 89	73 20'N 07 30'W	0.01 15 NM	NOAA-10
A-43	01 DEC 89	73 10'N 07 40'W	0.01 15 NM	NOAA-10
A-44	01 DEC 89	73 00'N 07 50'W	0.01 15 NM	NOAA-10
A-45	01 DEC 89	72 50'N 08 00'W	0.01 15 NM	NOAA-10
A-46	01 DEC 89	72 40'N 08 10'W	0.01 15 NM	NOAA-10
A-47	01 DEC 89	72 30'N 08 20'W	0.01 15 NM	NOAA-10
A-48	01 DEC 89	72 20'N 08 30'W	0.01 15 NM	NOAA-10
A-49	01 DEC 89	72 10'N 08 40'W	0.01 15 NM	NOAA-10
A-50	01 DEC 89	72 00'N 08 50'W	0.01 15 NM	NOAA-10

A-24	01 DEC 89	77 10'N 04 30'W	0.01 15 NM	NOAA-10
A-25	01 DEC 89	76 20'N 04 40'W	0.01 15 NM	NOAA-10
A-26	01 DEC 89	76 10'N 04 50'W	0.01 15 NM	NOAA-10
A-27	01 DEC 89	75 50'N 05 00'W	0.01 15 NM	NOAA-10
A-28	01 DEC 89	75 40'N 05 10'W	0.01 15 NM	NOAA-10
A-29	01 DEC 89	75 30'N 05 20'W	0.01 15 NM	NOAA-10
A-30	01 DEC 89	75 20'N 05 30'W	0.01 15 NM	NOAA-10
A-31	01 DEC 89	75 10'N 05 40'W	0.01 15 NM	NOAA-10
A-32	01 DEC 89	75 00'N 05 50'W	0.01 15 NM	NOAA-10
A-33	01 DEC 89	74 50'N 06 00'W	0.01 15 NM	NOAA-10
A-34	01 DEC 89	74 40'N 06 10'W	0.01 15 NM	NOAA-10
A-35	01 DEC 89	74 30'N 06 20'W	0.01 15 NM	NOAA-10
A-36	01 DEC 89	74 20'N 06 30'W	0.01 15 NM	NOAA-10
A-37	01 DEC 89	74 10'N 06 40'W	0.01 15 NM	NOAA-10
A-38	01 DEC 89	74 00'N 06 50'W	0.01 15 NM	NOAA-10
A-39	01 DEC 89	73 50'N 07 00'W	0.01 15 NM	NOAA-10
A-40	01 DEC 89	73 40'N 07 10'W	0.01 15 NM	NOAA-10
A-41	01 DEC 89	73 30'N 07 20'W	0.01 15 NM	NOAA-10
A-42	01 DEC 89	73 20'N 07 30'W	0.01 15 NM	NOAA-10
A-43	01 DEC 89	73 10'N 07 40'W	0.01 15 NM	NOAA-10
A-44	01 DEC 89	73 00'N 07 50'W	0.01 15 NM	NOAA-10
A-45	01 DEC 89	72 50'N 08 00'W	0.01 15 NM	NOAA-10
A-46	01 DEC 89	72 40'N 08 10'W	0.01 15 NM	NOAA-10
A-47	01 DEC 89	72 30'N 08 20'W	0.01 15 NM	NOAA-10
A-48	01 DEC 89	72 20'N 08 30'W	0.01 15 NM	NOAA-10
A-49	01 DEC 89	72 10'N 08 40'W	0.01 15 NM	NOAA-10
A-50	01 DEC 89	72 00'N 08 50'W	0.01 15 NM	NOAA-10



NORTHERN ICE LIMIT 11 JAN 90

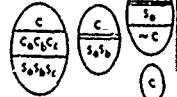
**NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND**

C = Total ice concentration in the area in tenths.
C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
~C = Concentration of ice within area(s) of strips and patches.

STAGE(S) OF DEVELOPMENT (THICKNESS)

- 1 = New ice (0 - 10 cm)
- 2 = Young ice (10 - 30 cm)
- 3 = First year (30 - 70 cm)
- 4 = First year (70 - 120 cm)
- 5 = First year (120 - 200 cm)
- 6 = Old ice (survived at least one summer's melt)

EXAMPLES



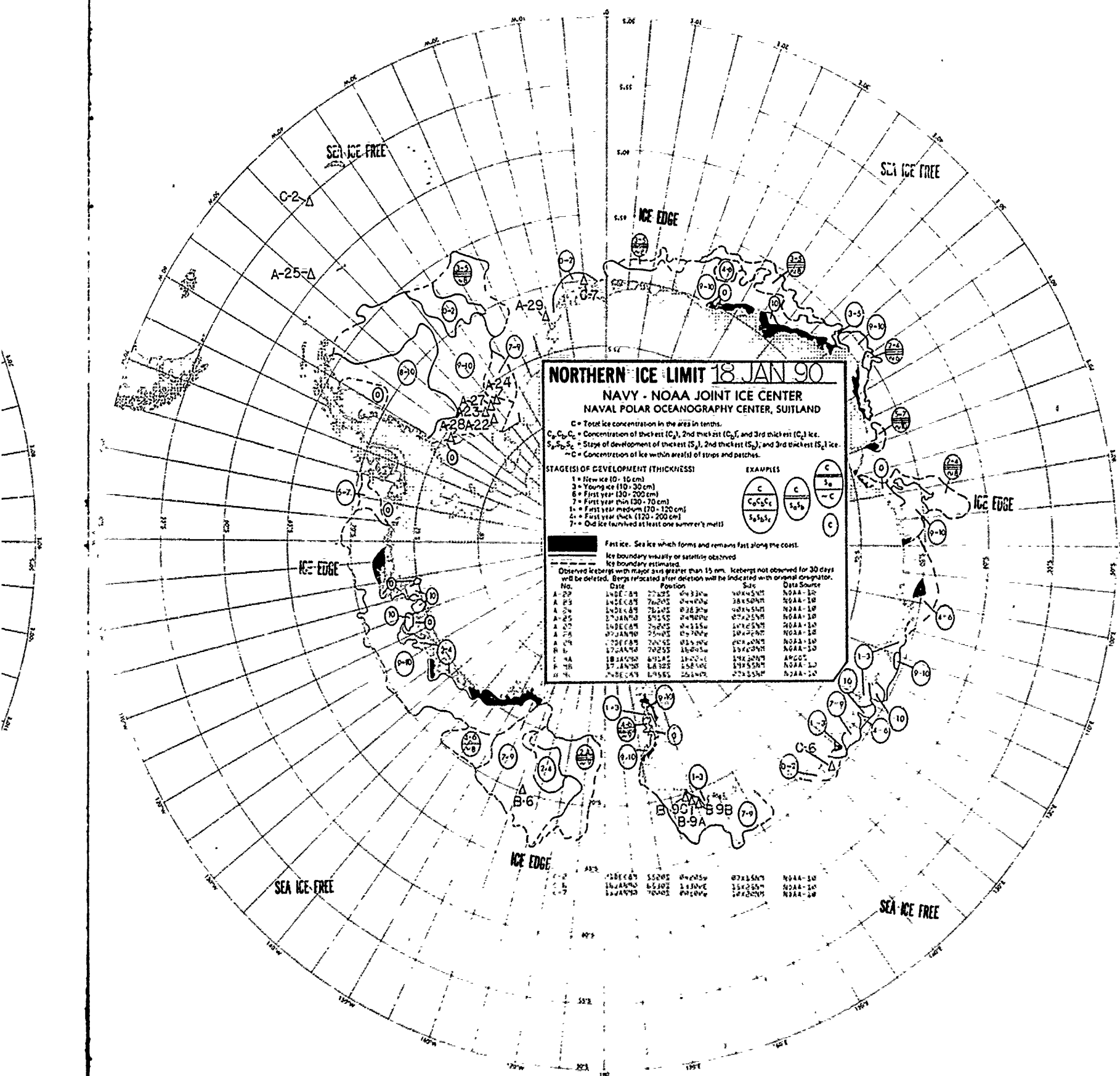
Fast ice. Sea ice which forms and remains fast along the coast.

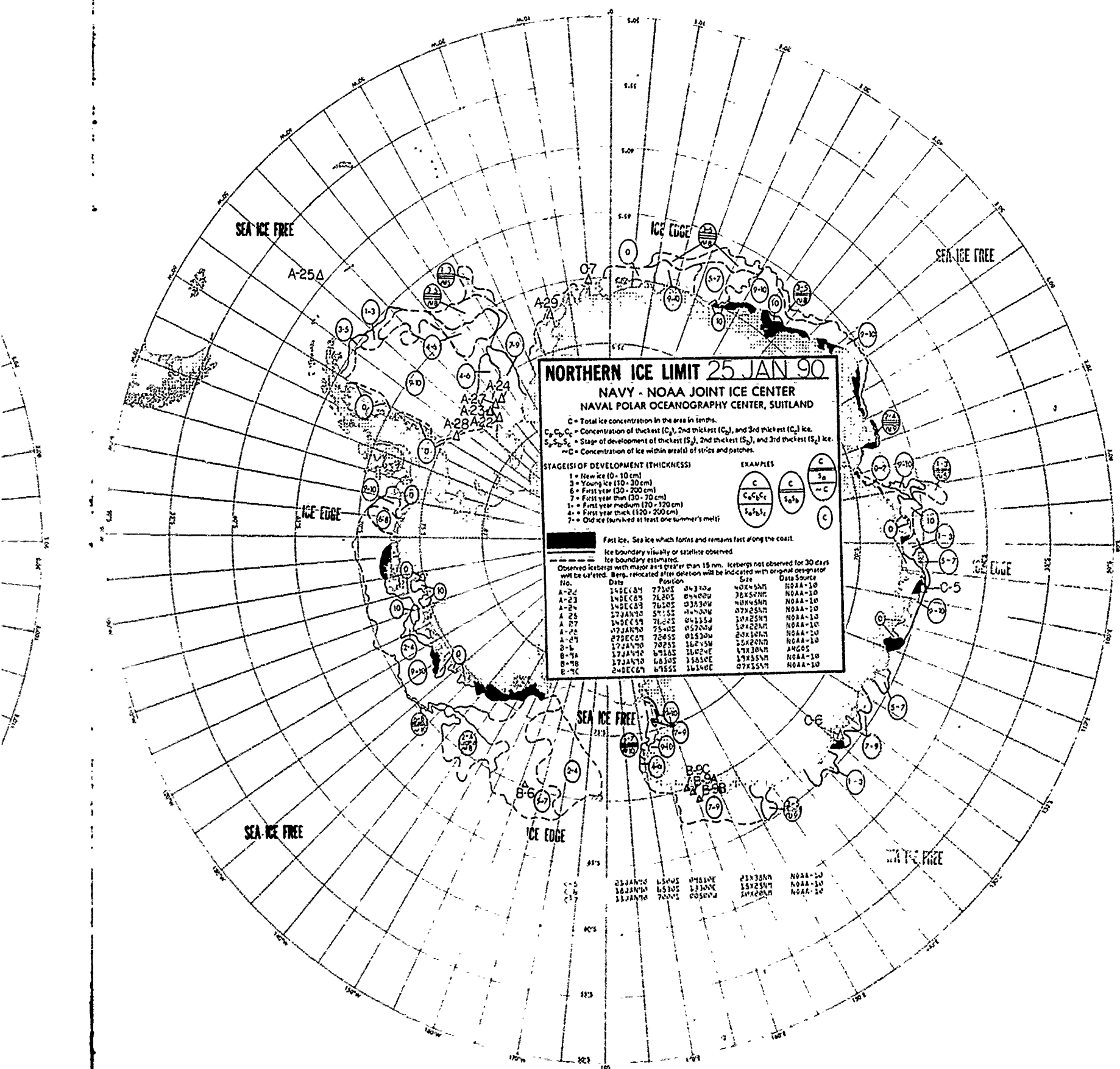
Ice boundary visually or satellite observed.

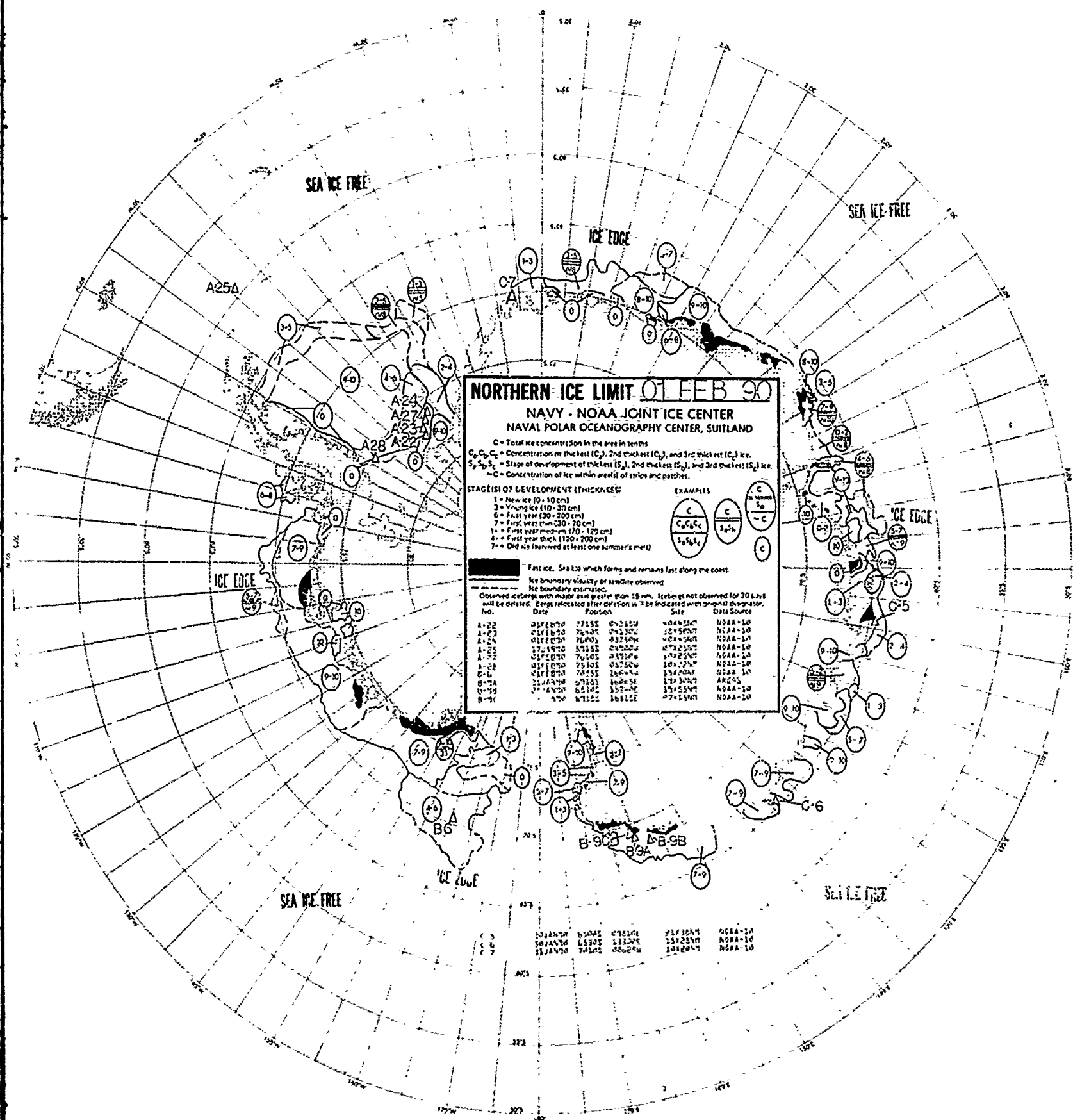
Observed icebergs with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Bergs relocated after deletion will be indicated with original designator.

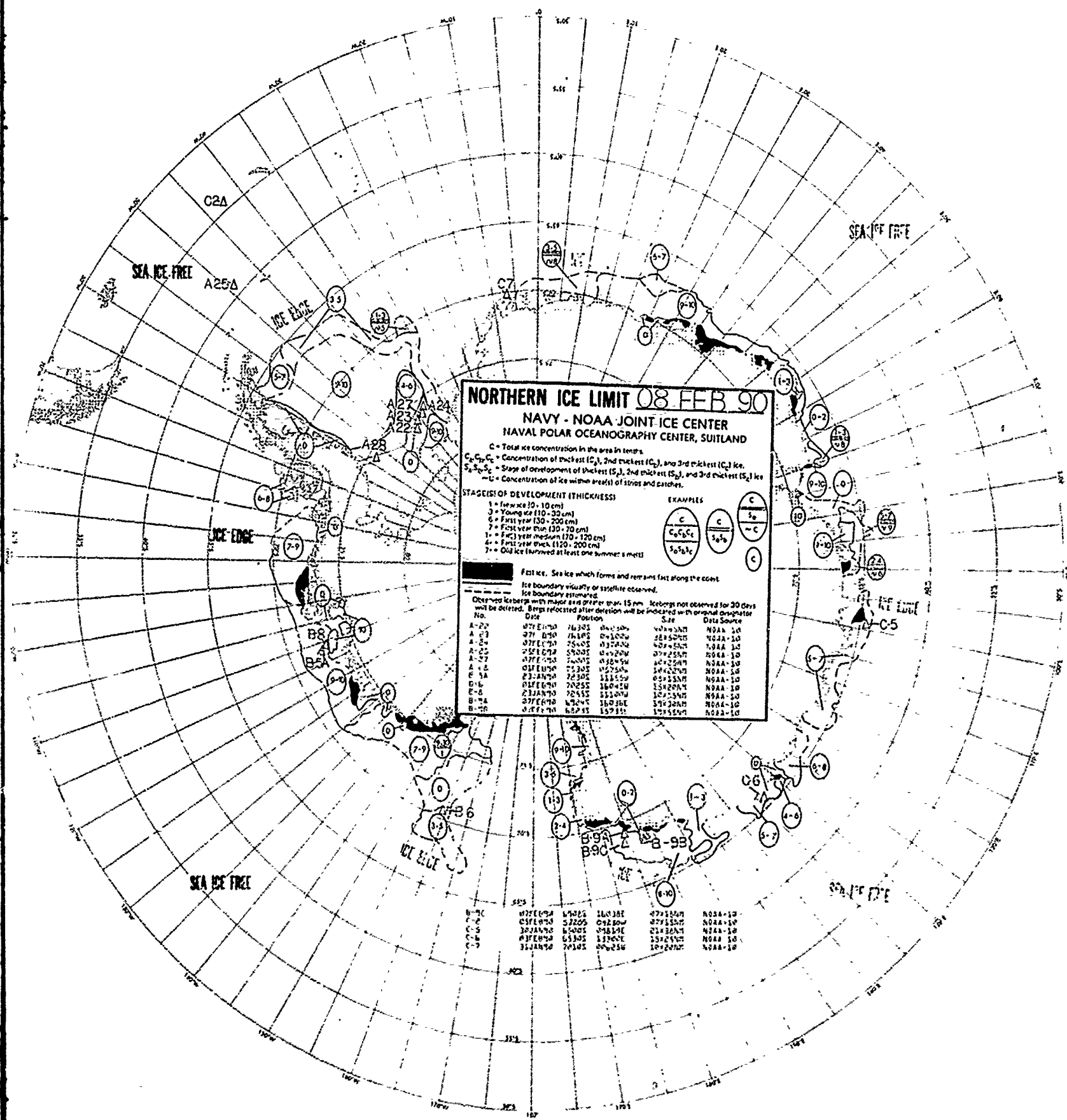
No.	Date	Position	Size	Data Source
A-22	14DEC89	77101 043300	40X45NM	NOAA-10
A-23	14DEC89	76201 044000	30X50NM	NOAA-10
A-24	14DEC89	76101 032300	40X45NM	NOAA-10
A-25	10JAN90	58501 050000	07X25NM	NOAA-10
A-27	14DEC89	76201 041100	30X25NM	NOAA-10
A-28	07JAN90	75401 057000	30X22NM	NOAA-10
A-29	27DEC89	72011 011300	20X10NM	NOAA-10
B-7A	11JAN90	69301 160300	19X30NM	ARGOS
B-7B	10JAN90	68401 157000	19X35NM	NOAA-10
B-7C	24DEC89	67511 161400	07X15NM	NOAA-10
C-2	21DEC89	55201 042000	07X15NM	NOAA-10

C-1	07JAN90	65201	1311SE	35X25NM	NOAA-10
C-2	11JAN90	70201	045000	30X20NM	NOAA-10









NORTHERN ICE LIMIT 08 FEB 90

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

C = Total ice concentration in the area in tenths.
 C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
 S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
 L = Concentration of ice within areas of strips and patches.

STAGES OF DEVELOPMENT (THICKNESS)

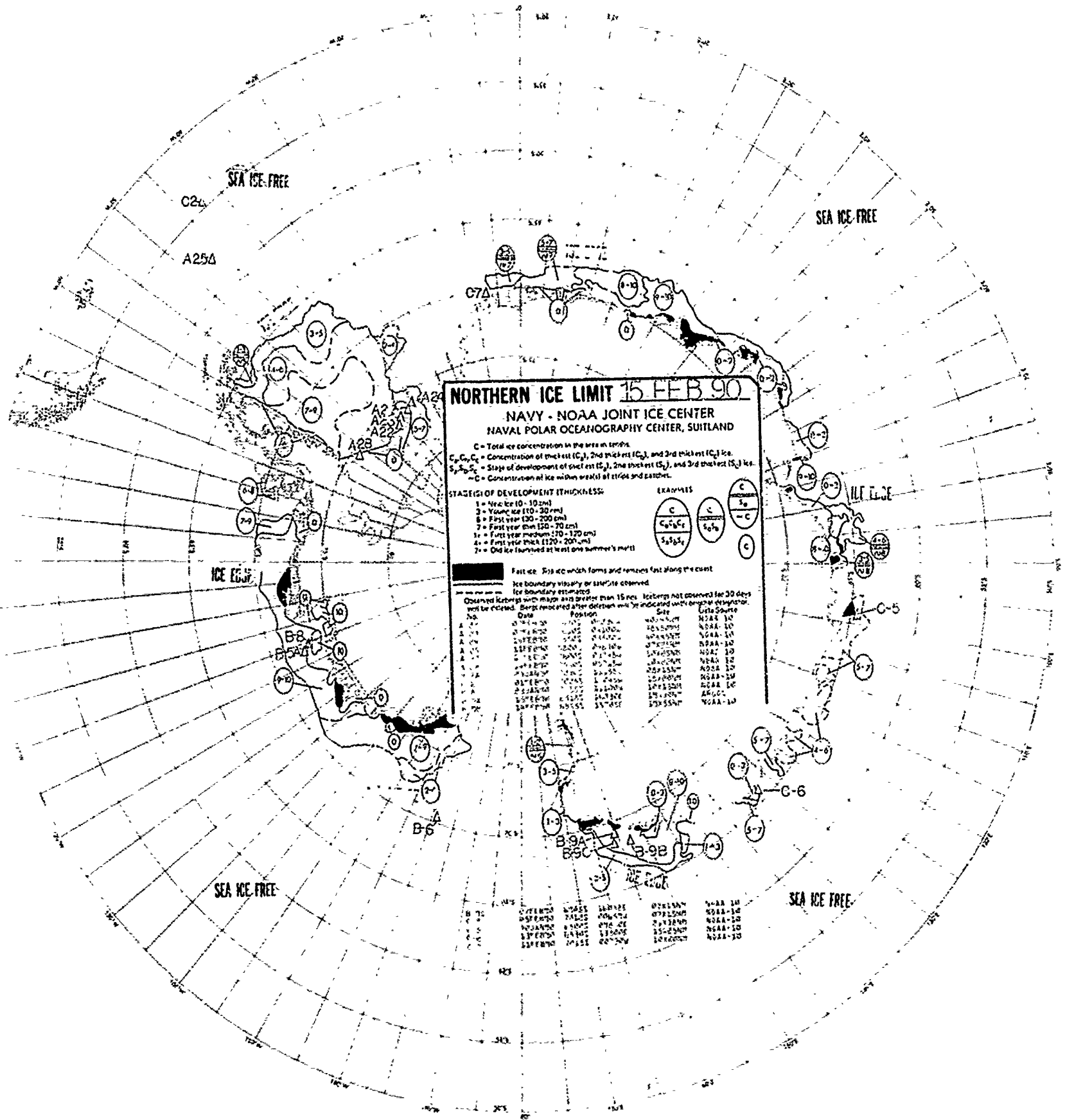
- 1 = New ice (10 - 10 cm)
- 2 = Young ice (10 - 30 cm)
- 3 = First year (30 - 100 cm)
- 4 = First year (100 - 170 cm)
- 5 = First year (170 - 200 cm)
- 6 = First year (200 - 250 cm)
- 7 = Old ice (thinned at least one summer's melt)

EXAMPLES

$\frac{C}{C_1 C_2 C_3}$	$\frac{C}{S_1 S_2 S_3}$	$\frac{C}{L}$
$\frac{C}{S_1 S_2 S_3}$	$\frac{C}{L}$	$\frac{C}{L}$

Fast ice. Sea ice which forms and remains fast along the coast.
Ice boundary. vicinity or satellite observed.
Ice boundary. estimated.
Observed icebergs. with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Berge relocated after deletion will be indicated with original designation No. Date Position Size Data Source

No.	Date	Position	Size	Data Source
A-27	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-28	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-29	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-30	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-31	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-32	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-33	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-34	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-35	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-36	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-37	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-38	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-39	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-40	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-41	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-42	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-43	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-44	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-45	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-46	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-47	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-48	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-49	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-50	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-51	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-52	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-53	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-54	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-55	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-56	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-57	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-58	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-59	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-60	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-61	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-62	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-63	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-64	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-65	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-66	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-67	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-68	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-69	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-70	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-71	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-72	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-73	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-74	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-75	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-76	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-77	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-78	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-79	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-80	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-81	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-82	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-83	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-84	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-85	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-86	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-87	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-88	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-89	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-90	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-91	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-92	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-93	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-94	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-95	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-96	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-97	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-98	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-99	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10
A-100	07 FEB 90	76 30S 160 30W	100 x 50M	NOAA-10



NORTHERN ICE LIMIT 15 FEB 90

**NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND**

C = Total ice concentration in the area in tenths.
C₁, C₂, C₃ = Concentration of the first (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
S₁, S₂, S₃ = Stage of development of the first (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
-C = Concentration of ice within areas of edge and patches.

STAGES OF DEVELOPMENT (THICKNESS):

- 1 = New ice (10-102m)
- 2 = Young ice (100-200m)
- 3 = First year (200-400m)
- 4 = First year (400-1000m)
- 5 = First year (1000-1500m)
- 6 = First year (1500-2000m)
- 7 = Old ice (survived at least one summer's melt)

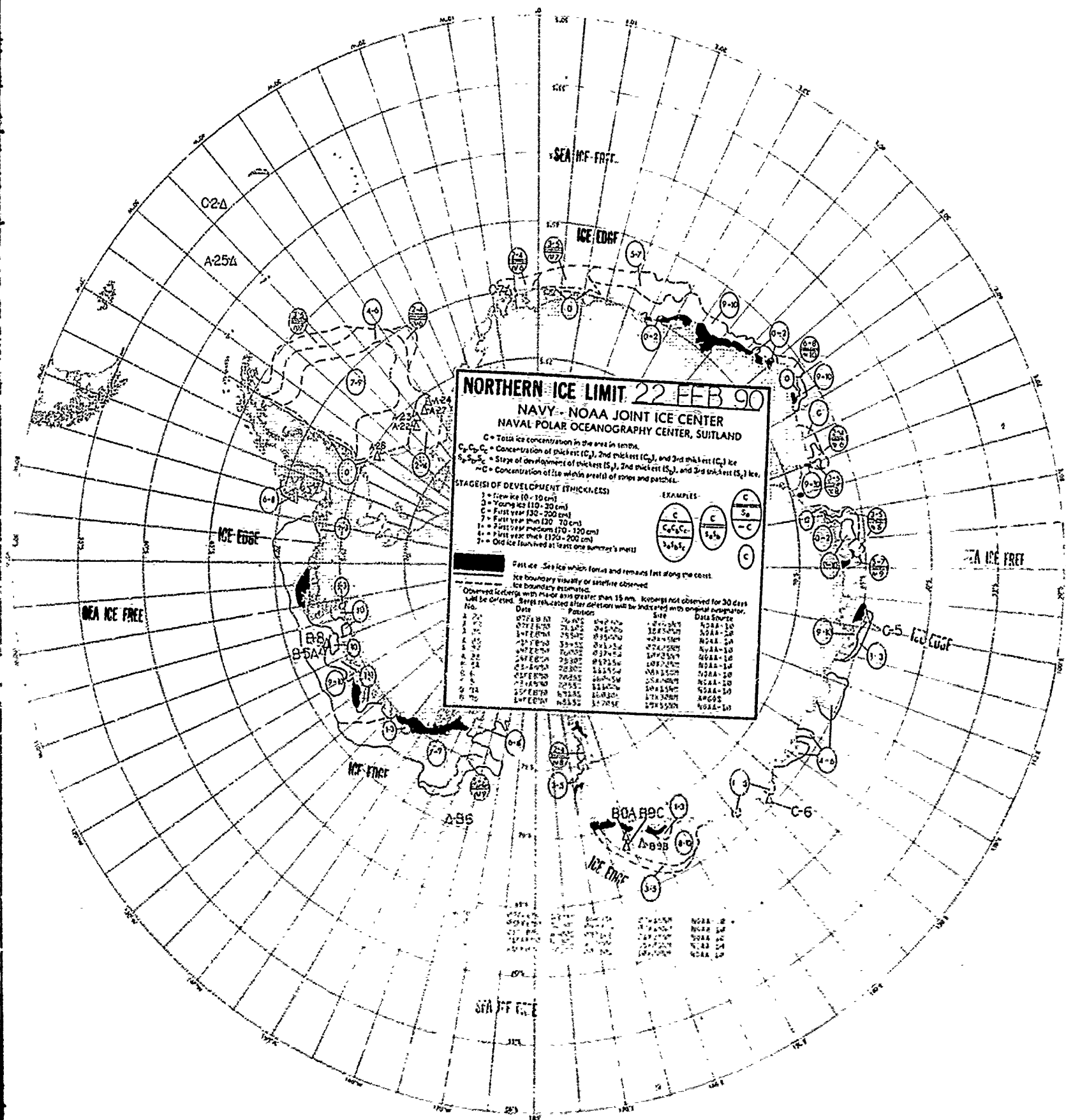
EXAMPLES

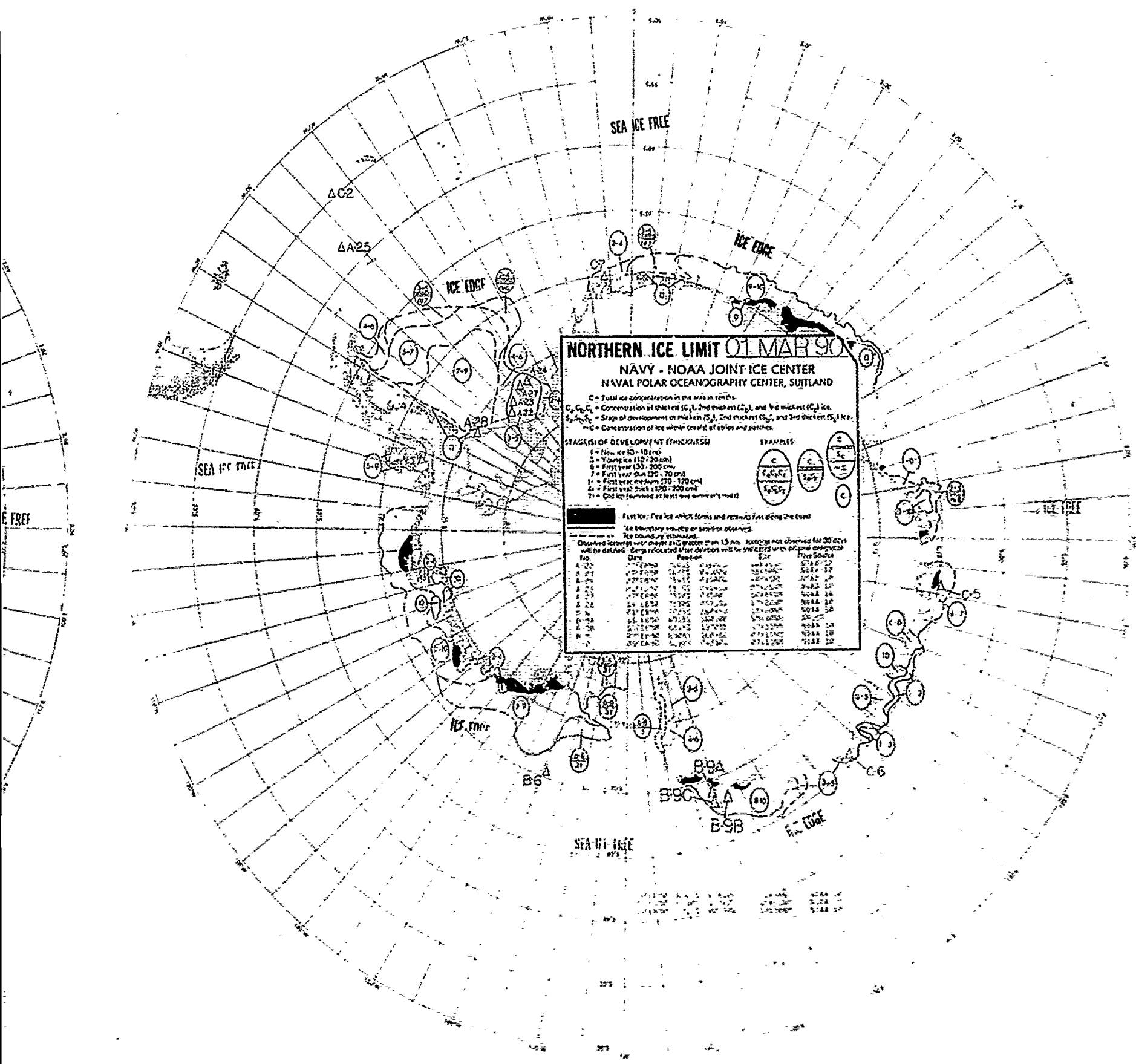


Fast ice: Ice which forms and remains fast along the coast.
Ice boundary: Visible or satellite observed.
Ice boundary estimated: Observed features with major and greater than 15 nm. Icebergs not observed for 30 days will be entered. Best recorded after departure will be indicated with original description.

Date	Position	Size	Ice Source
10 FEB 90	75°N 15°W	1000000	NOAA-10
11 FEB 90	75°N 15°W	1000000	NOAA-10
12 FEB 90	75°N 15°W	1000000	NOAA-10
13 FEB 90	75°N 15°W	1000000	NOAA-10
14 FEB 90	75°N 15°W	1000000	NOAA-10
15 FEB 90	75°N 15°W	1000000	NOAA-10
16 FEB 90	75°N 15°W	1000000	NOAA-10
17 FEB 90	75°N 15°W	1000000	NOAA-10
18 FEB 90	75°N 15°W	1000000	NOAA-10
19 FEB 90	75°N 15°W	1000000	NOAA-10
20 FEB 90	75°N 15°W	1000000	NOAA-10
21 FEB 90	75°N 15°W	1000000	NOAA-10
22 FEB 90	75°N 15°W	1000000	NOAA-10
23 FEB 90	75°N 15°W	1000000	NOAA-10
24 FEB 90	75°N 15°W	1000000	NOAA-10
25 FEB 90	75°N 15°W	1000000	NOAA-10
26 FEB 90	75°N 15°W	1000000	NOAA-10
27 FEB 90	75°N 15°W	1000000	NOAA-10
28 FEB 90	75°N 15°W	1000000	NOAA-10
29 FEB 90	75°N 15°W	1000000	NOAA-10
30 FEB 90	75°N 15°W	1000000	NOAA-10

NOAA-10	NOAA-10	NOAA-10	NOAA-10
NOAA-10	NOAA-10	NOAA-10	NOAA-10
NOAA-10	NOAA-10	NOAA-10	NOAA-10
NOAA-10	NOAA-10	NOAA-10	NOAA-10





NORTHERN ICE LIMIT 01 MAR 90

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

C = Total ice concentration in the area in tenths.
 C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
 S₁, S₂, S₃ = Stage of development on thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
 W = Concentration of ice within 100 ft of strips and patches.

STAGES OF DEVELOPMENT (THICKNESS)

- 1 = New ice 10 - 10 cm
- 2 = Young ice 10 - 20 cm
- 3 = First year 20 - 30 cm
- 4 = First year 30 - 40 cm
- 5 = First year 40 - 50 cm
- 6 = First year 50 - 60 cm
- 7 = First year 60 - 70 cm
- 8 = First year 70 - 80 cm
- 9 = First year 80 - 90 cm
- 10 = First year 90 - 100 cm
- 11 = First year 100 - 120 cm
- 12 = First year 120 - 140 cm
- 13 = First year 140 - 160 cm
- 14 = First year 160 - 180 cm
- 15 = First year 180 - 200 cm
- 16 = First year 200 - 220 cm
- 17 = First year 220 - 240 cm
- 18 = First year 240 - 260 cm
- 19 = First year 260 - 280 cm
- 20 = First year 280 - 300 cm
- 21 = Old ice 300 cm or more

EXAMPLES:

C

C₁ C₂ C₃

S₁ S₂ S₃

W

C

C₁ C₂ C₃

S₁ S₂ S₃

W

C

C₁ C₂ C₃

S₁ S₂ S₃

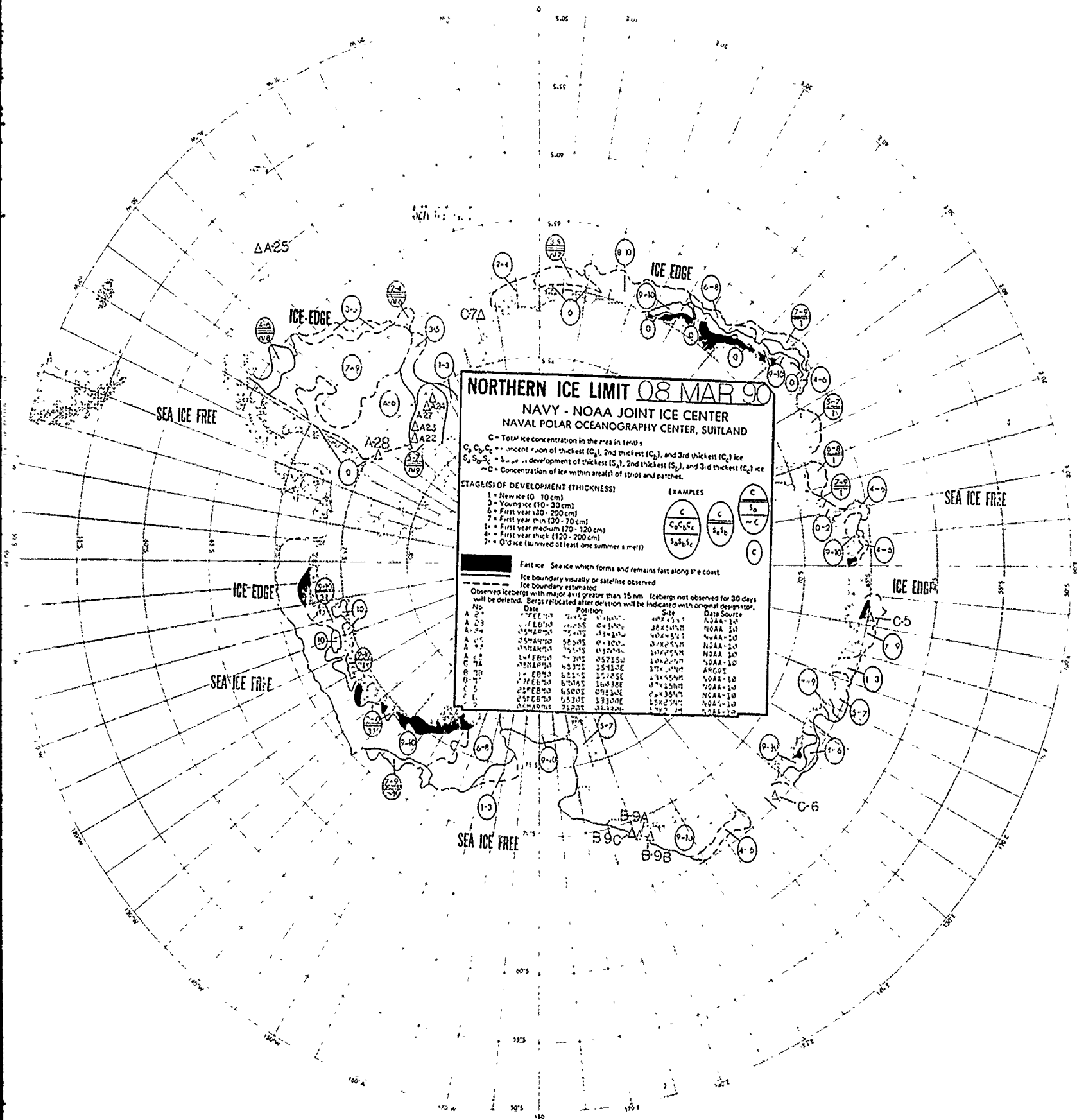
W

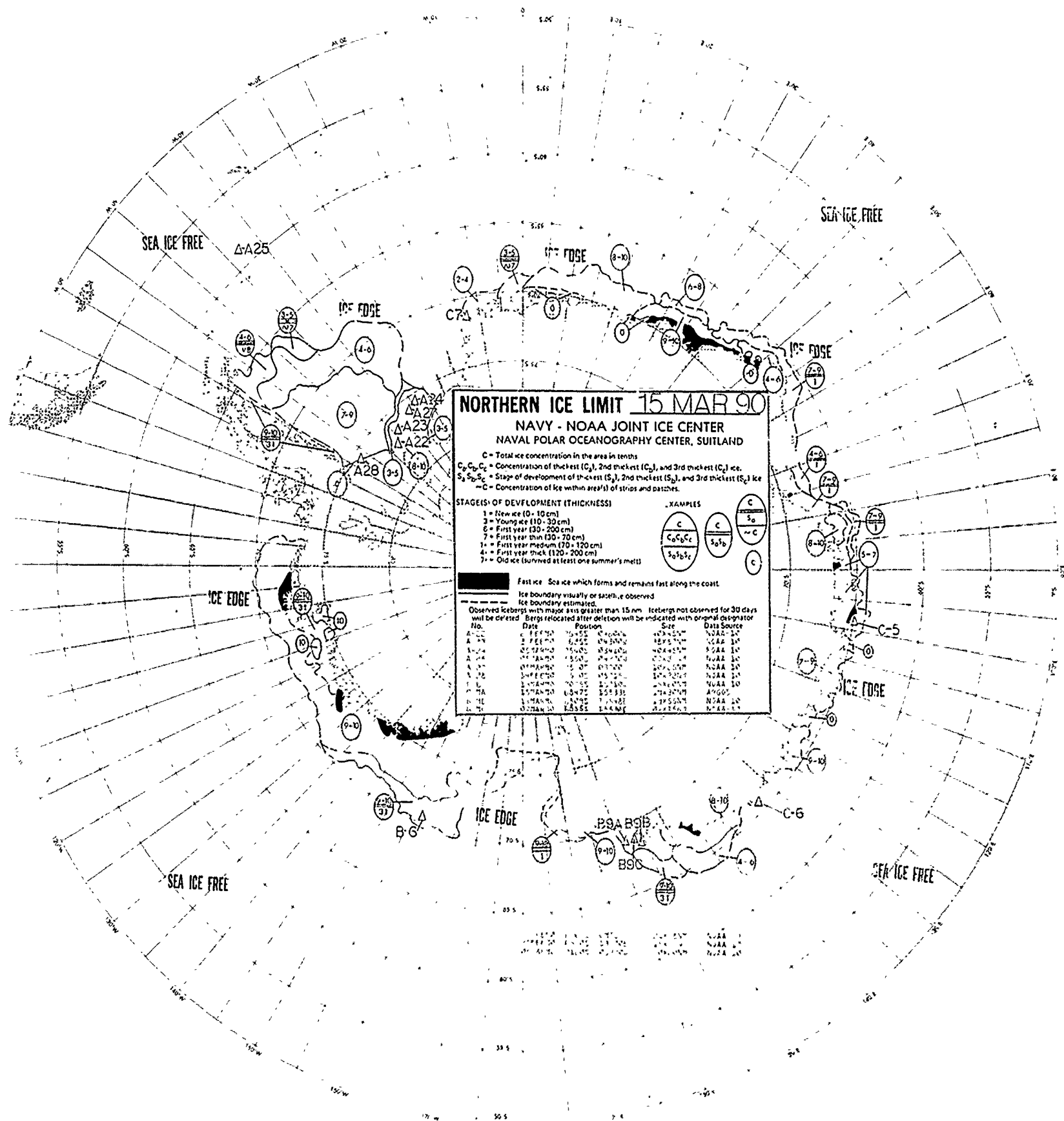
Fast Ice: Ice which forms and remains fast along the coast.

Ice Boundary: Boundary of ice or water.

Observed Icebergs: Icebergs with height and width greater than 15 m. Icebergs not observed for 30 days will be deleted. Large icebergs and their debris will be indicated with additional symbols.

No.	Date	Position	Height	Width	Area	Source
A-20	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-21	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-22	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-23	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-24	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-25	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-26	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-27	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-28	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-29	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-30	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-31	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-32	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-33	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-34	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-35	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-36	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-37	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-38	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-39	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-40	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-41	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-42	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-43	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-44	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-45	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-46	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-47	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-48	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-49	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-50	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-51	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-52	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-53	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-54	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-55	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-56	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-57	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-58	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-59	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-60	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-61	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-62	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-63	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-64	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-65	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-66	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-67	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-68	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-69	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-70	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-71	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-72	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-73	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-74	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-75	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-76	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-77	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-78	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-79	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-80	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-81	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-82	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-83	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-84	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-85	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-86	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-87	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-88	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-89	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-90	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-91	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-92	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-93	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-94	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-95	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-96	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-97	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-98	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-99	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10
A-100	17 FEB 90	72° 15' N 157° 15' W	15.0	15.0	225.0	NOAA-10





NORTHERN ICE LIMIT 15 MAR 90
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND

C = Total ice concentration in the area in tenths
 C₁C₂C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
 S₁S₂S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
 -C = Concentration of ice within area(s) of strips and patches.

STAGES OF DEVELOPMENT (THICKNESS)
 1 = New ice (10-10 cm)
 2 = Young ice (10-30 cm)
 3 = First year thin (30-70 cm)
 4 = First year medium (70-120 cm)
 5 = First year thick (120-200 cm)
 7 = Old ice (survived at least one summer's melt)

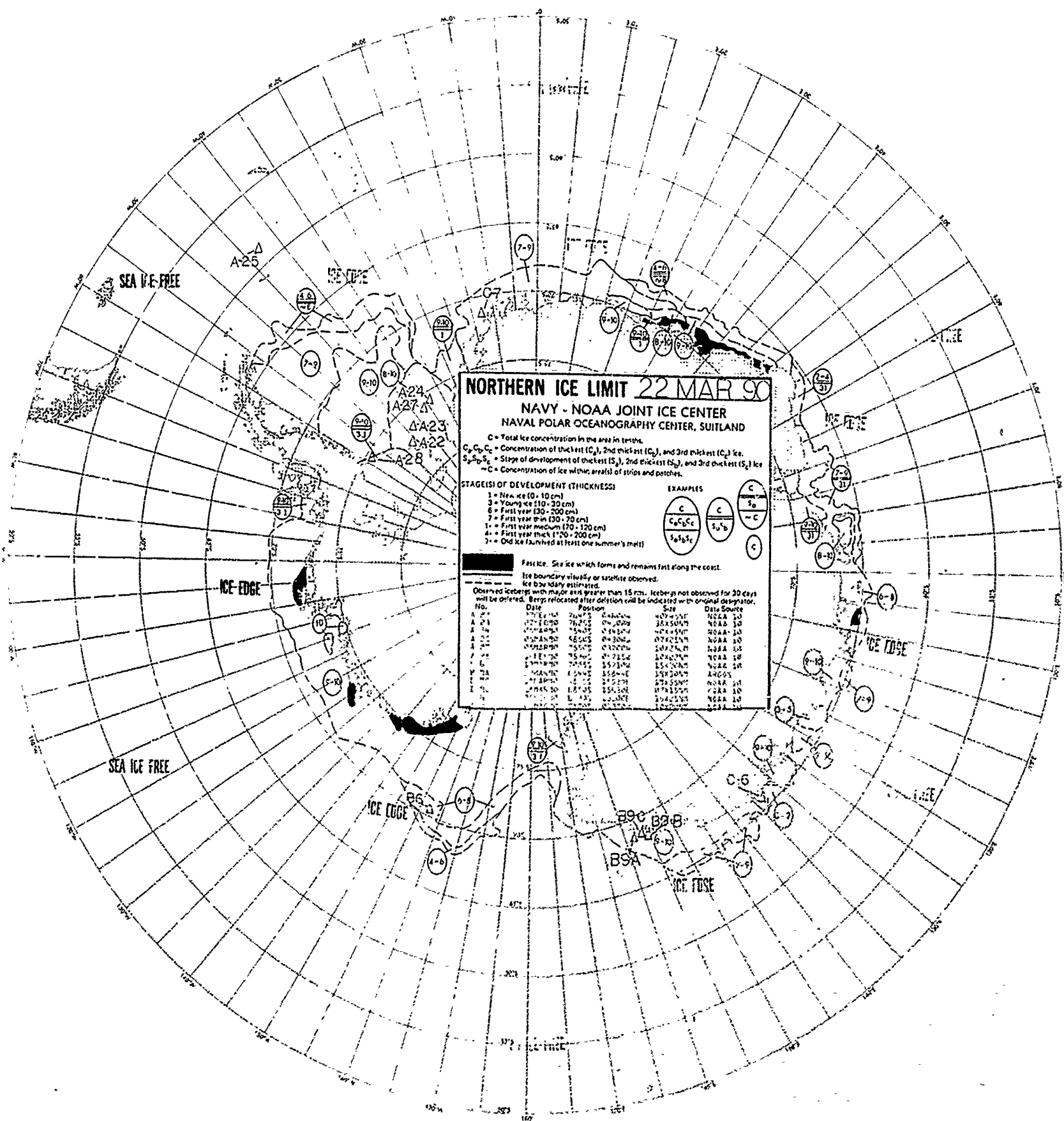
EXAMPLES

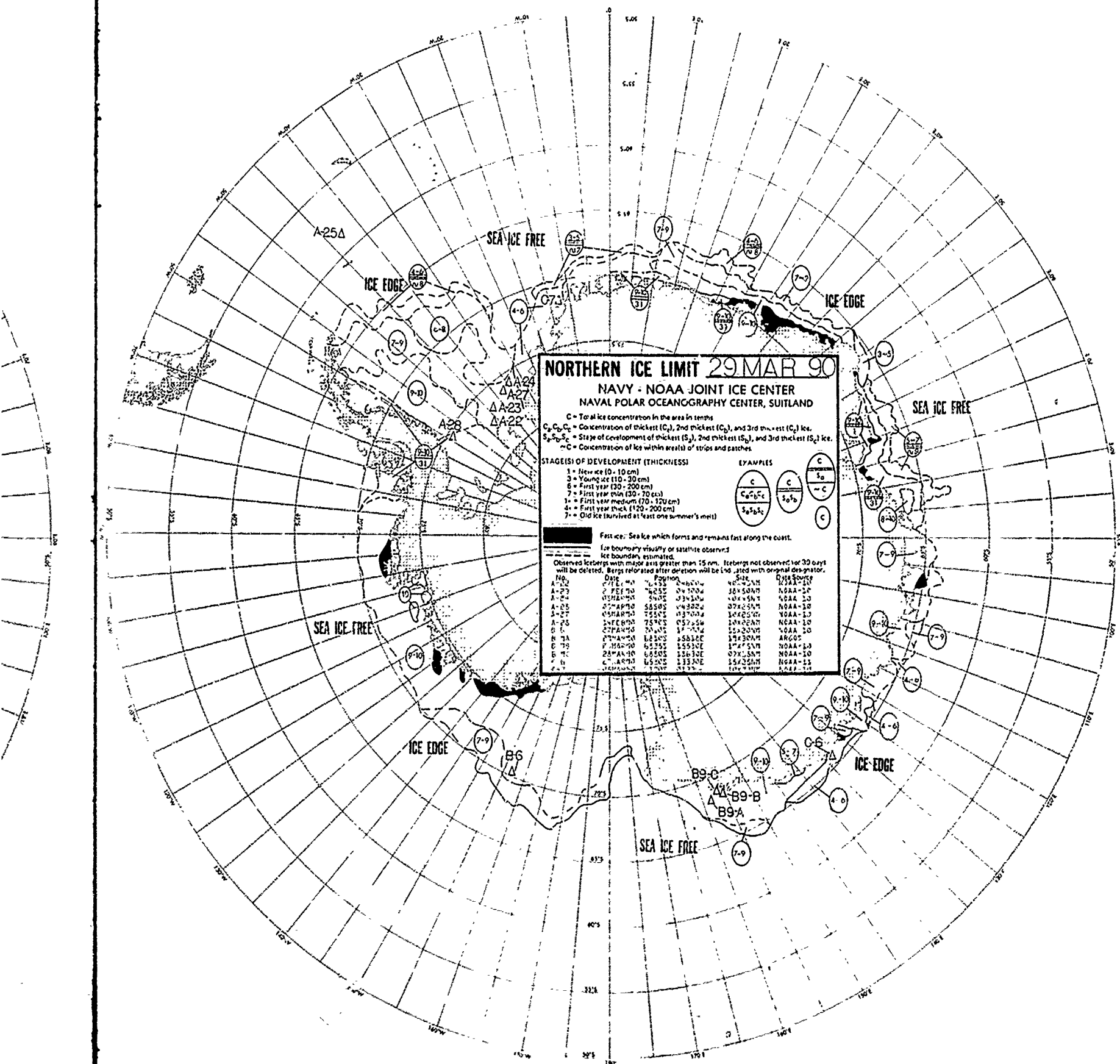
$\frac{C}{C_1C_2C_3}$	$\frac{C}{S_1S_2S_3}$	$\frac{C}{-C}$
$\frac{C}{S_1S_2S_3}$	$\frac{C}{-C}$	$\frac{C}{-C}$

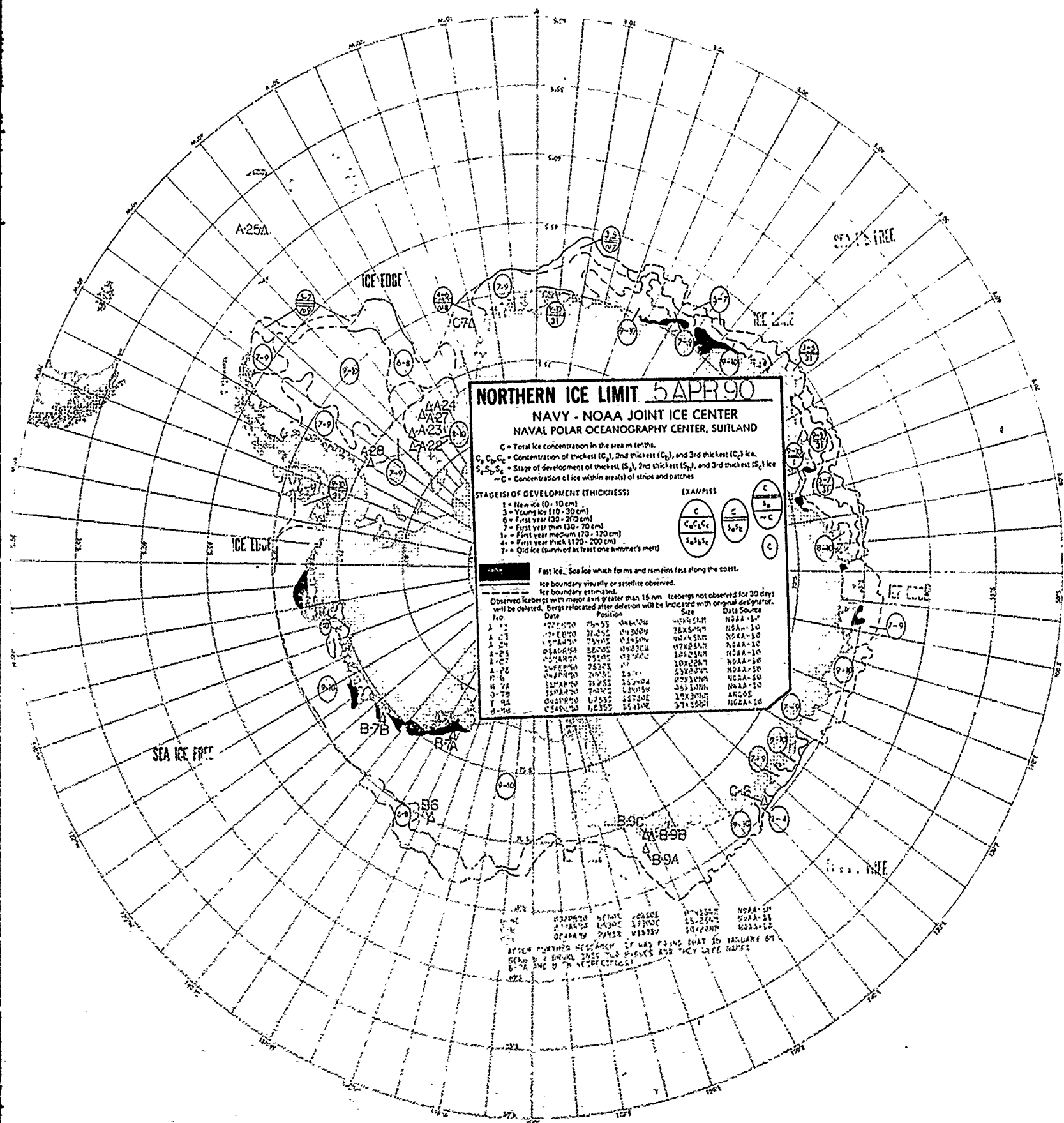
Fast ice: Sea ice which forms and remains fast along the coast.
 Ice boundary visually or satellite observed.
 Ice boundary estimated.

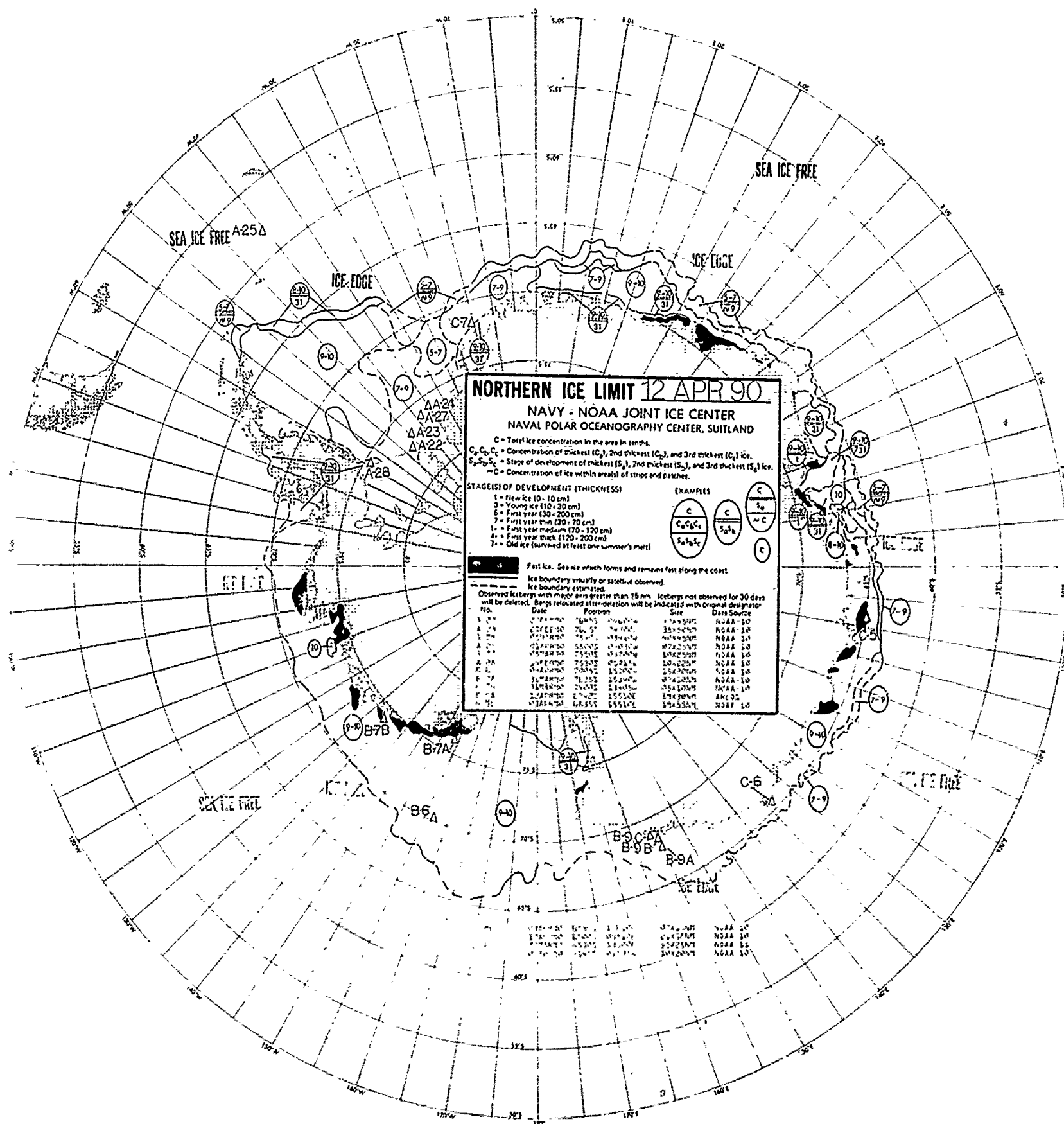
Observed icebergs with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Bergs relocated after deletion will be indicated with original designator.

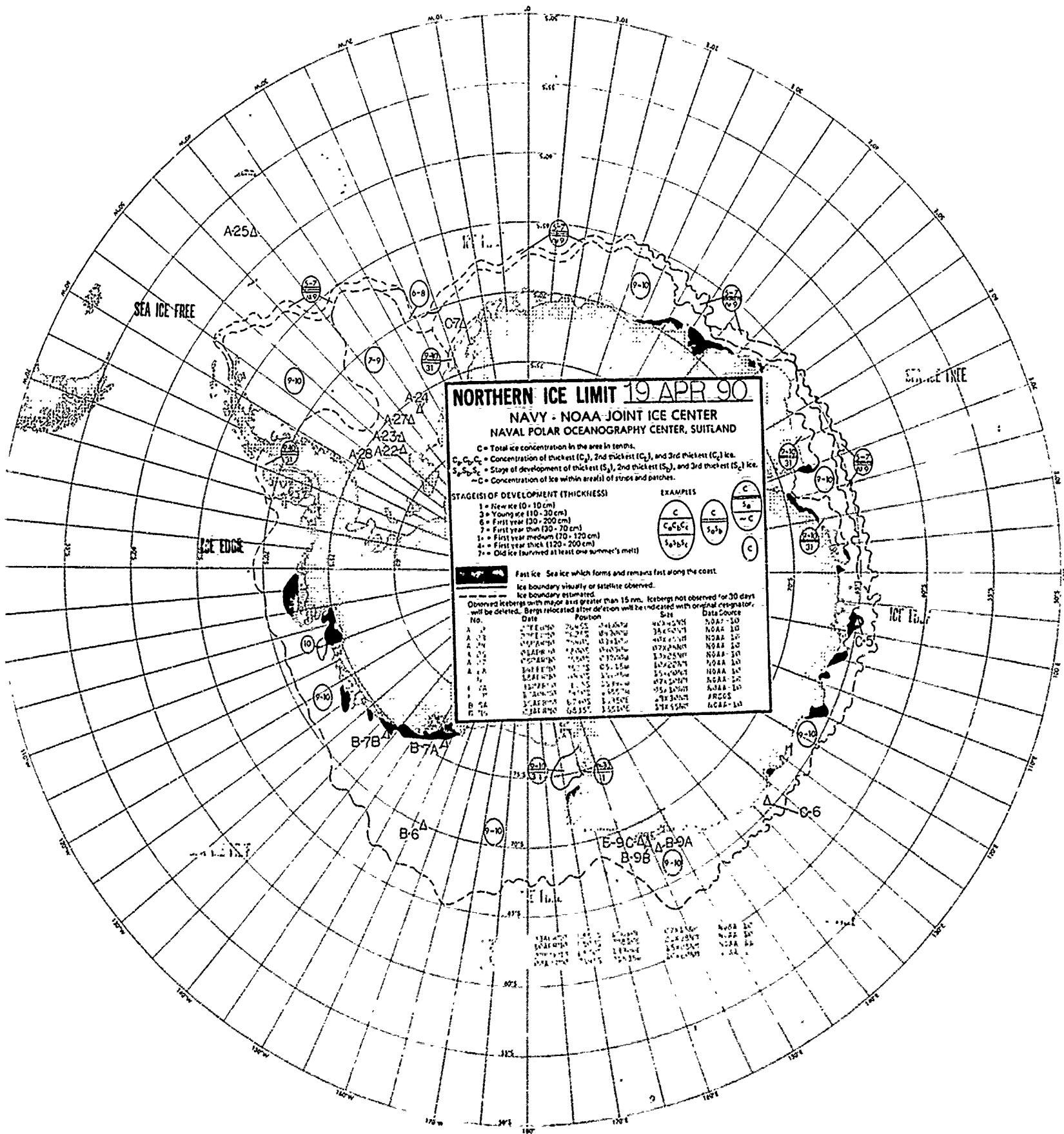
No.	Date	Position	Size	Data Source
A-25	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-28	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-29	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-30	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-31	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-32	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-33	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-34	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-35	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-36	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-37	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-38	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-39	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-40	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-41	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-42	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-43	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-44	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-45	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-46	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-47	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-48	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-49	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-50	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-51	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-52	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-53	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-54	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-55	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-56	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-57	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-58	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-59	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-60	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-61	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-62	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-63	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-64	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-65	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-66	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-67	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-68	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-69	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-70	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-71	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-72	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-73	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-74	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-75	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-76	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-77	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-78	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-79	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-80	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-81	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-82	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-83	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-84	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-85	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-86	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-87	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-88	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-89	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-90	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-91	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-92	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-93	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-94	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-95	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-96	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-97	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-98	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-99	15 MAR 90	75°N 150°W	100 x 100	NOAA 10
A-100	15 MAR 90	75°N 150°W	100 x 100	NOAA 10

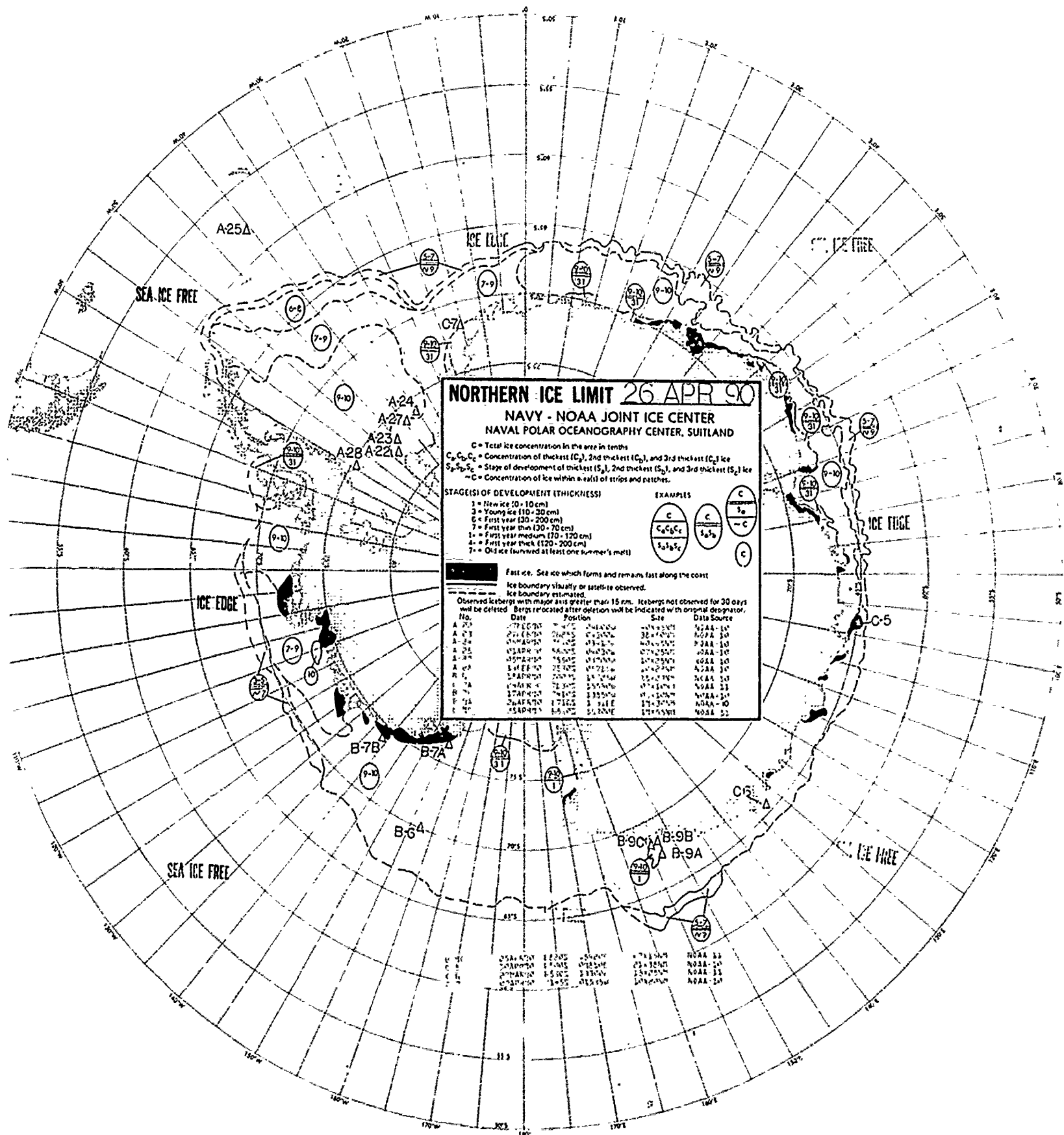


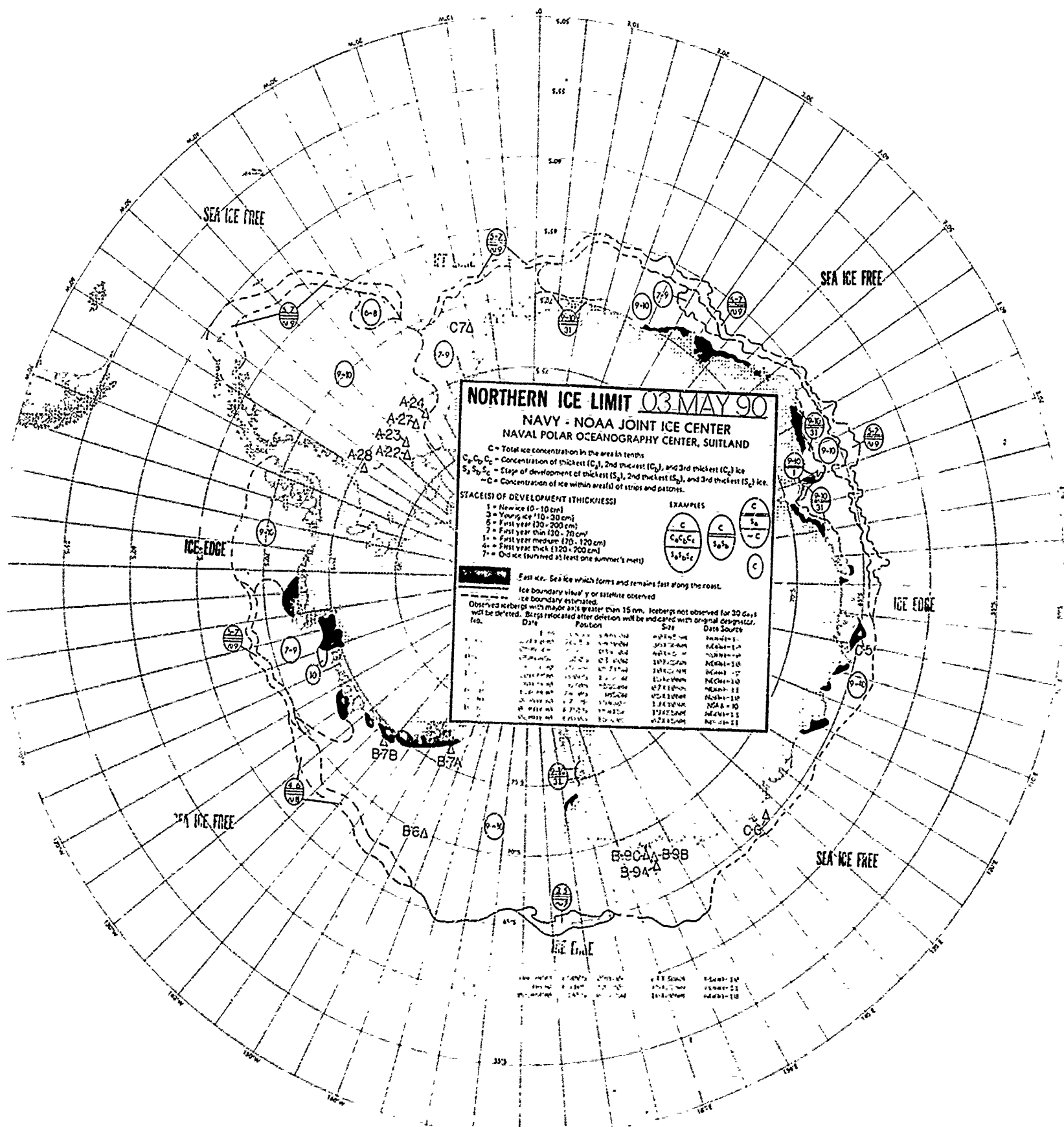


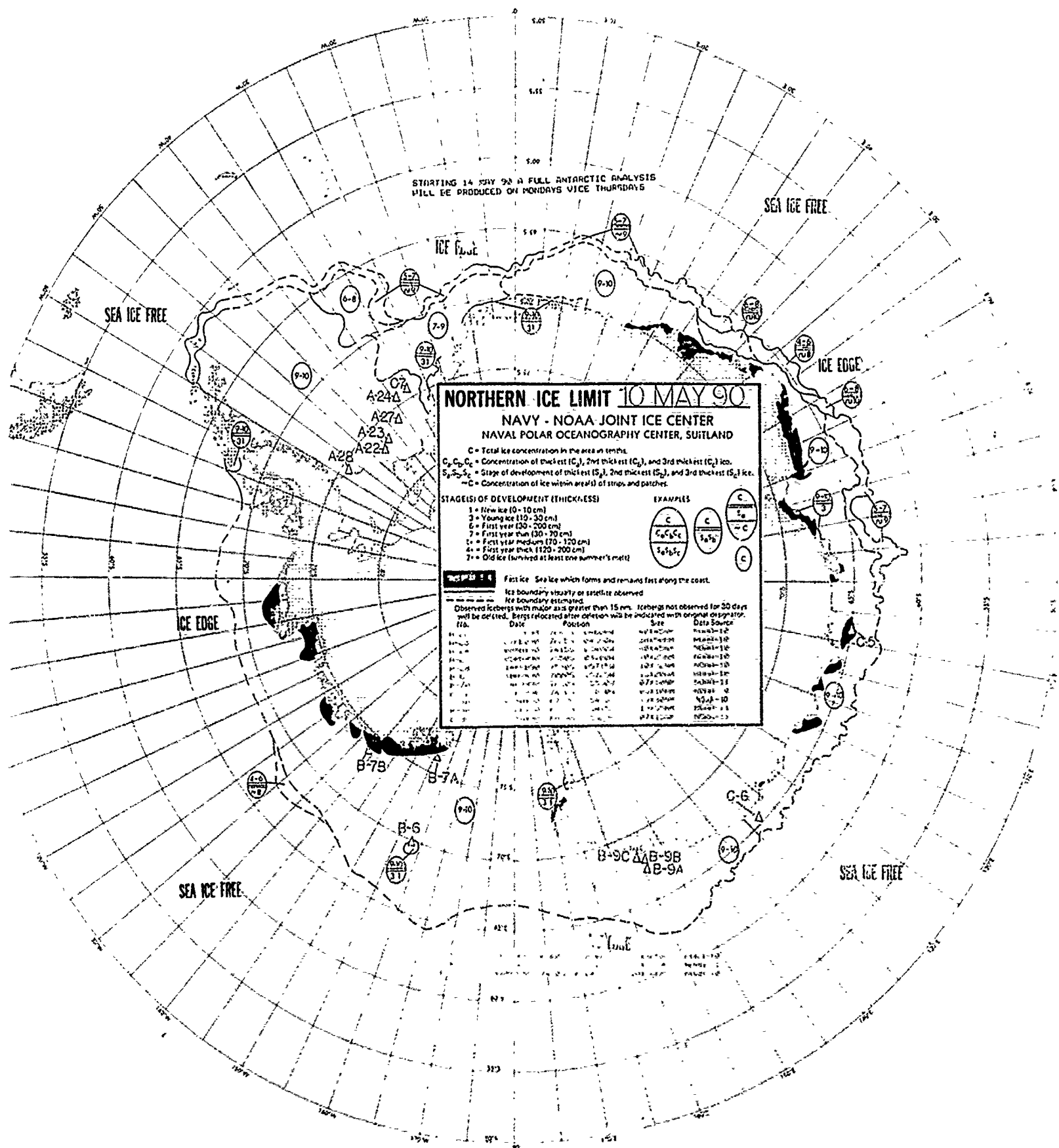


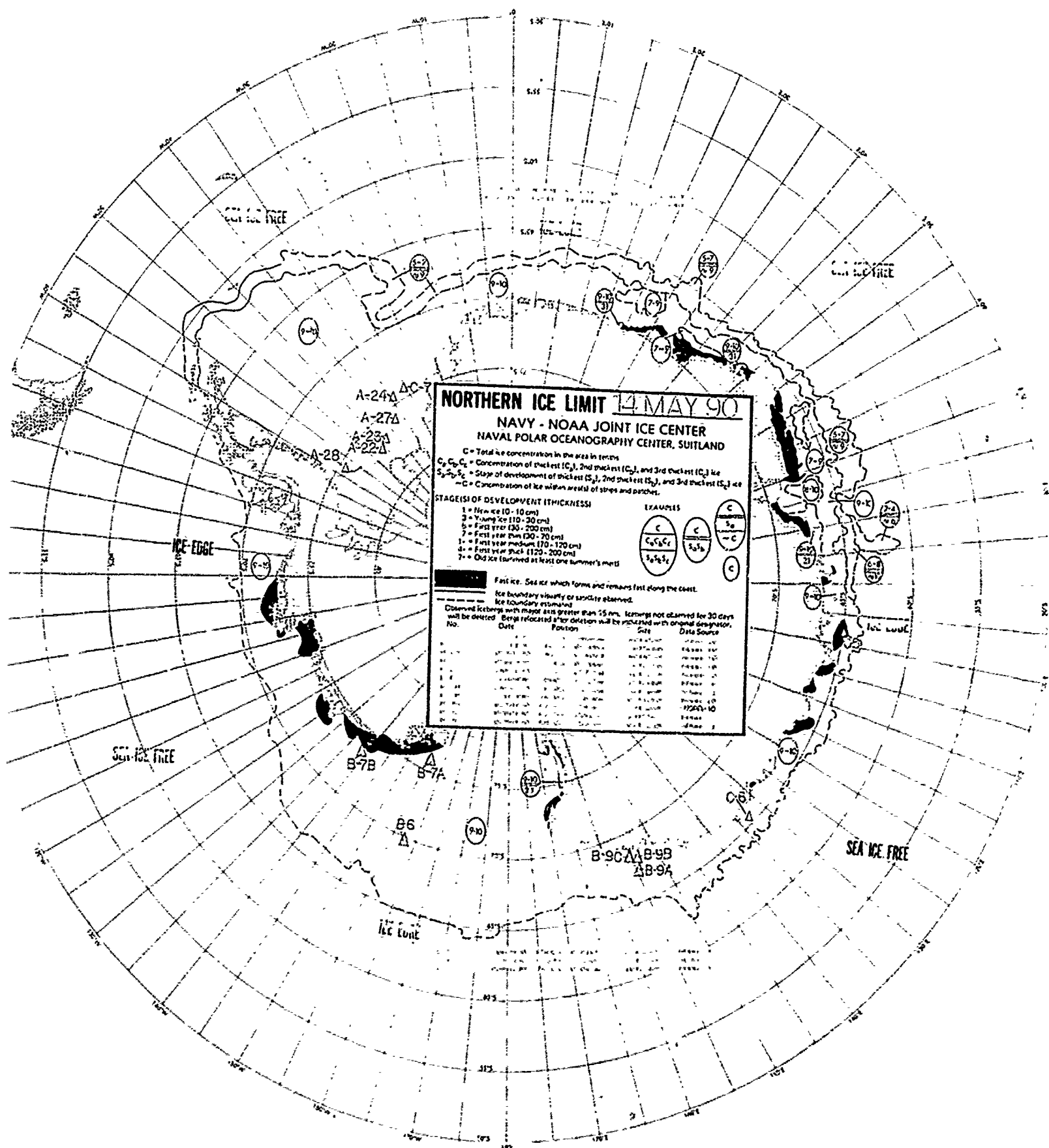


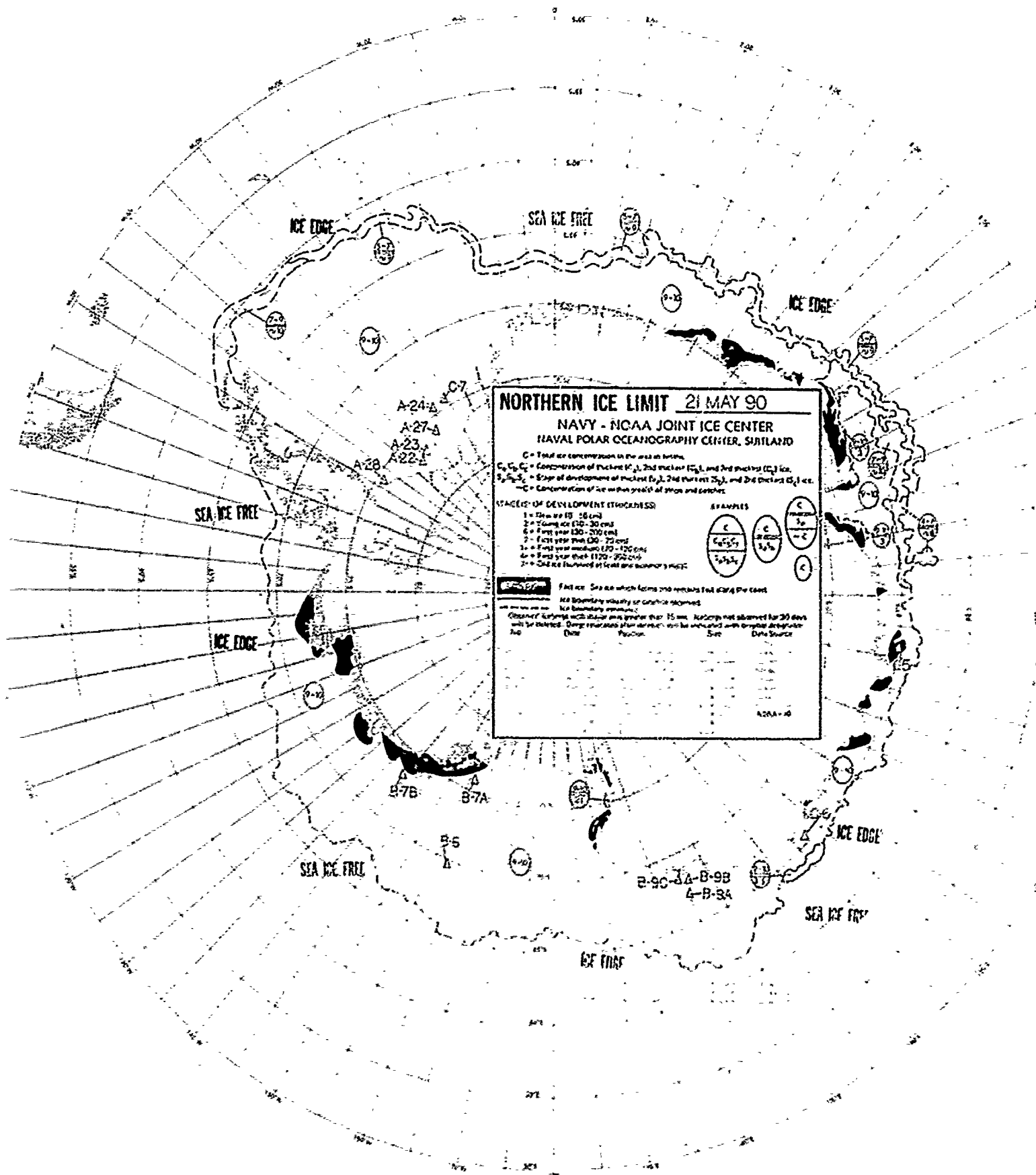


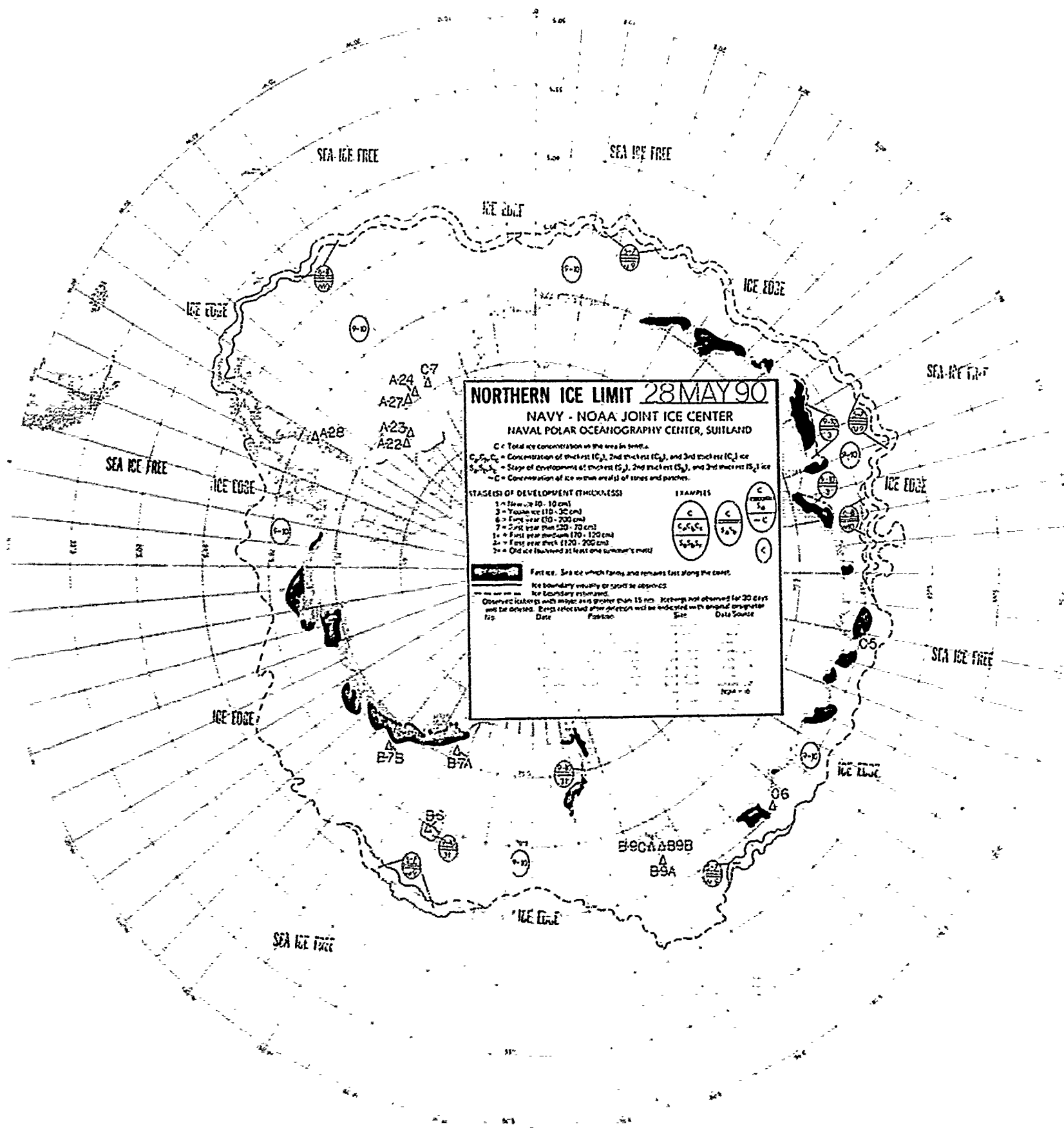


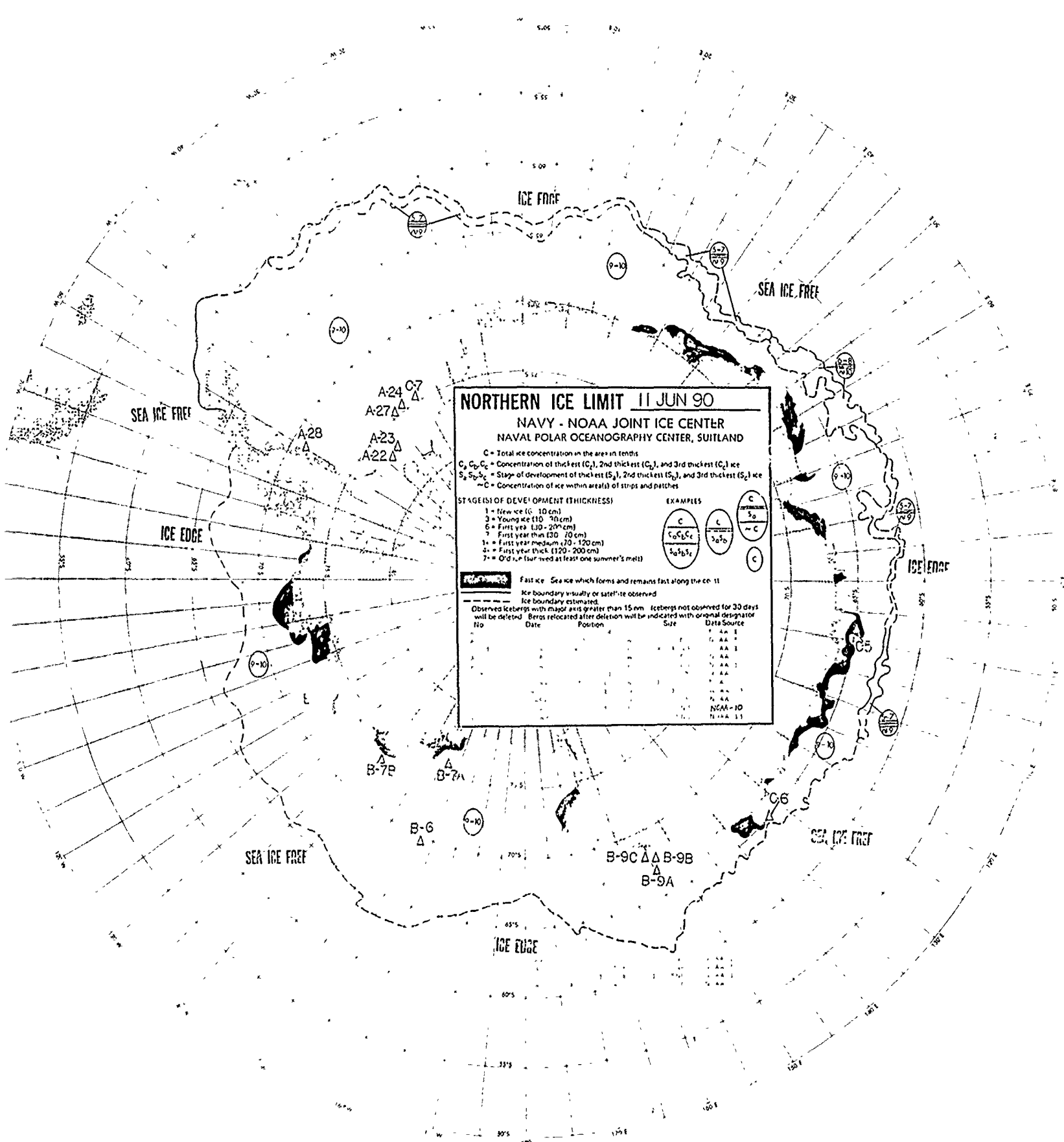












NORTHERN ICE LIMIT 11 JUN 90

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

C = Total ice concentration in the area in tenths
 C₁, C₂, C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice
 S₁, S₂, S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice
 ~C = Concentration of ice within area(s) of strips and patches

STAGE(S) OF DEVELOPMENT (THICKNESS)

- 1 = New ice (< 10 cm)
- 2 = Young ice (10 - 30 cm)
- 3 = First year (30 - 200 cm)
- 4 = First year thin (30 - 70 cm)
- 5 = First year medium (70 - 120 cm)
- 6 = First year thick (120 - 200 cm)
- 7 = Old ice (survived at least one summer's melt)

EXAMPLES

$$\frac{C}{S_1 S_2 S_3}$$

$$\frac{C}{S_1 S_2}$$

$$\frac{C}{S_1}$$

$$\frac{C}{S_2}$$

$$\frac{C}{S_3}$$

$$\frac{C}{S_1 S_2 S_3}$$

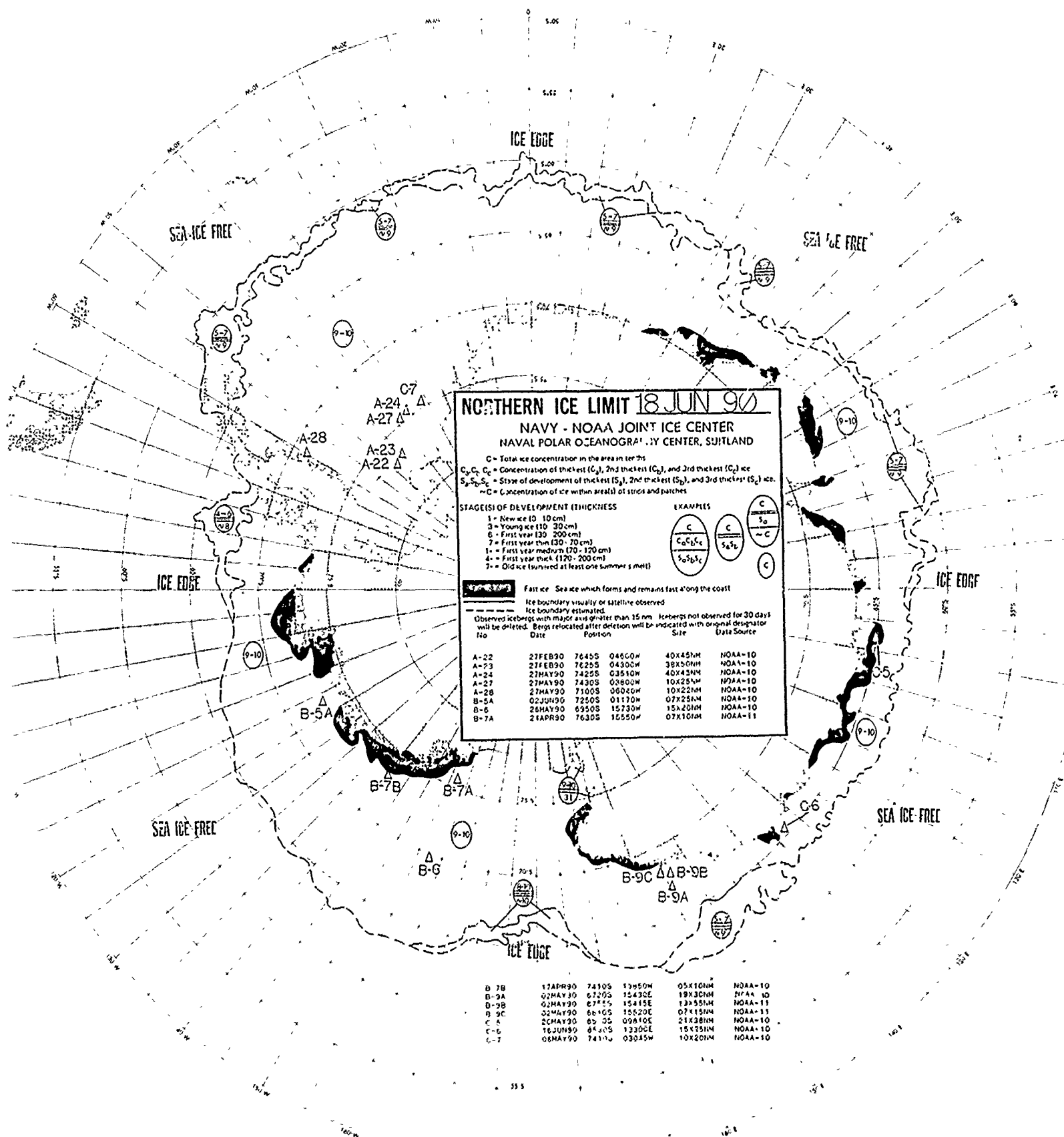
Fast ice - Sea ice which forms and remains fast along the coast

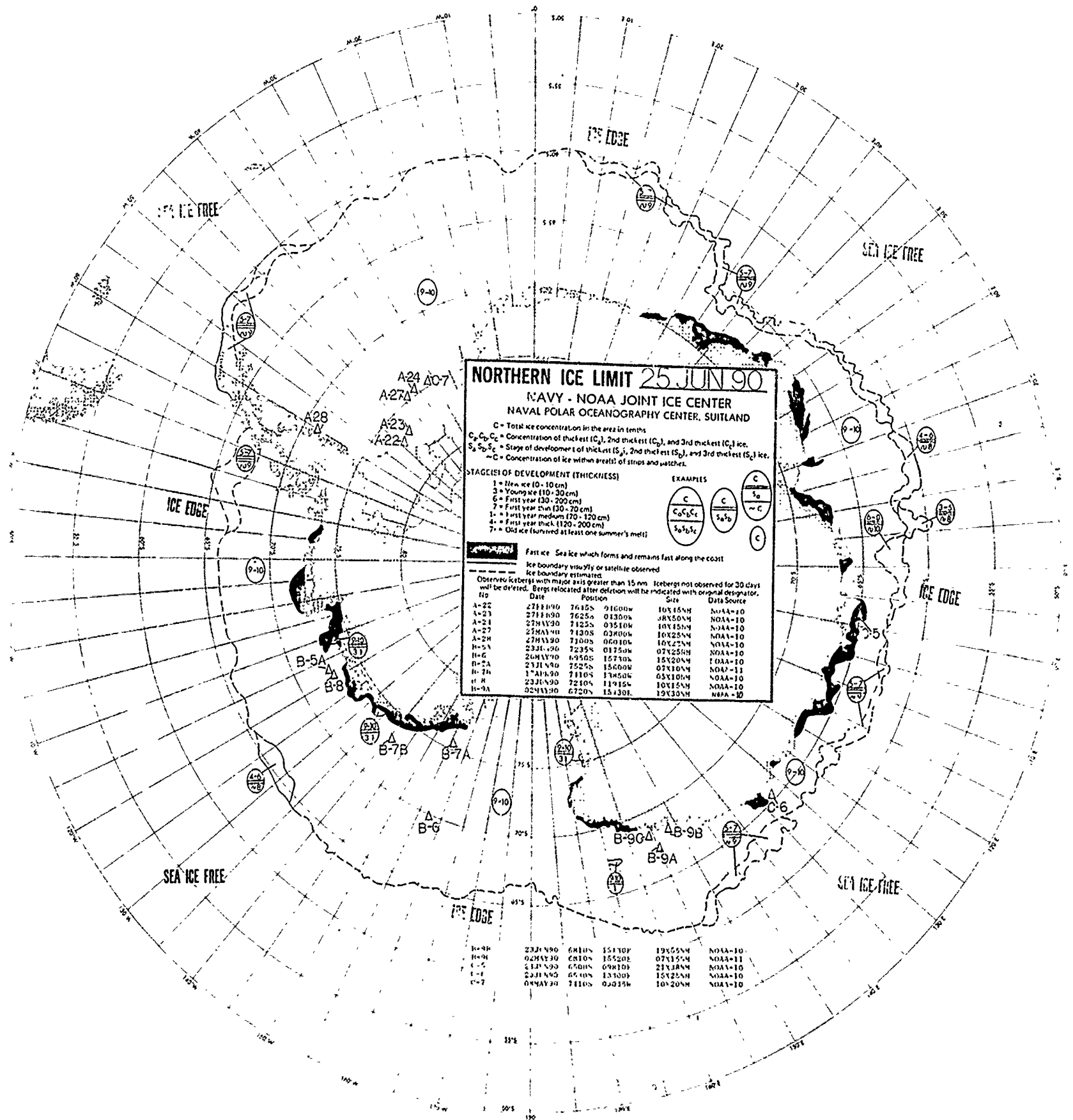
Ice boundary - visually or satellite observed

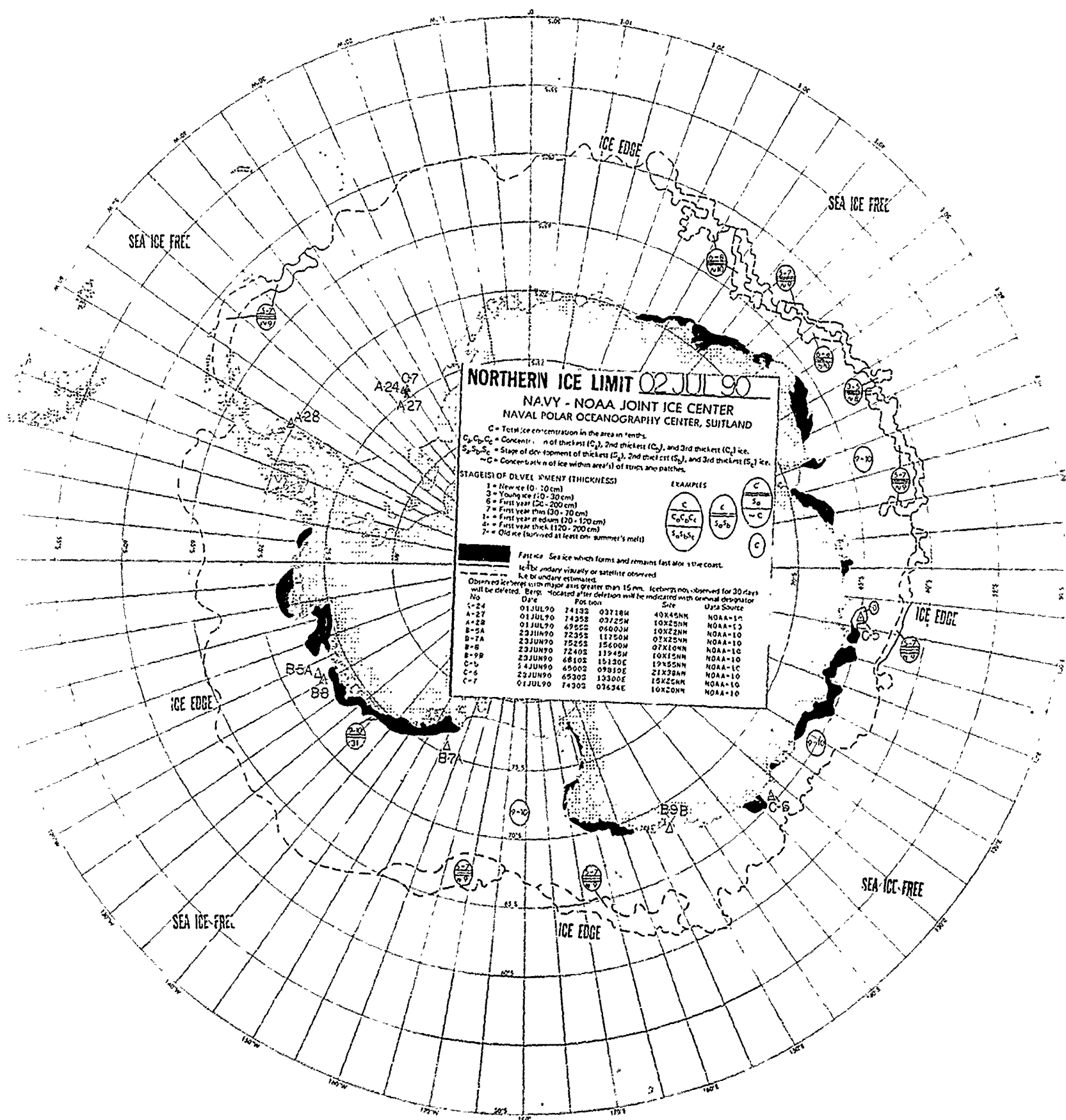
Ice boundary estimated

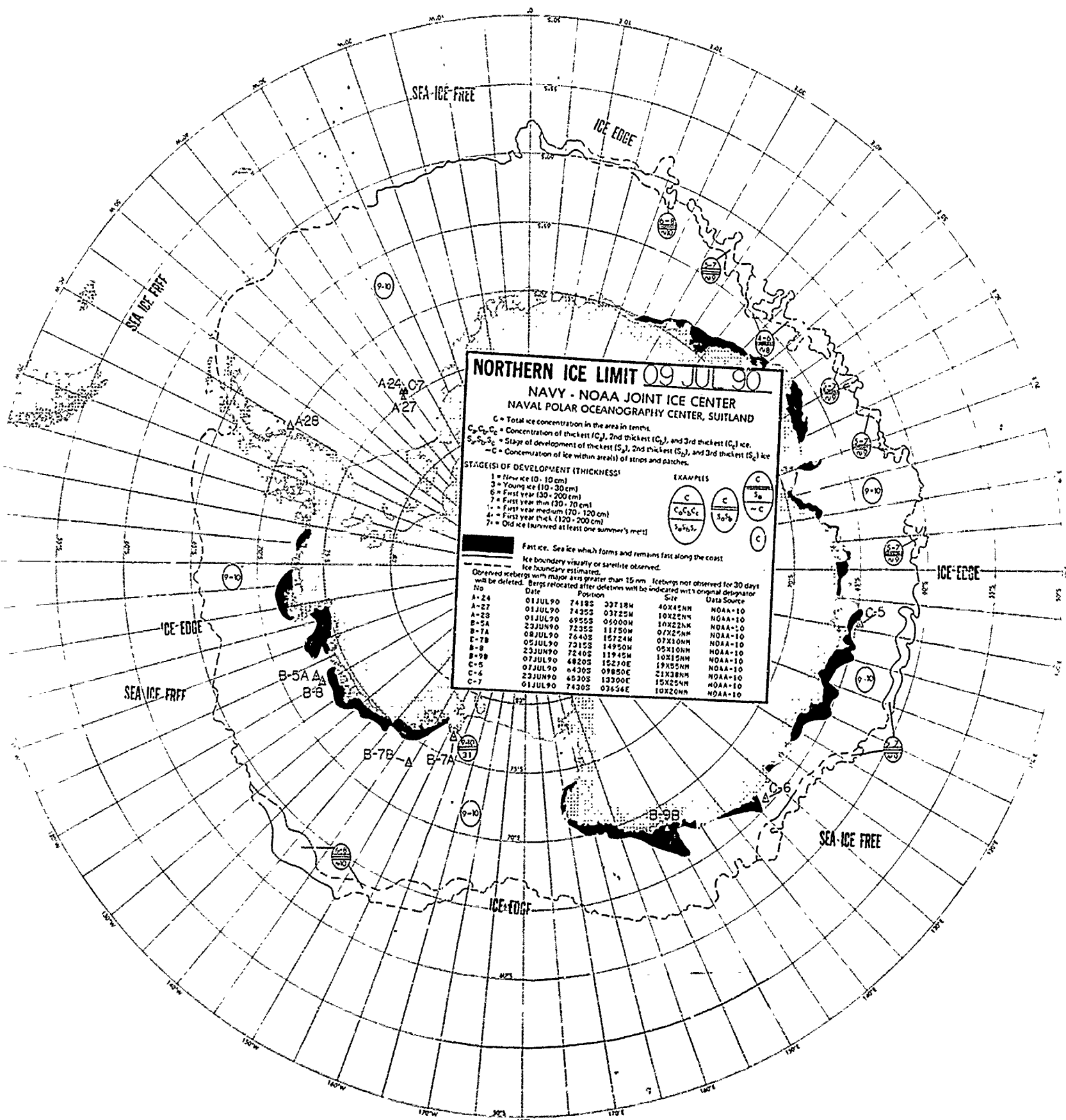
Observed icebergs with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Berms relocated after deletion will be indicated with original designator

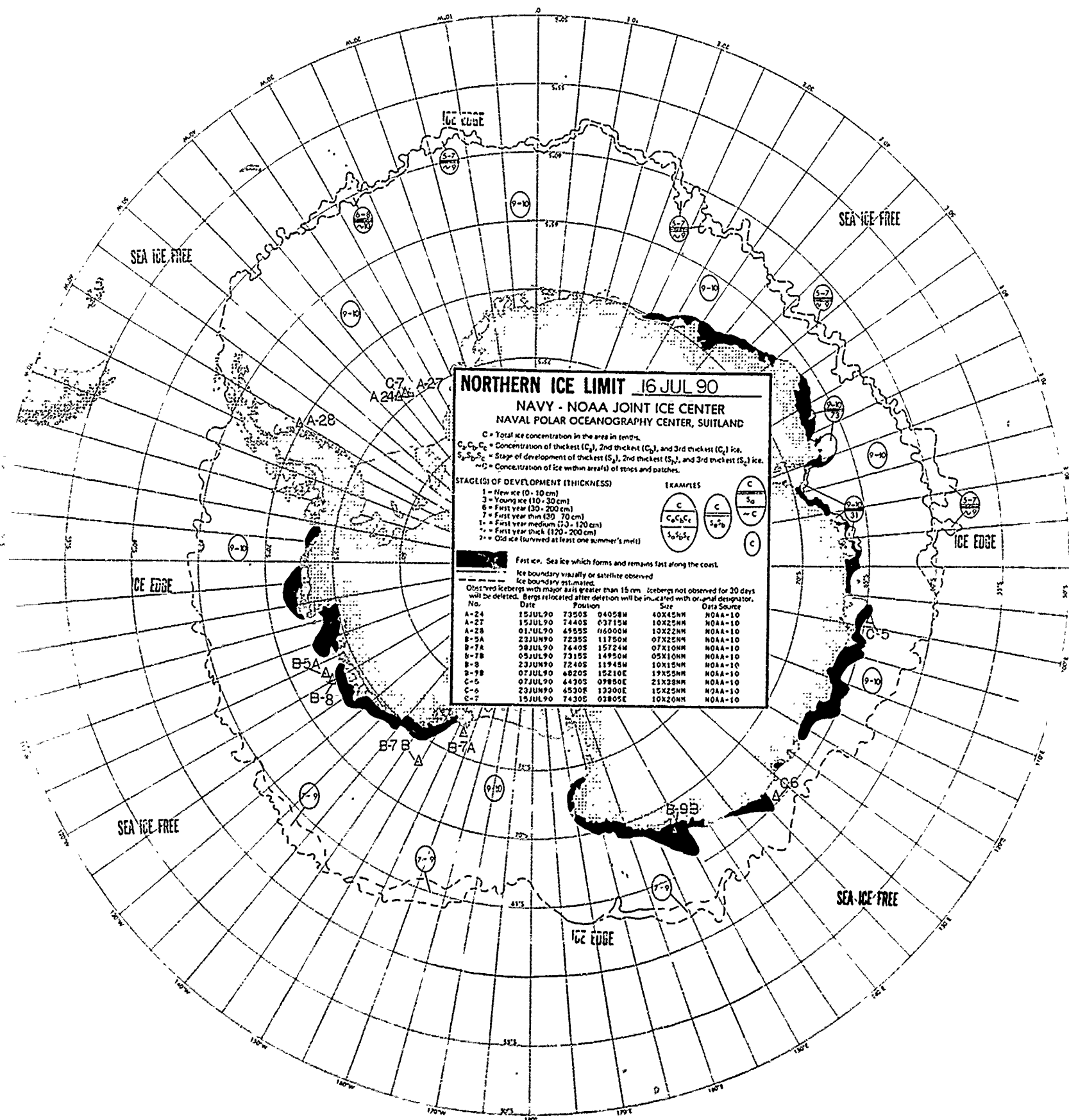
No	Date	Position	Size	Data Source
1	AA			AA
2	AA			AA
3	AA			AA
4	AA			AA
5	AA			AA
6	AA			AA
7	AA			AA
8	AA			AA
9	AA			AA
10	AA			AA
11	AA			AA
12	AA			AA
13	AA			AA
14	AA			AA
15	AA			AA
16	AA			AA
17	AA			AA
18	AA			AA
19	AA			AA
20	AA			AA
21	AA			AA
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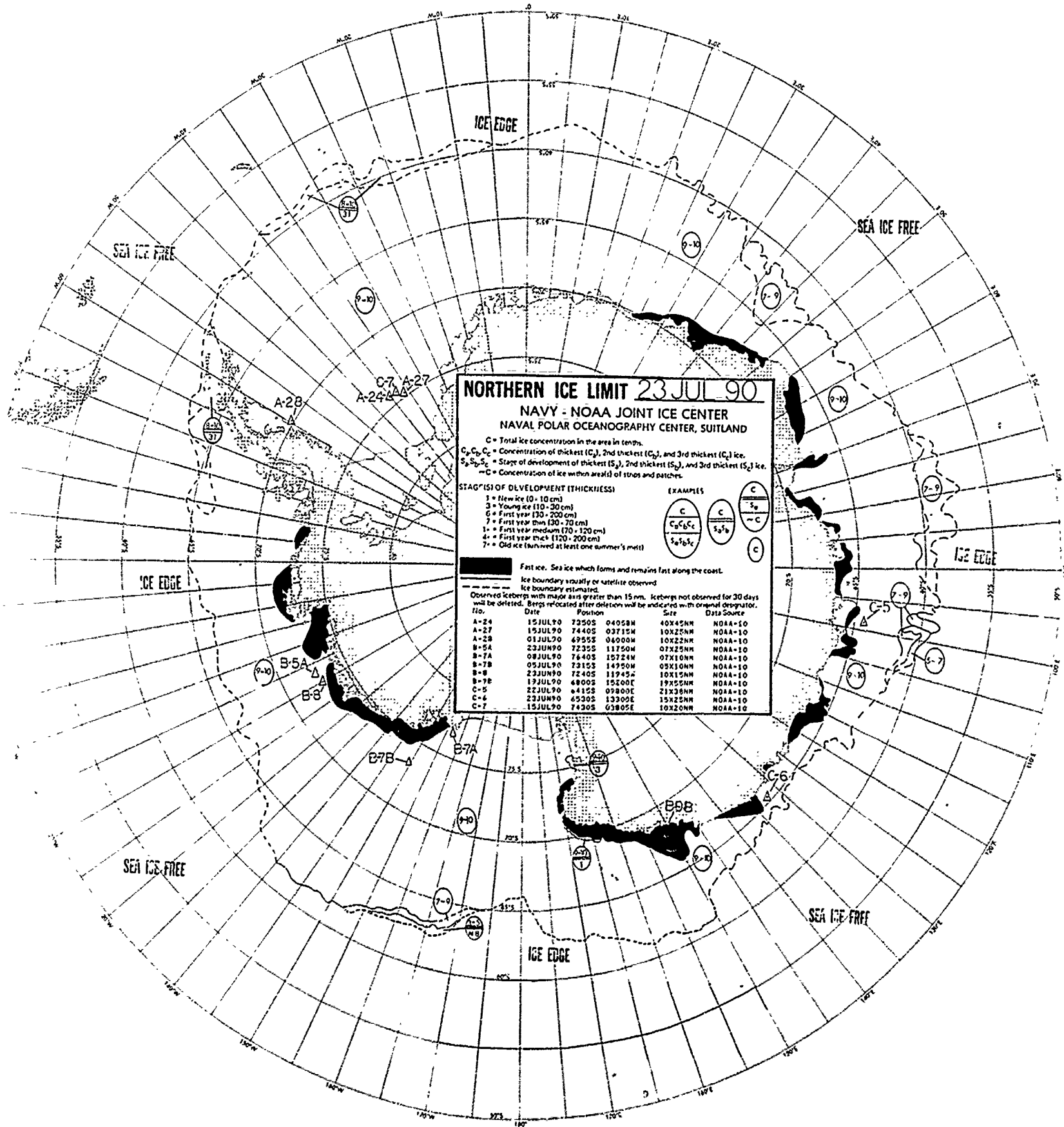


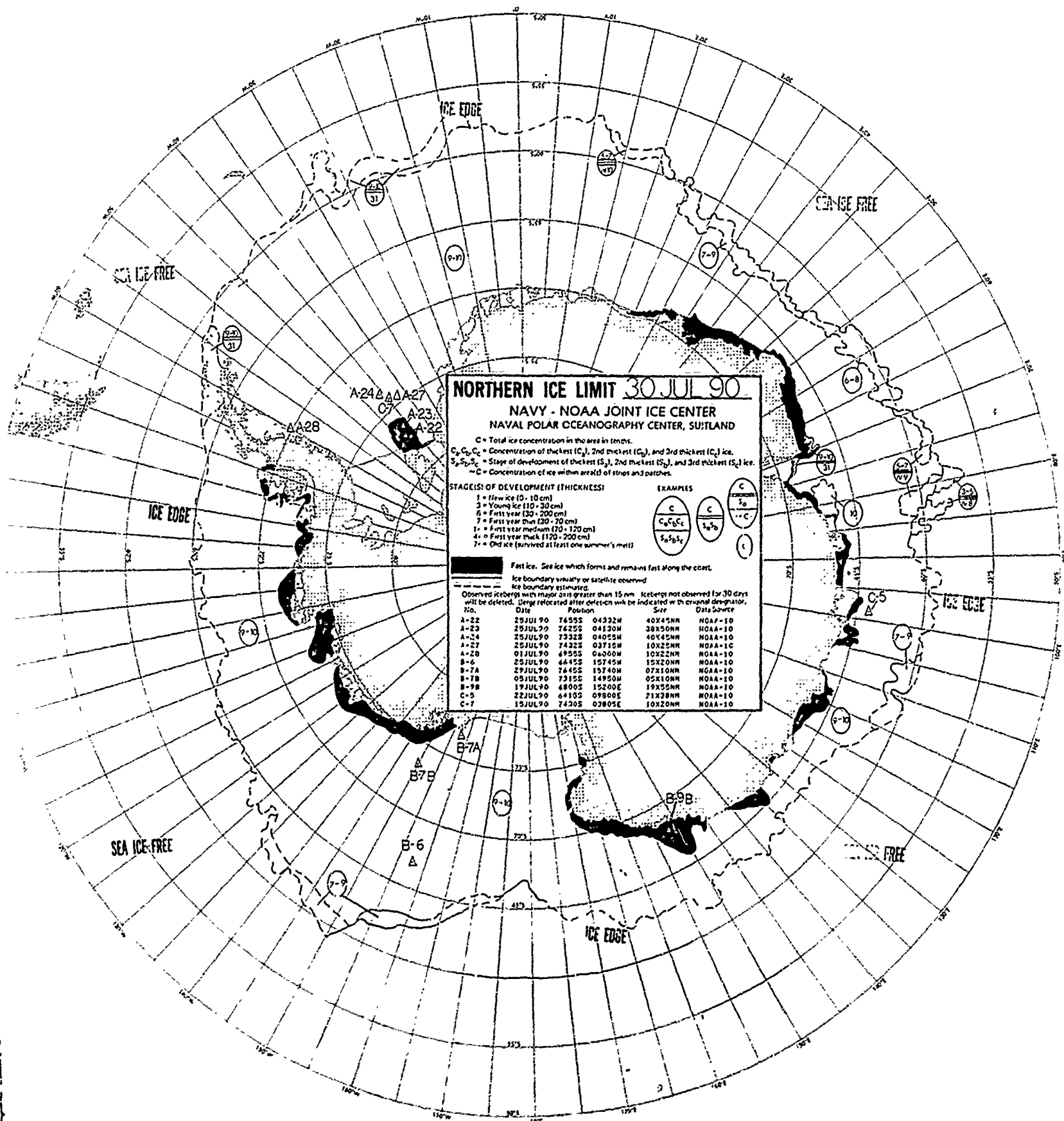


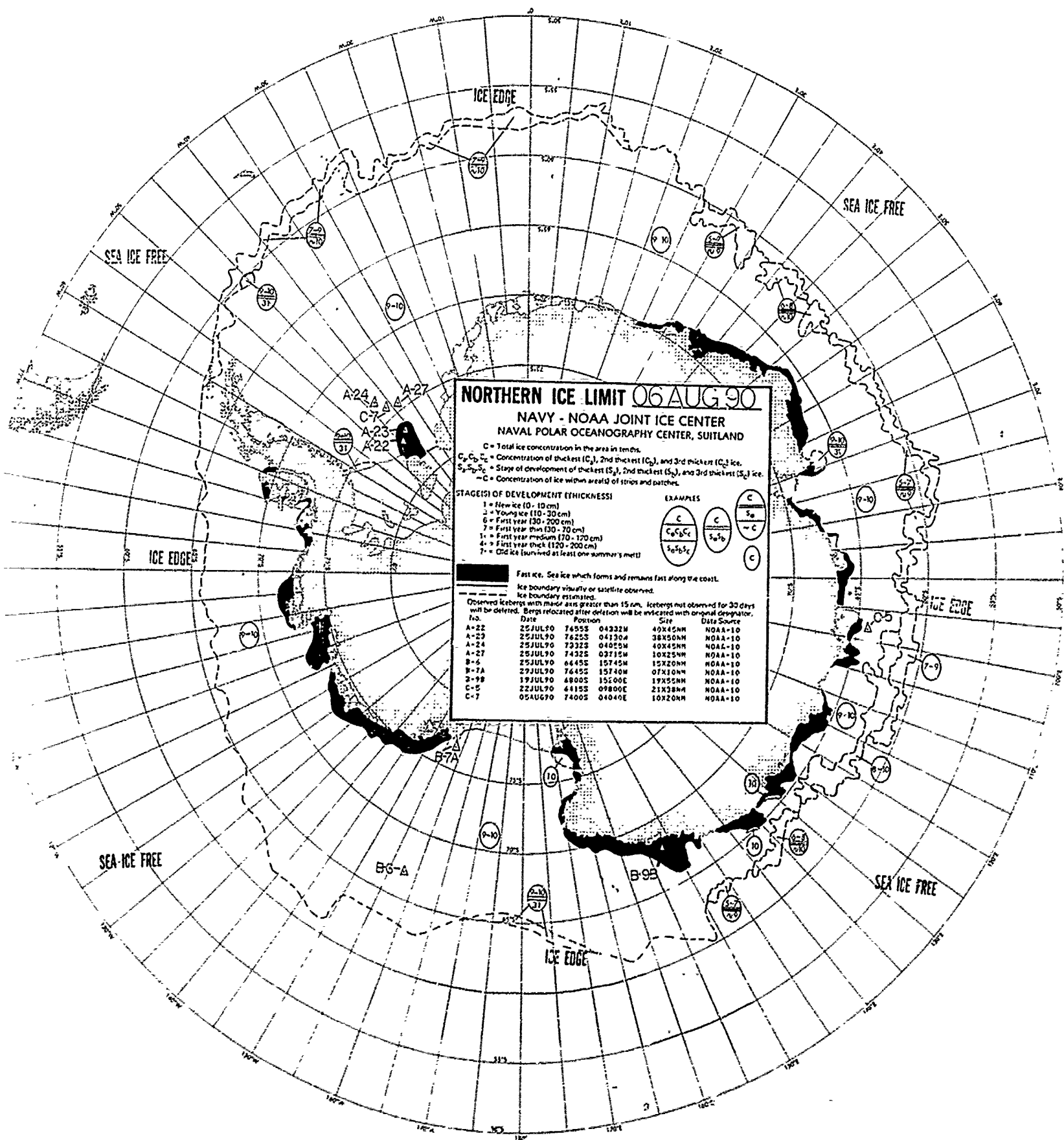


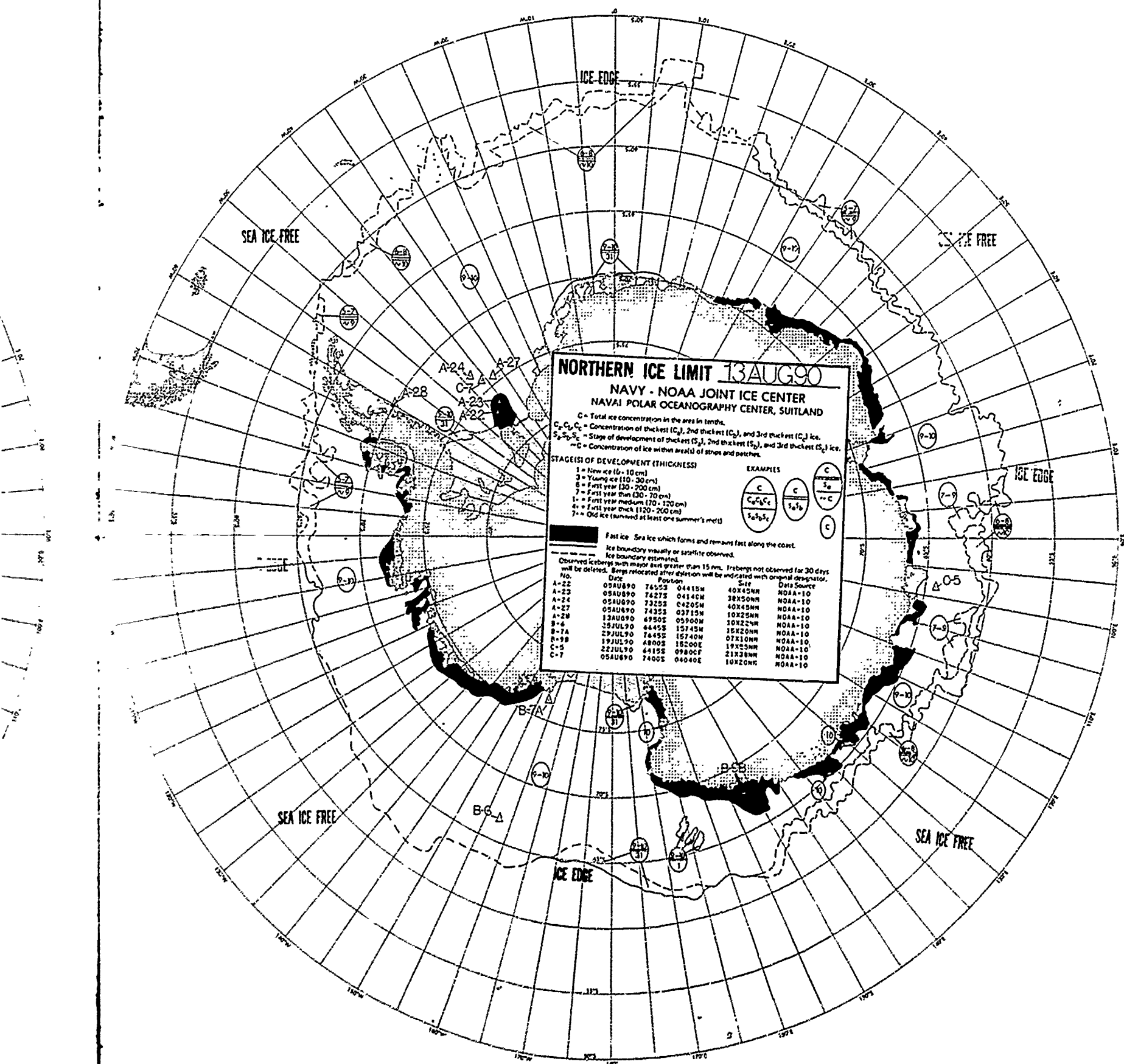


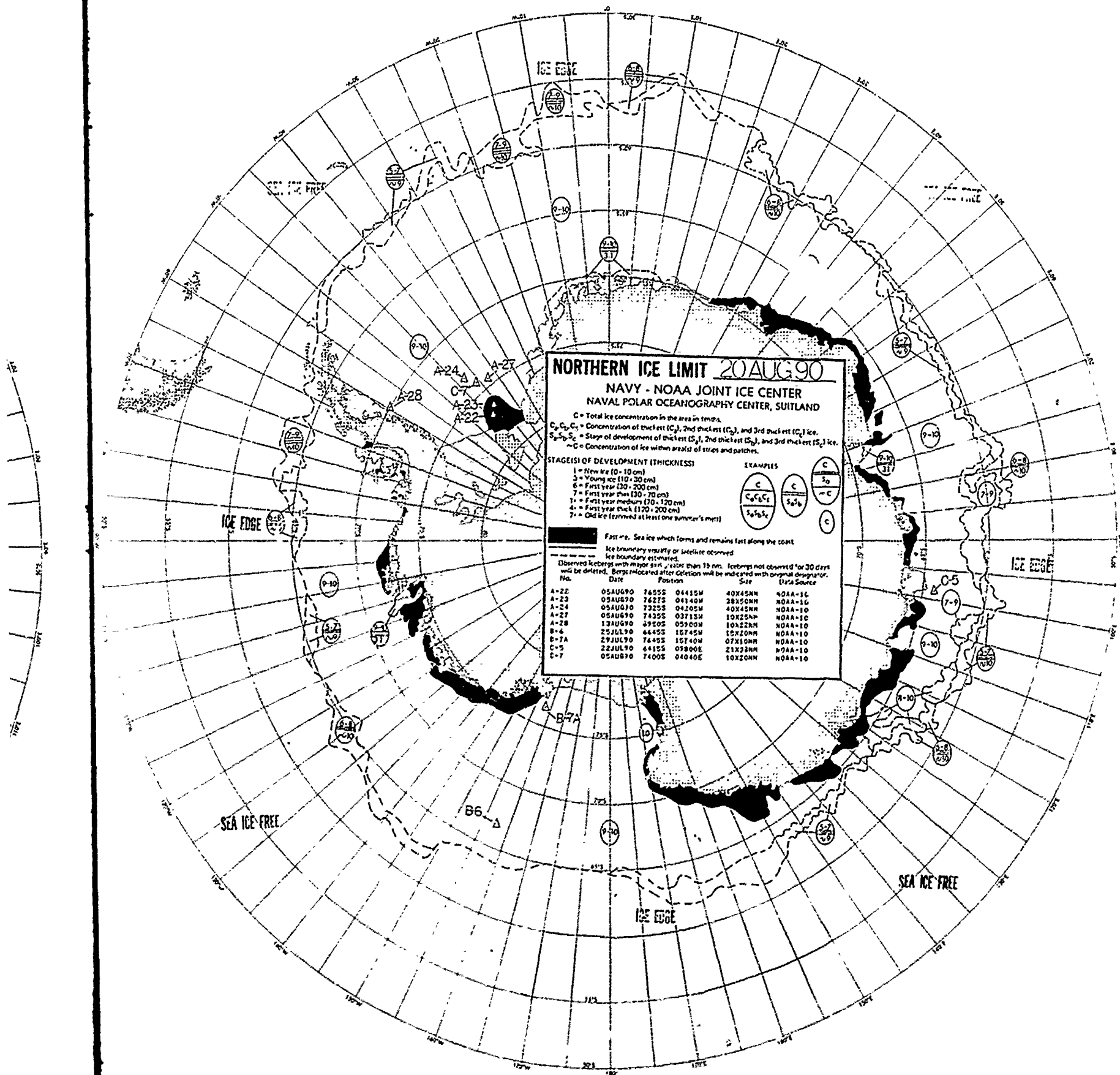


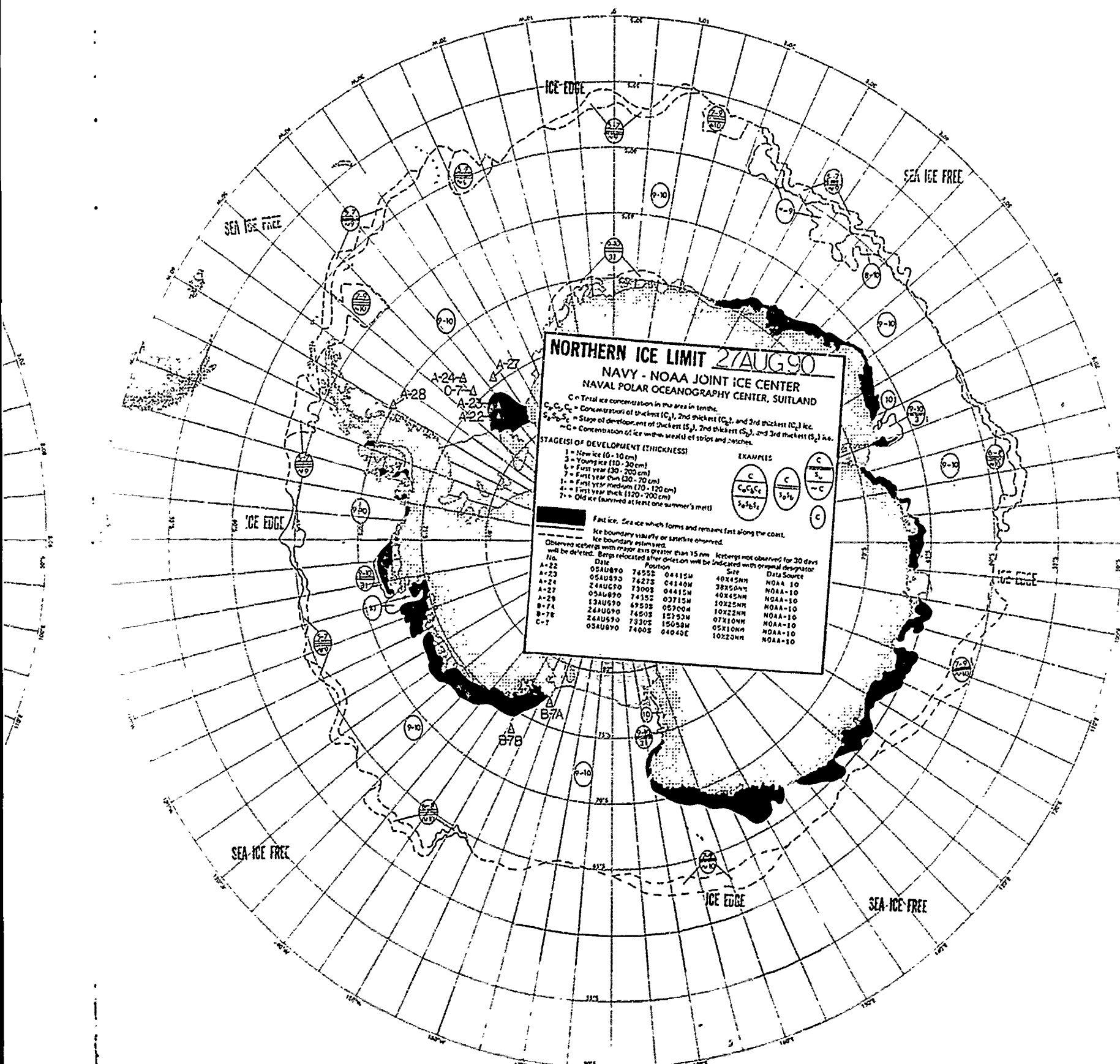












NORTHERN ICE LIMIT 27AUG90

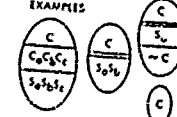
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND

C = Total ice concentration in the area in tenths.
C₁C₂C₃ = Concentration of thickest (C₁), 2nd thickest (C₂), and 3rd thickest (C₃) ice.
S₁S₂S₃ = Stage of development of thickest (S₁), 2nd thickest (S₂), and 3rd thickest (S₃) ice.
-C = Concentration of ice within width of strip and patches.

STAGES OF DEVELOPMENT (THICKNESS)

- 1 = New ice (10 - 30 cm)
- 2 = Young ice (30 - 70 cm)
- 3 = First year thin (70 - 120 cm)
- 4 = First year medium (120 - 170 cm)
- 5 = First year thick (170 - 200 cm)
- 6 = Old ice (survived at least one summer's melt)

EXAMPLES

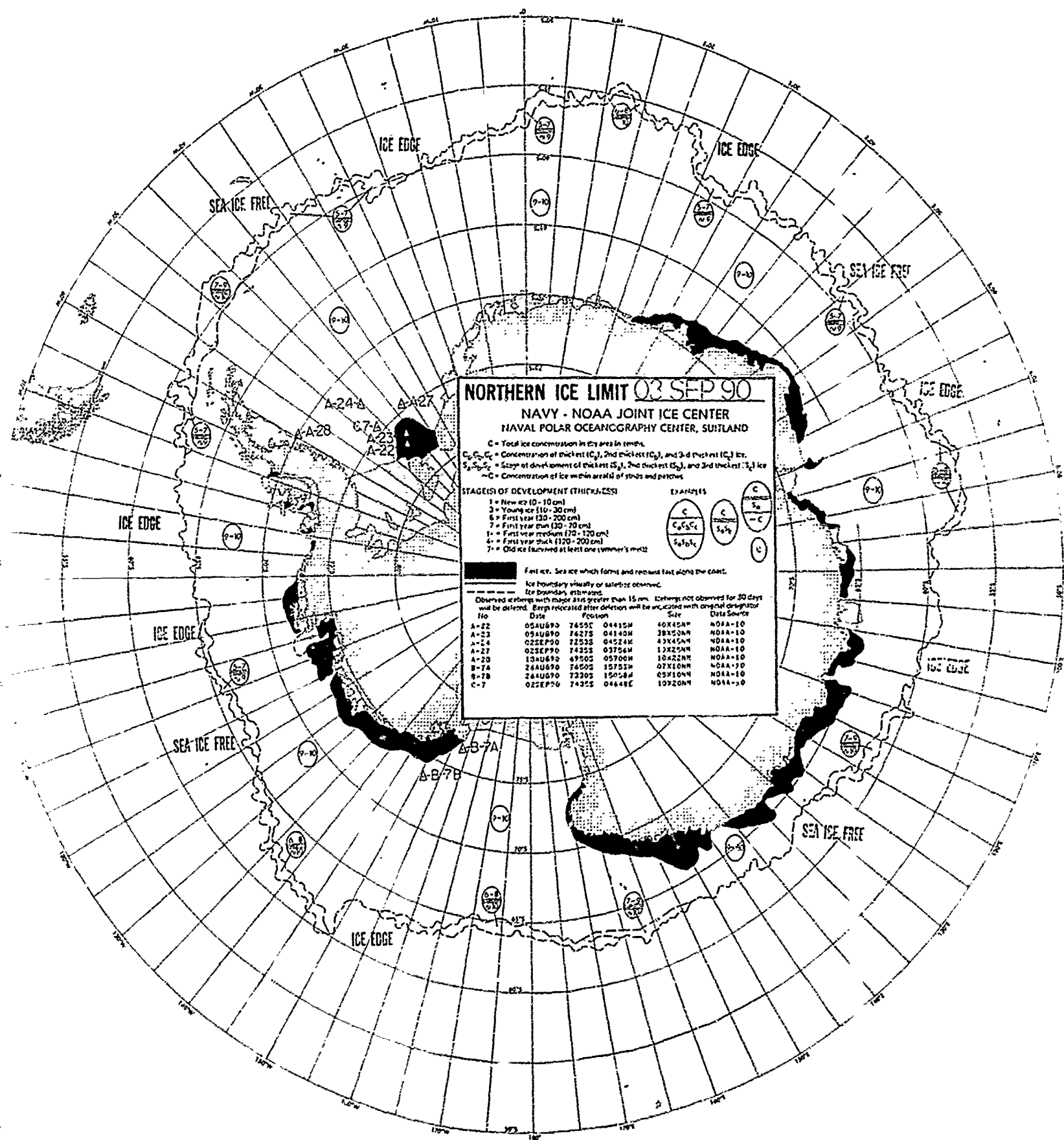


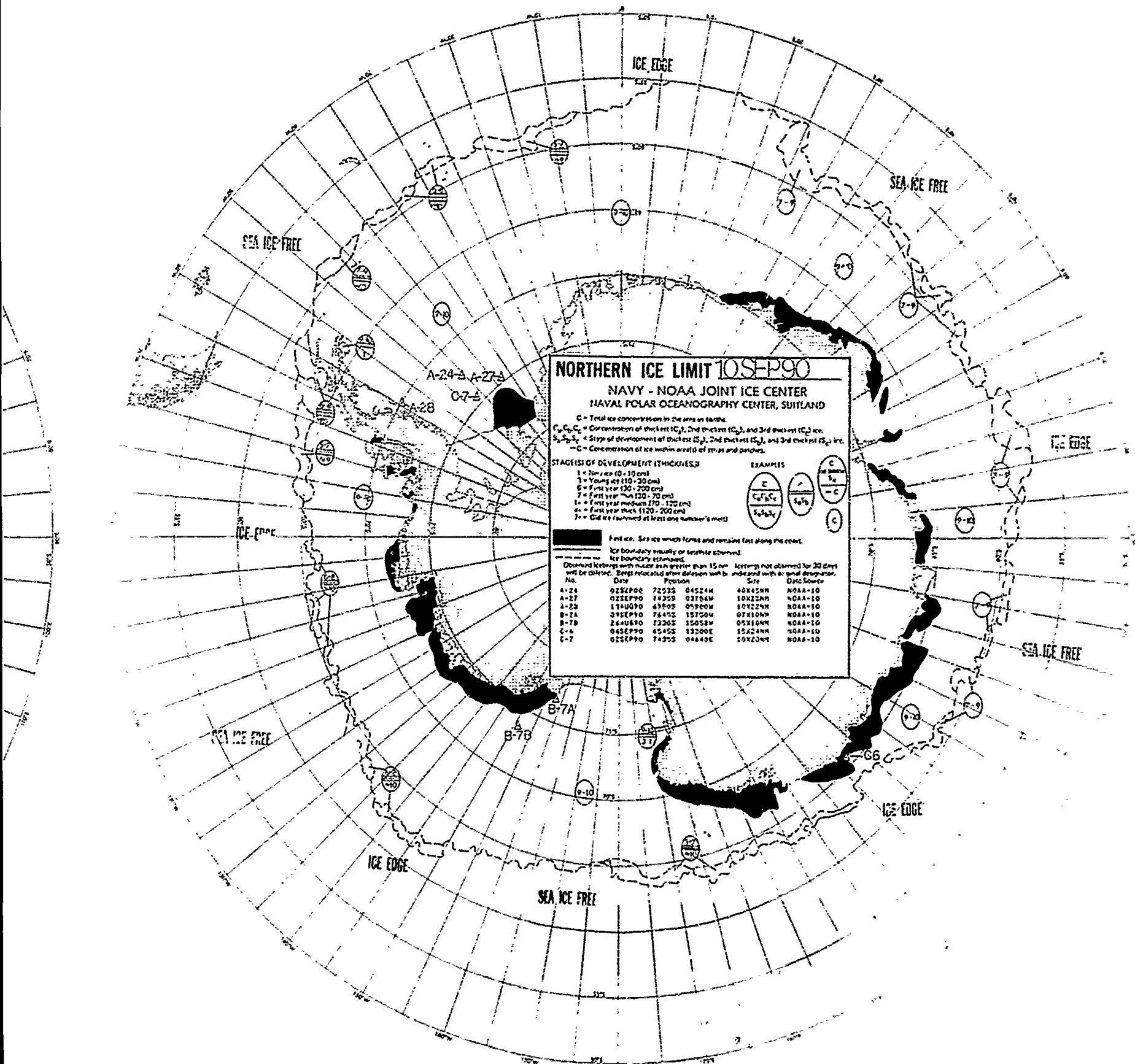
Fast ice. See ice which forms and remains fast along the coast.

Ice boundary visibility or signature assumed.

Observations with major axis greater than 15 nm. Icebergs not observed for 30 days will be deleted. Bergs relocated after deletion will be indicated with original designation.

No.	Date	Position	Size	Data Source
A-22	05AUG90	7455S 04415W	40X45NM	NOAA-10
A-23	05AUG90	7427S 04410W	38X50NM	NOAA-10
A-24	24AUG90	7300S 04415W	40X45NM	NOAA-10
A-27	05AUG90	7435S 03715W	10X25NM	NOAA-10
A-28	13AUG90	6950S 05700W	10X25NM	NOAA-10
B-7A	24AUG90	7450S 15353W	07X10NM	NOAA-10
B-7B	24AUG90	7330S 15058W	05X10NM	NOAA-10
C-7	03AUG90	7400S 04040E	10X20NM	NOAA-10





NORTHERN ICE LIMIT 10 SEP 90

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

C = Total ice concentration in the area in tenths.
 C_1, C_2, C_3 = Concentration of the 1st (C_1), 2nd (C_2), and 3rd (C_3) ice.
 S_1, S_2, S_3 = Stage of development of the 1st (S_1), 2nd (S_2), and 3rd (S_3) ice.
 C = Concentration of ice within areas of strip and patches.

STAGES OF DEVELOPMENT (THICKNESS)

- 1 = New ice (10 - 10 cm)
- 2 = Young ice (110 - 20 cm)
- 3 = First year (200 - 200 cm)
- 4 = First year (200 - 200 cm)
- 5 = First year (200 - 200 cm)
- 6 = First year (200 - 200 cm)
- 7 = Old ice (200 - 200 cm)

EXAMPLES

$\frac{C}{C_1 C_2 C_3}$
 $\frac{S_1 S_2 S_3}{S_1 S_2 S_3}$

$\frac{C}{C_1 C_2 C_3}$
 $\frac{S_1 S_2 S_3}{S_1 S_2 S_3}$

Fast ice. Sea ice which forms and remains fast along the coast.
Ice boundary visually or satellite observed.
Ice boundary estimated.
 Observed readings with radar less than 15 nm will be deleted. Readings not observed for 30 days will be deleted. Readings not observed for 30 days will be deleted. Readings not observed for 30 days will be deleted.

No.	Date	Position	Site	Data Source	
A-24	02SEP90	72535	04524N	40X45NM	NOAA-10
A-27	02SEP90	74355	03764N	10X125NM	NOAA-10
A-28	11AUG90	47605	05960N	10X125NM	NOAA-10
B-7A	30SEP90	74405	15700W	05X10NM	NOAA-10
B-7B	26AUG90	13365	15058N	05X10NM	NOAA-10
C-6	04SEP90	45455	13200E	15X24NM	NOAA-10
C-7	02SEP90	74355	04440E	10X125NM	NOAA-10

