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EASTERN—WESTERN ARCTIC SEA ICE ANALYSIS 1981

PREPARED BY
NAVAL POLAR OCEANOGRAPHY CENTER,
SUITLAND, MD

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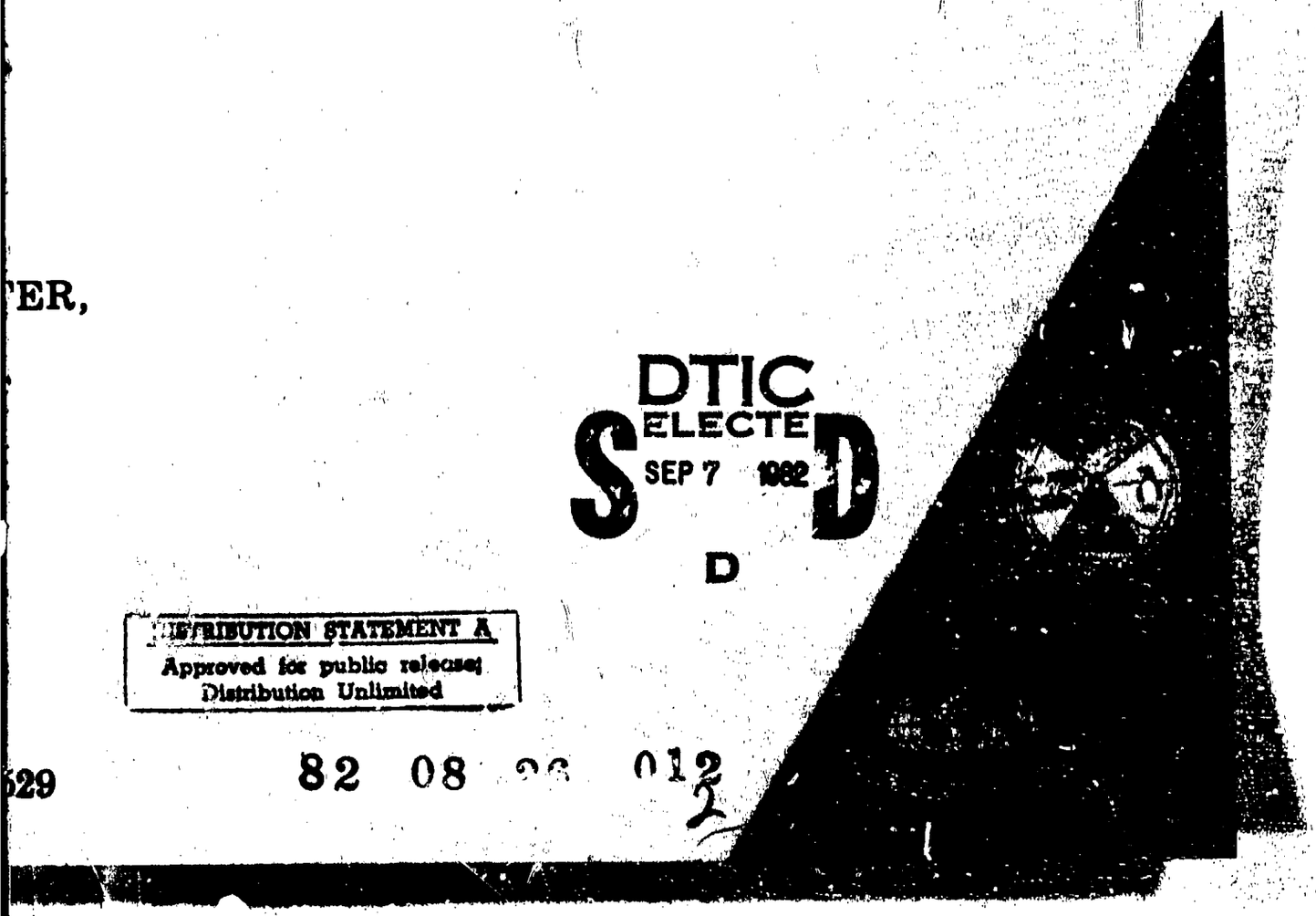
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FOREWORD

The U.S. Navy has a long and colorful history of polar exploration and currently is an active participant in the growing national activity in the Arctic and Antarctic. The strategic importance and increased demand for the natural resources of these areas have resulted in a greater requirement for environmental information. In 1976, the National Oceanic and Atmospheric Administration (NOAA) joined the Navy in forming a Joint Ice Center (JIC) to combine efforts and resources in sea ice analysis and forecasting.

Through 1972, reliable sea ice information in the polar regions was based on a relatively few shore station and ship reports augmented by limited aerial reconnaissance data. These data were further restricted mainly to the relatively small areas observed primarily during the ship operating seasons. The advent of high resolution satellite imagery combined with the ground truth of conventional observations has in recent years enabled a description of the polar ice fields on a semi-synoptic scale in both polar regions.

This publication is the eighth in a continuing yearly series of Arctic sea ice atalses prepared in the Joint Ice Center at the Naval Polar Oceanography Center, Suitland. The atlas contains weekly charts depicting Northern Hemisphere and Great Lakes ice conditions and extents. The information presented was prepared under operational time constraints principally from satellite imagery supplemented by conventional observations. The Great Lakes ice analyses are derived principally from information provided by the National Weather Service Forecast Office, Ann Arbor, Michigan. Table I located on the inside back cover summarizes satellite data availability for 1981.

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FOREWORD

The purpose of this atlas is to provide operators and researchers with reliable weekly hemispheric ice analyses. Satellite data limitations and other difficulties involved in manually synthesizing various forms of ice data have evolved the following analysis procedures:

(a.) Conventional shore station, ship and aerial ice reconnaissance observations are plotted on base charts and evaluated for timeliness.

(b.) Satellite data is anlayzed for ice information content, with the most recent and highest resolution considered first. Synthesis of conventional with satellite data yields the final analysis.

(c.) Where sufficient data is not available to define the sea ice limit, an estimated boundary is depicted. After one week of no data availability the ice edge position is based on analyzed theoretical ice drift data and other diagnostic aids. During subsequent weeks of no data availability the ice edges approach seasonal mean positions.

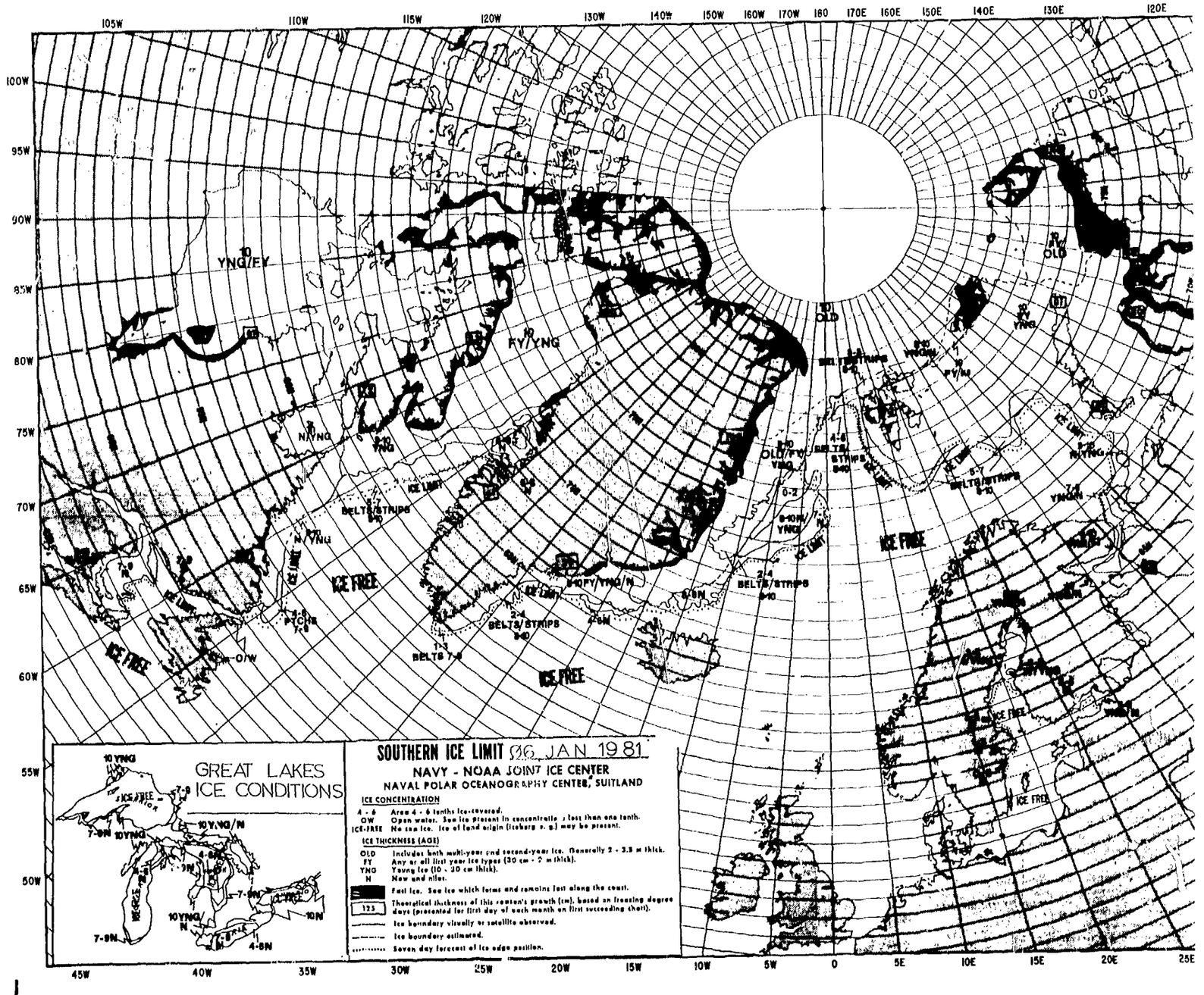
Naval Polar Oceanography Center
Navy Department
4301 Suitland Road
Washington, DC 20390

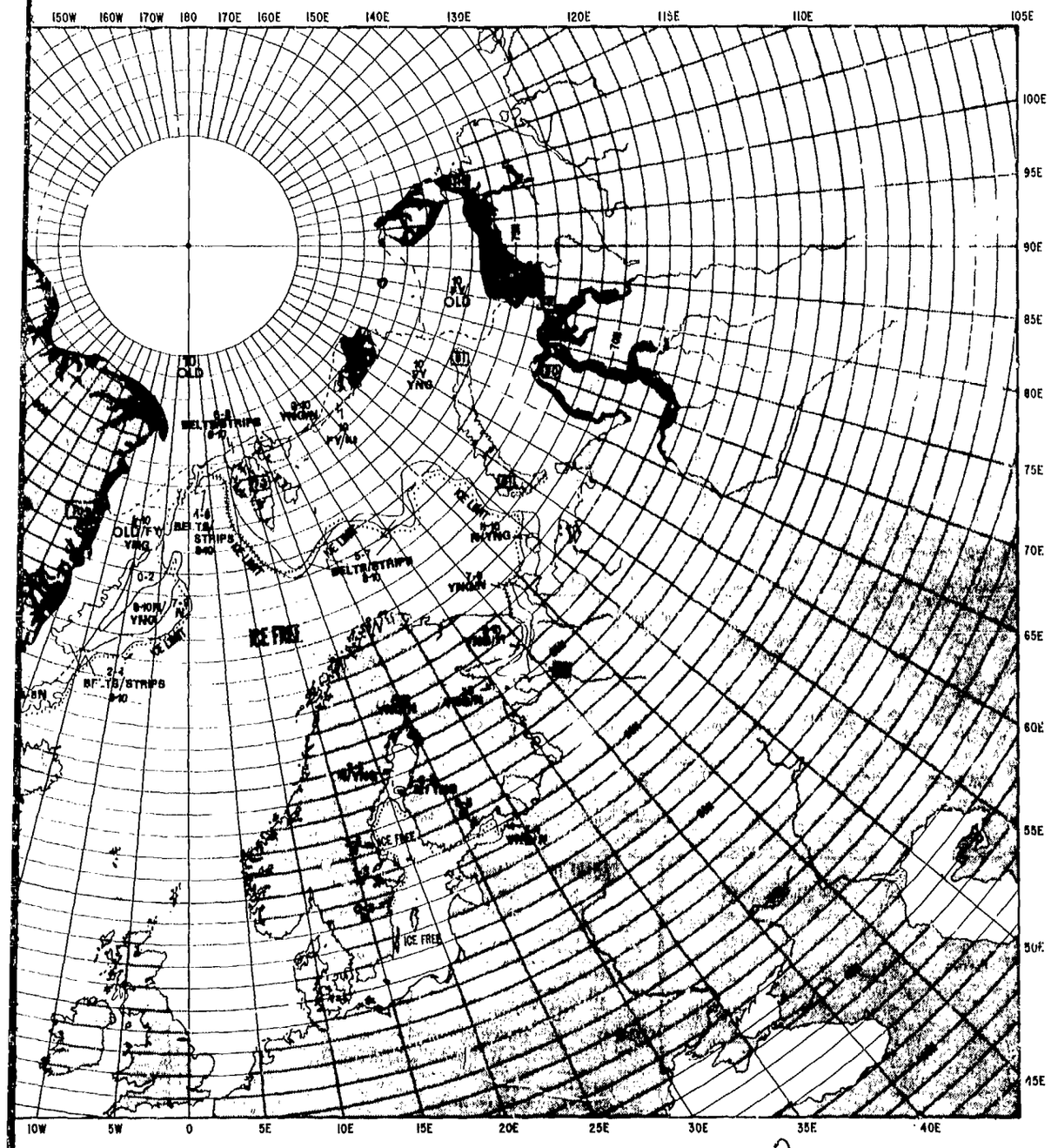
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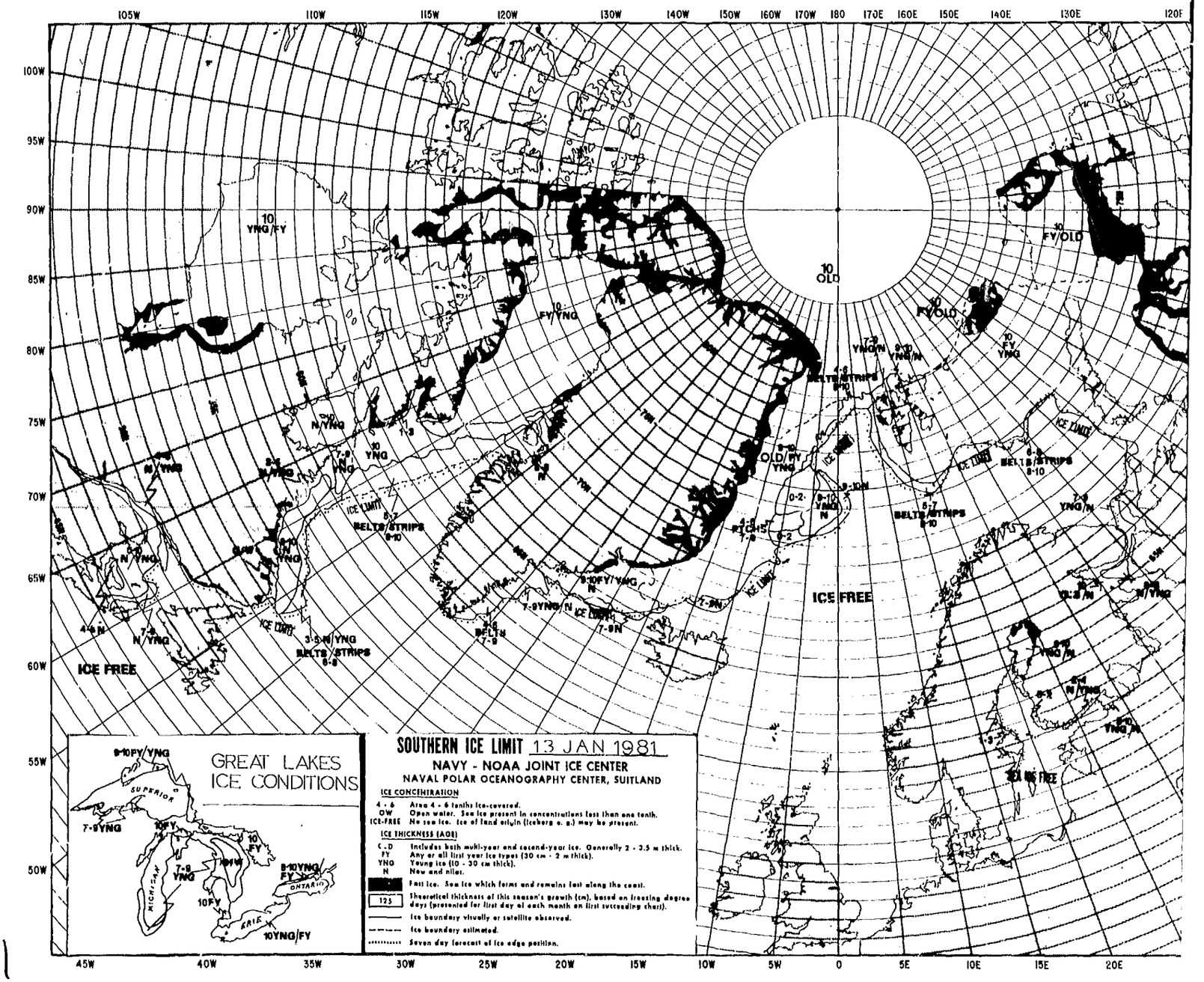
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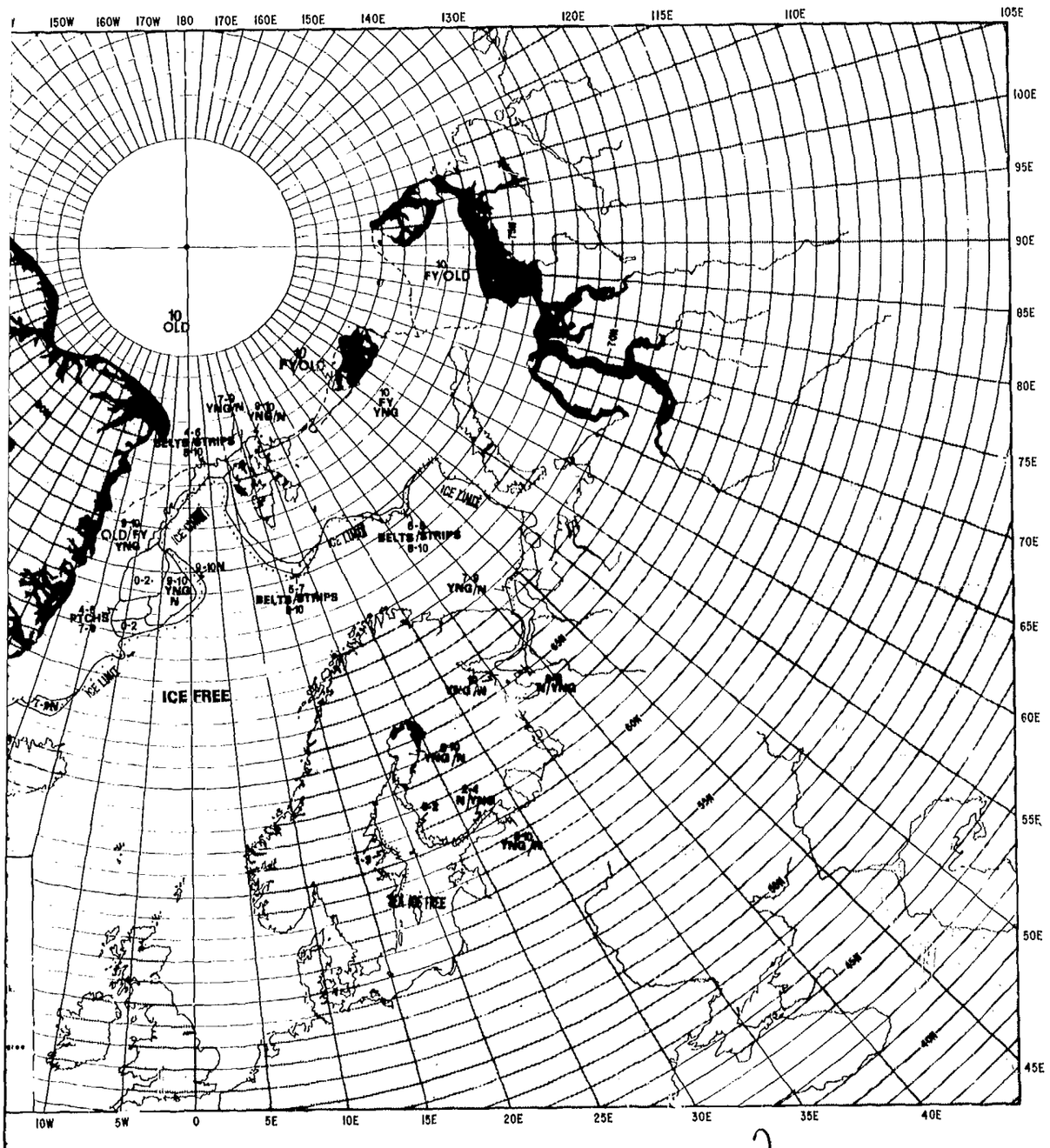
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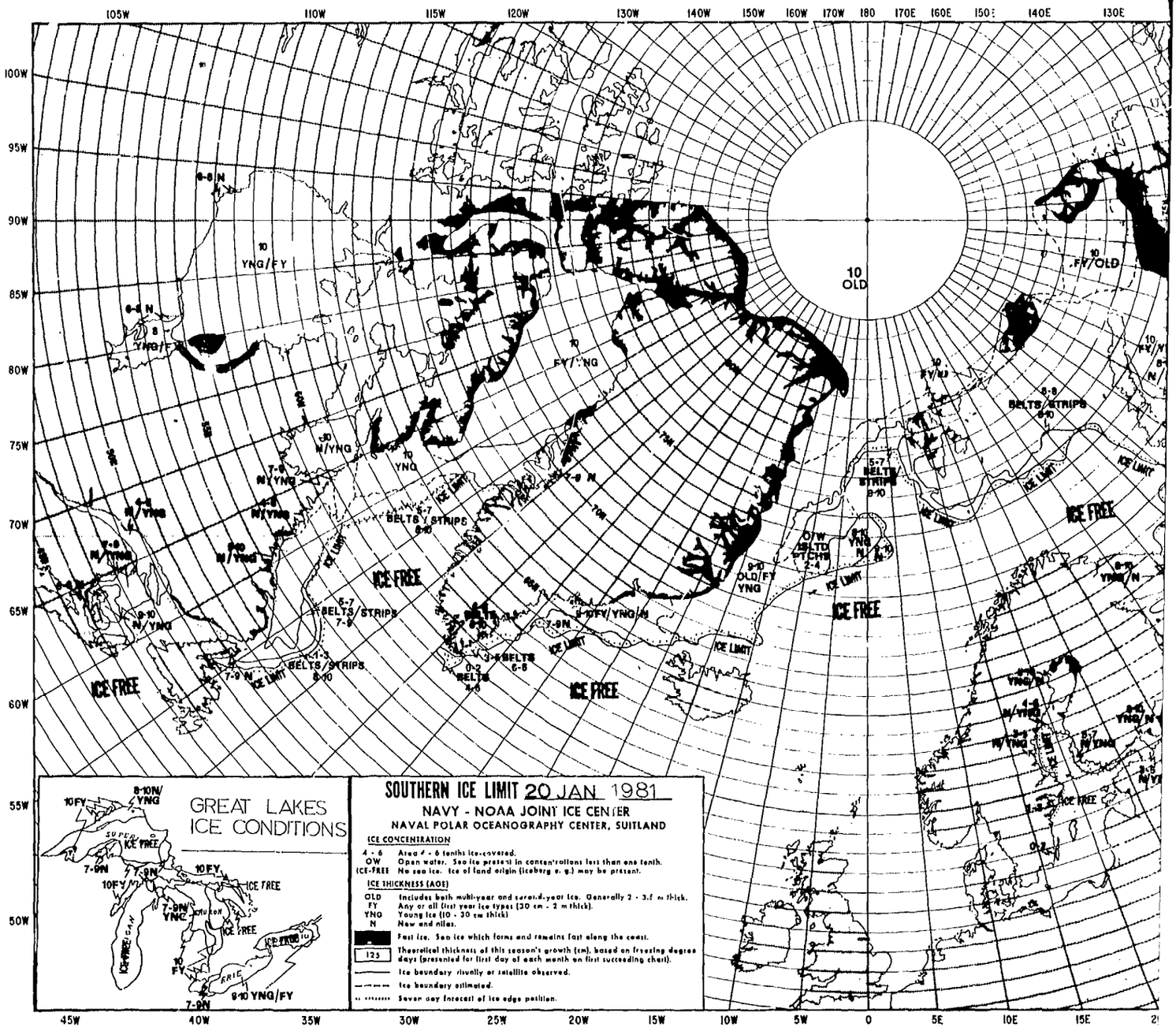

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2-10 YNG
5-7 BELTS/STRIPS 8-10
4-6 BELTS/STRIPS 8-10
2-4 BELTS/STRIPS 8-10
1-3 BELTS 7-8
3-6 PTCHS 7-8
ICE LIMIT
O/W
GREAT LAKES ICE CONDITIONS
SOUTHERN ICE LIMIT 26 JAN 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. See ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
133 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

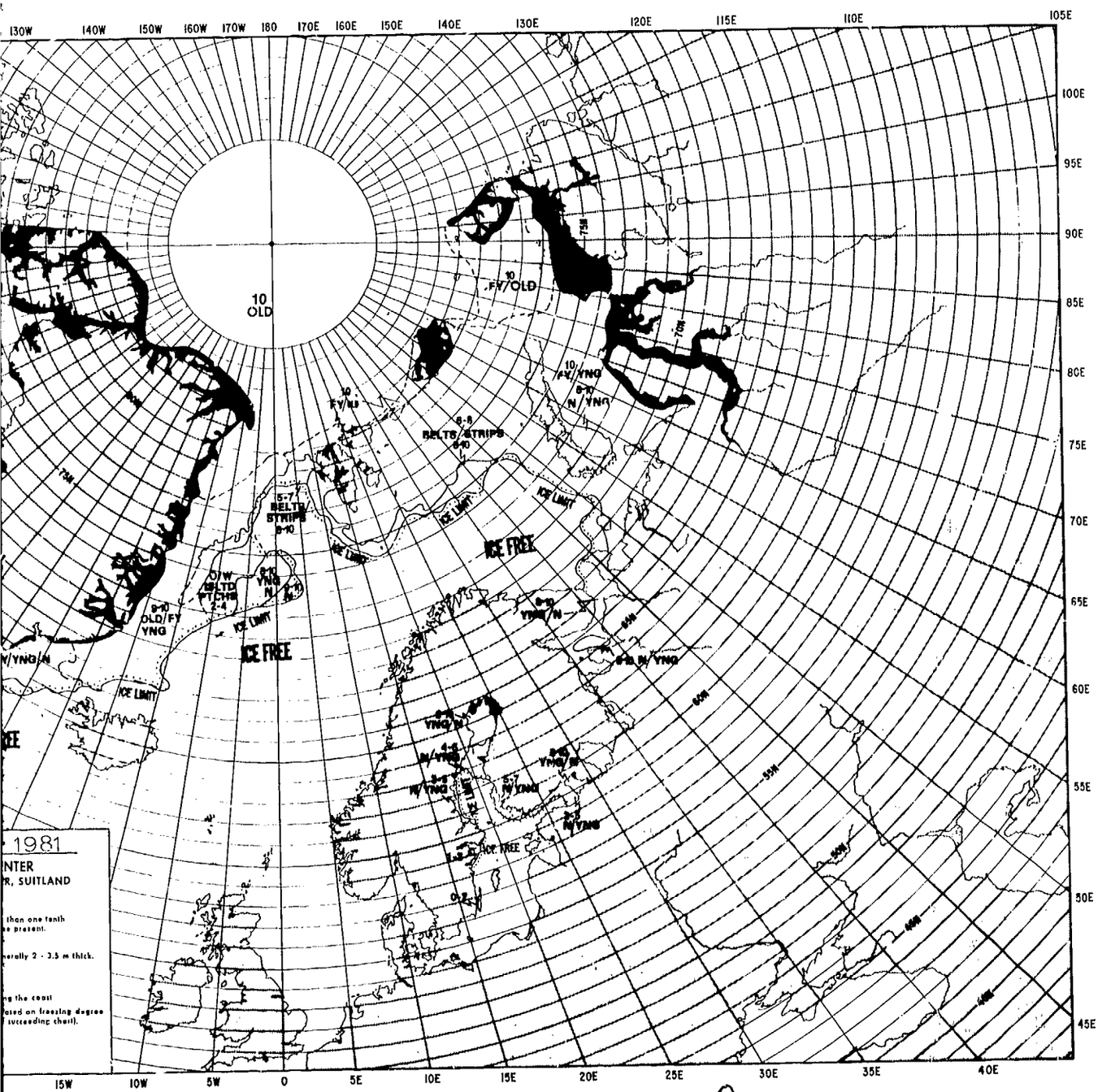

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ICE LIMIT
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GREAT LAKES
ICE CONDITIONS
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SOUTHERN ICE LIMIT 13 JAN 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
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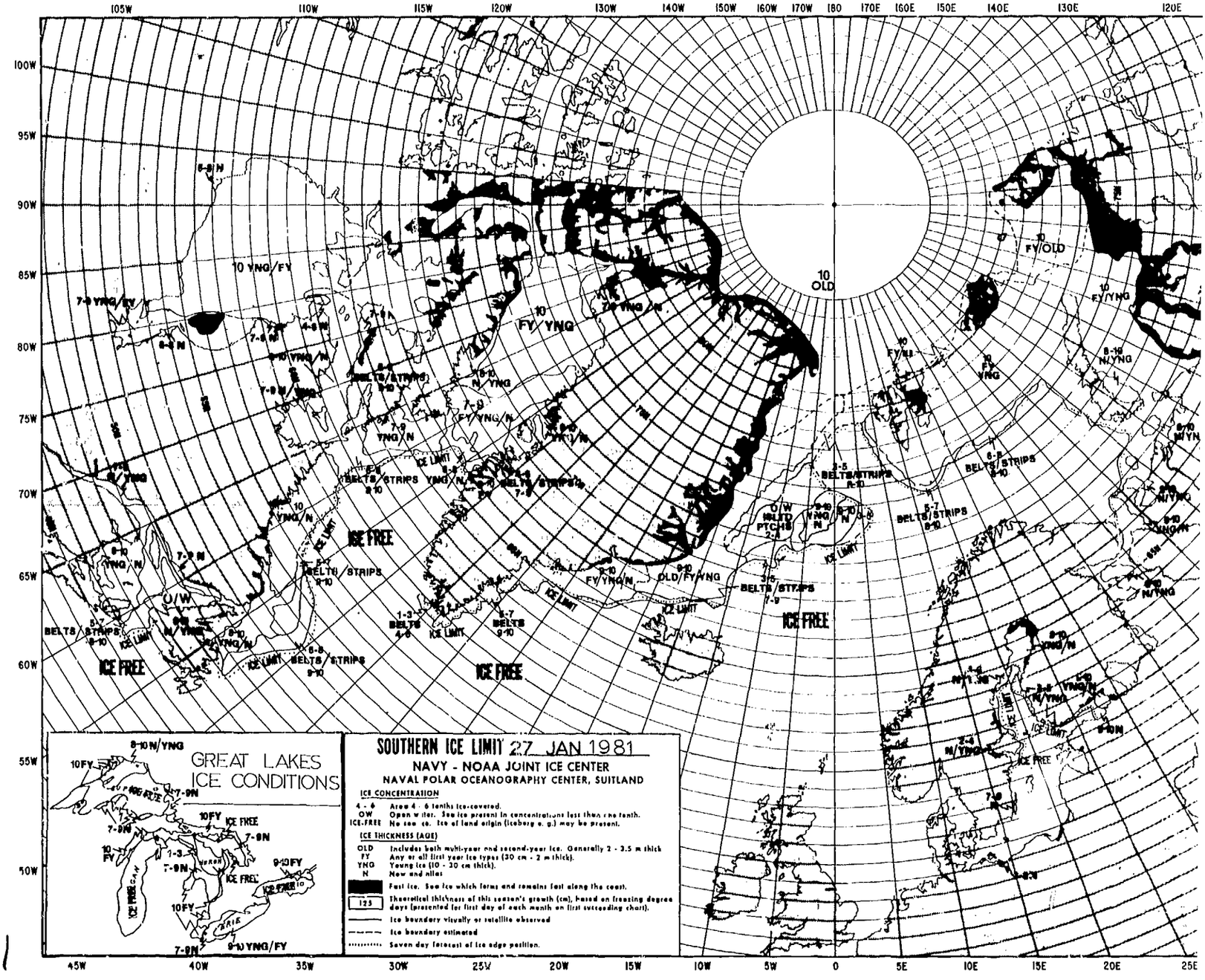

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ICE LIMIT
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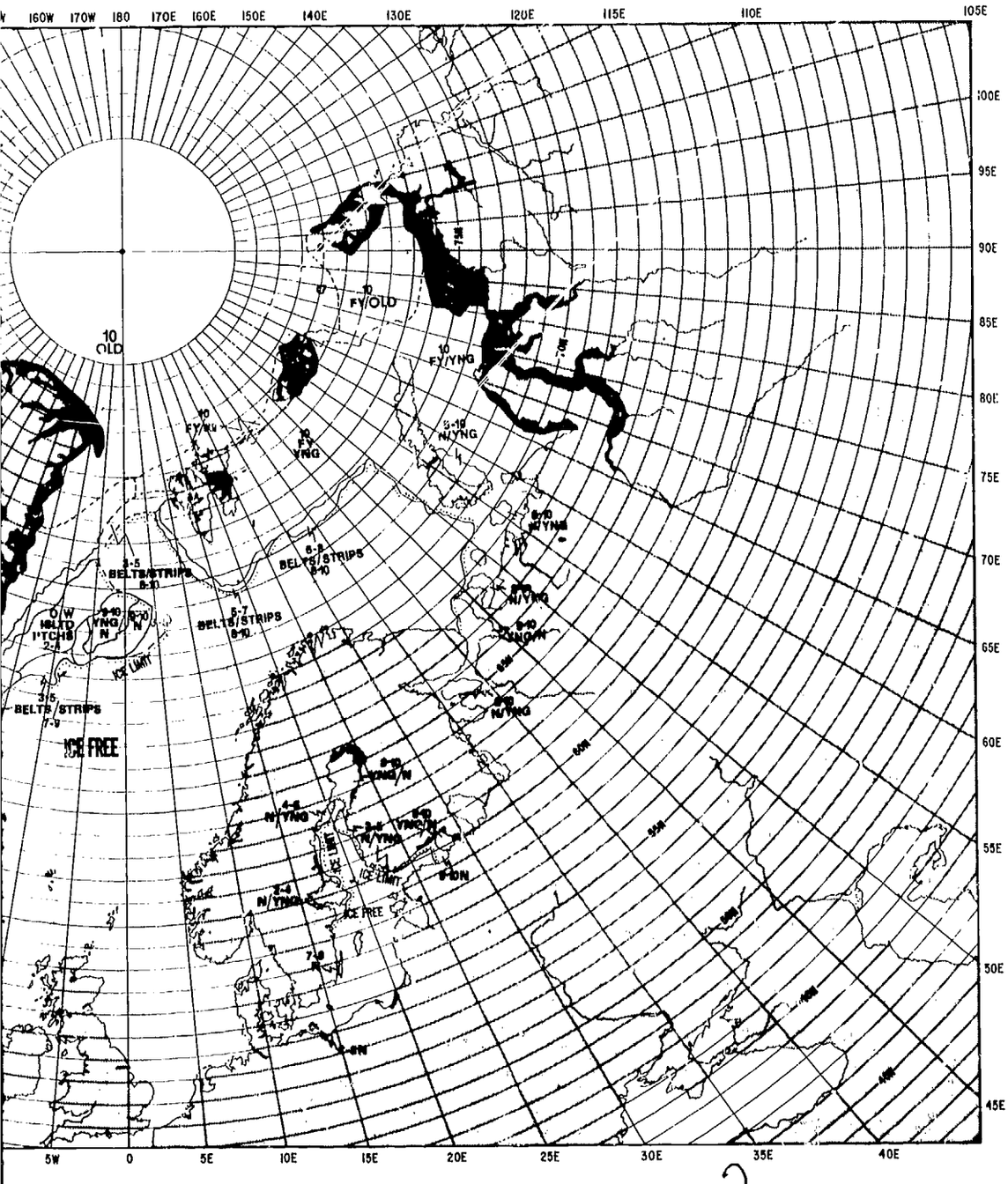
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SOUTHERN ICE LIMIT 20 JAN 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area of 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
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Ice boundary estimated.
Seven day forecast of ice edge position.

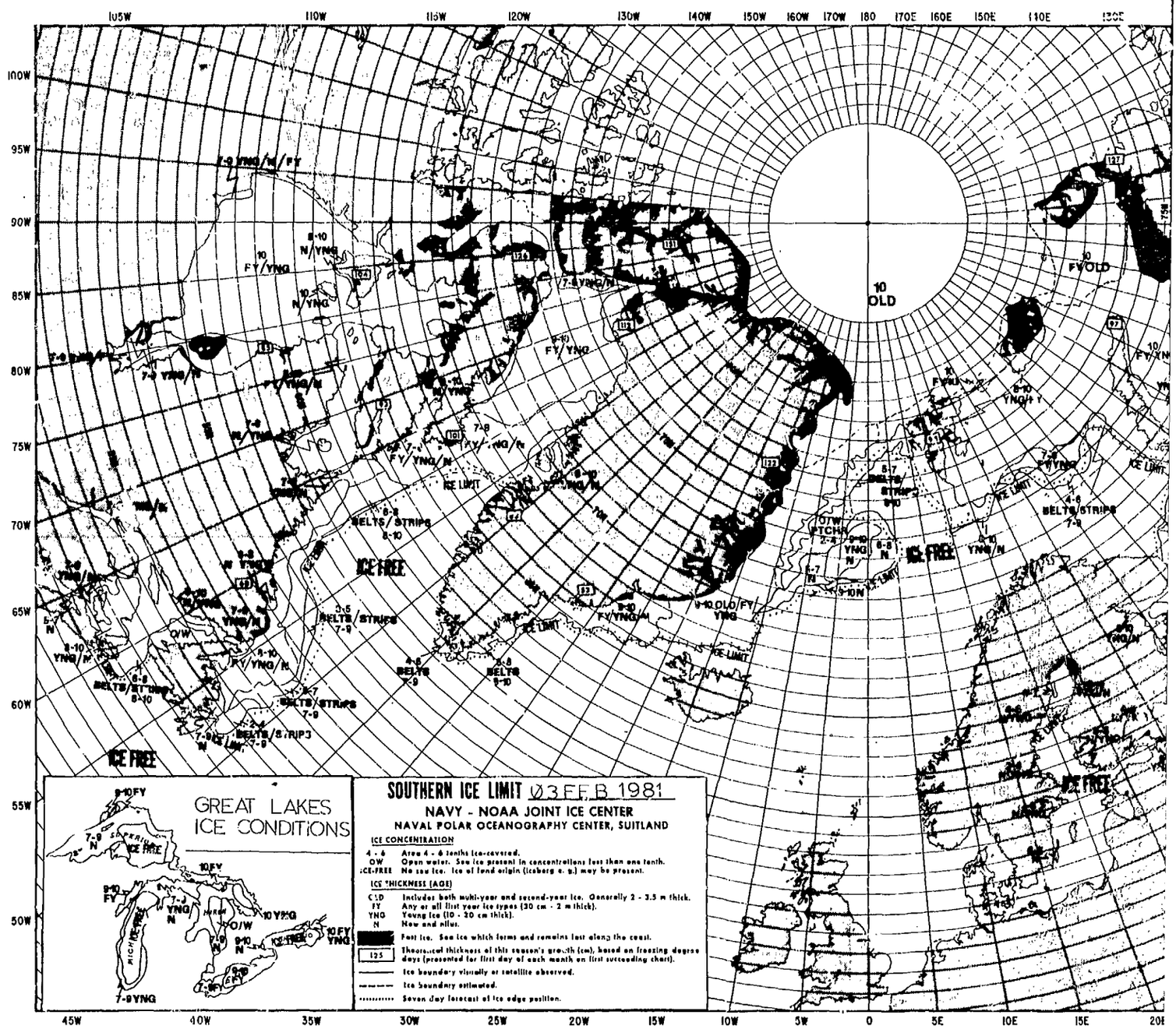

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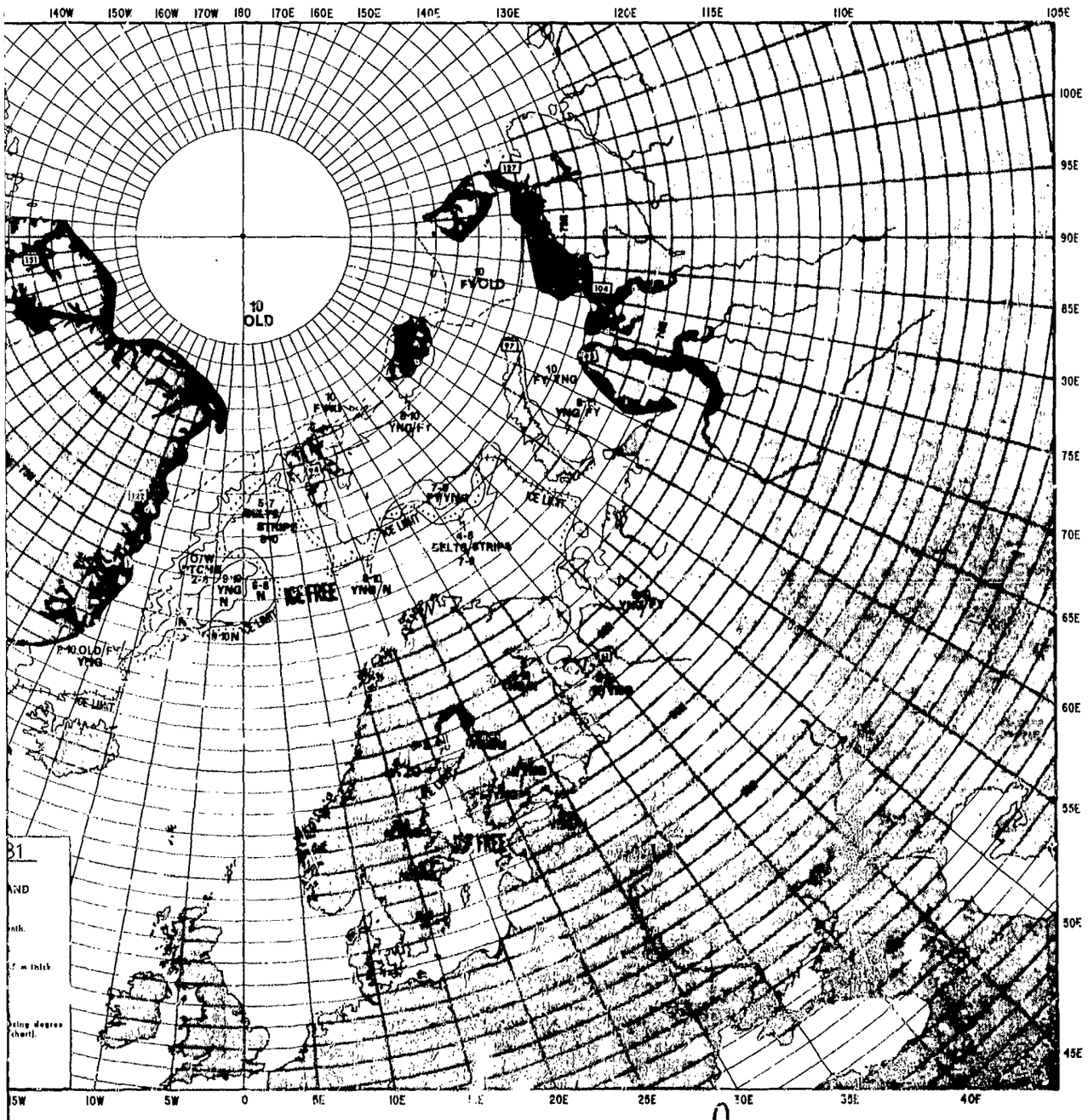
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ICE CONDITIONS
SOUTHERN ICE LIMIT 27 JAN 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
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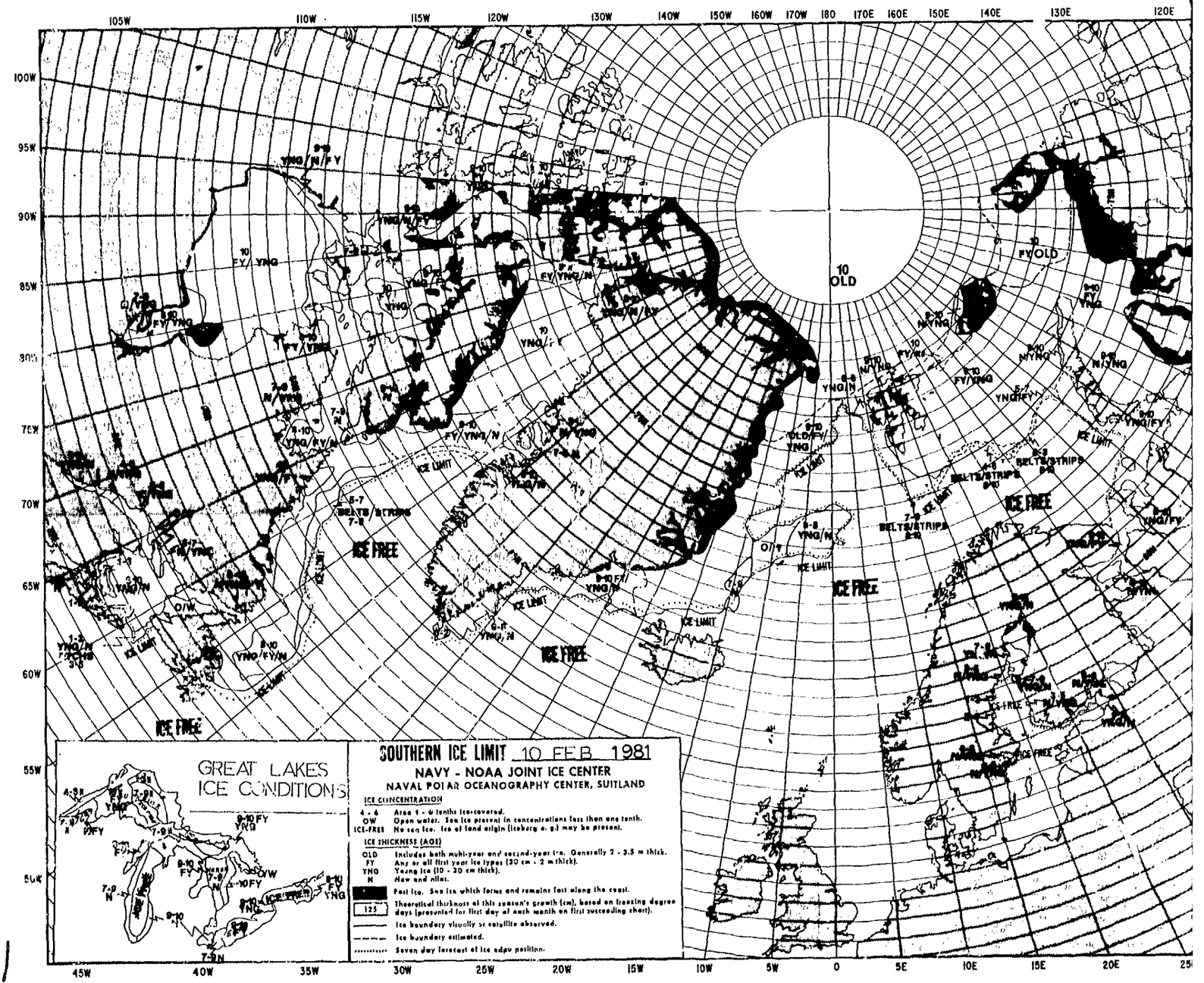

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3/5 BELTS/STRIPS 7-9
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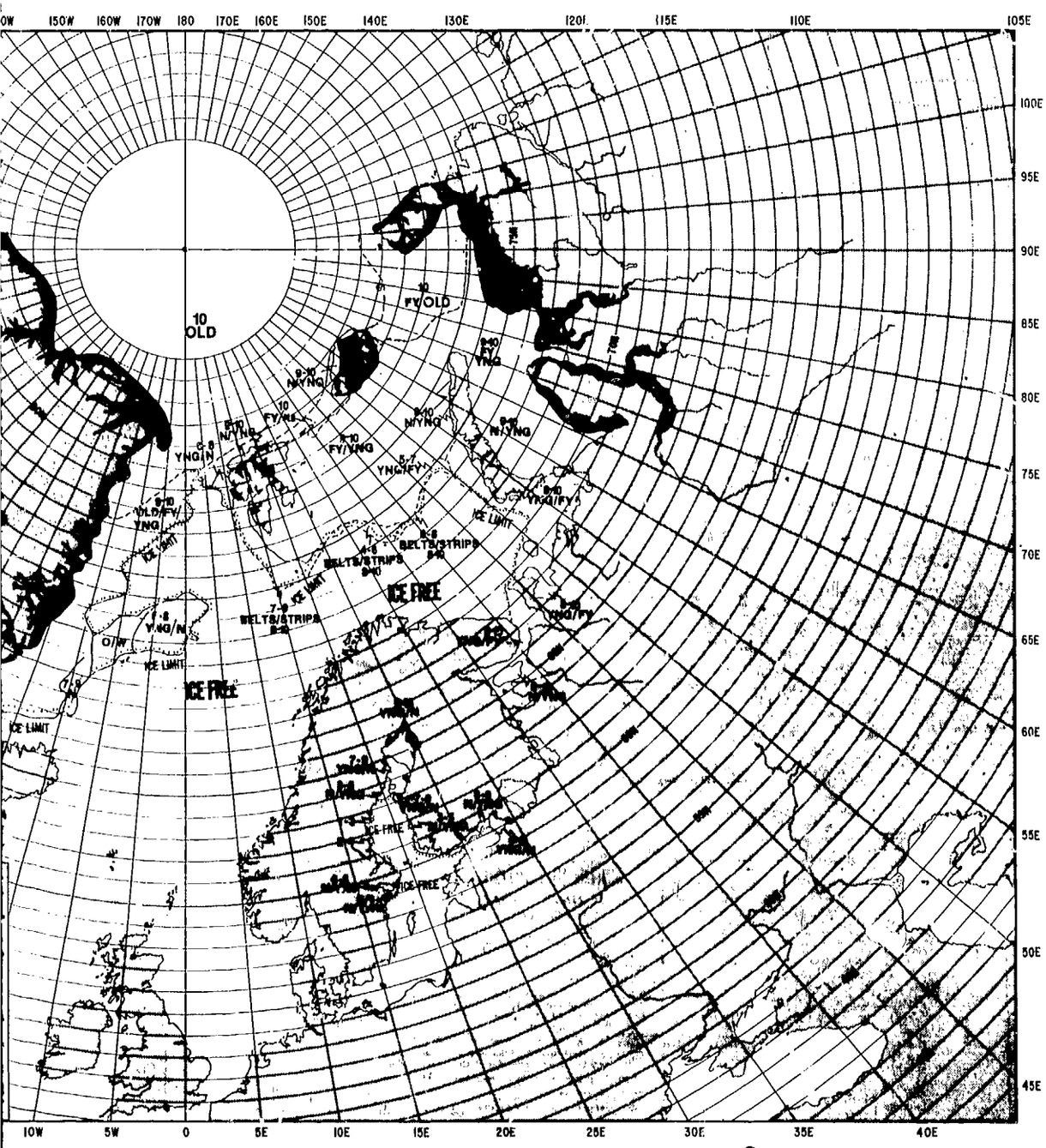
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GREAT LAKES ICE CONDITIONS
SOUTHERN ICE LIMIT 03 FEB 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
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Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

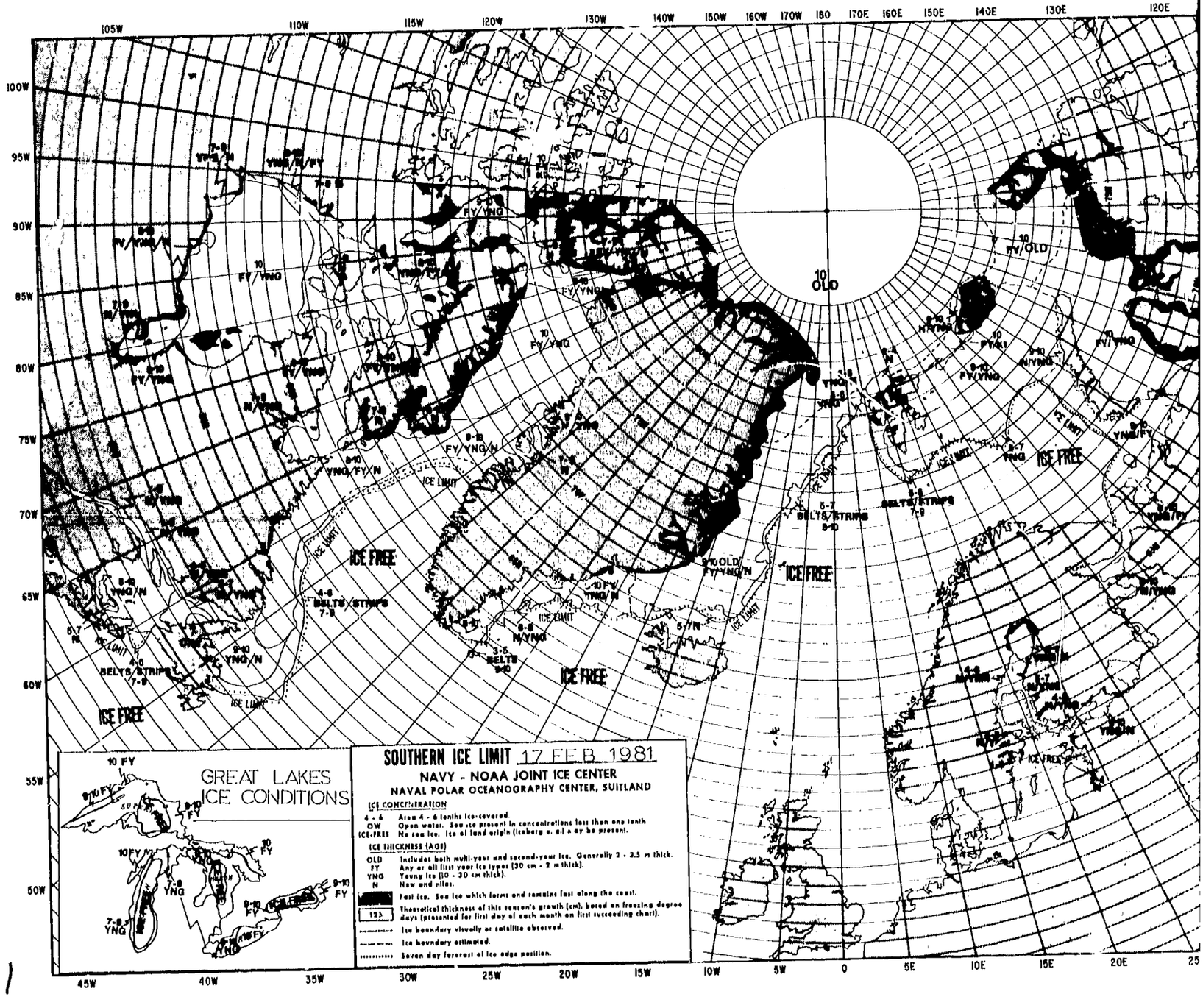

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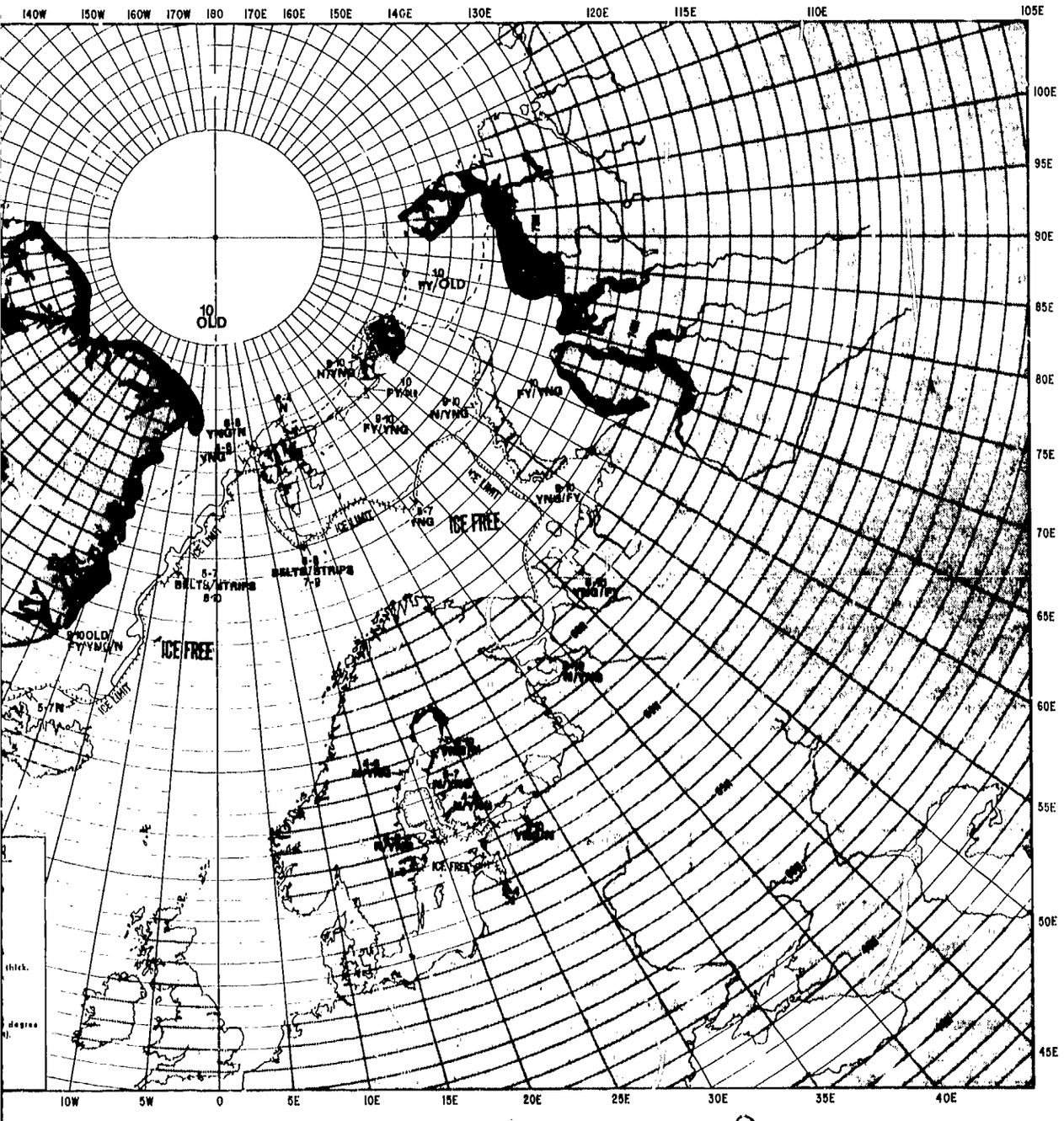
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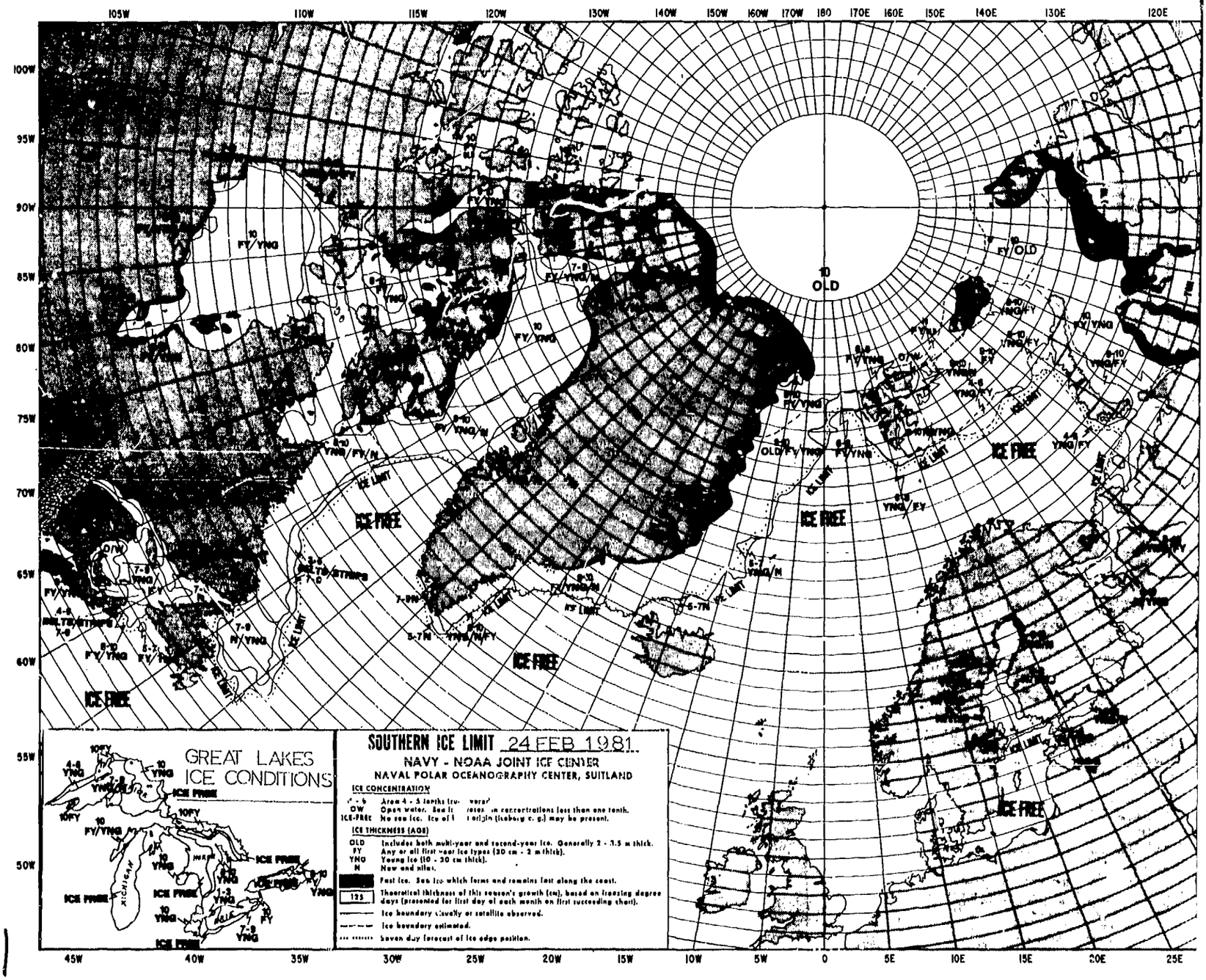

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GREAT LAKES ICE CONDITIONS
SOUTHERN ICE LIMIT 10 FEB 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
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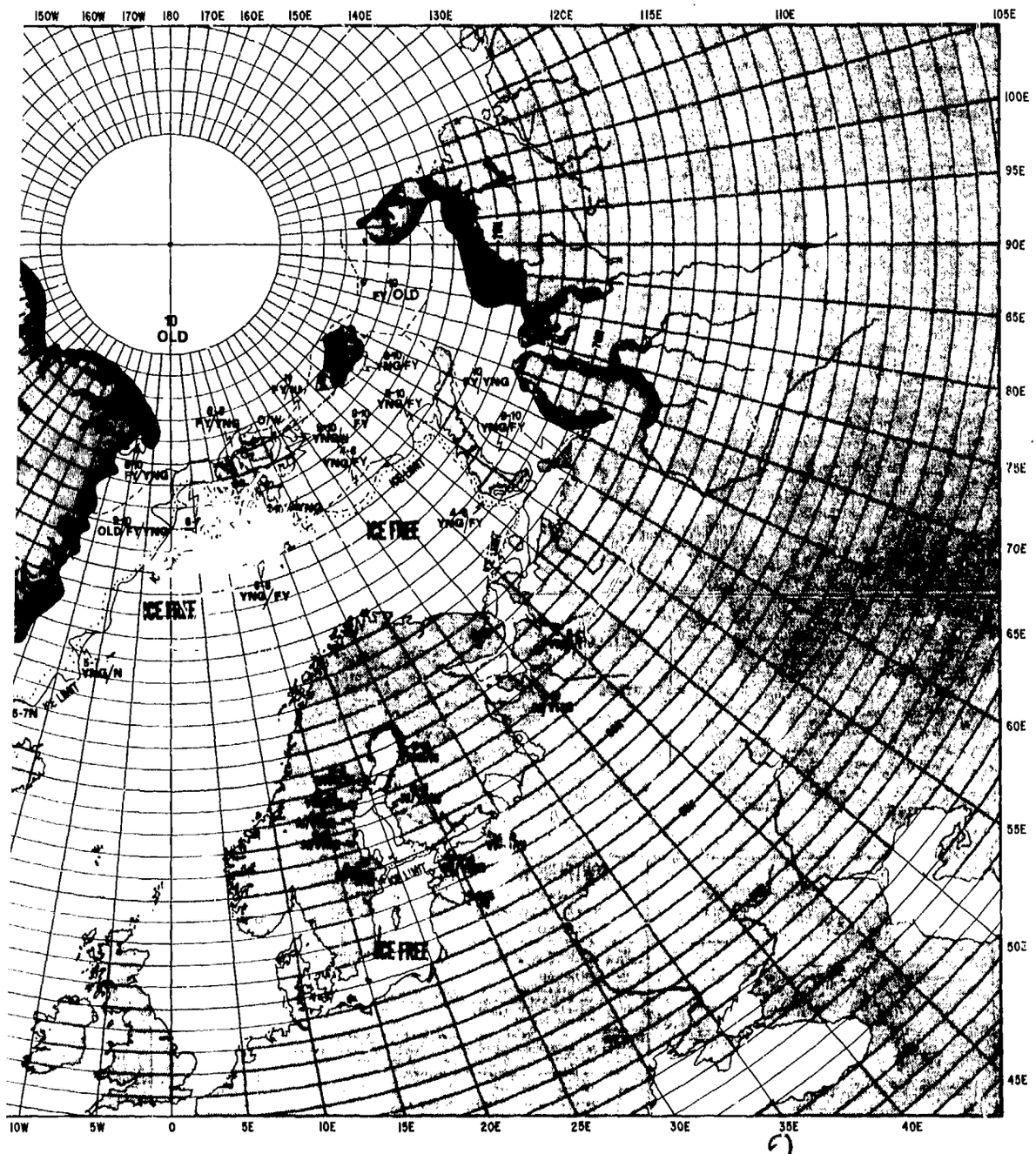

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9-10 N/YNG
5-7 YNG/FY
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9-10 OLD/FY/ YNG
ICE LIMIT
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5-8 BELTS/STRIPS 8-10
ICE FREE
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9-10 YNG/FY
7-8 YNG/N
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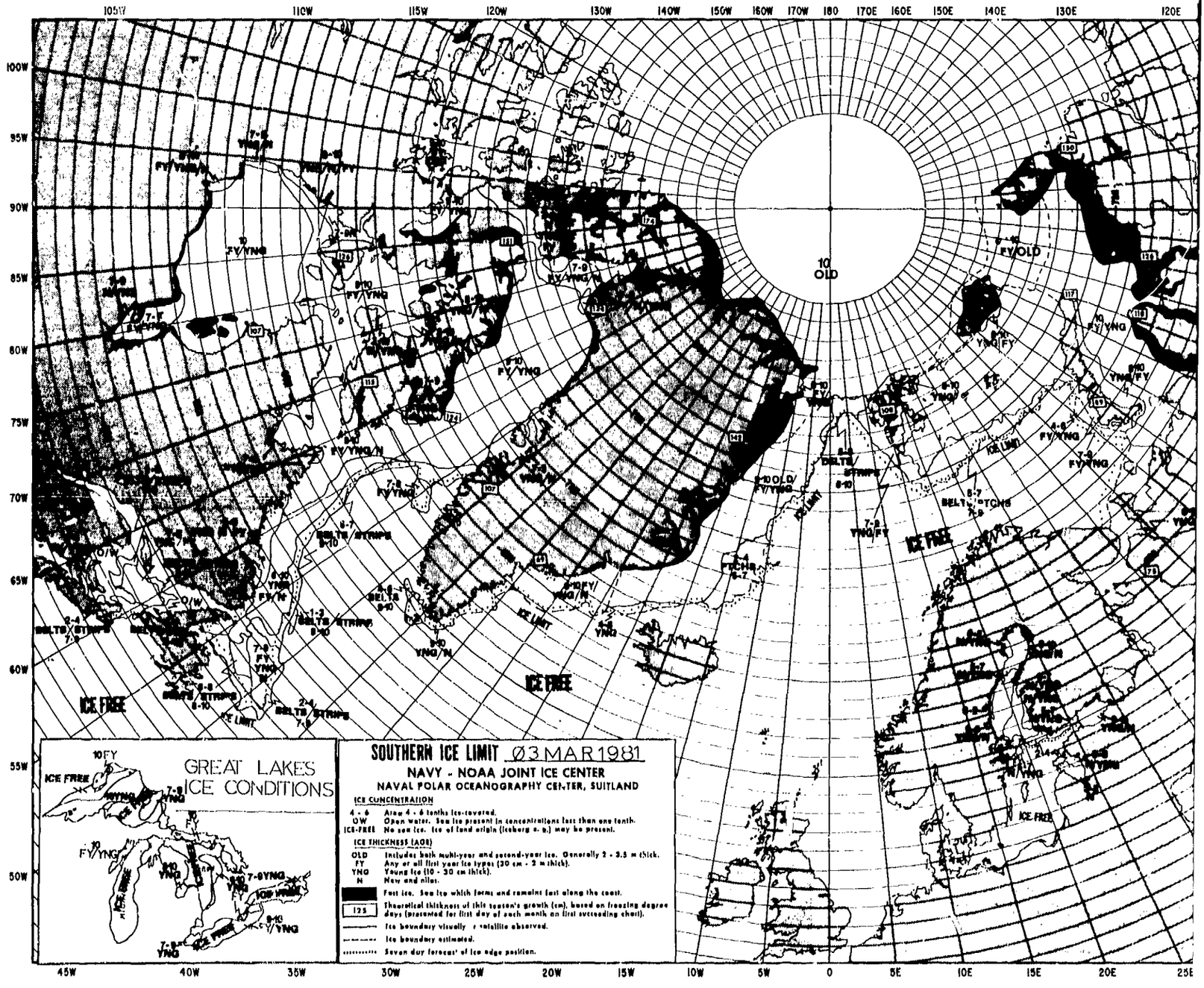
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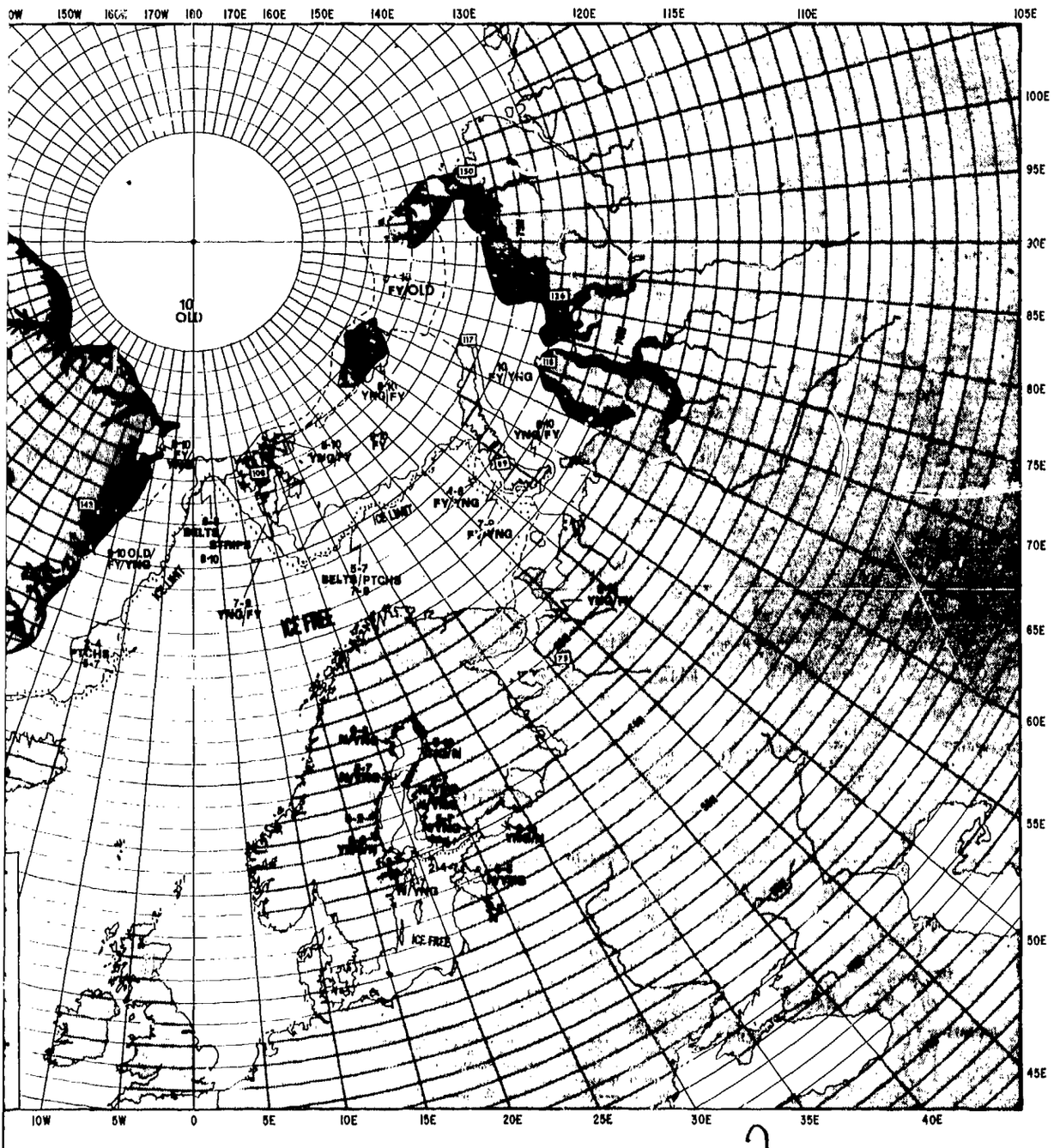

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25
ICE FREE
ICE LIMIT
10 OLD
10 FY/OLD
10 FY/YNG
GREAT LAKES
ICE CONDITIONS
SOUTHERN ICE LIMIT 17 FEB 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) a ay be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
135 Theoretical thickness of this contour's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.


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25E
30E
35E
40E
10 OLD
10 FY/OLD
ICE FREE
ICE LIMIT
BELTS/STRIPS
FY/YNG
N/YNG
YNG/FY
OLD/FY/YNG/N

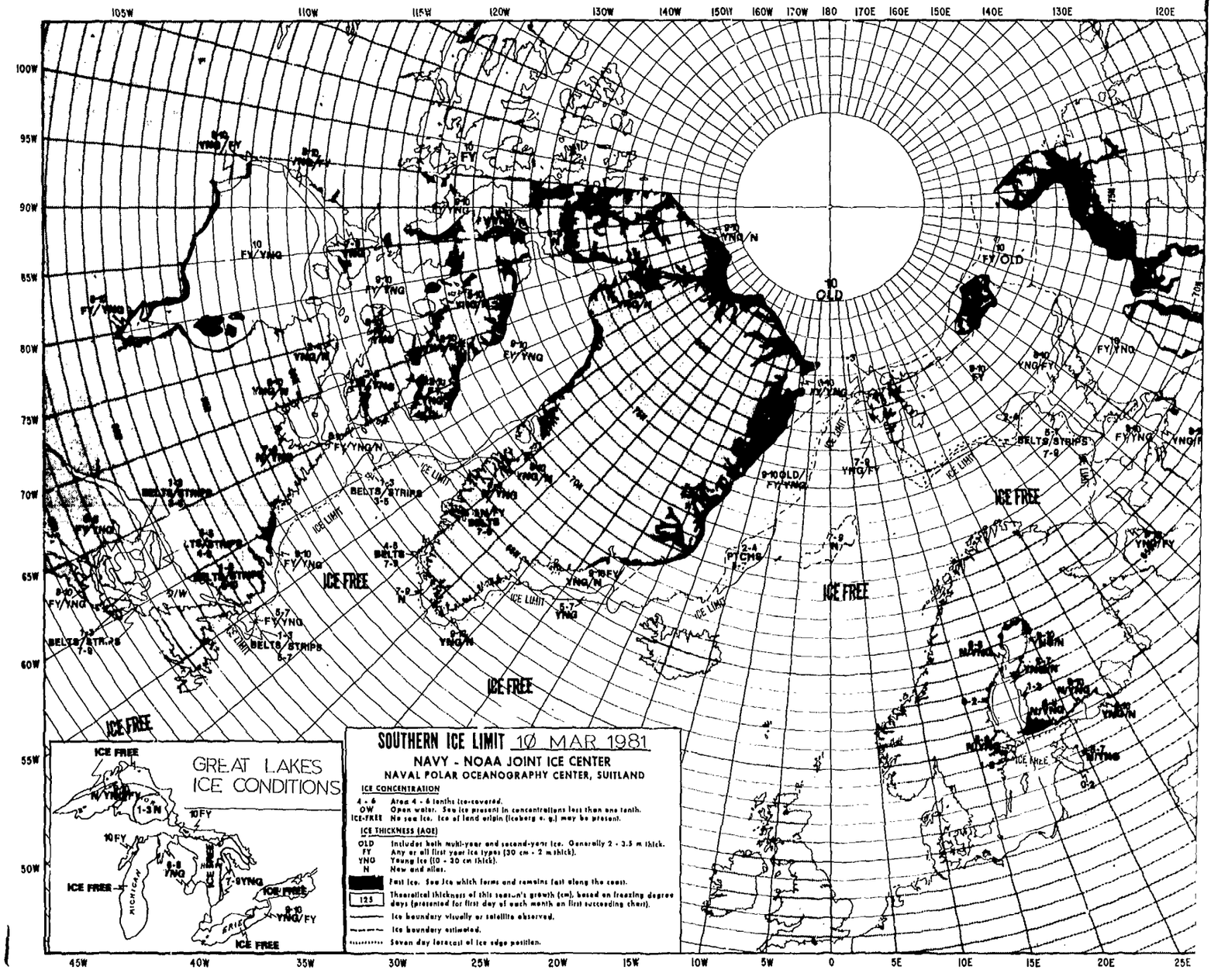

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15E
20E
25E
ICE FREE
ICE LIMIT
10 OLD
10 FY/YNG
10 FY/OLD
GREAT LAKES ICE CONDITIONS
SOUTHERN ICE LIMIT 24 FEB 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
OW Open water. Sea ice
ICE-FREE No sea ice. Ice of
ICE THICKNESS (AOD)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first-year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary usually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

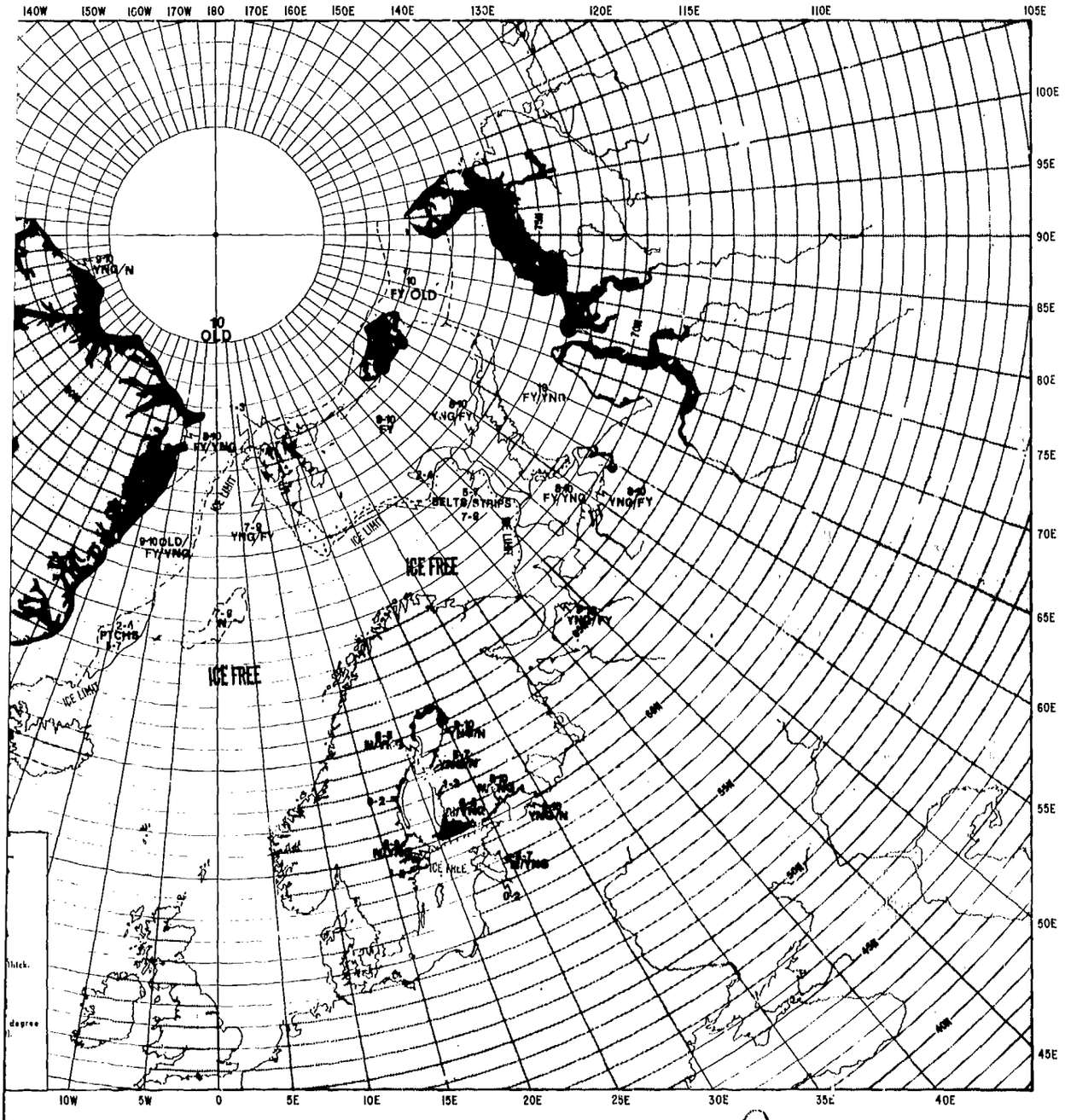

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10 OLD
10 FY/OLD
ICE FREE
ICE FREE
ICE FREE
ICE LIMIT

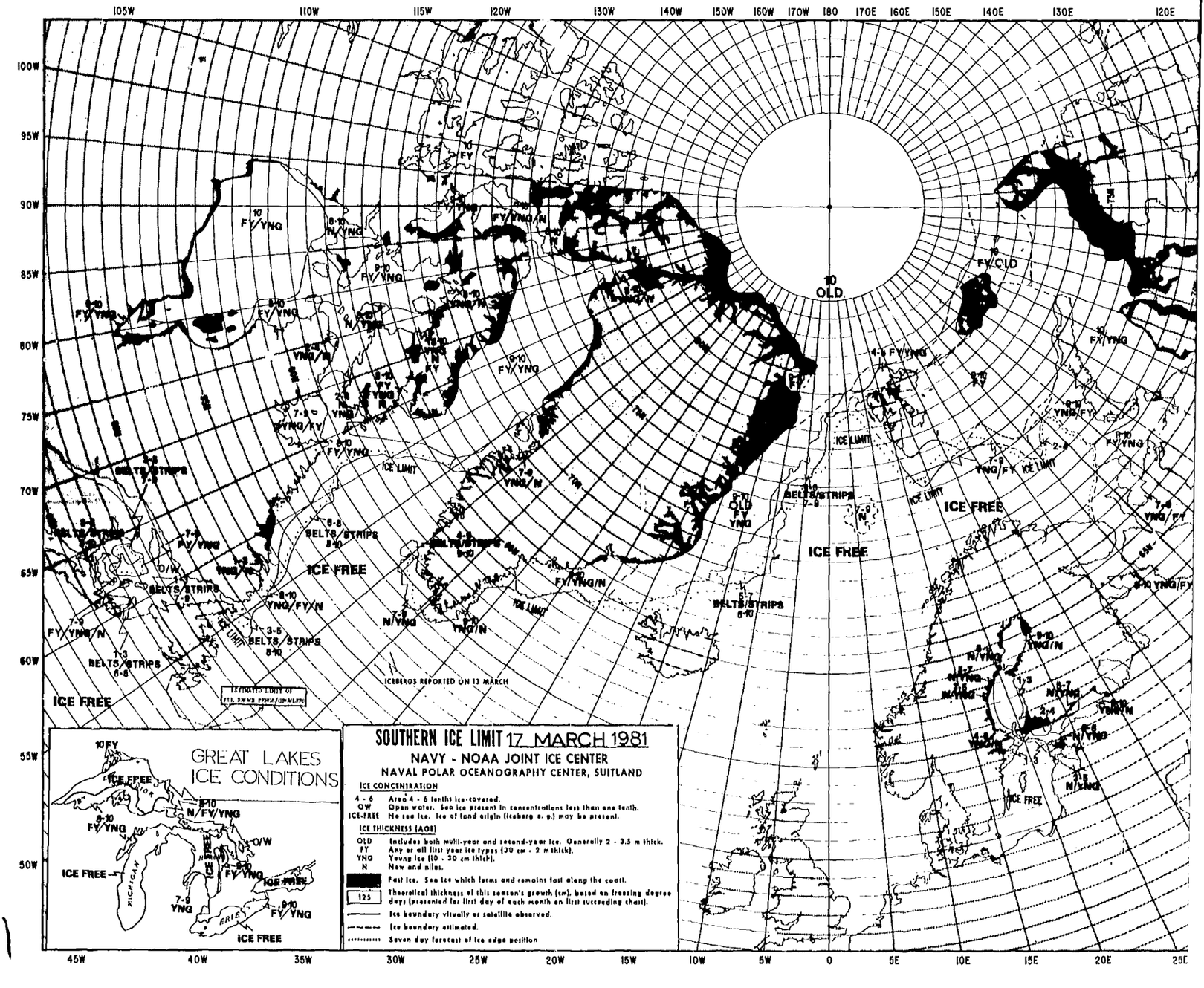

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ICE FREE
ICE LIMIT
10 OLD
GREAT LAKES ICE CONDITIONS
SOUTHERN ICE LIMIT Ø3 MAR 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open Water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOR)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

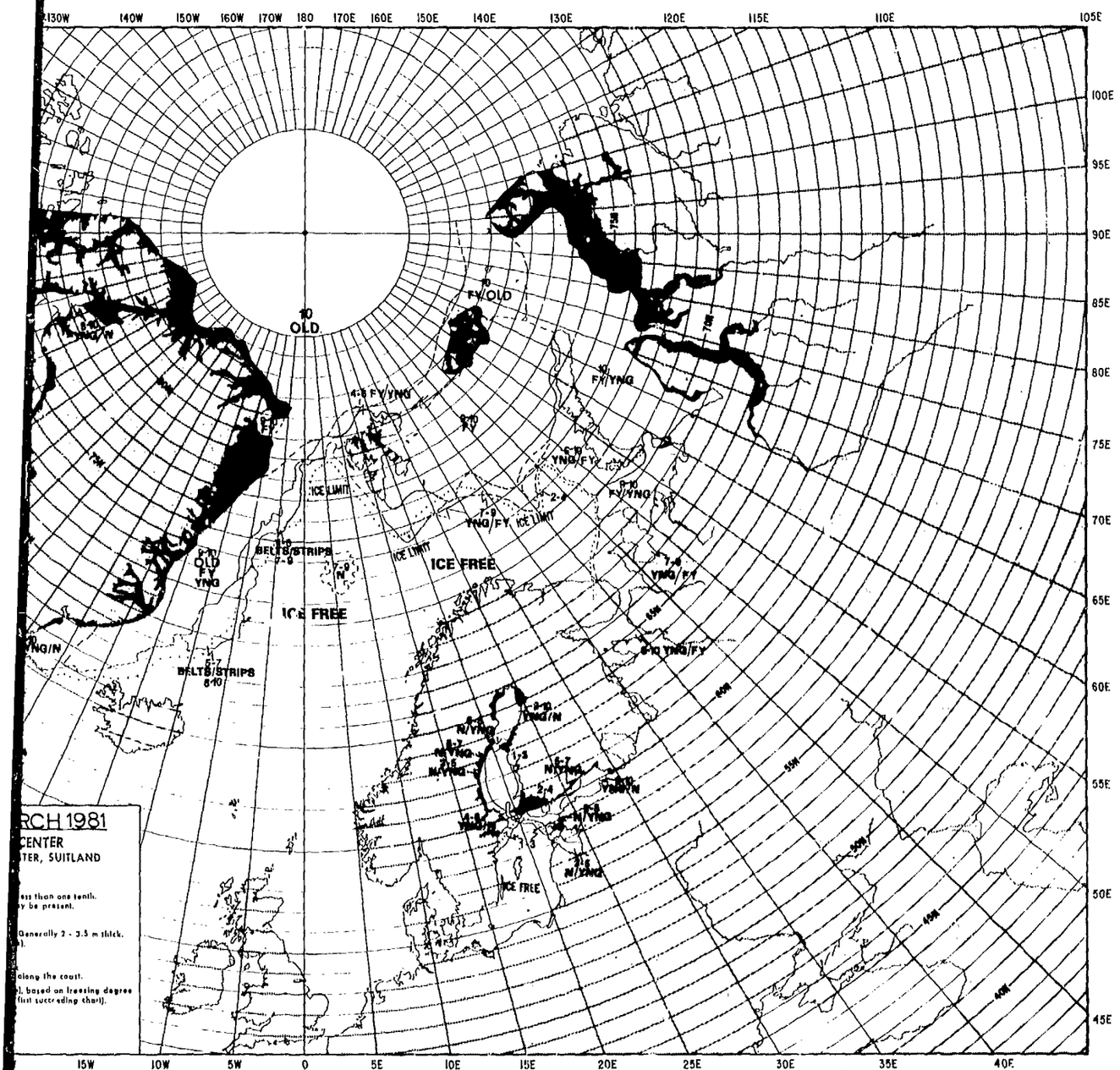

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20E
25E
30E
35E
40E
10 OLD
FY/OLD
ICE LIMIT
ICE FREE
FY/YNG
YNG/FY
OLD/FY/YNG
BELTS/PTCHS
BELTS/ STRIPS
PTCHS
STRIPS

2

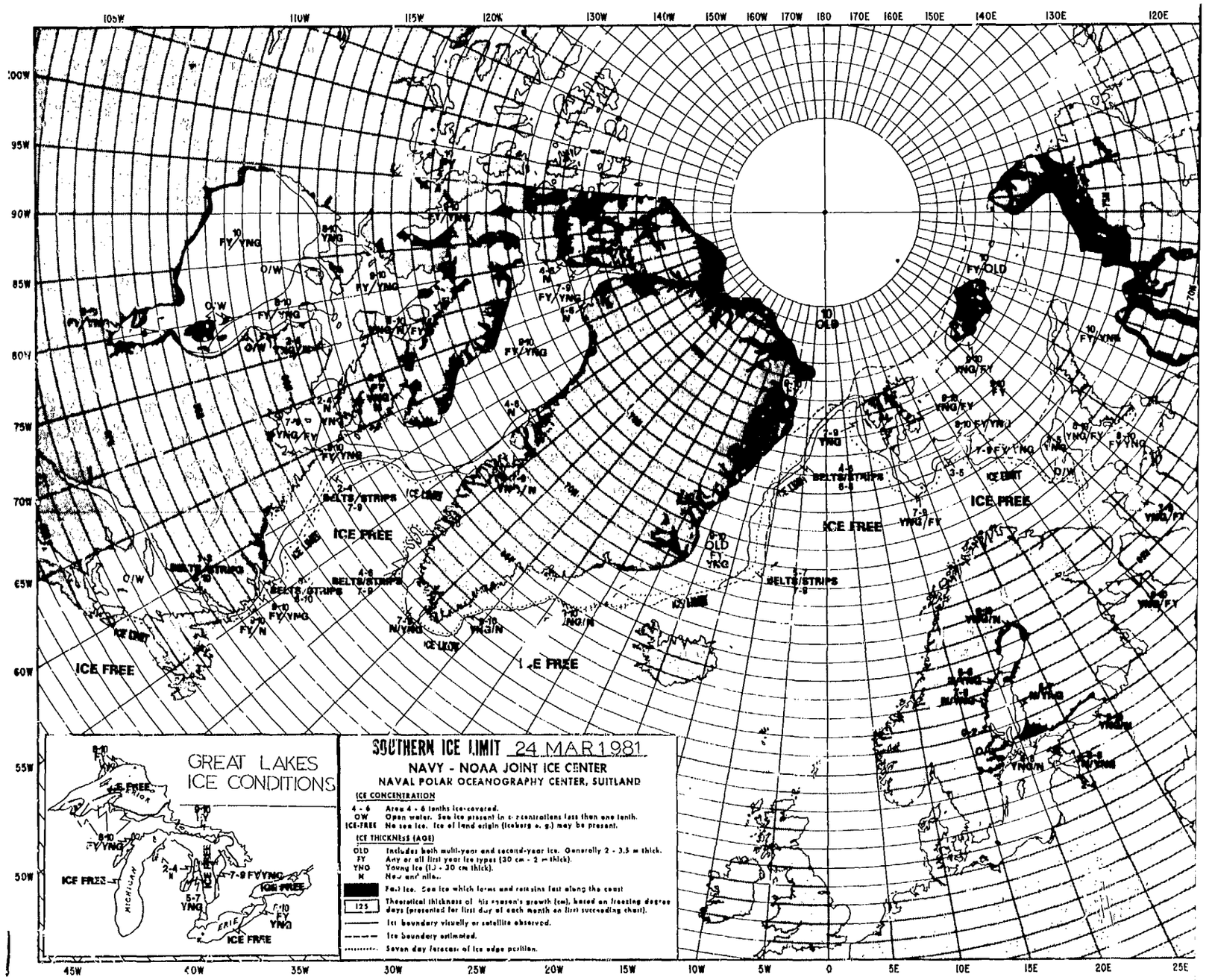

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5E
10E
15E
20E
25E
ICE FREE
ICE LIMIT
GREAT LAKES ICE CONDITIONS
SOUTHERN ICE LIMIT 10 MAR 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

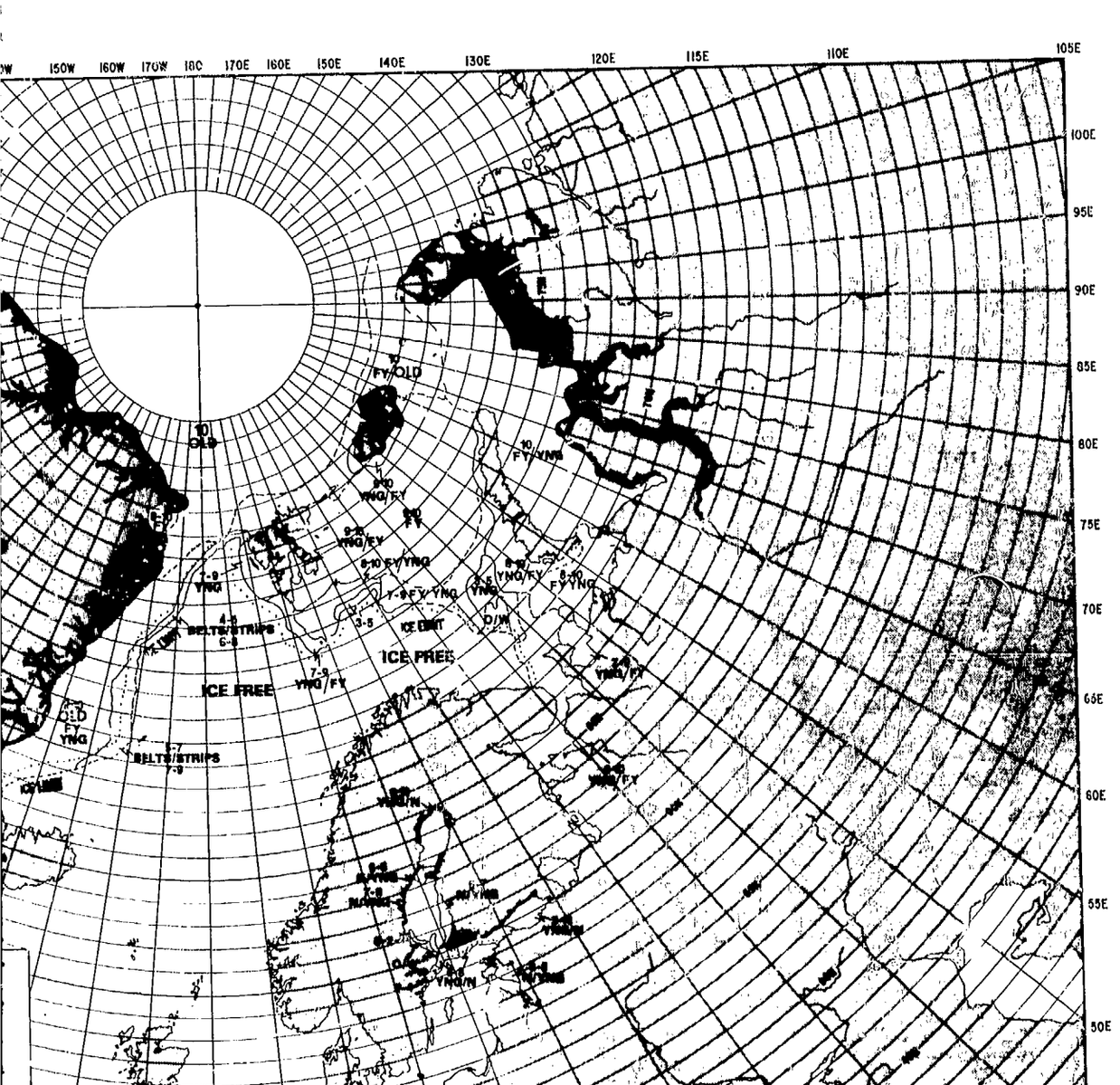

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170W
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20E
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30E
35E
40E
10 OLD
10 FY/OLD
10 FY/YNG
9-10 YNG/N
9-10 FY/YNG
9-10 OLD/ FY/YNG
2-4 BELTS/STRIPS 7-8
ICE FREE
ICE FREE
ICE LIMIT
ICE LIMIT
ICE LIMIT
ICE LIMIT
ICE EDGE
ICE EDGE
ICE EDGE


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5W
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5E
10E
15E
20E
25E
ICE FREE
ICE LIMIT
ICEBERGS REPORTED ON 13 MARCH
GREAT LAKES ICE CONDITIONS
SUPERIOR
MICHIGAN
ERIE
SOUTHERN ICE LIMIT 17 MARCH 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. See ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position

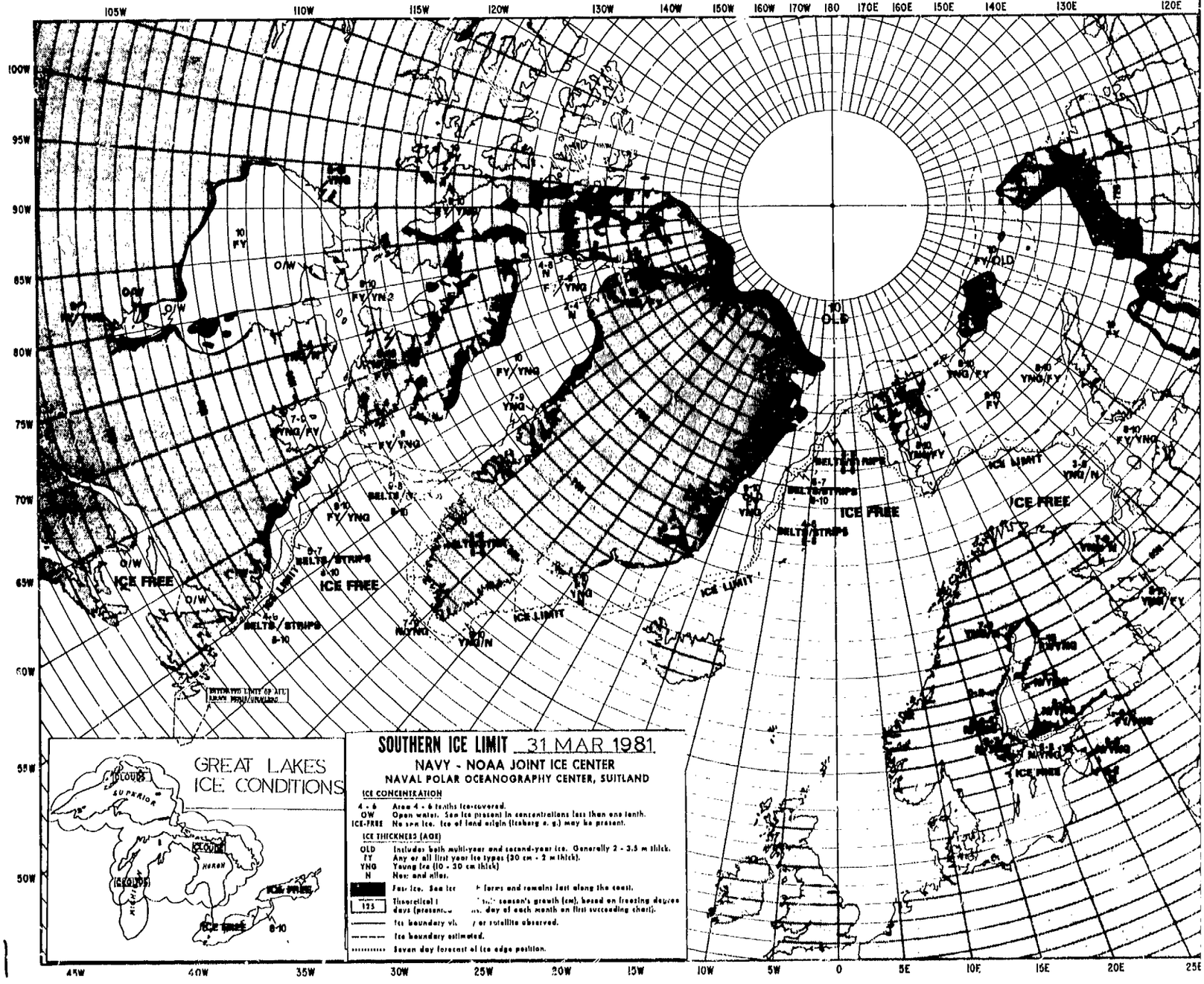

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5E
10E
15E
20E
25E
30E
35E
40E
10 OLD
10 FY/OLD
10 FY/YNG
4-6 FY/YNG
8-10
6-10 YNG/FY
8-10 FY/YNG
ICE LIMIT
7-9 YNG/FY
ICE FREE
BELTS/STRIPS 7-9
OLD FY YNG
BELTS/STRIPS 8-10
7-9 YNG/FY
8-10 YNG/FY
2-10 YNG/N
N/YNG
ICE FREE
RCH 1981
CENTER
TER, SUITLAND
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y be present.
Generally 2 - 3.5 m thick.
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along the coast.
l, based on freezing degree
first succeeding chart).

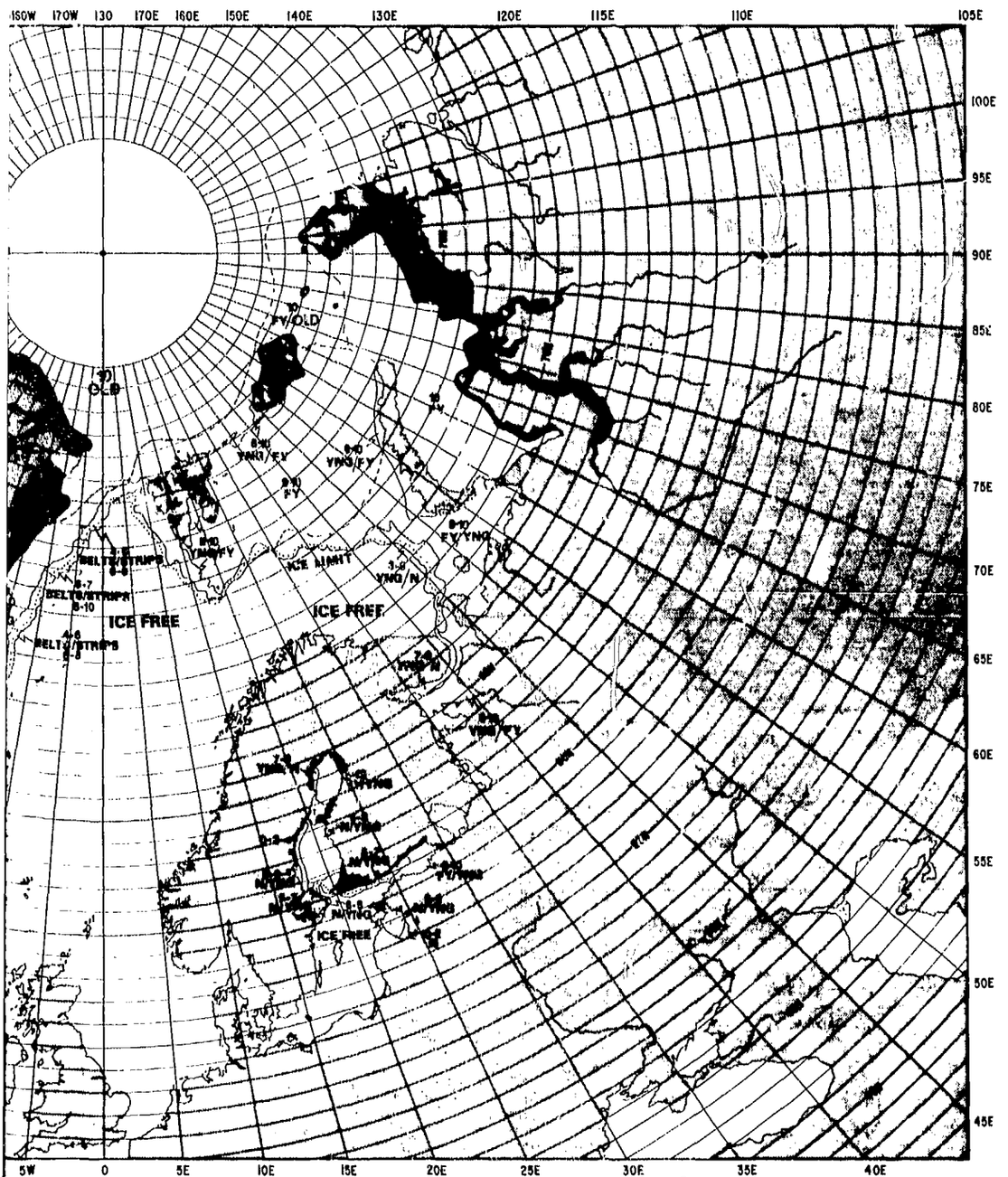
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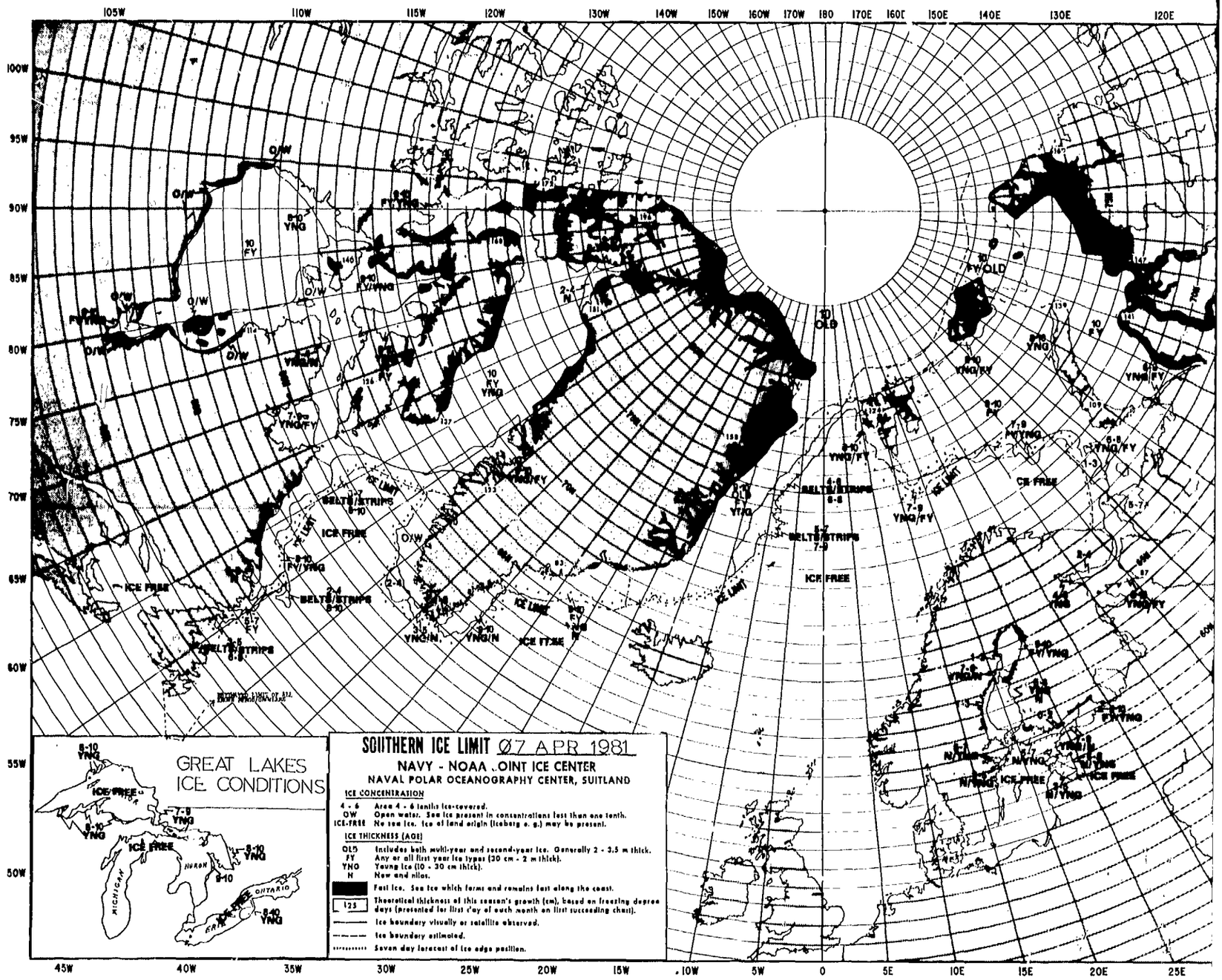

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ICE FREE
BELTS/STRIPS
ICE EDGE
ICE LIMIT
O/W
GREAT LAKES
ICE CONDITIONS
MICHIGAN
ERIE
SOUTHERN ICE LIMIT 24 MAR 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

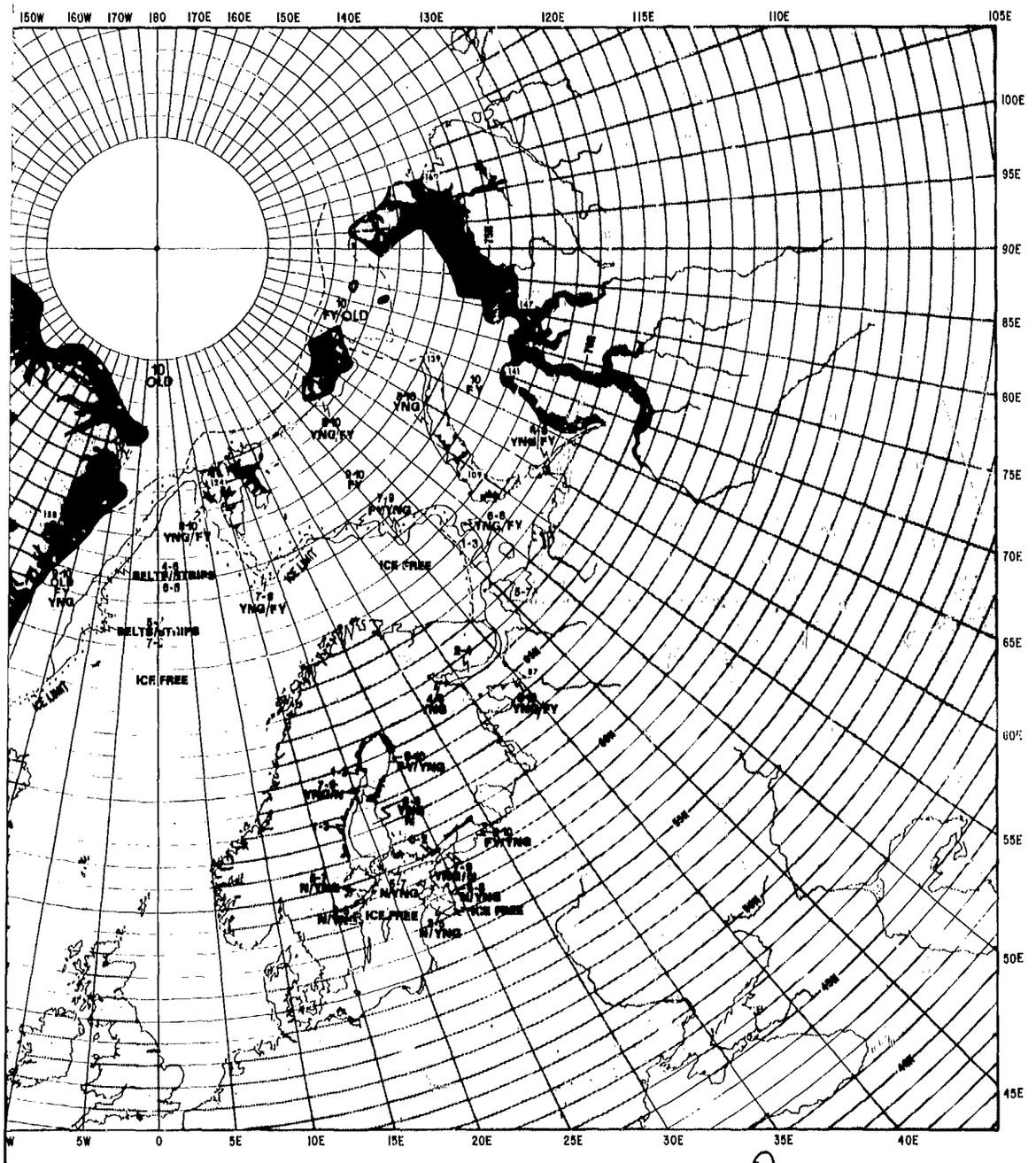

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20E
25E
30E
35E
40E
FY/OLD
10 OLD
10 FY/YNG
8-10 YNG/FY
8-10 FY
8-10 FY/YNG
7-9 YNG
7-9 FY/YNG
3-5
ICE EDGE
ICE FREE
4-6 BELTS/STRIPS
6-8
OLD FY YNG
BELTS/STRIPS
7-9
YNG
O/W
YNG/FY
YNG/N

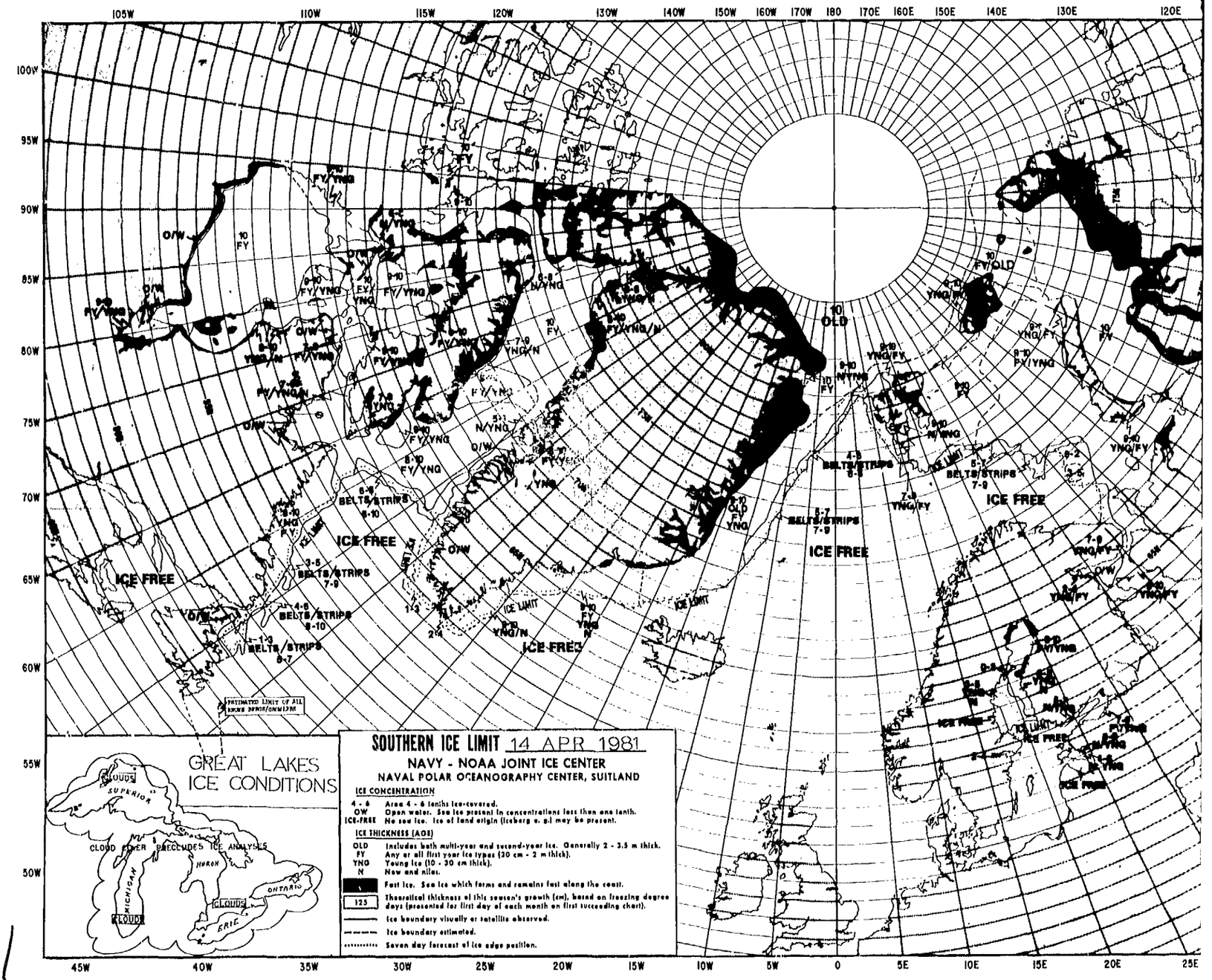
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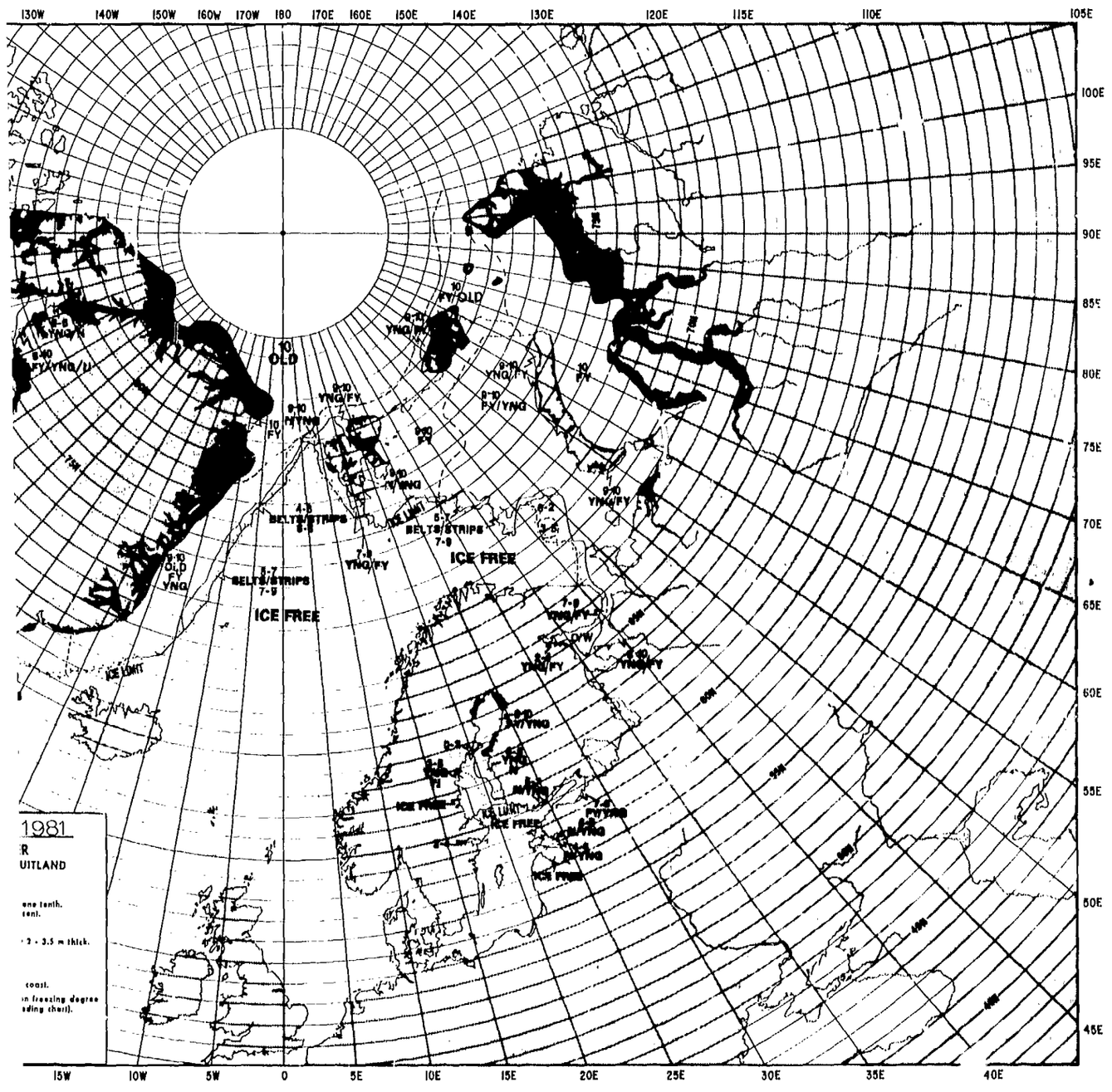

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ICE FREE
ICE LIMIT
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10 OLD
FY/YNG
YNG/FY
YNG/N
DELTS/STRIPS
GREAT LAKES ICE CONDITIONS
SUPERIOR
HURON
ICE FREE
SOUTHERN ICE LIMIT 31 MAR 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas.
Fast ice. Sea ice
Theoretical
days (present
Ice boundary
Ice boundary estimated.
Seven day forecast of ice edge position.

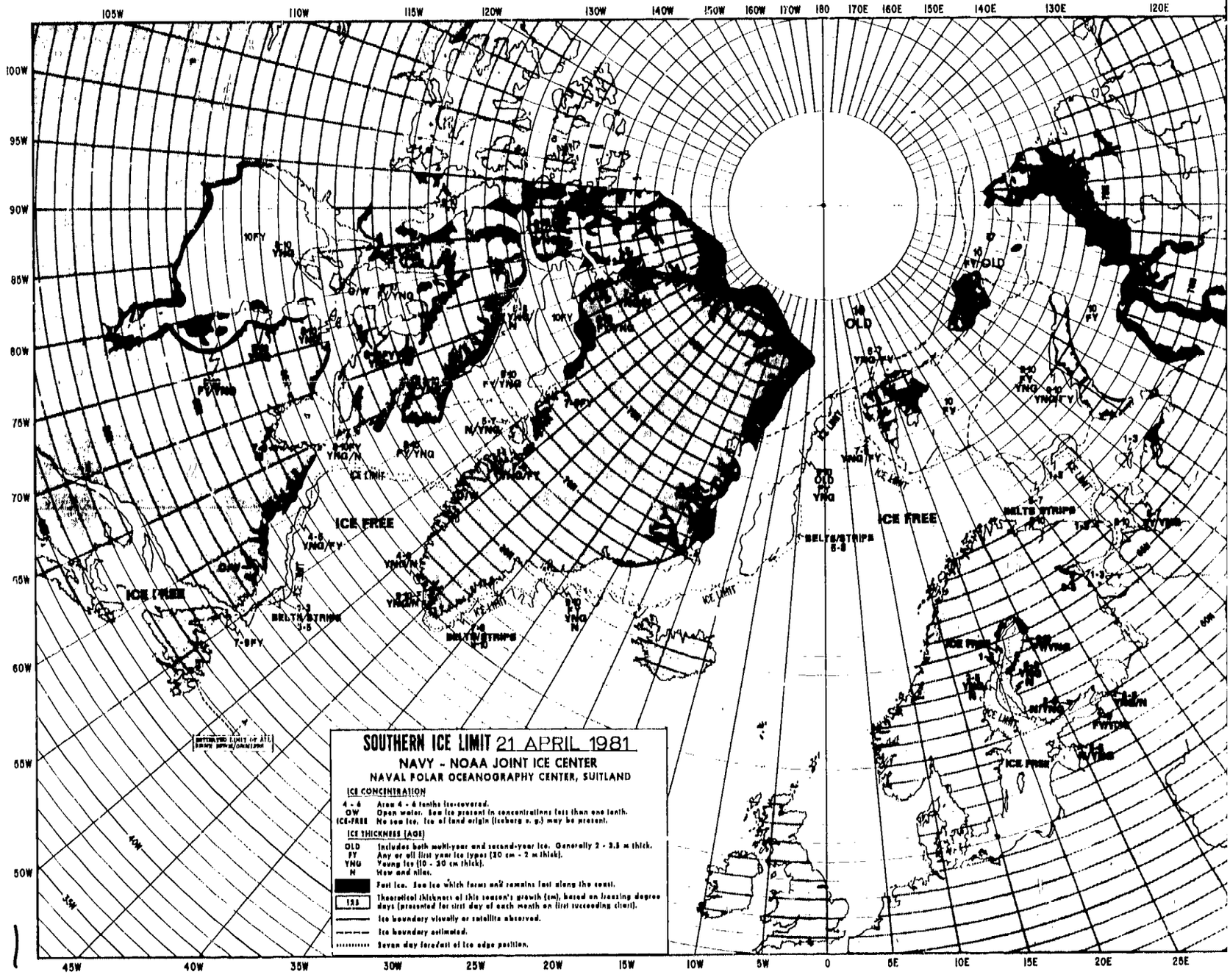

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FY/OLD
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ICE LIMIT
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ICE FREE
ICE FREE
FY/OLD
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YNG/FY
YNG/N
YNG/FY
YNG/N
YNG/N
YNG/N

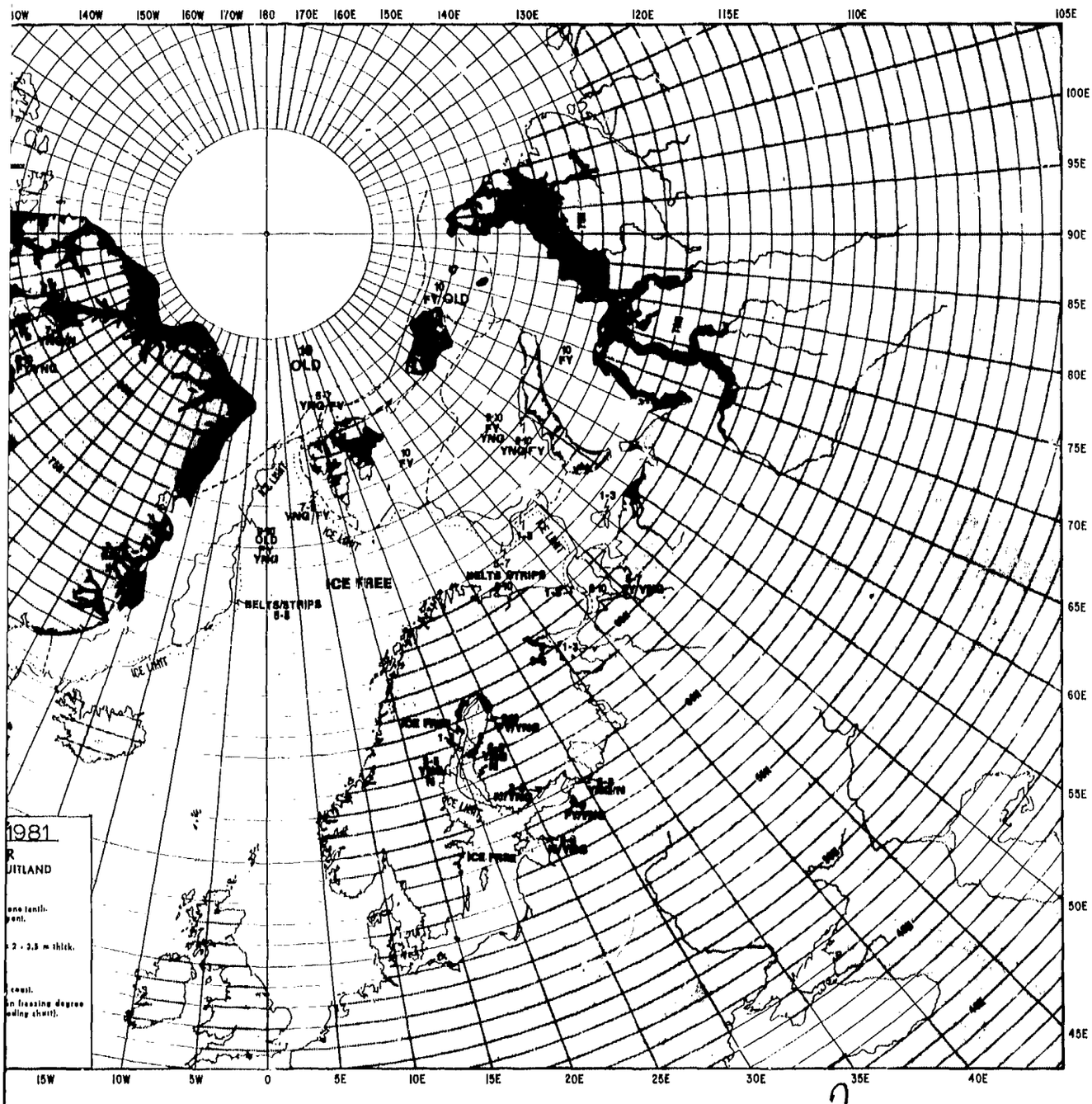

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GREAT LAKES
ICE CONDITIONS
ICE FREE
HURON
MICHIGAN
ONTARIO
ERIE
SOUTHERN ICE LIMIT 07 APR 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.


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10 FY
9-10 YNG
9-10 YNG/FY
8-9 YNG/FY
7-9 FY/YNG
6-8 FY/YNG
1-3
ICE FREE
ICE LIMIT
7-9 YNG/FY
BELTS/STRIPS
6-8
7-8
YNG
8-9 YNG/FY
9-10 FY/YNG
N/YNG
N/FY
N/YNG
ICE FREE
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ICE FREE
N/YNG
ICE FREE

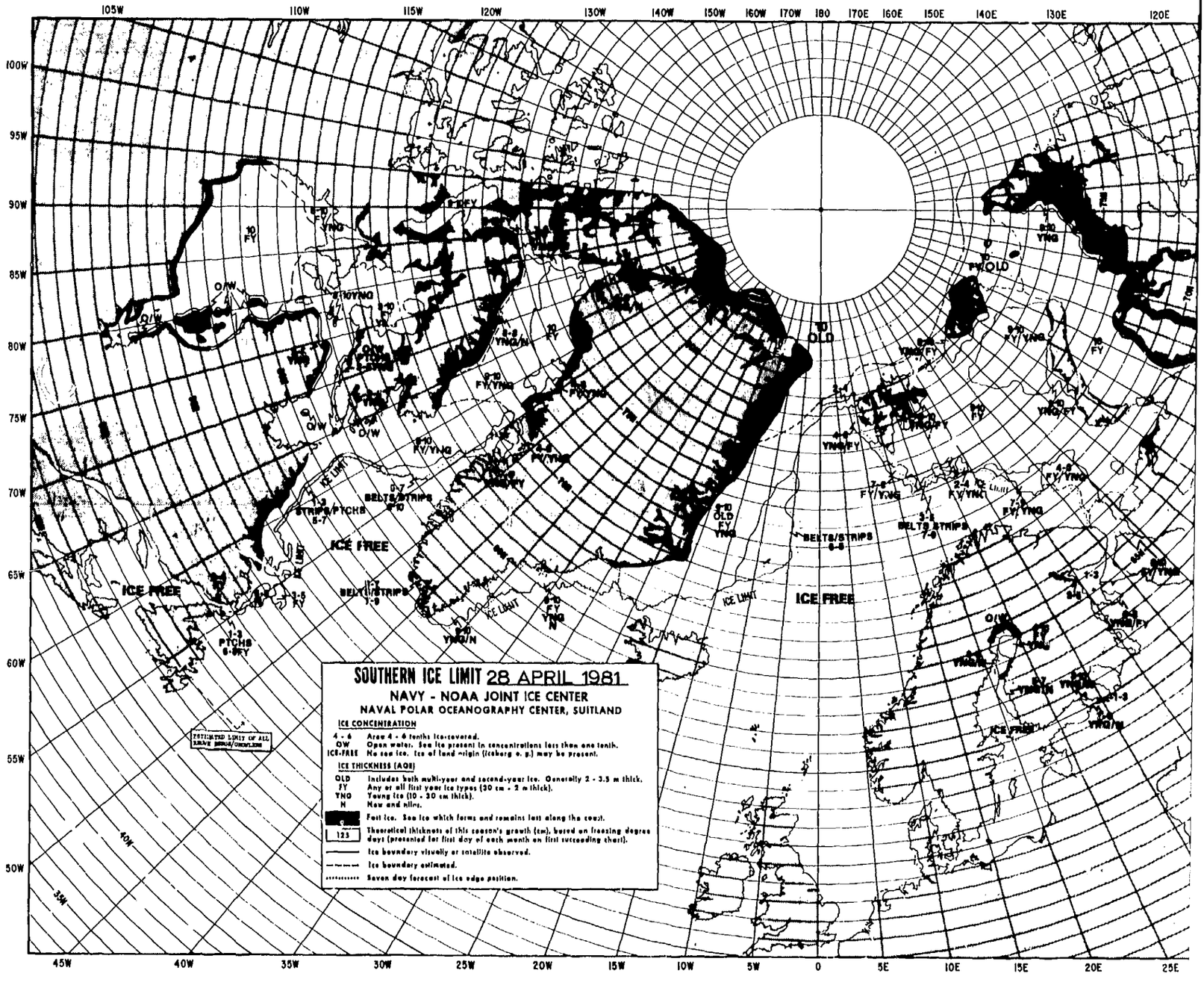

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15E
20E
25E
ICE FREE
O/W
10 FY
10 OLD
10 FY/OLD
ESTIMATED LIMIT OF ALL SNOW DRIFT/OVN ICING
GREAT LAKES ICE CONDITIONS
CLOUD COVER PRECLUDES ICE ANALYSIS
SUPERIOR
HURON
MICHIGAN
ONTARIO
ERIE
SOUTHERN ICE LIMIT 14 APR 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

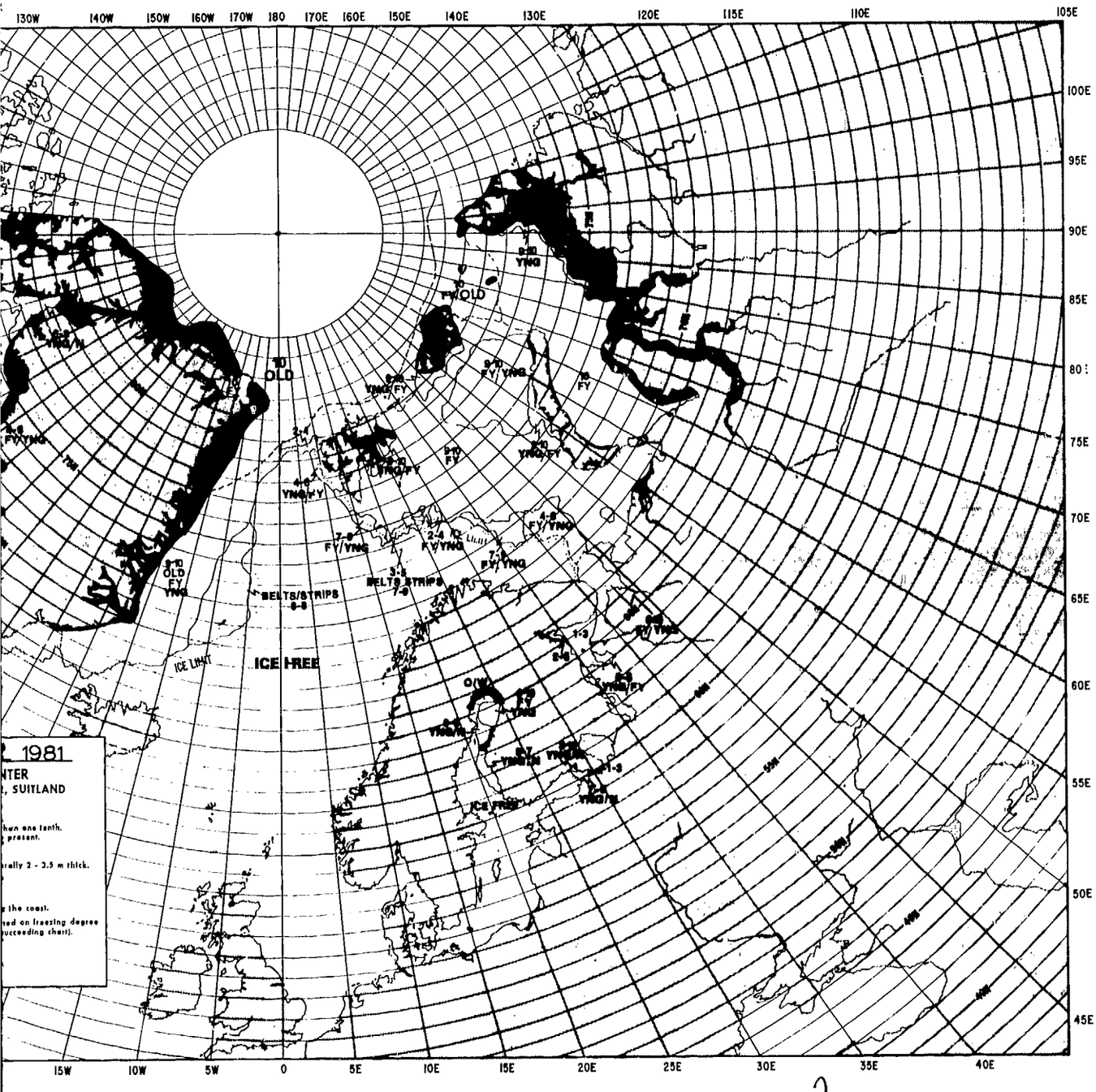

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ICE FREE
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10FY
SOUTHERN ICE LIMIT 21 APRIL 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

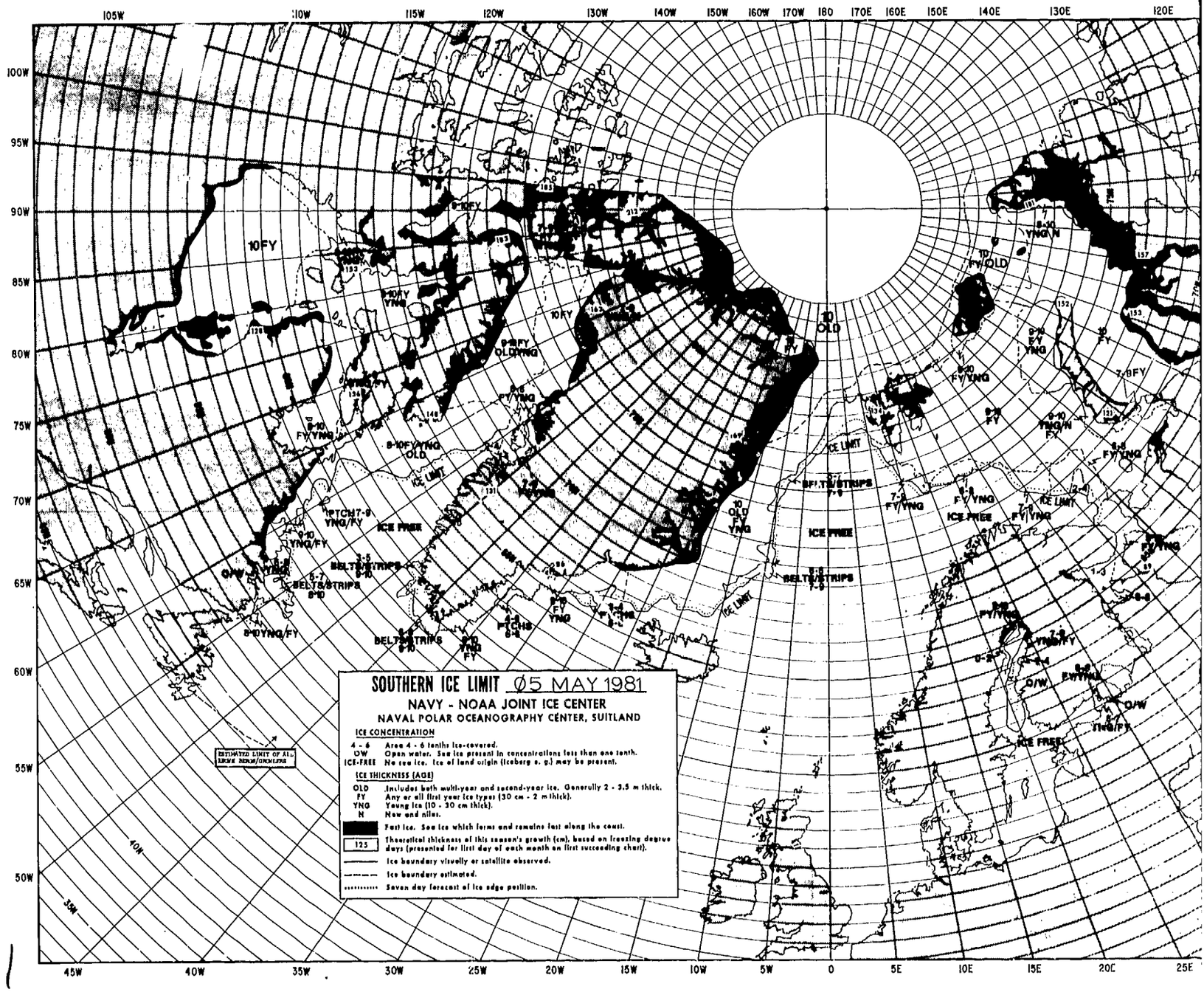

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ICE LIMIT
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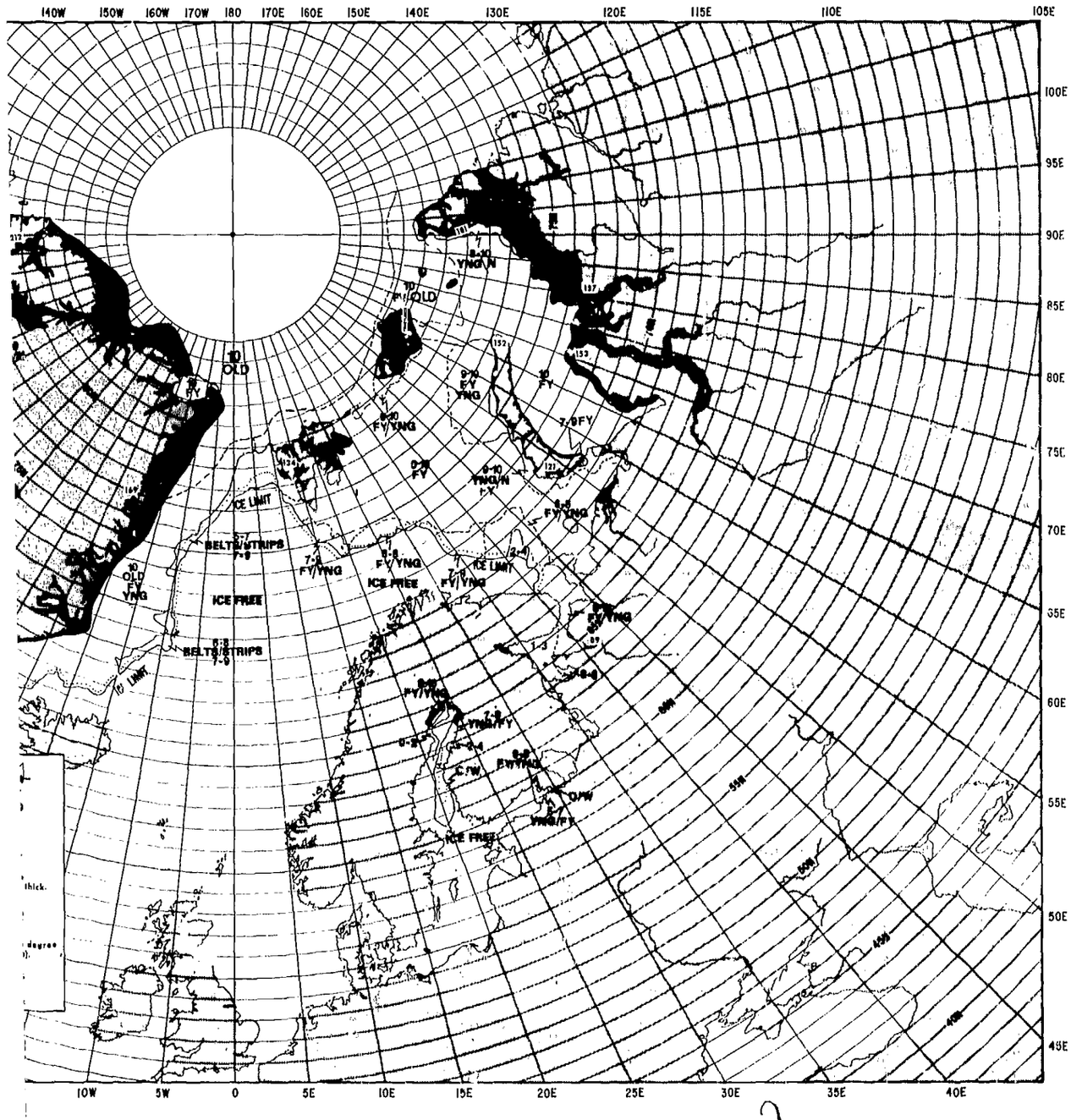
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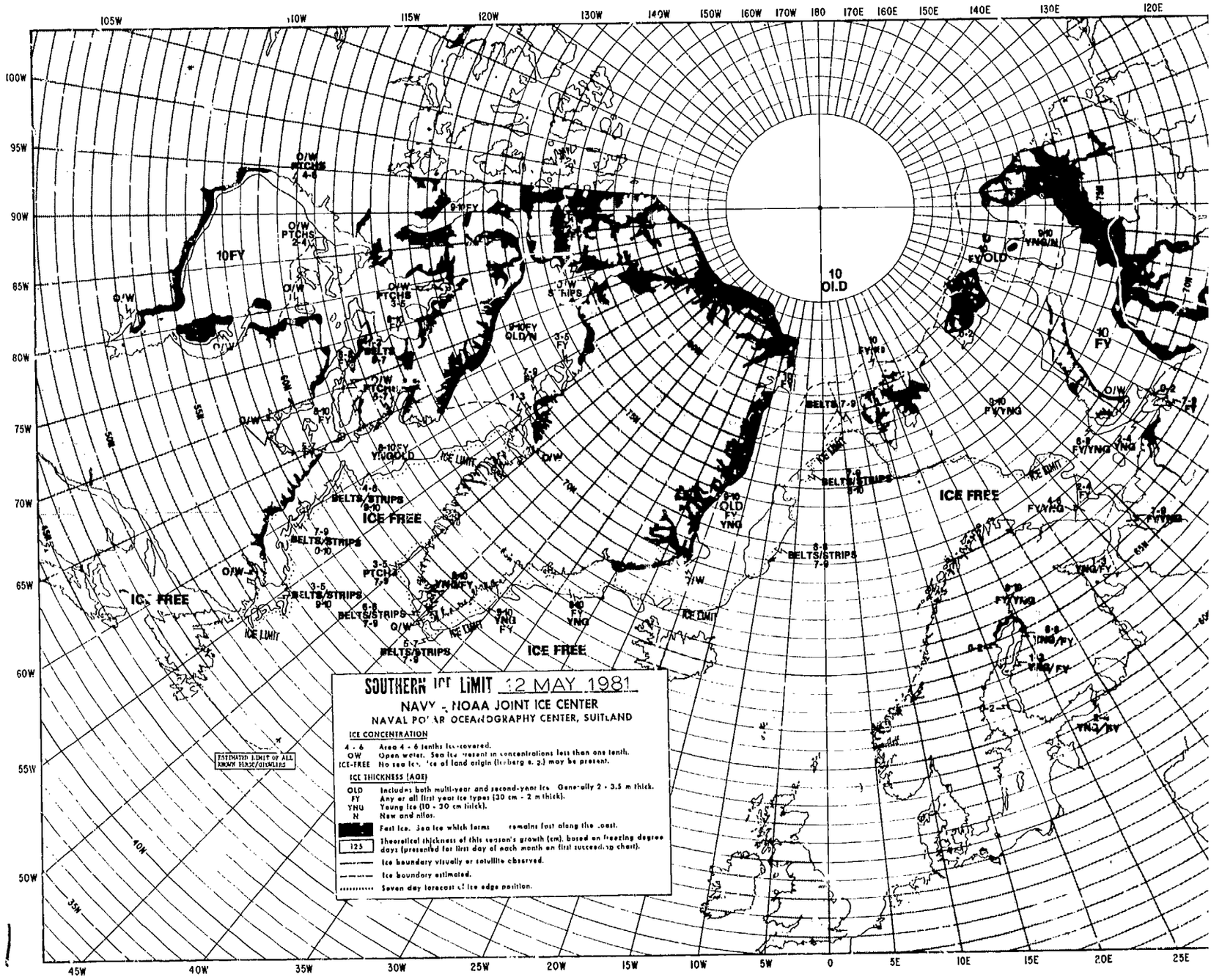

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ICE FREE
ICE LIMIT
SOUTHERN ICE LIMIT 28 APRIL 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg o. p.) may be present.
ICE THICKNESS (AOR)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

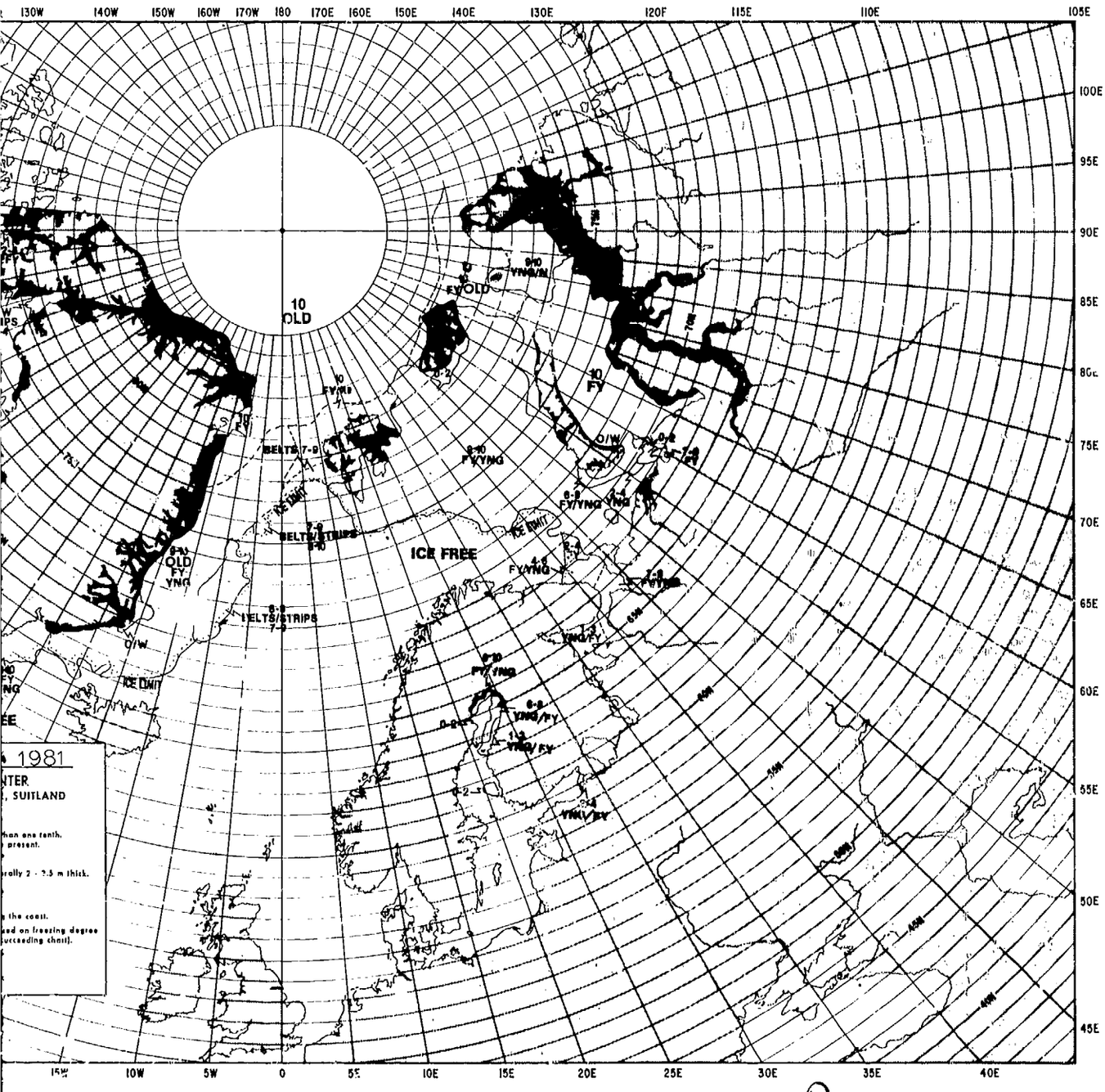

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ICE LIMIT
BELTS/STRIPS
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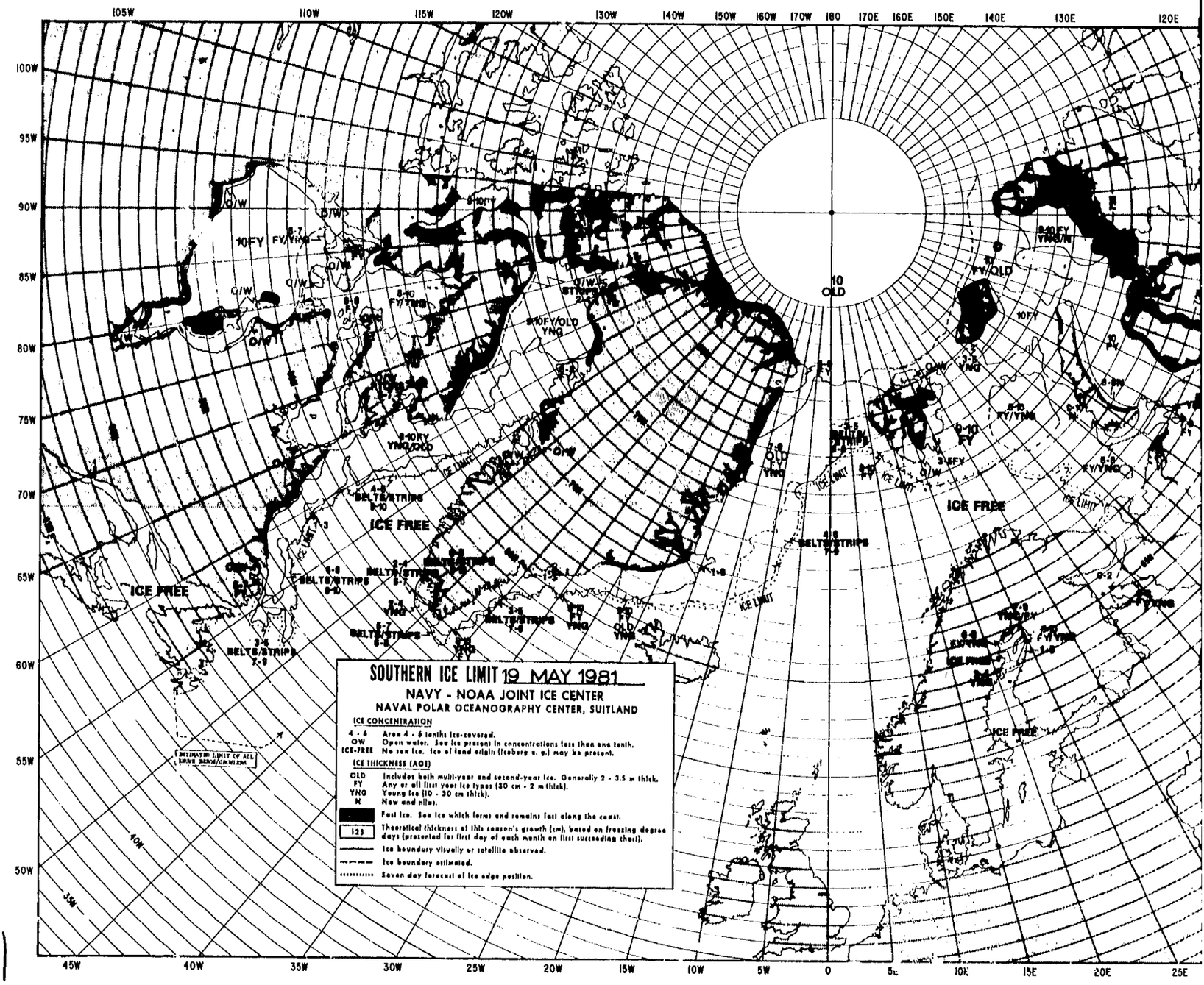

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SOUTHERN ICE LIMIT Ø5 MAY 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
ESTIMATED LIMIT OF ALL ARCTIC ICE/OPEN WATER
ICE LIMIT
ICE FREE
10FY
10OLD
10 FY/OLD
8-10FY/YNG
8-10FY/YNG OLD
8-10 FY/YNG
8-10 YNG/N
8-10 YNG/N FY
7-9FY
7-9 FY/YNG
7-8 FY/YNG
8-9 FY/YNG
8-9 FY
8-10 FY/YNG
10 OLD FY/YNG
PTCH7-9 YNG/FY
9-10 YNG/FY
8-10YNG/FY
BELTS/STRIPS 8-10
BELTS/STRIPS 7-9
BELTS/STRIPS 5-7
BELTS/STRIPS 5-8
PTCHS 8-9
8-9 FY YNG
8-9 YNG FY
7-8 FY/YNG
7-8 YNG/FY
8-9 FY/YNG
O/W
O/W FY/YNG
ICE FREE

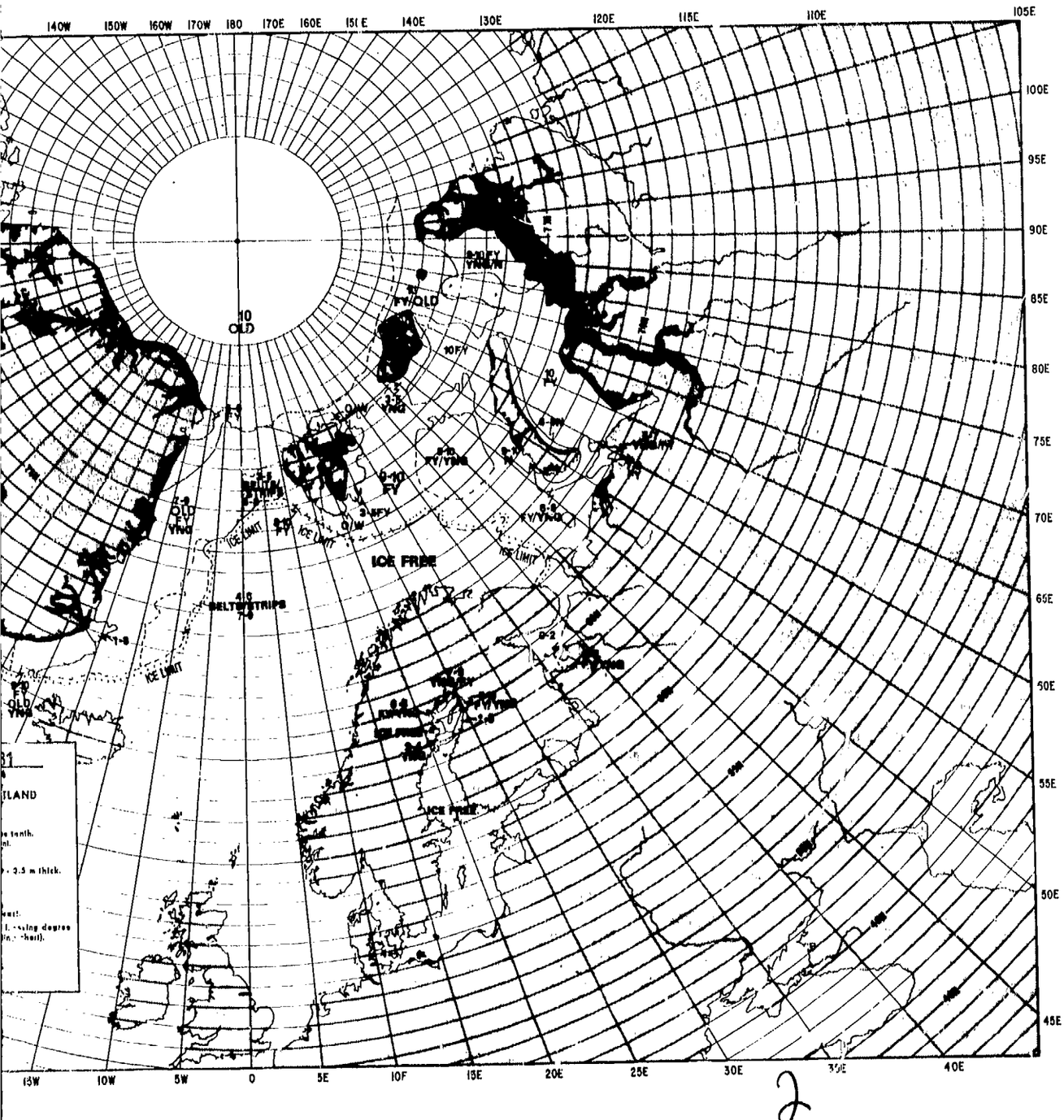

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ICE LIMIT
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ICE FREE
ICE LIMIT
10FY
10 OLD
10 FY
O/W
BELTS/STRIPS
PTCHS
SOUTHERN ICE LIMIT 12 MAY 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
ESTIMATED LIMIT OF ALL KNOWN FIRST-YEAR ICE

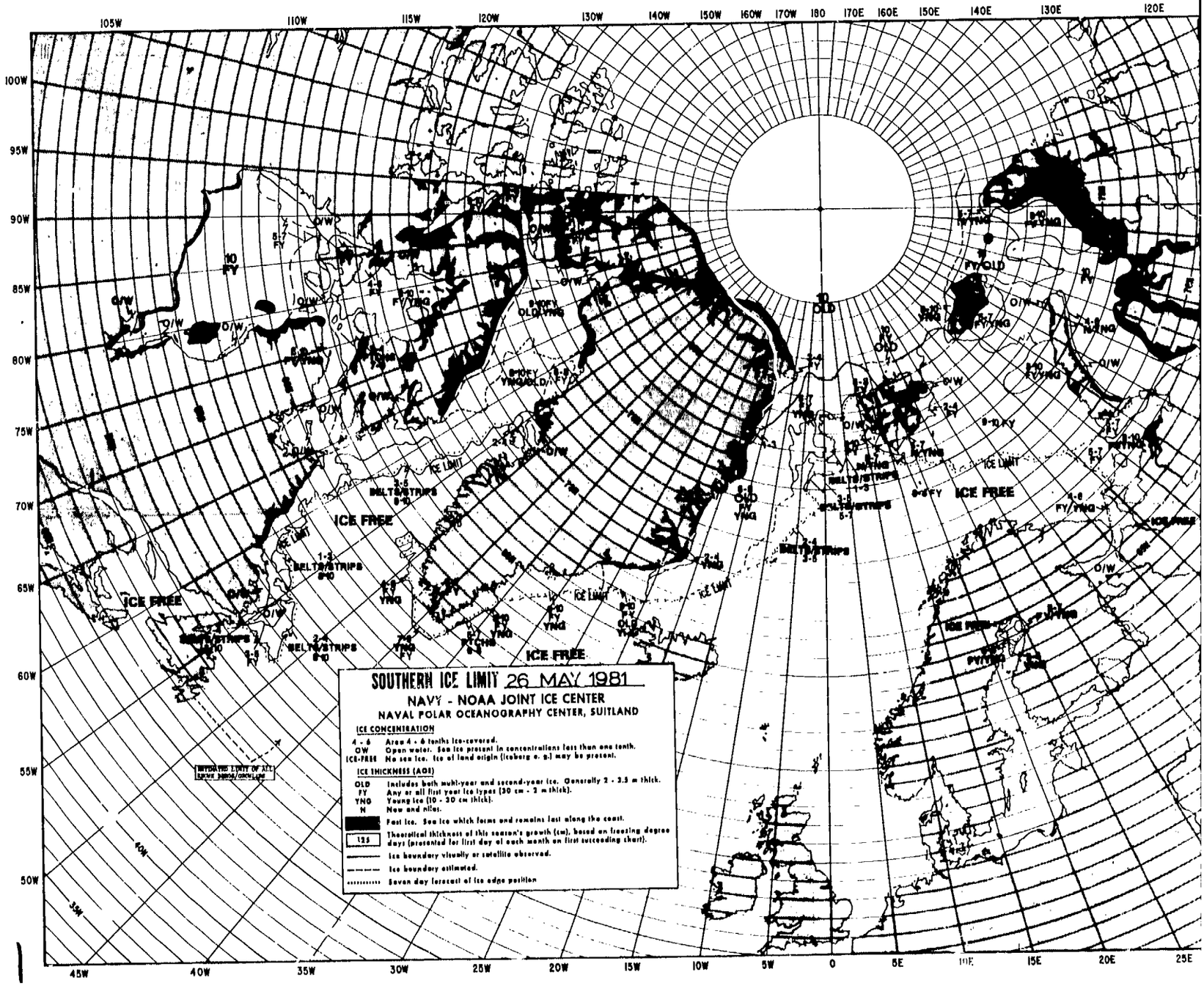

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FY/OLD
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O/W
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BELTS 7-9
BELTS/STRIPS
ICE FREE
OLD FY YNG
YNG/FY
FY/YNG
1981
SUITLAND

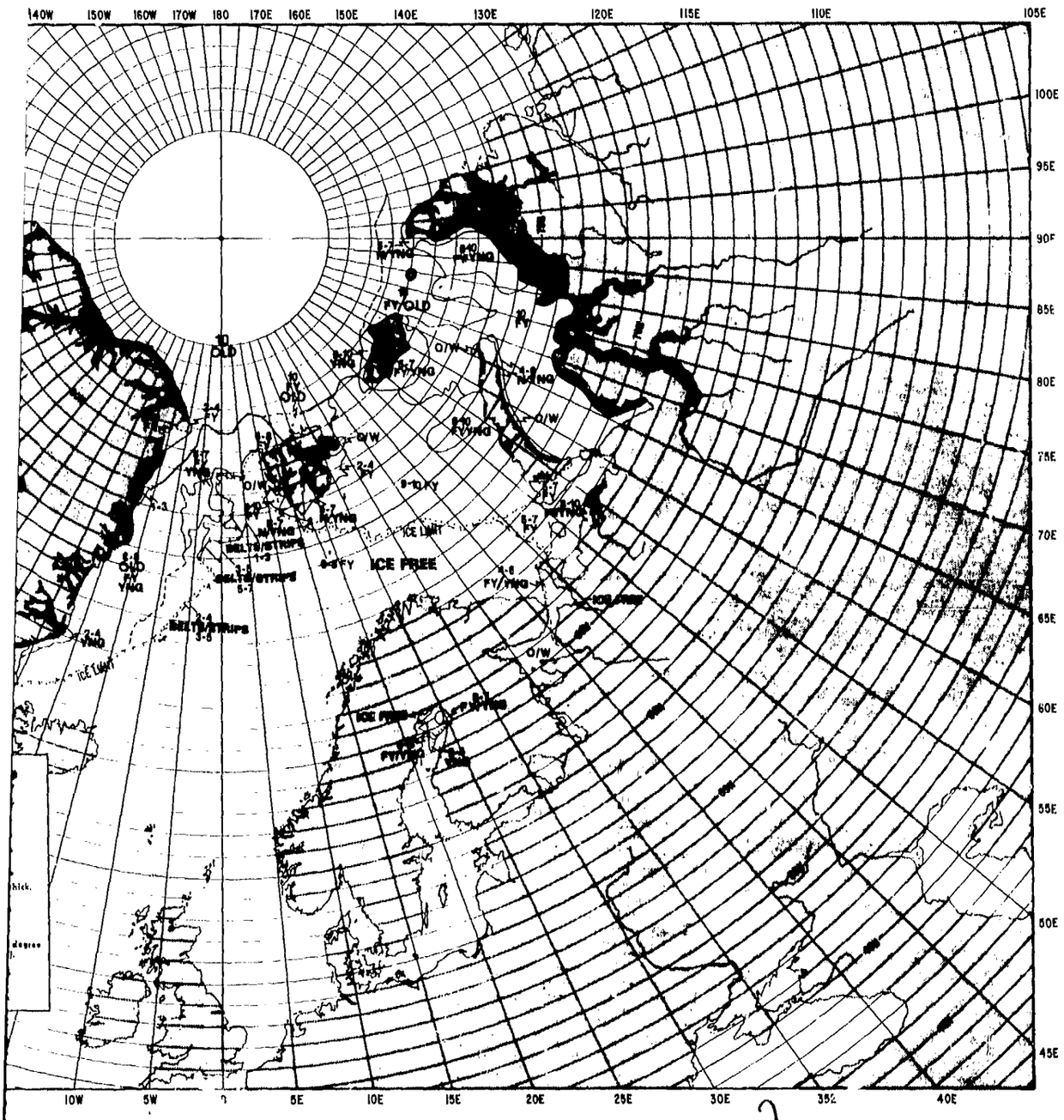
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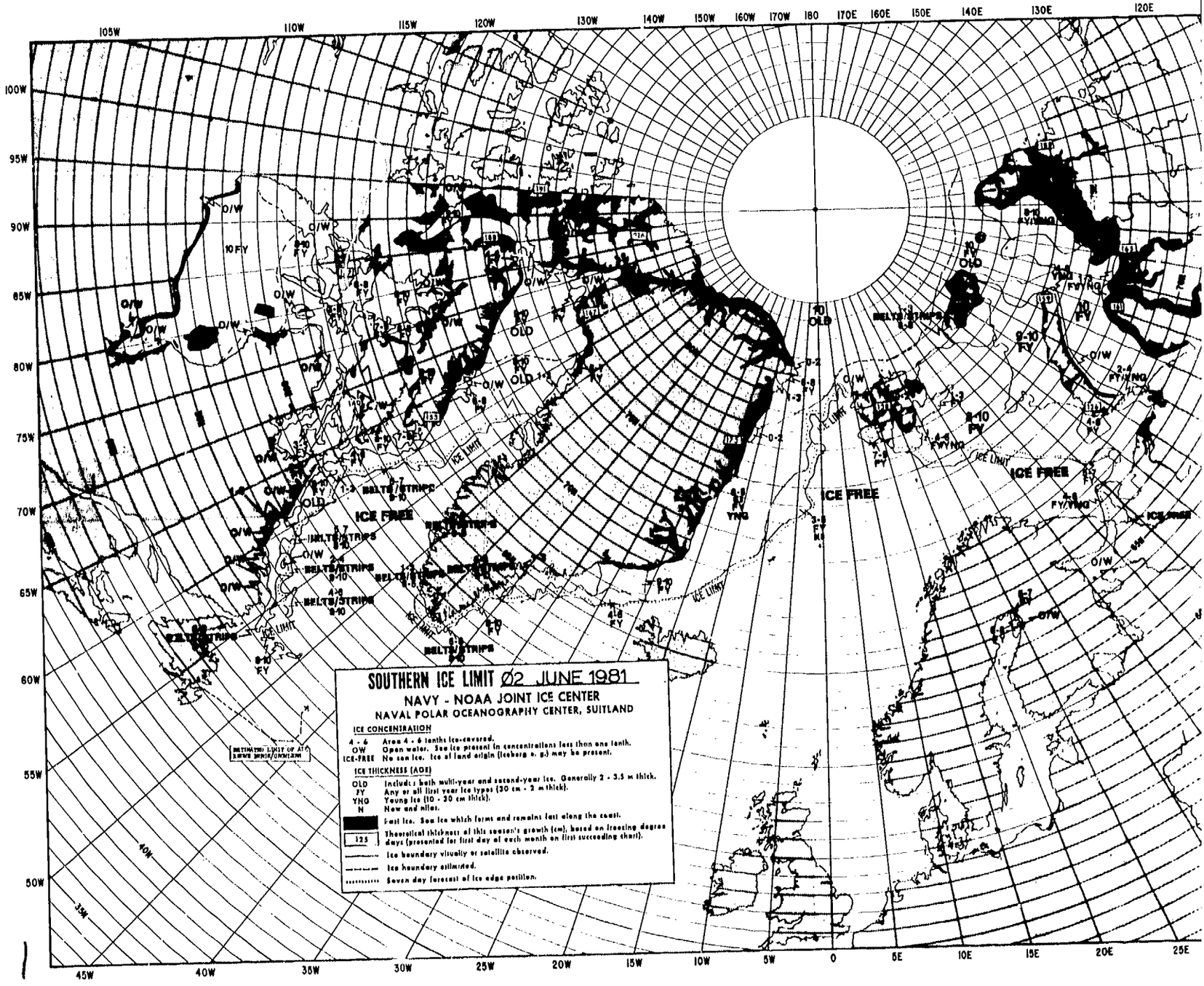

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ICE FREE
ICE LIMIT
10 OLD
SOUTHERN ICE LIMIT 19 MAY 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
ESTIMATED LIMIT OF ALL SEA ICE

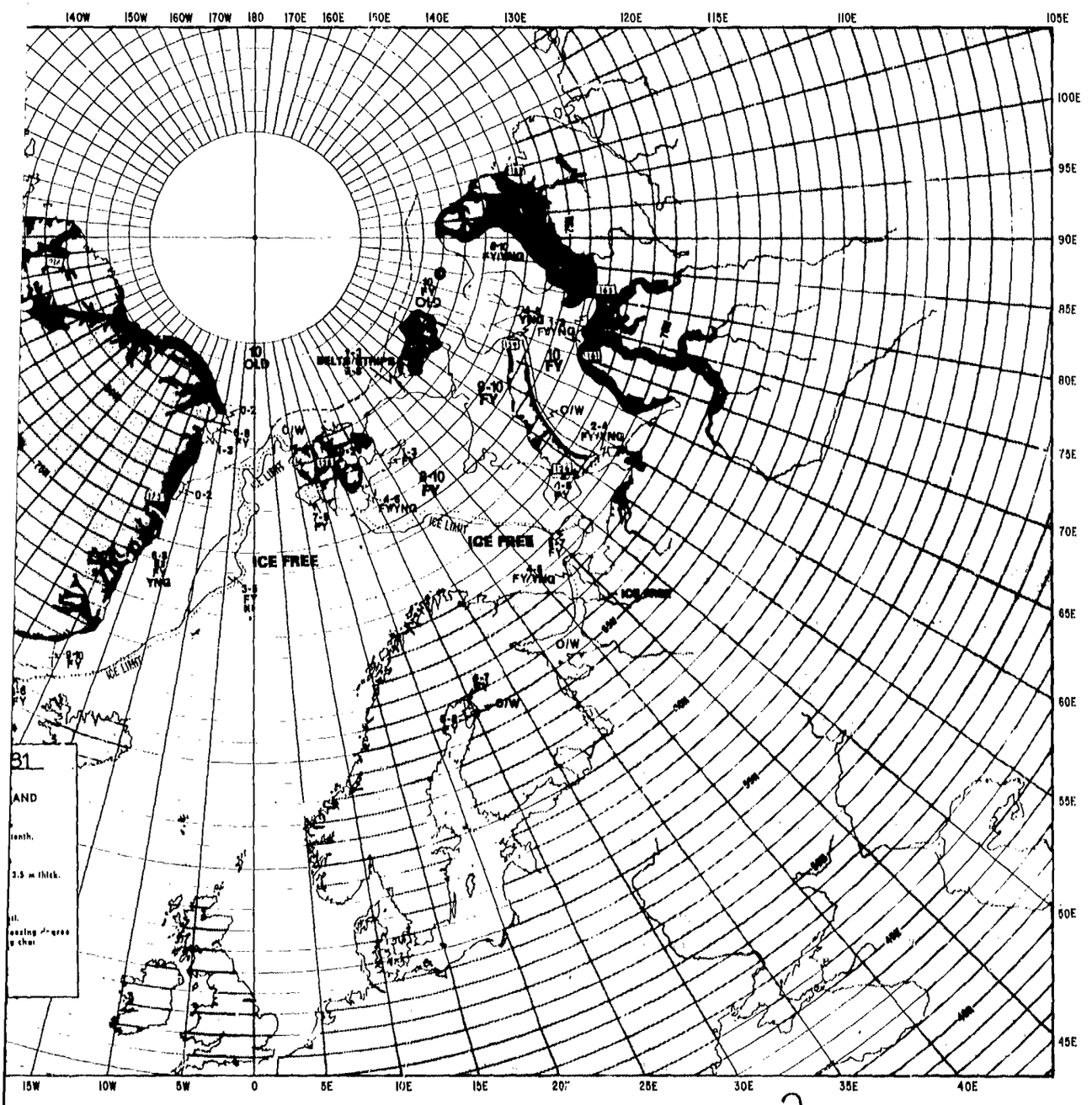

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OLD
ICE FREE
ICE LIMIT
BELTS/STRIPS
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2

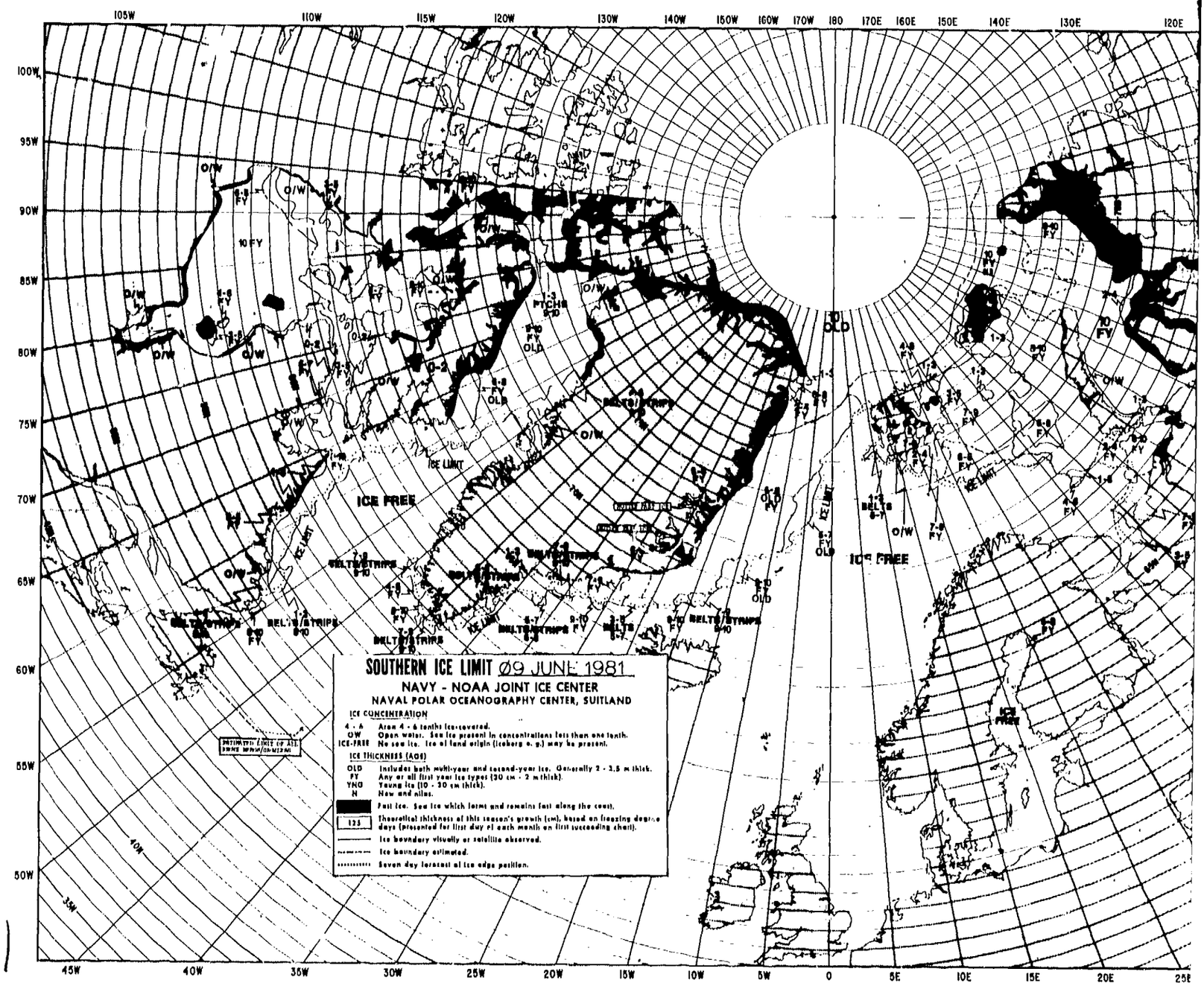

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ICE FREE
ICE LIMIT
O/W
SOUTHERN ICE LIMIT 26 MAY 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position

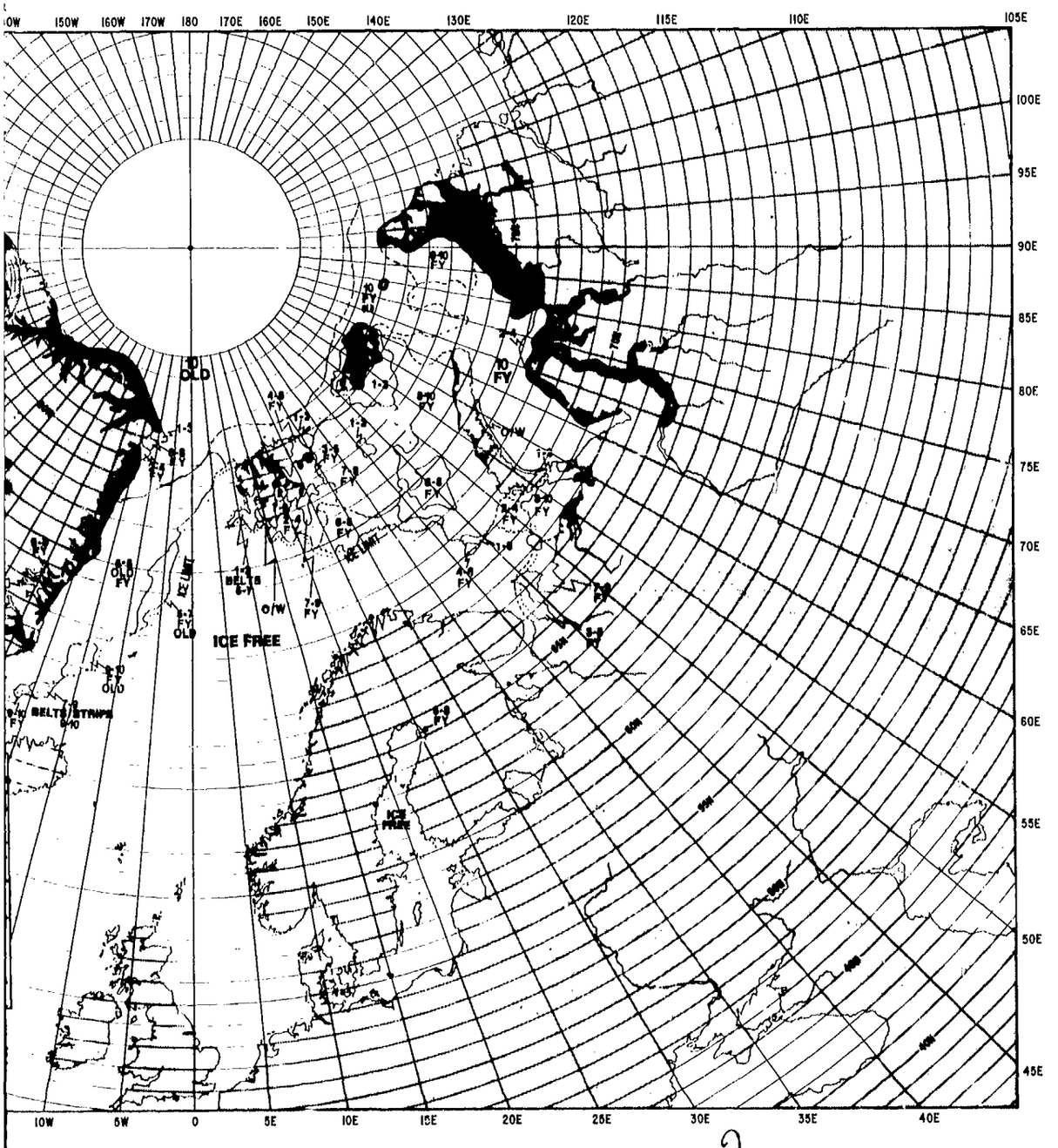

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ICE FREE
ICE LIMIT
O/W
FY/OLD
FY/WNG
DELTA/STRIPS

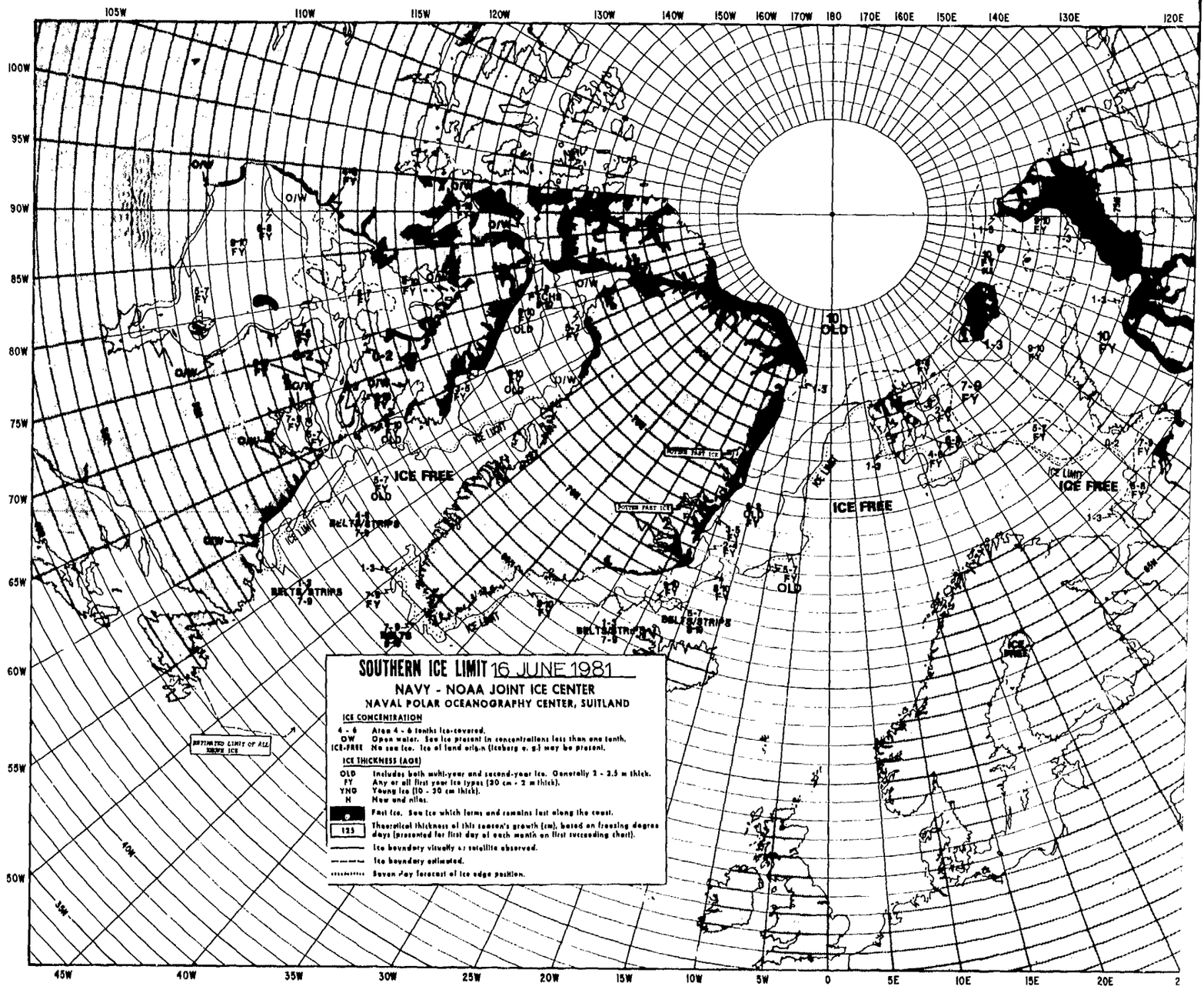

SOUTHERN ICE LIMIT Ø2 JUNE 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
ESTIMATED LIMIT OF ATS 3 NEWS BERGS/GROWLERS
ICE FREE
ICE LIMIT
BELTS/STRIPS
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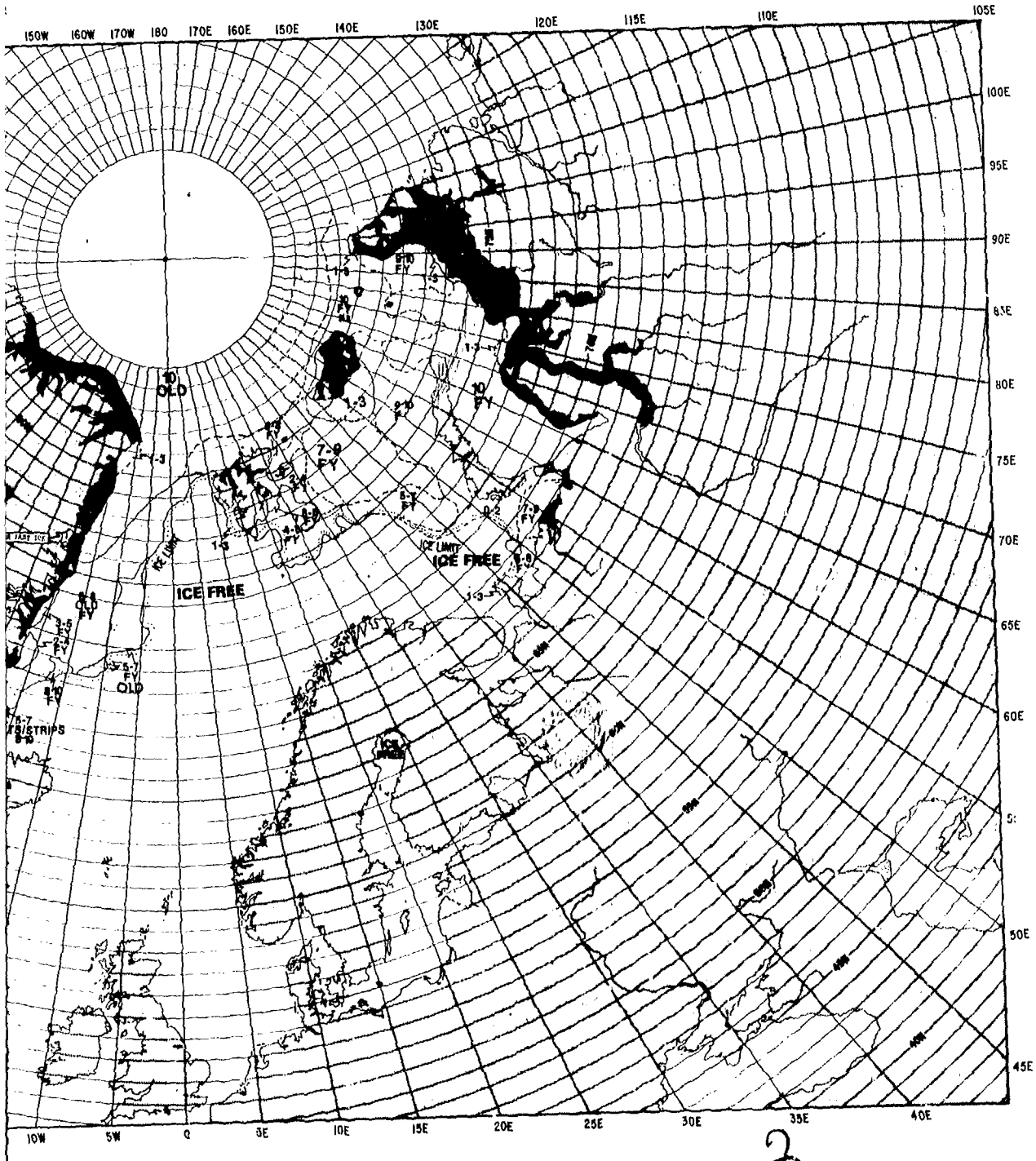

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ICE FREE
ICE LIMIT
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7-8 FY
3-5 FY
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FY/NG

2

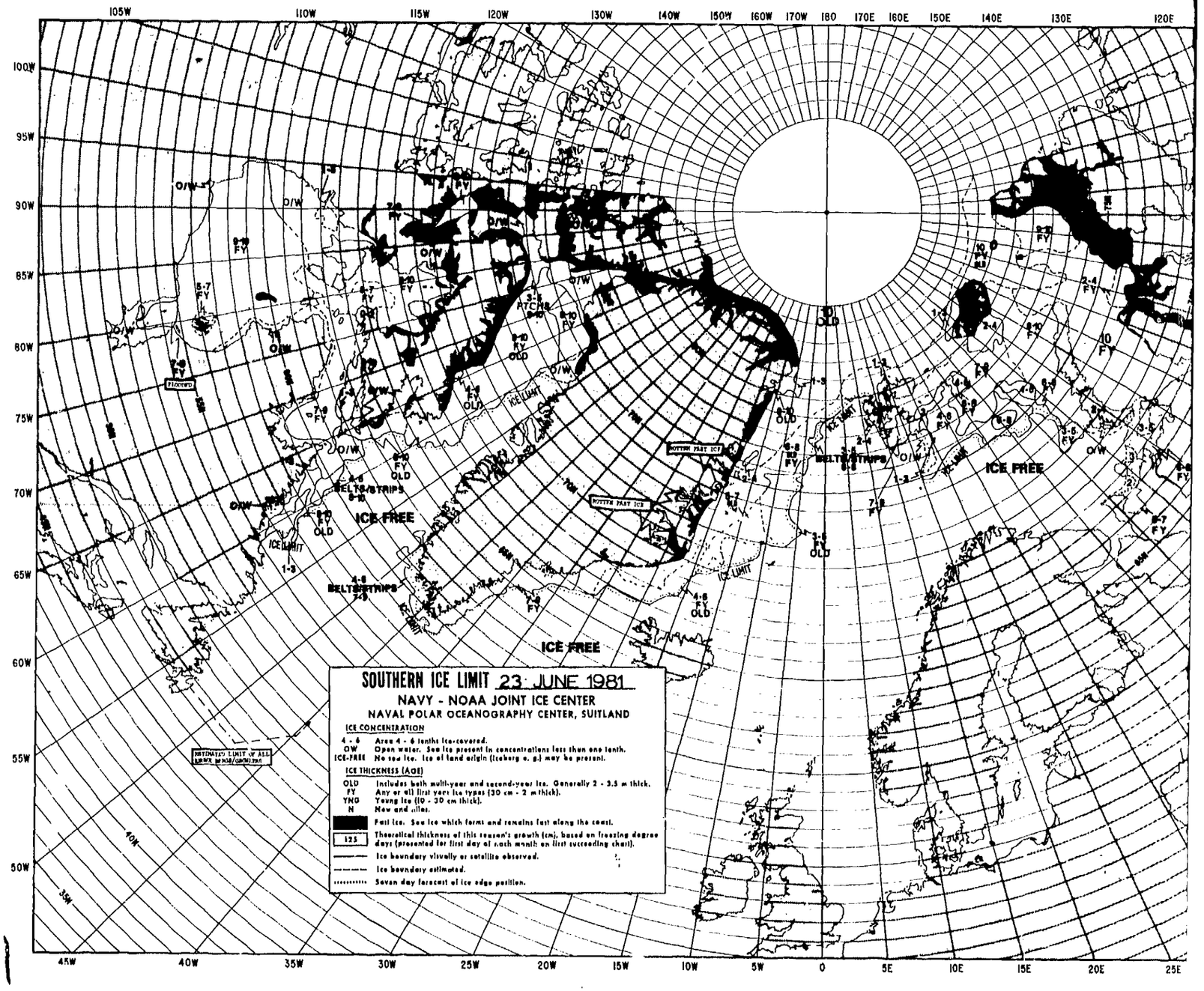

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ICE FREE
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10 OLD
SOUTHERN ICE LIMIT Ø9 JUNE 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOG)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
135 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

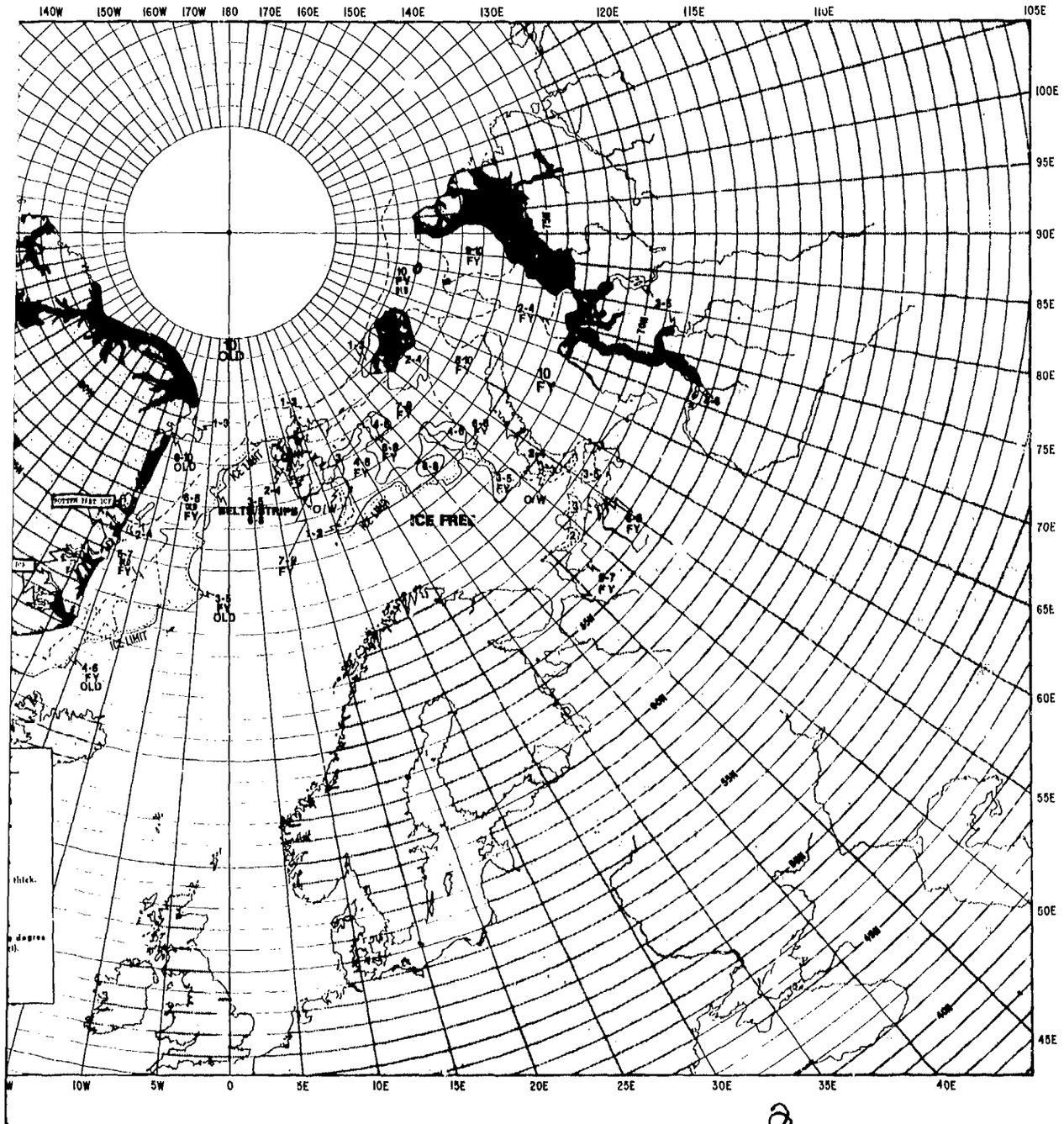

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25E
30E
35E
40E
10 OLD
10 FY
ICE FREE
ICE LIMIT
O/W
BELTS/STRIPS

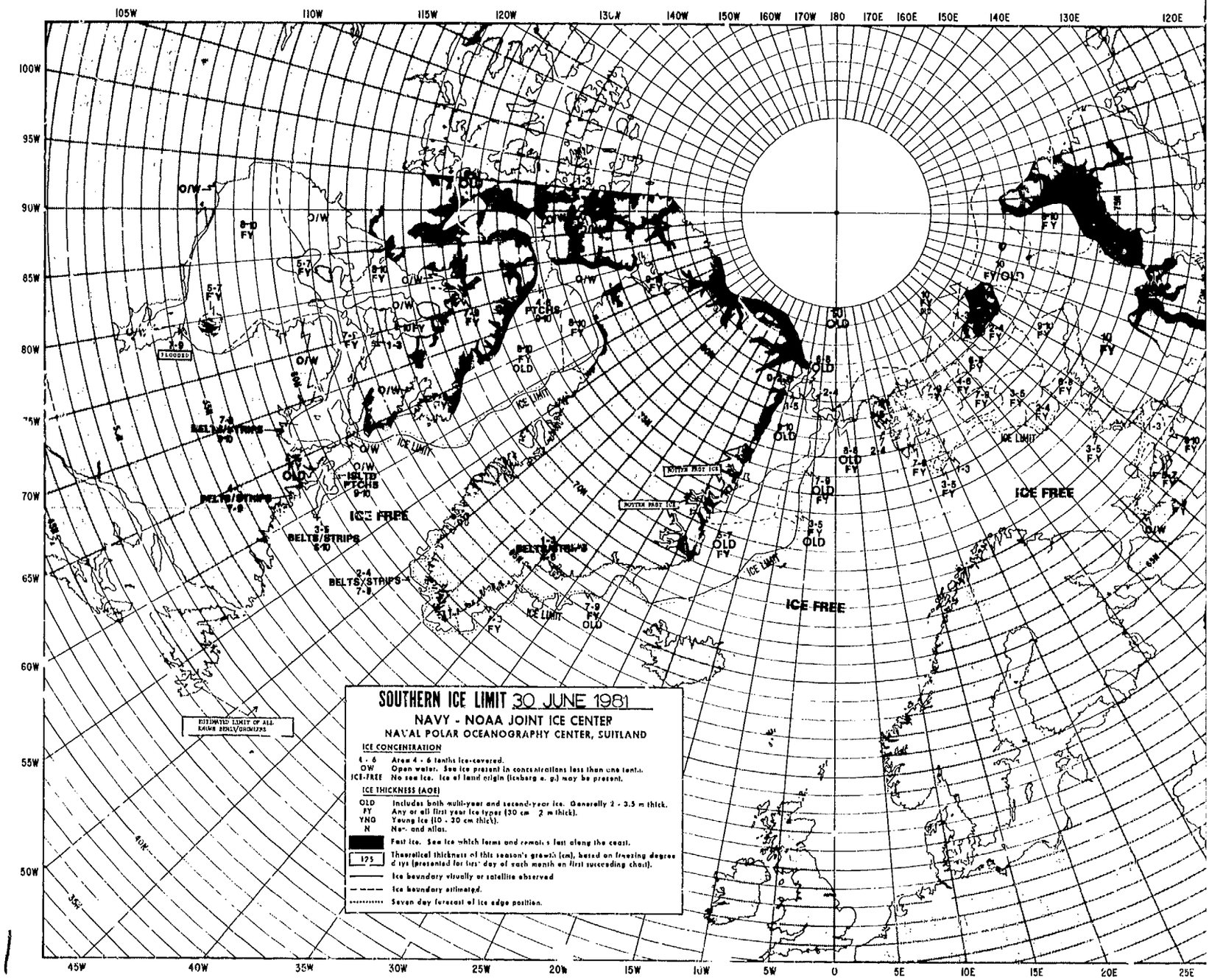

105W
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15W
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5W
0
5E
10E
15E
20E
ICE FREE
ICE LIMIT
BELTS/STRIPS
OLD
FY
SOUTHERN ICE LIMIT 16 JUNE 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOR)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

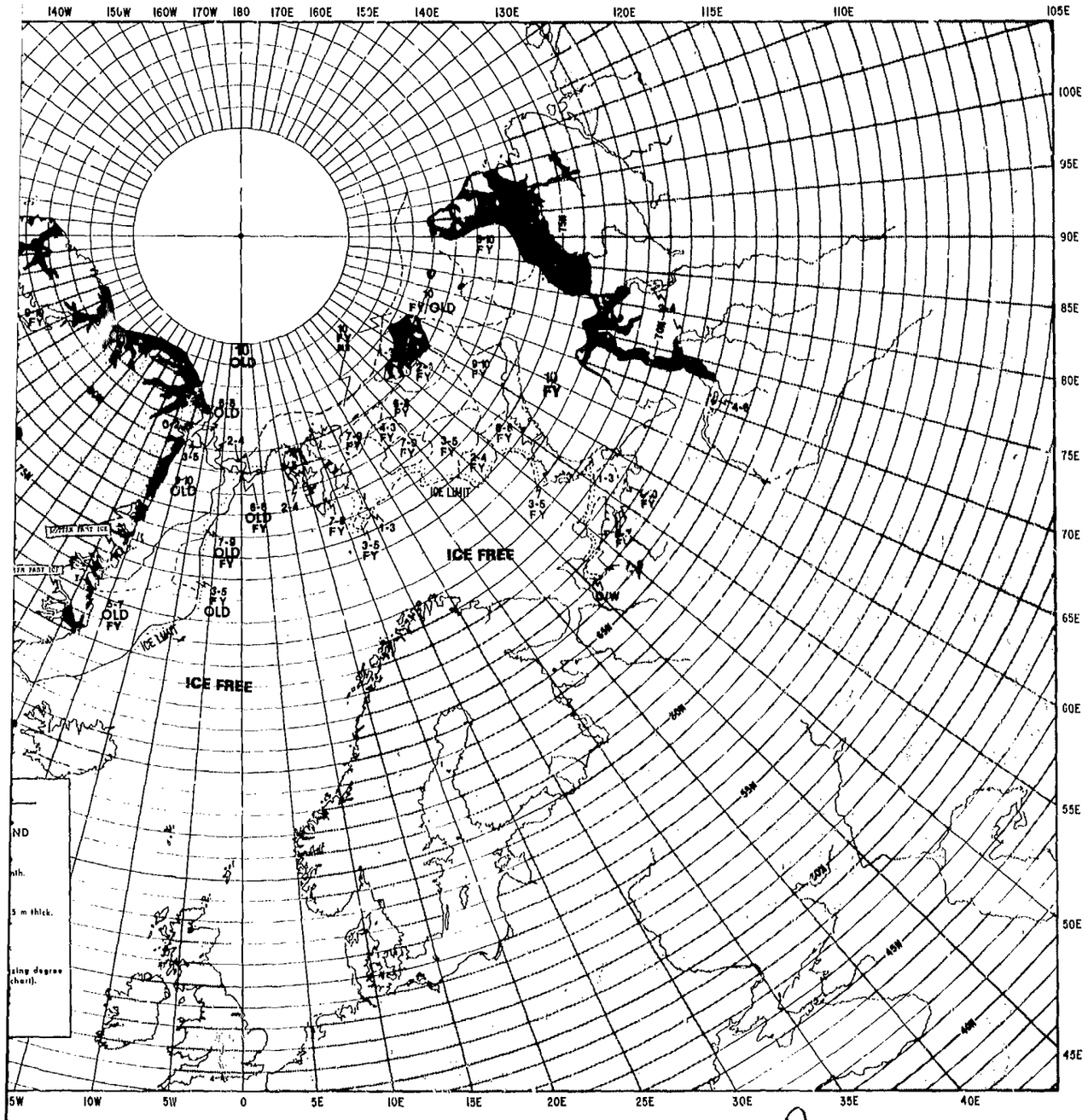

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15E
20E
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30E
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40E
ICE FREE
ICE LIMIT
10 OLD
10 FY
7-9 FY
5-7 FY OLD
1-3 FY
STRIPS

2

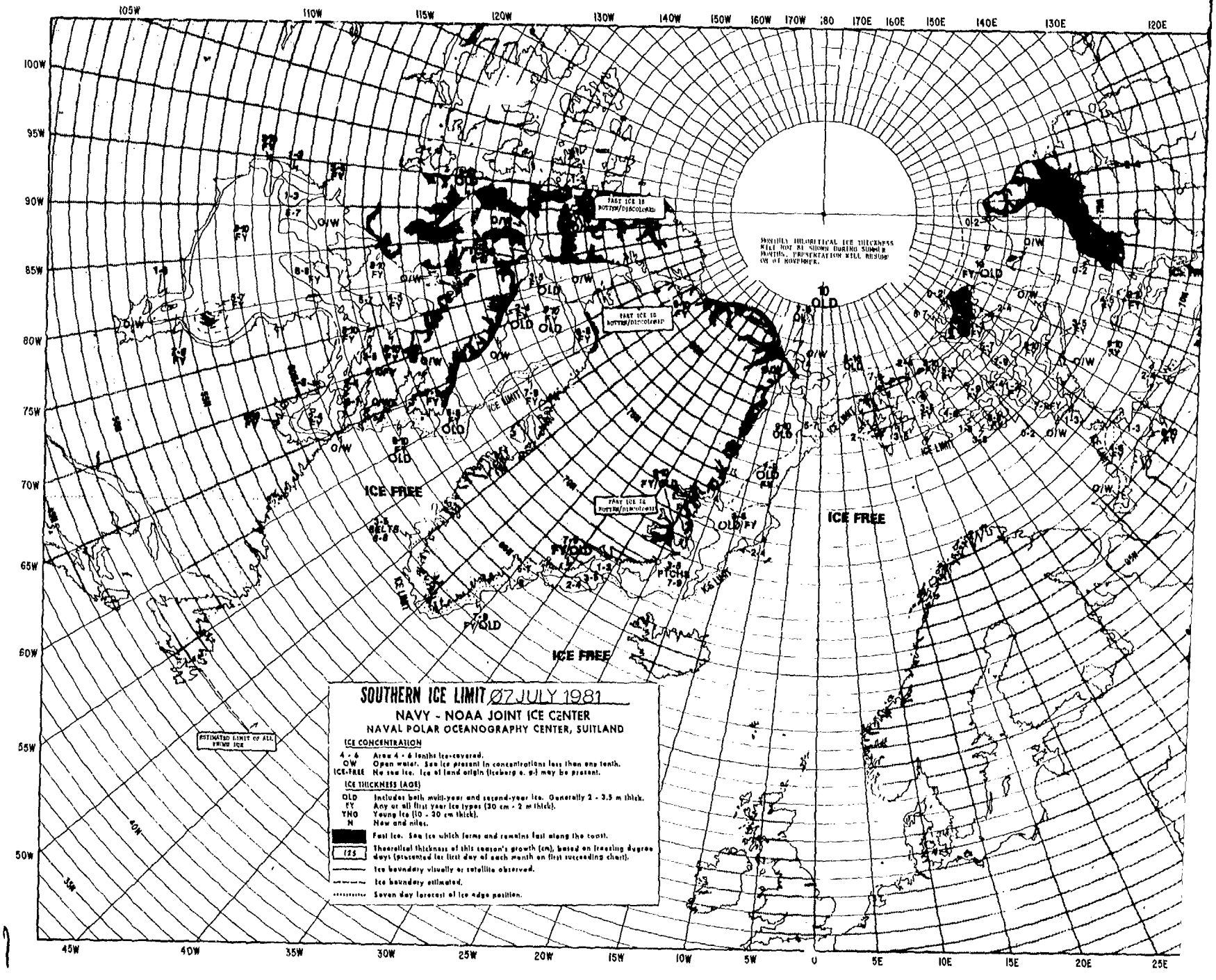

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30W
25W
20W
15W
10W
5W
0
5E
10E
15E
20E
25E
ICE FREE
ICE LIMIT
BOTTOM FAST ICE
SOUTHERN ICE LIMIT 23 JUNE 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

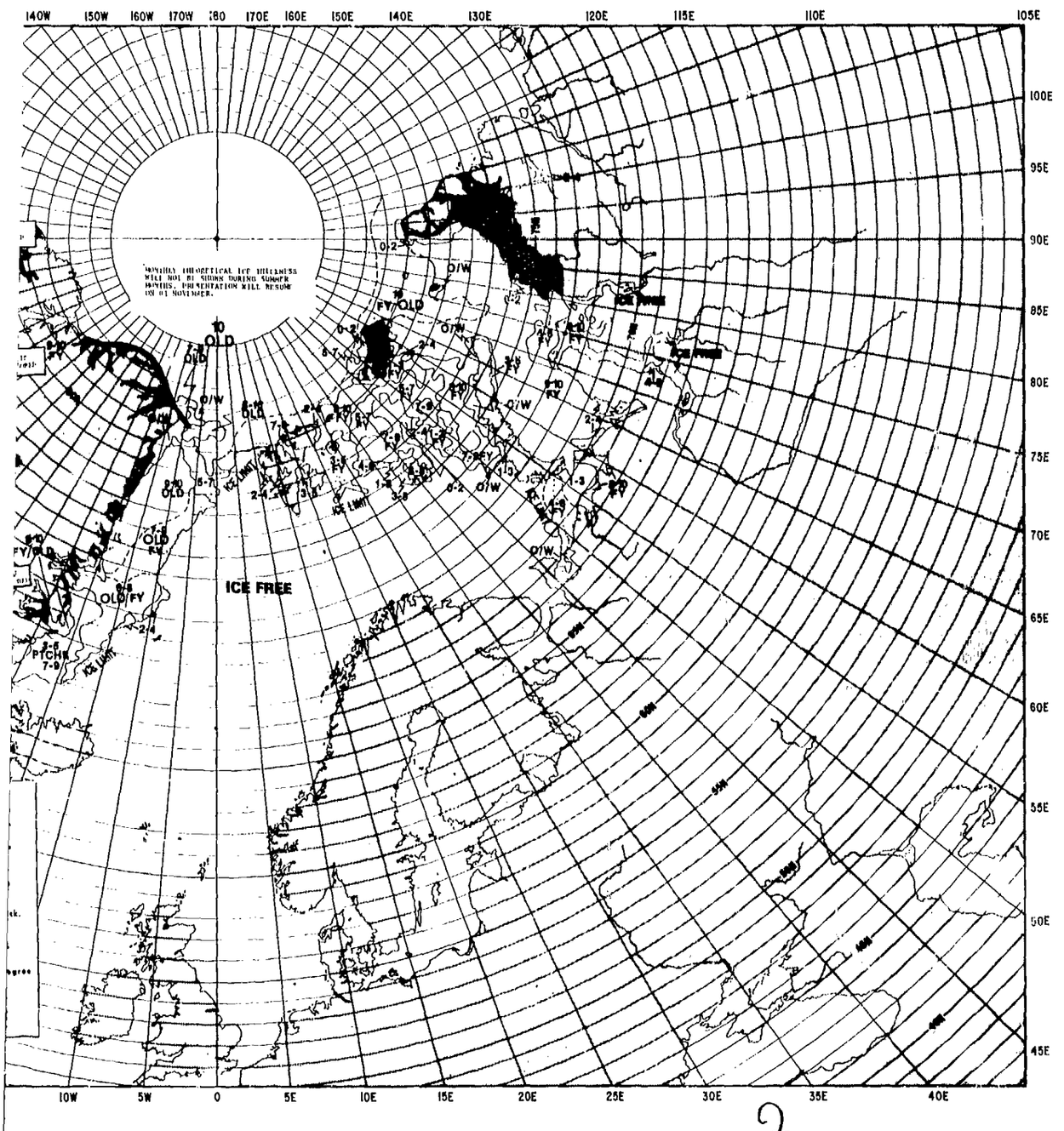

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ICE FREE
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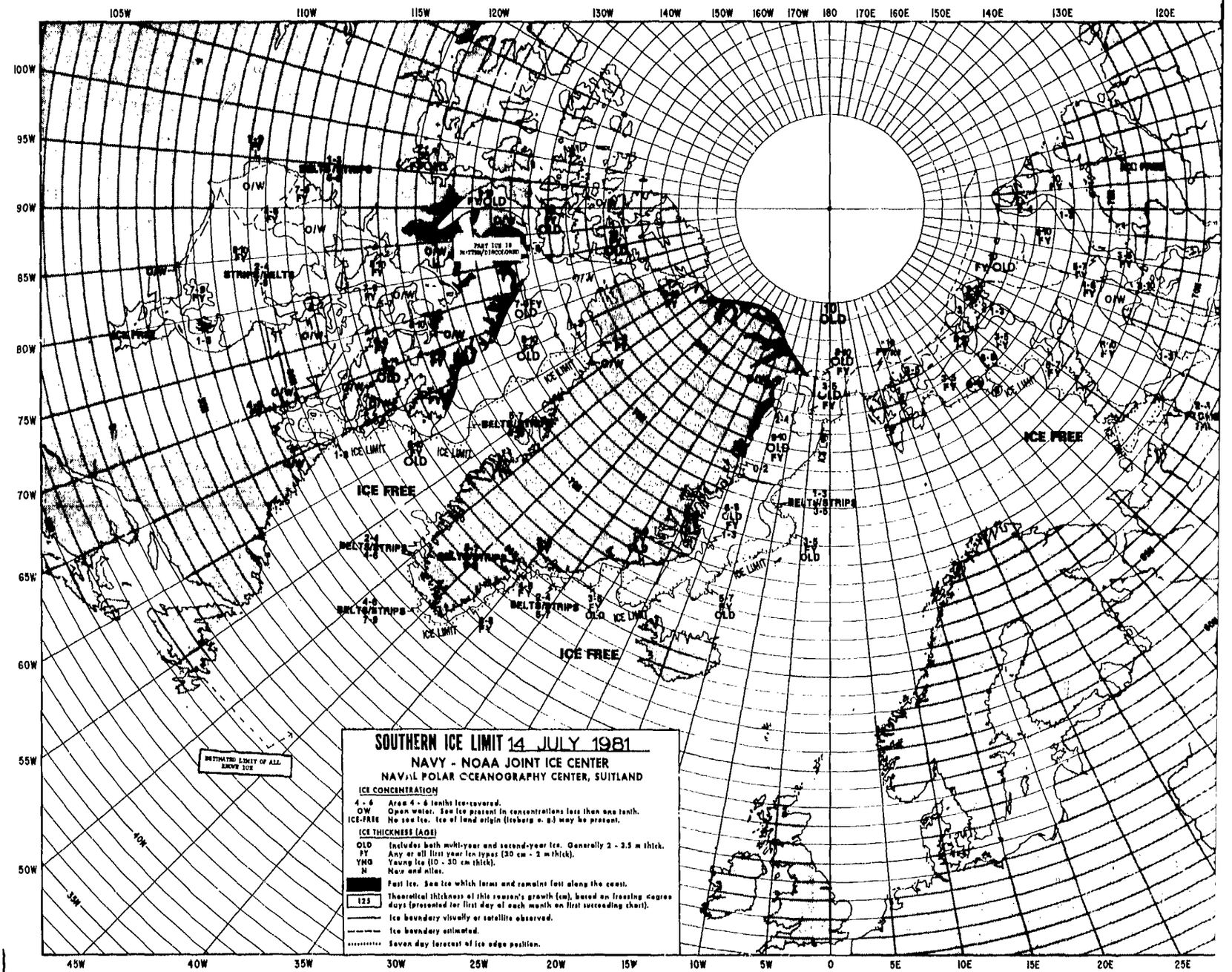

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5W
0
5E
10E
15E
20E
25E
ICE FREE
ICE LIMIT
SOUTH PACK ICE
FLOODED
O/W
SOUTHERN ICE LIMIT 30 JUNE 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
175 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated.
Seven day forecast of ice edge position.

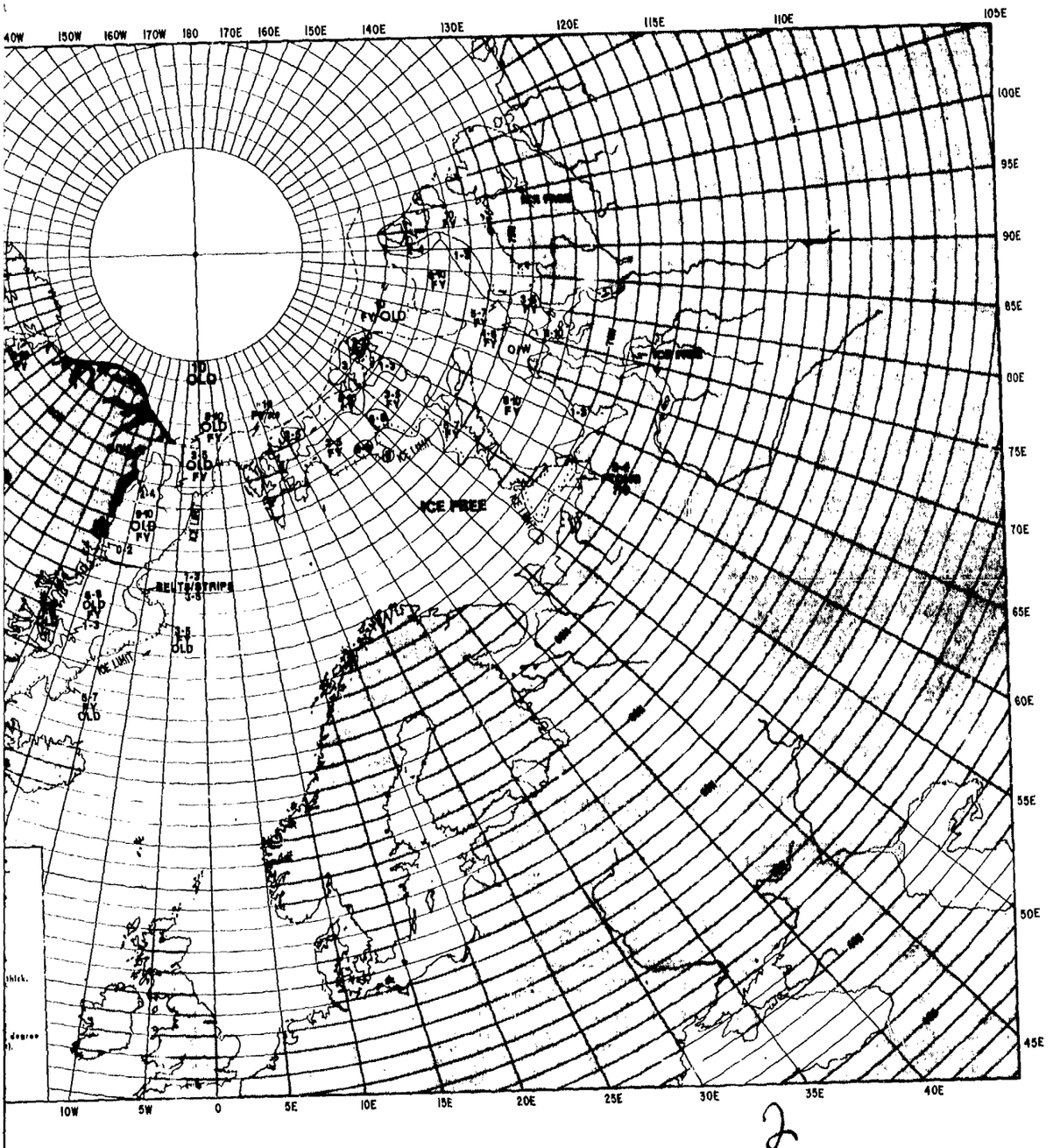

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15E
20E
25E
30E
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40E
ICE FREE
ICE FREE
ICE LIMIT
ICE LIMIT
FY/OLD
OLD
FY
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5 m thick.
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(chart).

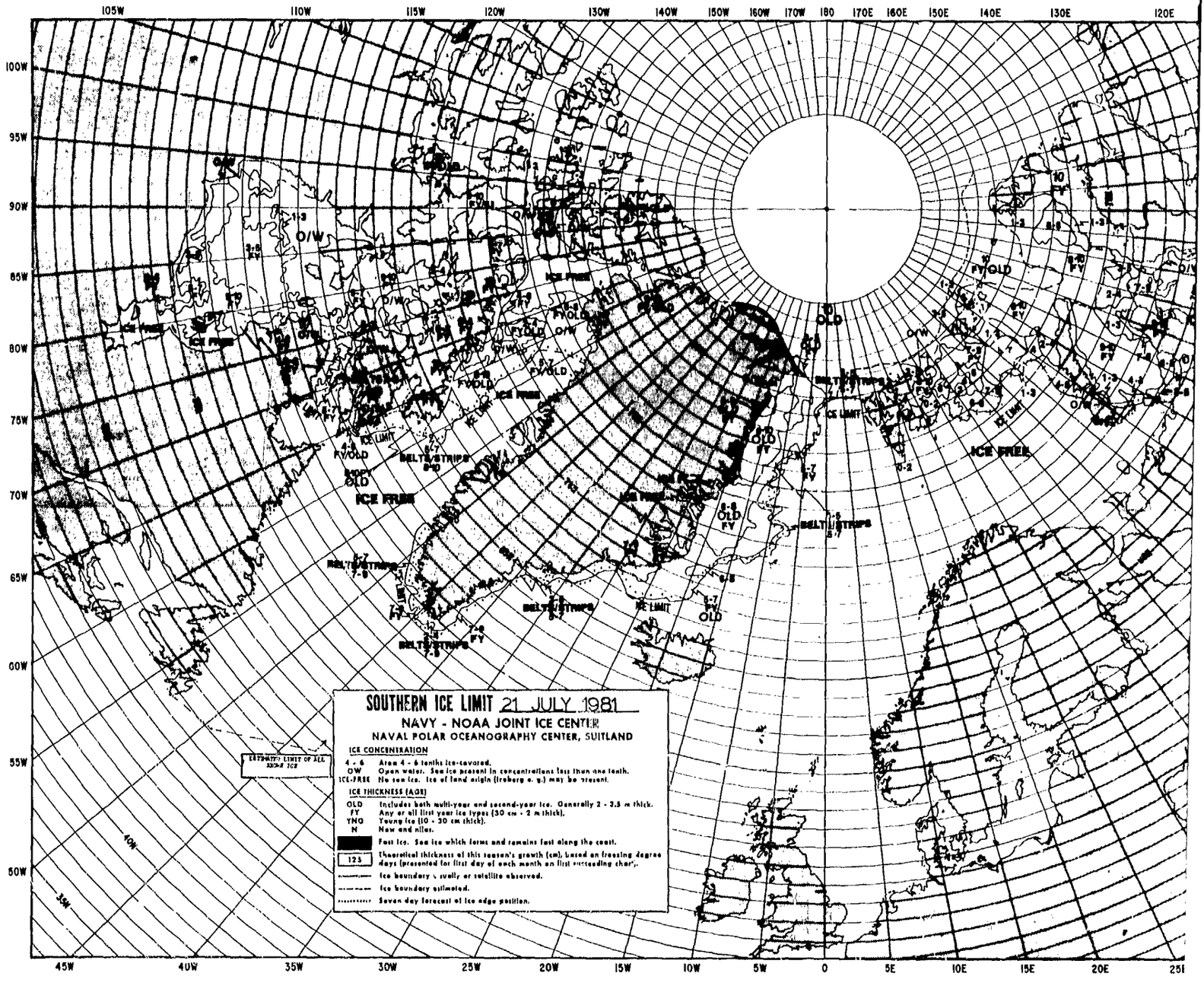
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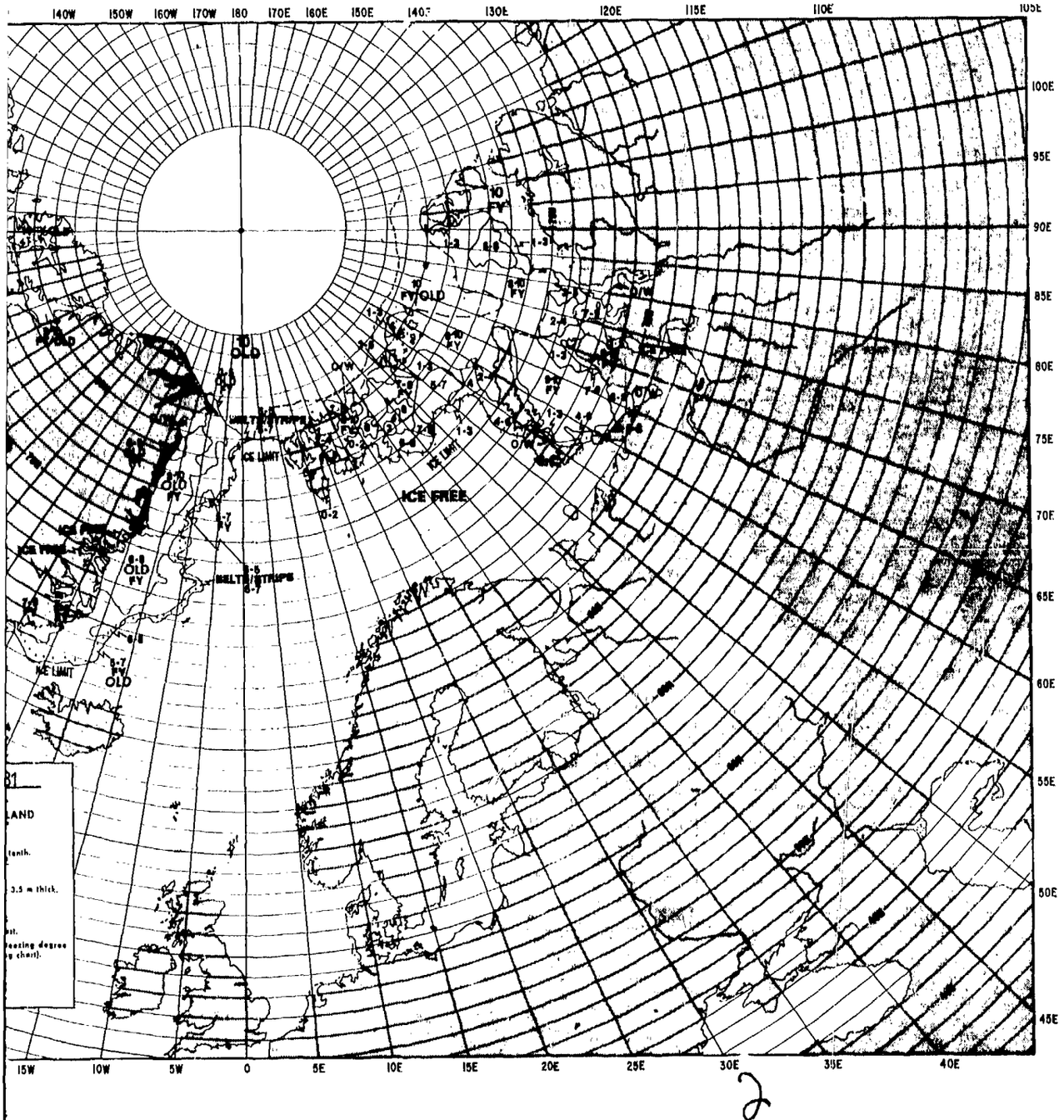

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10W
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15E
20E
25E
ICE FREE
ICE FREE
ICE FREE
FAST ICE IS ROTTEN/DISCOLORED
FAST ICE IS ROTTEN/DISCOLORED
FAST ICE IS ROTTEN/DISCOLORED
ICE LIMIT
ESTIMATED LIMIT OF ALL KNOWN ICE
OLD
FY
OLD FY
FY/OLD
PITCHES
FLOES
BELTS
SOUTHERN ICE LIMIT Ø7 JULY 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 + 4 Area 4 + 4 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.


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45E
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5W
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5E
10E
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20E
25E
30E
35E
40E
INITIAL THEORETICAL ICE EXTENTS WILL NOT BE SHOWN DURING SUMMER MONTHS. PRESENTATION WILL RESUME 1ST OF NOVEMBER.
ICE FREE
ICE LIMIT
OLD
FY
O/W
PITCHK

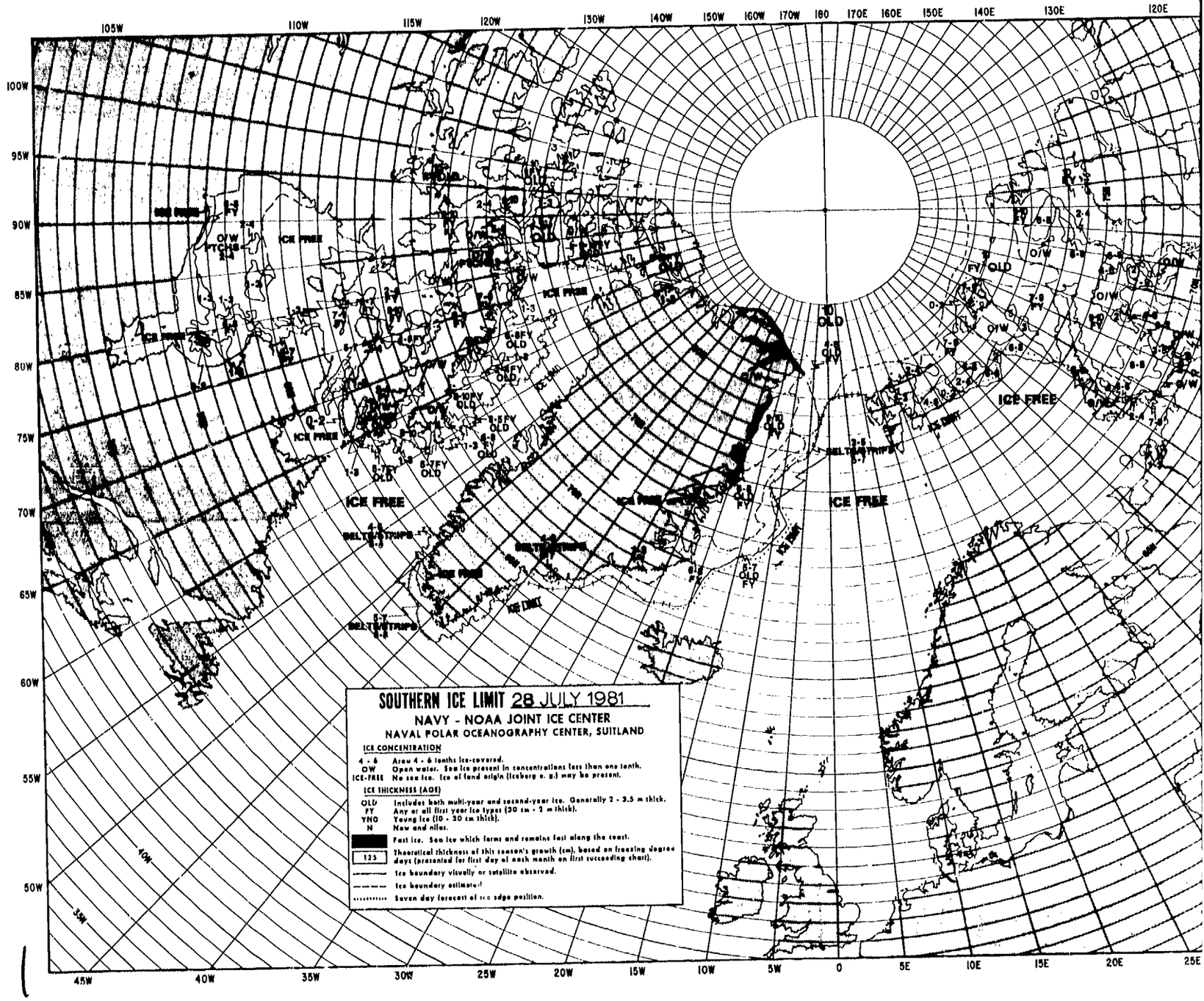

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5E
10E
15E
20E
25E
ICE FREE
ICE LIMIT
BELTS/STRIPS
OLD
FY
O/W
SOUTHERN ICE LIMIT 14 JULY 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ESTIMATED LIMIT OF ALL KNOWN ICE
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. See ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

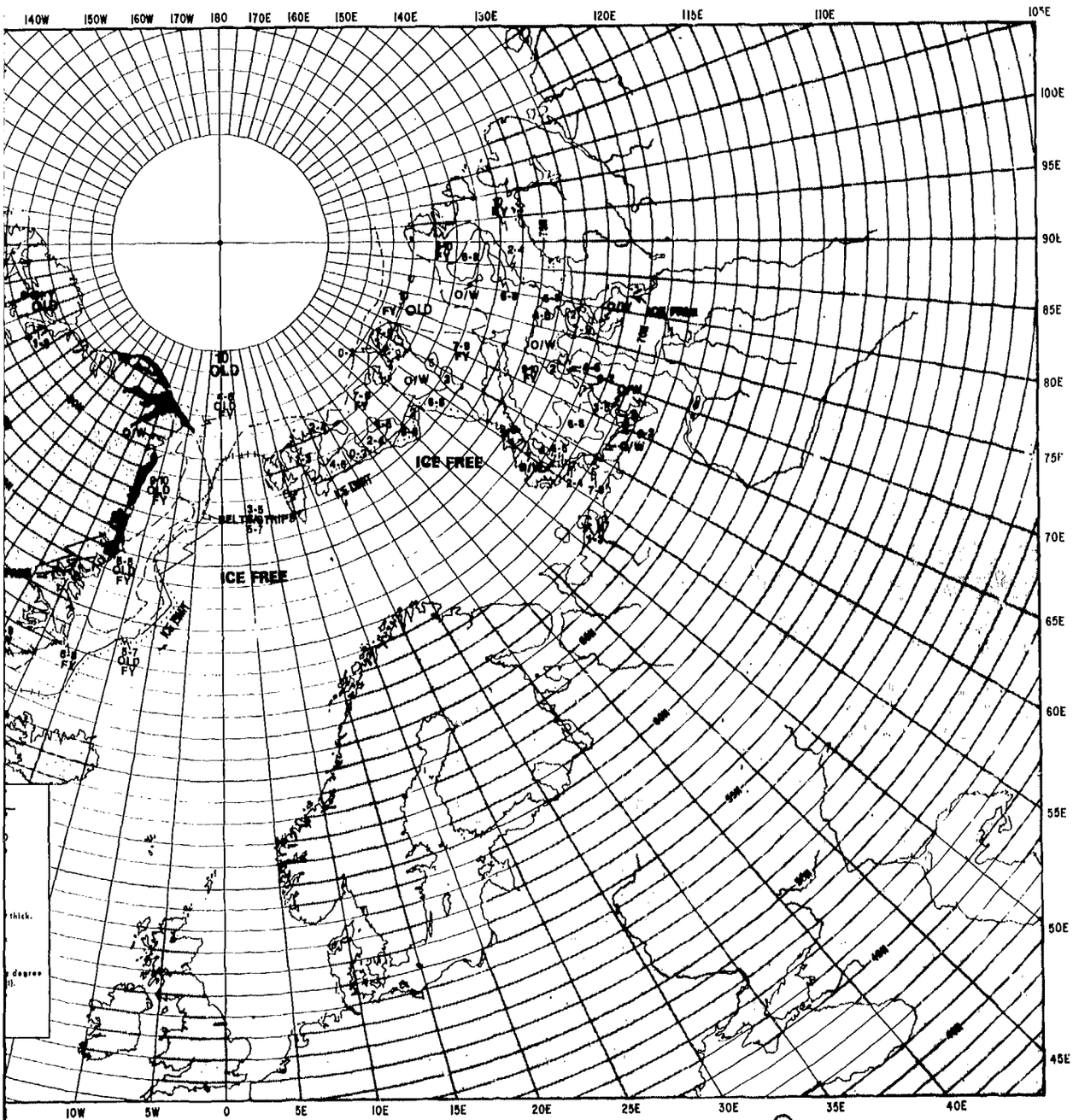

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ICE FREE
BELTS/STRIPS
ICE LIMIT
OLD
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10E
15E
20E
25E
ICE FREE
ICE LIMIT
BELTS/STRIPS
FY/OLD
O/W
SOUTHERN ICE LIMIT 21 JULY 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary as visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

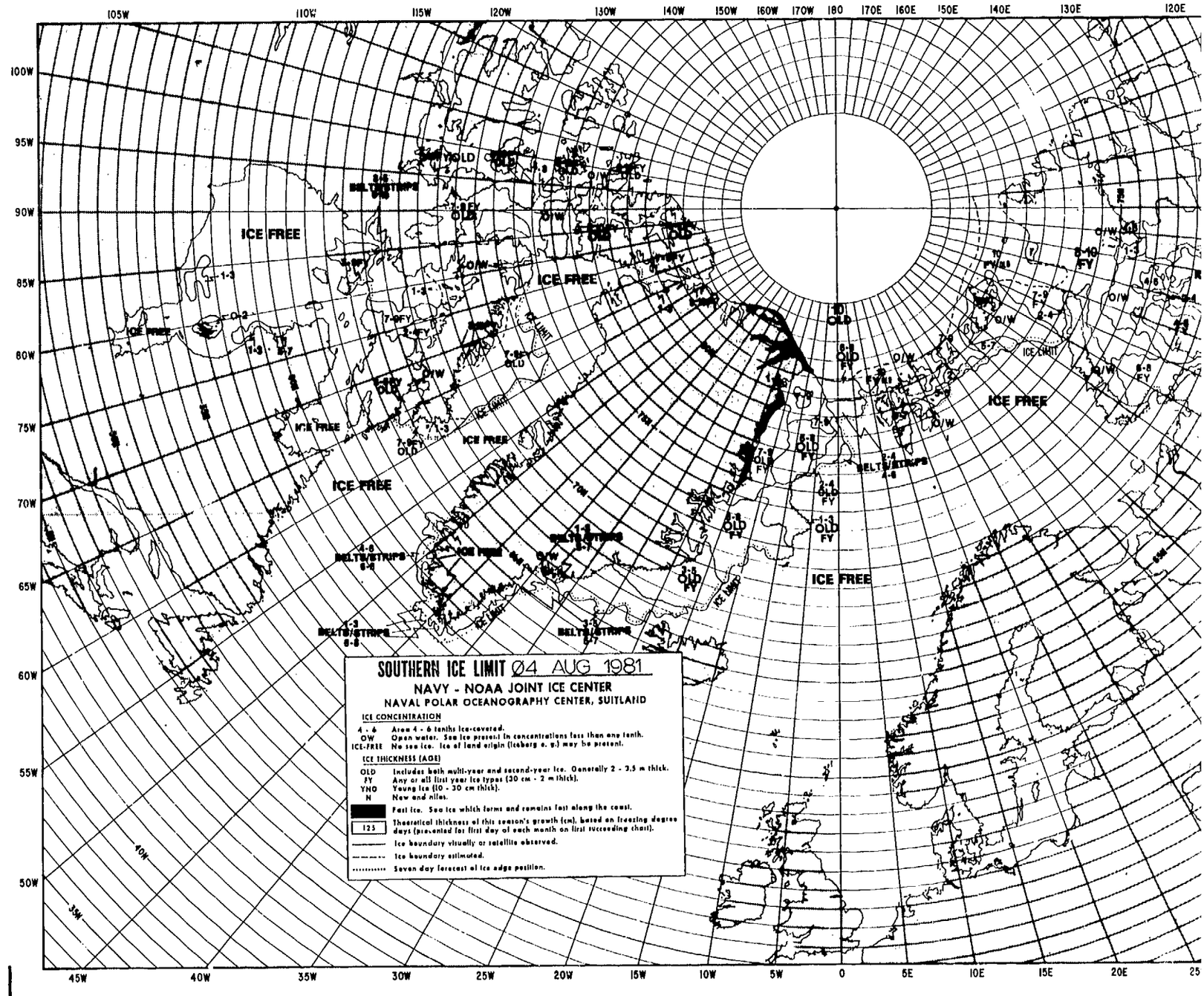

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ICE FREE
ICE LIMIT
OLD
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FY/OLD
OLD FY
BELTS/STRIPS
LAND

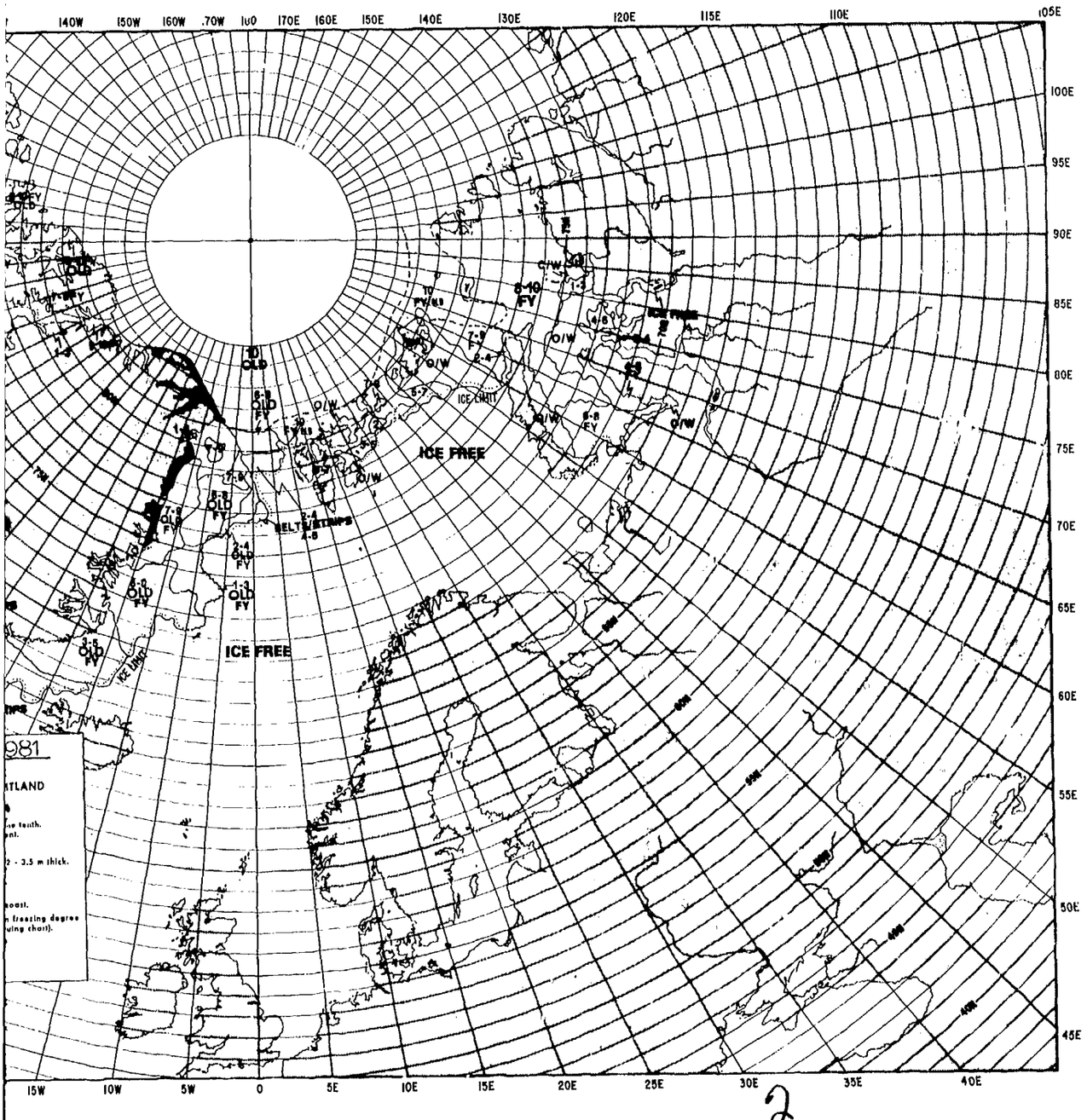
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ICE FREE
ICE LIMIT
SOUTHERN ICE LIMIT 28 JULY 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

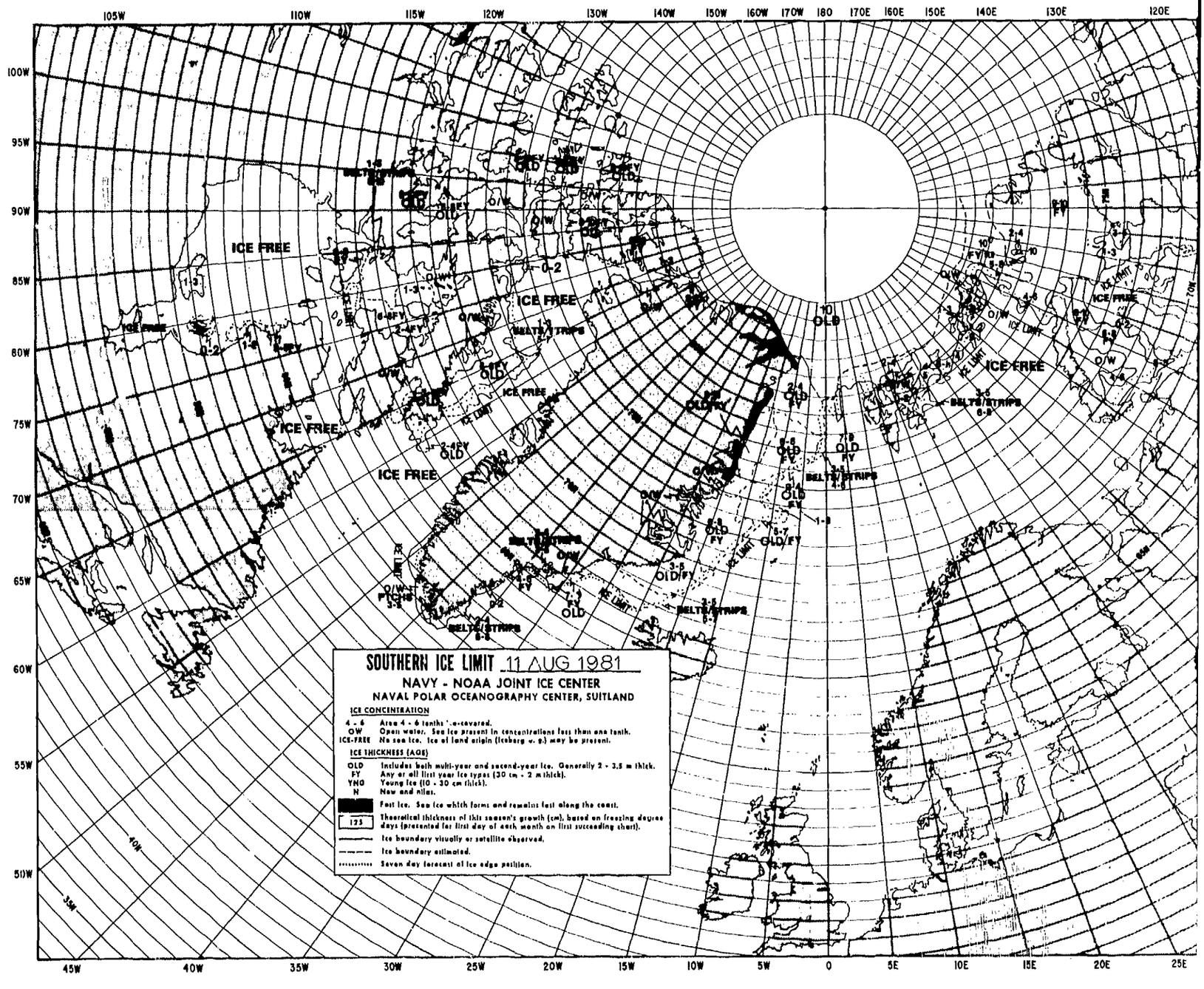

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ICE FREE
ICE FREE
OLD
FY
O/W
ICE LIMIT

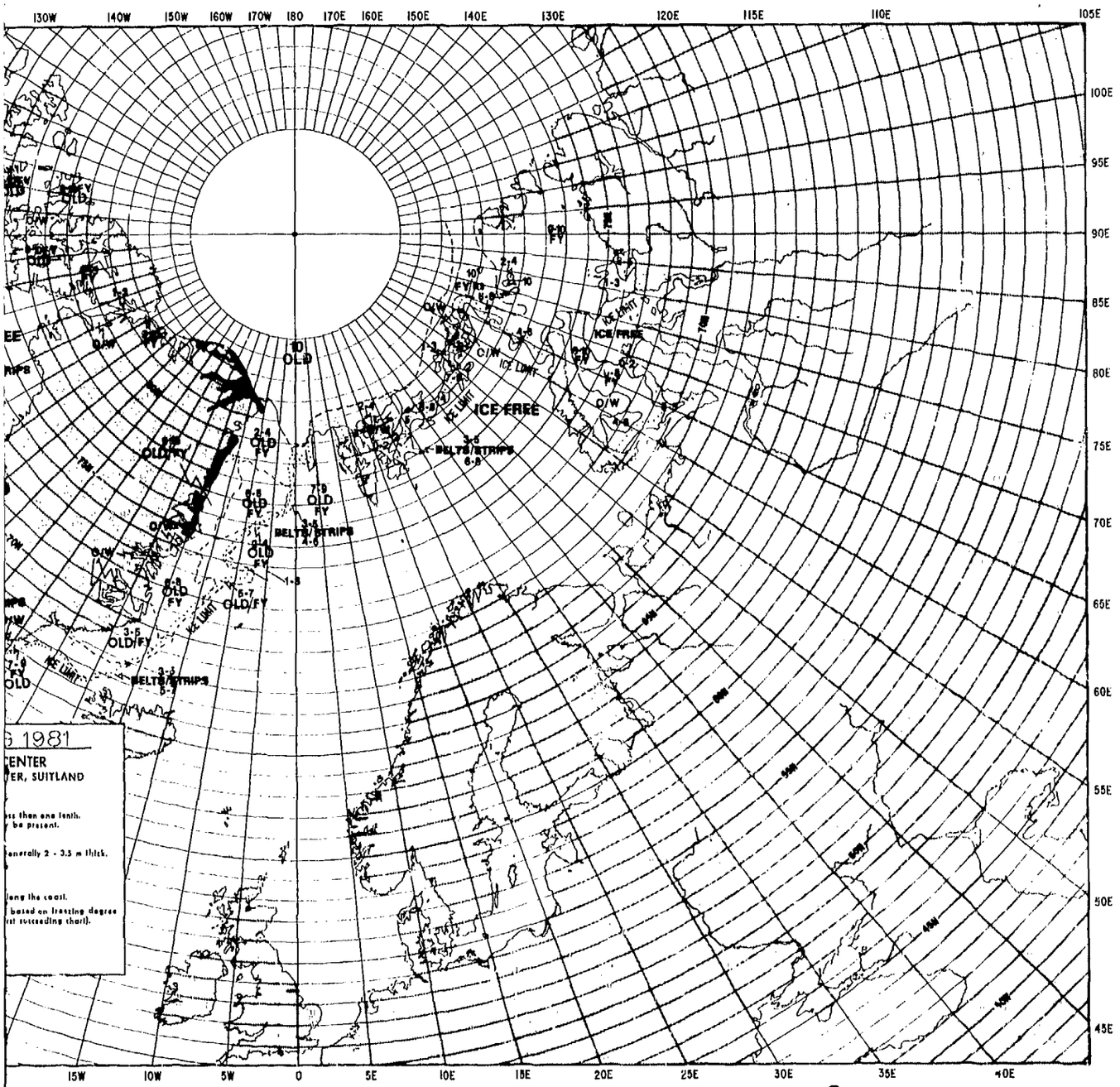
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25
ICE FREE
SOUTHERN ICE LIMIT 04 AUG 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (prevented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

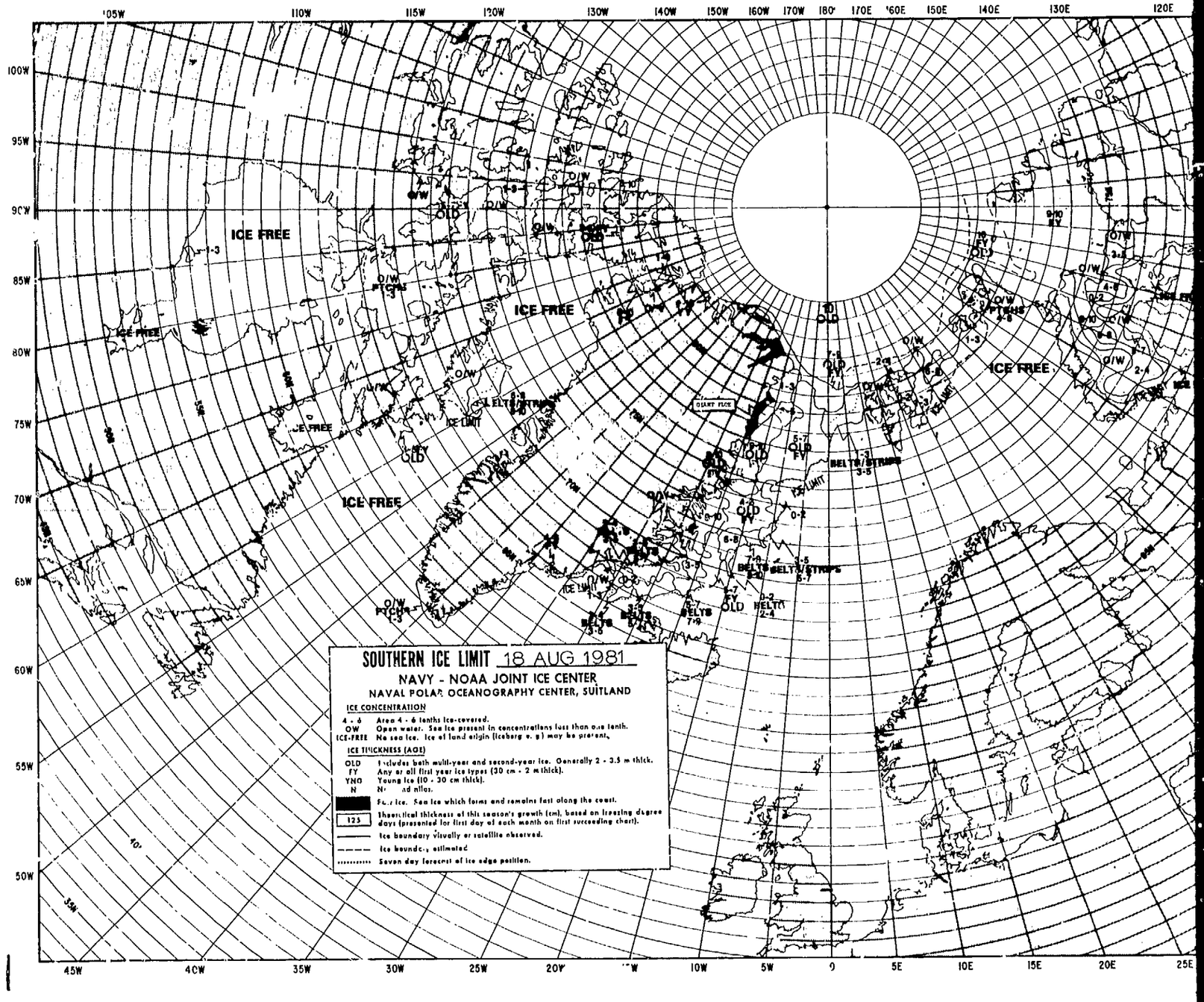

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40E
ICE FREE
ICE FREE
ICE LIMIT
ICE LIMIT
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8-9 OLD FY
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10 FY/ML
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2-4
BELTS/STRIPS 2-5
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ATLAND
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2 - 3.5 m thick.
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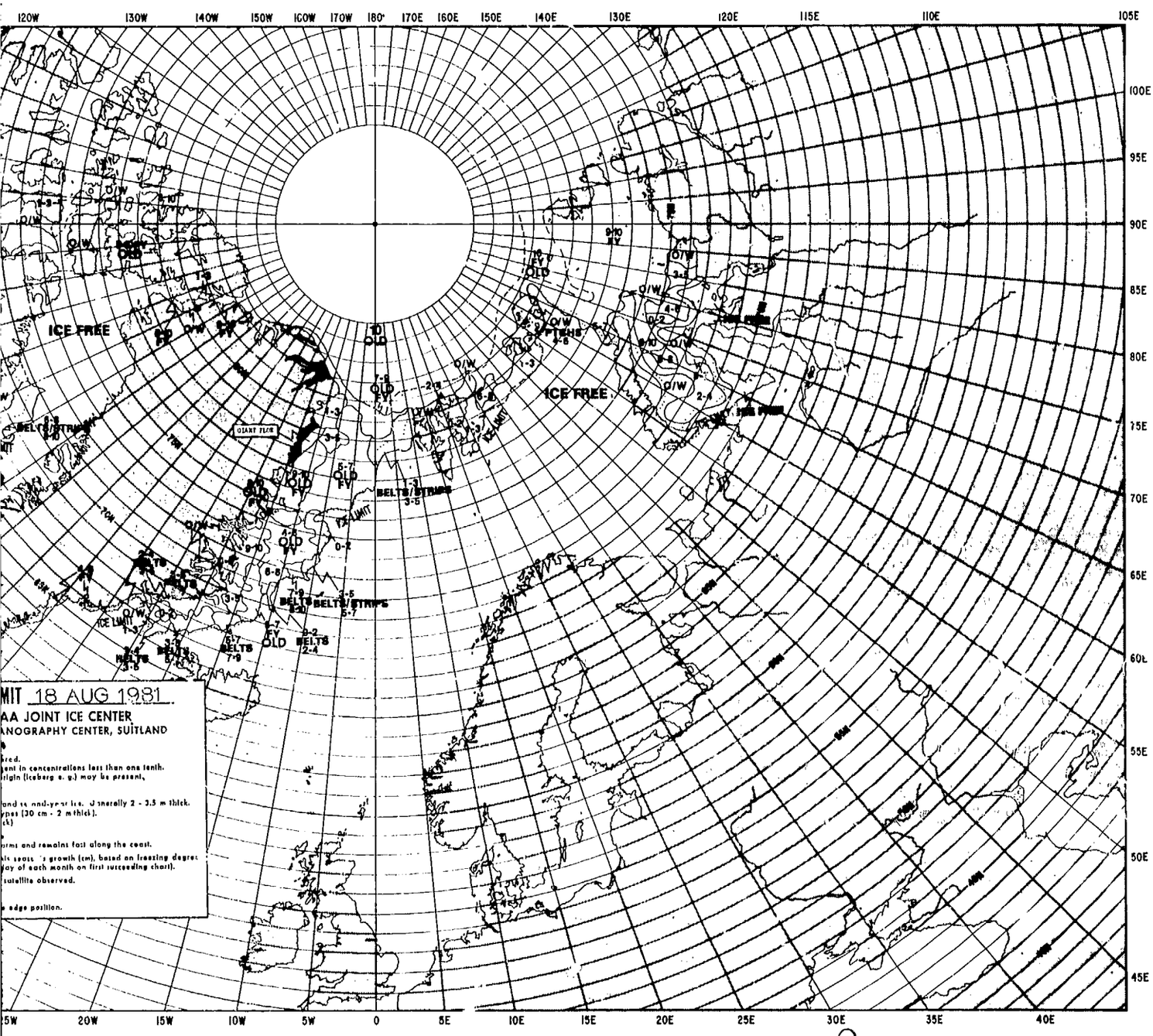
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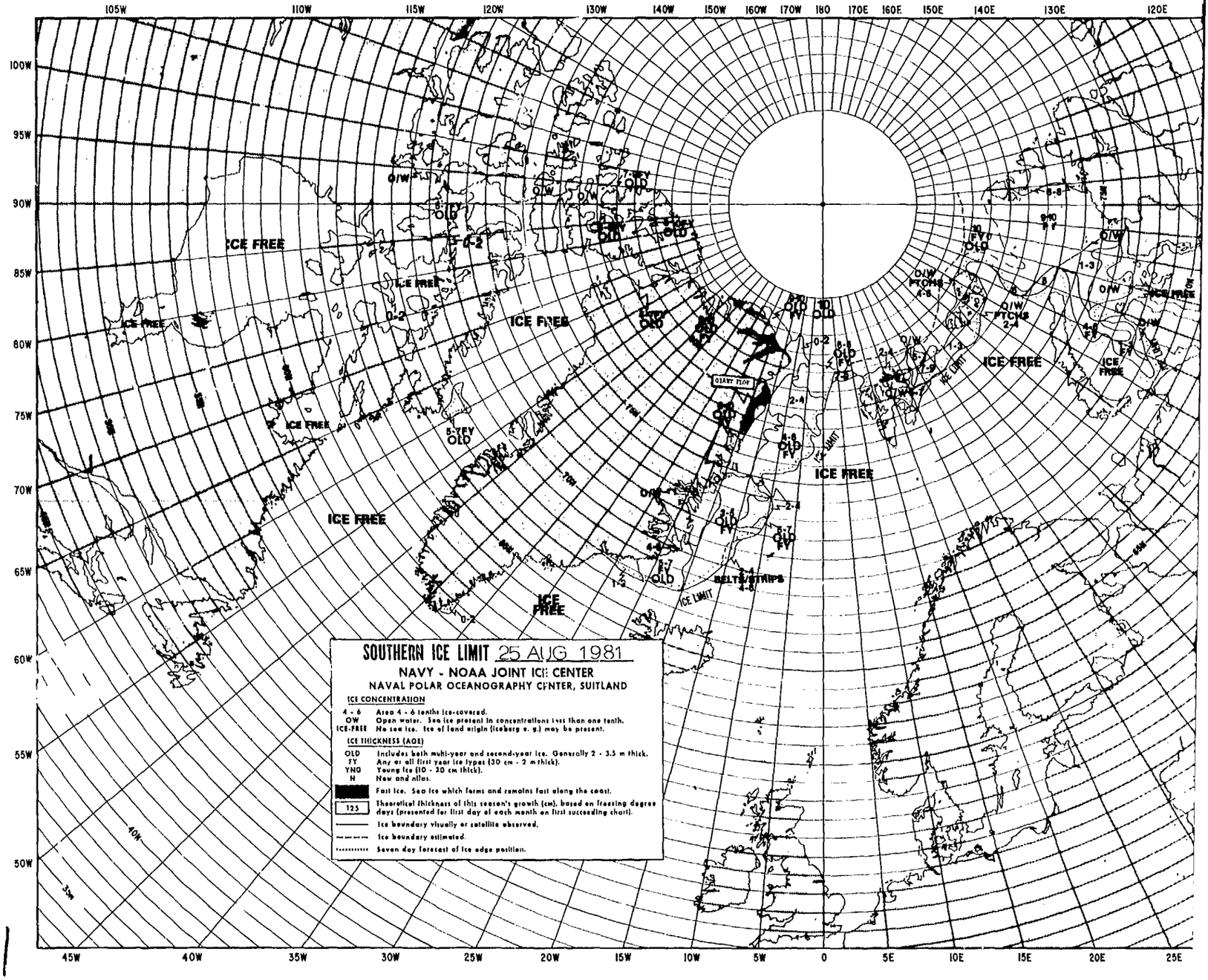

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15E
20E
25E
ICE FREE
O/W
ICE LIMIT
BELTS/STRIPS
OLD
OLD/FY
SOUTHERN ICE LIMIT 11 AUG 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
135 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

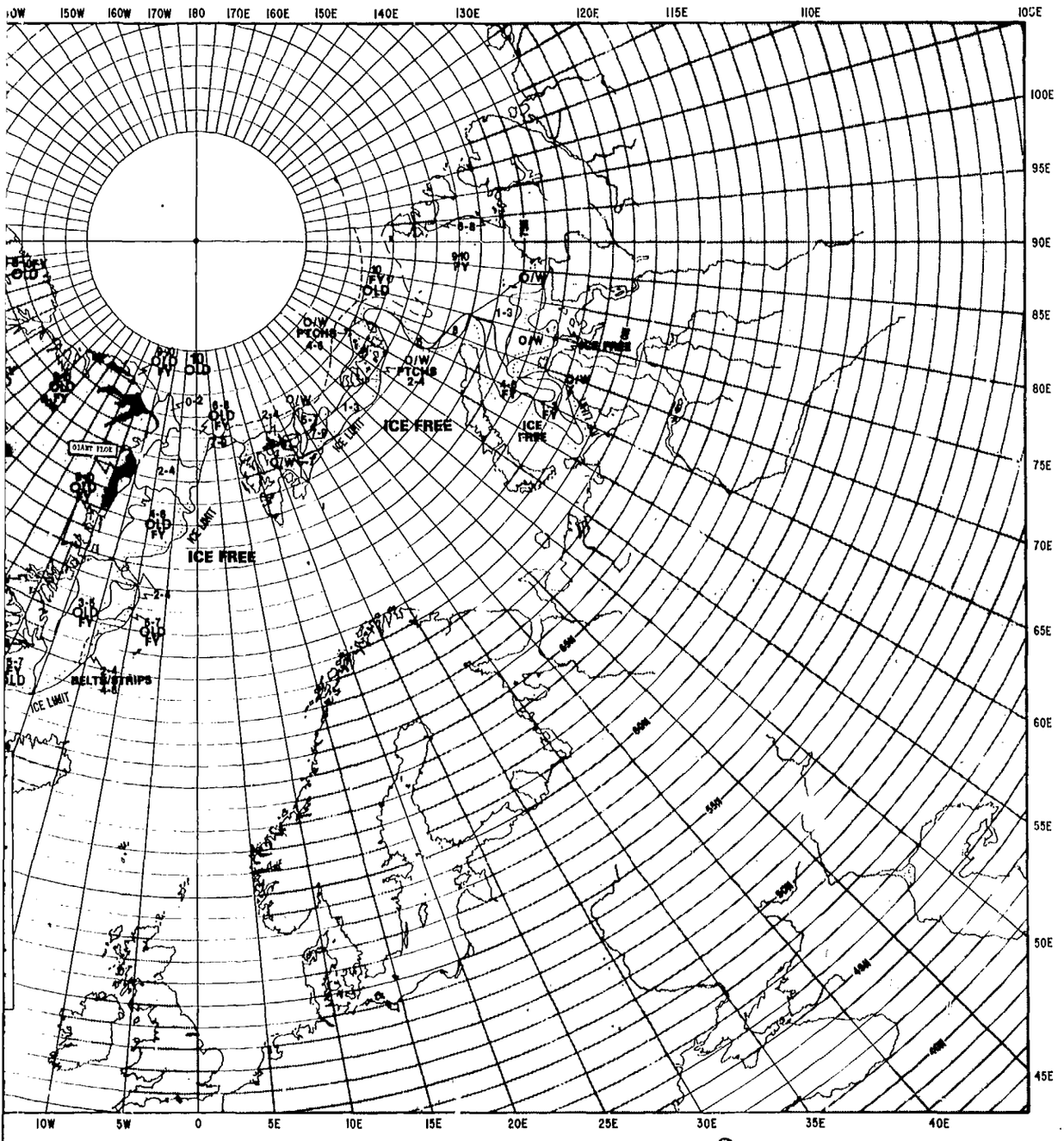

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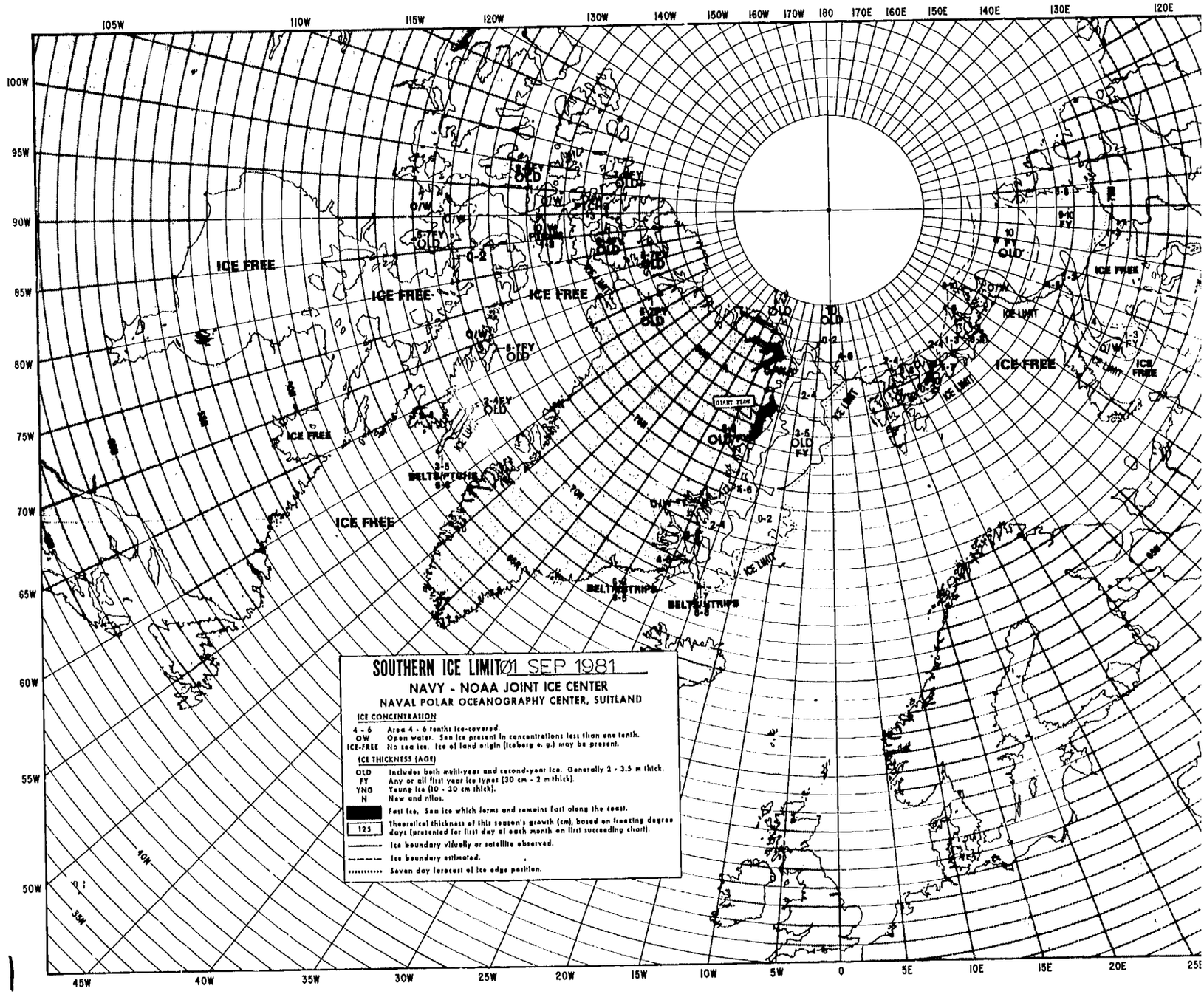
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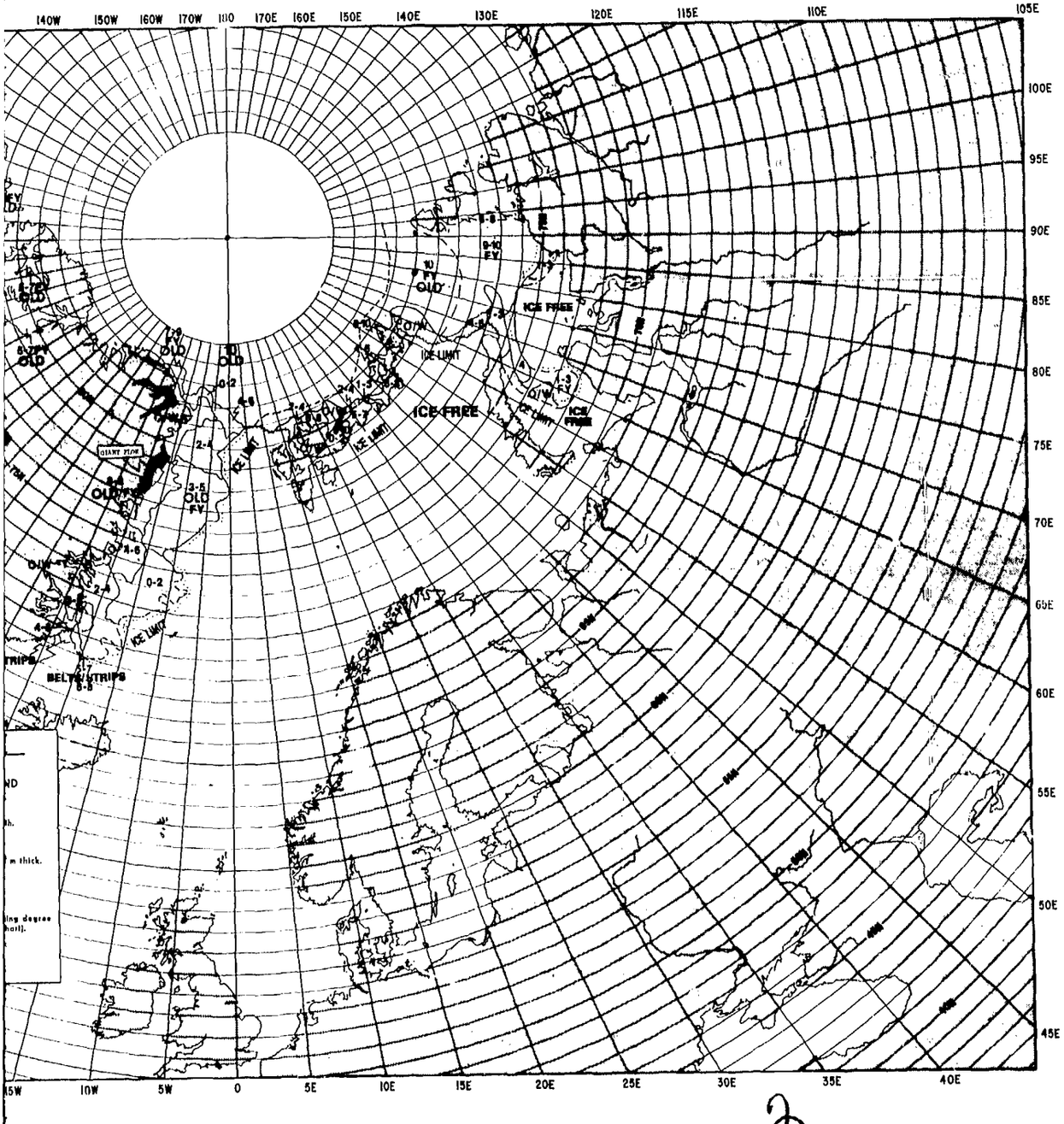

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ICE FREE
ICE LIMIT
GIANT FLOE
SOUTHERN ICE LIMIT 18 AUG 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position.

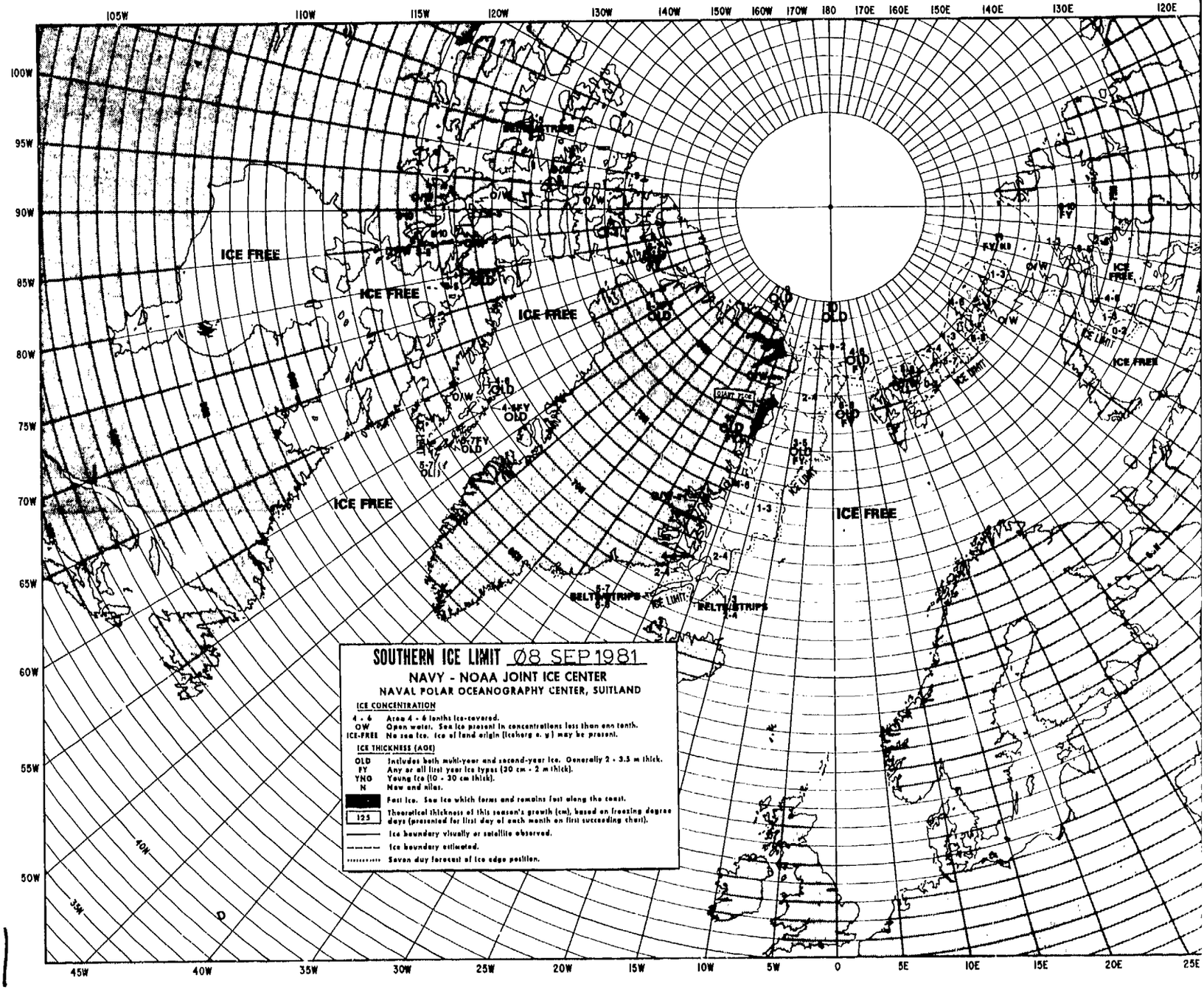

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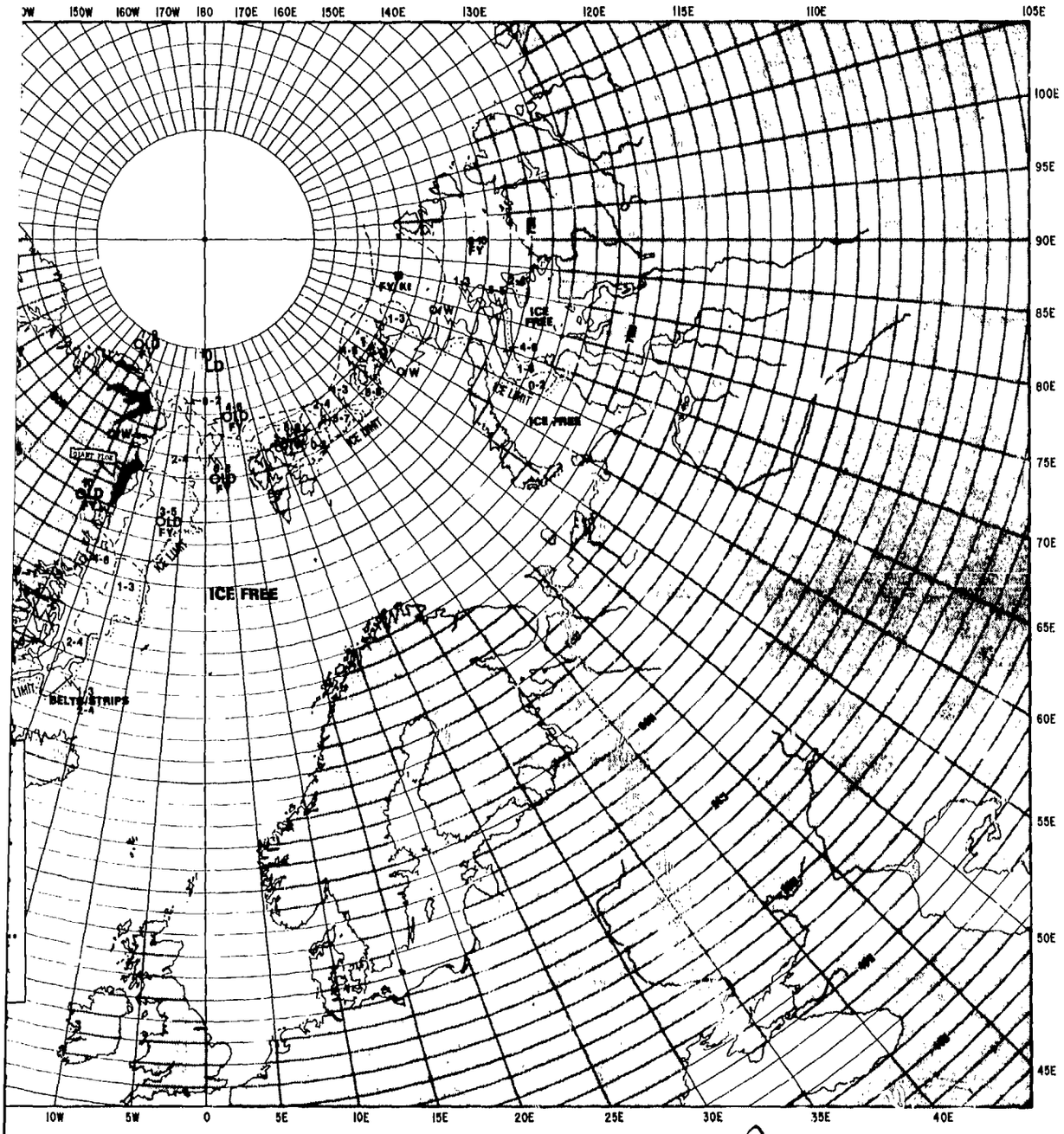

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ICE FREE
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ICE LIMIT
DIARY FLOW
BELTS/STRIPS
SOUTHERN ICE LIMIT 25 AUG 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

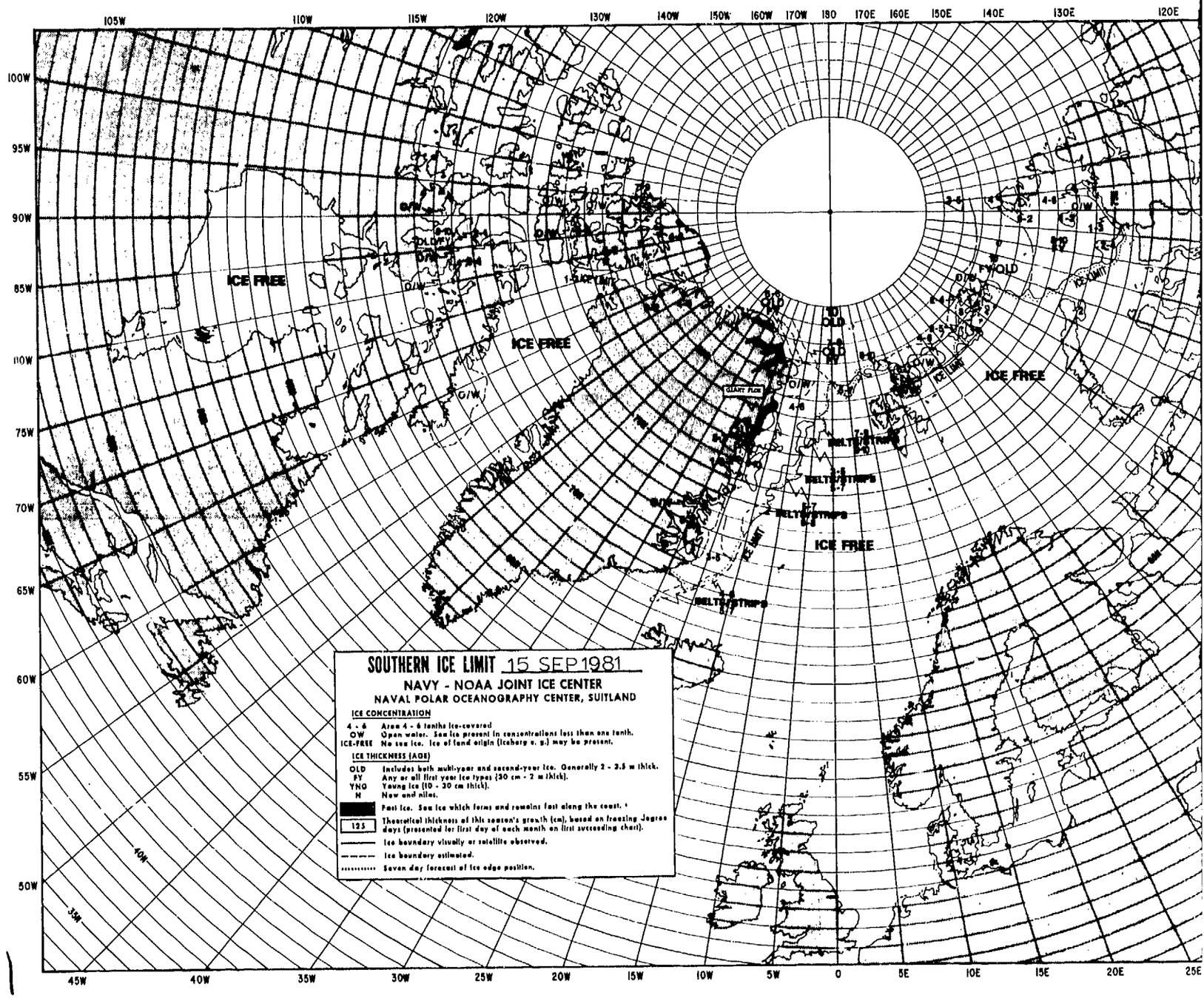

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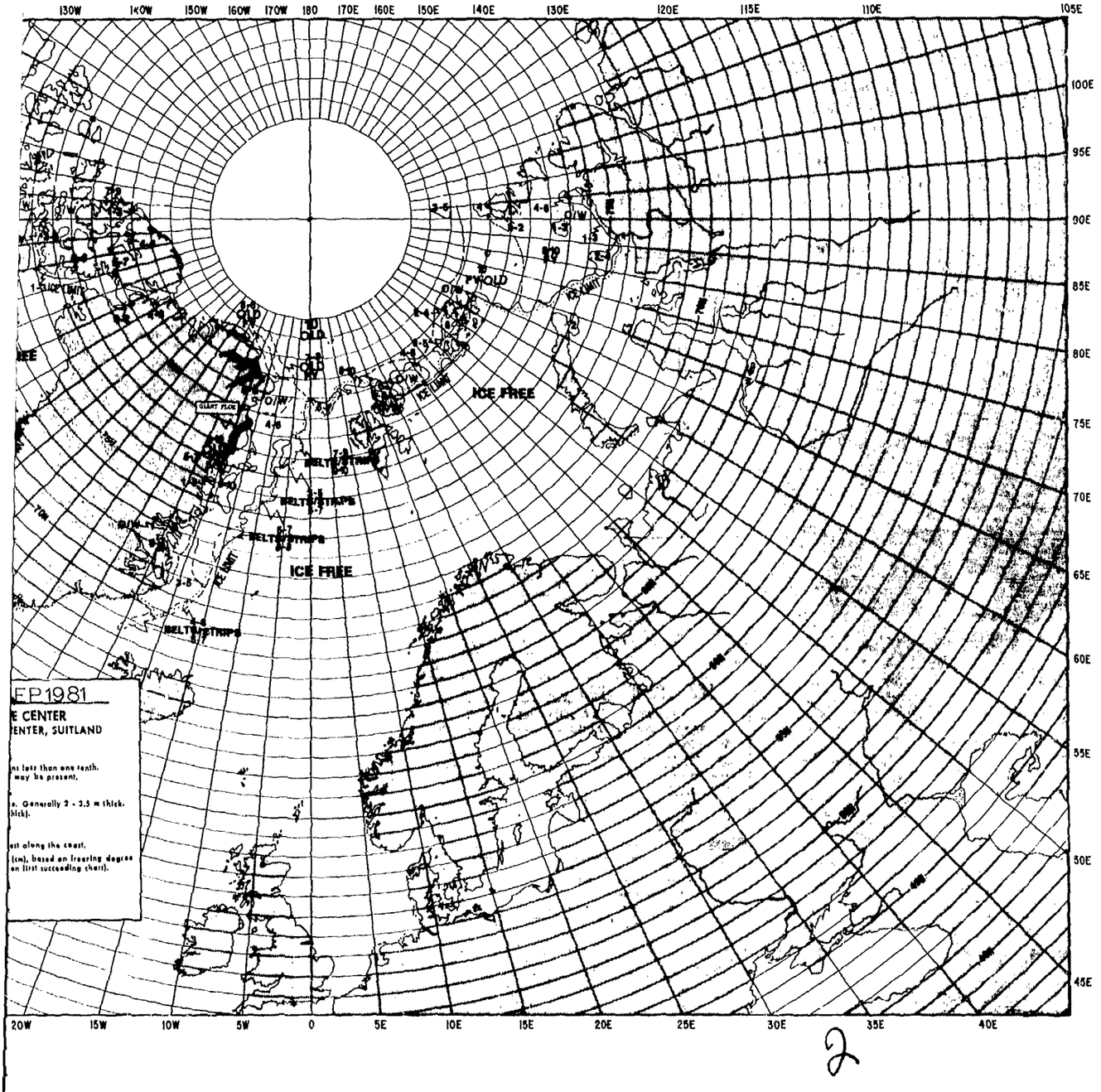

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ICE FREE
O/W
ICE LIMIT
OLD
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GIANT FLOW
BELTS/STRIPS
SOUTHERN ICE LIMIT 01 SEP 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.


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BELTS/STRIPS
GIANT FLOW

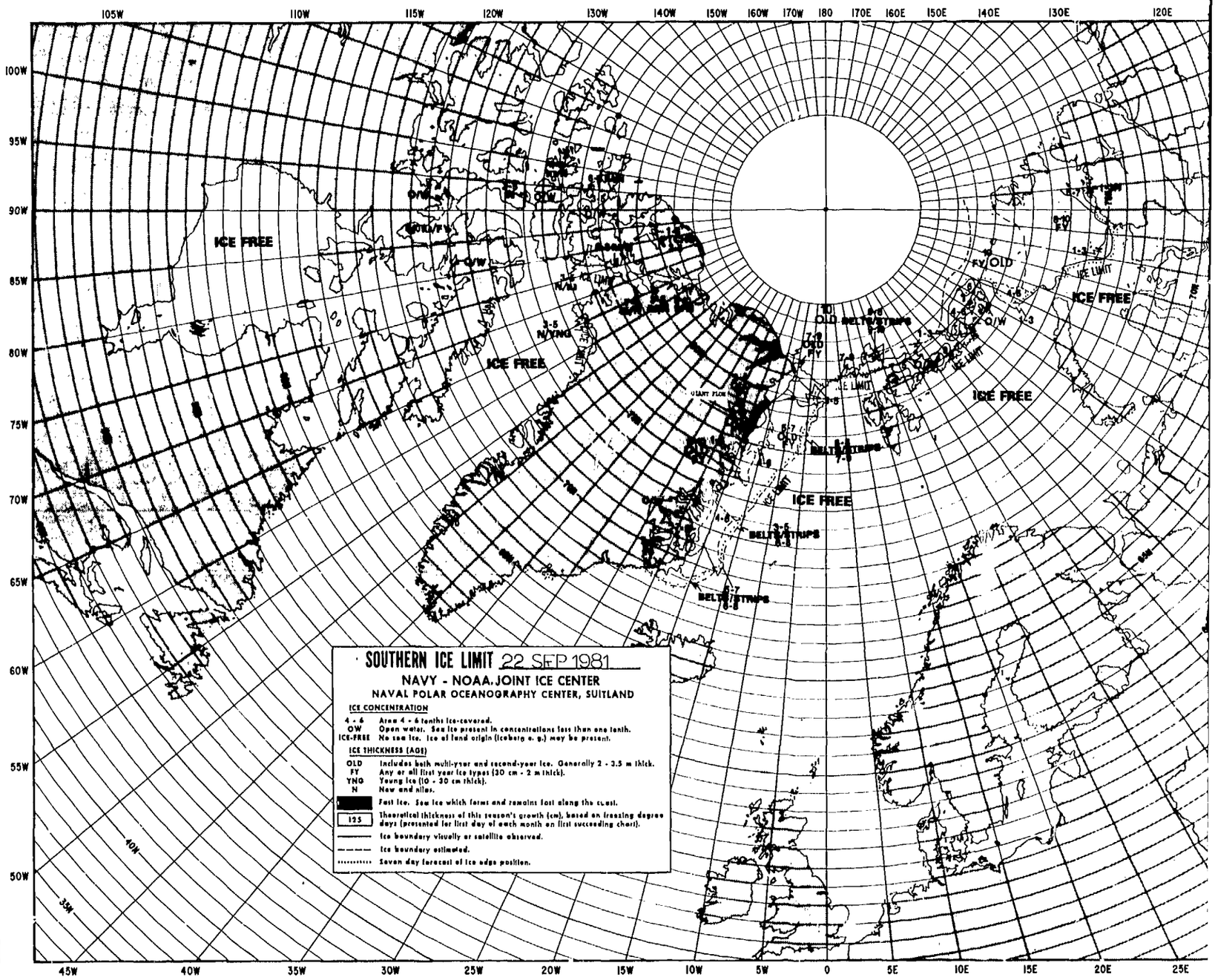

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GIANT PCK
SOUTHERN ICE LIMIT 08 SEP 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

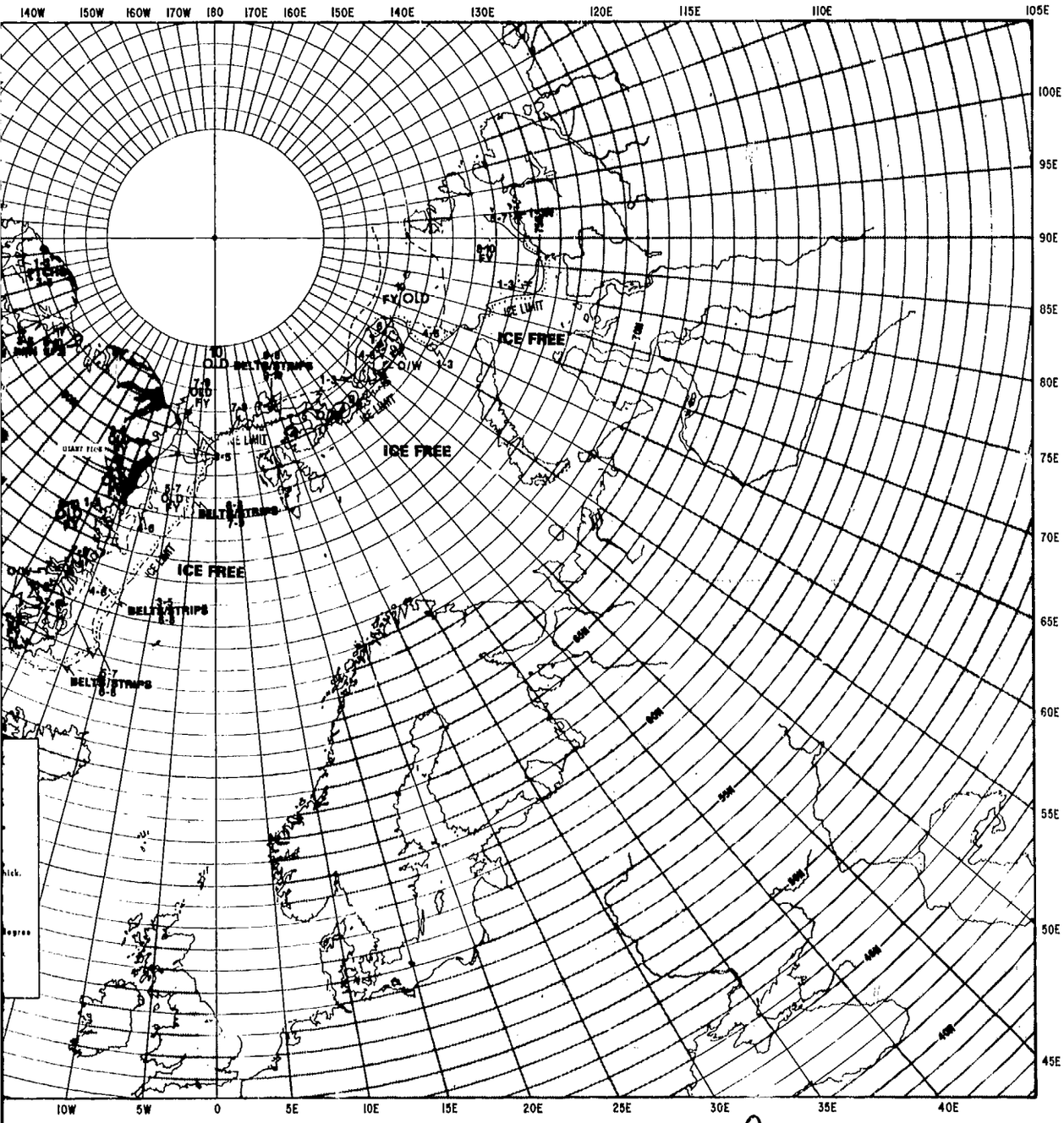

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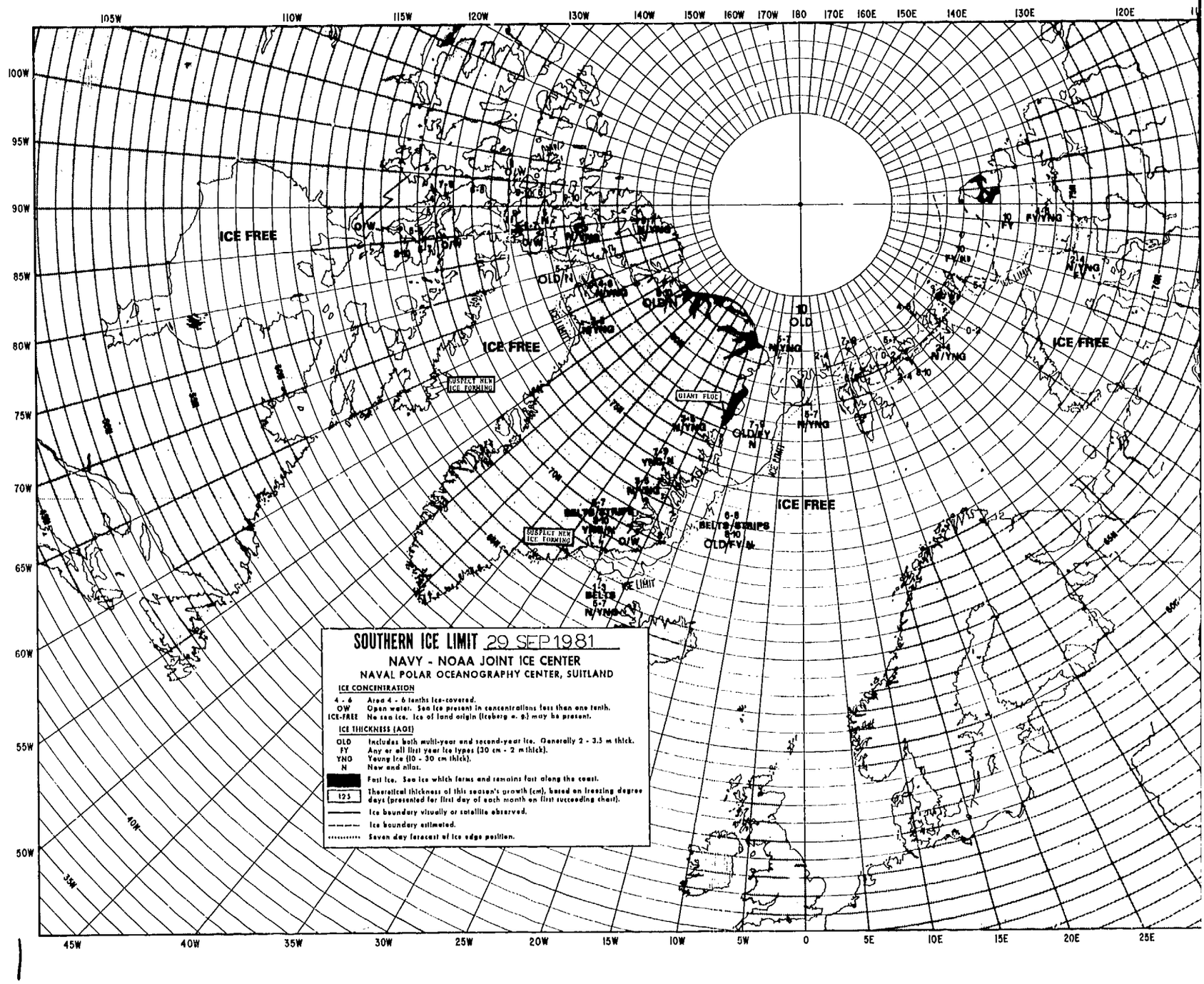

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ICE FREE
SOUTHERN ICE LIMIT 15 SEP 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

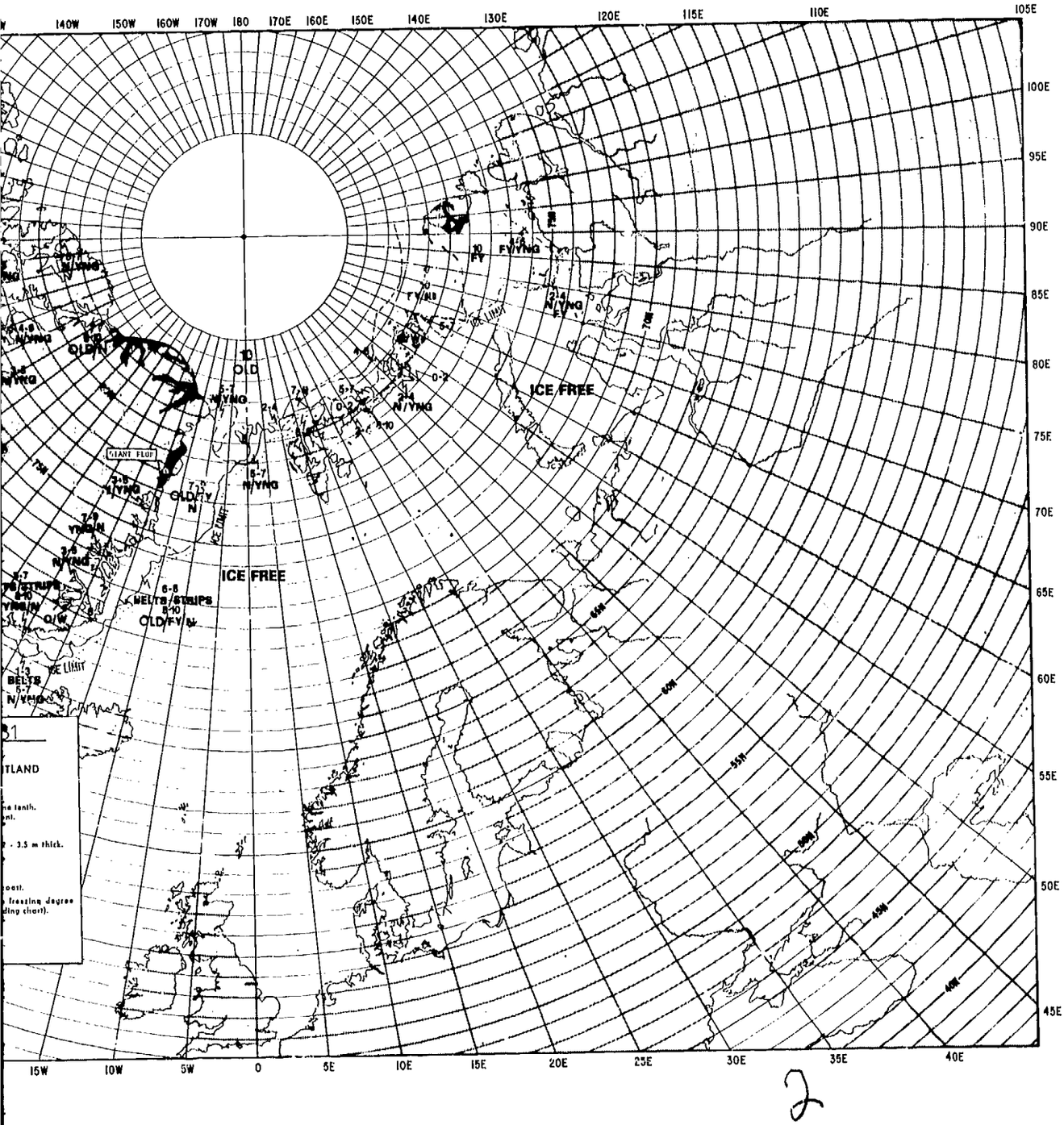

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(cm), based on freezing degree
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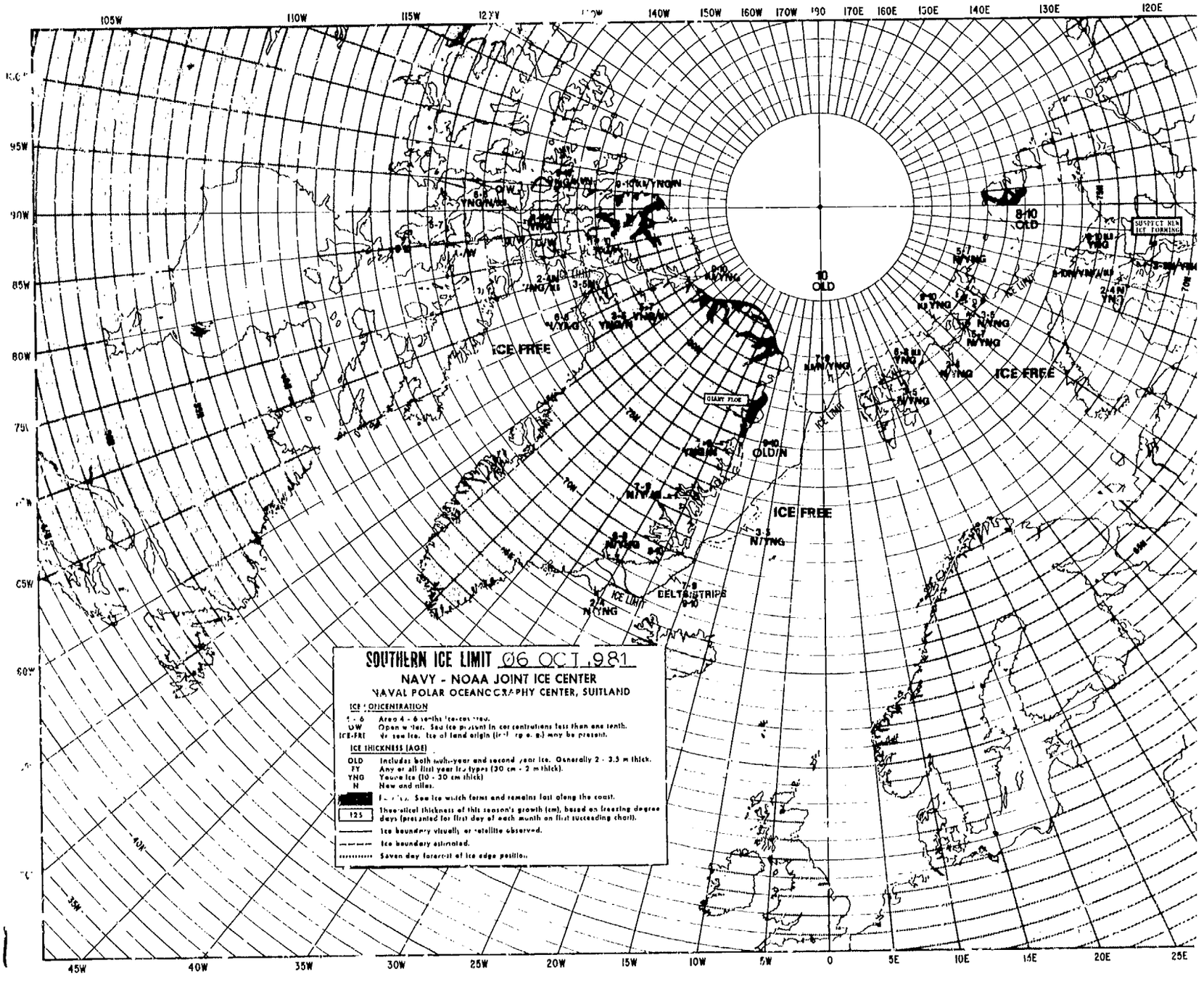
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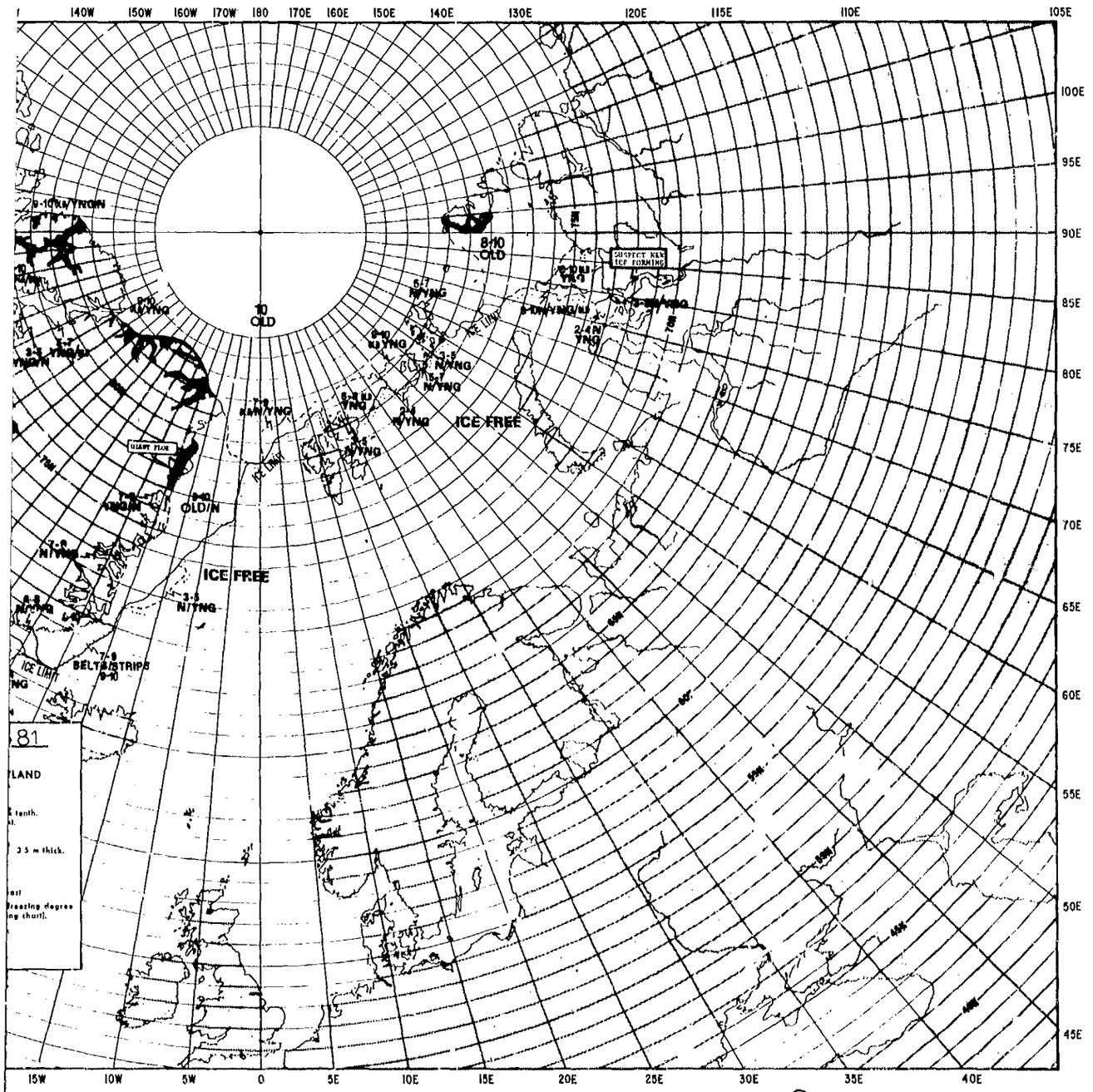

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BELTS/STRIPS
GIANT FLOE
SOUTHERN ICE LIMIT 22 SEP 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.


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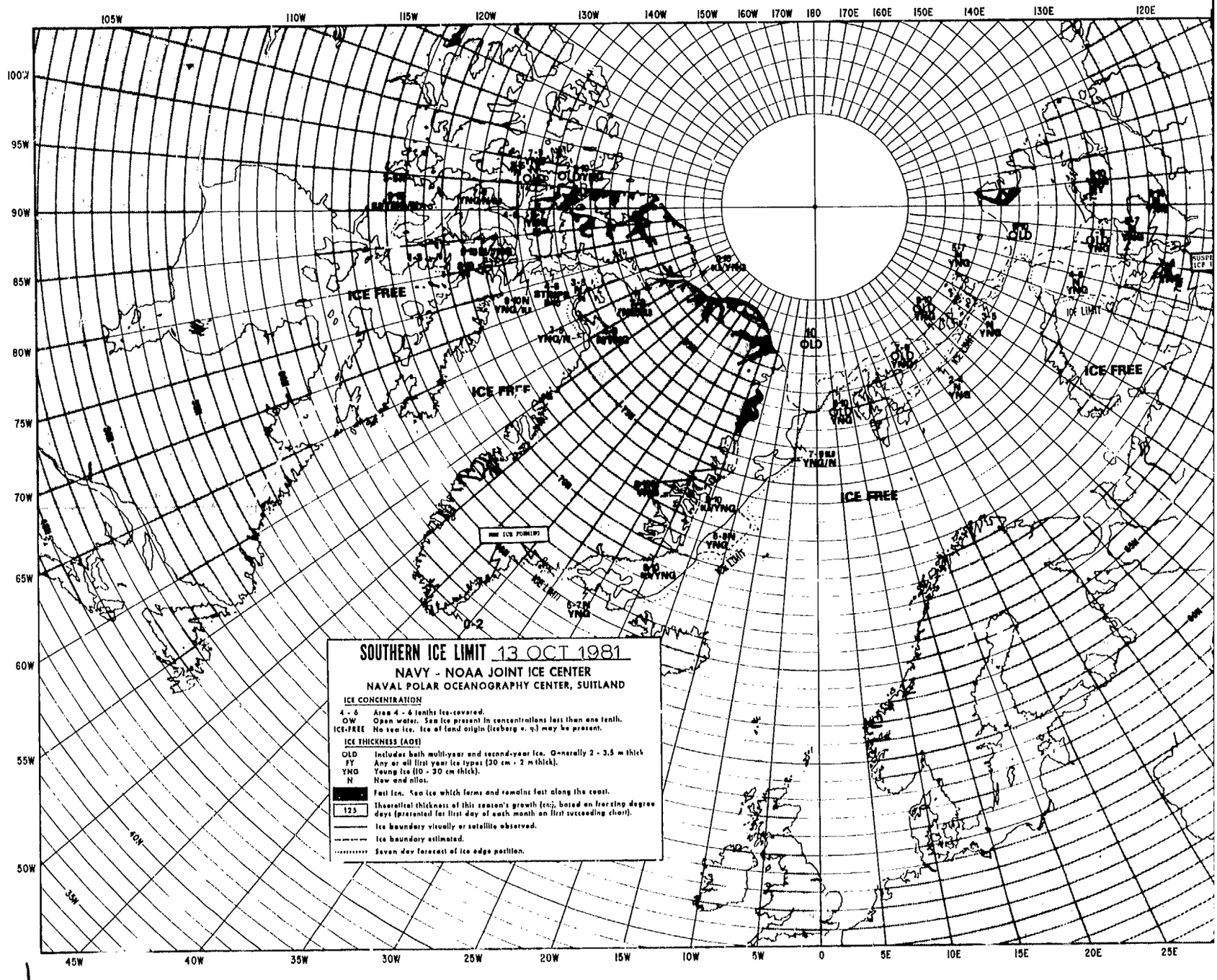

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SUSPECT NEW ICE FORMING
SUSPECT NEW ICE FORMING
GIANT FLOE
ICE LIMIT
SOUTHERN ICE LIMIT 29 SEP 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
O/W Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

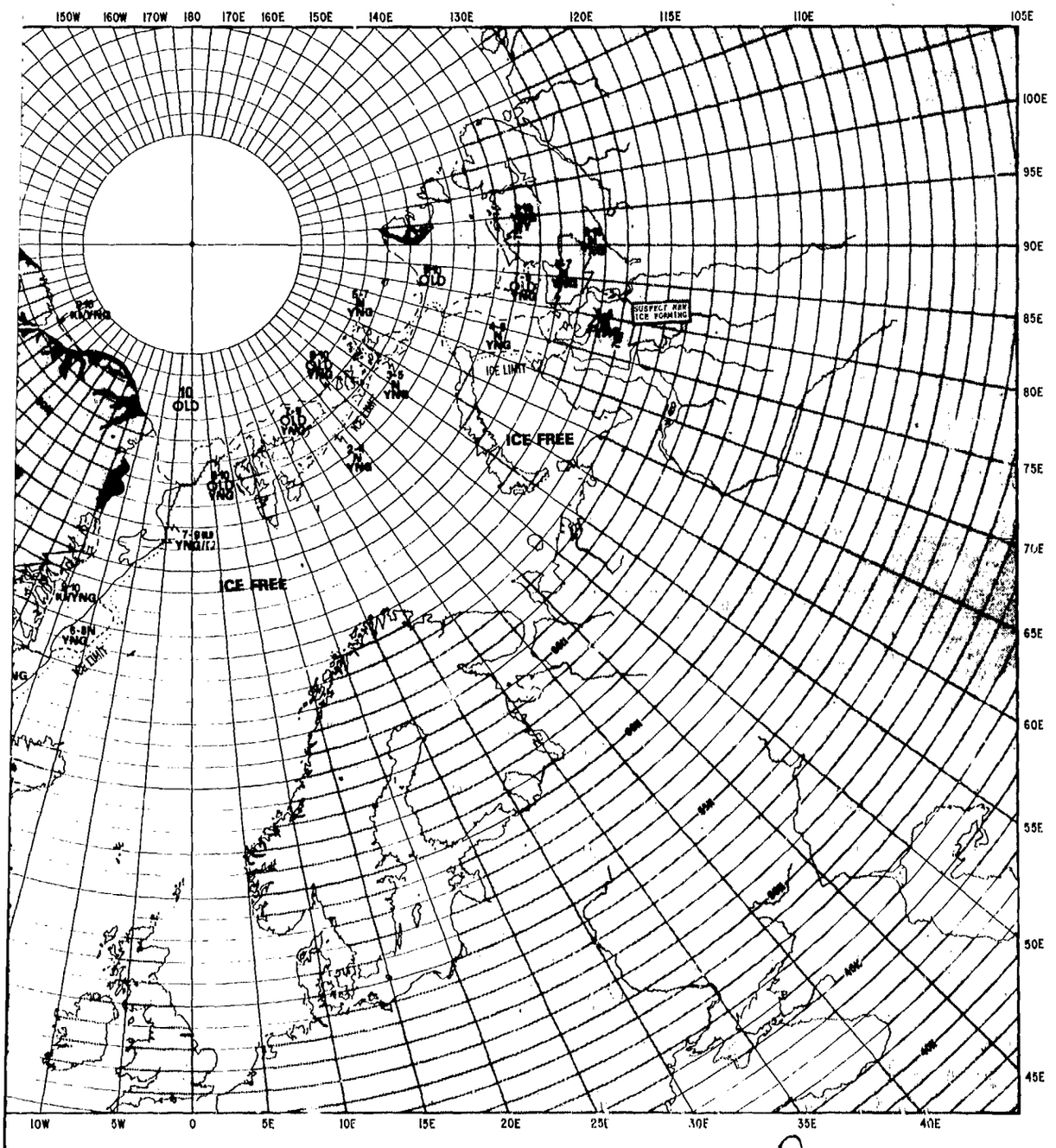

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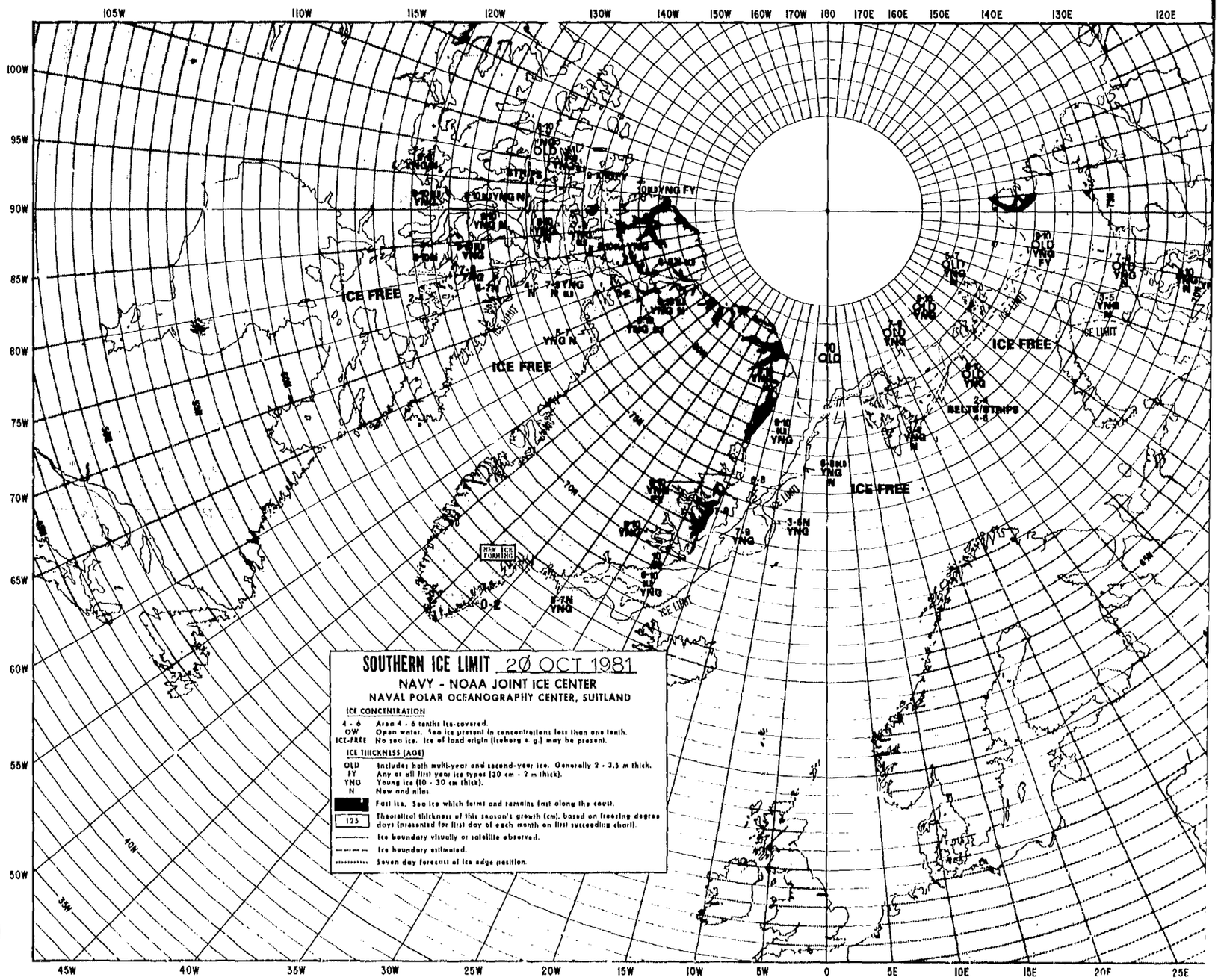

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SUSPECT NEW ICE FORMING
DIAMY FLOE
ICE LIMIT
DELTA STRIPS
SOUTHERN ICE LIMIT 06 OCT 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
1 - 6 Area 4 - 6 tenths ice coverage.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (ice cap e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

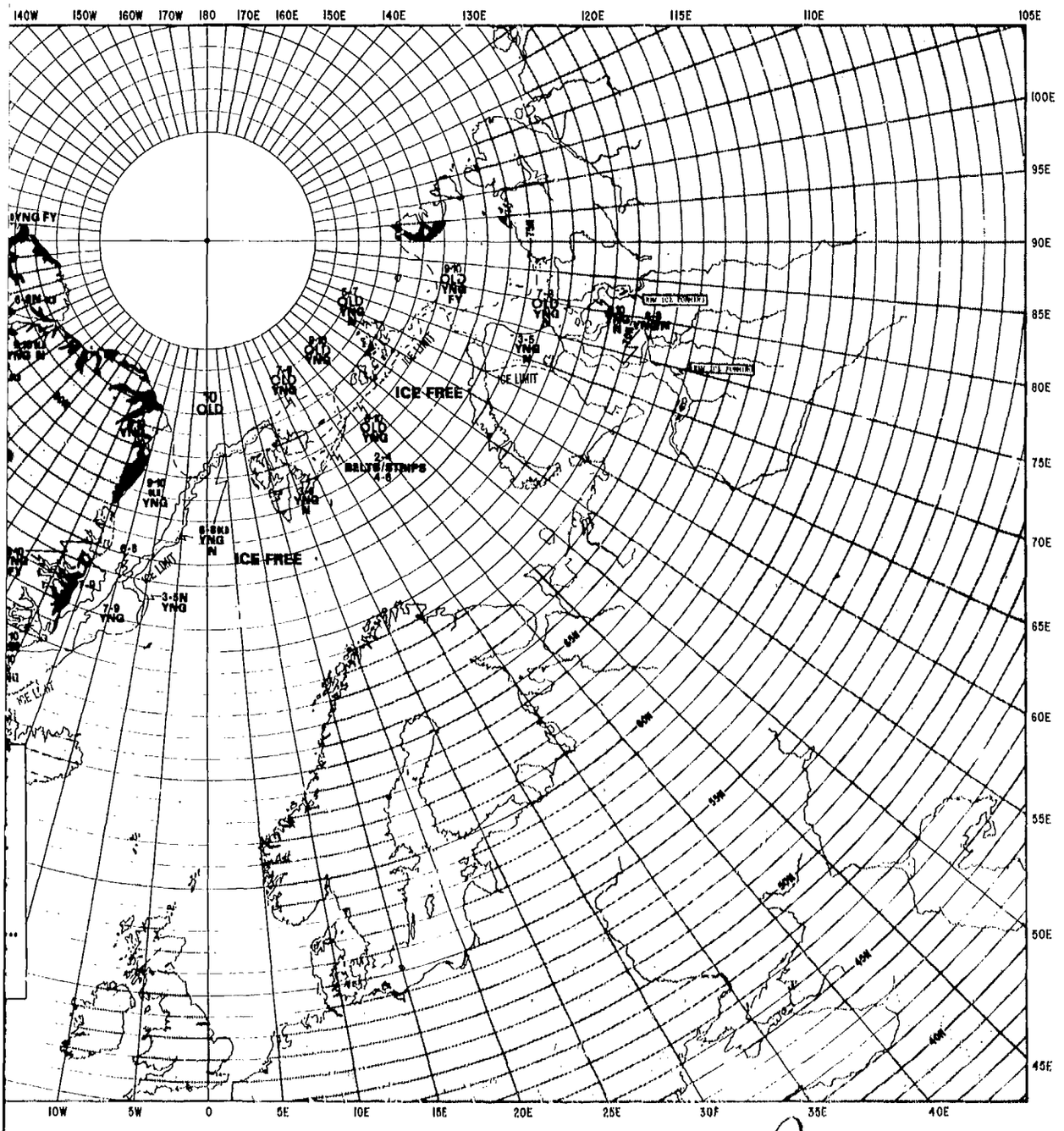

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ICE FREE
ICE FREE
ICE LINE
SUSPECT NEW ICE FORMING
GIANT FLOE
BELTS/STRIPS
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9-10 OLD/N
3-5 N/YNG
2-4 N/YNG
5-7 N/YNG
6-7 N/YNG
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freezing degree
ng chart).

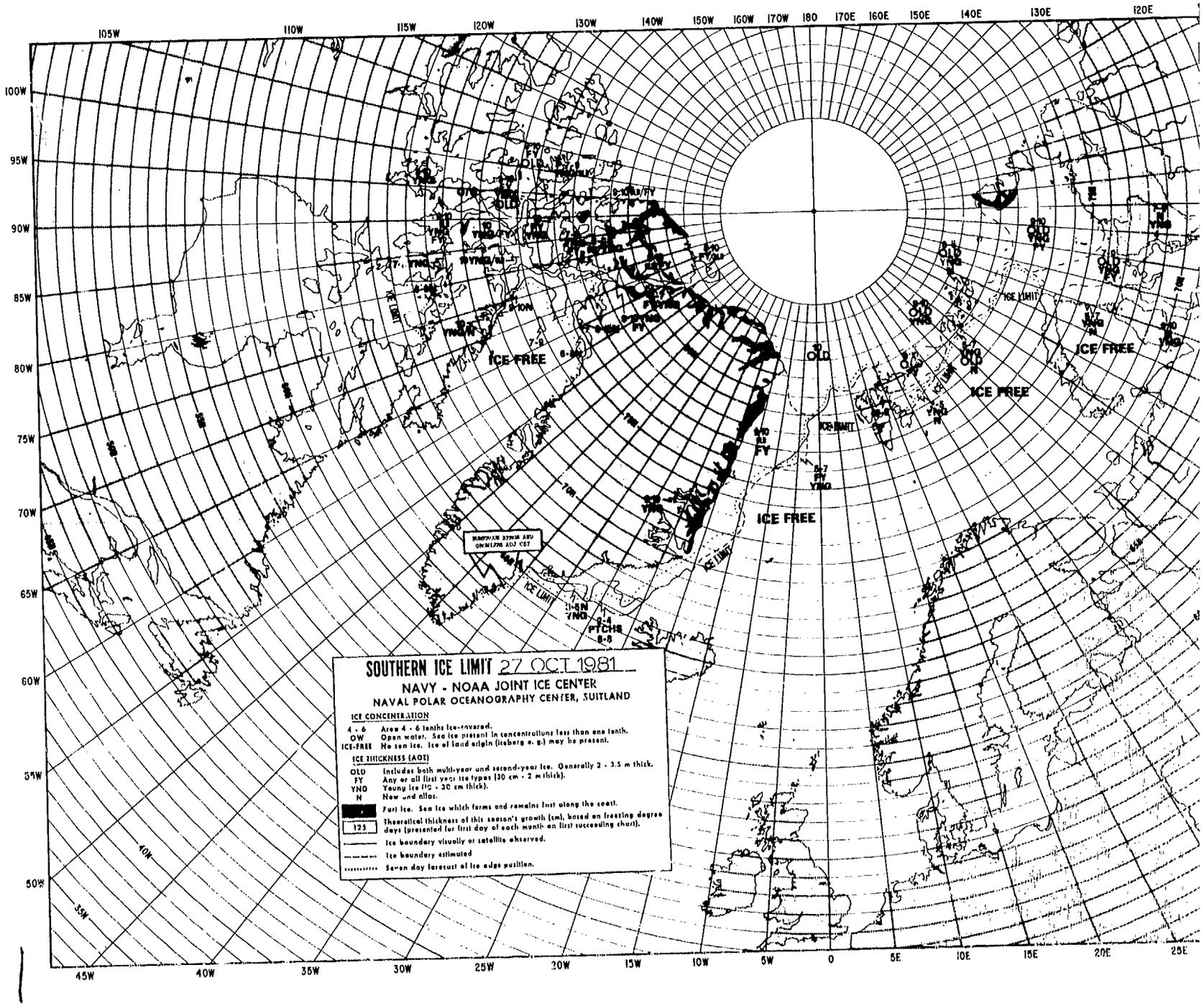
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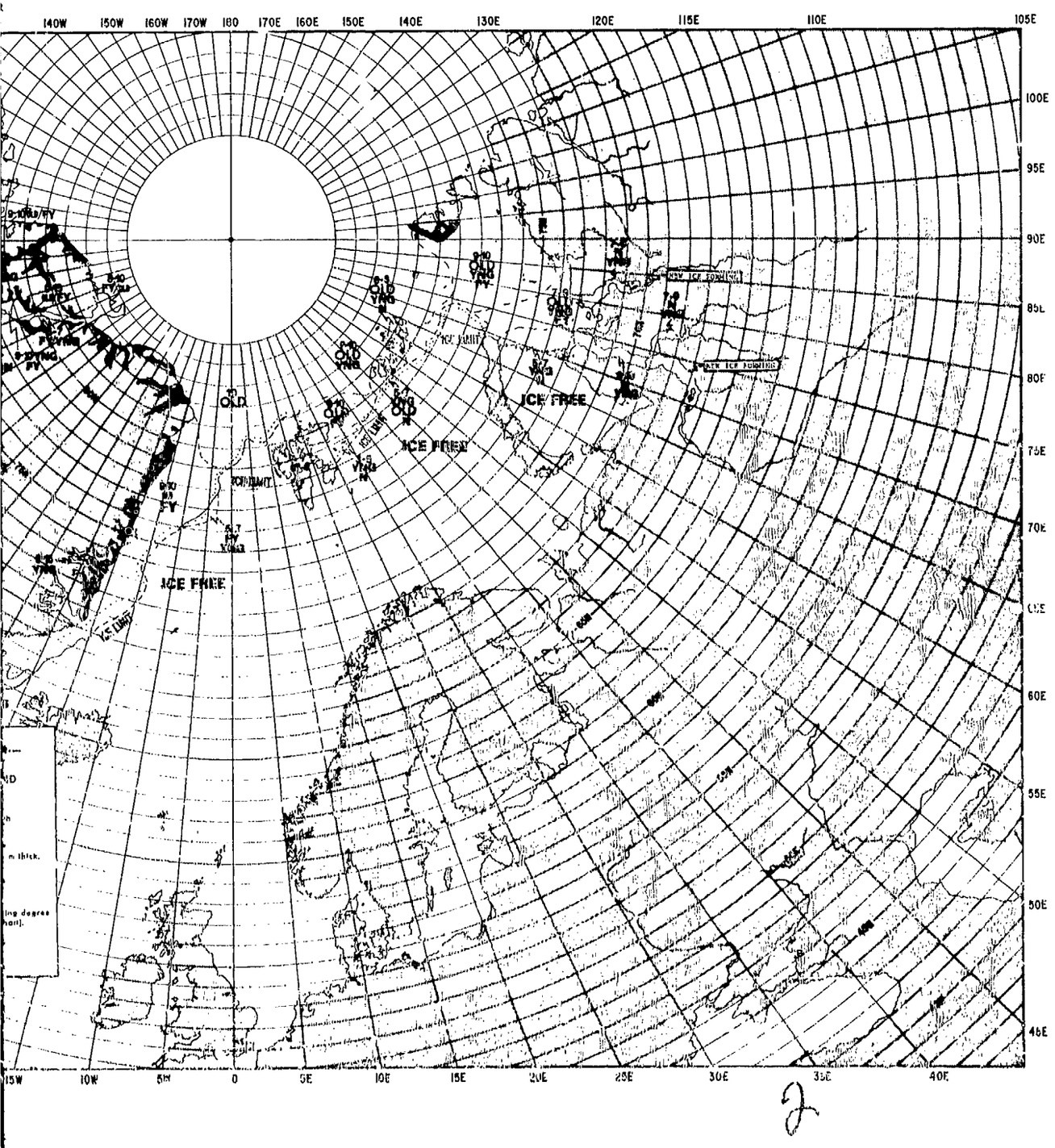

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30W
25W
20W
15W
10W
5W
0
5E
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15E
20E
25E
ICE FREE
ICE LIMIT
SOUTHERN ICE LIMIT 13 OCT 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.


150W
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170W
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ICE FREE
ICE FREE
ICE LIMIT
SUSPECT NEW ICE FORMING

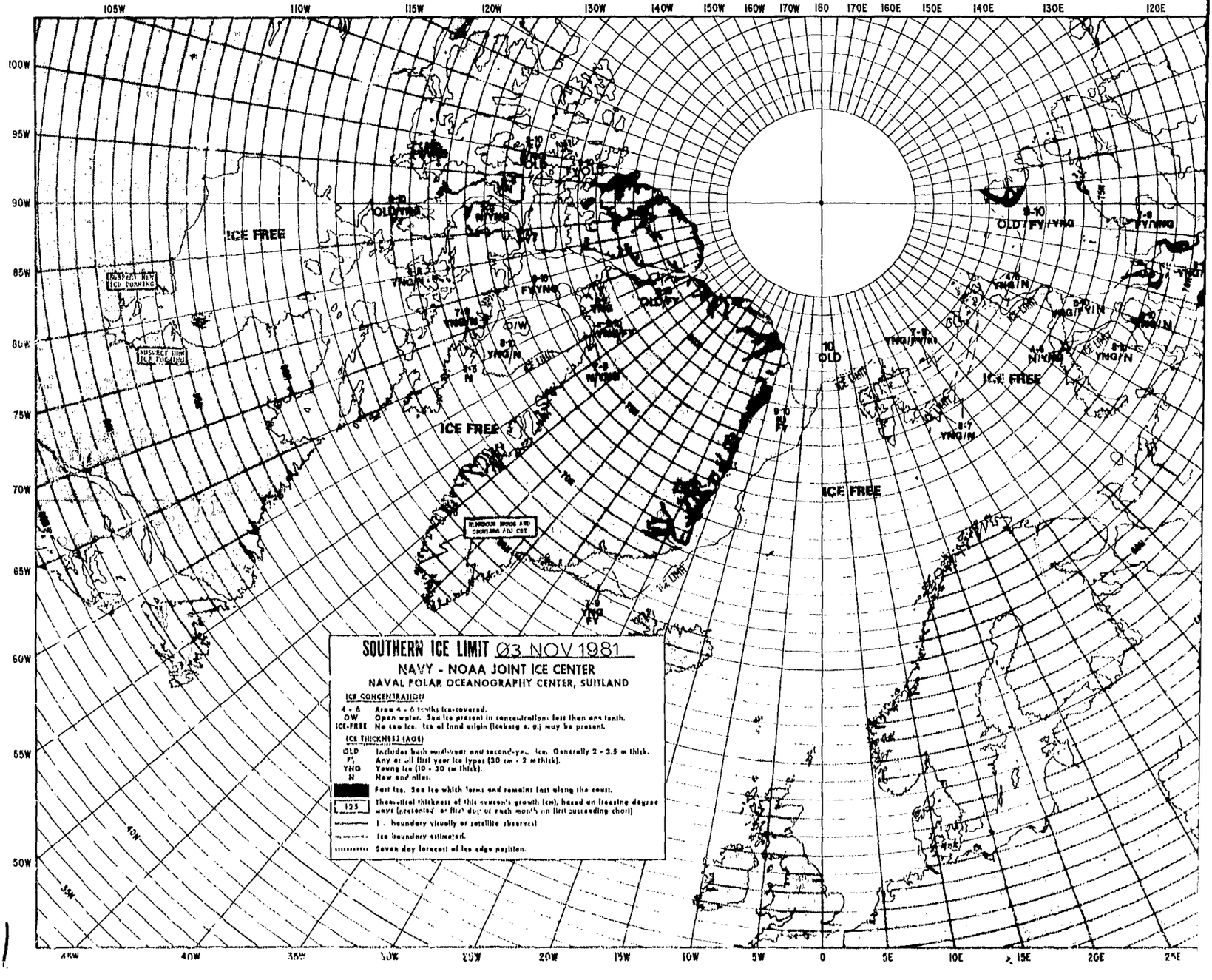

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10E
15E
20E
25E
ICE FREE
ICE LIMIT
NEW ICE FORMING
SOUTHERN ICE LIMIT 20 OCT 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

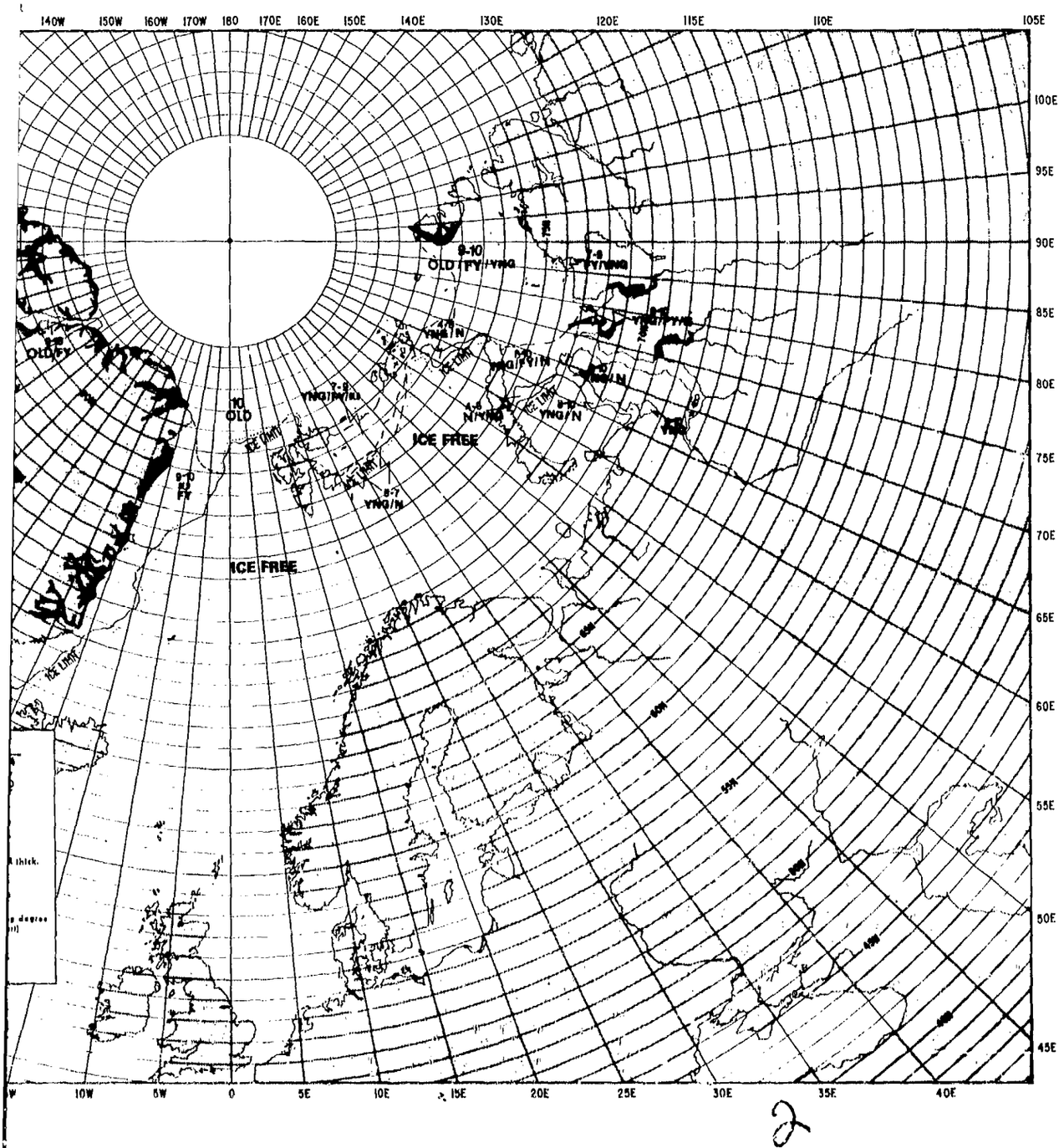

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45E
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5E
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15E
20E
25E
30E
35E
40E
ICE FREE
ICE FREE
ICE LIMIT
ICE LIMIT
ICE LIMIT
NEW ICE POSITION
NEW ICE POSITION
7-9 YNG
3-5N YNG
9-10 OLD YNG
7-8 OLD YNG
2-4 BELTS/STRIPS 4-6
9-10 OLD YNG FY
9-10 OLD YNG
7-8 OLD YNG
3-5 YNG
9-10 OLD YNG
9-10 OLD YNG
9-10 OLD


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25W
20W
15W
10W
5W
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5E
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15E
20E
25E
ICE FREE
ICE LIMIT
SOUTHERN ICE LIMIT 27 OCT 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position.

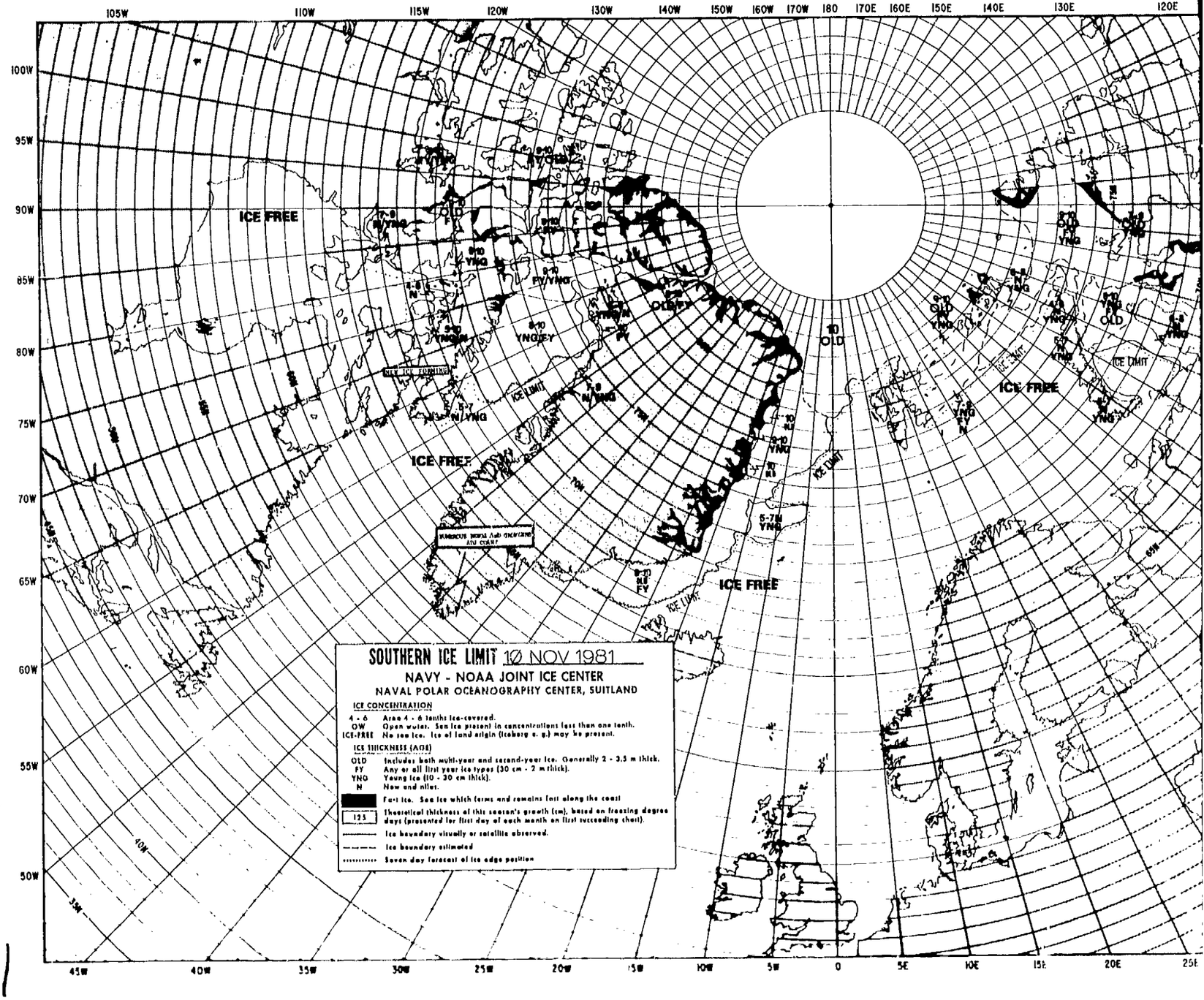

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ICE FREE
ICE FREE
ICE FREE
NEW ICE FORMING
NEW ICE FORMING
ICE LIMIT
ICE LIMIT
ICE LIMIT

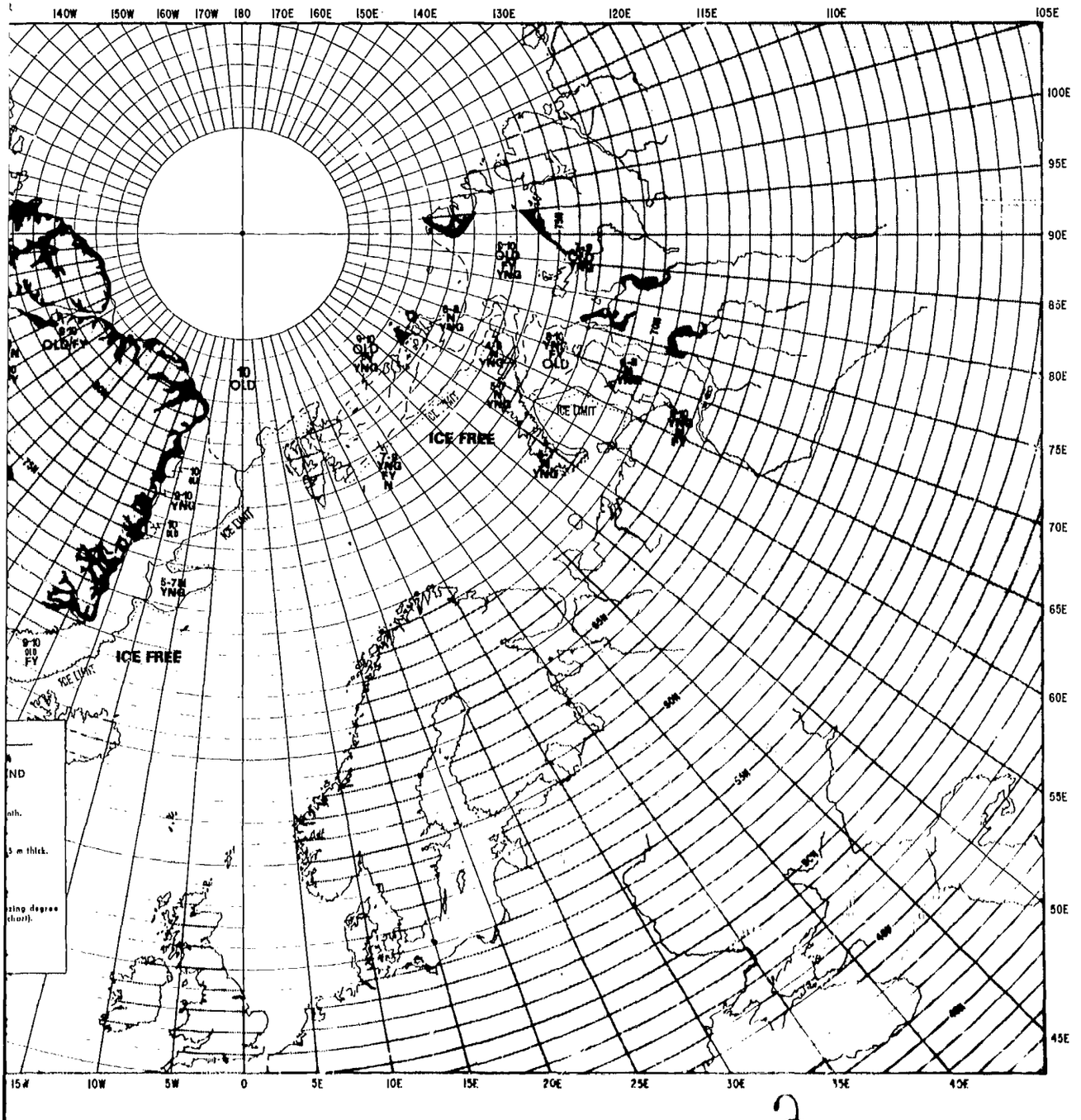
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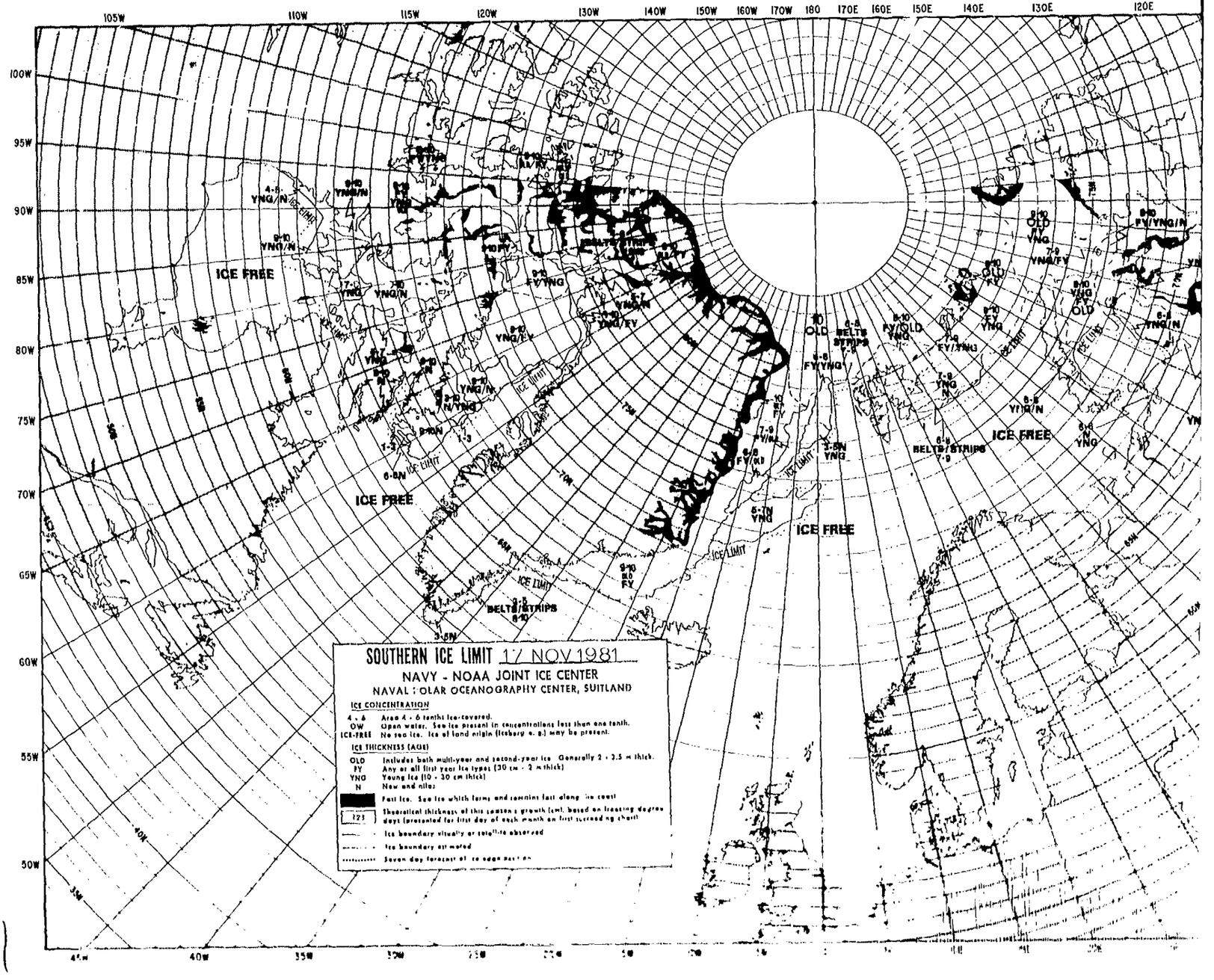

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25W
20W
15W
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20E
25E
ICE FREE
ICE FREE
ICE FREE
ICE FREE
OLD/FY
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OLD/FY/YNG
OLD/FY/YNG
OLD/FY/YNG

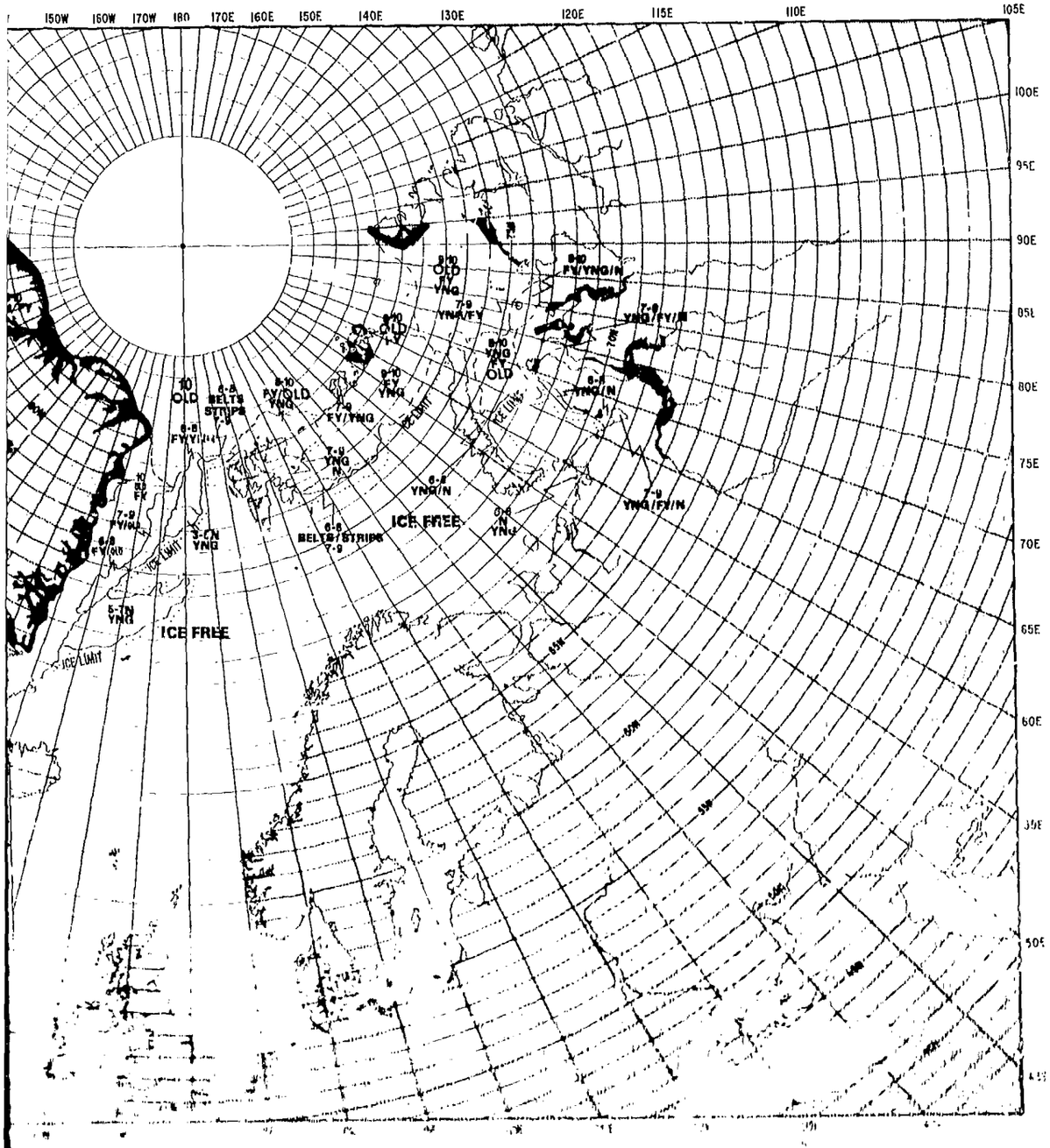

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25E
30E
35E
40E
ICE FREE
ICE FREE
9-10 OLD/FY/YNG
9-10 OLD/FY
10 OLD
9-10 FY
9-10 YNG/N
8-7 YNG/N
ICE LIMIT

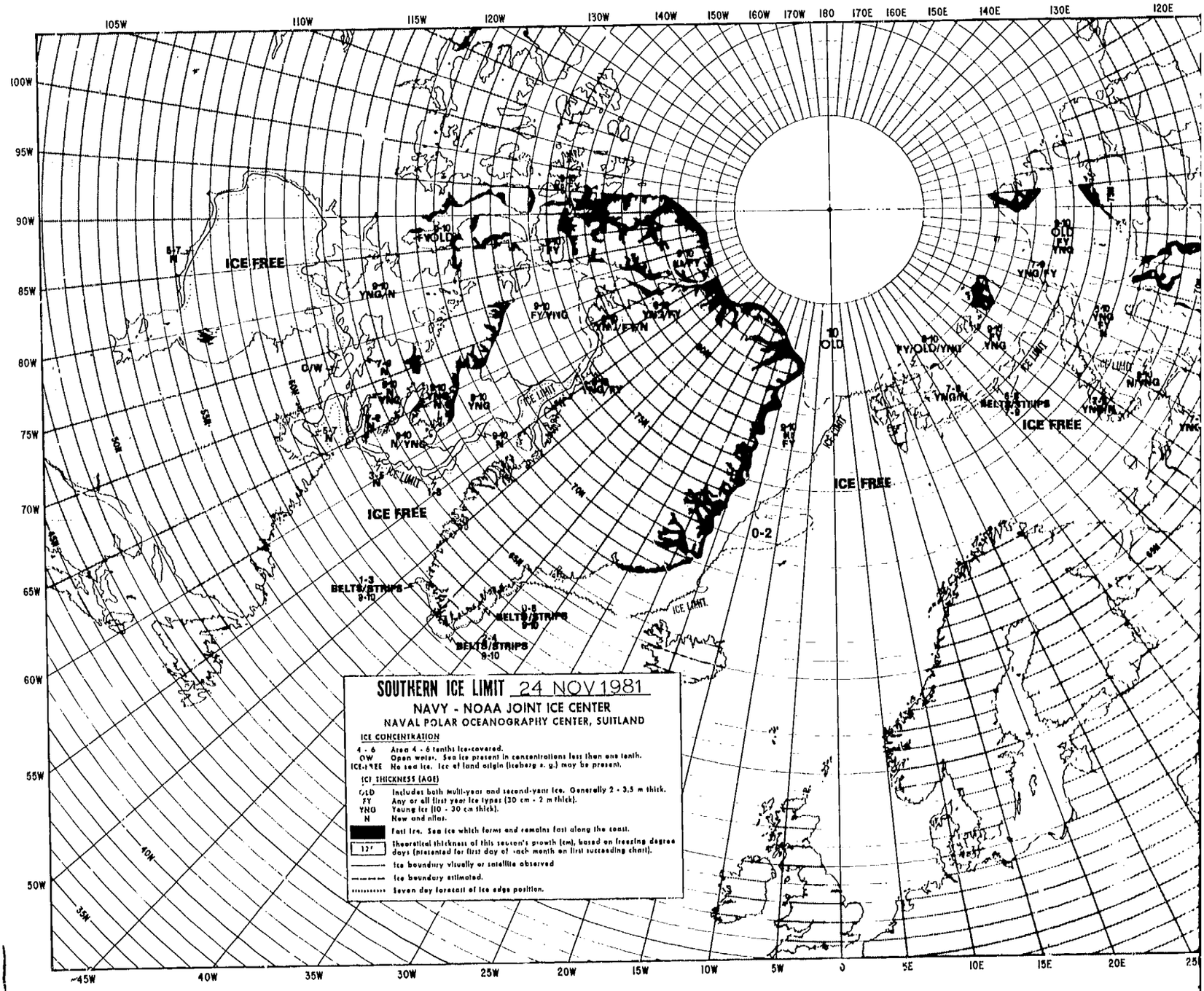
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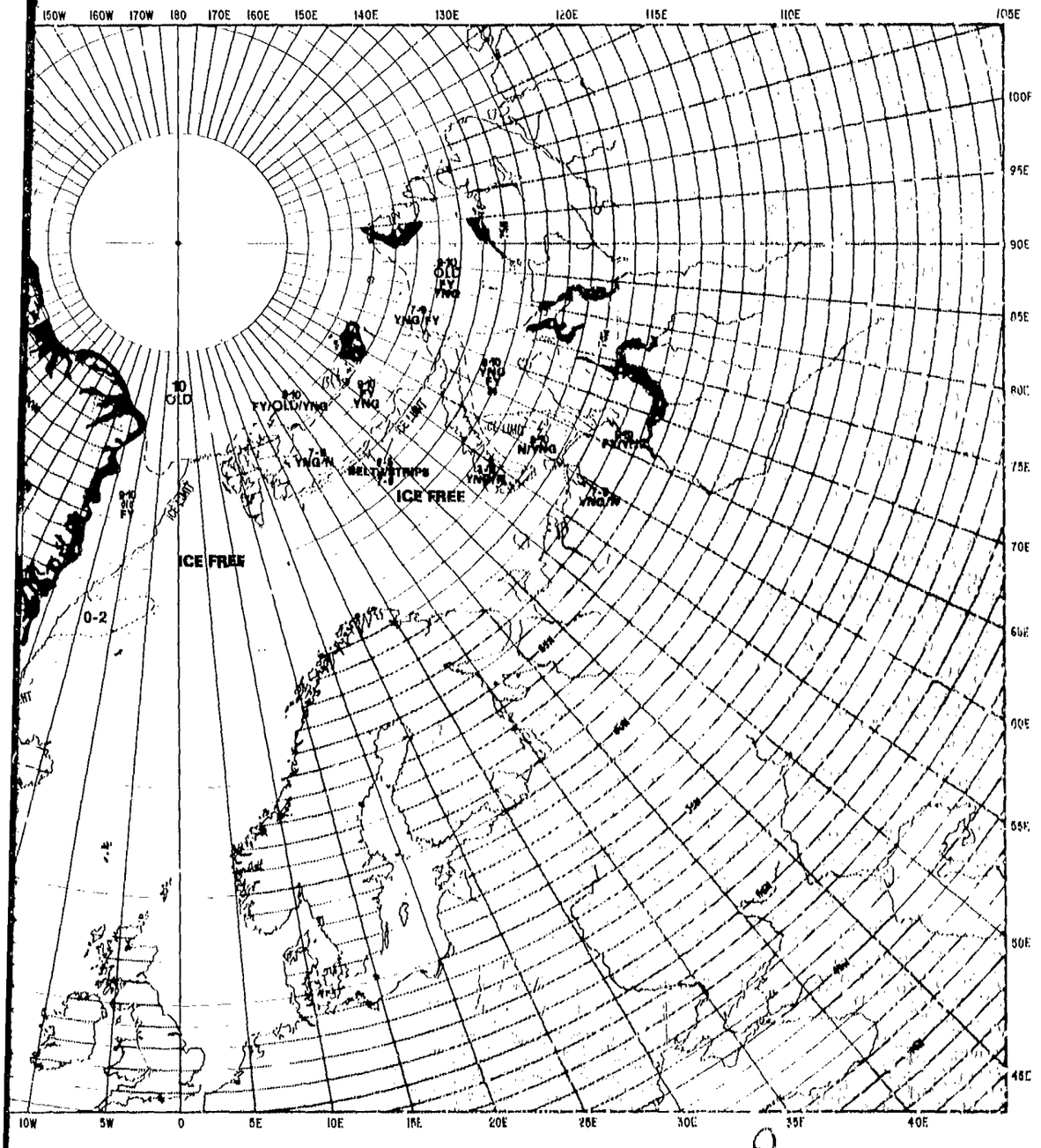

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25W
20W
15W
10W
5W
0
5E
10E
15E
20E
25E
ICE FREE
ICE LIMIT
NEW ICE FORMING
SOUTHERN ICE LIMIT 10 NOV 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position


140W
150W
160W
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15W
10W
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ICE FREE
ICE LIMIT
ICE FREE
ICE LIMIT
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m thick.

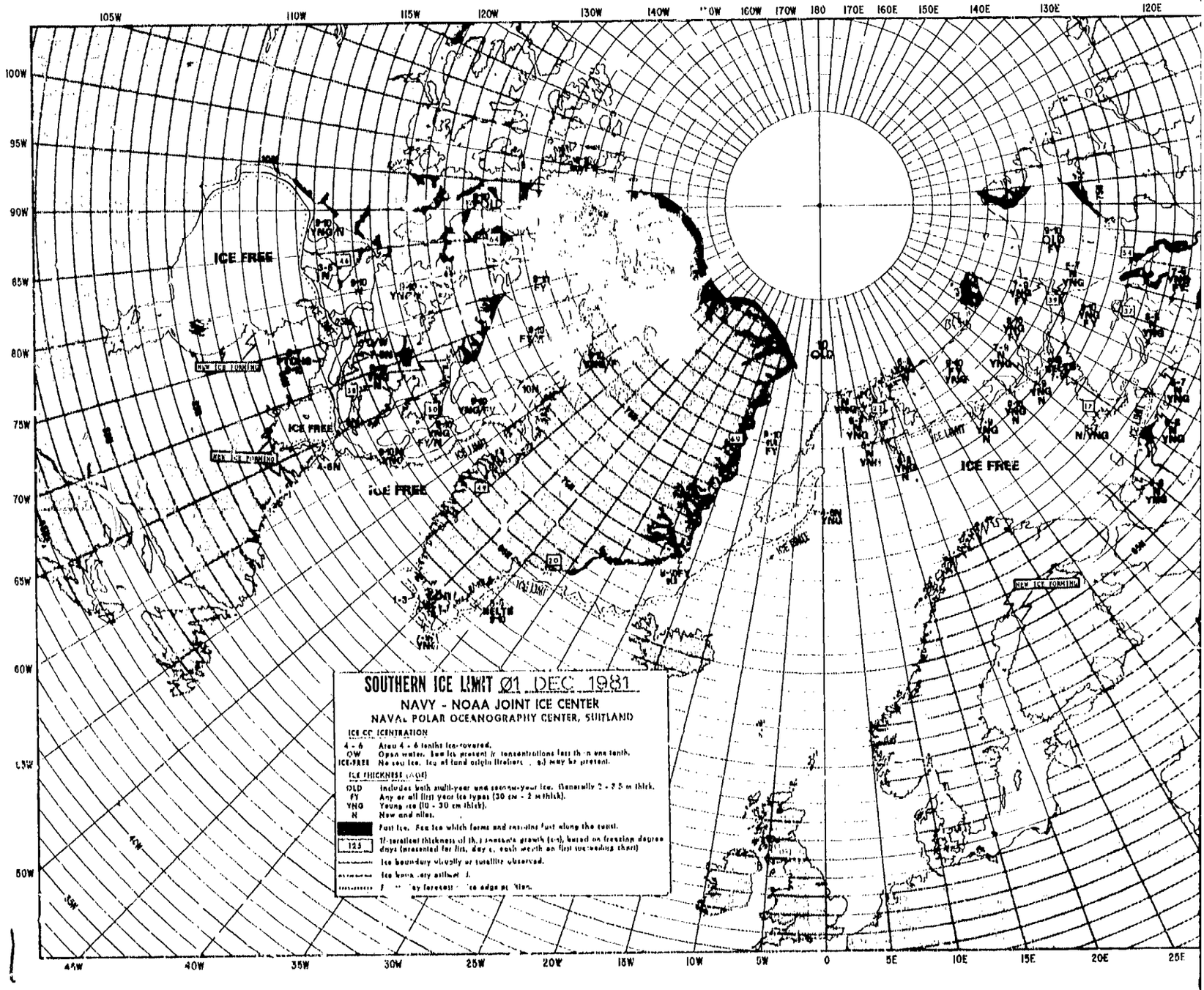

105W
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70W
65W
60W
55W
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45W
40W
35W
ICE FREE
ICE LIMIT
BELTS/STRIPS
SOUTHERN ICE LIMIT 17 NOV 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick)
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice. Sea ice which forms and remains fast along the coast
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position

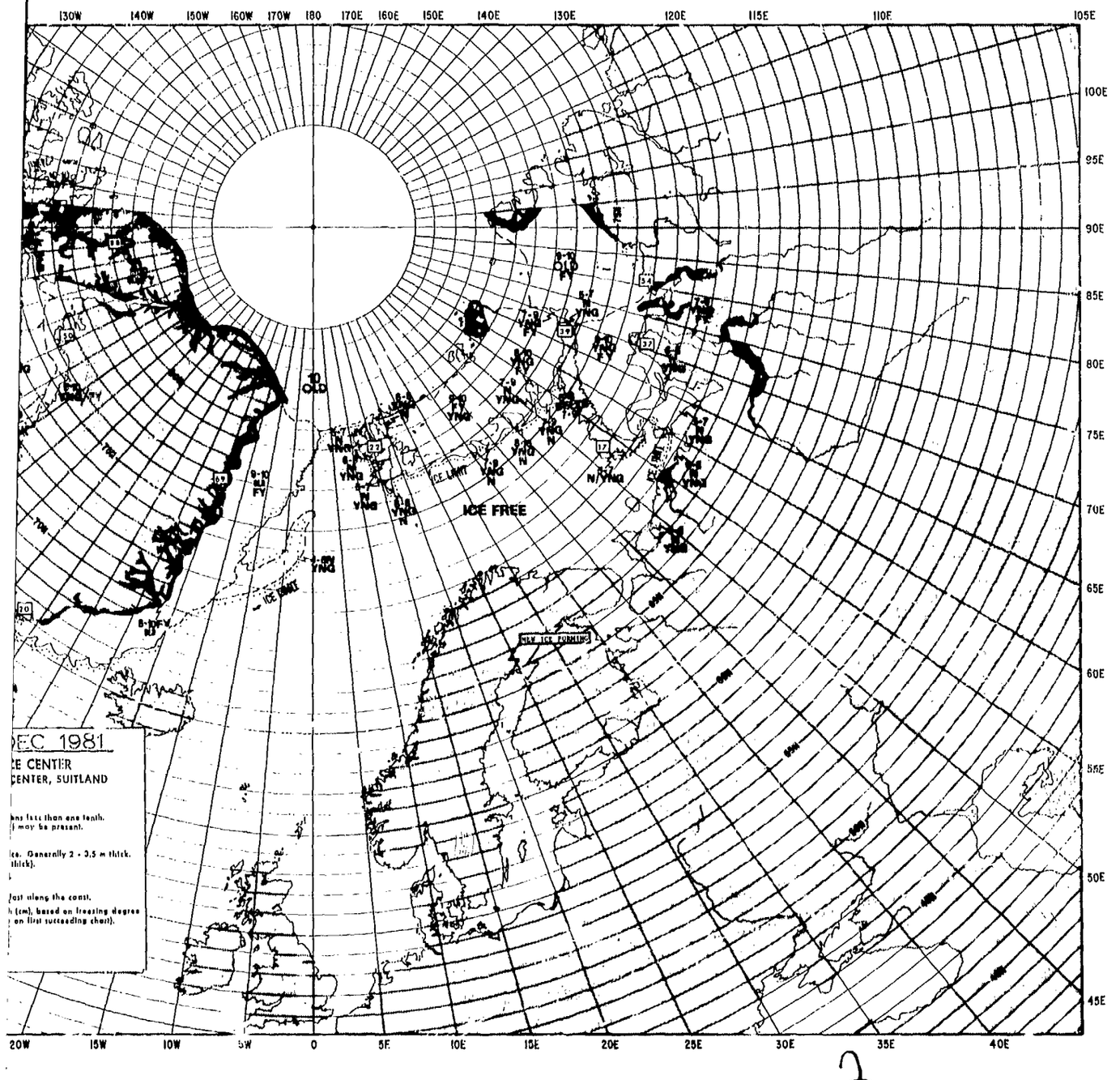

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70E
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ICE FREE
ICE FREE
ICE LIMIT
ICE LIMIT
ICE LIMIT
10 OLD
6-8 BELTS STRIPS 7-9
8-10 FY/OLD YNG
8-10 OLD FY YNG
7-9 YNG/FY
8-10 OLD FY
8-10 YNG FY OLD
8-10 FY/YNG/N
7-9 YNG/FY/N
8-10 FY YNG
7-9 FY/YNG
7-9 YNG N
6-8 YNG/N
6-8 BELTS/STRIPS 7-9
5-CN YNG
5-TN YNG
6-8 YNG/N
7-9 YNG/FY/N


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25W
20W
15W
10W
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5E
10E
15E
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ICE FREE
ICE LIMIT
SOUTHERN ICE LIMIT 24 NOV 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
(C) THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
127 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated.
Seven day forecast of ice edge position.

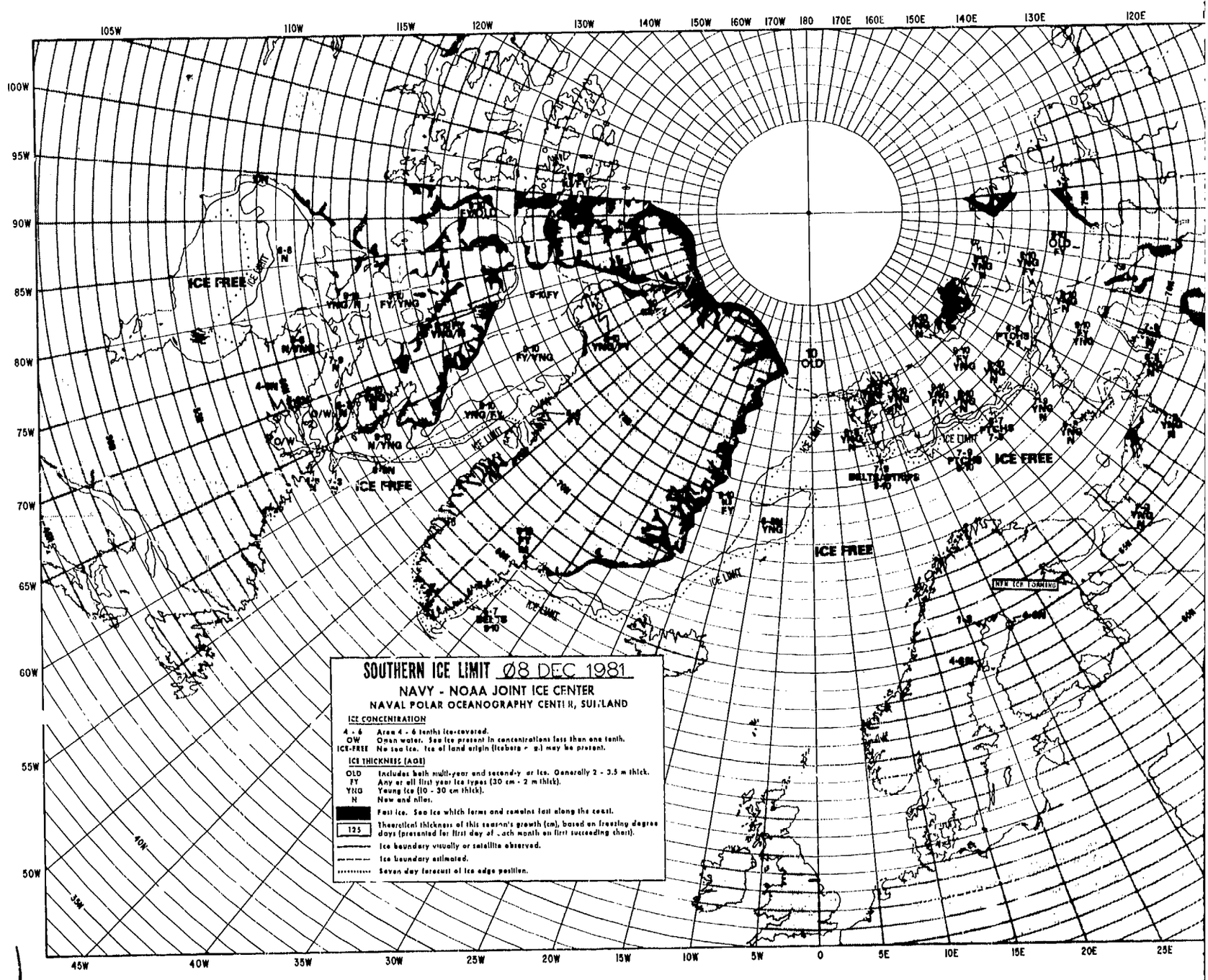

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ICE FREE
ICE FREE
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10
OLD
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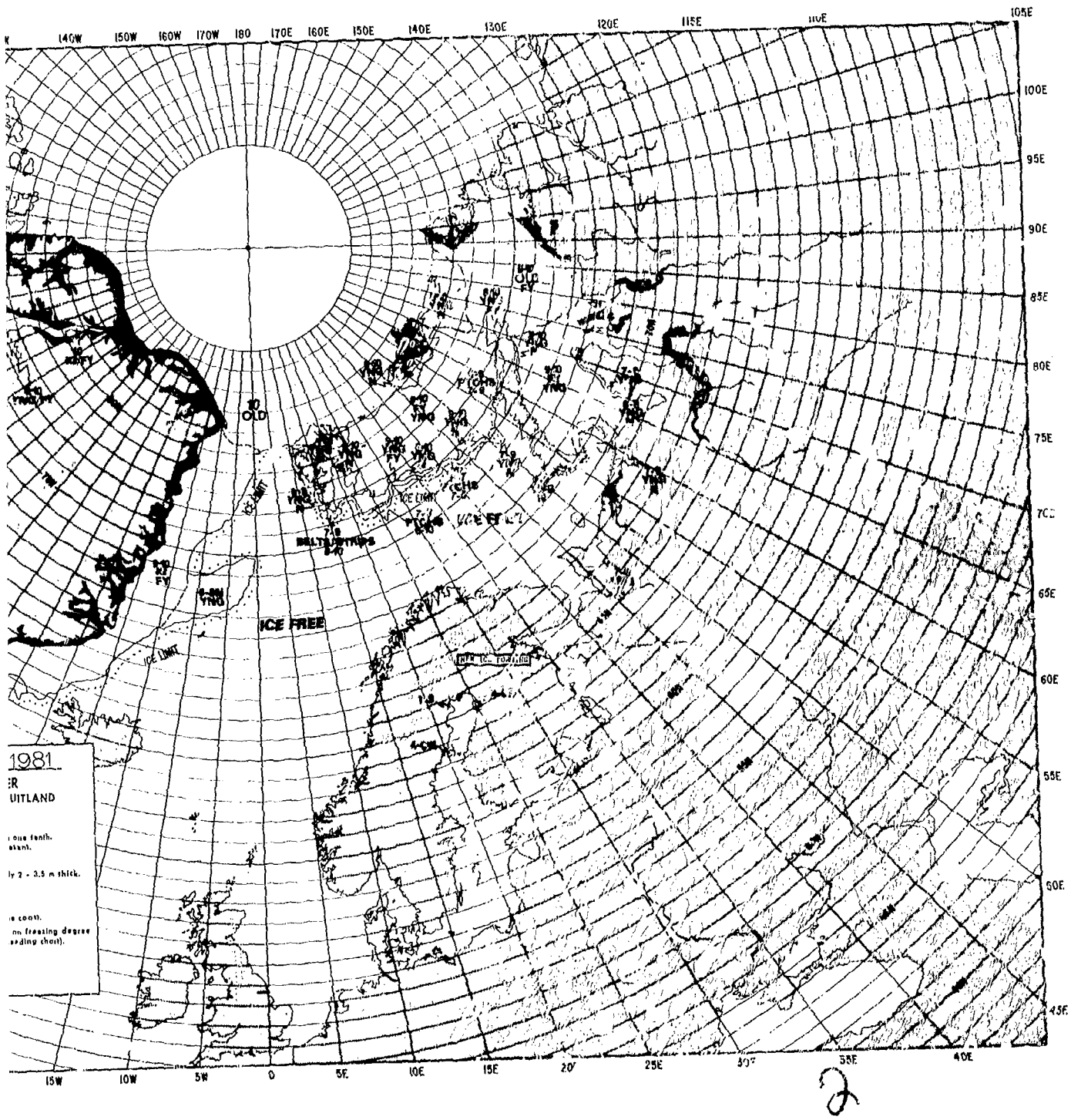
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25E
ICE FREE
NEW ICE FORMING
ICE LIMIT
SOUTHERN ICE LIMIT Ø1 DEC 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs, etc) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 10-tenthsest thickness of the season's growth (cm), based on freezing degree days (presented for Jan, day c, each month an first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
Forecast ice edge position.

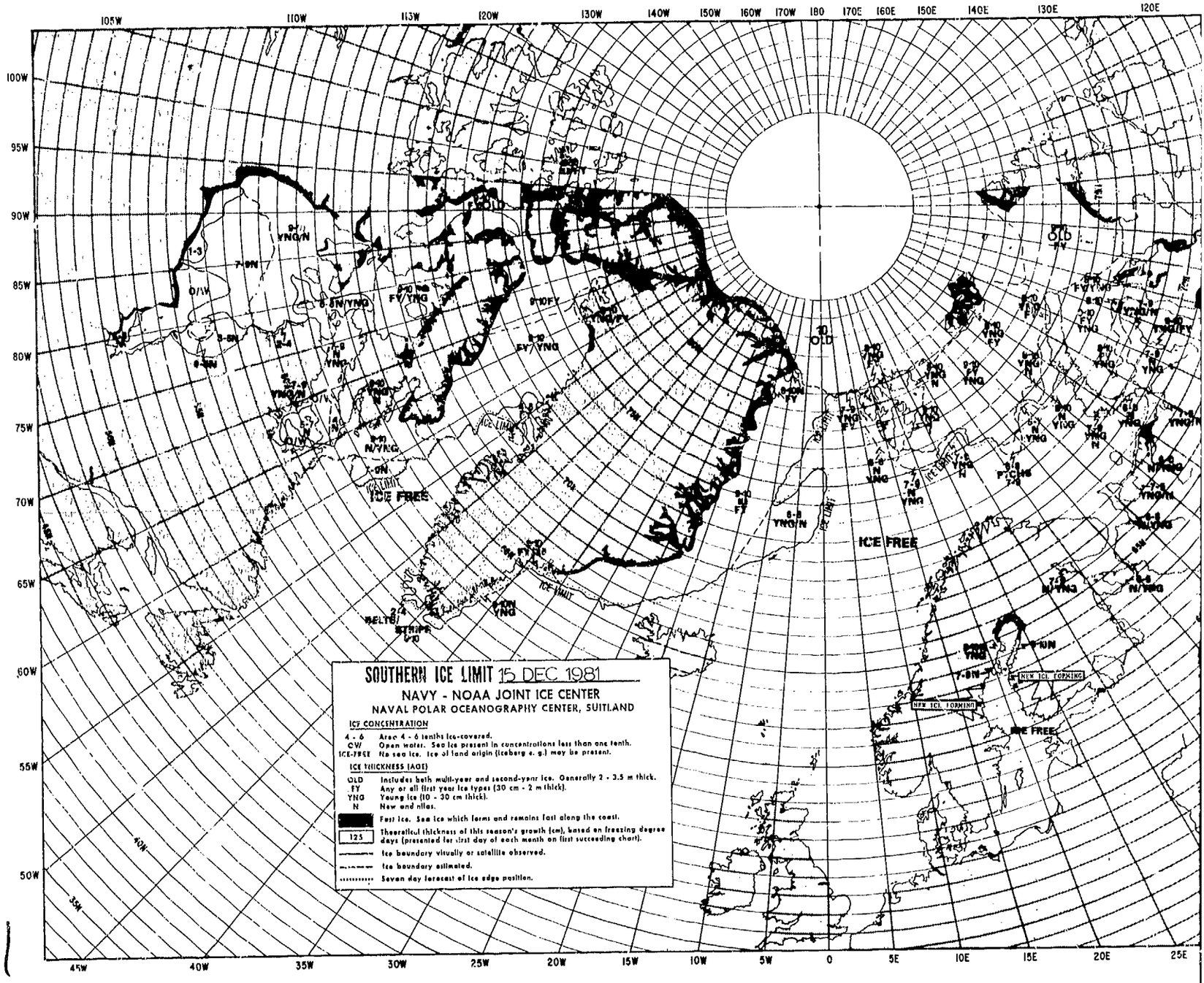

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ICE FREE
ICE LIMIT
NEW ICE FORMING
EC 1981
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may be present.
ice. Generally 2 - 3.5 m thick.
thick).
ast along the coast.
(cm), based on freezing degree
on first succeeding chart).

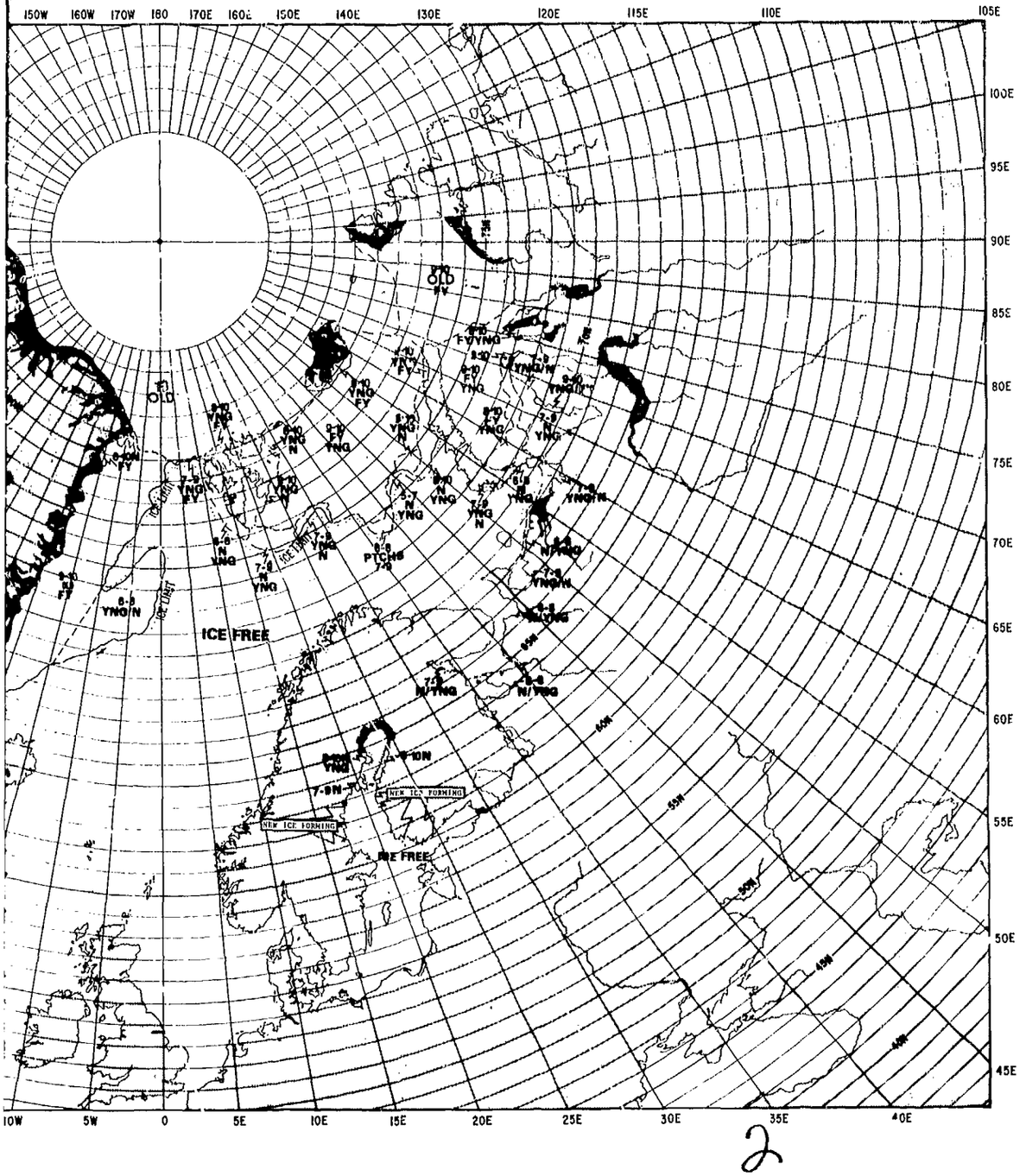
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ICE FREE
ICE LIMIT
SOUTHERN ICE LIMIT Ø8 DEC 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Ocean water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e.g.) may be present.
ICE THICKNESS (AOB)
OLD Includes both multi-year and second-y ar ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

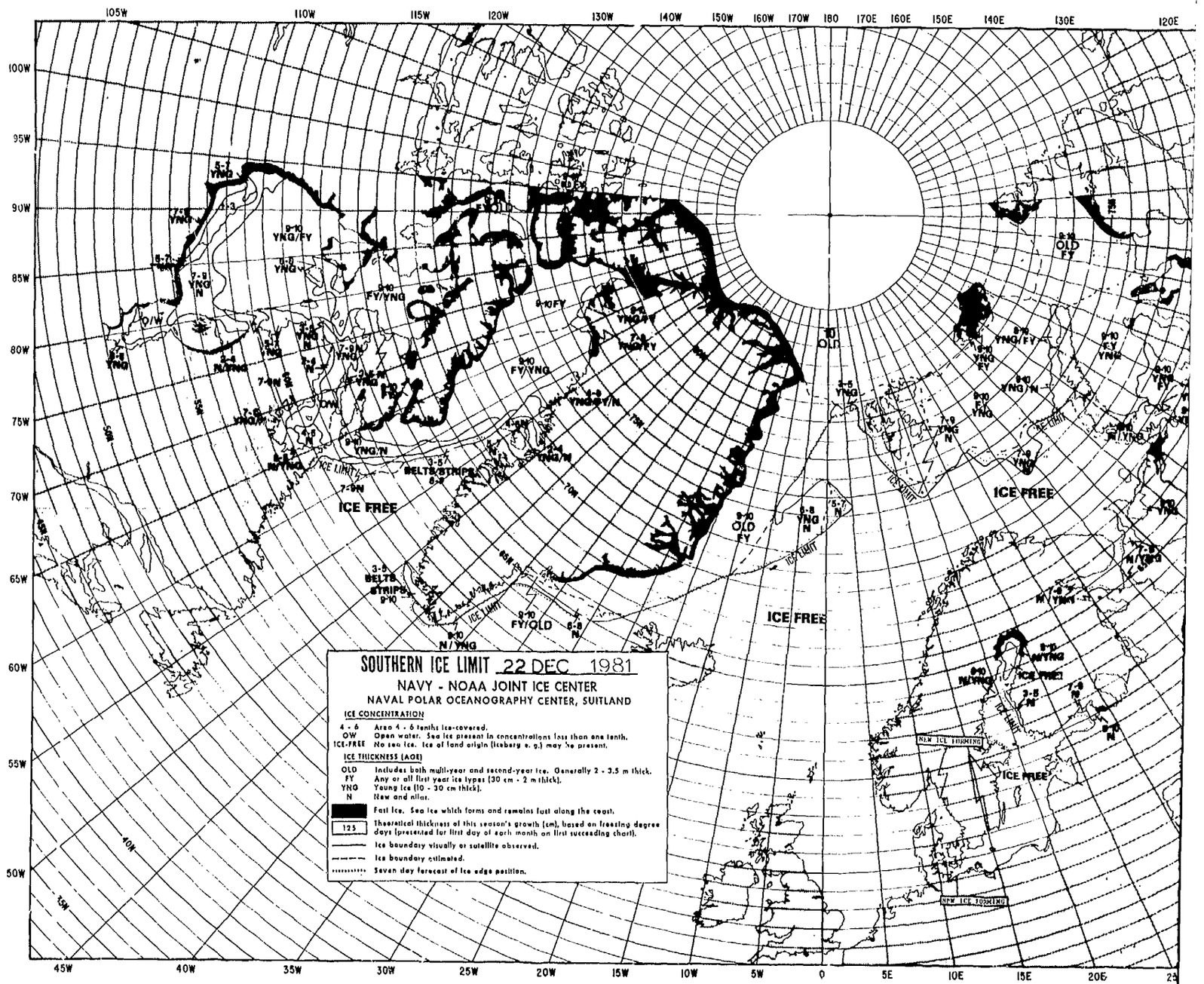

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15W
OLD
ICE FREE
ICE LIMIT
ICE EDGE
1981

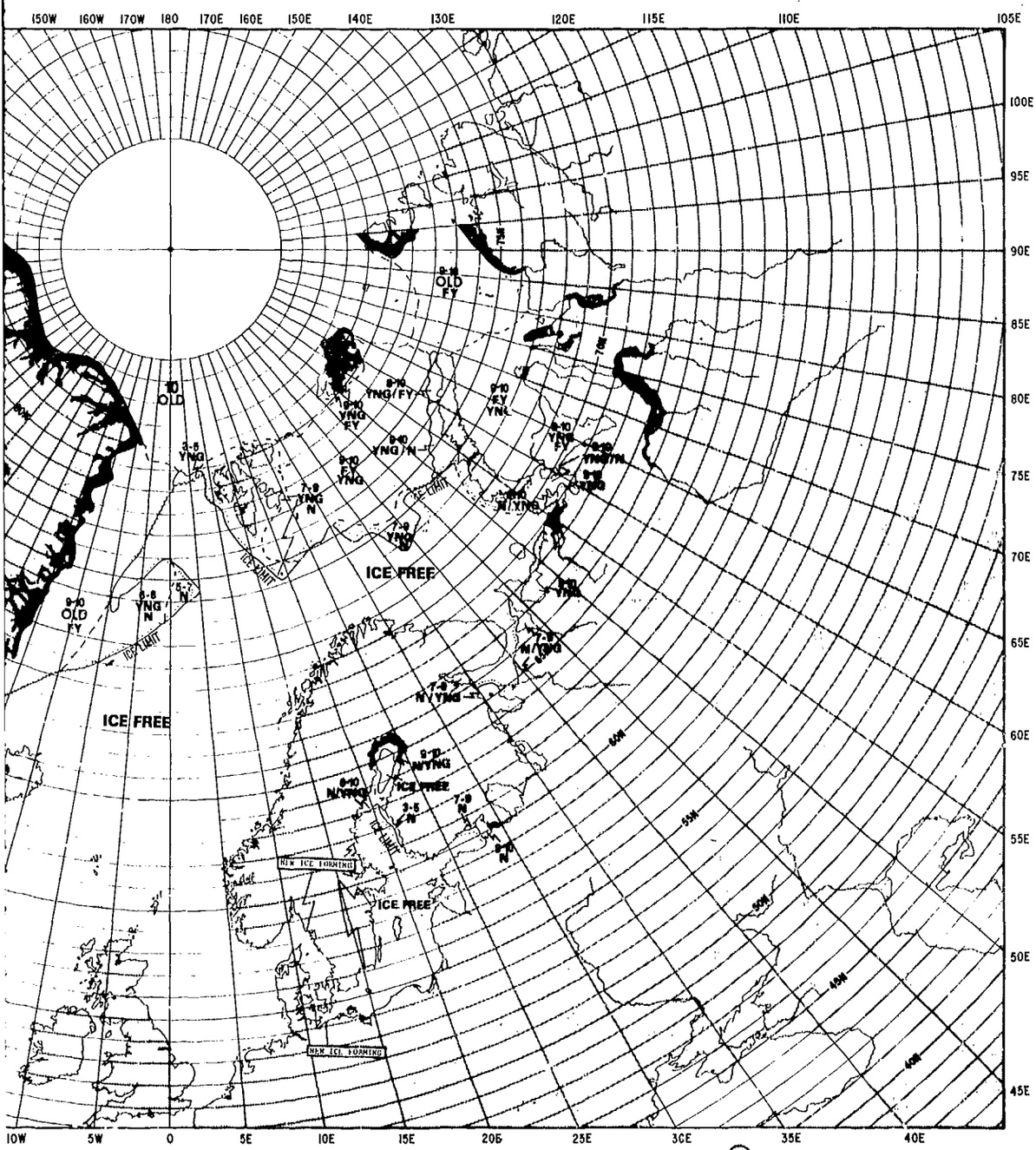
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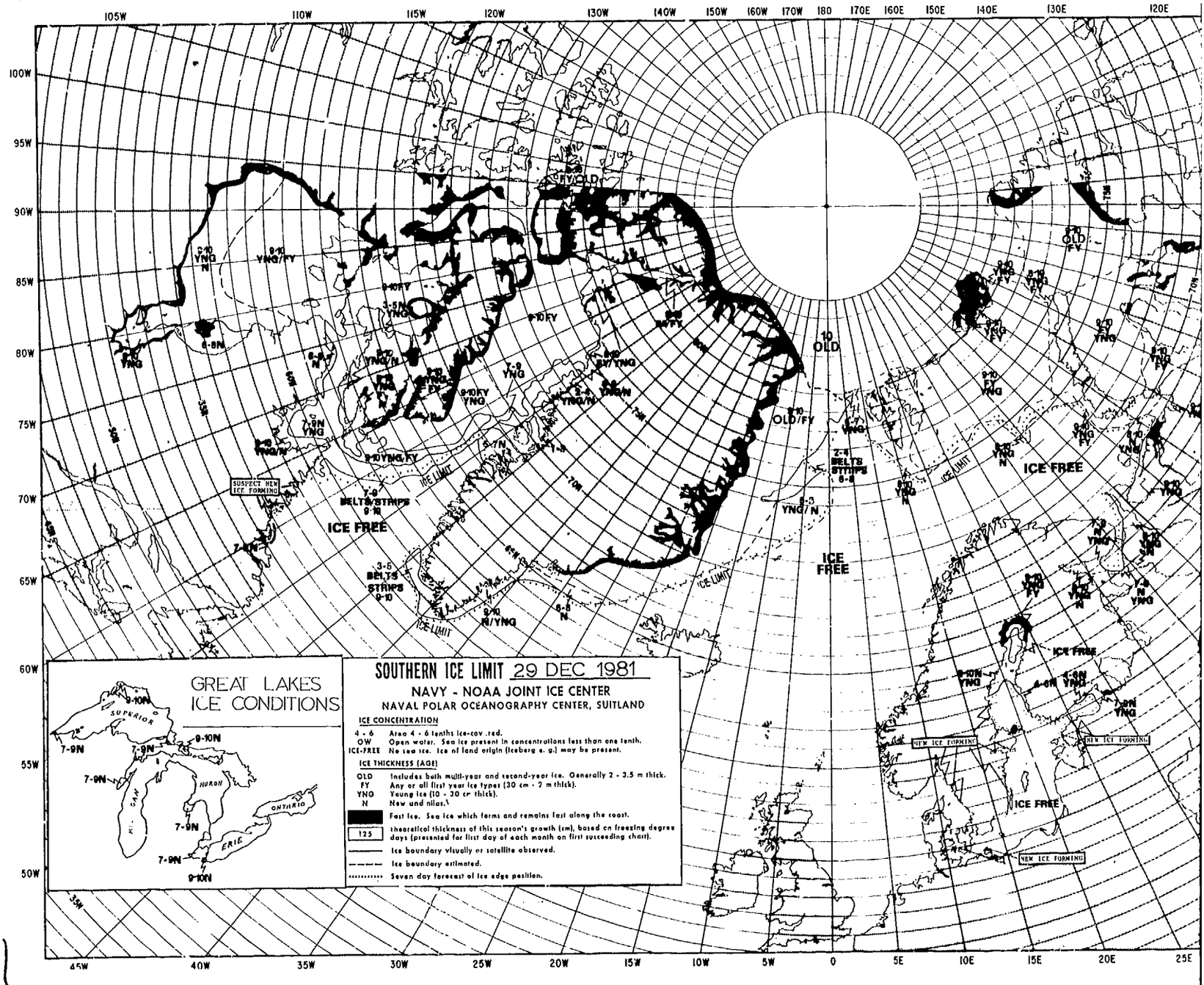

105W
110W
115W
120W
130W
140W
150W
160W
170W
180
170E
160E
150E
140E
130E
120E
100W
95W
90W
85W
80W
75W
70W
65W
60W
55W
50W
45W
40W
35W
30W
25W
20W
15W
10W
5W
0
5E
10E
15E
20E
25E
ICE FREE
ICE LIMIT
NEW ICE FORMING
SOUTHERN ICE LIMIT 15 DEC 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Areas 4 - 6 tenths ice-covered.
CW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary virtually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

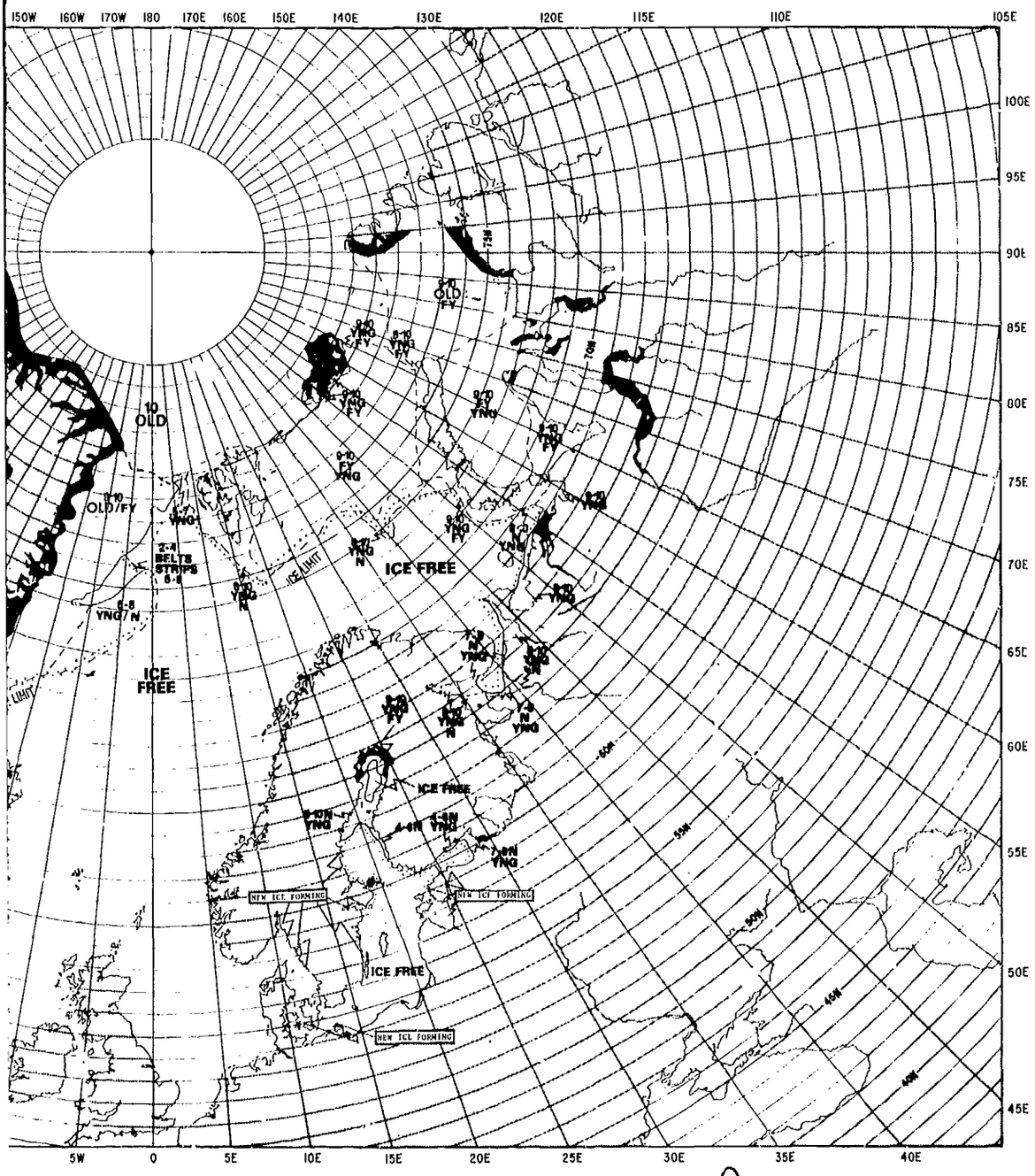

150W 160W 170W 180 170E 160E 150E 140E 130E 120E 115E 110E 105E
100E
95E
90E
85E
80E
75E
70E
65E
60E
55E
50E
45E
10W 5W 0 5E 10E 15E 20E 25E 30E 35E 40E
ICE FREE
ICE LIMIT
NEW ICE FORMING
NEW ICE FORMING
ICE FREE
OLD
OLD
60N
55N
50N
45N
40N

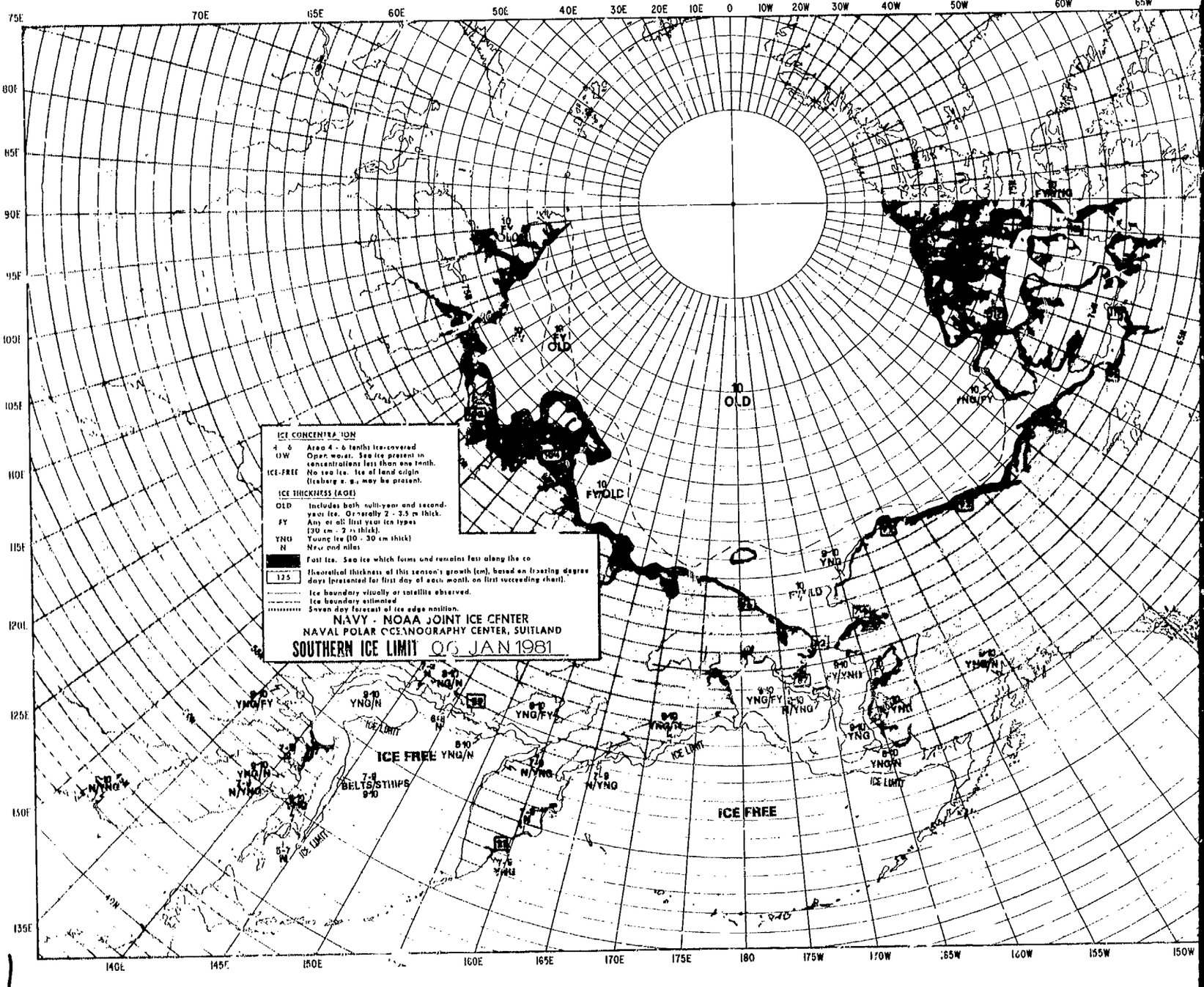
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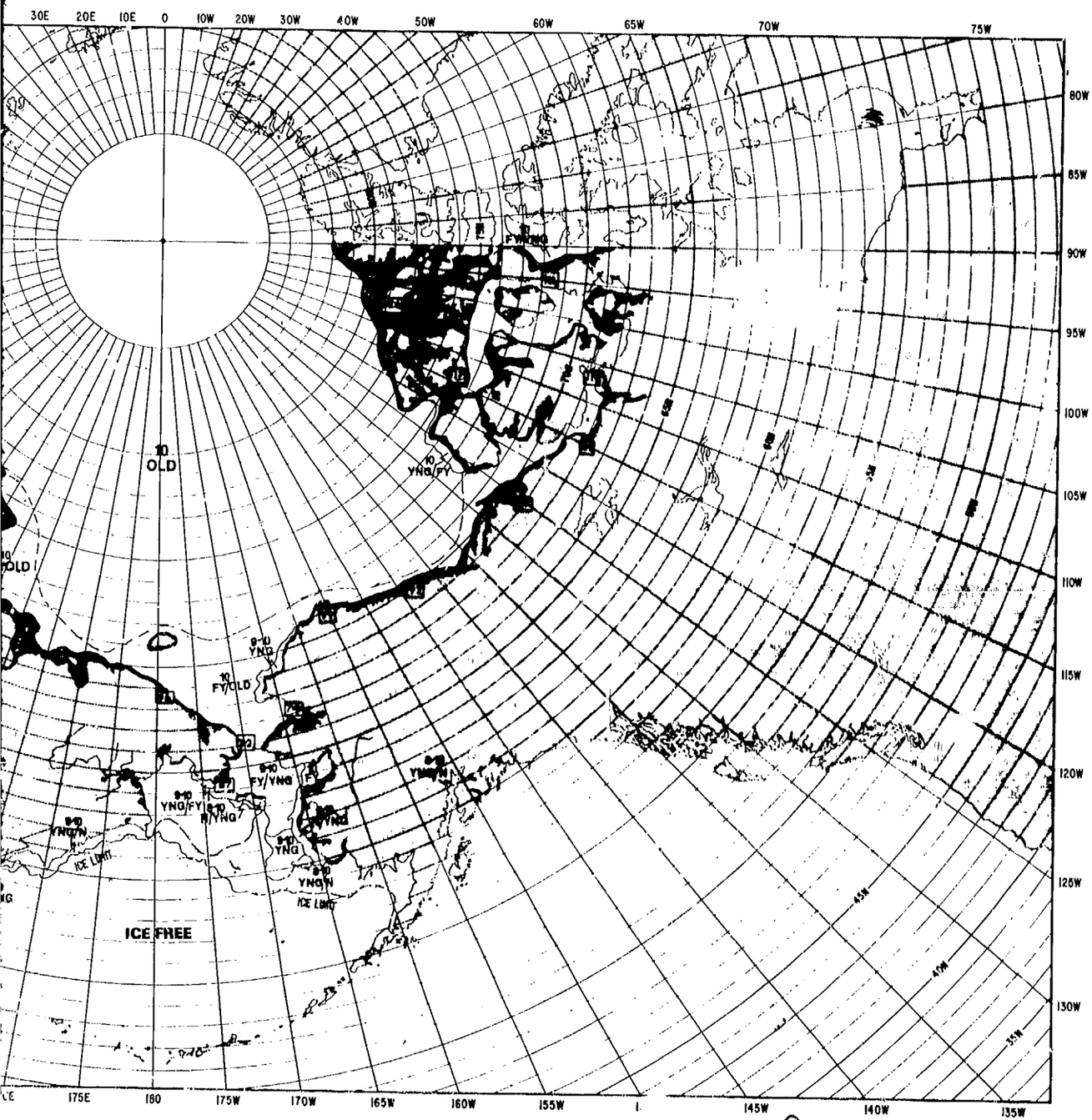

105W
110W
115W
120W
130W
140W
150W
160W
170W
180
170E
160E
150E
140E
130E
120E
100W
95W
90W
85W
80W
75W
70W
65W
60W
55W
50W
45W
40W
35W
30W
25W
20W
15W
10W
5W
0
5E
10E
15E
20E
ICE FREE
BELTS/STRIPS
ICE LIMIT
NEW ICE FORMING
SOUTHERN ICE LIMIT 22 DEC 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.


150W
160W
170W
180
170E
160E
150E
140E
130E
120E
115E
110E
105E
100E
95E
90E
85E
80E
75E
70E
65E
60E
55E
50E
45E
10W
5W
0
5E
10E
15E
20E
25E
30E
35E
40E
ICE FREE
ICE FREE
ICE FREE
ICE FREE
NEW ICE FORMING
NEW ICE FORMING
ICE LIMIT
ICE LIMIT
ICE LIMIT
ICE LIMIT
9-10 OLD FY
9-10 YNG/FY
9-10 YNG FY
9-10 FY YNG
9-10 YNG/N
9-10 FY YNG
9-10 FY YNG
9-10 YNG/FY
9-10 N/YNG
9-10 N/YNG
9-10 N/YNG

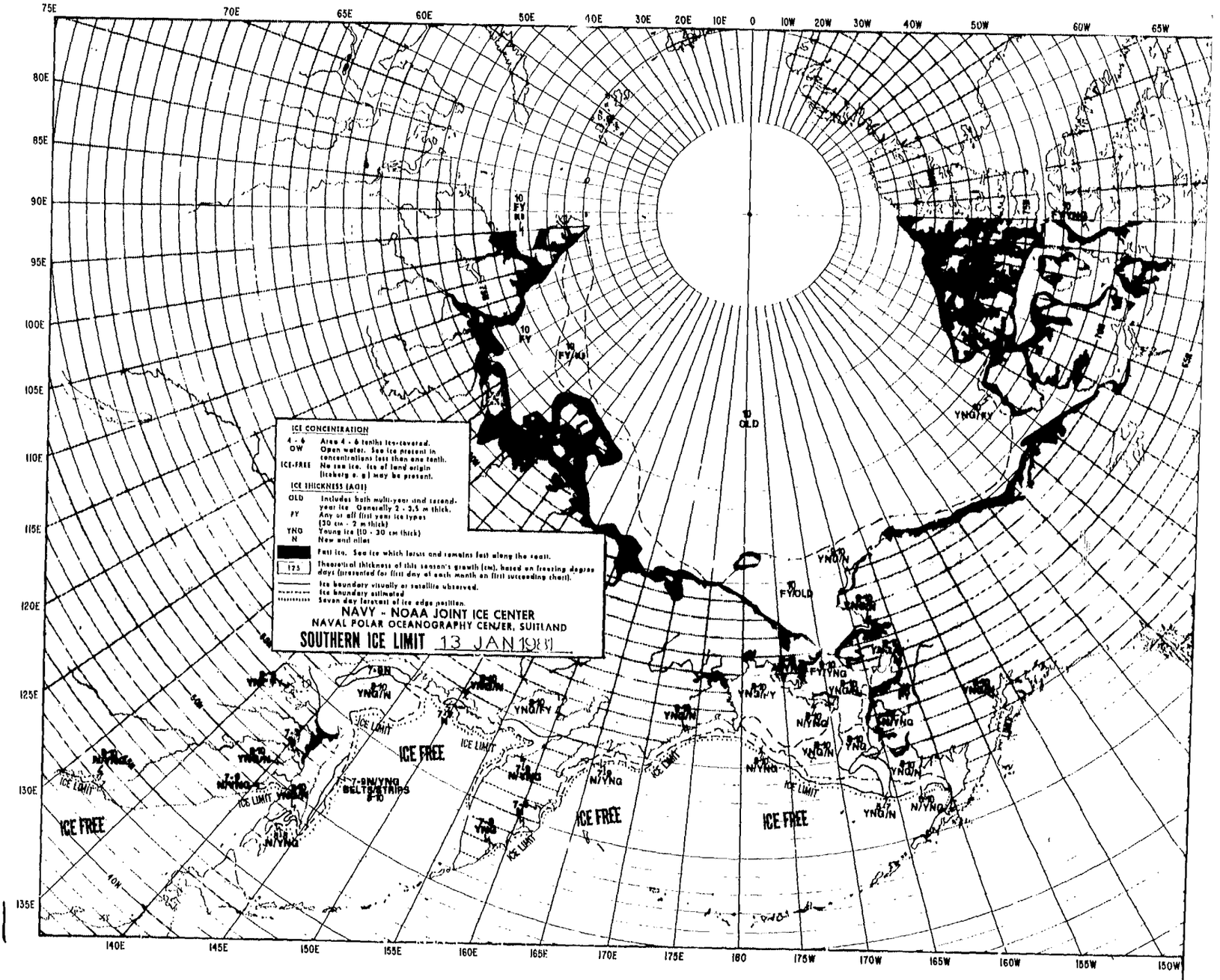

105W
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150W
160W
170W
180
170E
160E
150E
140E
130E
120E
100W
95W
90W
85W
80W
75W
70W
65W
60W
55W
50W
45W
40W
35W
30W
25W
20W
15W
10W
5W
0
5E
10E
15E
20E
25E
ICE FREE
ICE LIMIT
SUSPECT NEW ICE FORMING
NEW ICE FORMING
7-9 BELTS/STRIPS 9-10
3-6 BELTS STRIPS 9-10
2-4 BELTS STRIPS 6-8
GREAT LAKES ICE CONDITIONS
SUPERIOR
HURON
MICH.
ONTARIO
ERIE
SOUTHERN ICE LIMIT 29 DEC 1981
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-cov ..red.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cr thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.

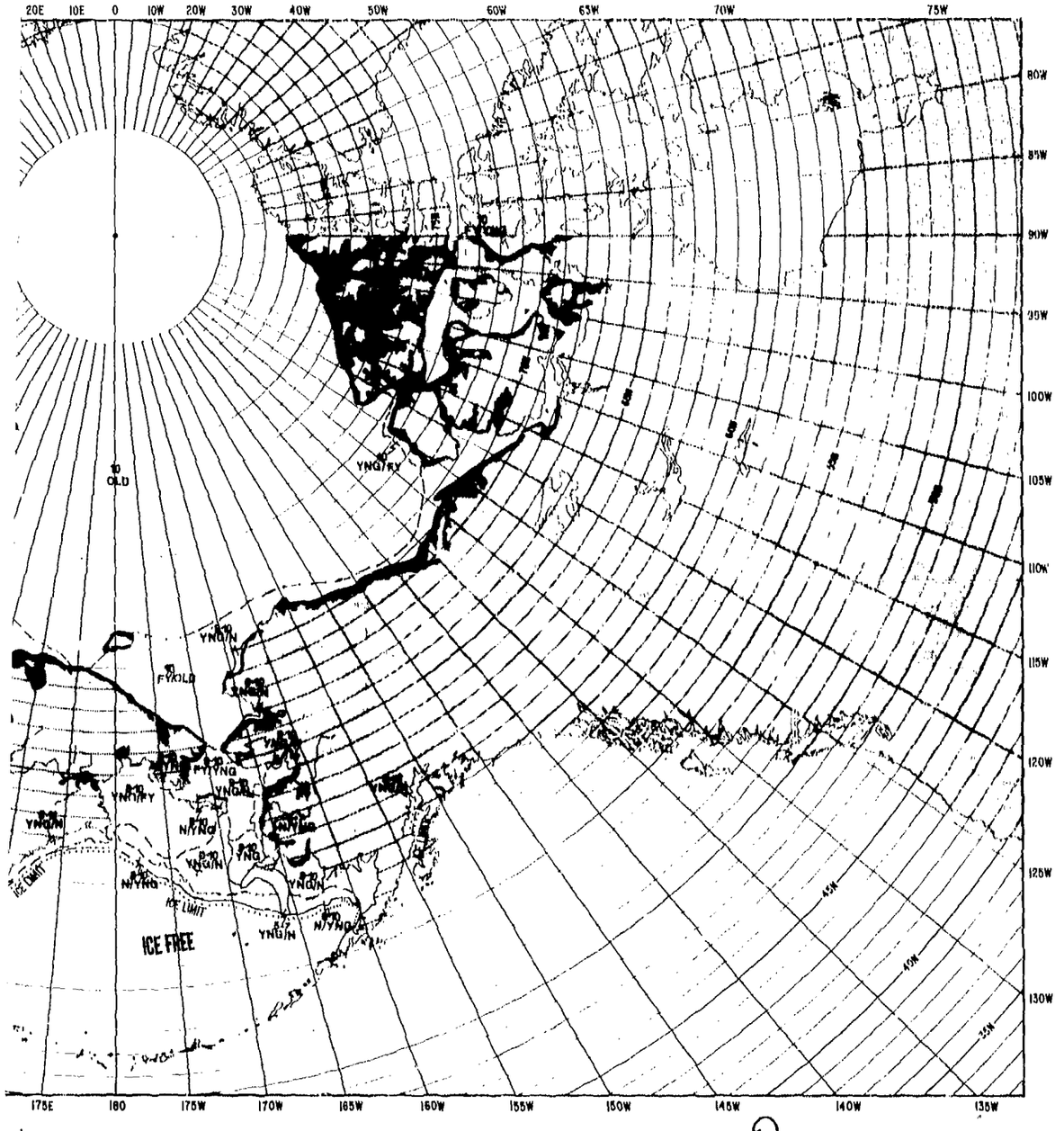

150W
160W
170W
180
170E
160E
150E
140E
130E
120E
115E
110E
105E
100E
95E
90E
85E
80E
75E
70E
65E
60E
55E
50E
45E
5W
0
5E
10E
15E
20E
25E
30E
35E
40E
ICE FREE
ICE LIMIT
NEW ICE FORMING
OLD
OLD/FY
YNG
FY
2-4 BELTS STRIPS
ICE FREE
ICE FREE
ICE FREE
NEW ICE FORMING
NEW ICE FORMING


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g., may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice. Sea ice which forms and remains fast along the co
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month, on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 06 JAN 1981
ICE FREE
ICE FREE YNG/N
BELTS/STRIPS
ICE LIMIT
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

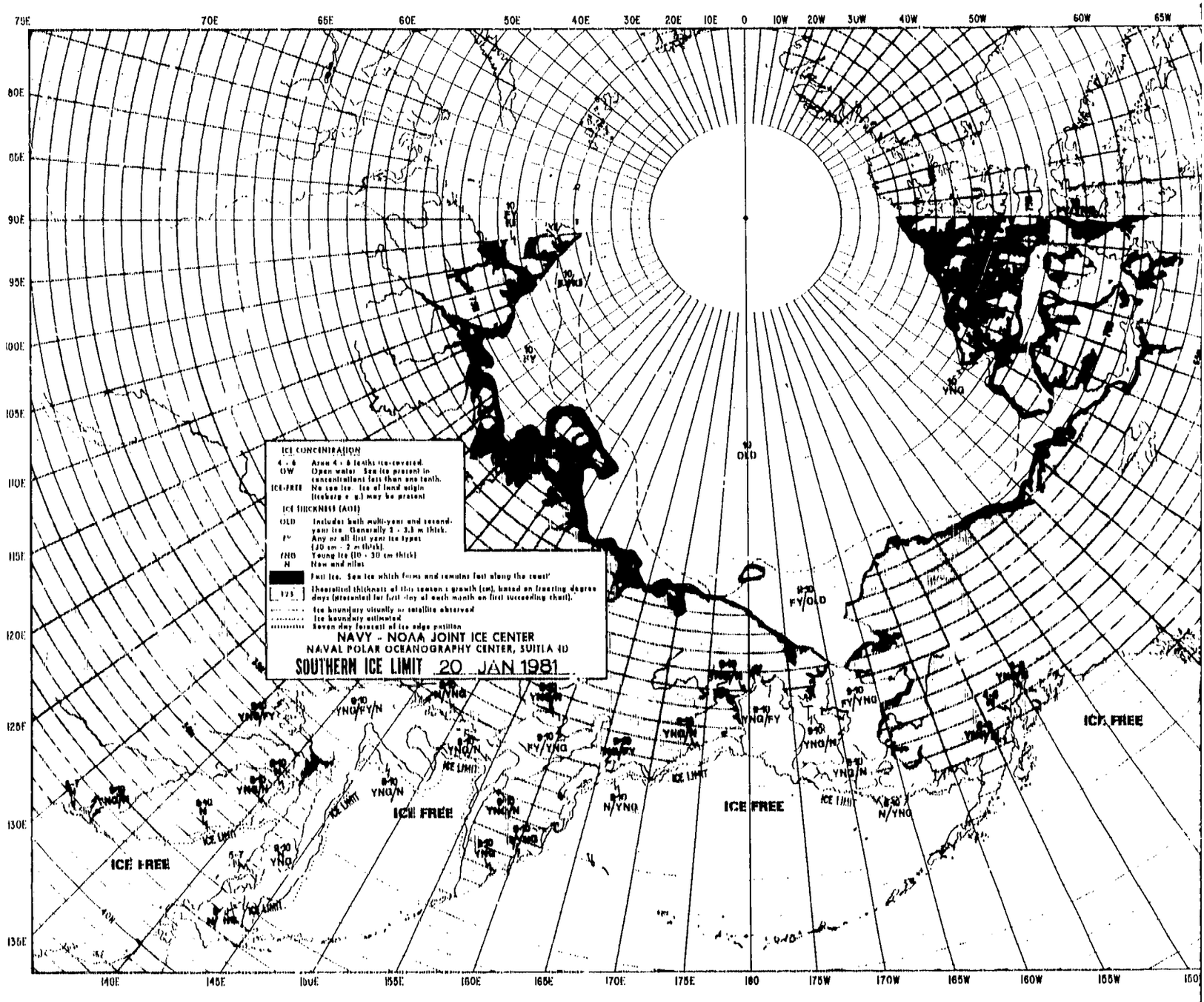

30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
10 OLD
10 YNG/FY
9-10 YNG
10 FY/OLD
9-10 FY/YNG
9-10 YNG/FY
9-10 YNG
9-10 YNG/W
ICE LIMIT
ICE FREE
45N
40N
35N

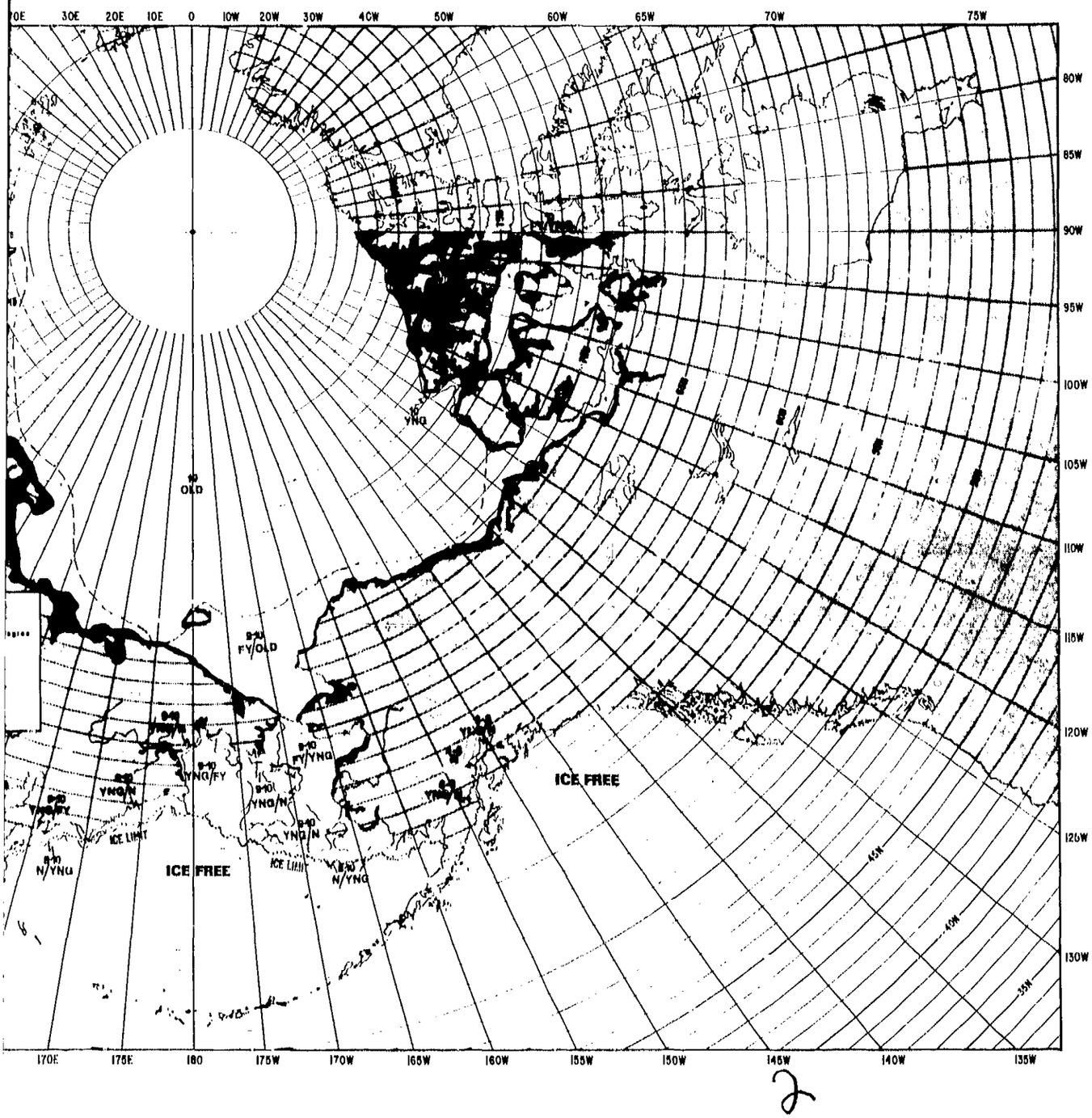
2


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick)
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice. Sea ice which forms and remains fast along the coast.
175 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 13 JAN 1981
ICE FREE
ICE LIMIT
7-9N/YNG
BELTS & STRIPS
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

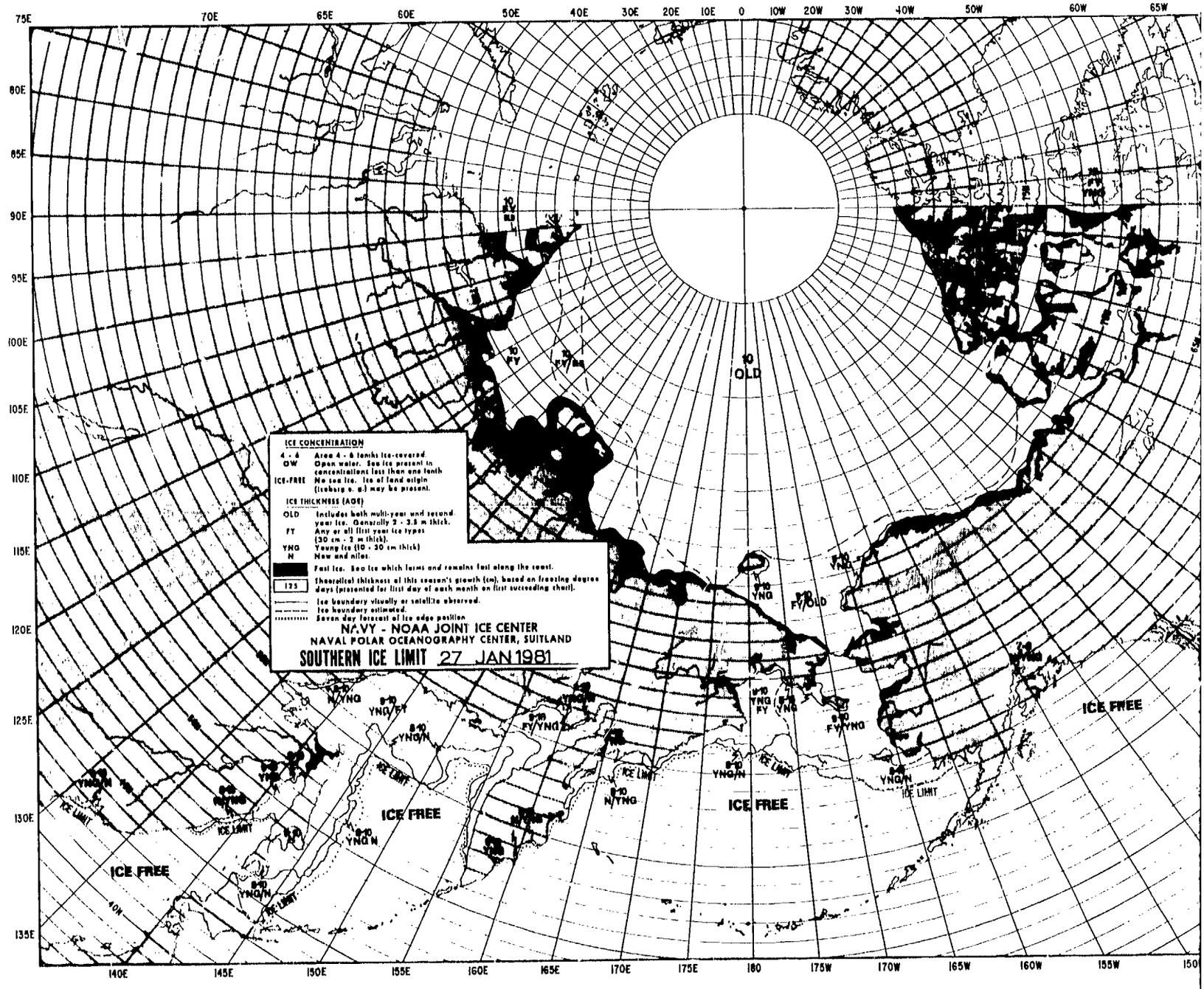

20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
45N
40N
35N
OLD
FYKOLD
YNG/KY
YNG/N
YNG
N/YNG
ICE LIMIT
ICE FREE

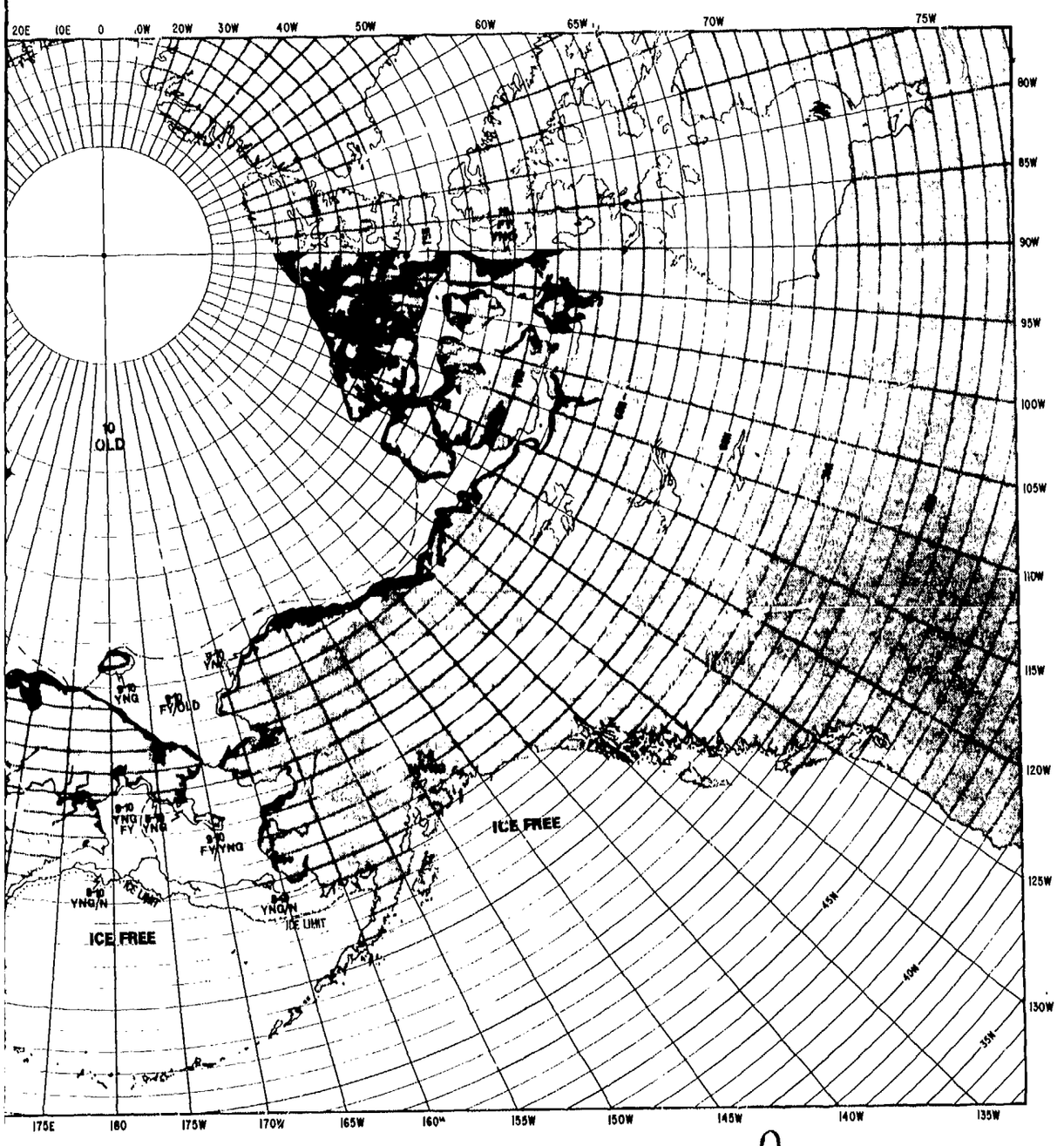
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ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
FYO Young ice (10 - 30 cm thick)
N New and nilas
Fast Ice. Sea ice which forms and remains fast along the coast
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLA MD
SOUTHERN ICE LIMIT 20 JAN 1981
ICE FREE
ICE LIMIT

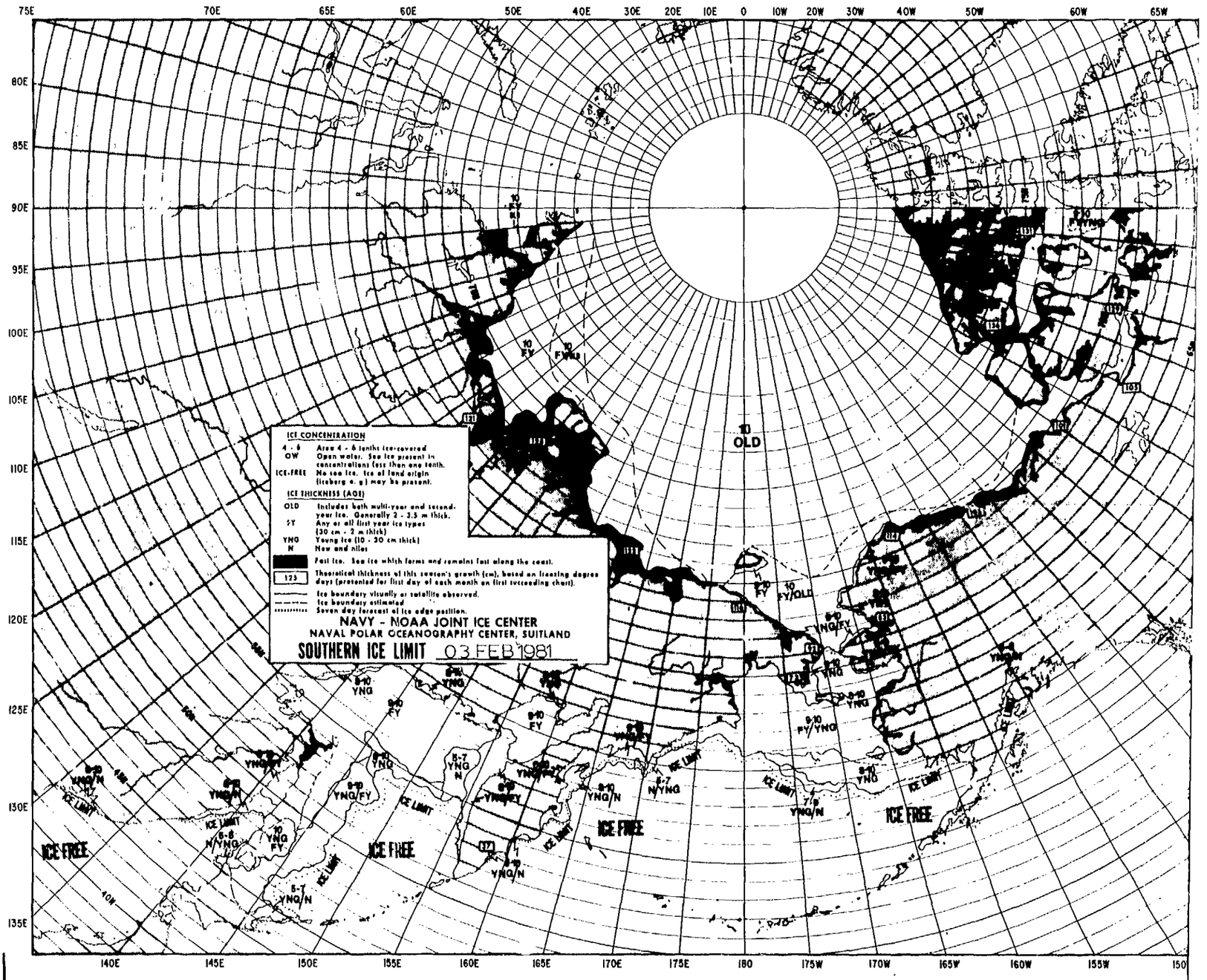

70E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
OLD
YNG
FY/OLD
FY/YNG
YNG/FY
YNG/N
N/YNG
ICE LIMIT
ICE FREE
ICE FREE
45N
40N
35N

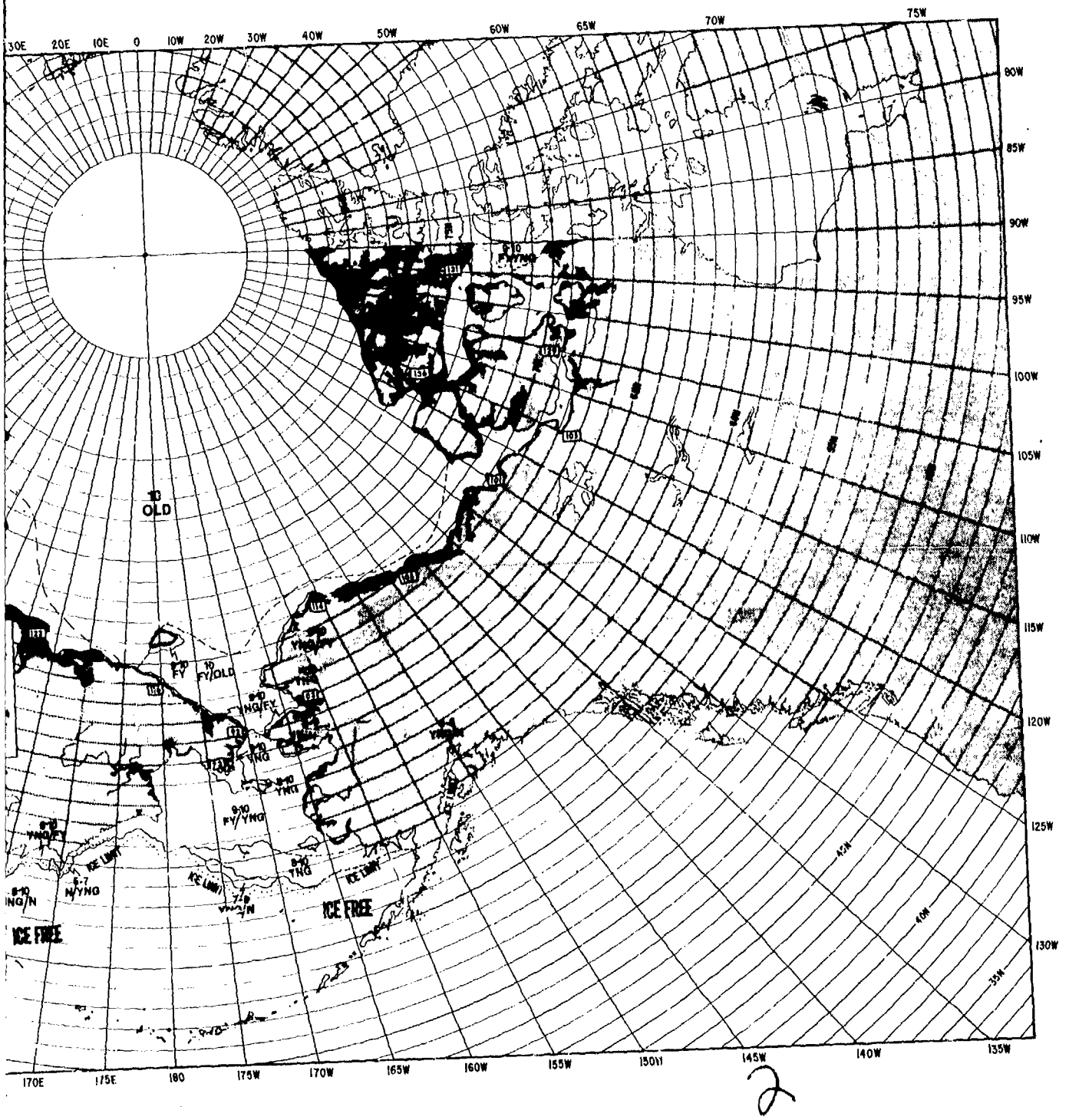
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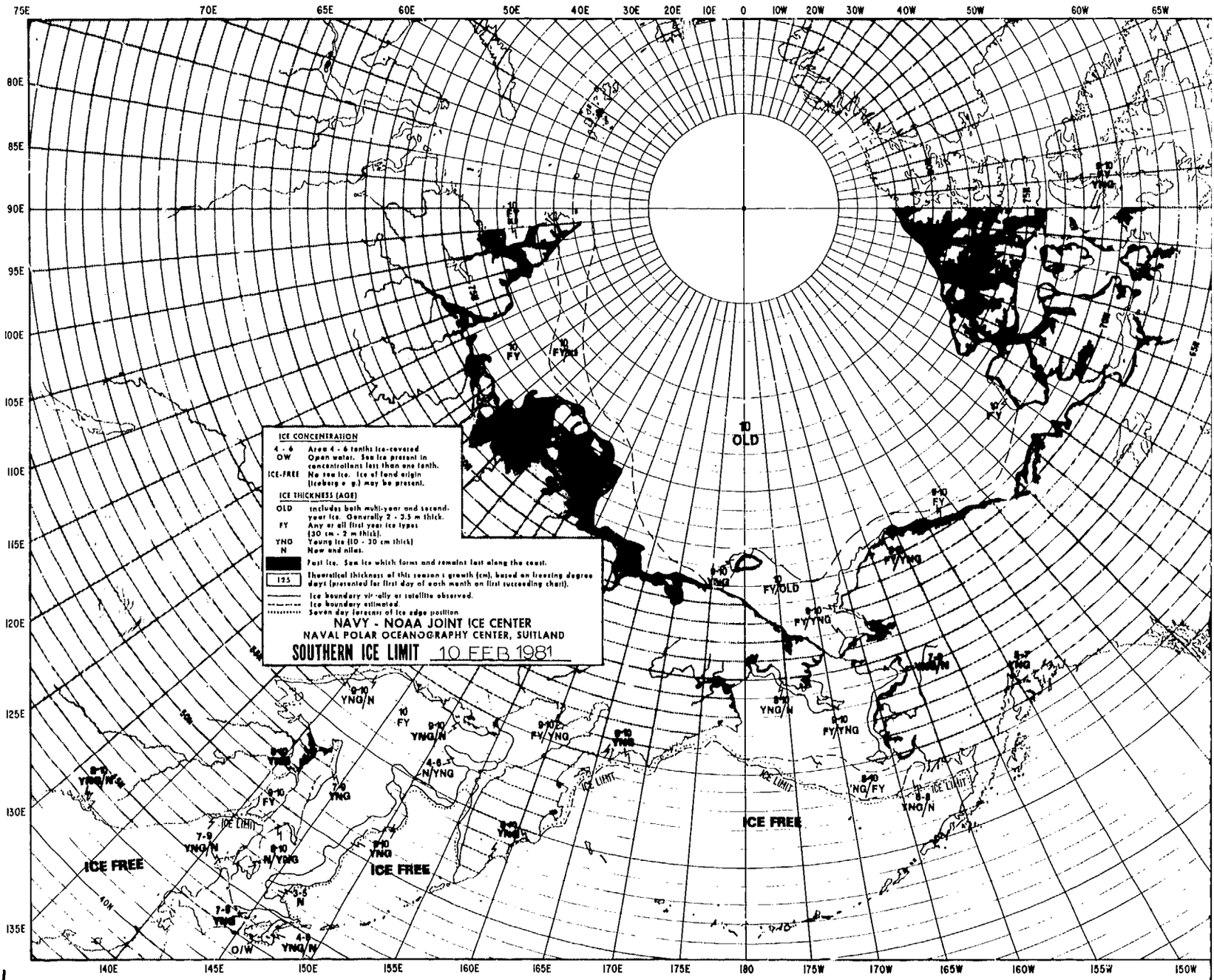

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 27 JAN 1981
ICE FREE
ICE FREE
ICE FREE
ICE FREE
ICE LIMIT
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
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170E
175E
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175W
170W
165W
160W
155W
150

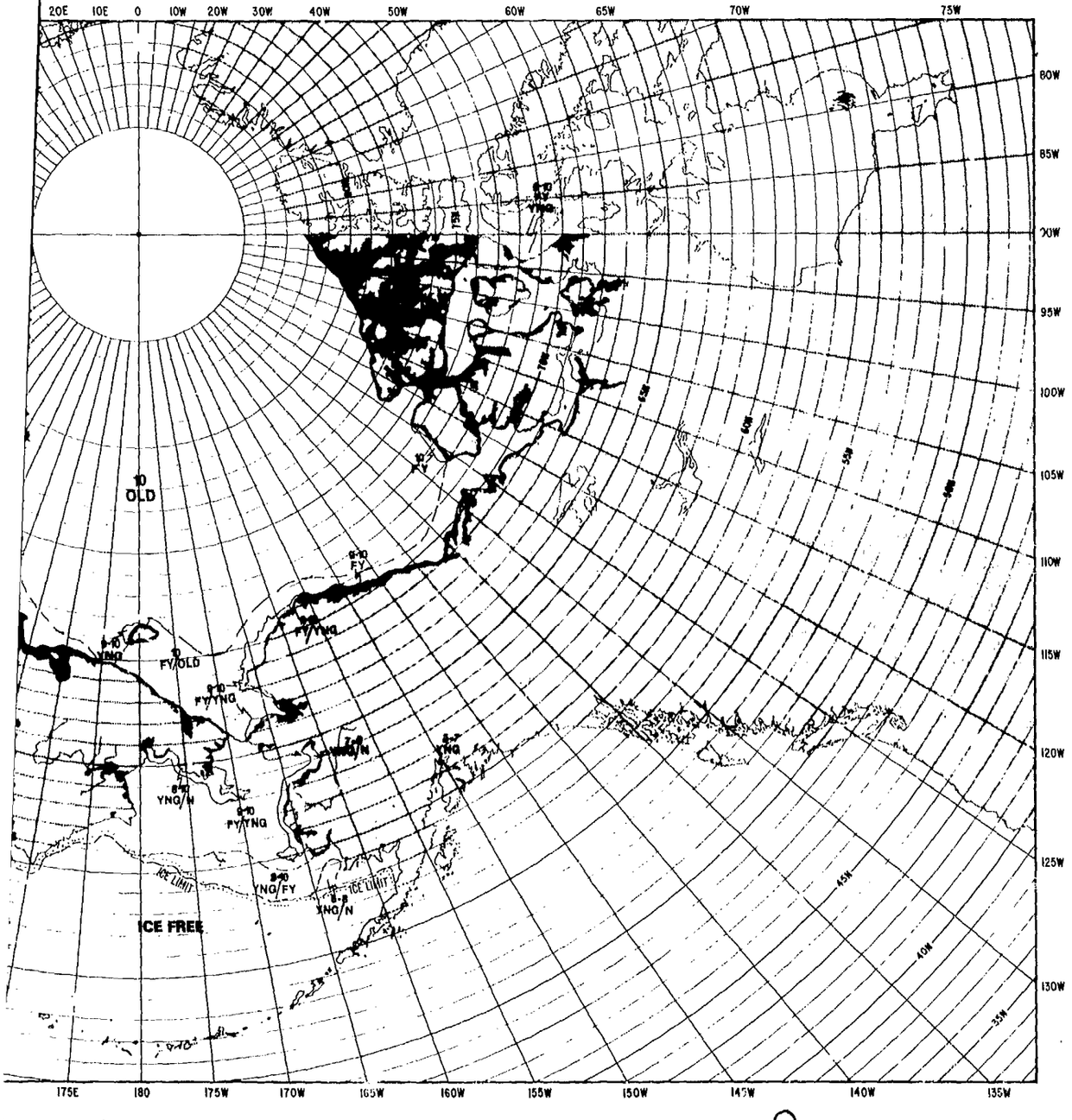

20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
10
OLD
9-10
YNG
9-10
FY/OLD
9-10
YNG
FY
9-10
FY/YNG
9-10
YNG/N
ICE LIMIT
ICE FREE
ICE FREE
45N
40N
35N

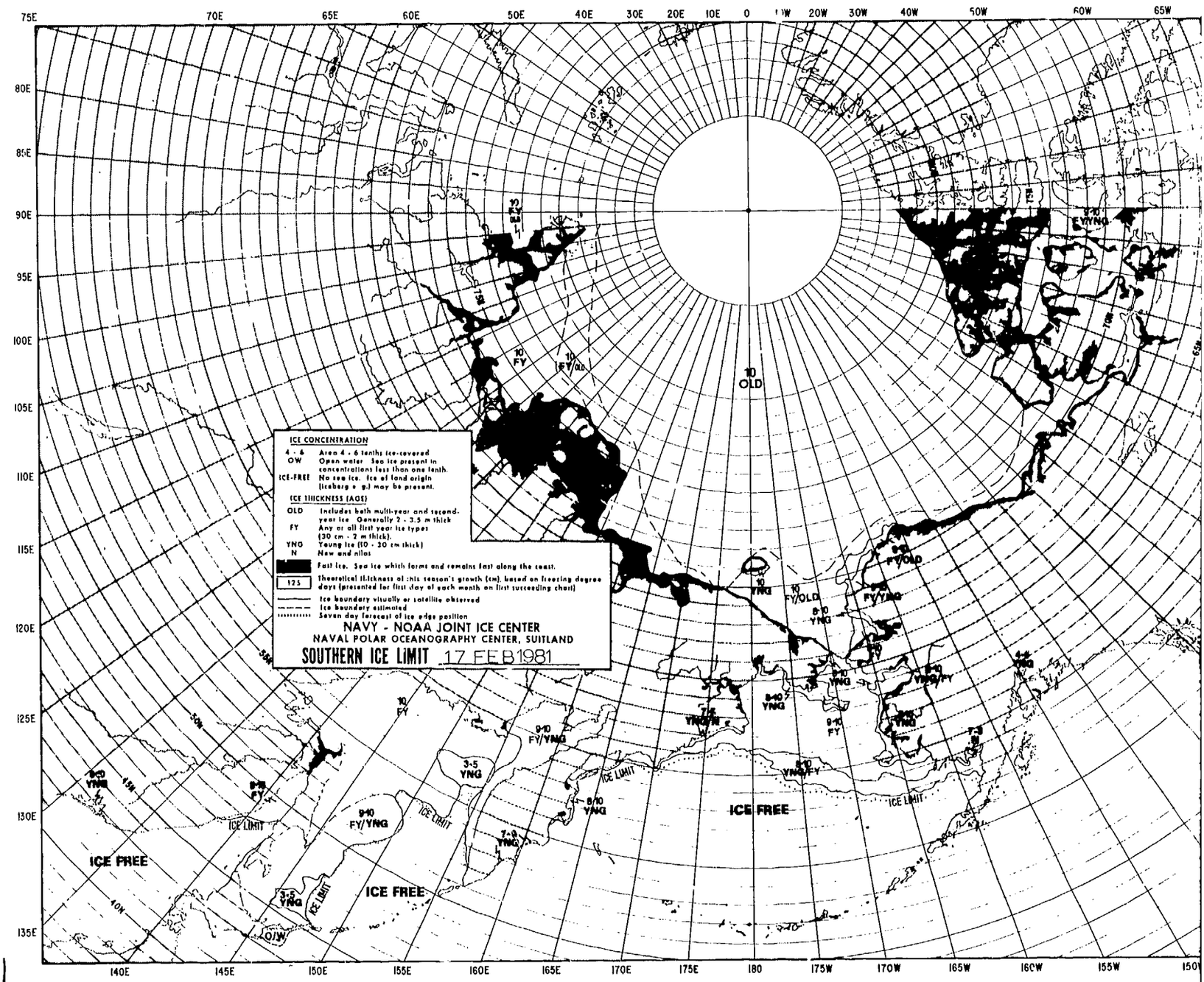
2

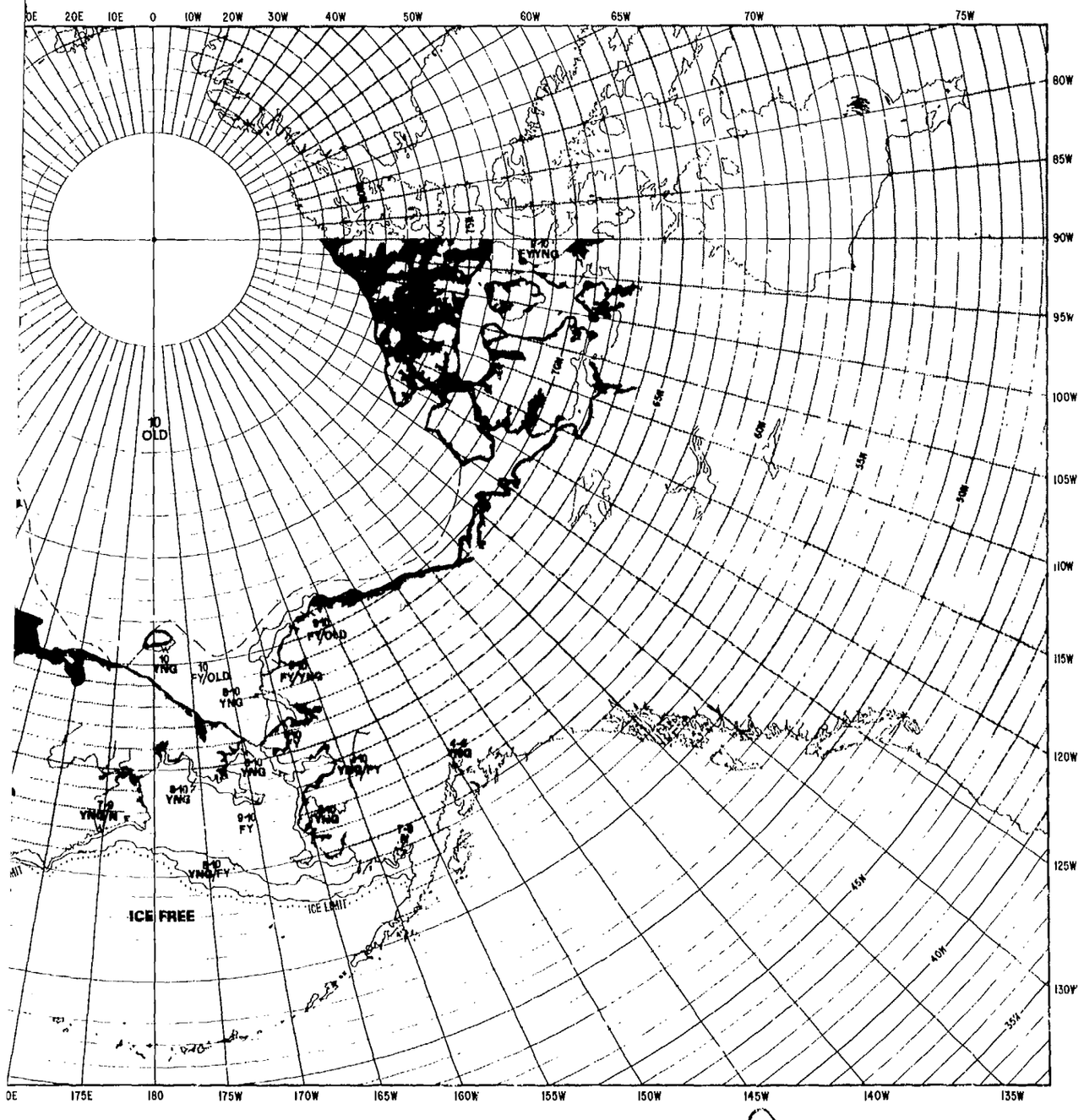

75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick)
YNG Young ice (10 - 30 cm thick)
N New and nilas
Past Ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (pretended for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 03 FEB 1981
OLD
ICE FREE
ICE FREE
ICE FREE
ICE FREE
ICE LIMIT
40W


30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
OLD
FY/OLD
YNG/FY
YNG
FY/YNG
N/YNG
YNG/N
ICE FREE
ICE LIMIT
40N
45N
35N

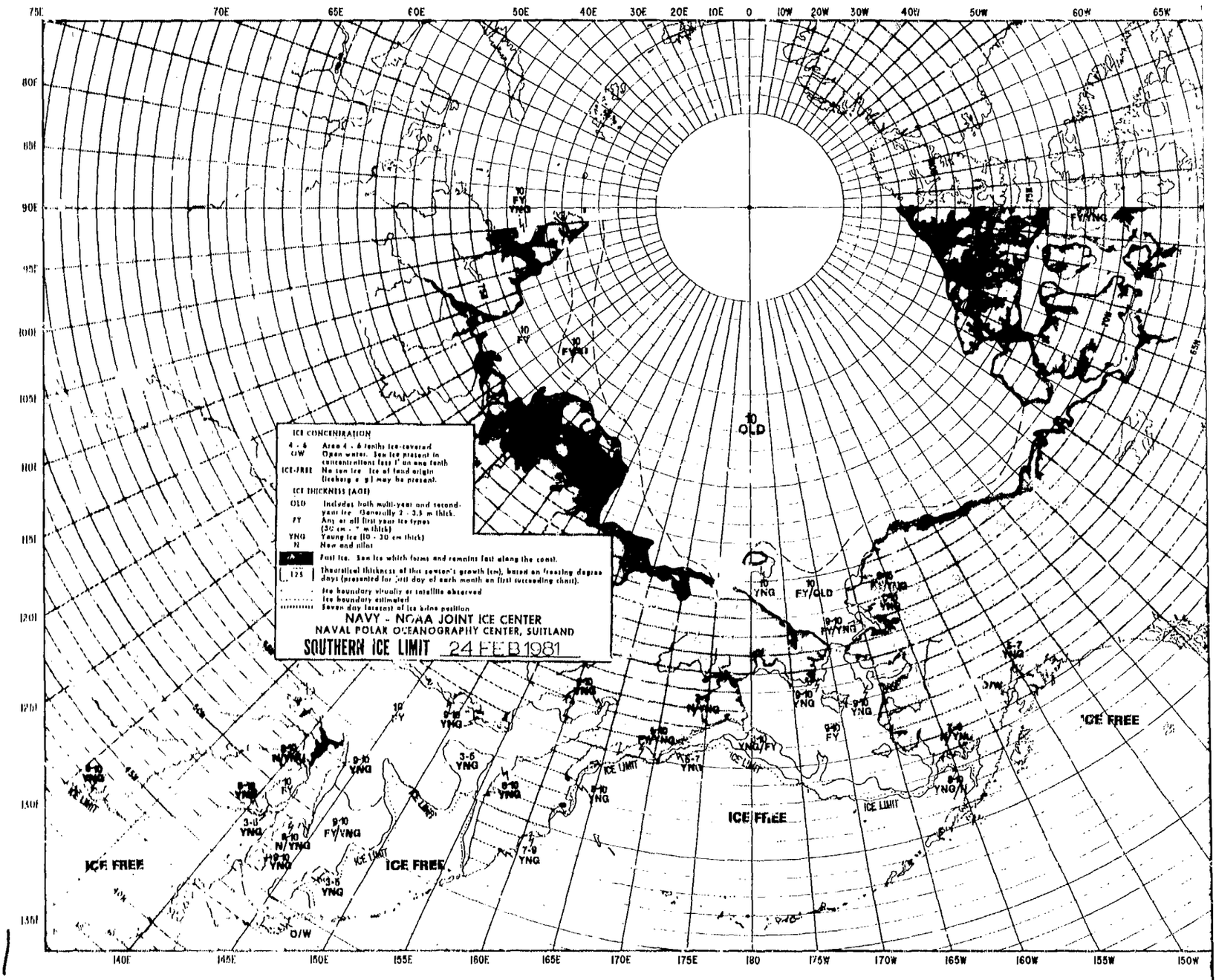

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e g.) may be present.
ICE THICKNESS (AGE)
OLD includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
135 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 10 FEB 1981
ICE FREE
ICE LIMIT
OLD
FY
YNG
N
O/W

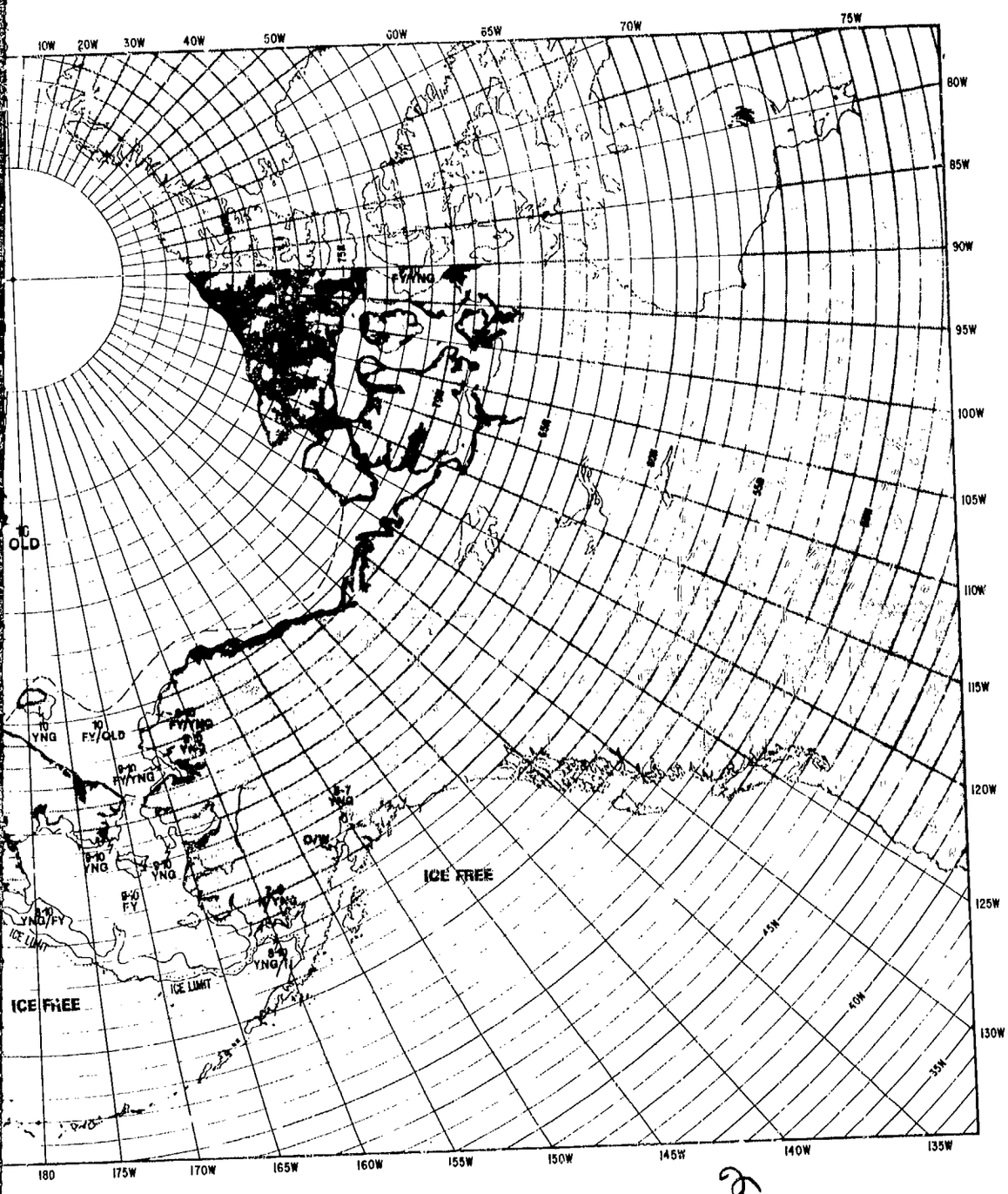

20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
10
OLD
9-10
FY
9-10
YNG
10
FY/OLD
9-10
FY/YNG
9-10
YNG/N
9-10
YNG/FY
ICE LIMIT
ICE FREE
45N
40N
35N

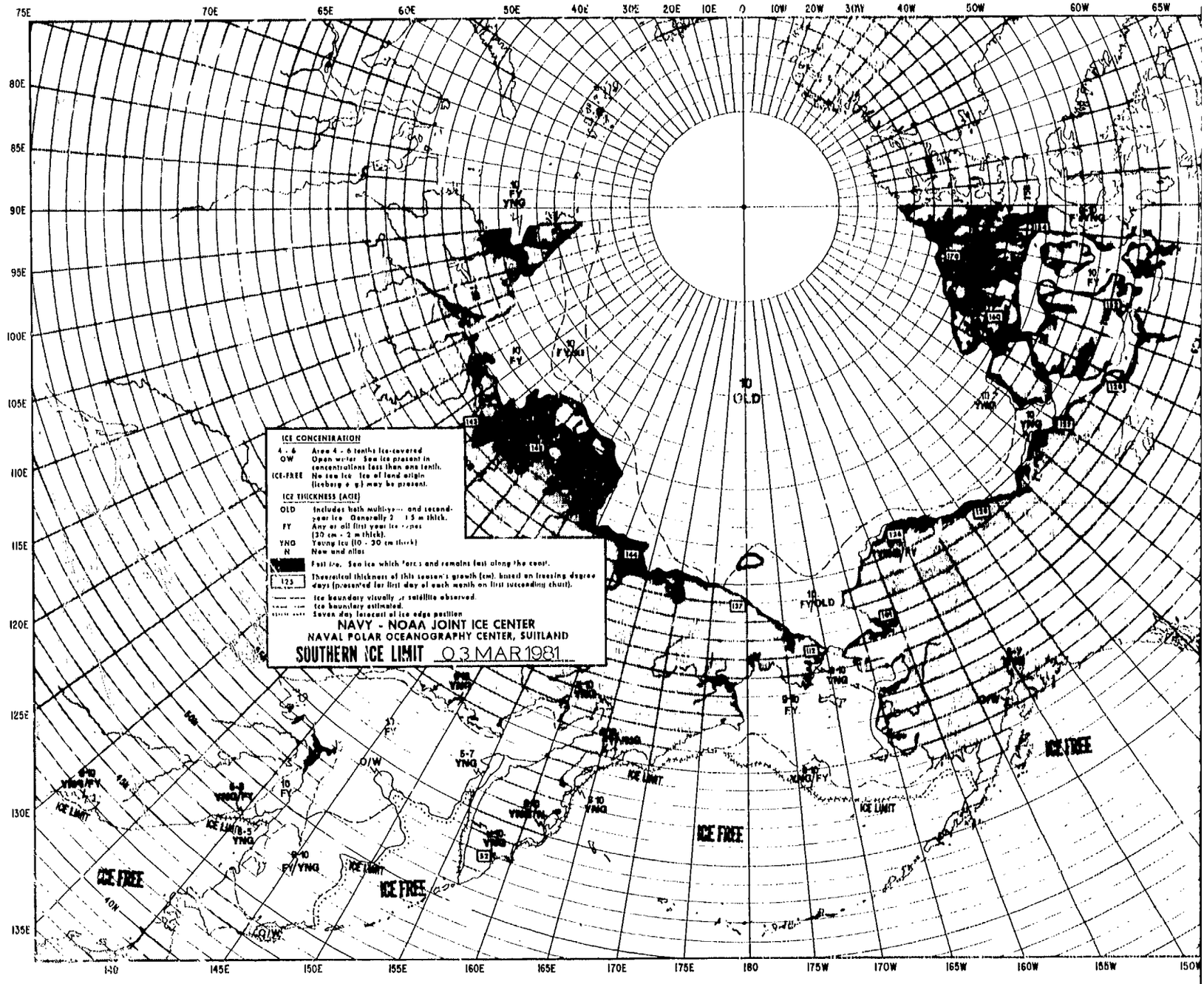

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice Generally 2 - 3.5 m thick
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 17 FEB 1981
ICE FREE
ICE LIMIT
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
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165E
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175E
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175W
170W
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160W
155W
150

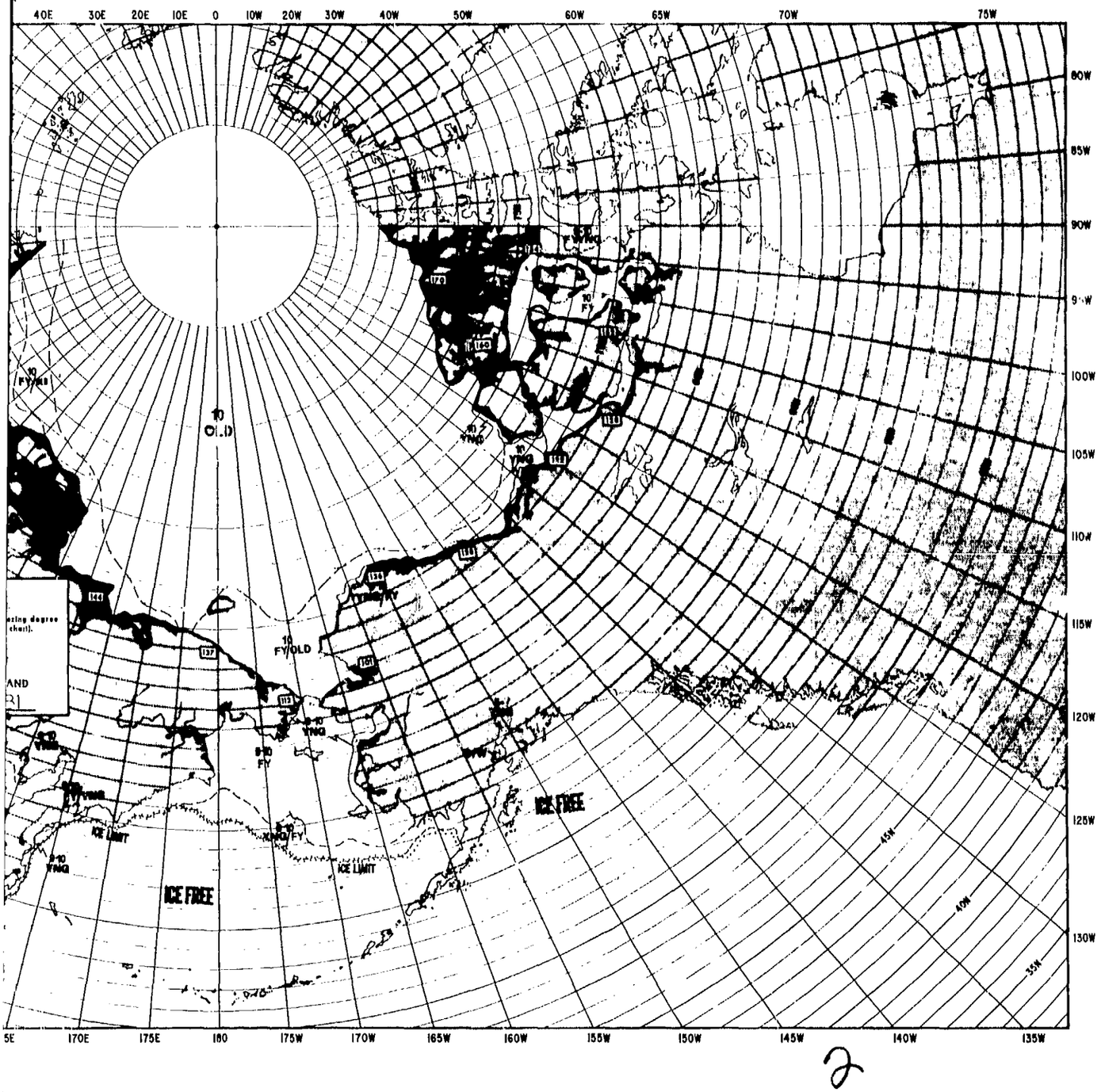

20E
10E
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75W
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100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
10
OLD
10
YNG
10
FY/OLD
9-10
YNG
9-10
FY/YNG
9-10
FY/OLD
9-10
FY/YNG
9-10
YNG
9-10
FY
9-10
YNG/FY
ICE FREE
ICE LIMIT

2

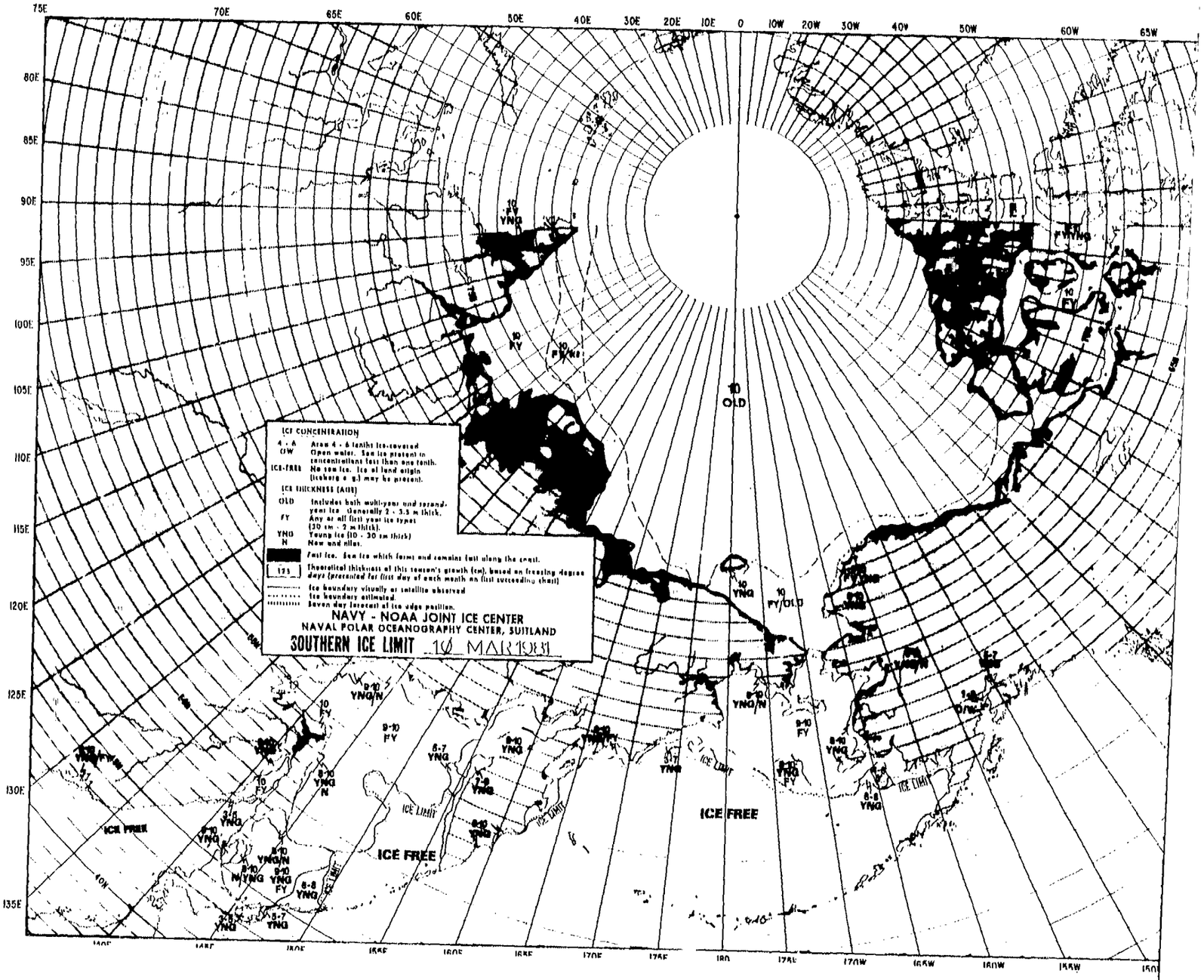

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less 1/ on one tenth
ICE-FREE No sea ice. Ice of land origin (icebergs e t c) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick)
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast Ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for 1st day of each month on first succeeding chart).
Ice boundary virtually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 24 FEB 1981
ICE FREE
ICE FREE
ICE FREE
ICE FREE
ICE LIMIT
10 OLD
10 FY/OLD
10 FY/YNG
9-10 YNG/N
9-10 FY/YNG
9-10 N/YNG
3-6 YNG
7-9 YNG
5-7 YNG
O/W

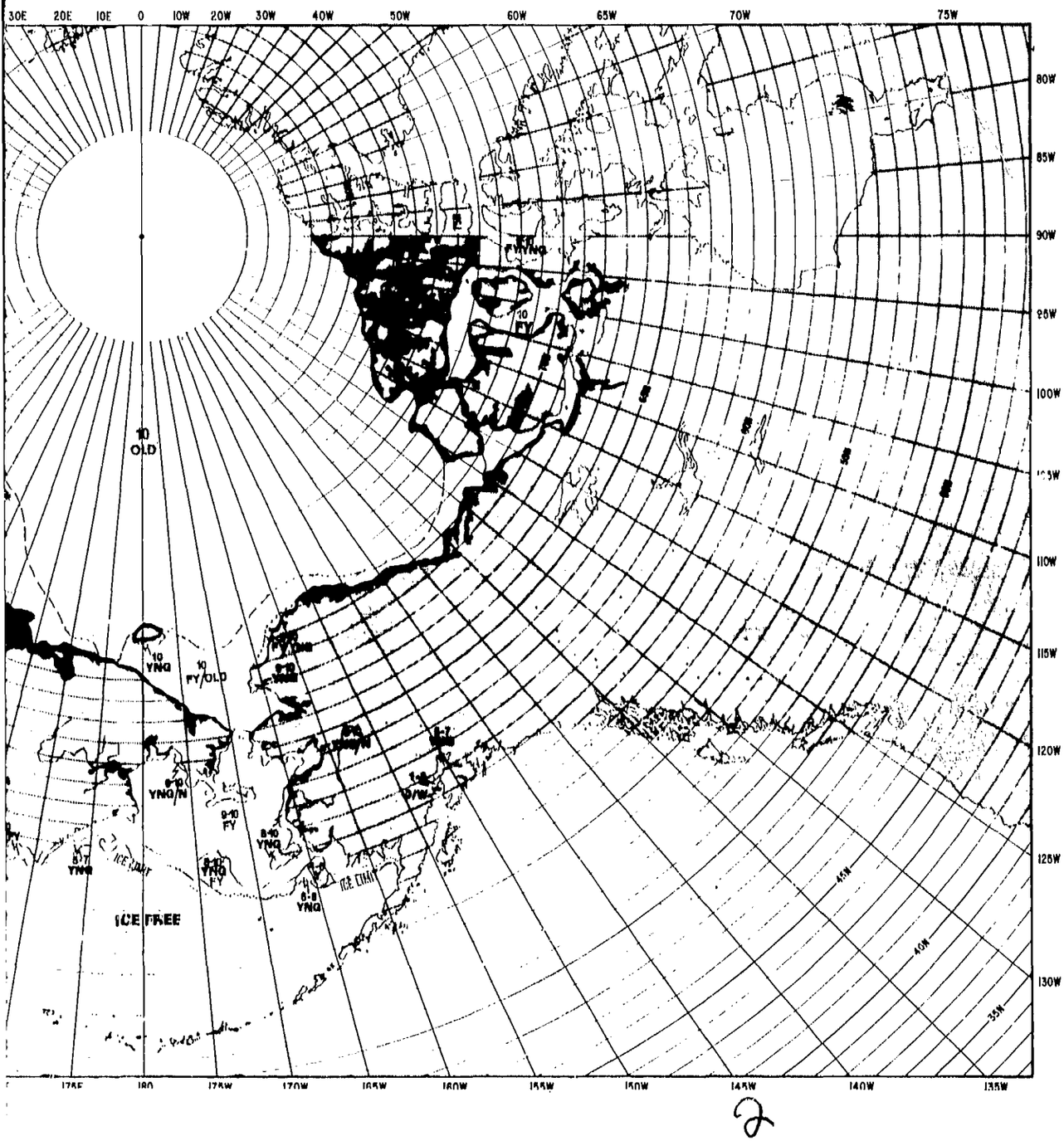

10W
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135W
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145W
150W
155W
160W
165W
170W
175W
180
OLD
10 YNG
10 FY/OLD
8-10 FY/YNG
8-10 YNG
8-10 FY
8-10 YNG/FY
ICE LIMIT
ICE FREE
FY/YNG
45N
40N
35N


75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice Ice of land origin (iceberg e g) may be present.
ICE THICKNESS (ACIE)
OLD Includes both multi-year and second-year ice Generally 2 1 5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 03 MAR 1981
ICE FREE
ICE LIMIT
10 OLD
10 FY/OLD
10 FY/YNG
9-10 FY/YNG
9-10 YNG/FY
6-8 YNG/FY
5-7 YNG
O/W

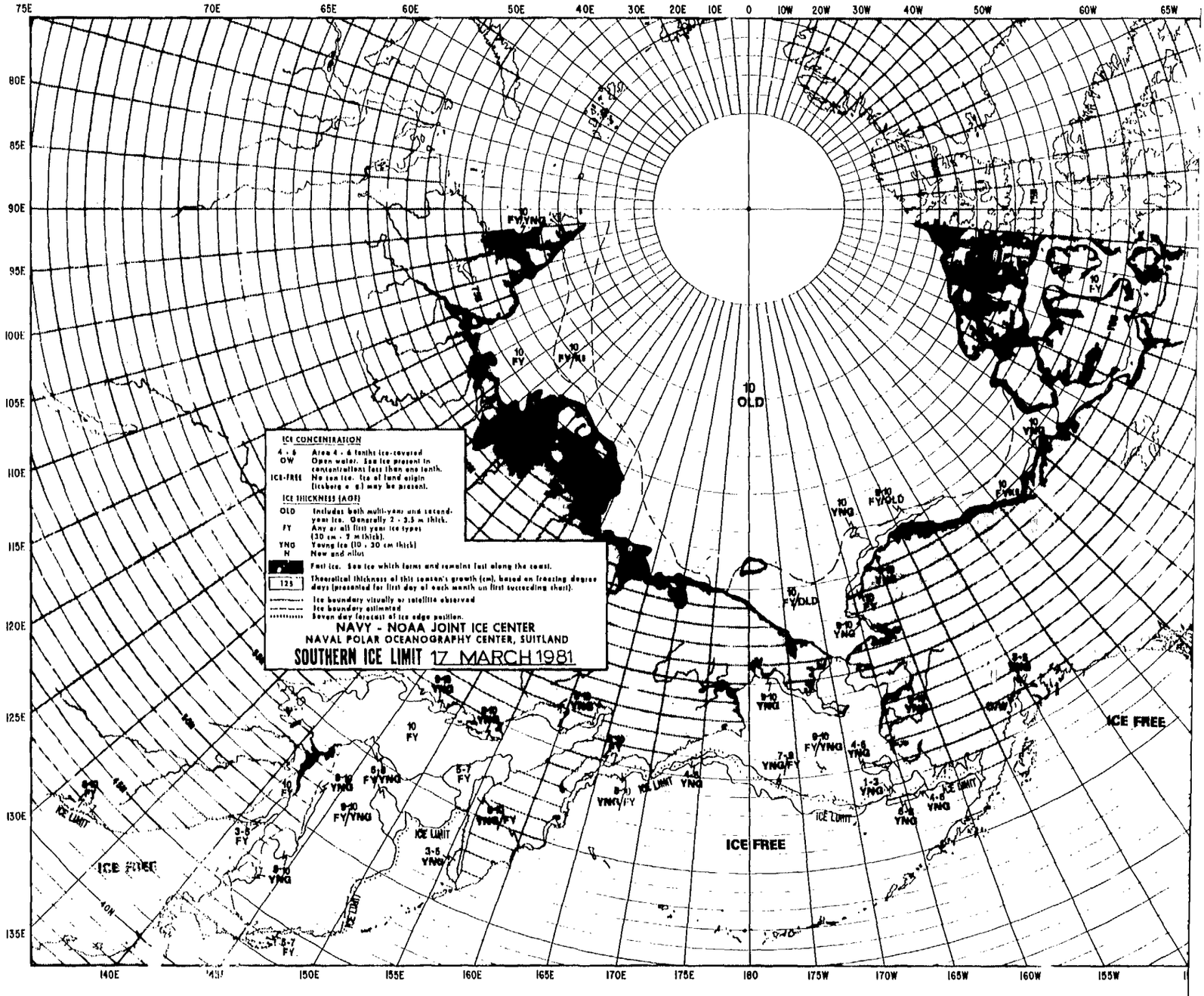

40E
30E
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10W
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145W
150W
155W
160W
165W
170W
175W
180
175E
170E
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ICE FREE
ICE FREE
ICE LIMIT
ICE LIMIT
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10 FY/OLD
9-10 YNG
9-10 FY
AND

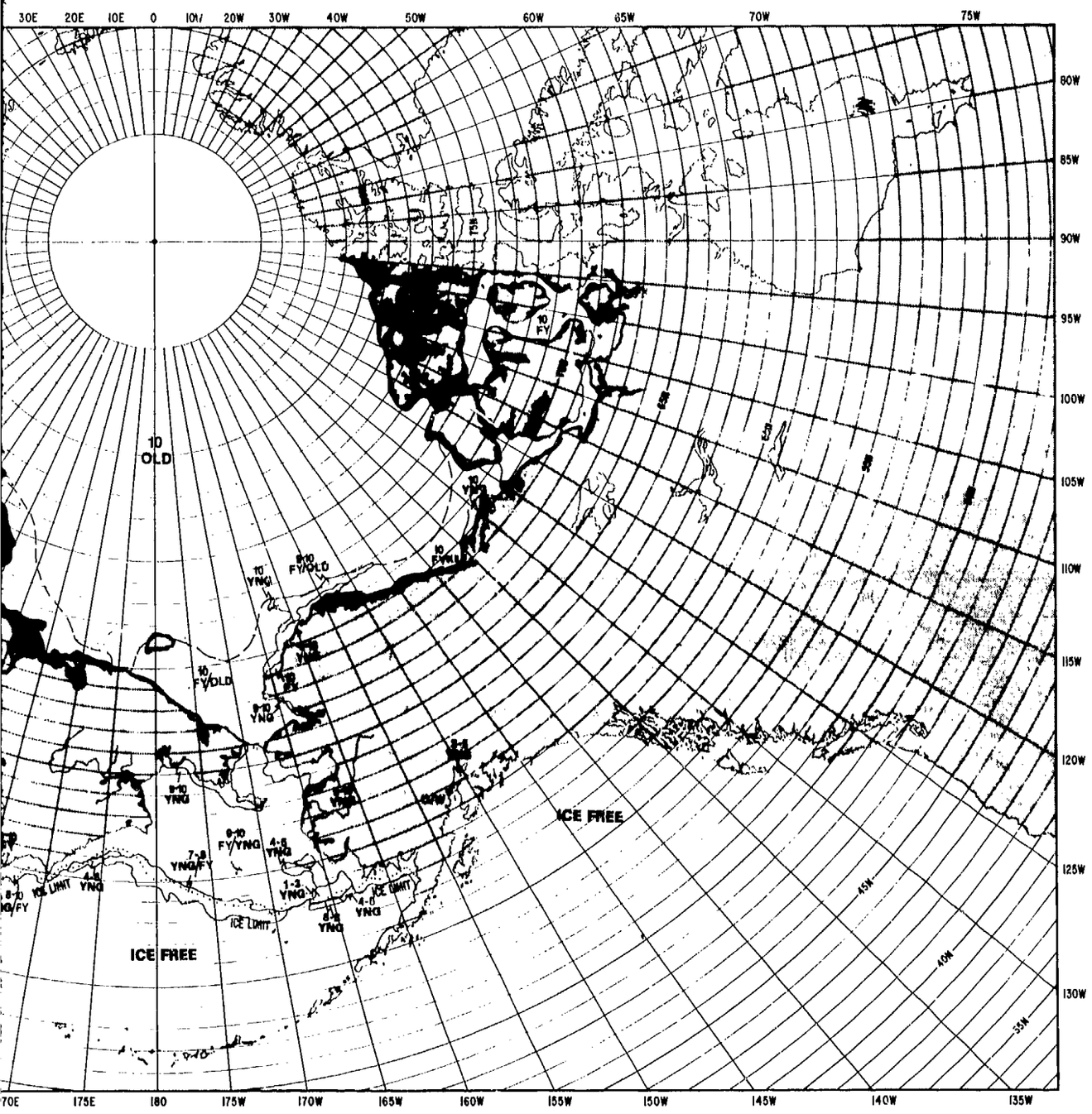
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ICE CONCENTRATION
4 - 6 Areas 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e.g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 10 MAR1983
ICE FREE
ICE LIMIT
75E
70E
65E
60E
55E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175E
170W
165W
160W
155W
150

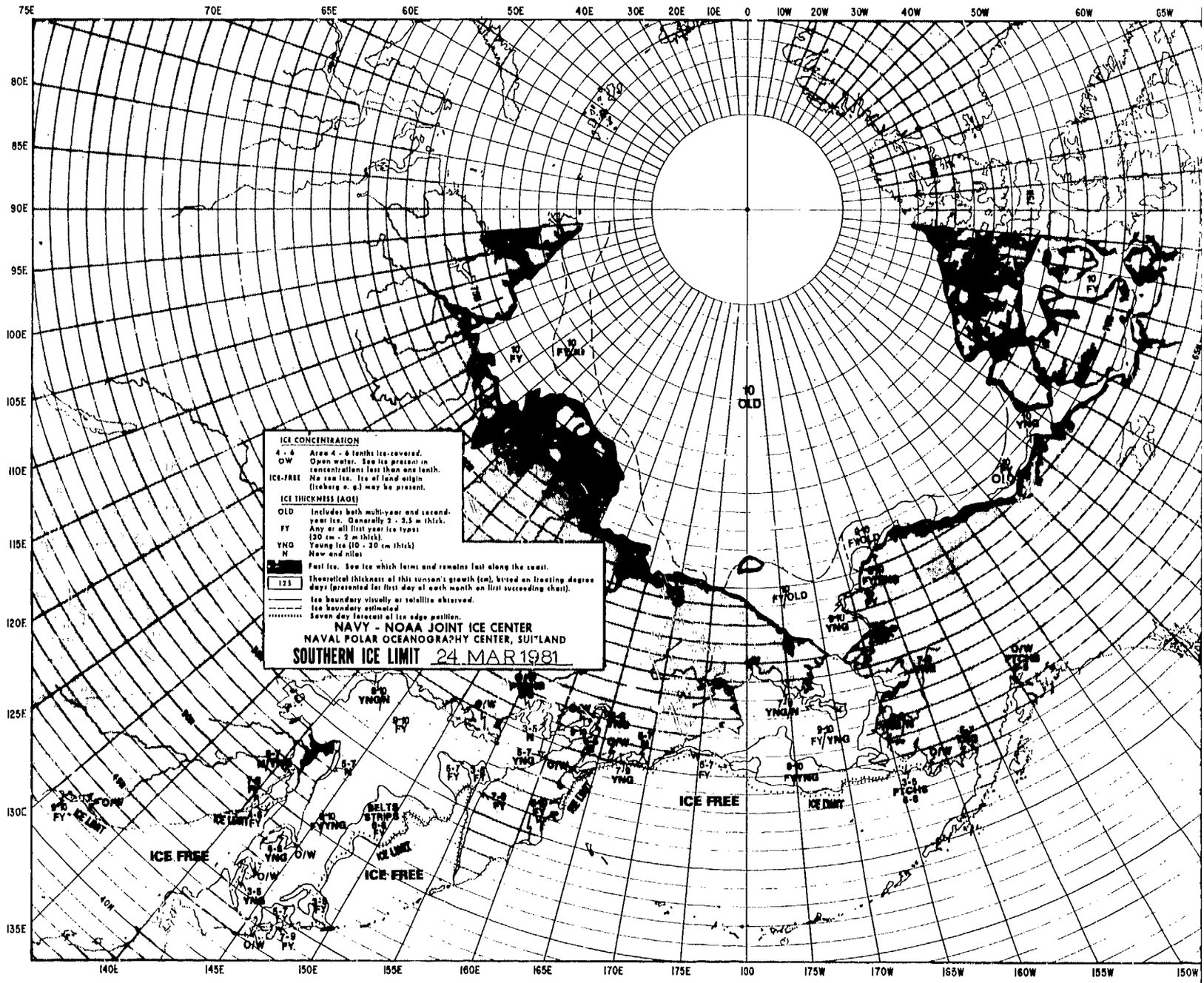

30E
20E
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90W
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105W
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115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
10
OLD
10
YNG
10
FY/OLD
9-10
YNG/N
9-10
FY
8-10
YNG
8-9
YNG
ICE FREE
ICE EDGE
45N
40N
35N

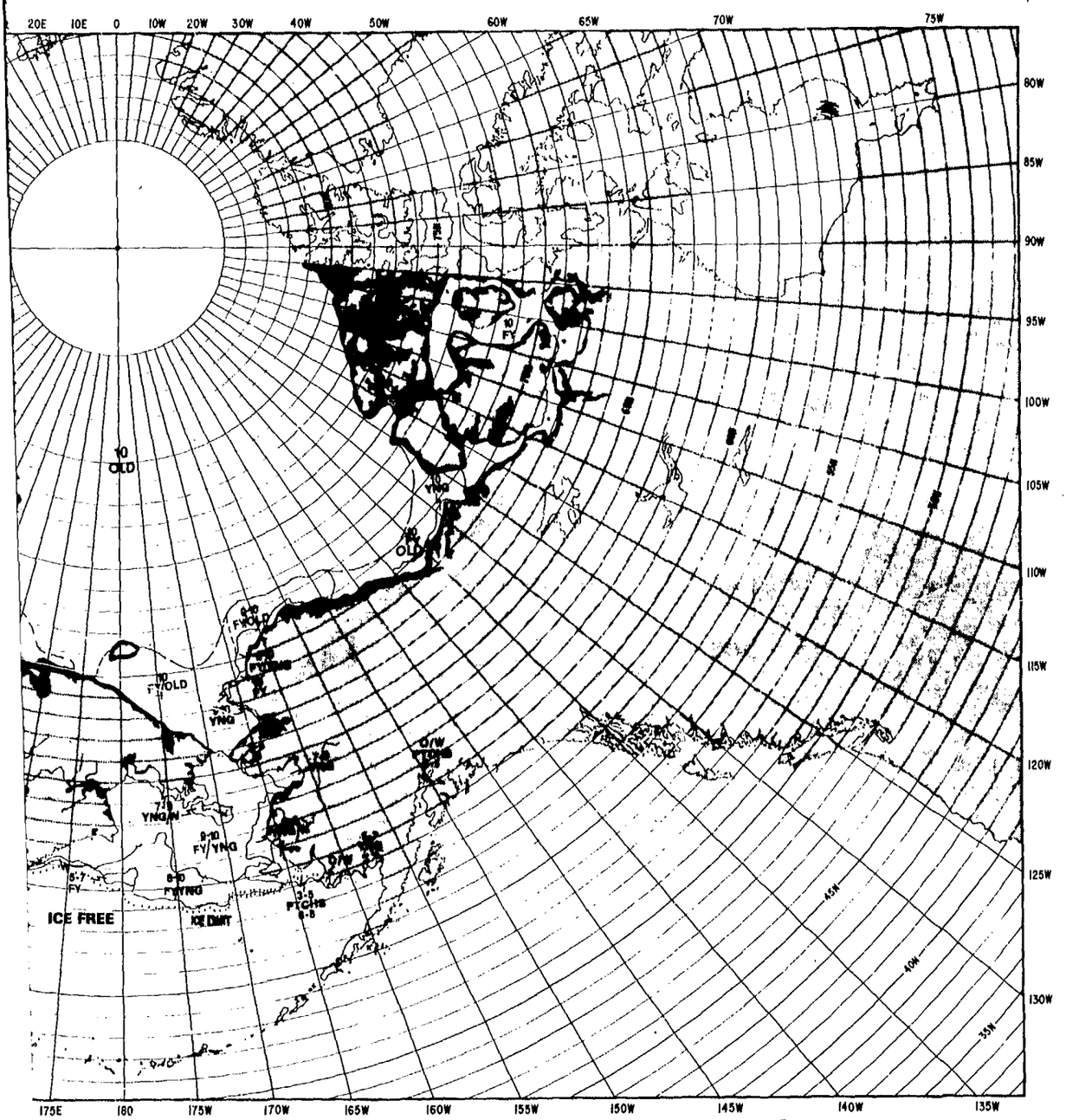
2


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AOF)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 17 MARCH 1981
ICE FREE
ICE LIMIT

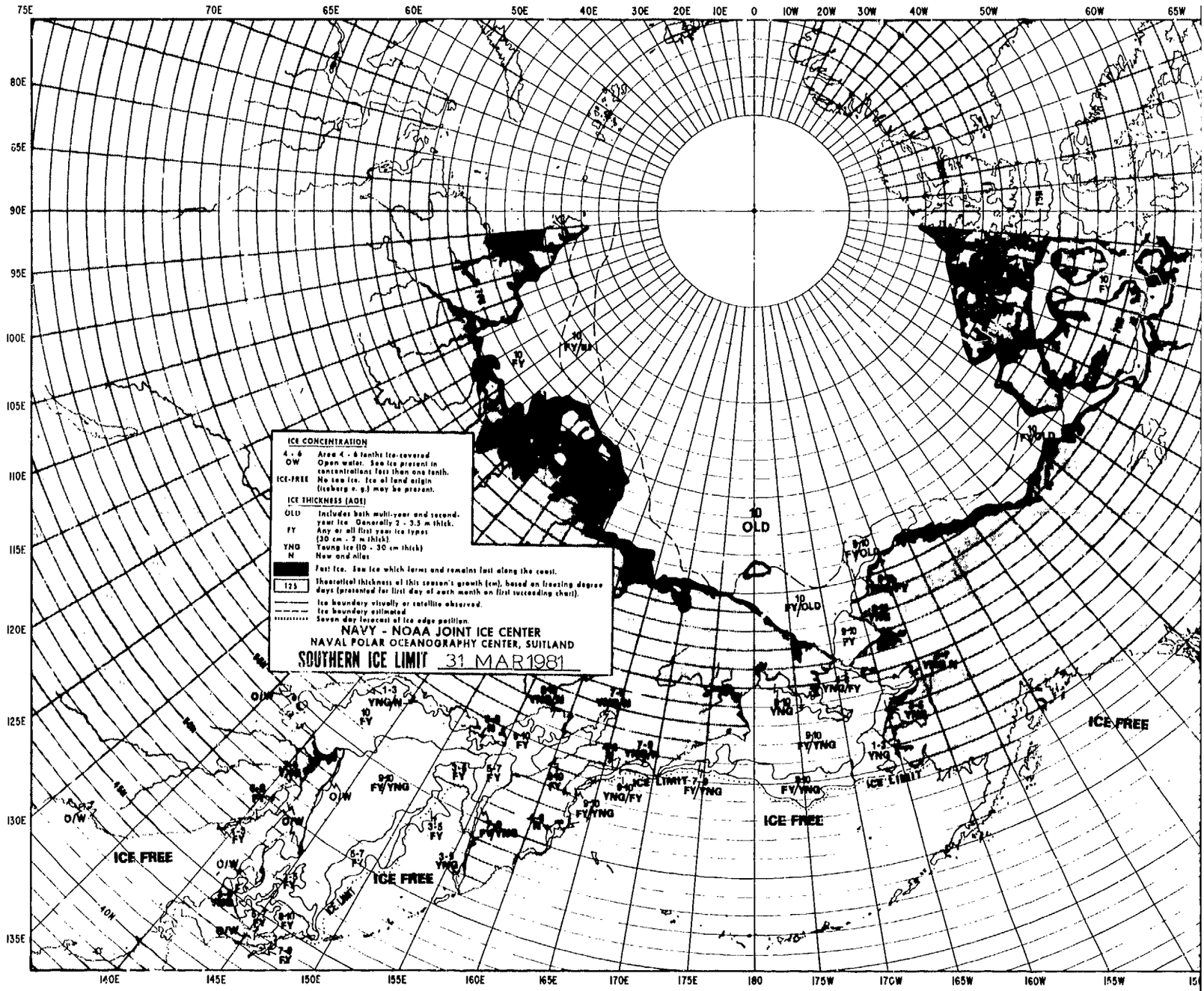

30E
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70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
70E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
10
OLD
10
FY/OLD
9-10
FY/OLD
10
YNG
9-10
YNG
9-10
FY/YNG
7-8
YNG/FY
4-8
YNG
1-3
YNG
ICE LIMIT
ICE FREE
ICE FREE
45N
40N
35N

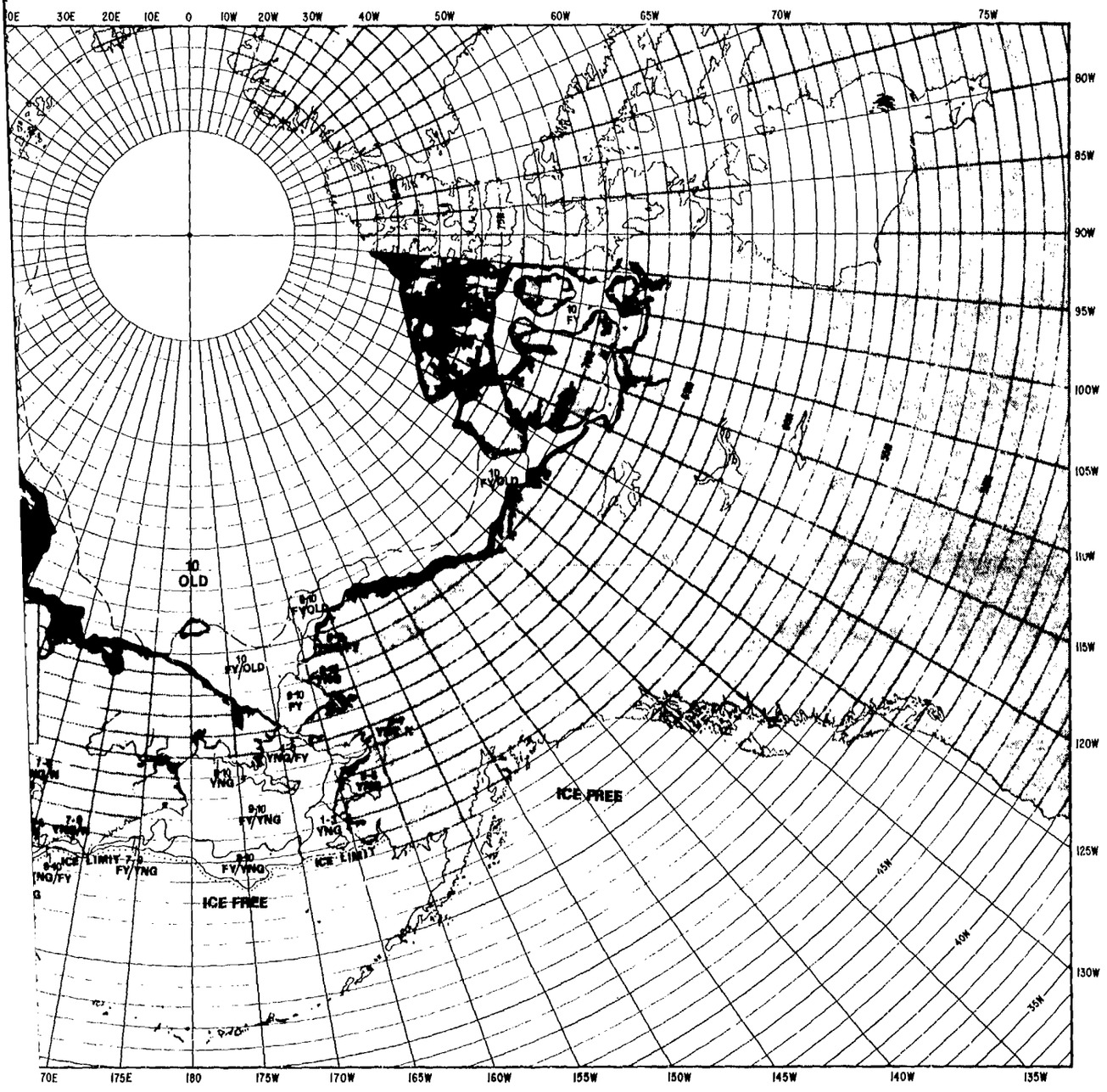
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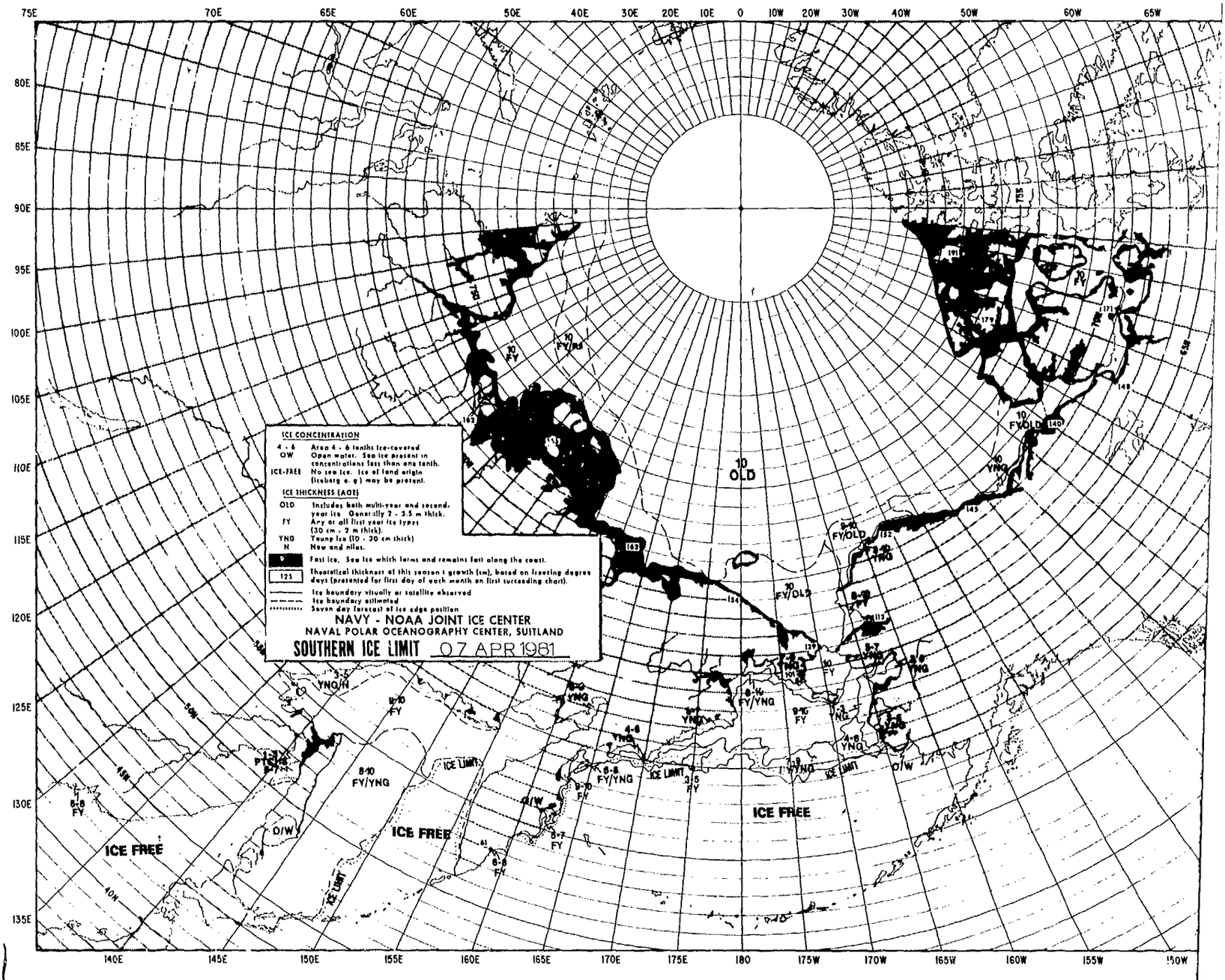

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 24 MAR 1981
ICE FREE
ICE LIMIT
BELTS STRIPS
PTCHS
O/W
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

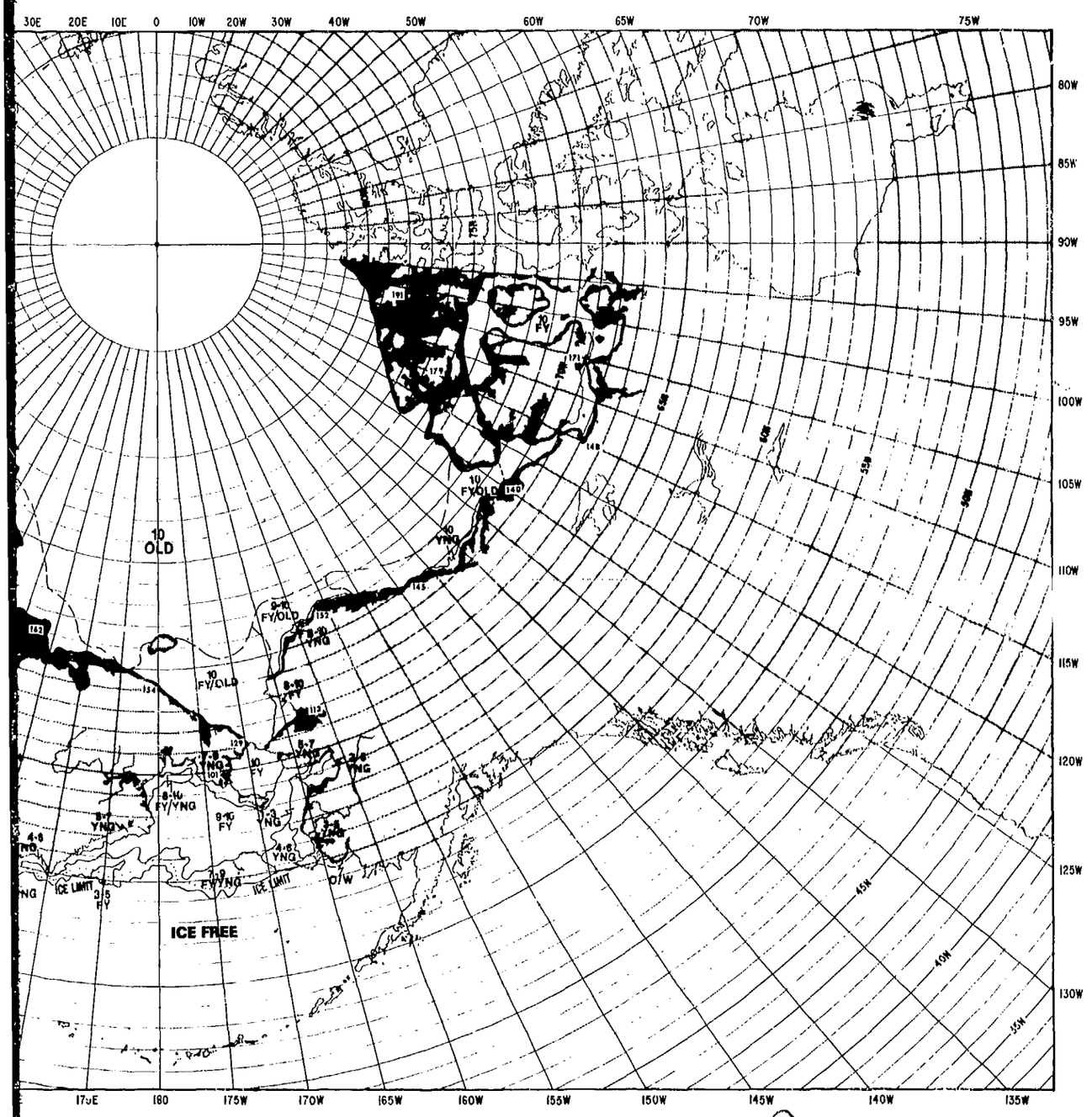

20E
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75W
80W
85W
90W
95W
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120W
125W
130W
135W
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
10 OLD
10 FY
10 OLD
10 FY/OLD
9-10 FY/OLD
7-9 YNG
7-9 YNG/M
9-10 FY/YNG
8-10 FY/YNG
5-7 FY
3-5 PTCHS 6-8
ICE FREE
ICE EDGE
O/W
45N
40N
35N

2

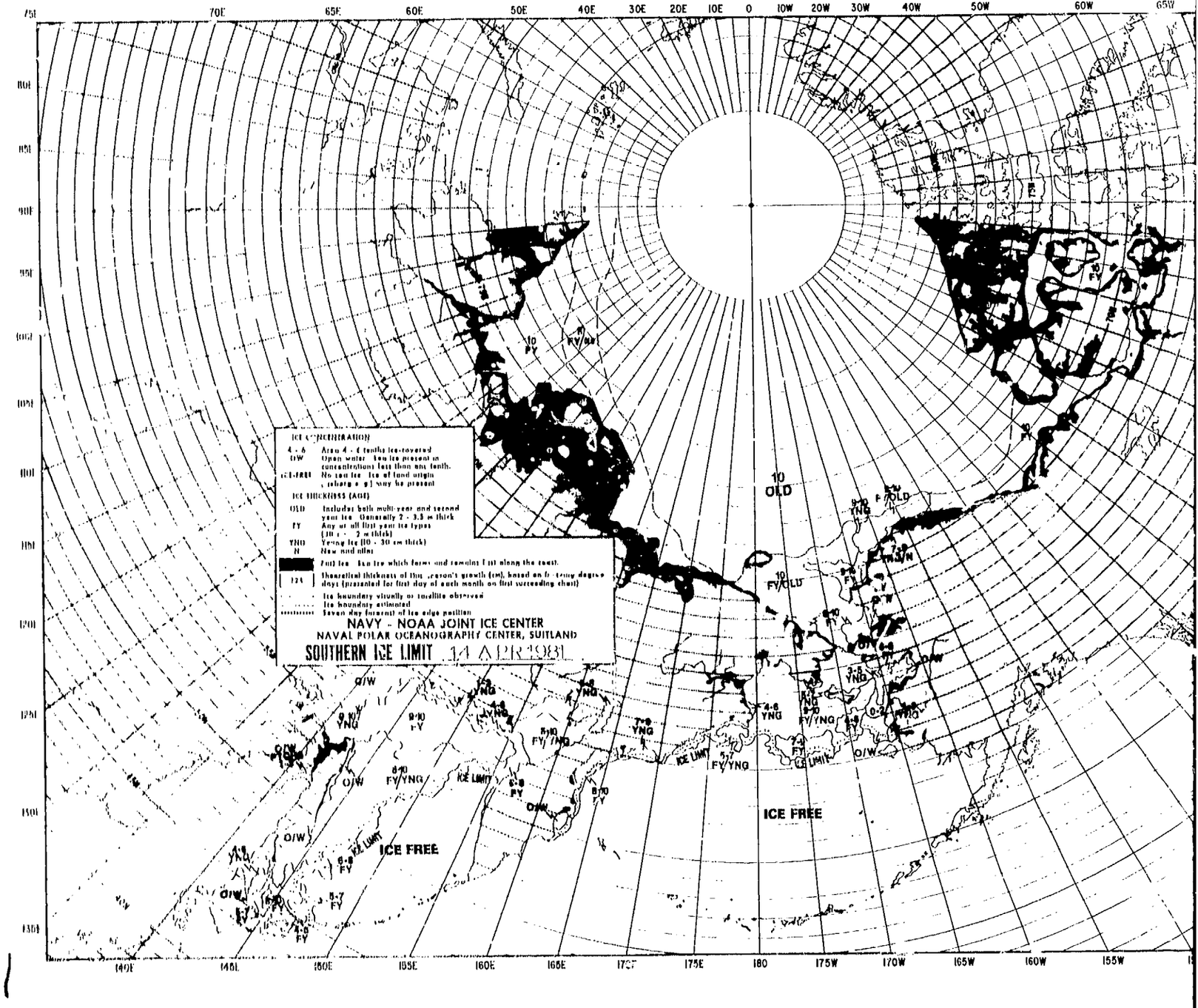

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick)
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 31 MAR1981
ICE FREE
ICE LIMIT
10 OLD
10 FY/OLD
9-10 FY/OLD
9-10 FY/YNG
9-10 FY
10 FY
10 YNG
1-3 YNG/N
O/W
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
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170W
165W
160W
155W

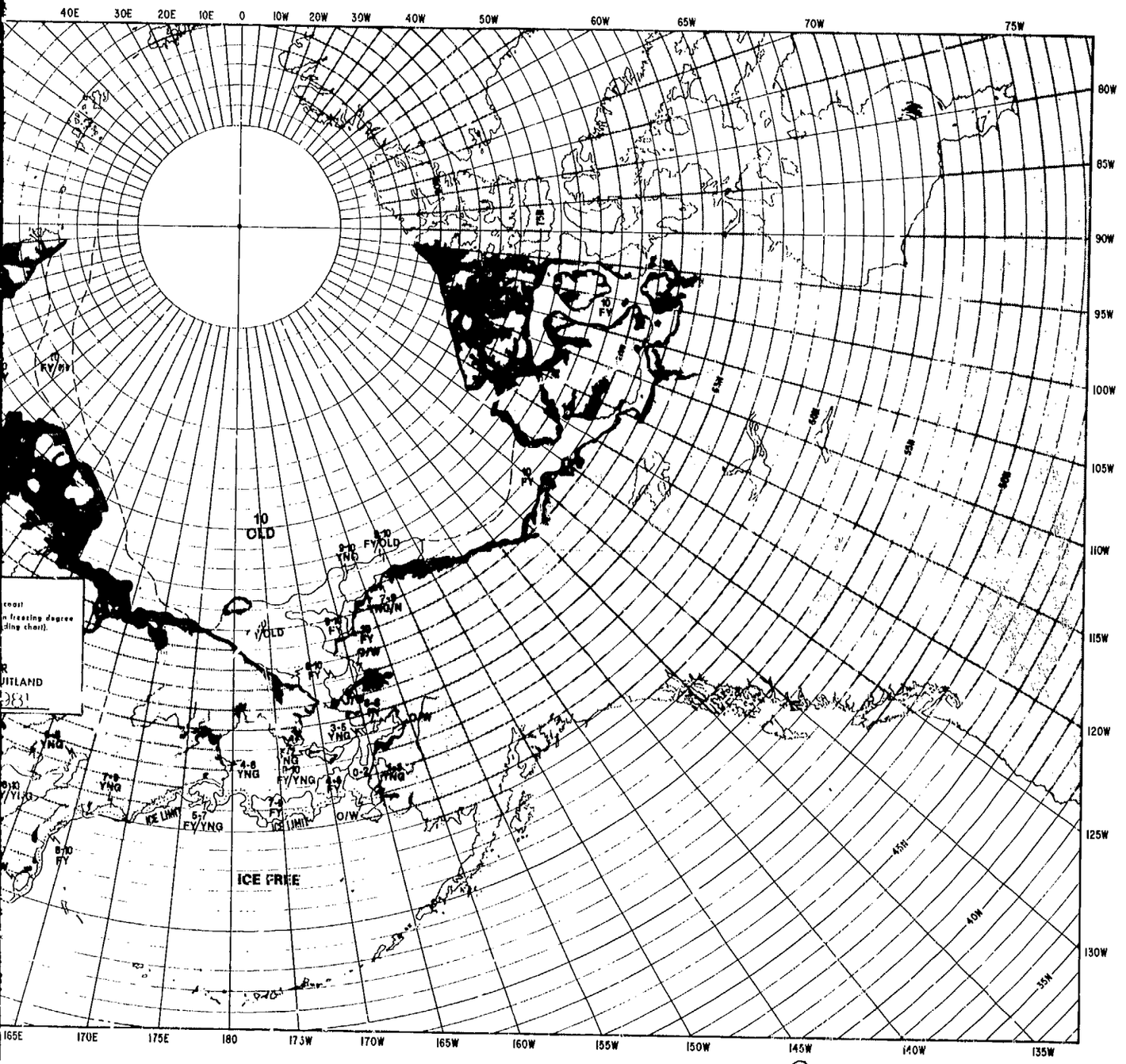

10E
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65W
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75W
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90W
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105W
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115W
120W
125W
130W
135W
70E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
10
OLD
10
FY/OLD
9-10
FY/OLD
9-10
FY
9-10
FY/VNG
9-10
VNG
ICE FREE
ICE LIMIT
ICE FREE
45N
40N
35N


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 07 APR 1981
ICE FREE
ICE LIMIT
O/W
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
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155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

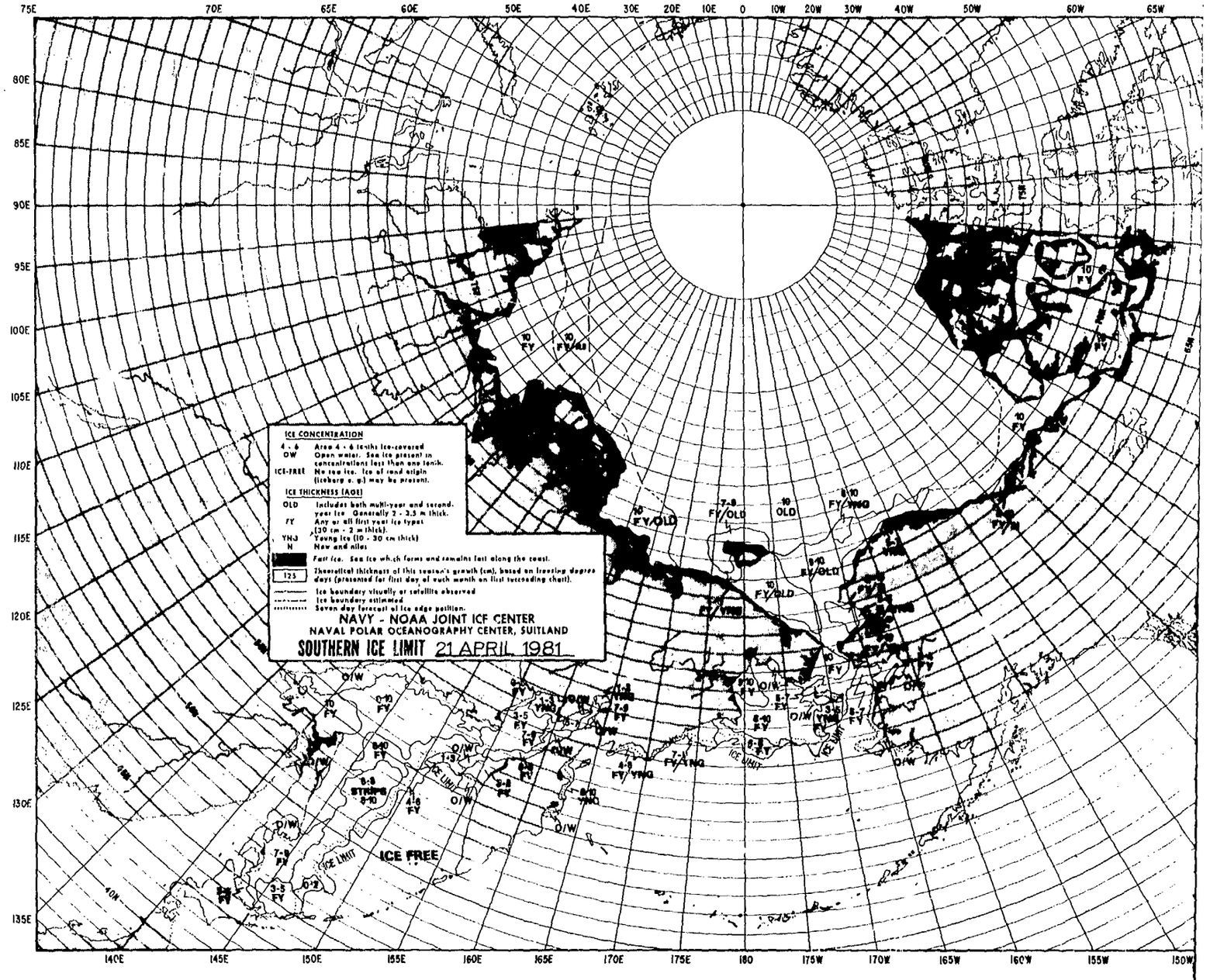

30E
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10E
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10W
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75W
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95W
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105W
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115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
10 OLD
10 FY/OLD
10 YNG
9-10 FY/OLD
8-10 FY/YNG
7-9 YNG
8-10 FY
4-6 YNG
7-9 FY/YNG
3-5 FY
ICE LIMIT
ICE FREE
O/W
45N
40N
35N

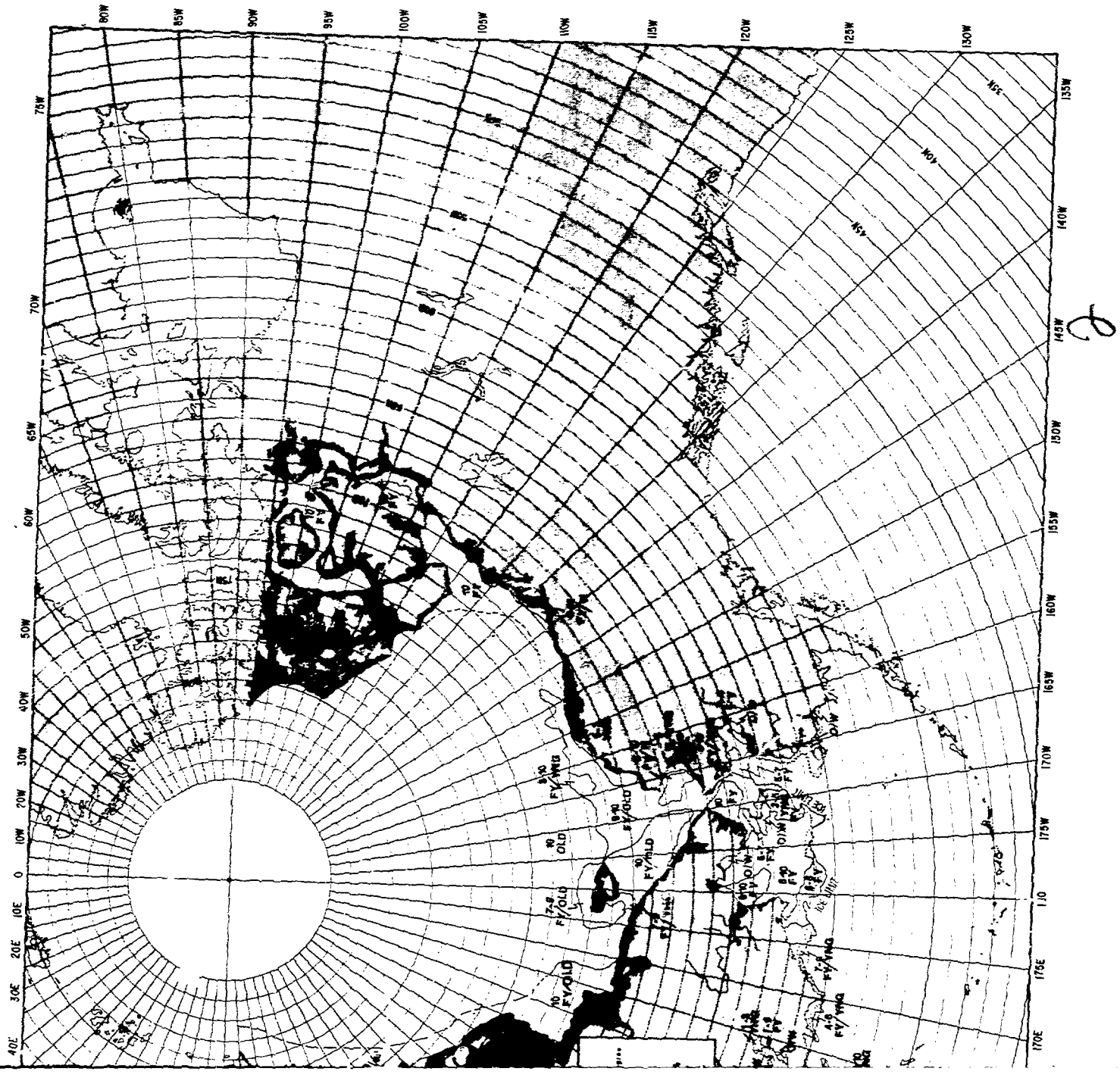
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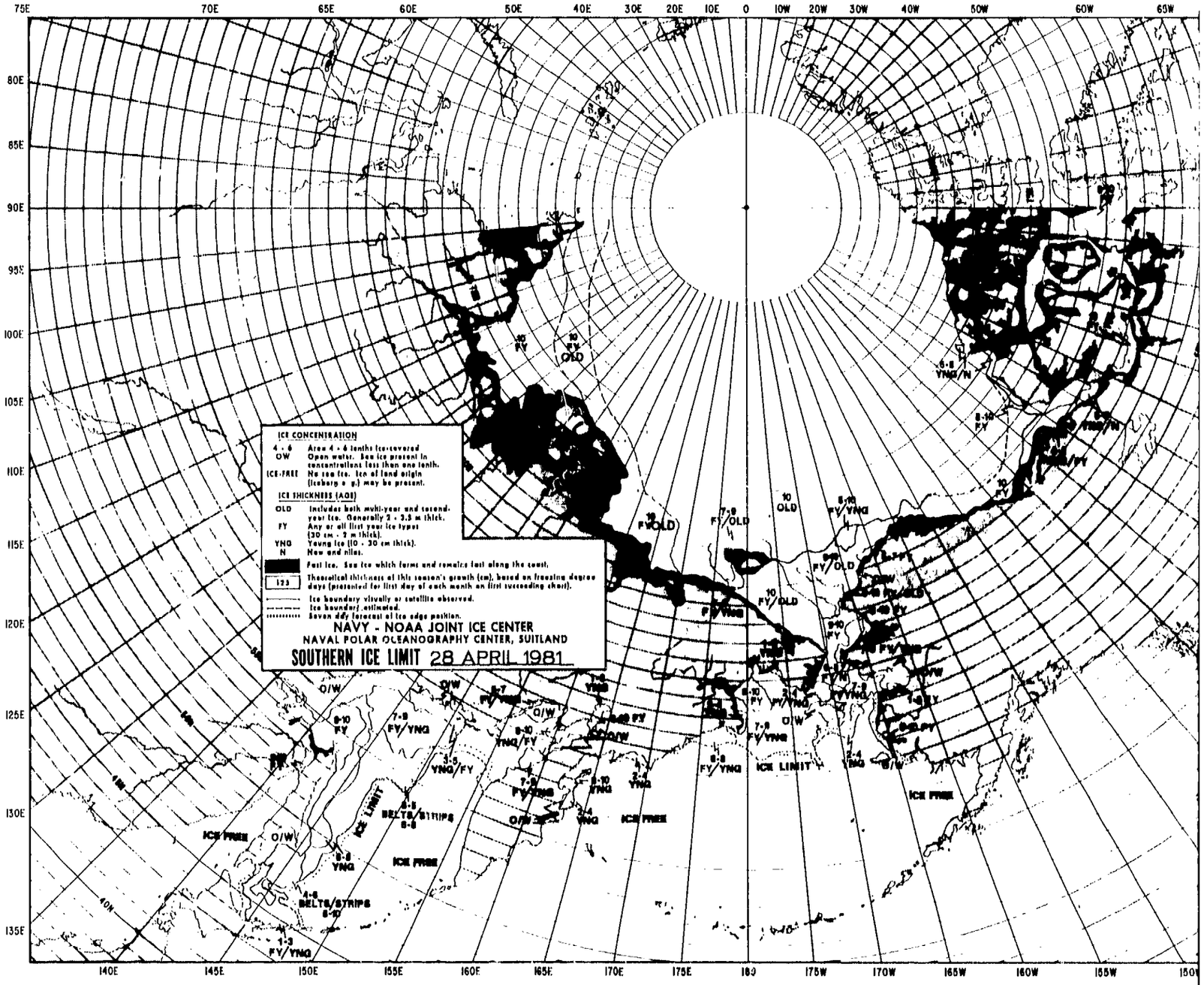

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
O/W Open water - less ice present in concentrations less than one tenth.
ICE-FREE No sea ice - ice of land origin (icebergs etc) may be present
ICE THICKNESS (AGE)
OLD Includes both multi-year and second year ice. Generally 2 - 3.5 m thick
FY Any or all first year ice types (30 cm - 2 m thick)
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice - sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 14 APR 1983
ICE FREE
ICE FREE
ICE LIMIT
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
140E
145E
150E
155E
160E
165E
175E
180
175W
170W
165W
160W
155W

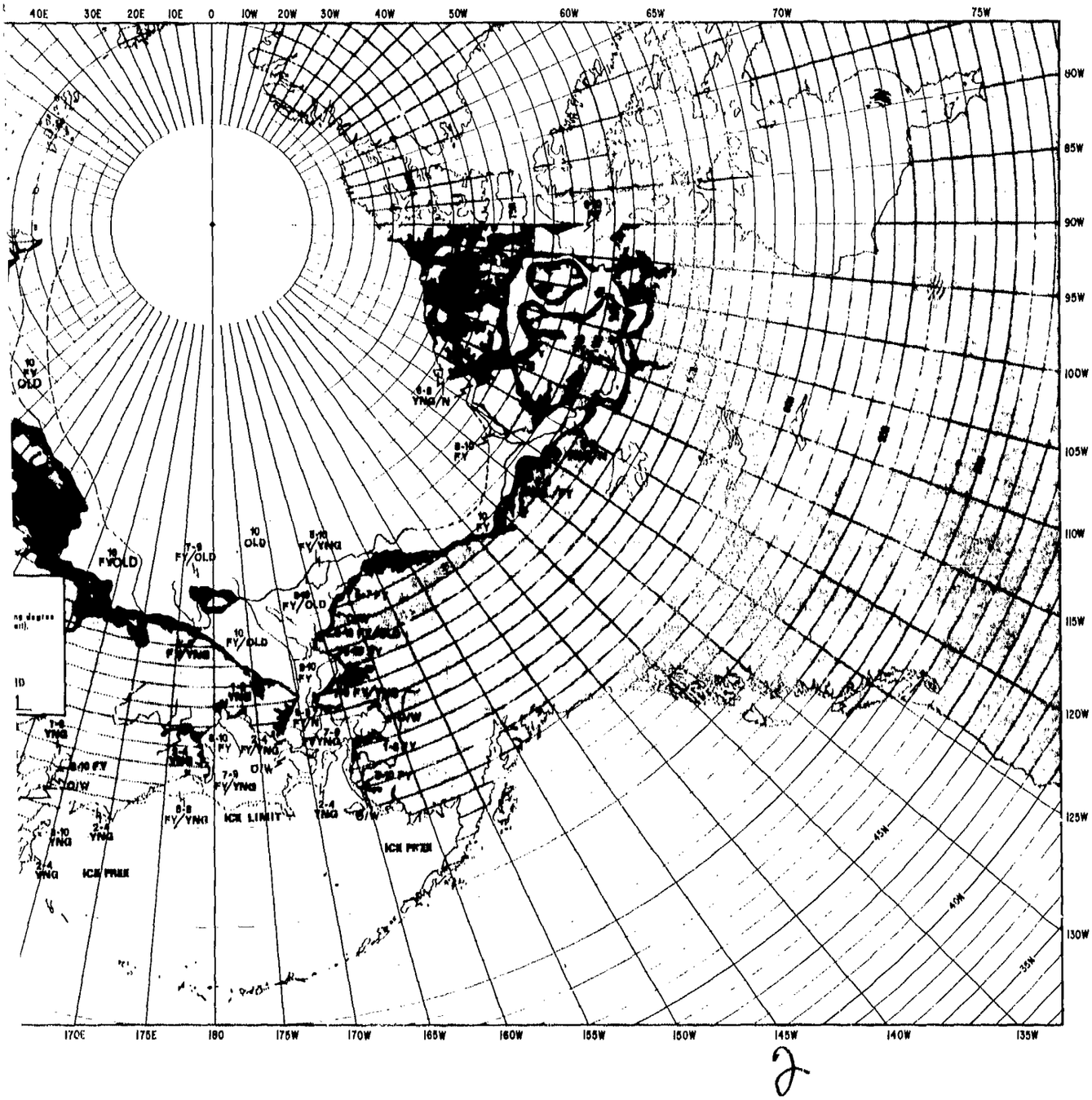

40E
30E
20E
10E
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40W
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65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
173W
180
175E
170E
165E
10
OLD
FY/OLD
ICE FREE
ICE LIMIT
5-7
FY/YNG
4-6
YNG
7-8
YNG
9-10
FY
O/W
45N
40N
55N

2

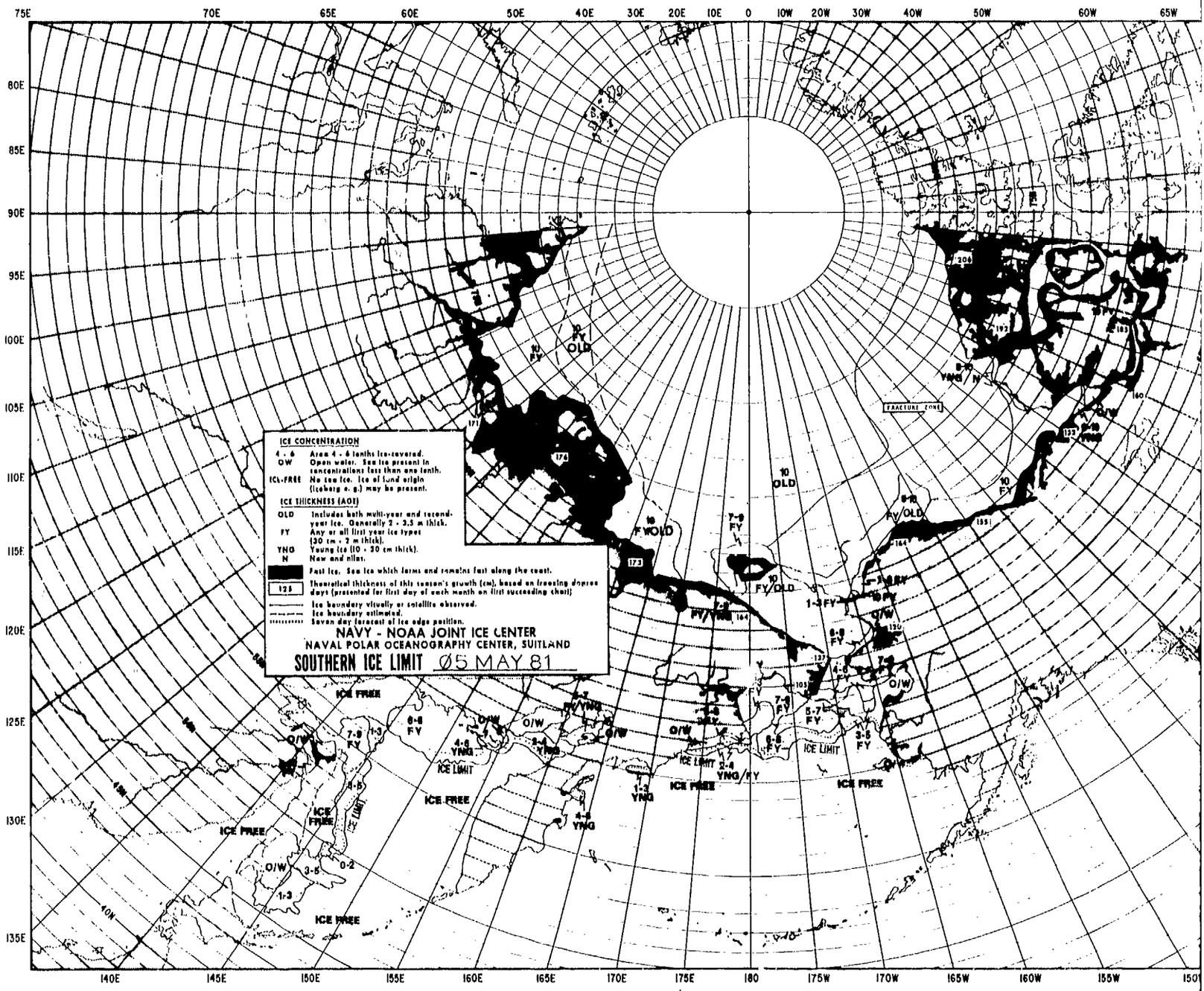

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first-year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on list succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 21 APRIL 1981
ICE FREE
ICE LIMIT
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

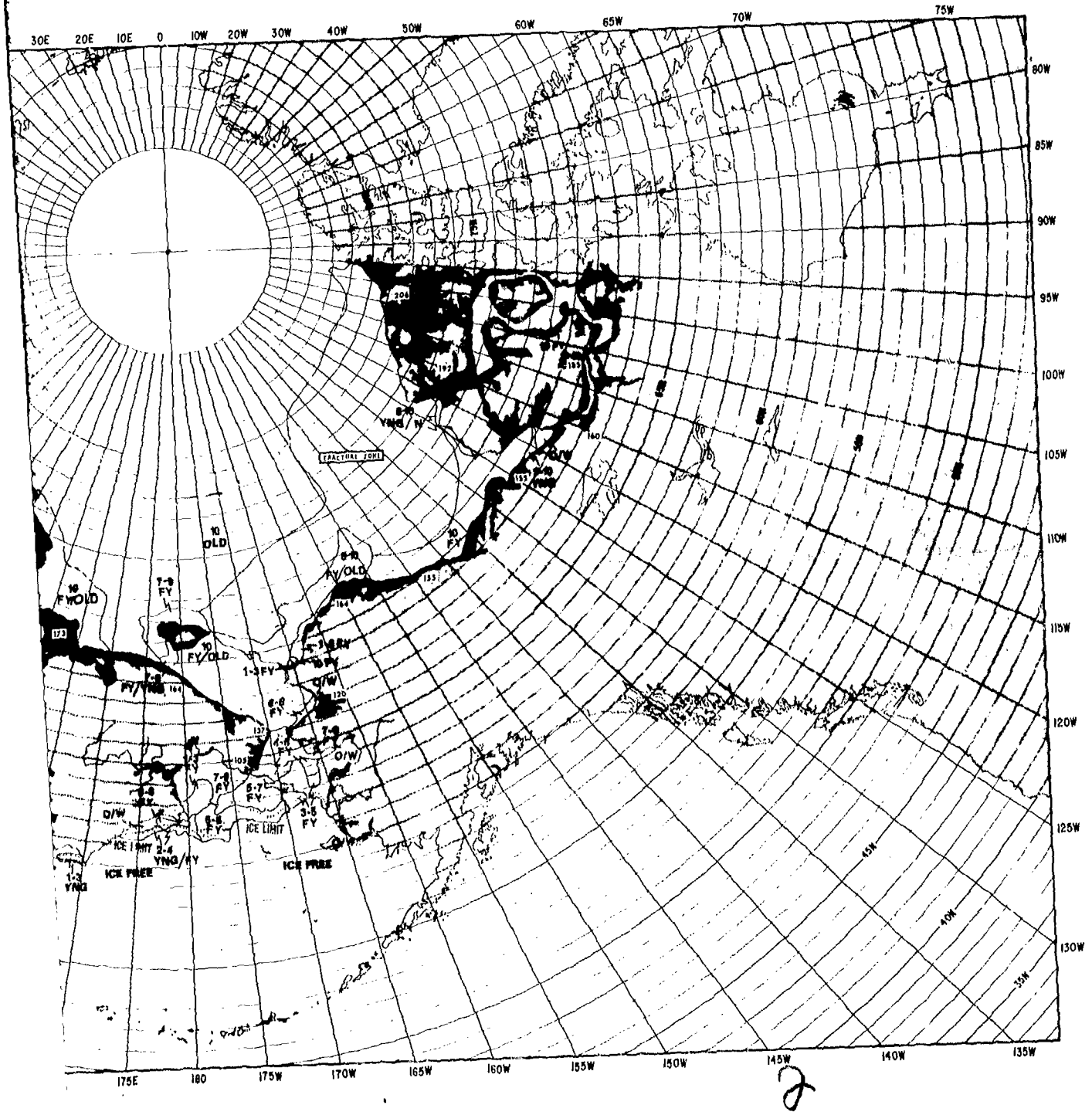

80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
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155W
160W
165W
170W
175W
170E
175E
180
75W
70W
65W
60W
50W
40W
30W
20W
10W
0
10E
20E
30E
40E
45N
40N
35N
10 FY/OLD
17.8 FY/OLD
9.0 FY/OLD
8.0 FY/OLD
10 OLD
4.0 FY/OLD

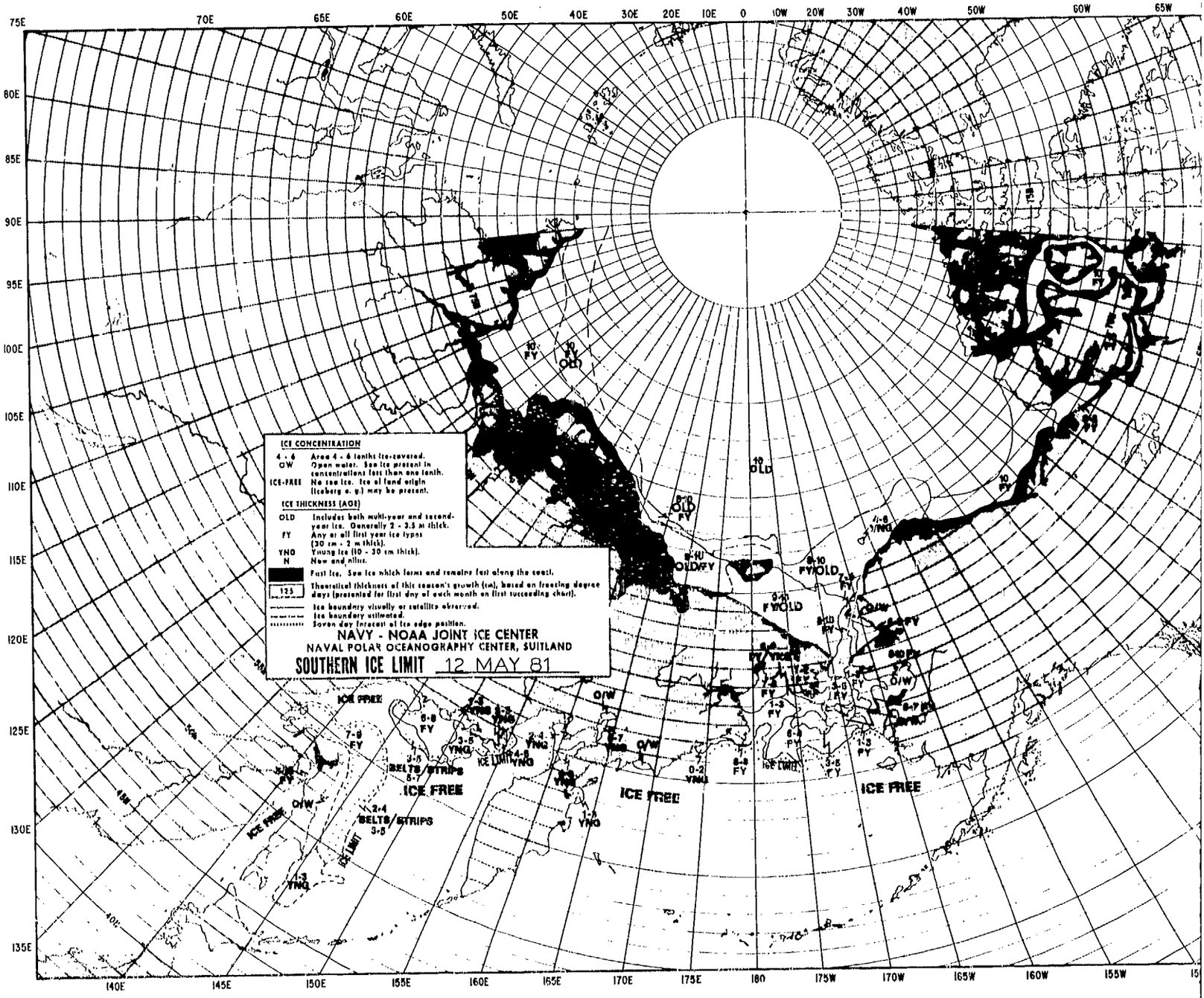

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
O/W Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e g.) may be present.
ICE THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary, estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 28 APRIL 1981
ICE LIMIT
ICE FREE
O/W
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
70W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

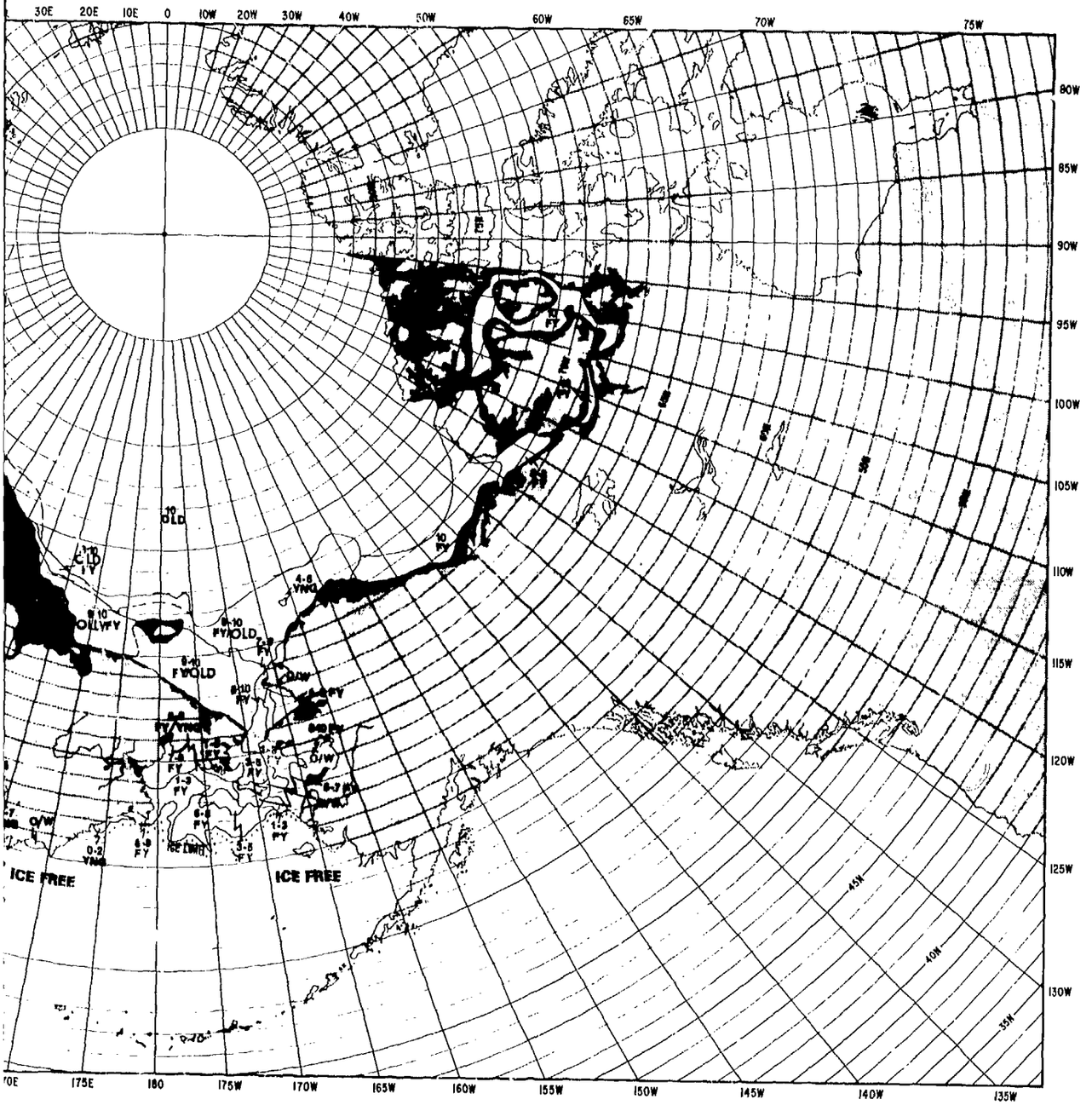

40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
45N
40N
35N
10 FY OLD
10 FY/OLD
7-9 FY/OLD
10 OLD
8-10 FY/YNG
8-10 FY/OLD
10 FY/OLD
8-10 FY
7-9 FY/YNG
6-10 FY
2-4 YNG
7-9 FY/YNG
O/W
8-10 FY
O/W
7-9 FY/YNG
6-9 FY/YNG
ICE LIMIT
2-4 YNG
O/W
8-10 YNG
2-4 YNG
2-4 YNG
ICE FREE
ICE FREE
6-8 YNG/N
8-10 FY

2

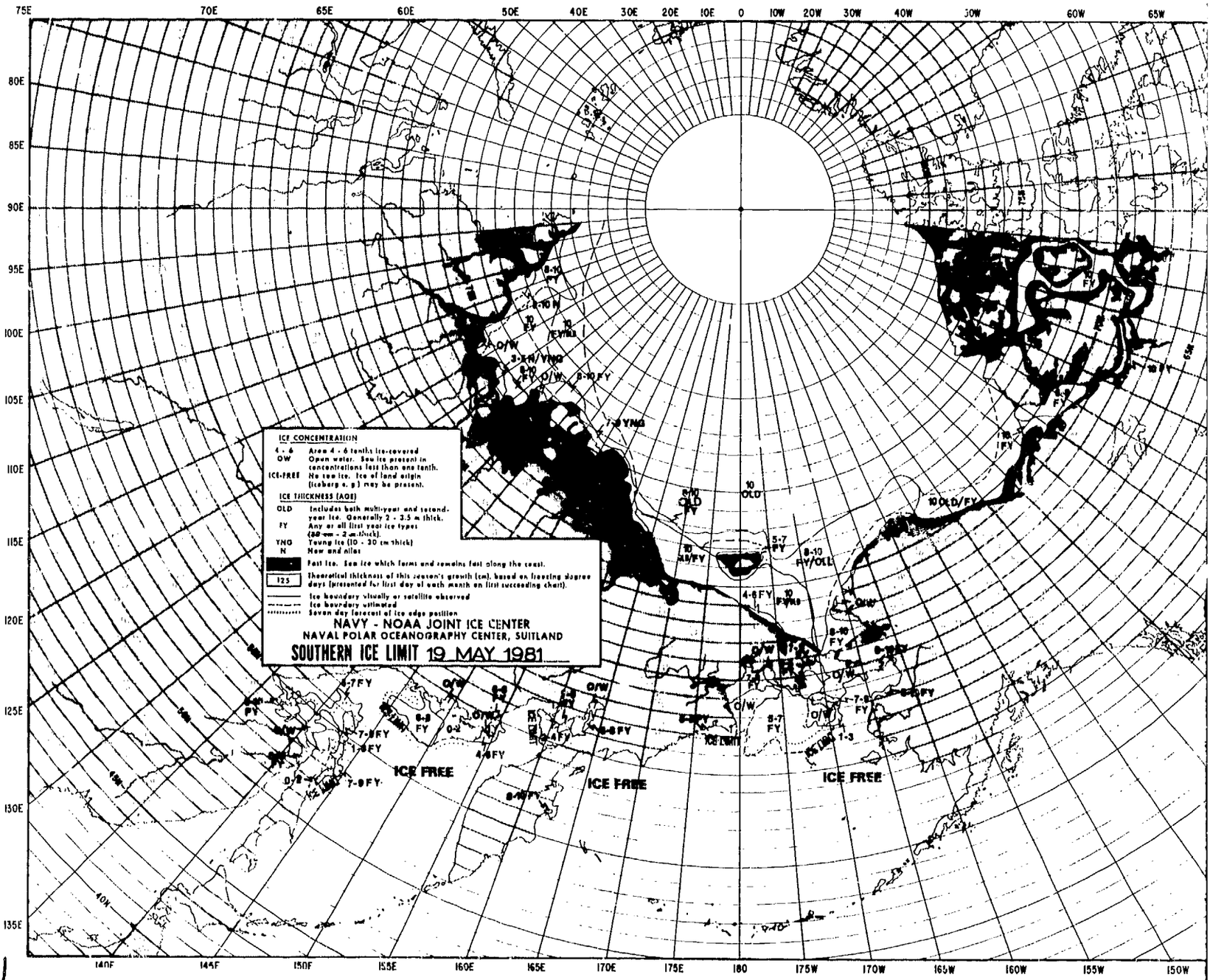

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first-year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart)
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 05 MAY 81
ICE FREE
ICE LIMIT
FRACTURE ZONE
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
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155W
150
40N
45N

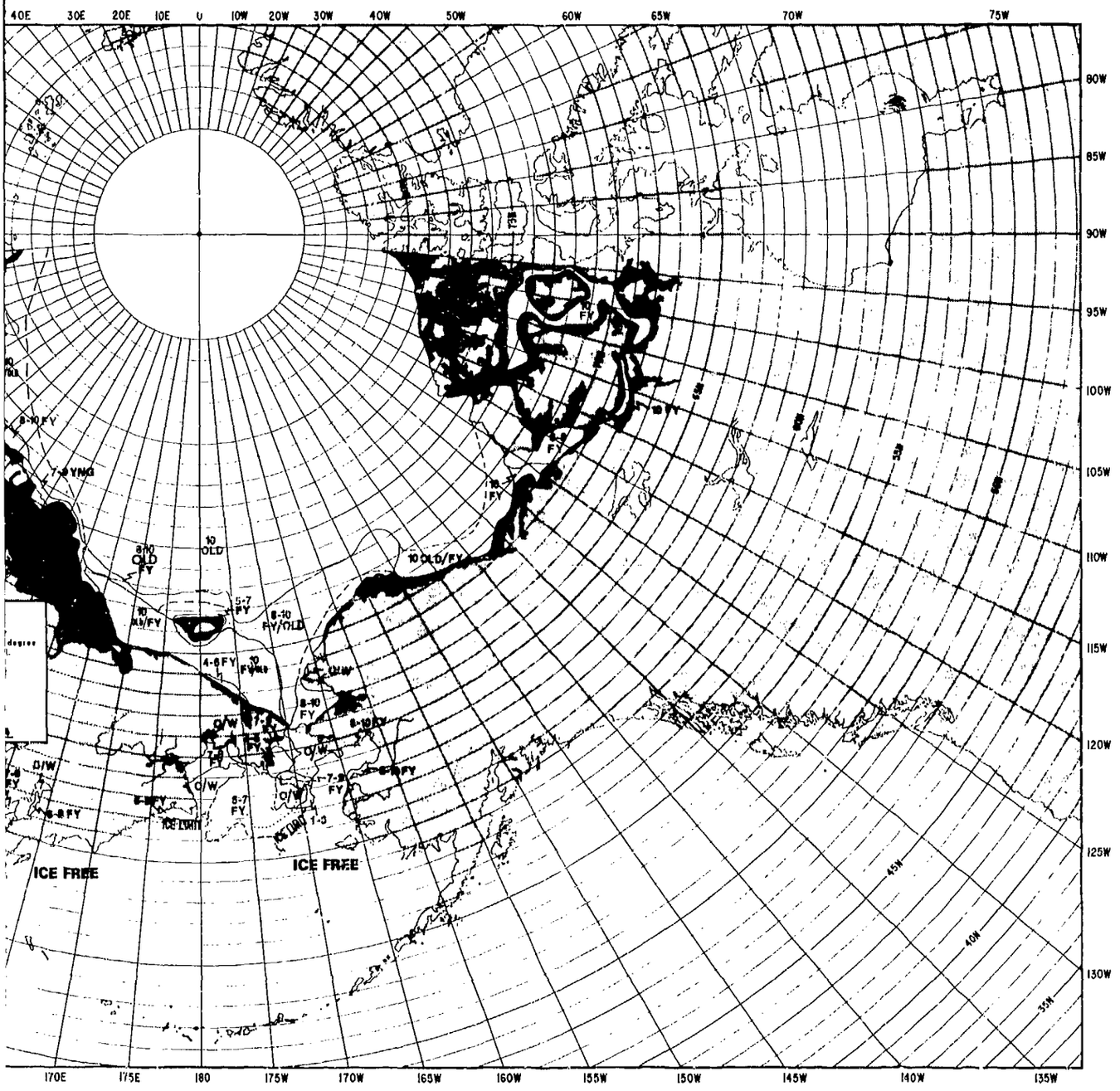

30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
FRACTURE ZONE
10 OLD
10 FY
8-10 FY/OLD
10 F/OLD
7-9 FY
10 FY/OLD
1-3 FY
O/W
6-8 FY
7-9
5-7 FY
3-5 FY
ICE LIMIT
ICE FREE
2-4 YNG/FY
1-3 YNG
45N
40N
35N


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 12 MAY 81
ICE FREE
ICE LIMIT
O/W
BELTS/STRIPS
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
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170W
165W
160W
155W

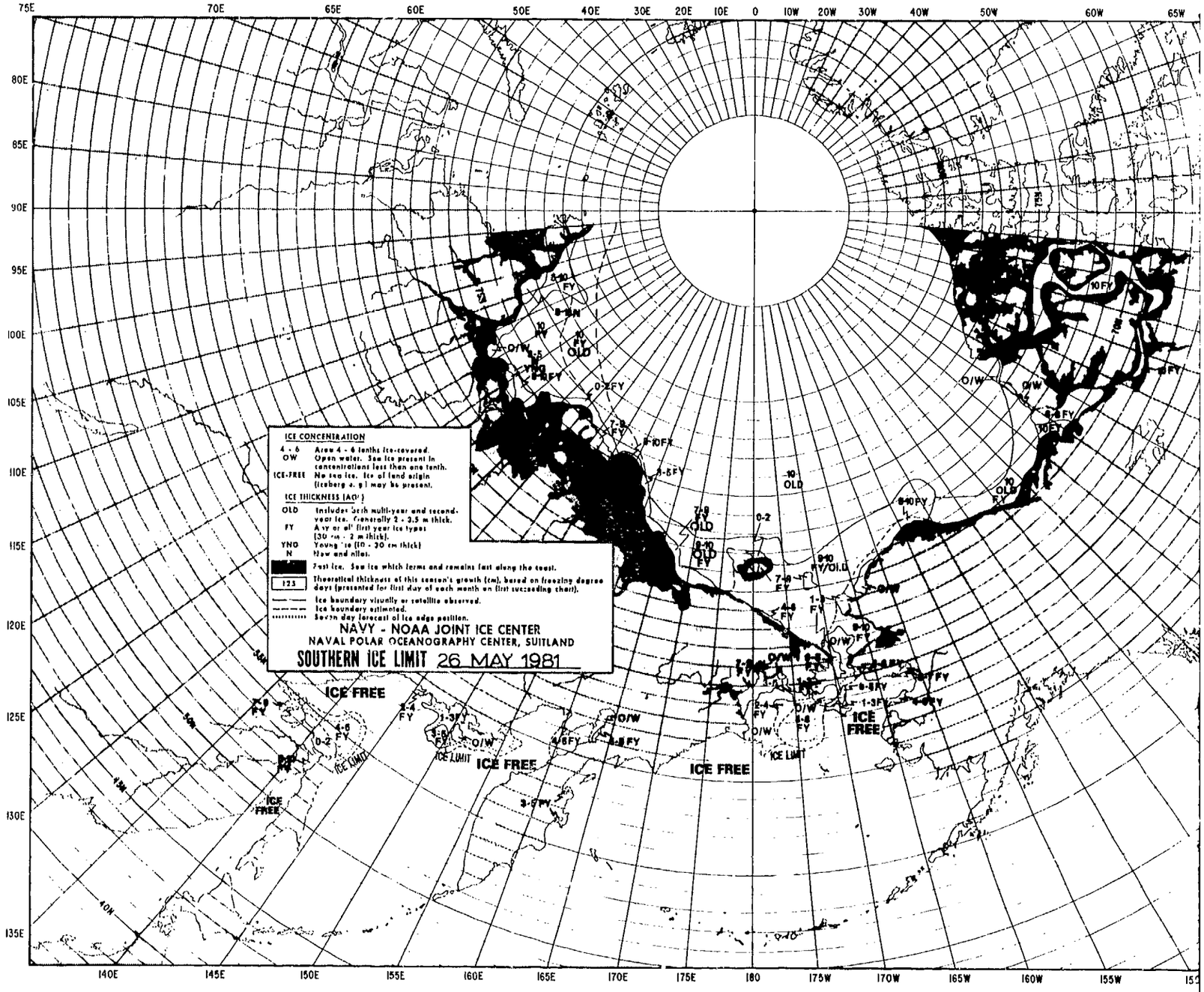

30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
45N
40N
35N
ICE FREE
ICE FREE
10 OLD
10 FY
4-6 YNG
9-10 OLD FY
9-10 FY/OLD
9-10 FY/OLD
9-10 FY/OLD
O/W
1-3 FY
1-3 FY
0-2 YNG
6-9 FY
ICE LMTS
3-5 FY
1-3 FY
O/W

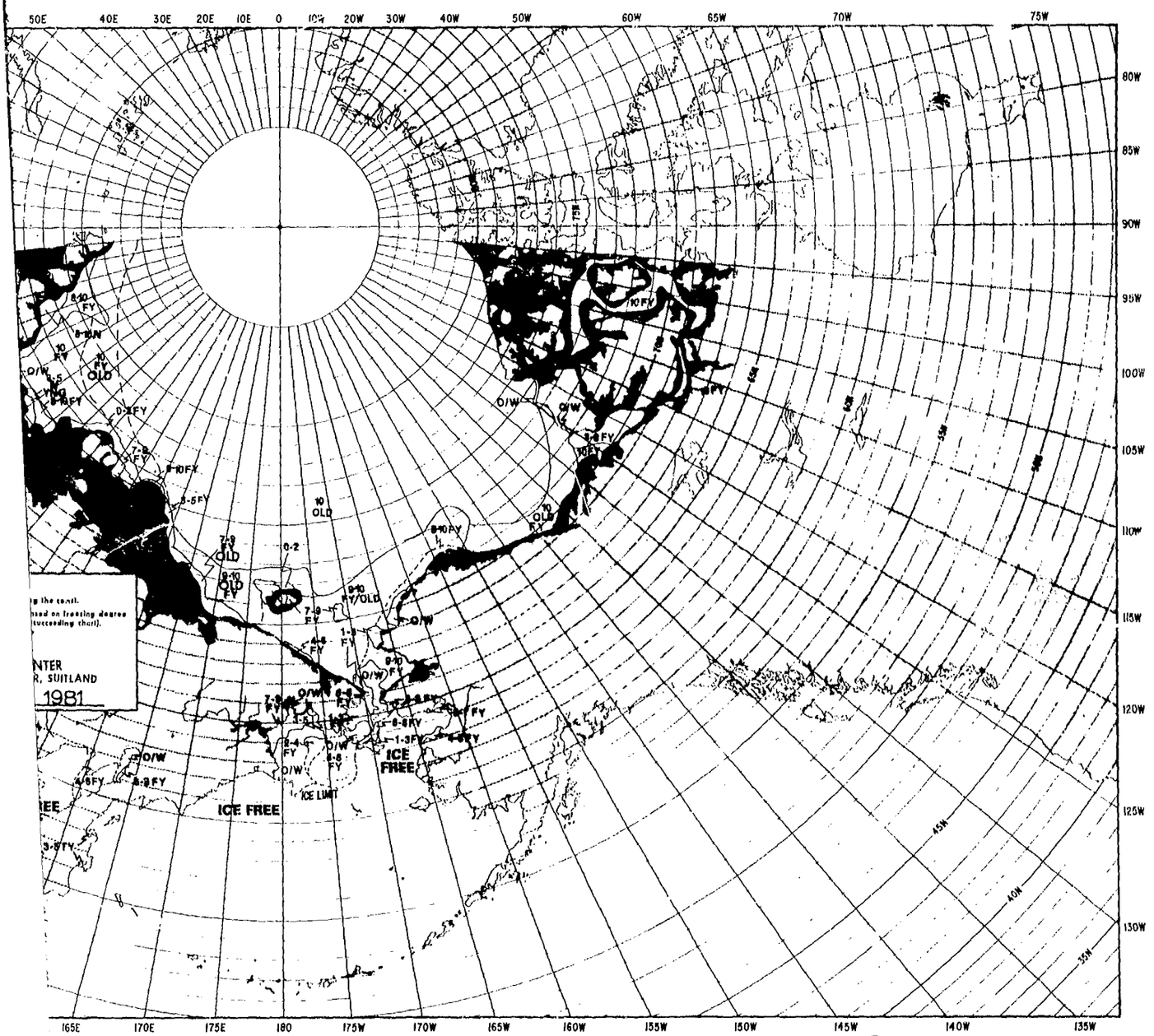
2


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 19 MAY 1981
ICE FREE
ICE FREE
ICE FREE
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

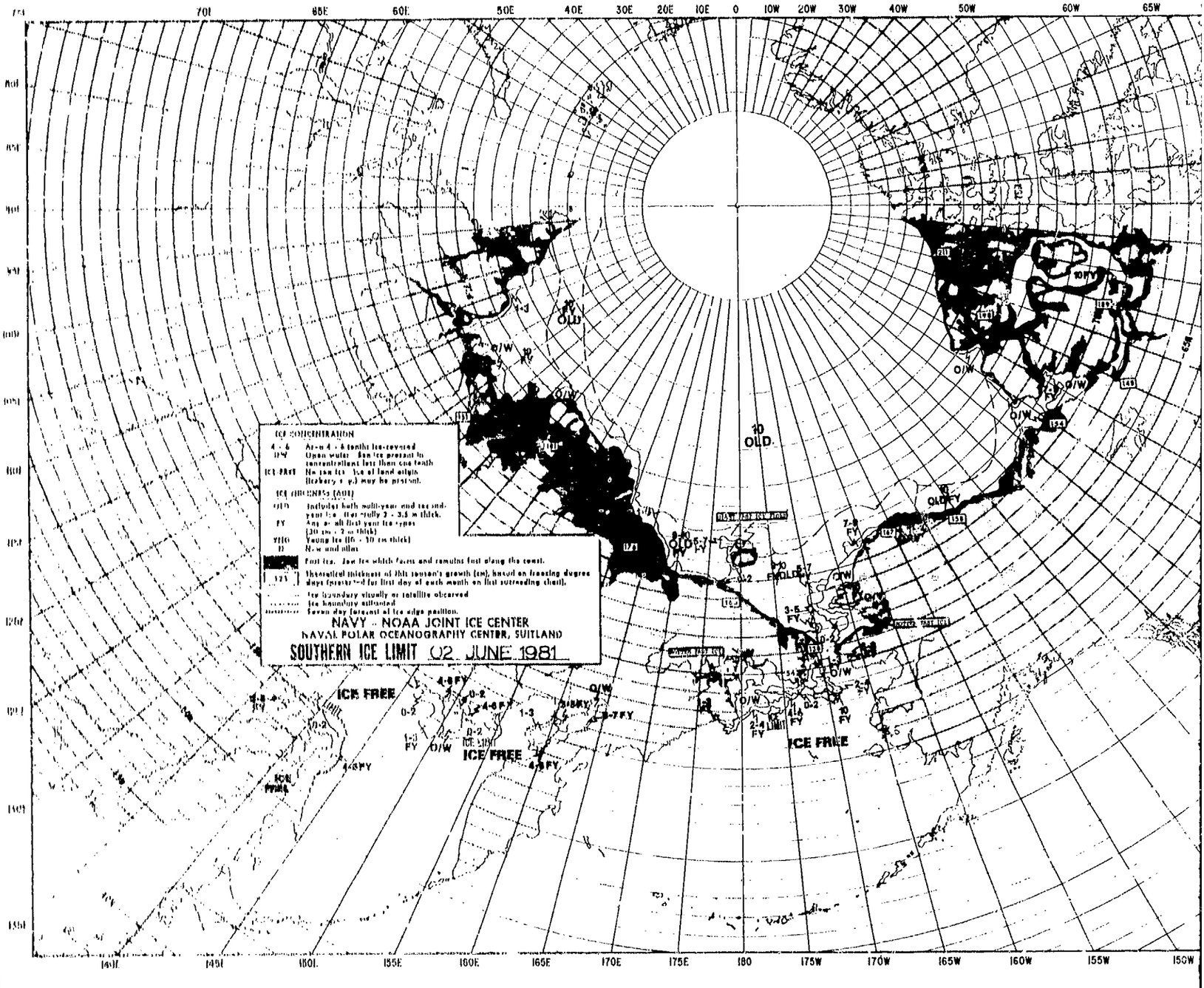

40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
45N
40N
35N
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
ICE FREE
ICE FREE
FY
10 OLD/FY
8-10 FY
7-9 YMG
8-10 OLD FY
10 OLD
10 MY/FY
5-7 FY
8-10 FY/OLD
4-6 FY
10 FYMY
O/W
8-10 FY
7-9 FY
5-7 FY
ICE LWH
1-3

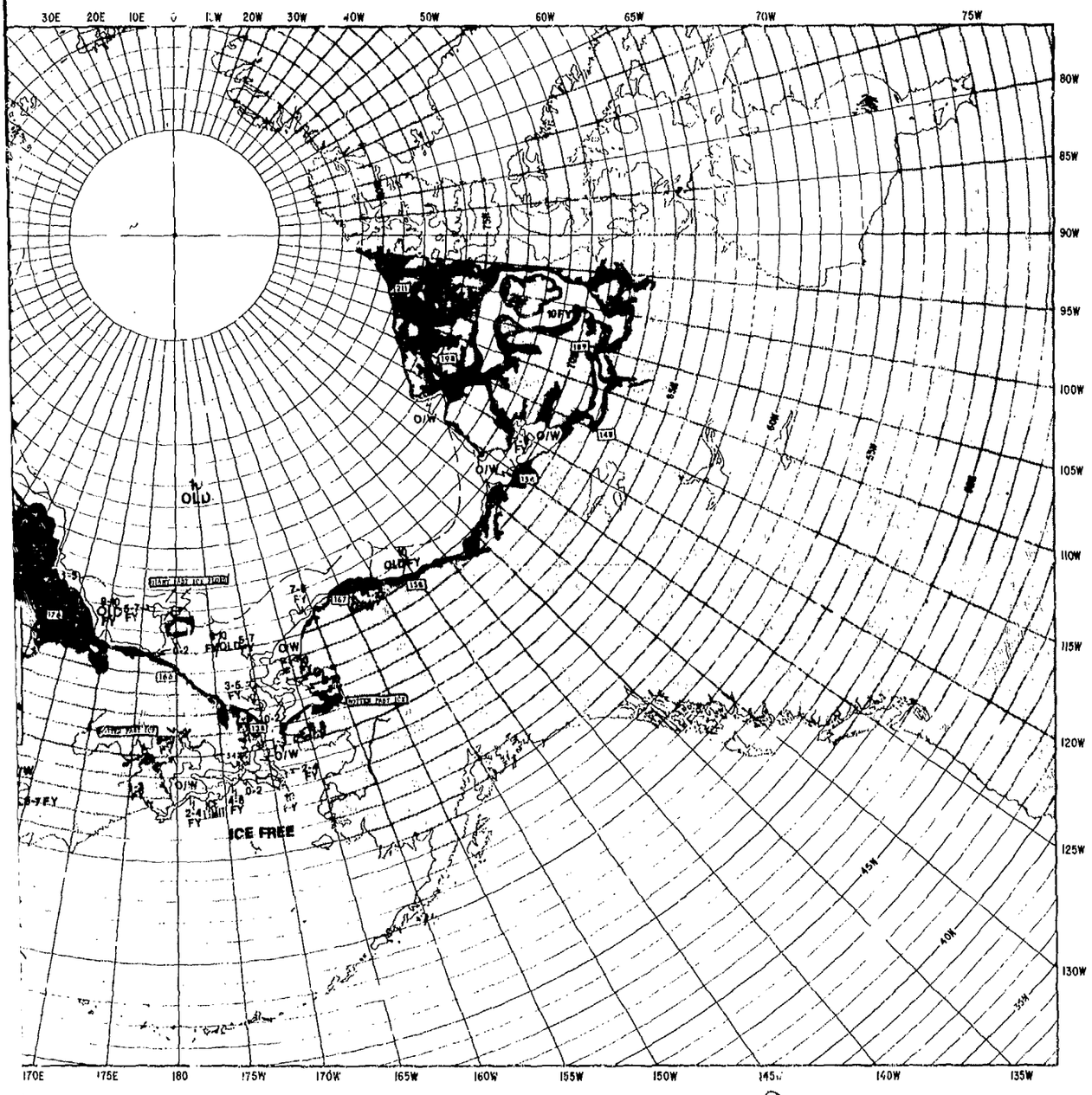
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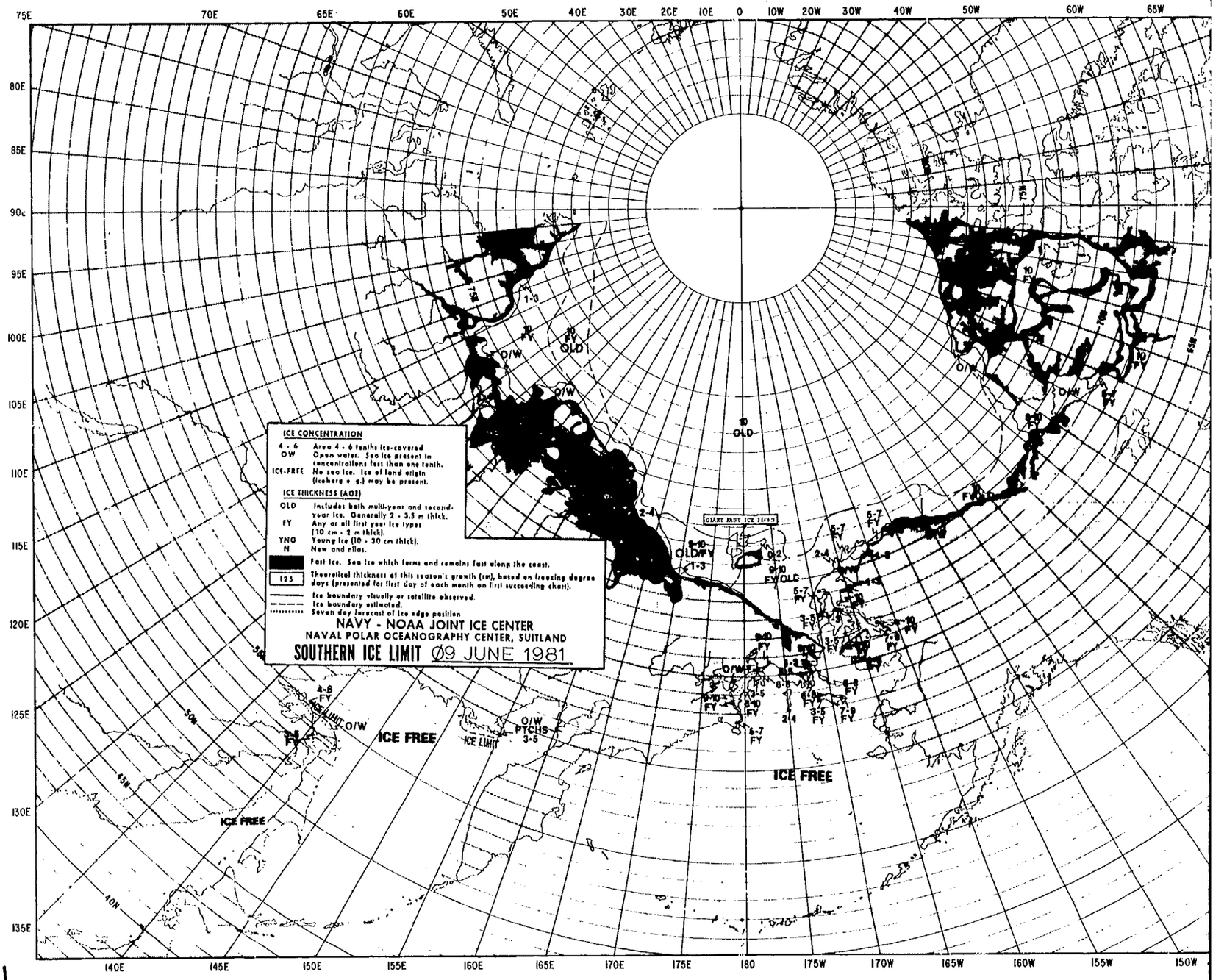

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AO')
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 26 MAY 1981
ICE FREE
ICE LIMIT
O/W
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W

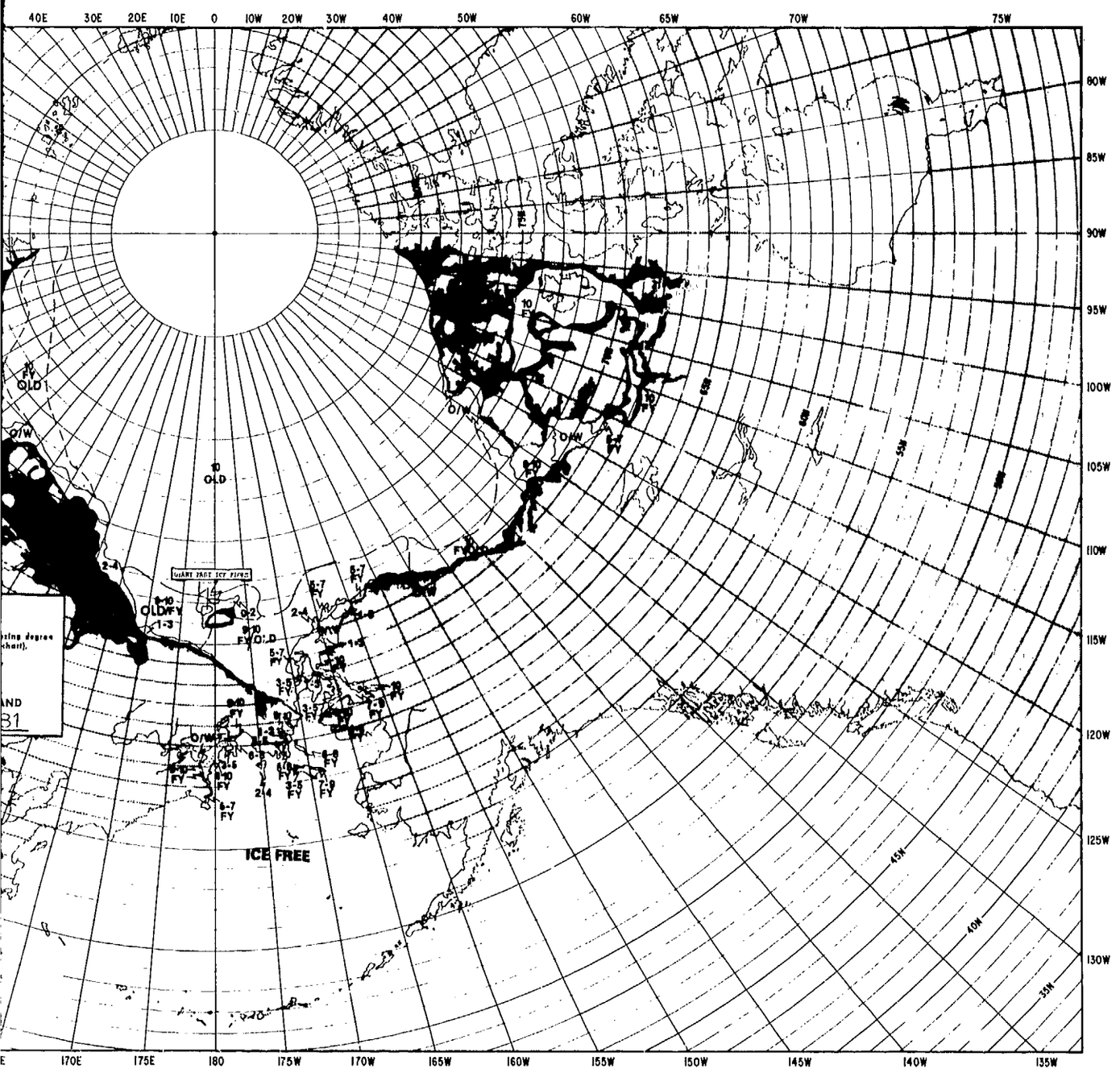

50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
165E
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
45N
40N
35N
ICE FREE
ICE FREE
ICE LIMIT
O/W
OLD
NTER
R, SUITLAND
1981

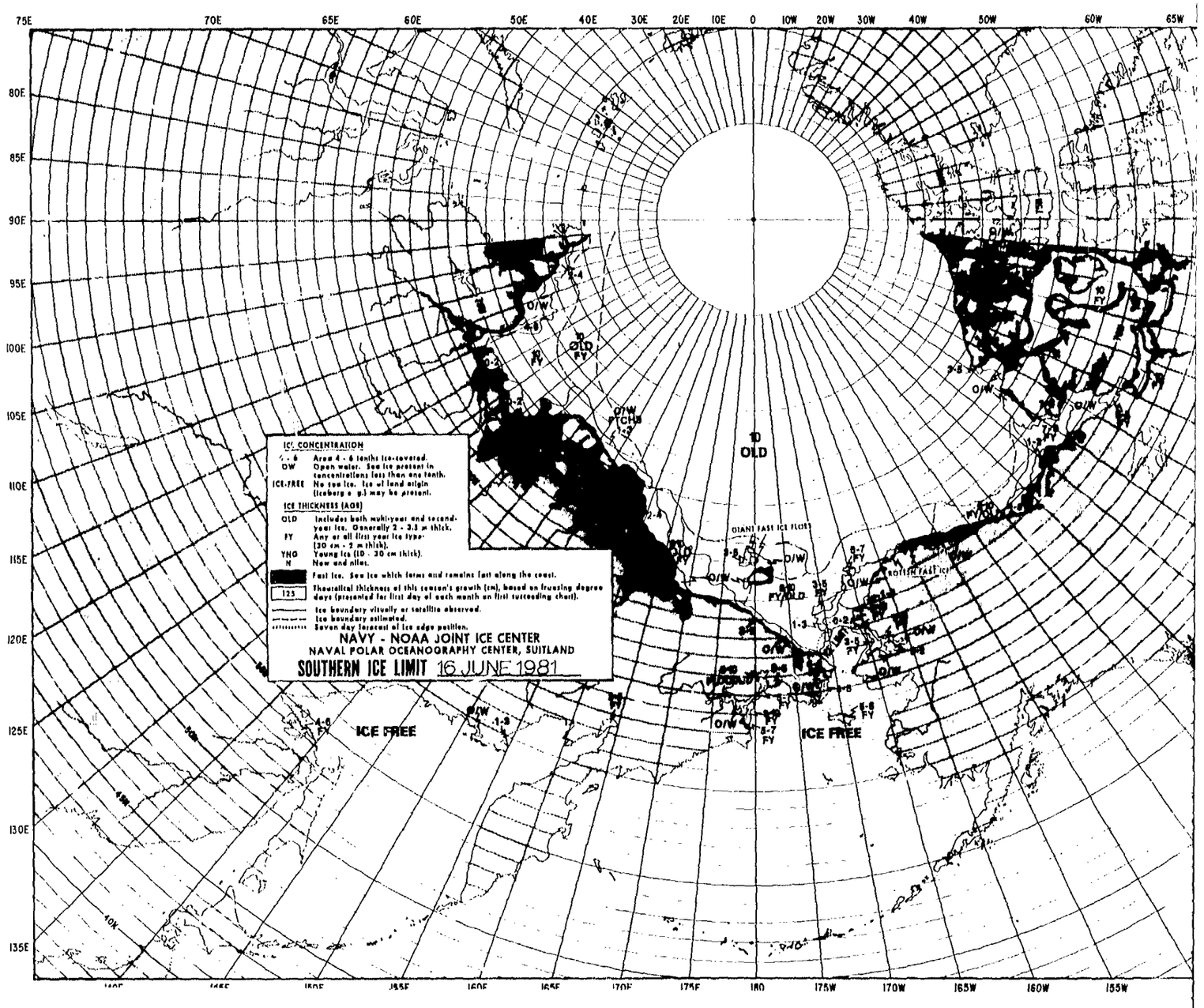
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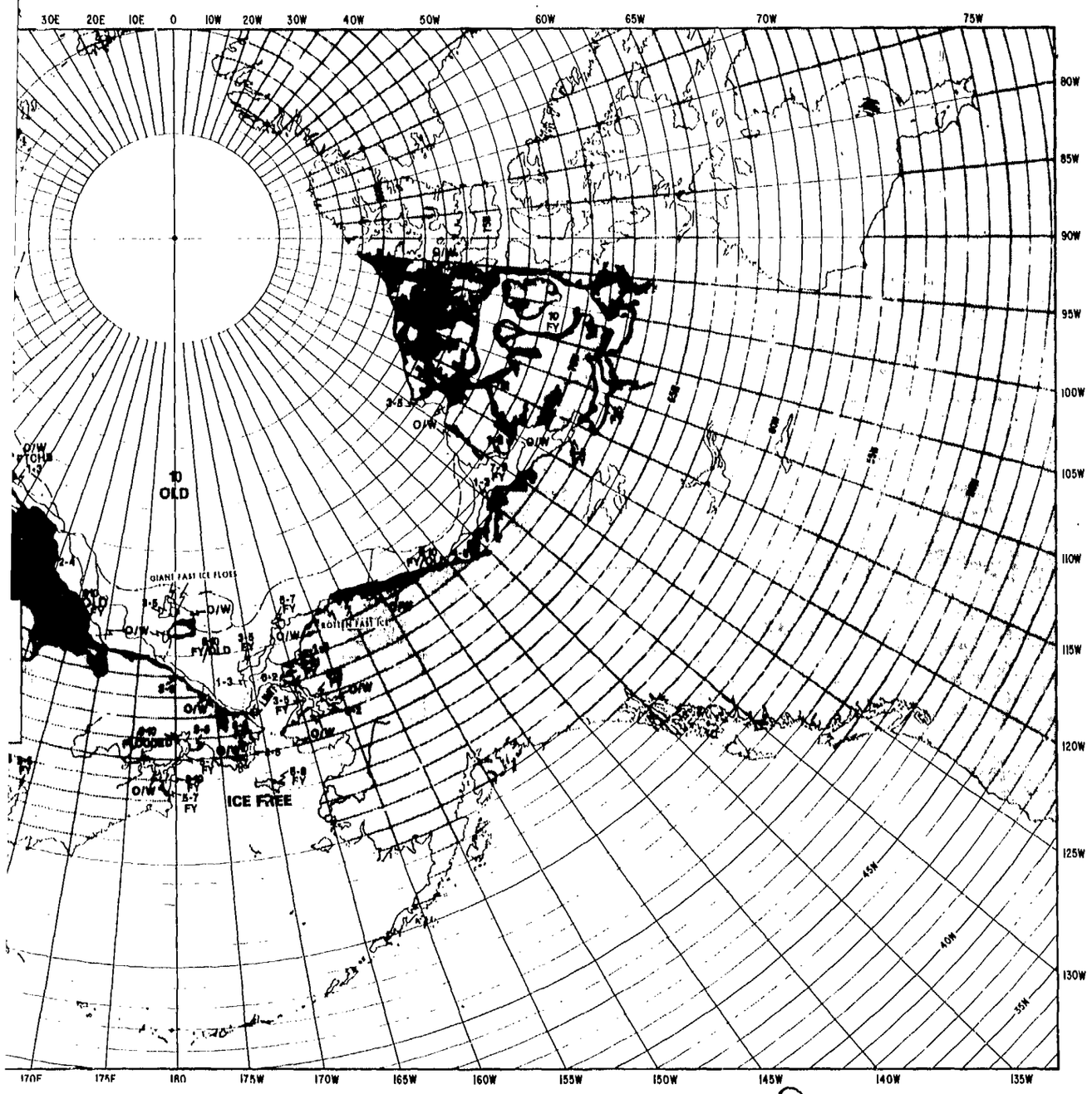

ICE CONCENTRATION
4 - 6 Areas 4 - 6 tenths ice-covered
OW Open water - less ice present in concentrations of less than one tenth
ICE PART No sea ice - ice of land origin (icebergs e.g.) may be present.
ICE TYPES (AGE)
OLD Includes both multi-year and second-year ice - thicknesses usually 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick)
YNG Young ice (10 - 30 cm thick)
II Ice and tilles
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of ice sheet's growth (cm), based on freezing degree days (previous) for first day of each month on ice surrounding chart).
Ice boundary visually or satellite observed
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 02 JUNE 1981
ICE FREE
ICE FREE
ICE FREE
10 OLD
O/W
70E
85E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

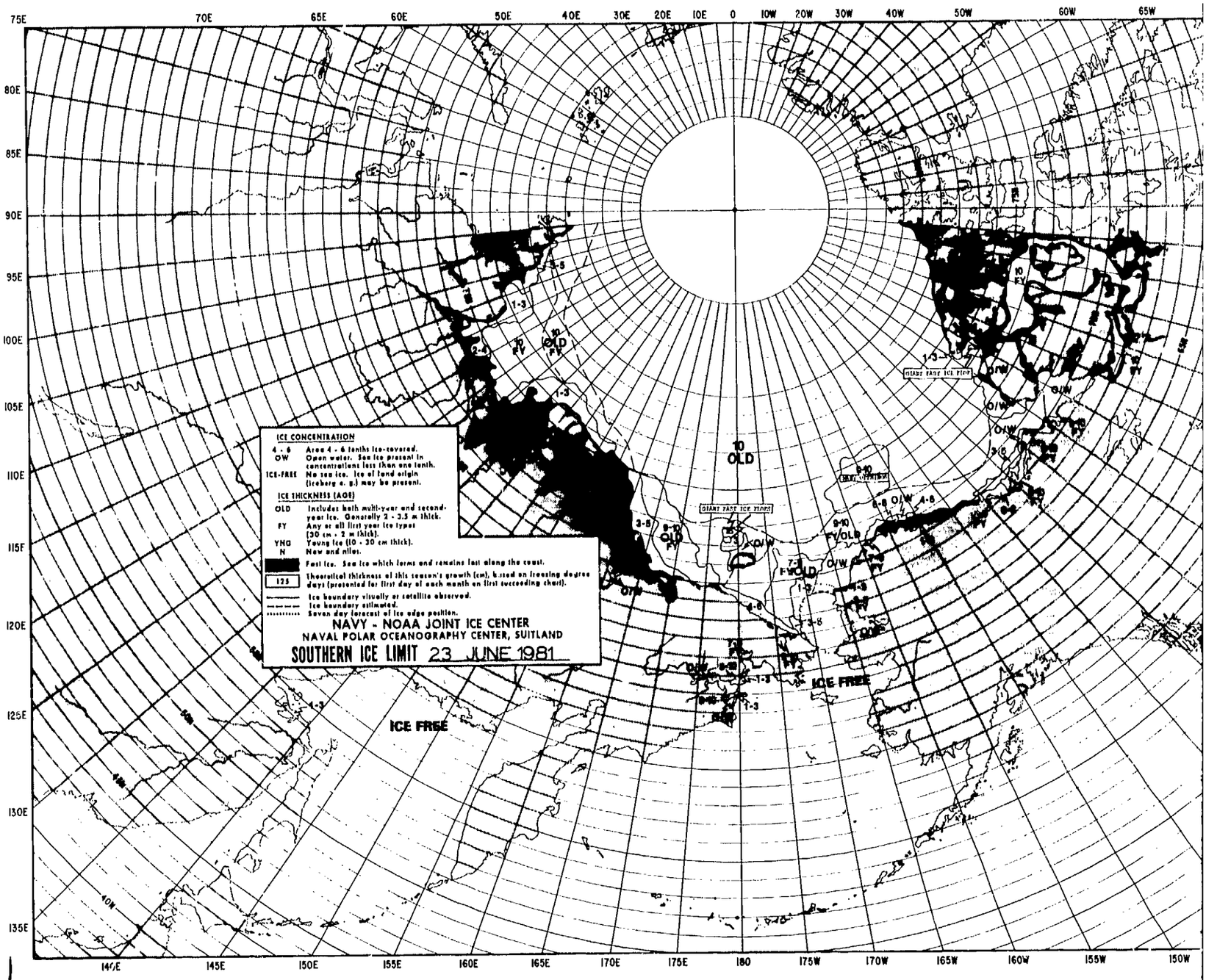

30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
OLD
O/W
ICE FREE

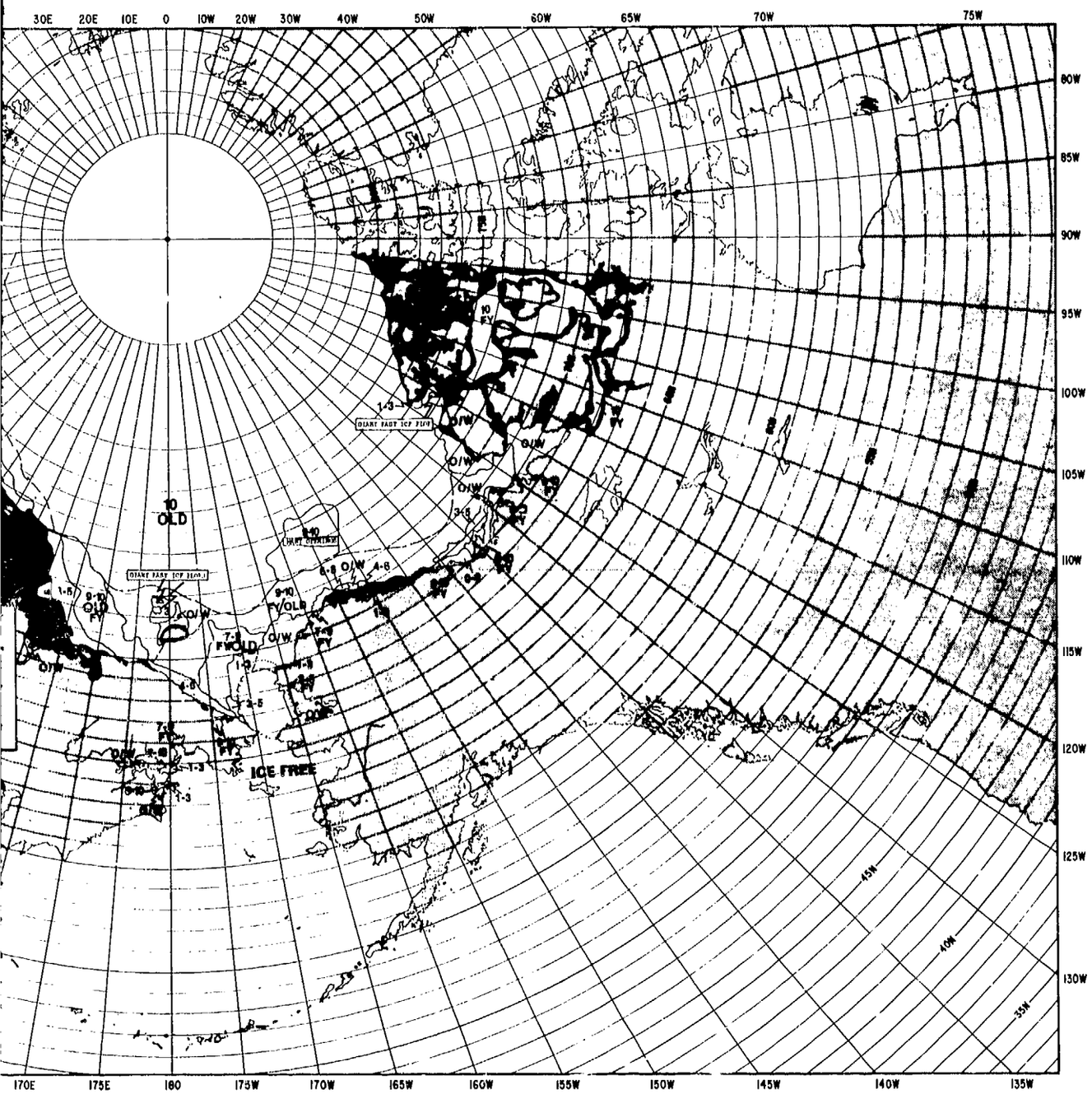

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (10 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 09 JUNE 1981
ICE FREE
ICE LIMIT
O/W
PTCHS
GIANT FAST ICE ISLAND
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W
50N
45N
40N


40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
45N
40N
35N
ICE FREE
GIANT FAST ICE FIELD
OLD
FY
O/W

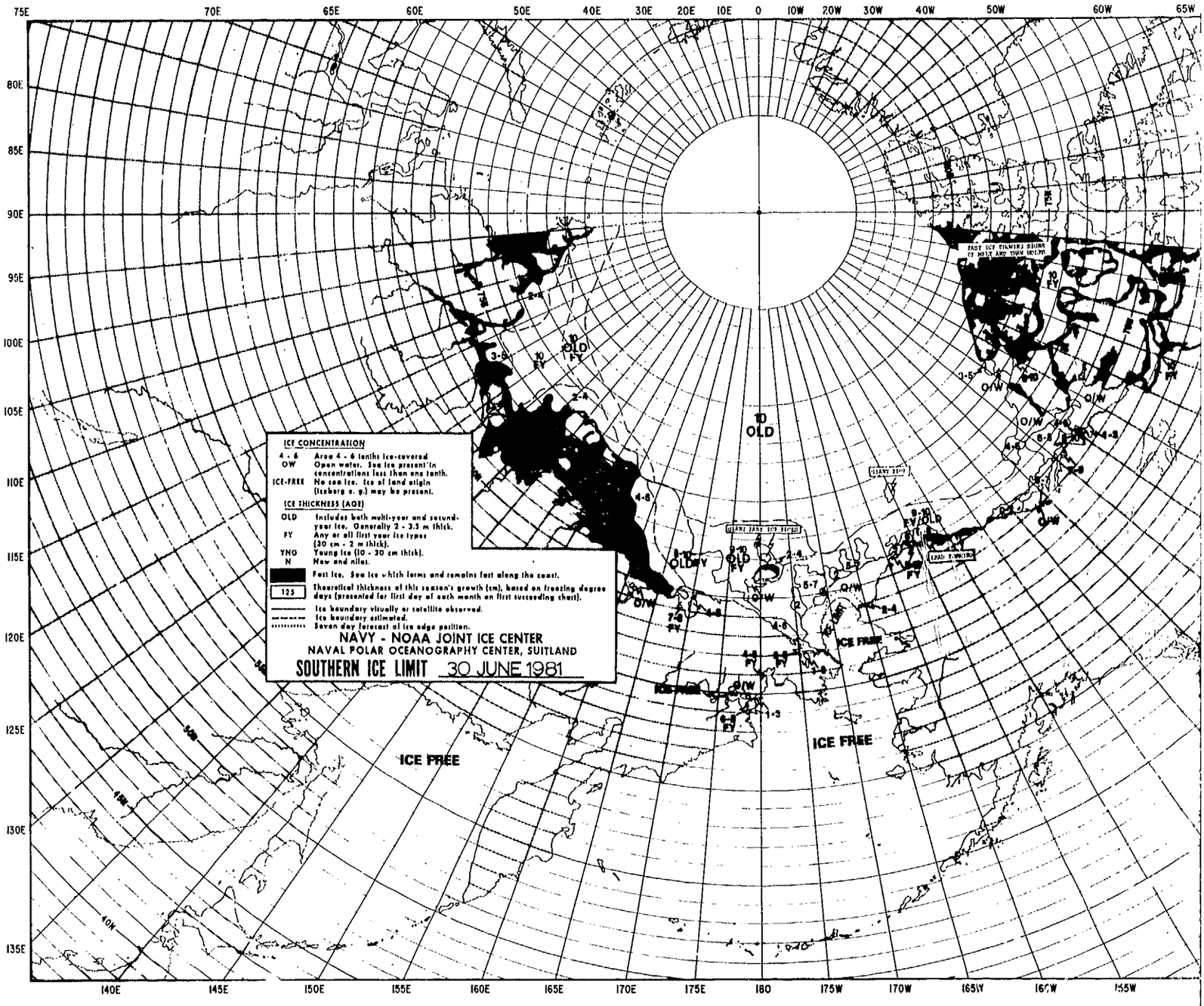

75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
ICE CONCENTRATION
1 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice type (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 16 JUNE 1981
ICE FREE
ICE FREE
GIANT FAST ICE FLOE
O/W
OLD
FY
PTCHS
10
40K

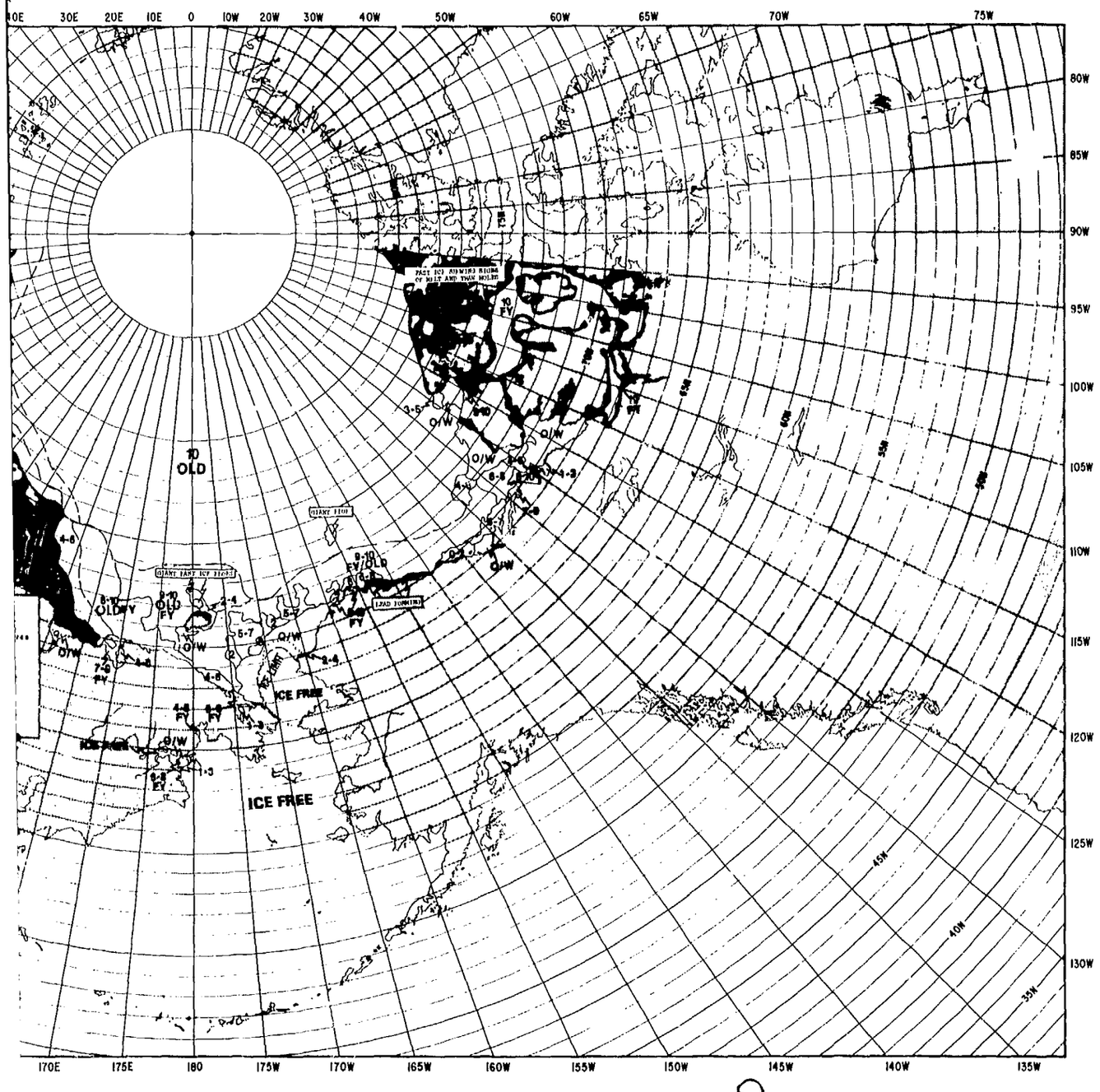

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175E
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135W
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OLD
GIANT FAST ICE FLOES
FAST ICE
ICE FREE
O/W
FY
FY/OLD
FLOODED


75E
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65E
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40E
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165W
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155W
150W
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 23 JUNE 1981
ICE FREE
ICE FREE
GIANT EAST ICE PIANC
GIANT EAST ICE PIANC
OLD
FY
OLD
FY
OLD
FY
FY/OLD
FY/OLD
O/W
O/W
O/W

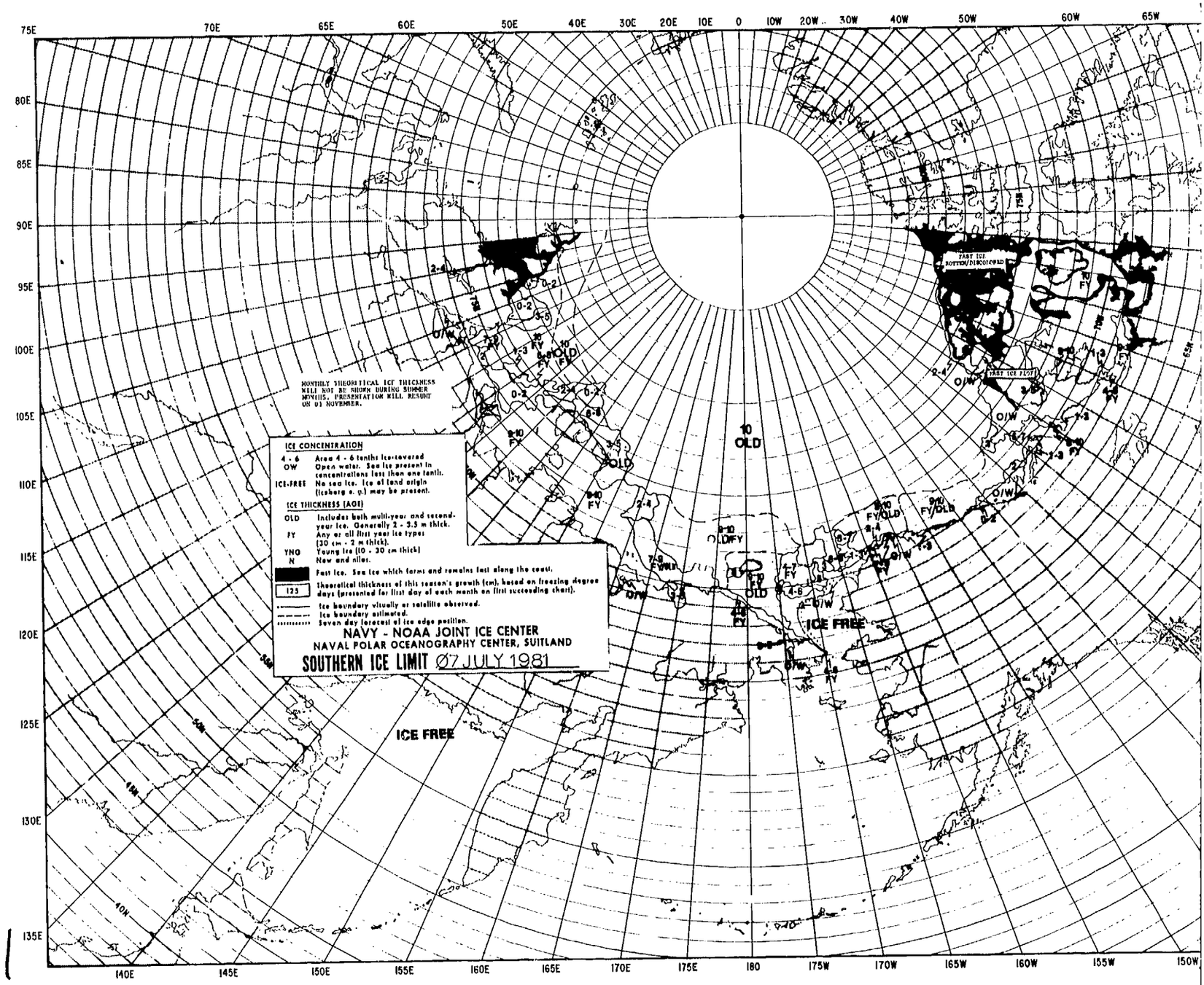

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135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
10 OLD
9-10 OLD FY
9-10 FY/OLD
7-8 FY/OLD
ICE FREE
O/W
1-3
4-6
6-8
9-10 FY
45W
40W
35W

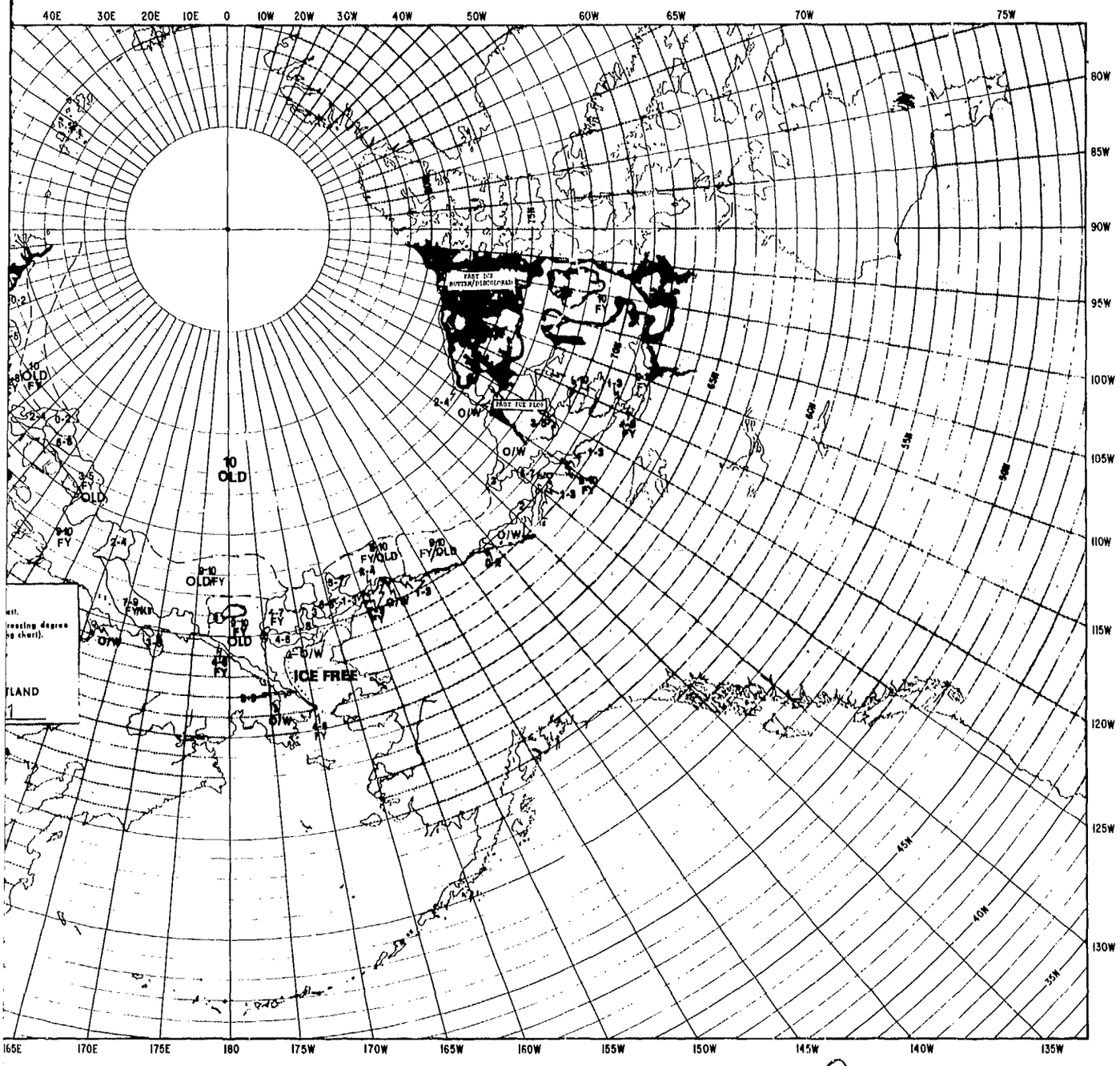
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135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
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165W
160W
155W
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOR)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 30 JUNE 1981
ICE FREE
ICE FREE
ICE FREE
OLD
FY
O/W
GIANT ICE BERG
GIANT ICE BERG

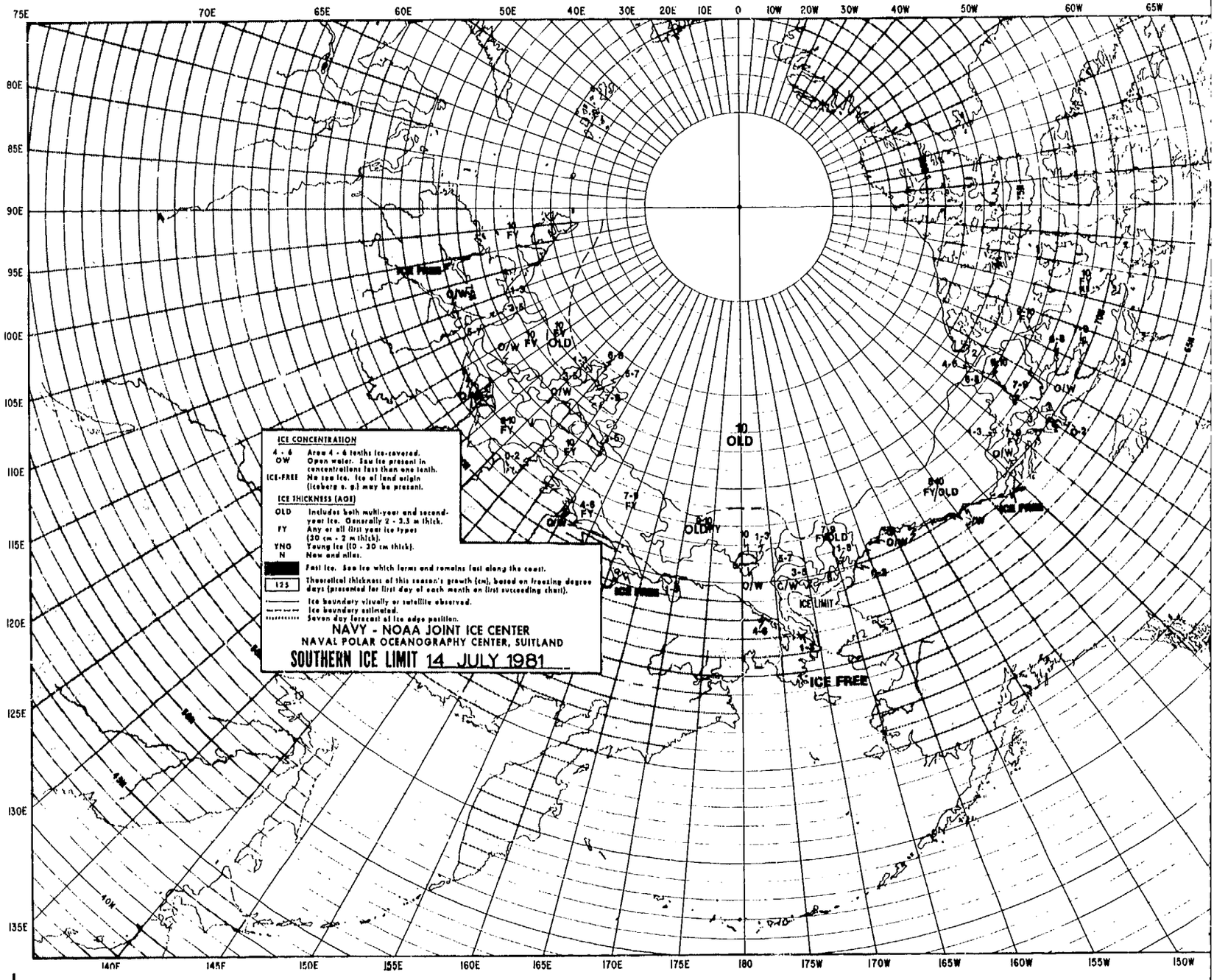

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160W
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150W
145W
140W
135W
45N
40N
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10 OLD
10 FY
ICE FREE
ICE FREE
O/W
GIANT ICEY
LEAD FORMING
PAST ICE ALWAYS RIDGE OF MELT AND THAW HOLES

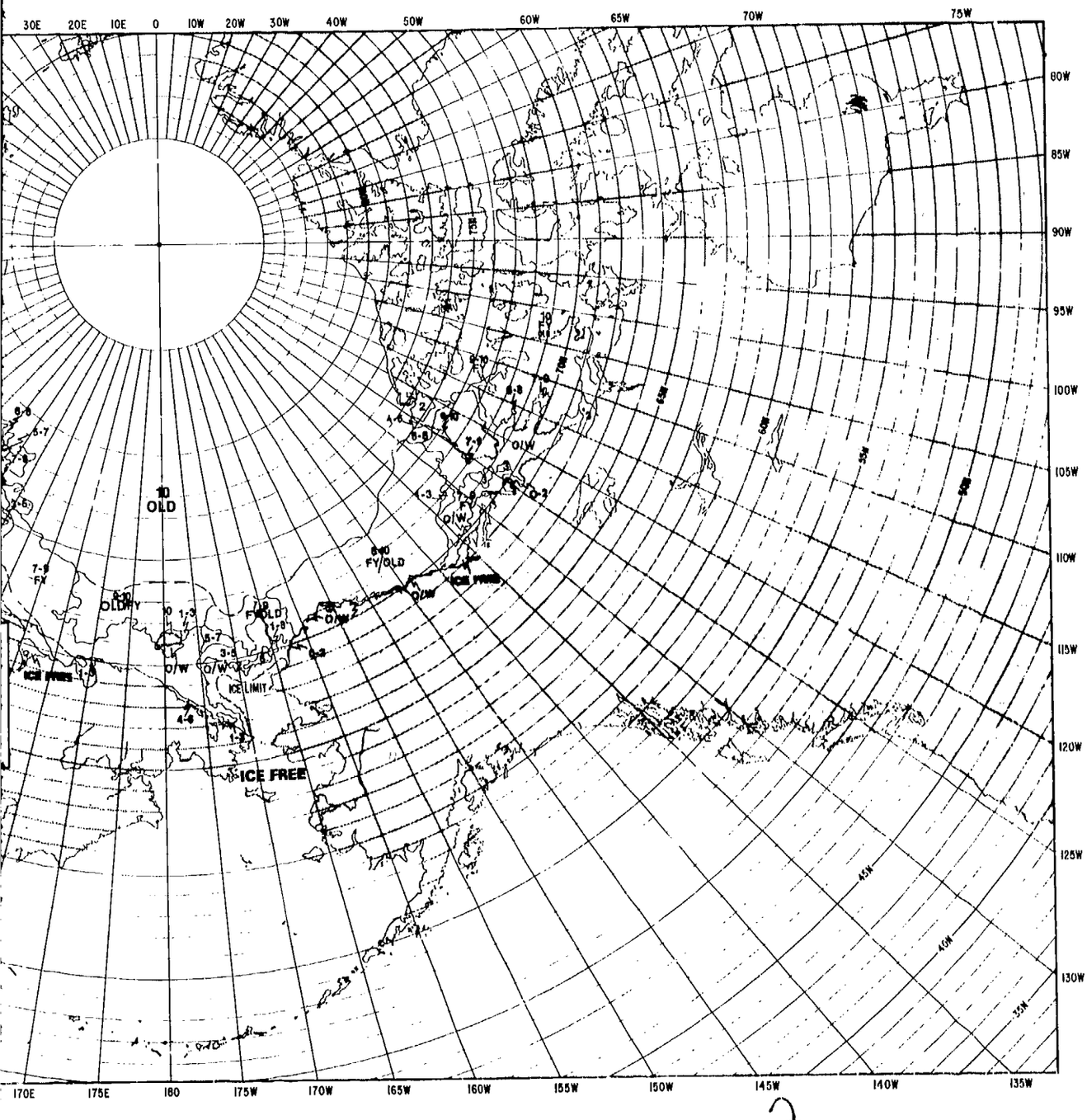
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160E
165E
170E
175E
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175W
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165W
160W
155W
150W
MONTHLY THEORETICAL ICE THICKNESS WILL NOT BE SHOWN DURING SUMMER MONTHS. PRESENTATION WILL RESUME ON 01 NOVEMBER.
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 07 JULY 1981
ICE FREE
ICE FREE
FAST ICE ROTTEN/DISCOLORED
FAST ICE FLOE
O/W
10 OLD
9-10 FY/OLD
9-10 OLD/FY
9-10 FY OLD
7-8 FY/OLD
50N
45N
40N

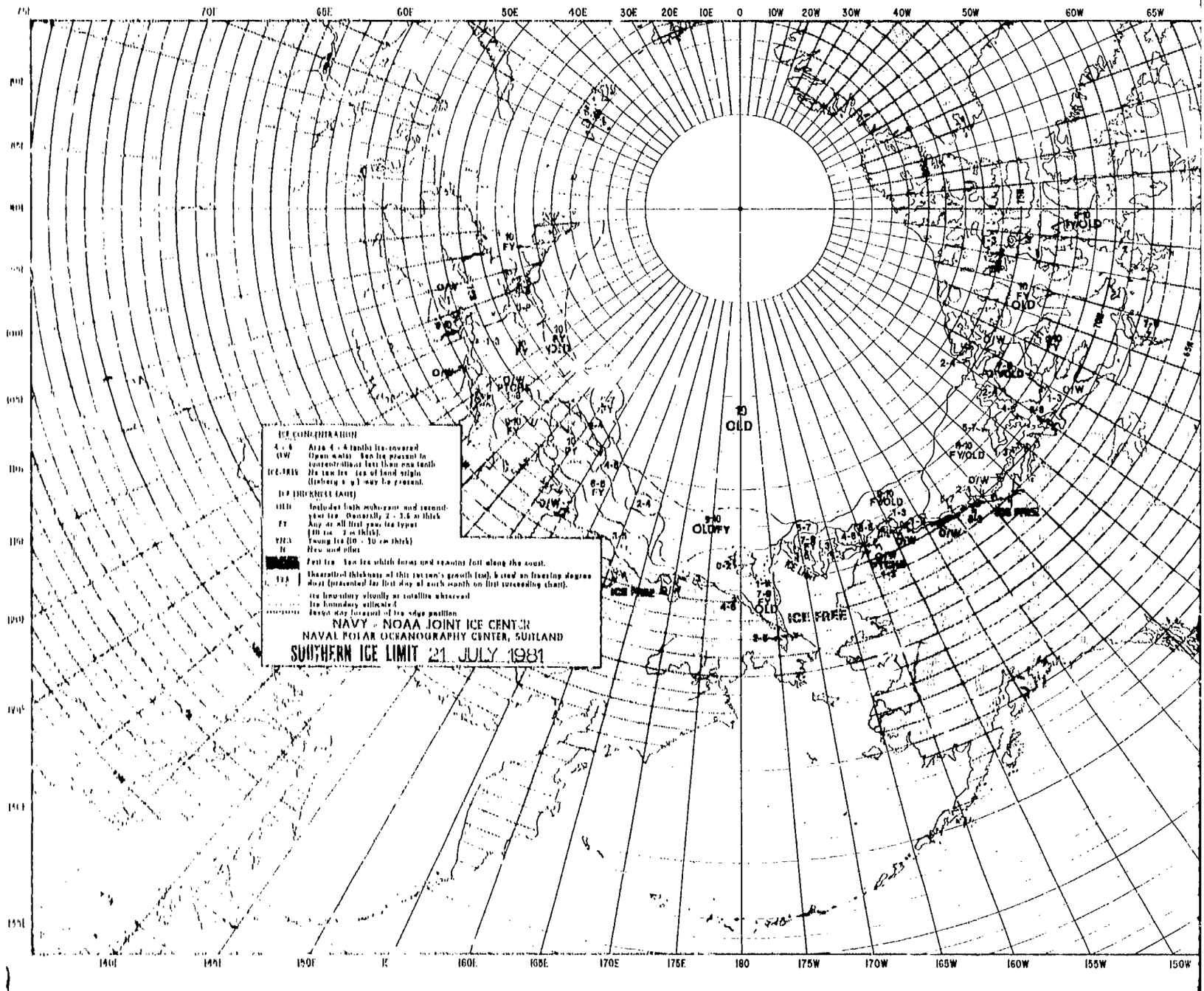

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100W
105W
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115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
165E
FAST ICE
ROTTEN/DISCOLORED
FAST ICE EDGE
10 OLD
10 FY
O/W
ICE FREE
9/10 FY/OLD
9-10 OLD/FY
7-9 FY/OLD
4-6 FY
2-4 FY
1-3 FY
0-2 FY
3-5 FY/OLD
45N
40N
35N

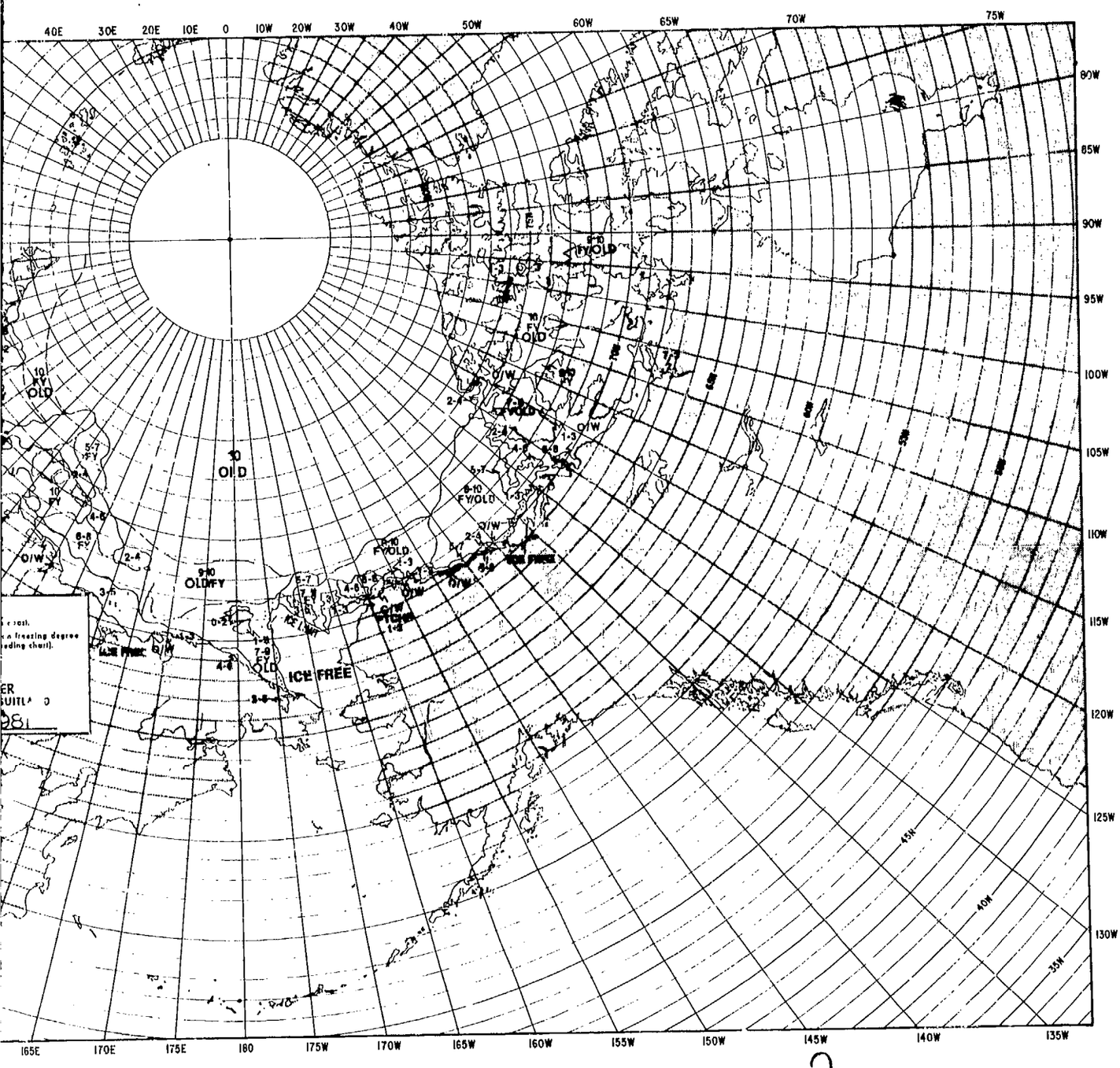
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135E
140E
145E
150E
155E
160E
165E
170E
175E
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175W
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165W
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155W
150W
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 14 JULY 1981
ICE LIMIT
ICE FREE
ICE PRESS
OLD
FY
O/W

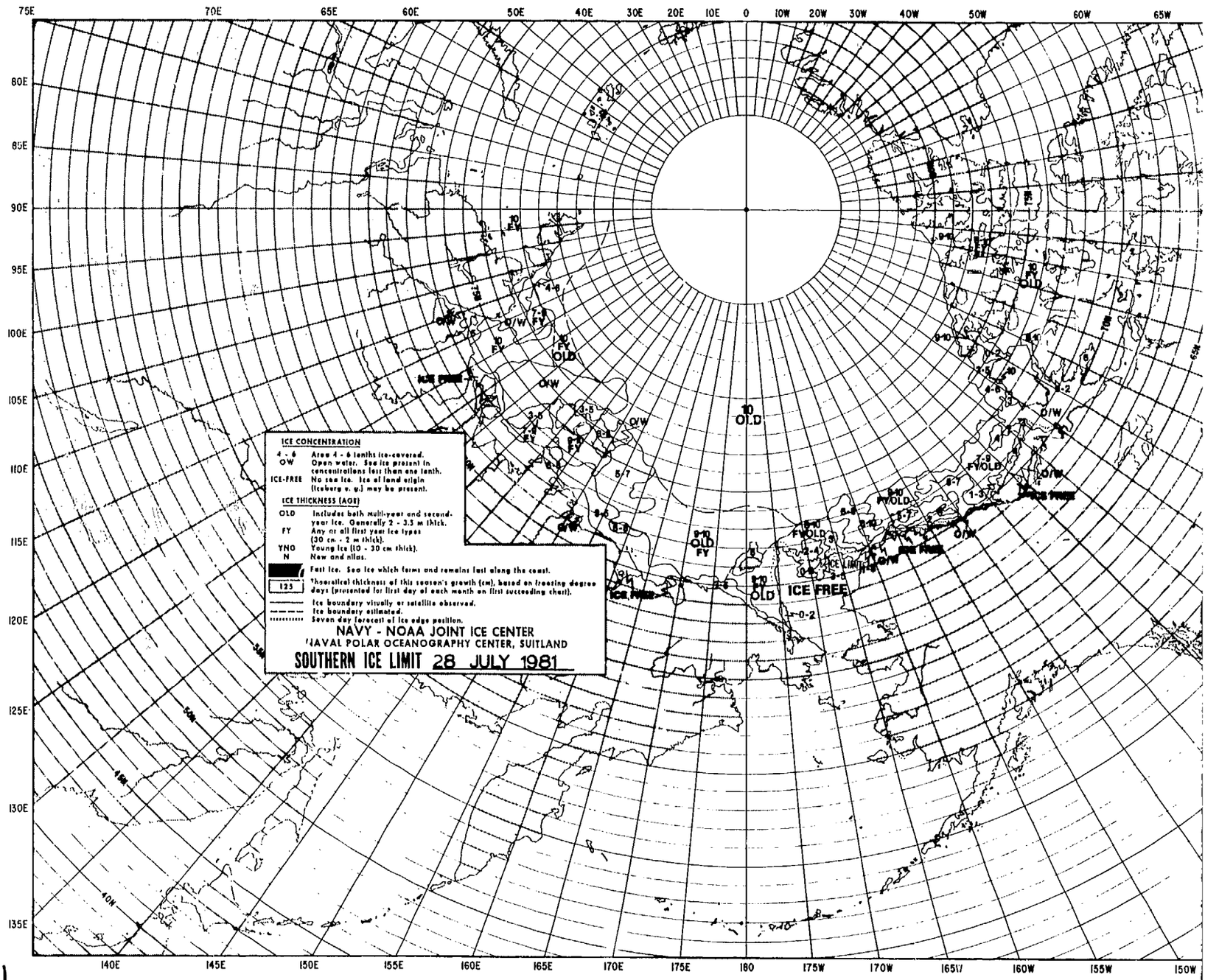

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160W
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10
OLD
FY/OLD
OLD/FY
F/OLD
ICE FREE
ICE LIMIT
O/W
ICE FREE
ICE FREE

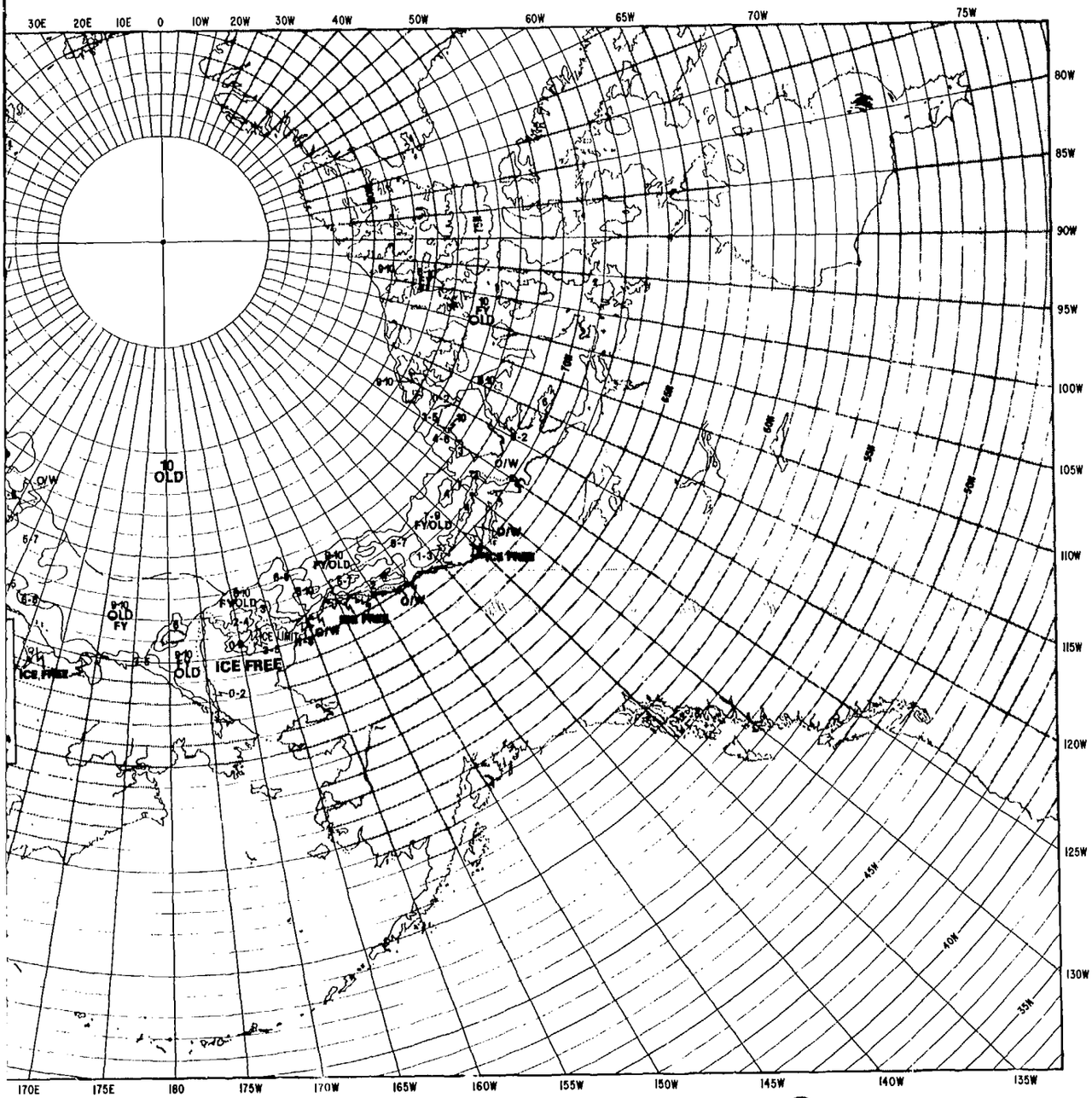
2


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
(W Open water) Sea ice present in concentrations less than one tenth
ICE-FREE No sea ice (as of land origin (icebergs may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick
FY Any or all first-year ice types (30 cm - 2 m thick)
YNG Young ice (10 - 30 cm thick)
N New and pilot
Pack ice Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (forecasts for first day of each month on first succeeding chart).
ice boundary visually or satellite observed
ice boundary estimated
forecast ice edge position
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 21 JULY 1981
ICE FREE
ICE FREE
70E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
140E
145E
150E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

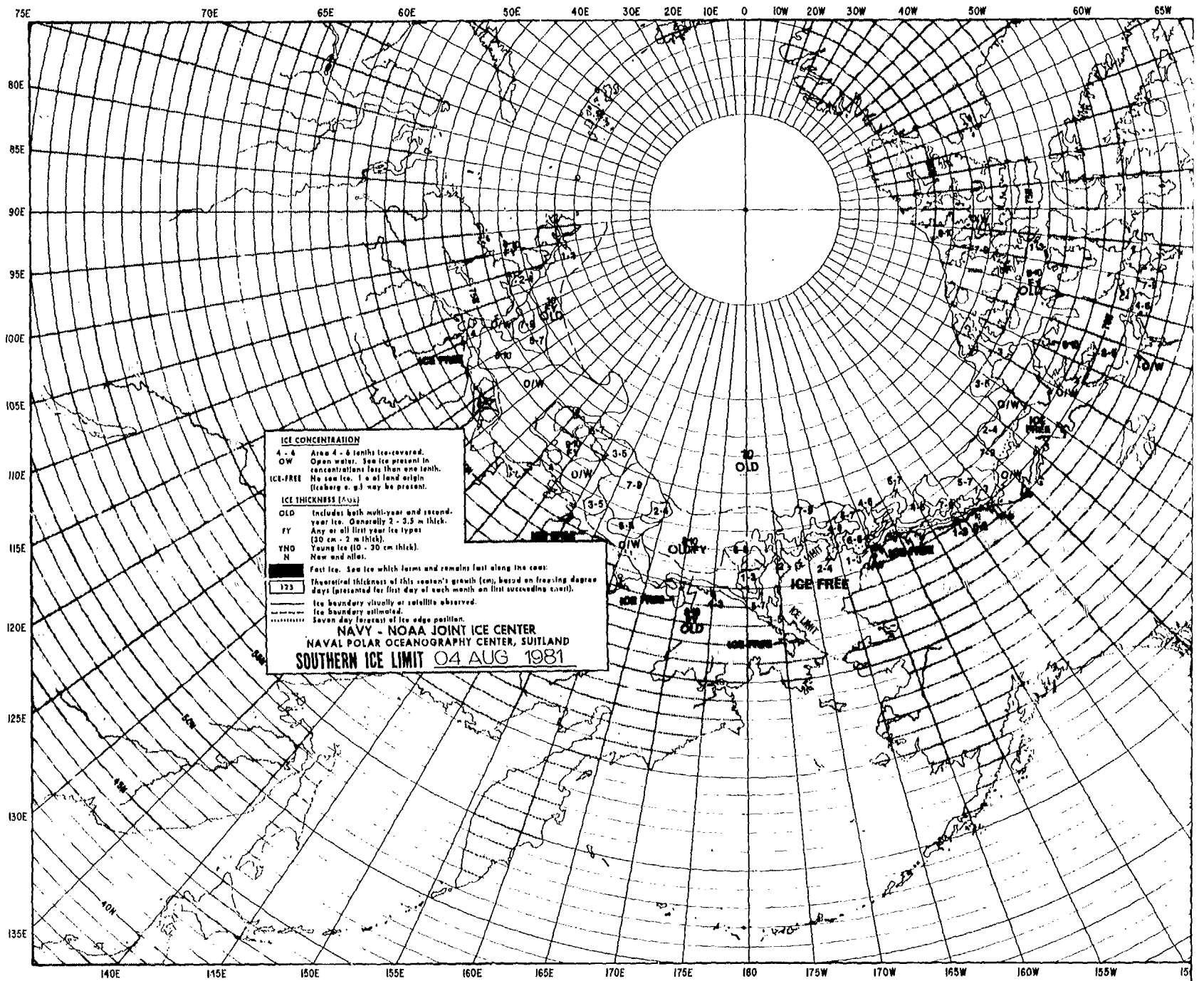

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80W
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90W
95W
100W
105W
110W
115W
120W
125W
130W
45N
40N
35N
165E
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
10 OLD
10 FY OLD
9-10 OLD FY
6-10 FY/OLD
ICE FREE
O/W
2-4
3-5
4-6
5-7
6-8
7-9
1-3
1-2
0-2

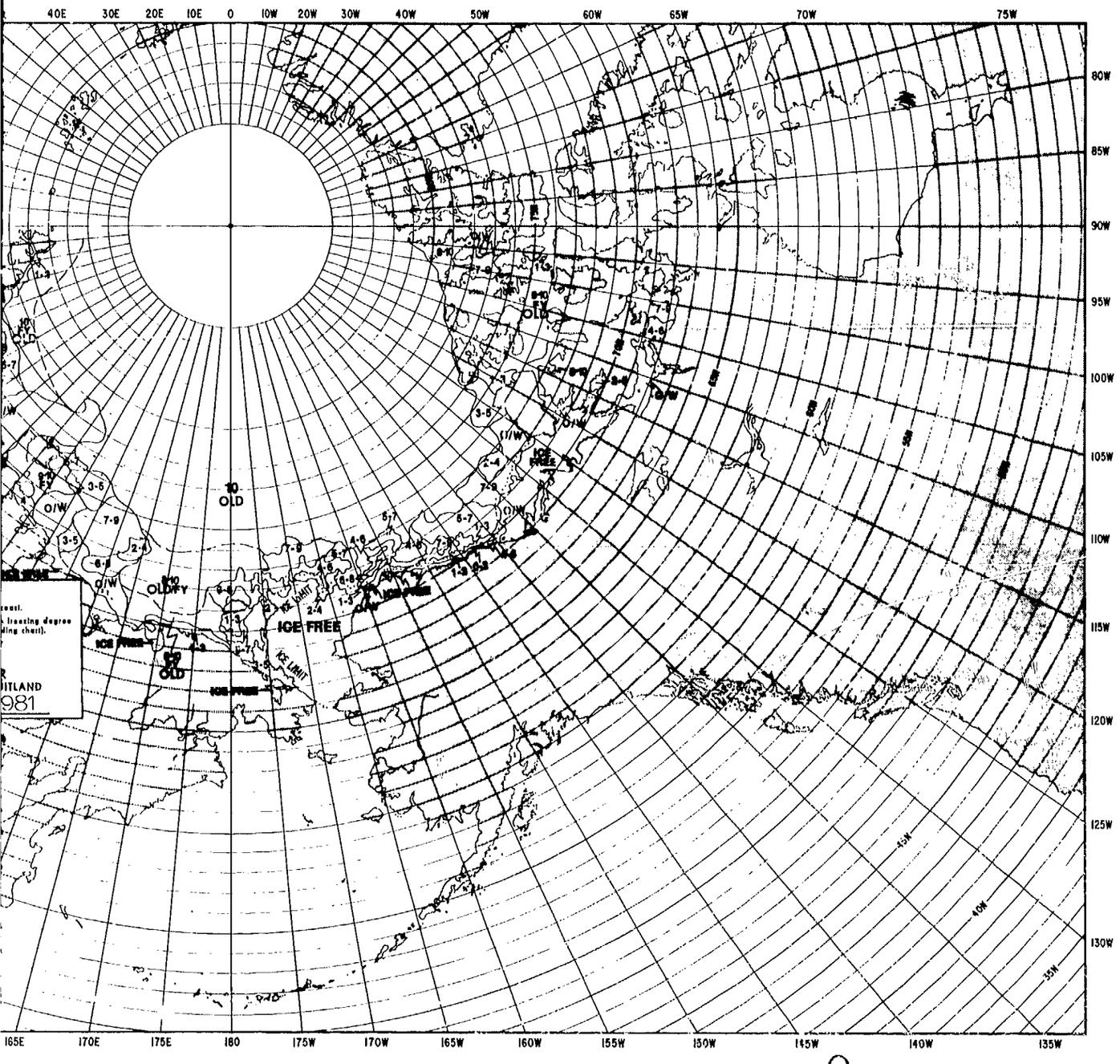
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75E
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155E
160E
165E
170E
175E
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175W
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165W
160W
155W
150W
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 28 JULY 1981
ICE FREE
ICE LIMIT
O/W
10 OLD
10 FY
10 FY OLD
9-10 OLD FY
9-10 FY/OLD
ICE FREE

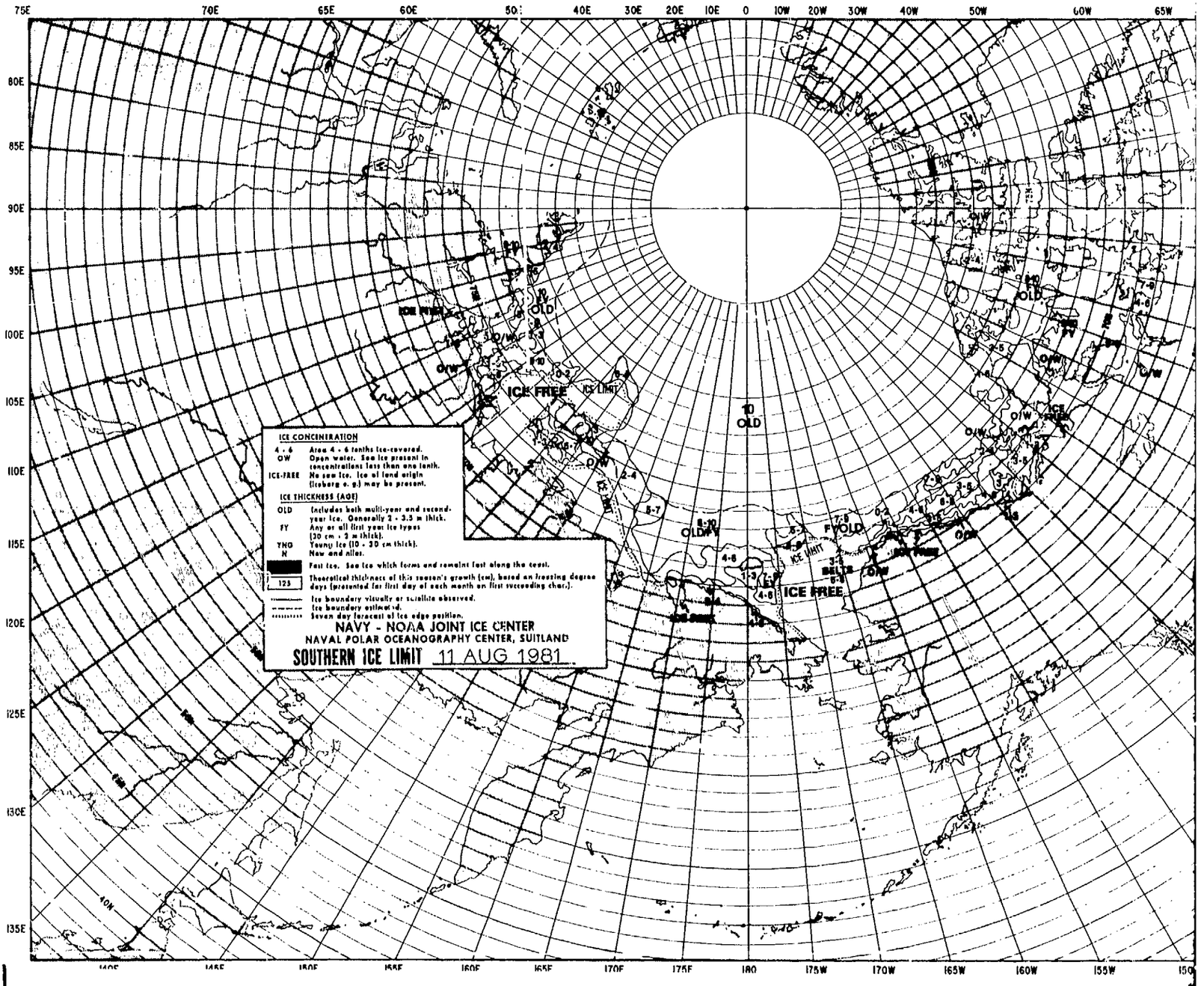

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105W
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125W
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140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
45N
40N
35N
10 OLD
O/W
9-10 OLD FY
9-10 OLD
ICE FREE
9-10 FY/OLD
9-10 FY OLD
ICE LIMIT

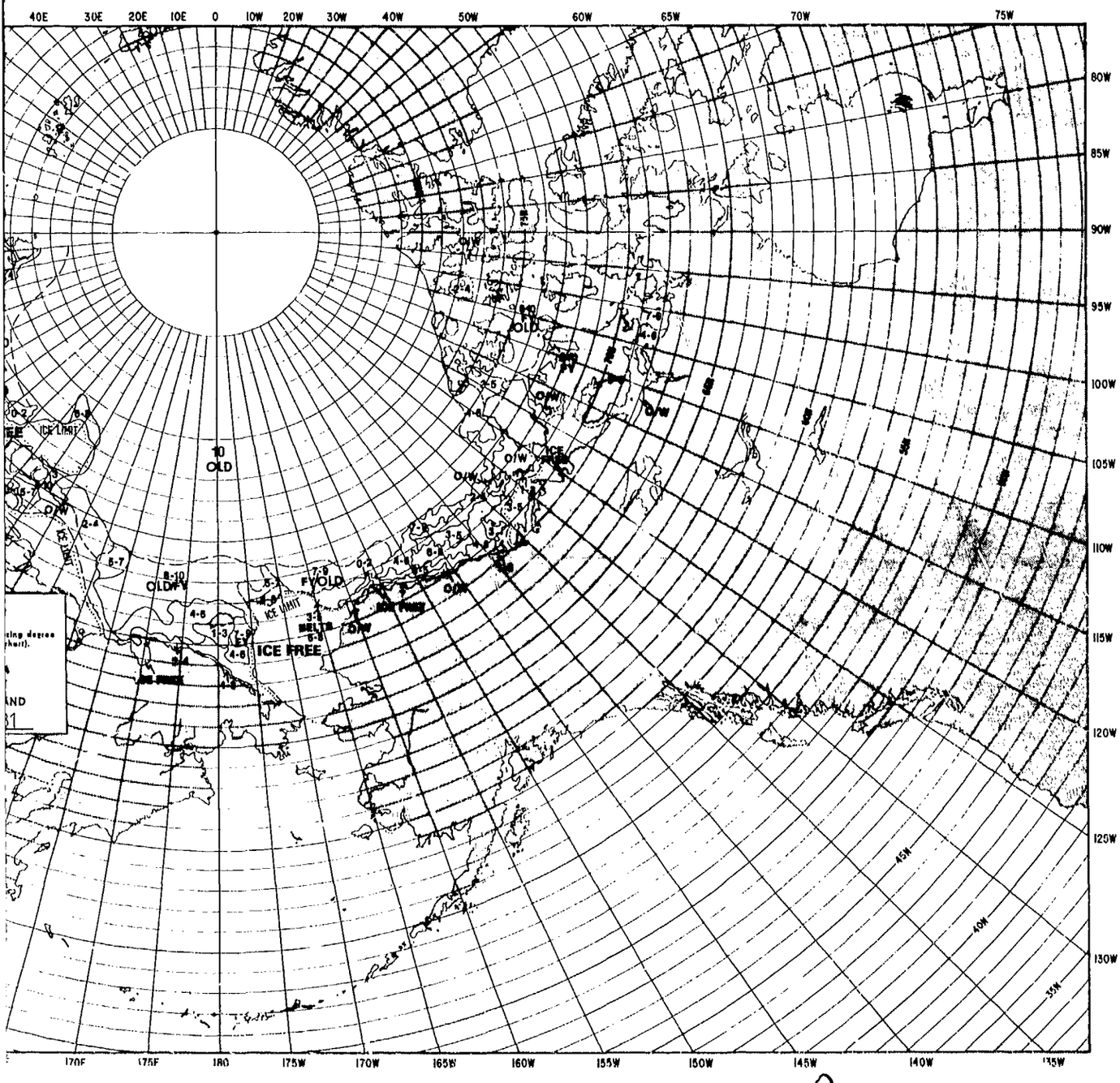
2


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. See ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (Mos)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 04 AUG 1981
ICE FREE
ICE LIMIT
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
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170E
175E
180
175W
170W
165W
160W
155W

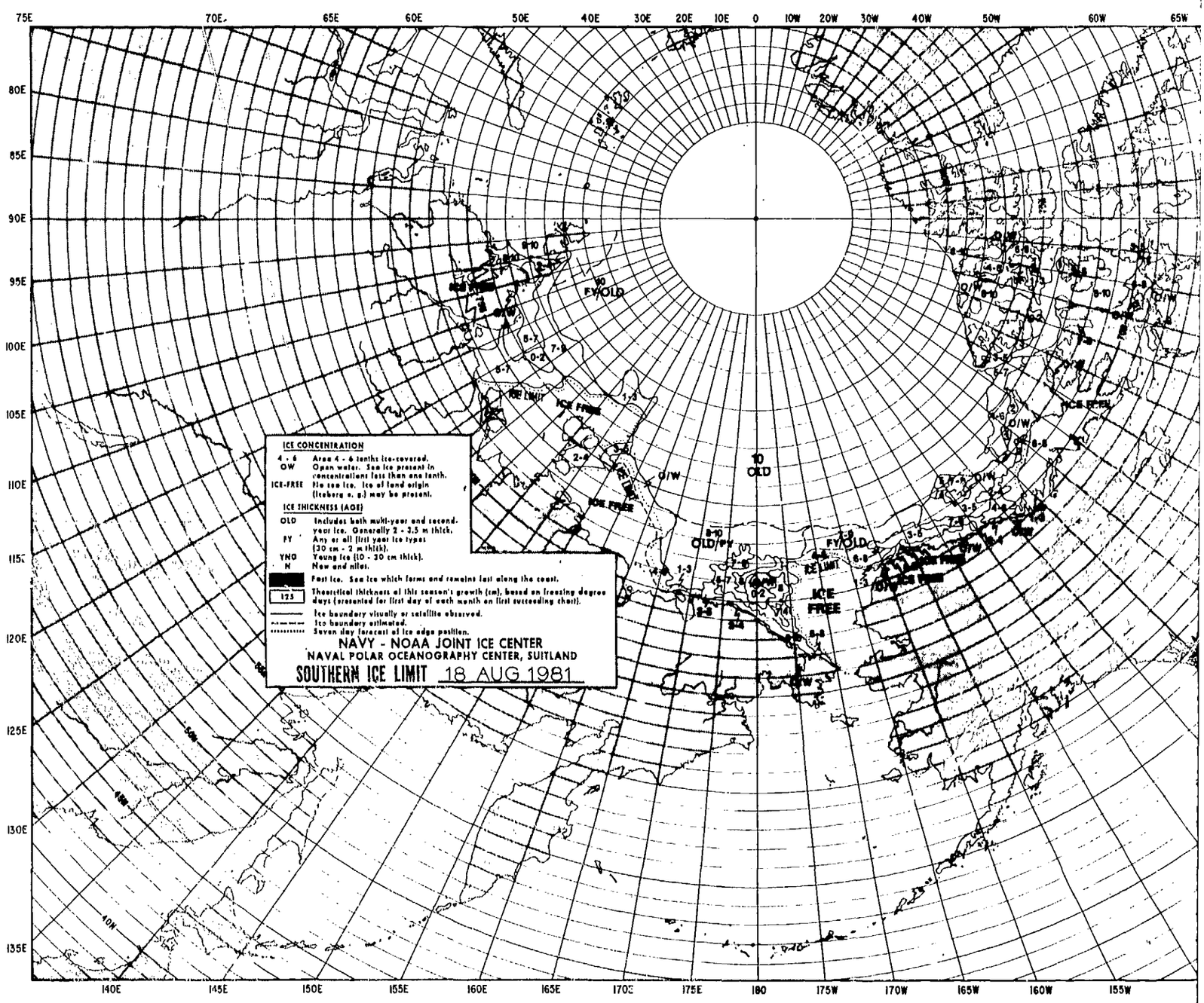

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45N
40N
35N
ICE FREE
ICE LIMIT
10 OLD
O/W

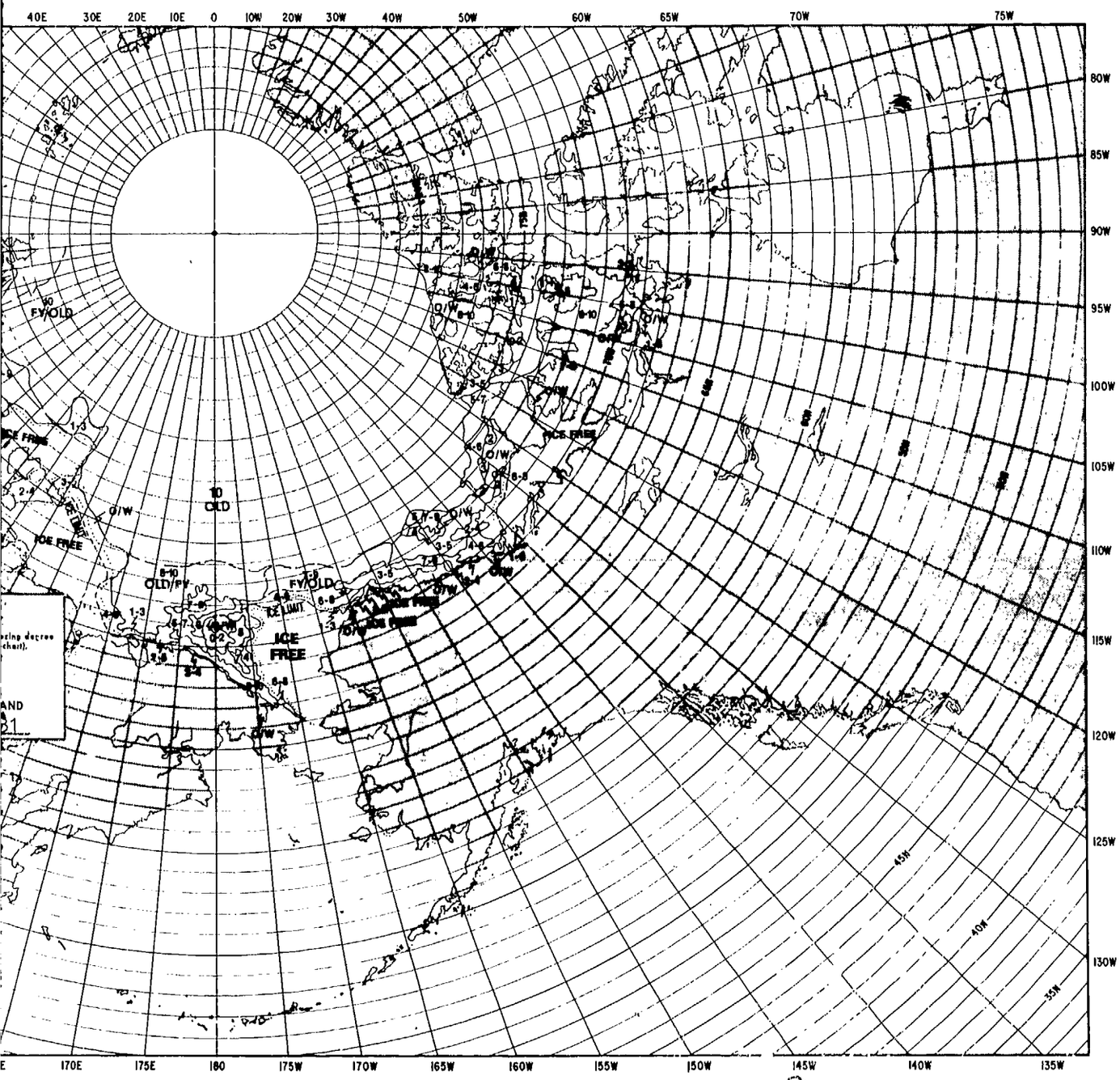
2


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 11 AUG 1981
ICE FREE
ICE LIMIT
OLD
FY
OLD/FY
OLD/OW
ICE EDGE
75E
70E
65E
60E
50E
40E
30E
20E
10E
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10W
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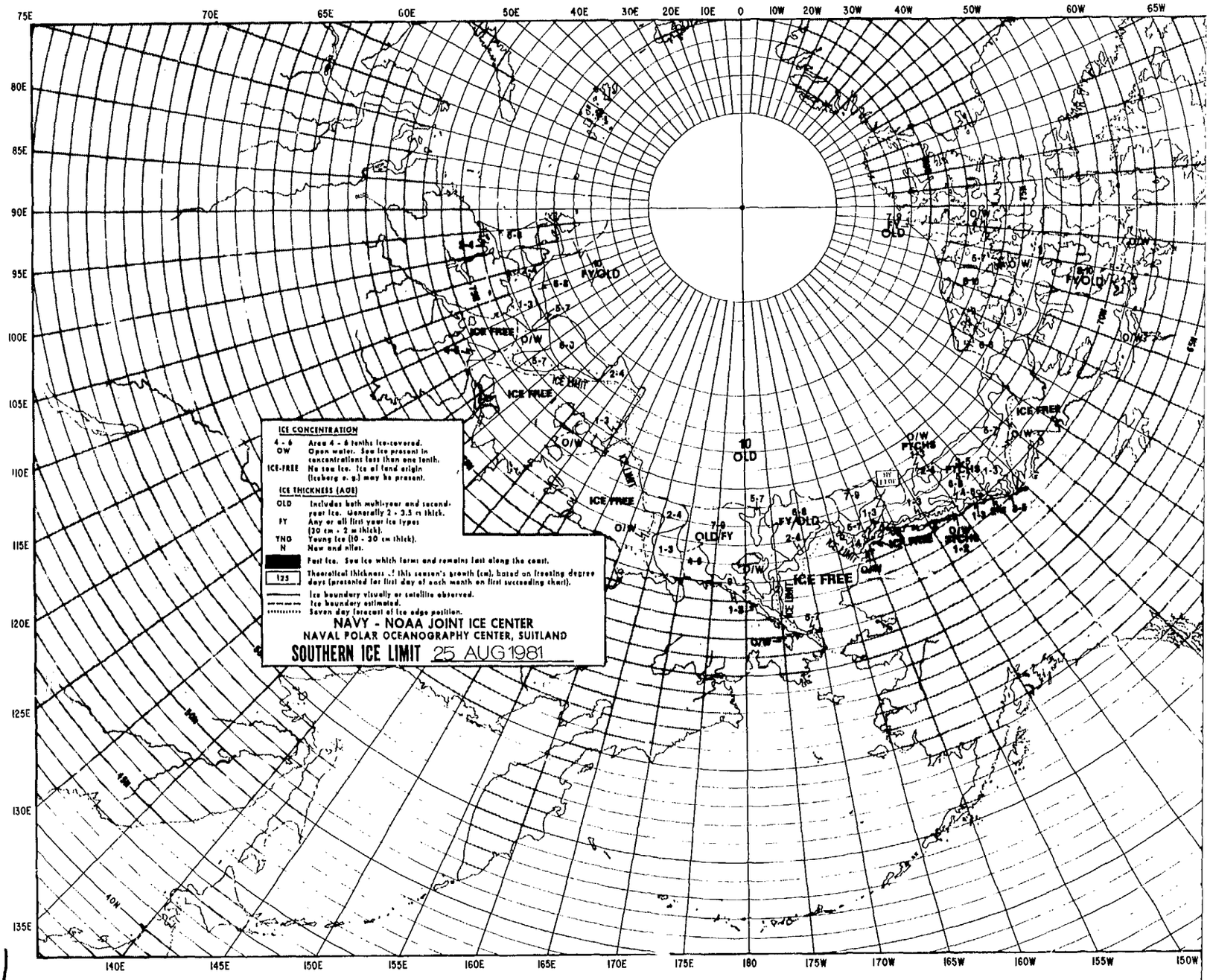

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ICE FREE
OLD
OLD/W
F/OLD
O/W
ICE LIMIT
MELTR

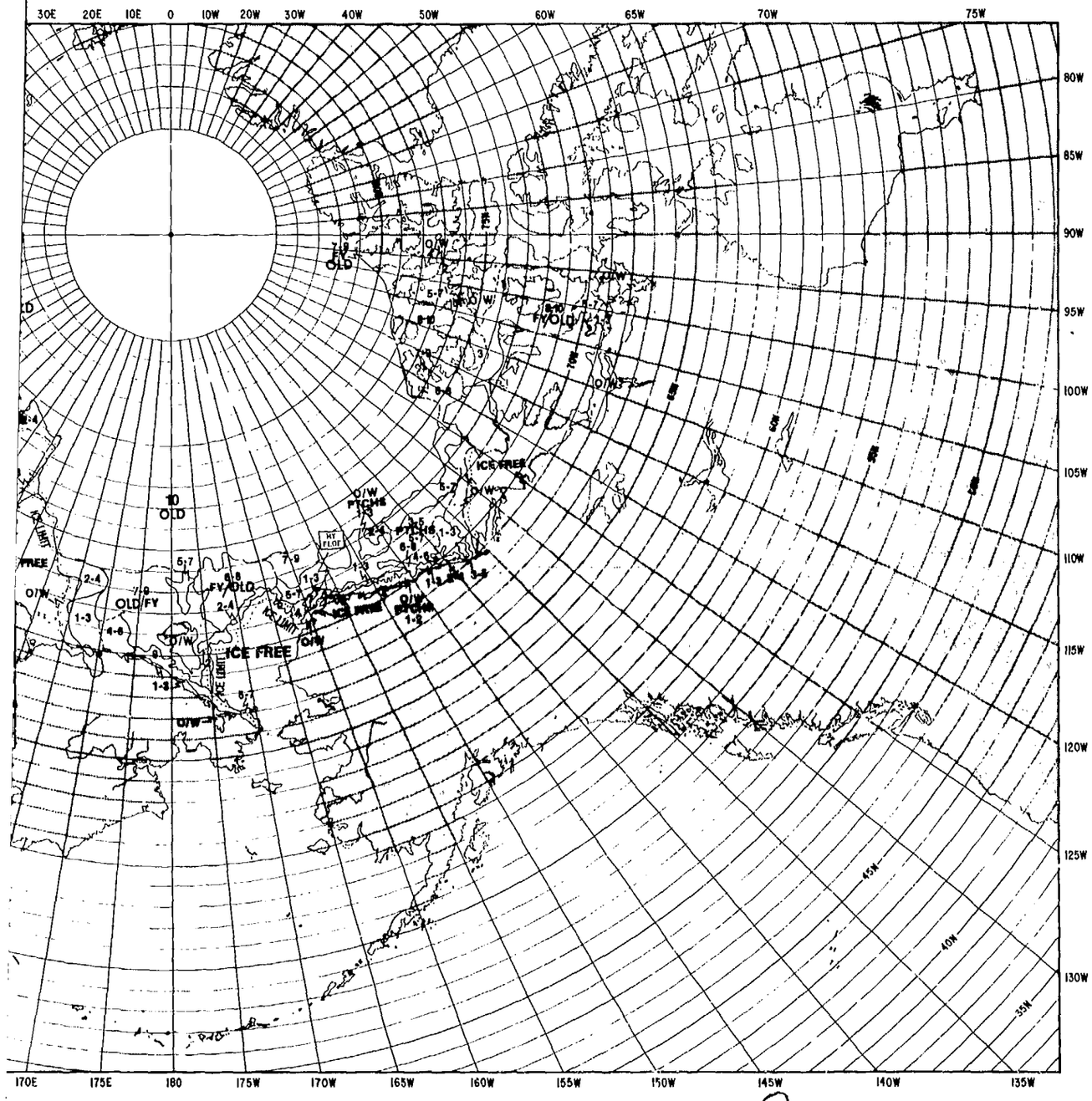
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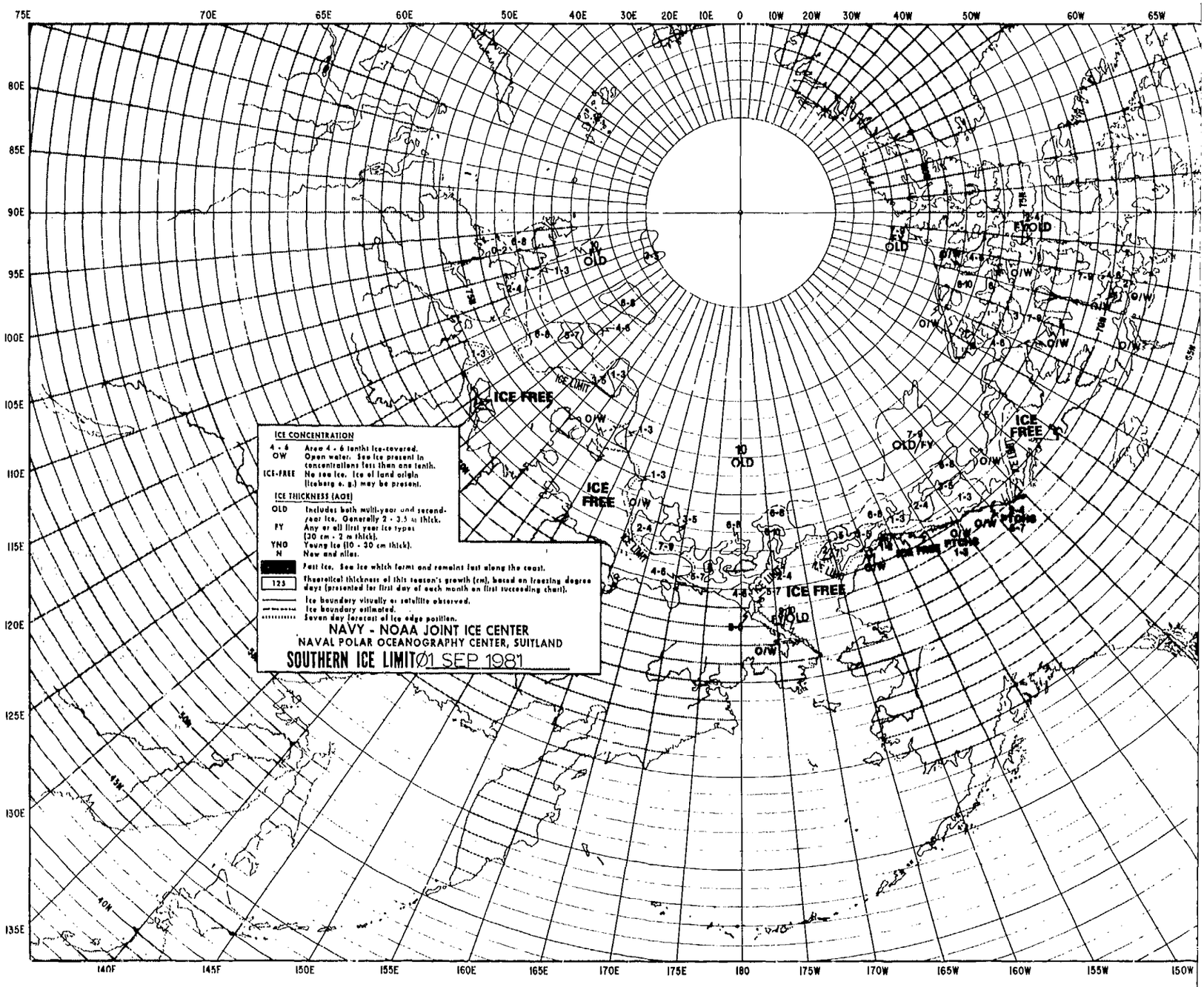

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30E
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10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
ICE CONCENTRATION
4 - 6 Areas 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (Iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness at this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 18 AUG 1981
ICE LIMIT
ICE FREE
10 FY/OLD
10 OLD
OLD/FY
O/W

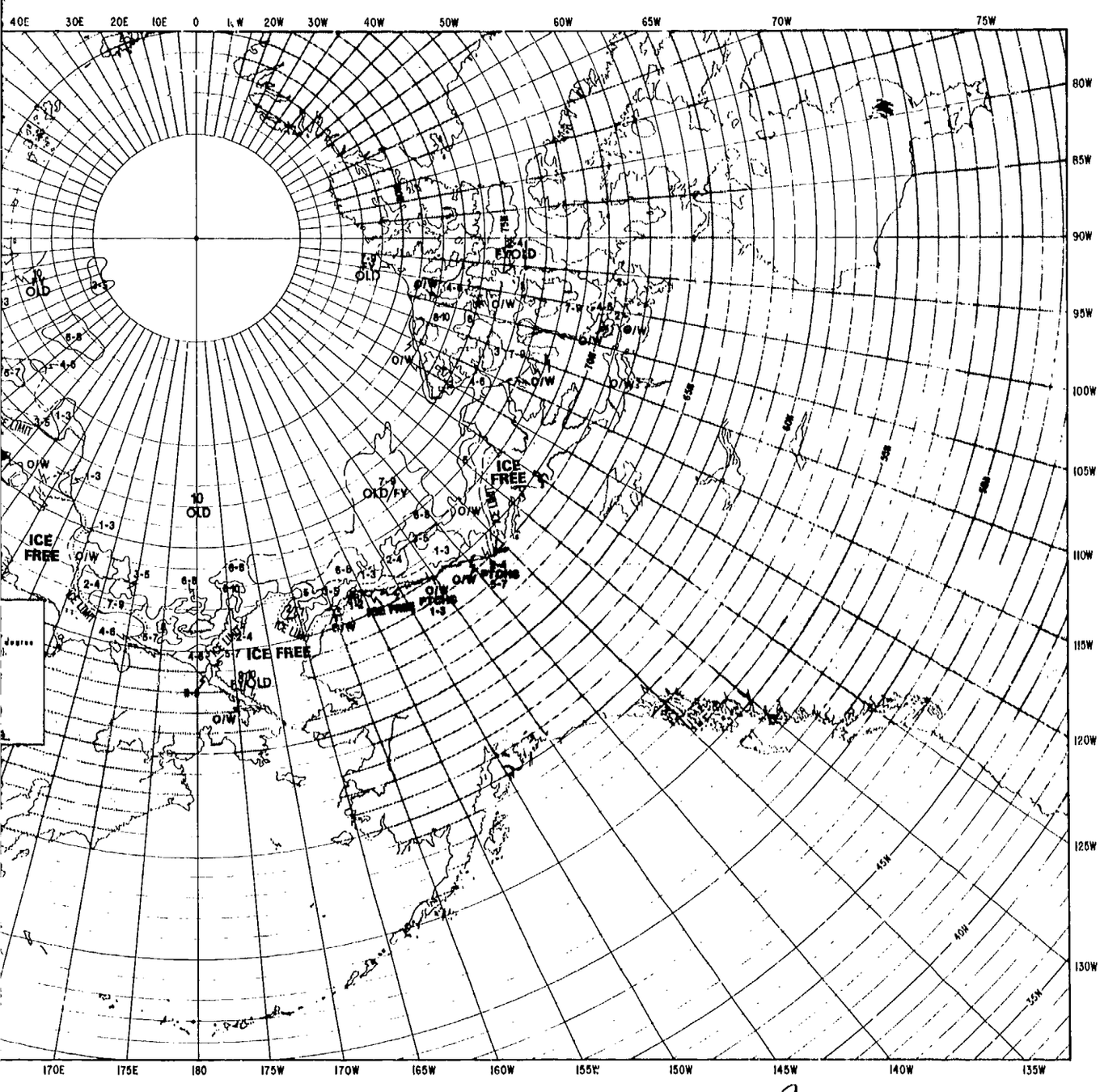

40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
45W
40W
35W
FY/OLD
OLD
OLD/FY
O/W
ICE FREE
ICE LIMIT

2

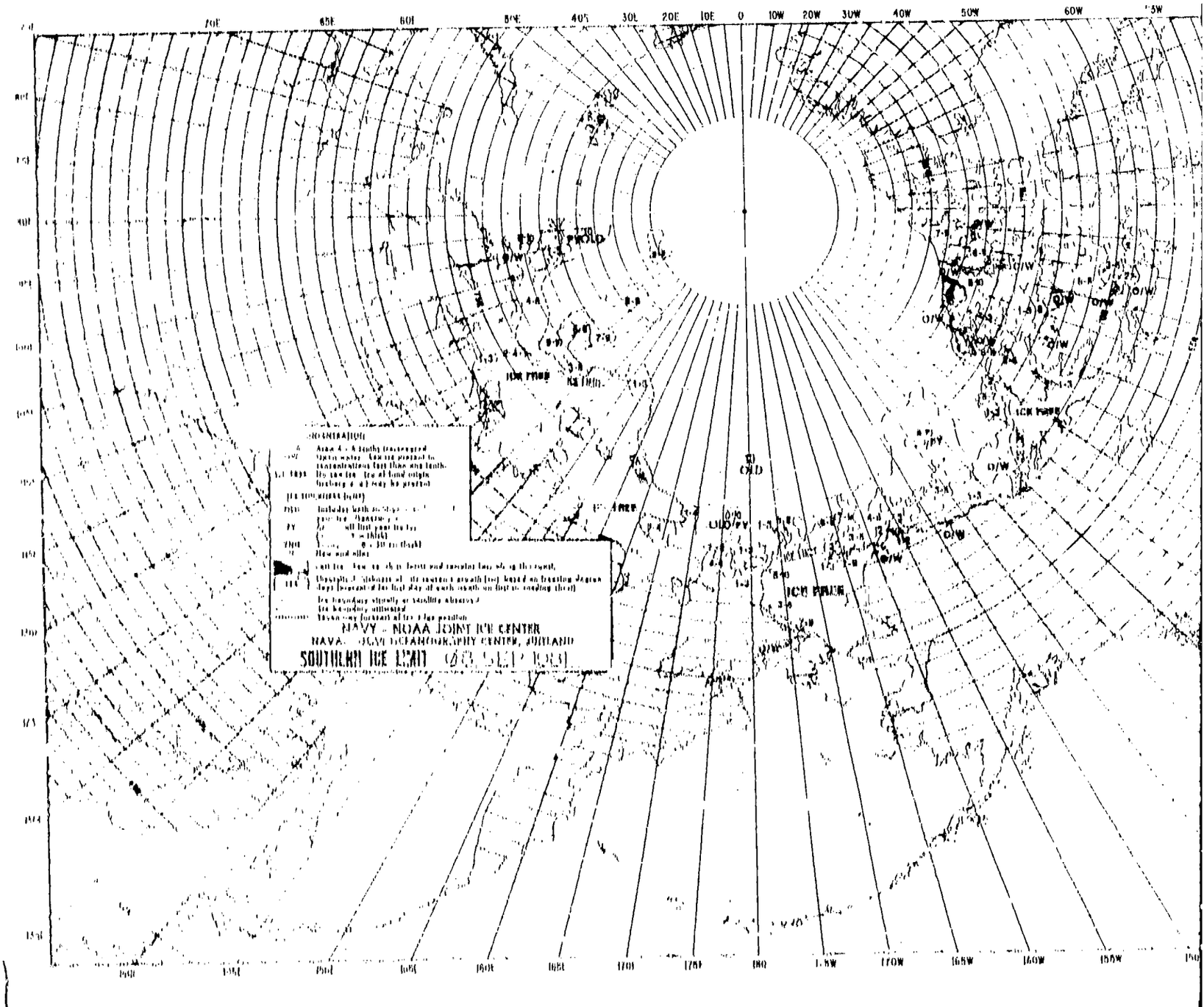

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70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOR)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 25 AUG 1981
ICE FREE
ICE LIMIT
O/W
OLD
FY/OLD
OLD/FY
FY
YNG
40W

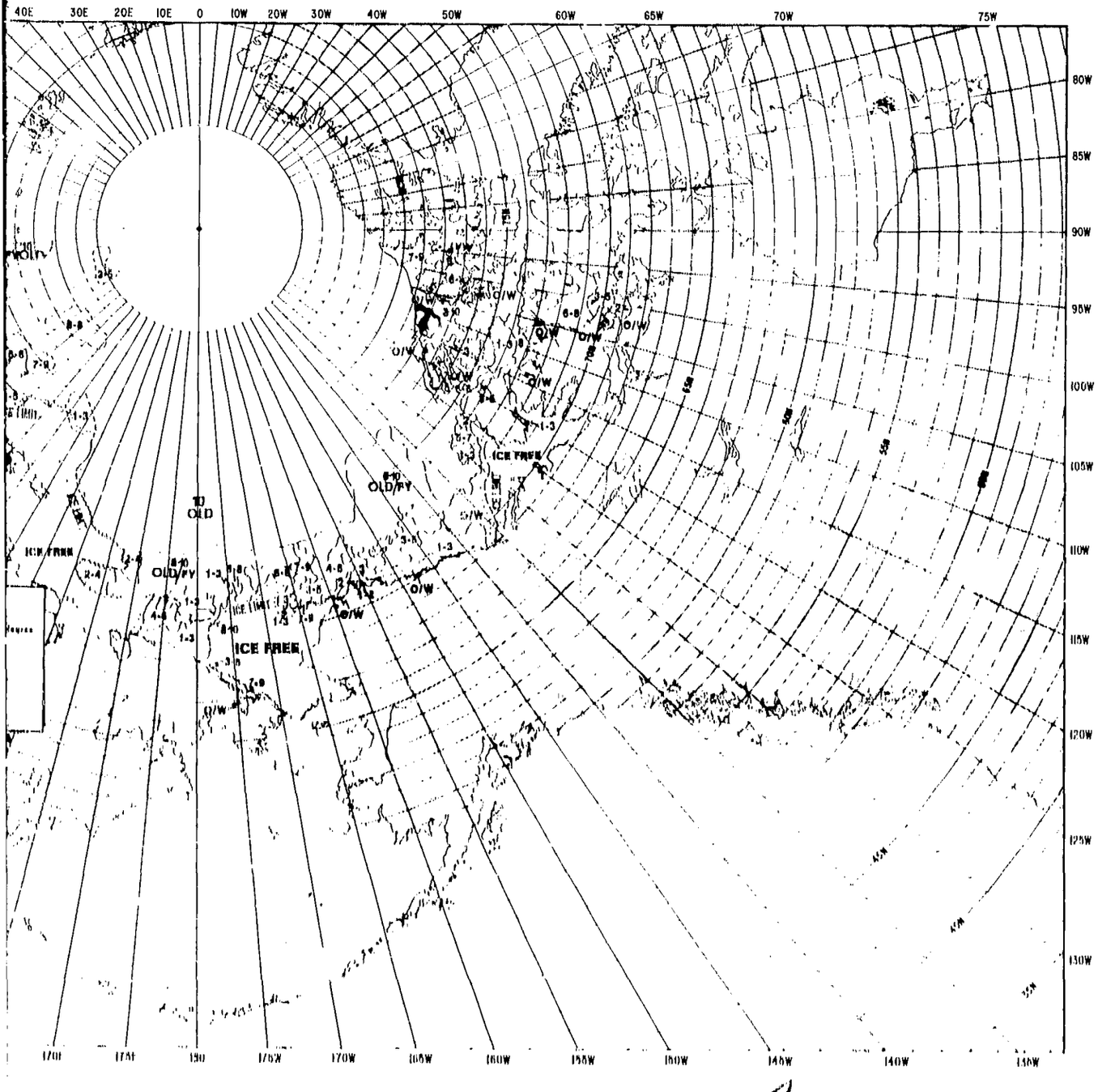

30E
20E
10E
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10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
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105W
110W
115W
120W
125W
130W
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
45N
40N
35N
ICE FREE
O/W
OLD
FV/OLD
OLD/FV
PTCHS
ICE LIMIT
10
5-7
7-9
2-4
1-3
4-6
1-2
6-8


75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
O/W Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT01 SEP 1981
ICE FREE
ICE LIMIT
OLD
FY
O/W
PTCHS
1-3
2-4
3-5
4-6
5-7
6-8
7-9
8-10

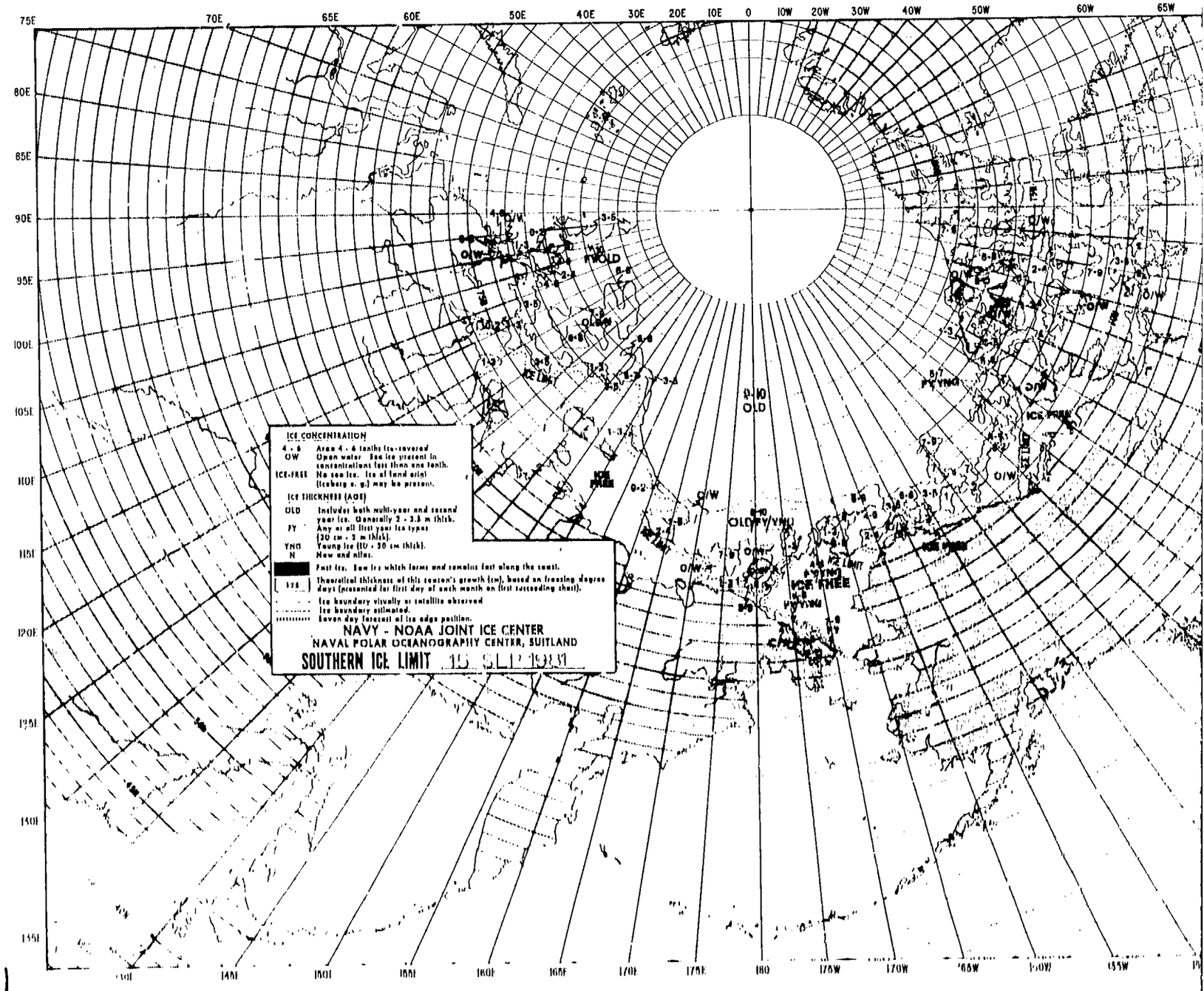

40E
30E
20E
10E
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10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
ICE FREE
O/W
OLD
OLD/FY
FY OLD
10 OLD
9/10 FY OLD
ICE EDGE
1-3
2-4
3-5
4-6
5-7
6-8
7-9
8-10

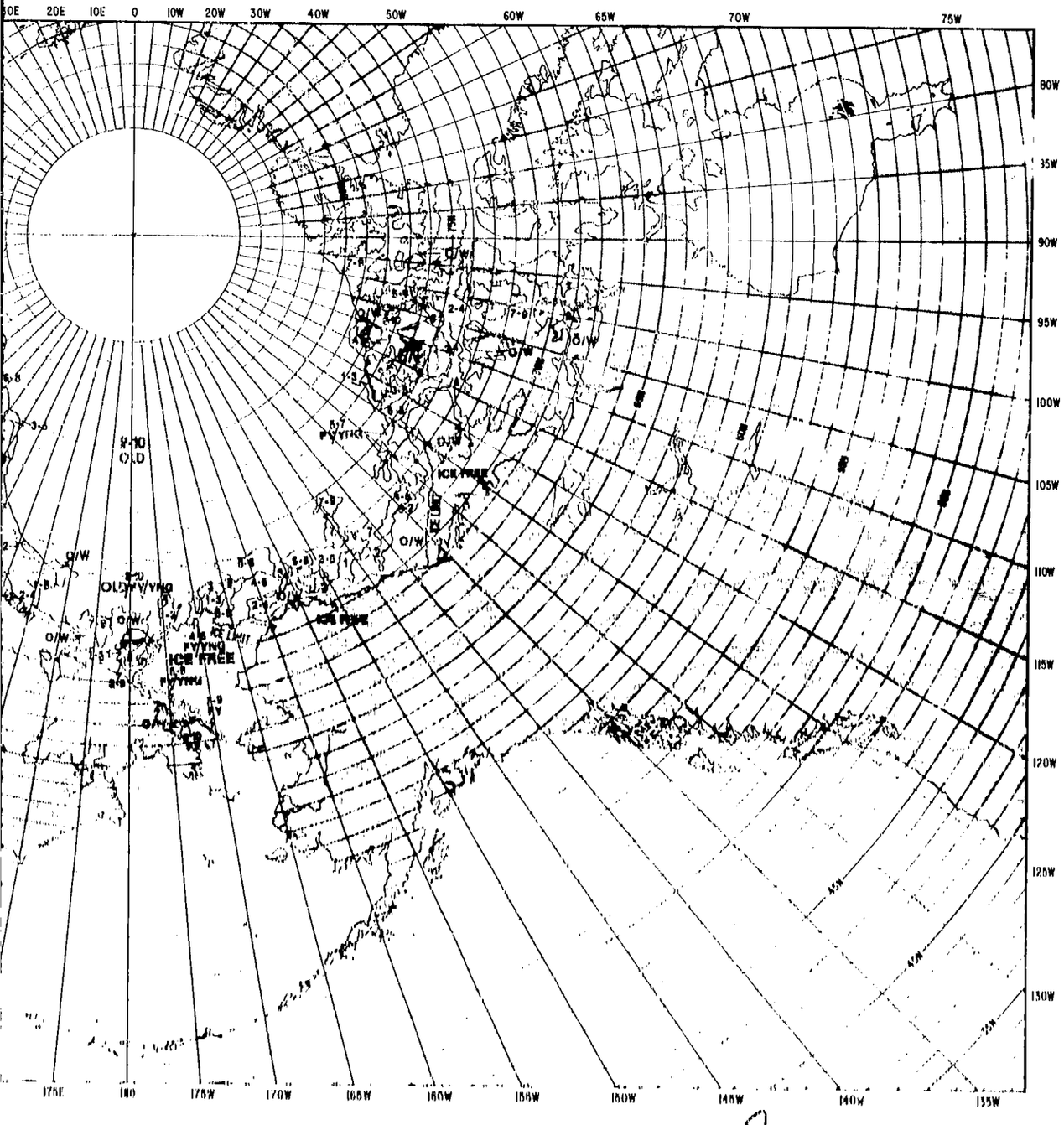
2


70E
65E
60E
55E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
70W
NAVY - NOAA JOINT ICE CENTER
SOUTHERN ICE LIMIT

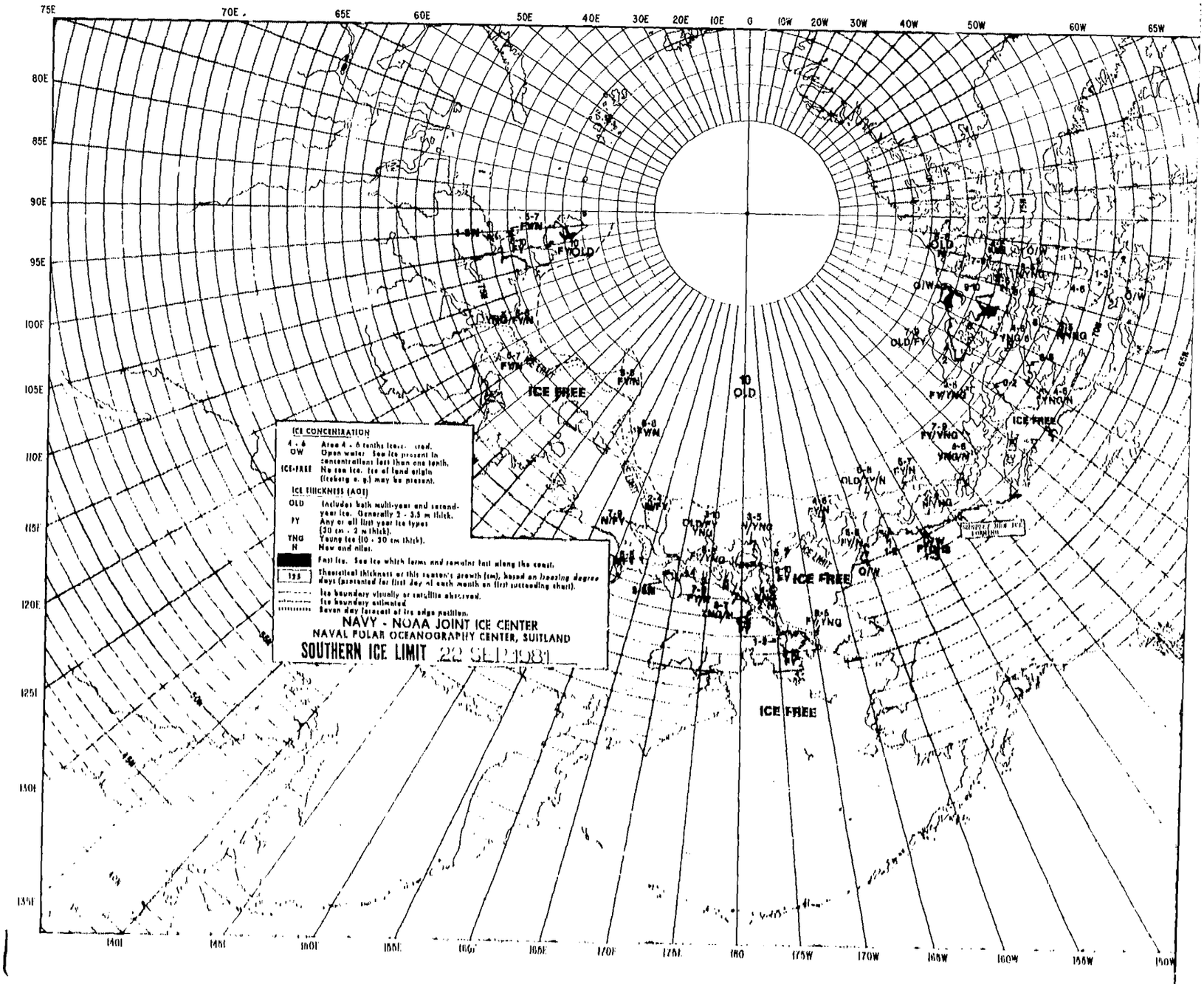

40E
30E
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30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
ICE FREE
OLD/FY
OLD
O/W
ICE FREE
OLD/FY
ICE FREE
O/W

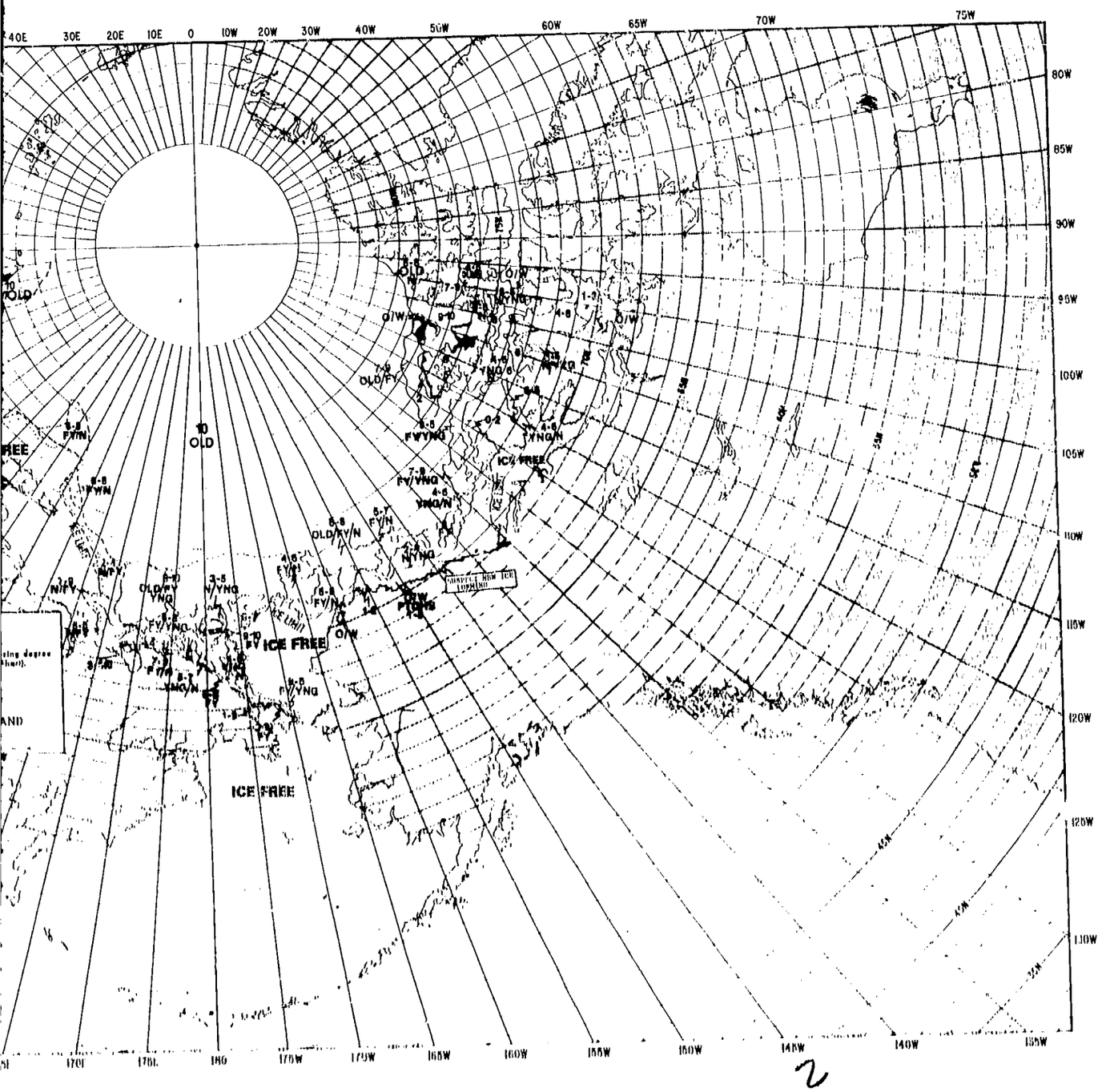
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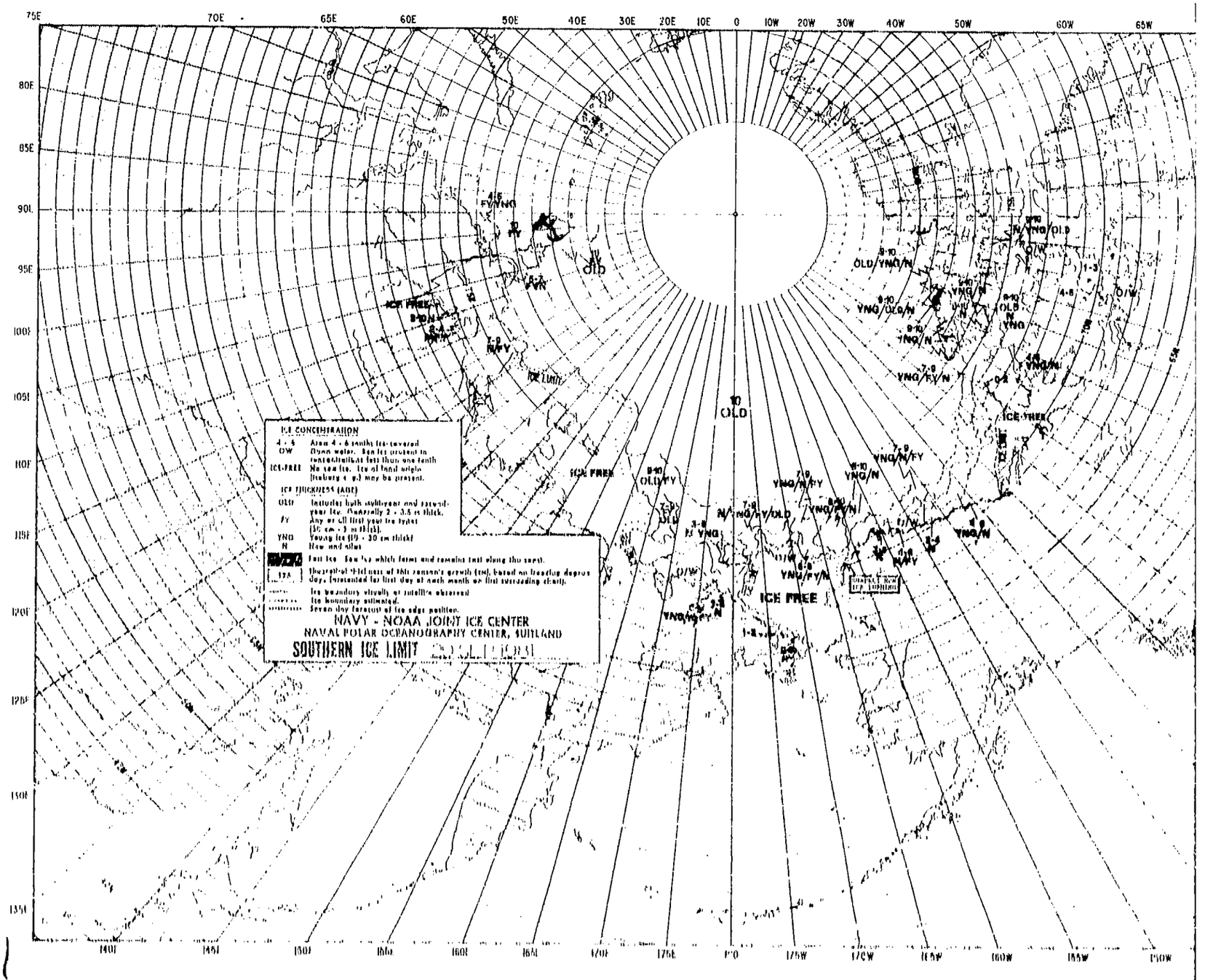

75E
70E
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60E
50E
40E
30E
20E
10E
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10W
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50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
ICE CONCENTRATION
4 - 6 Areas 4 - 6 tenths ice-covered
OW Open water - Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 15 SEP 1981
ICE FREE
OLD
FY/YNG
O/W
ICE LIMIT

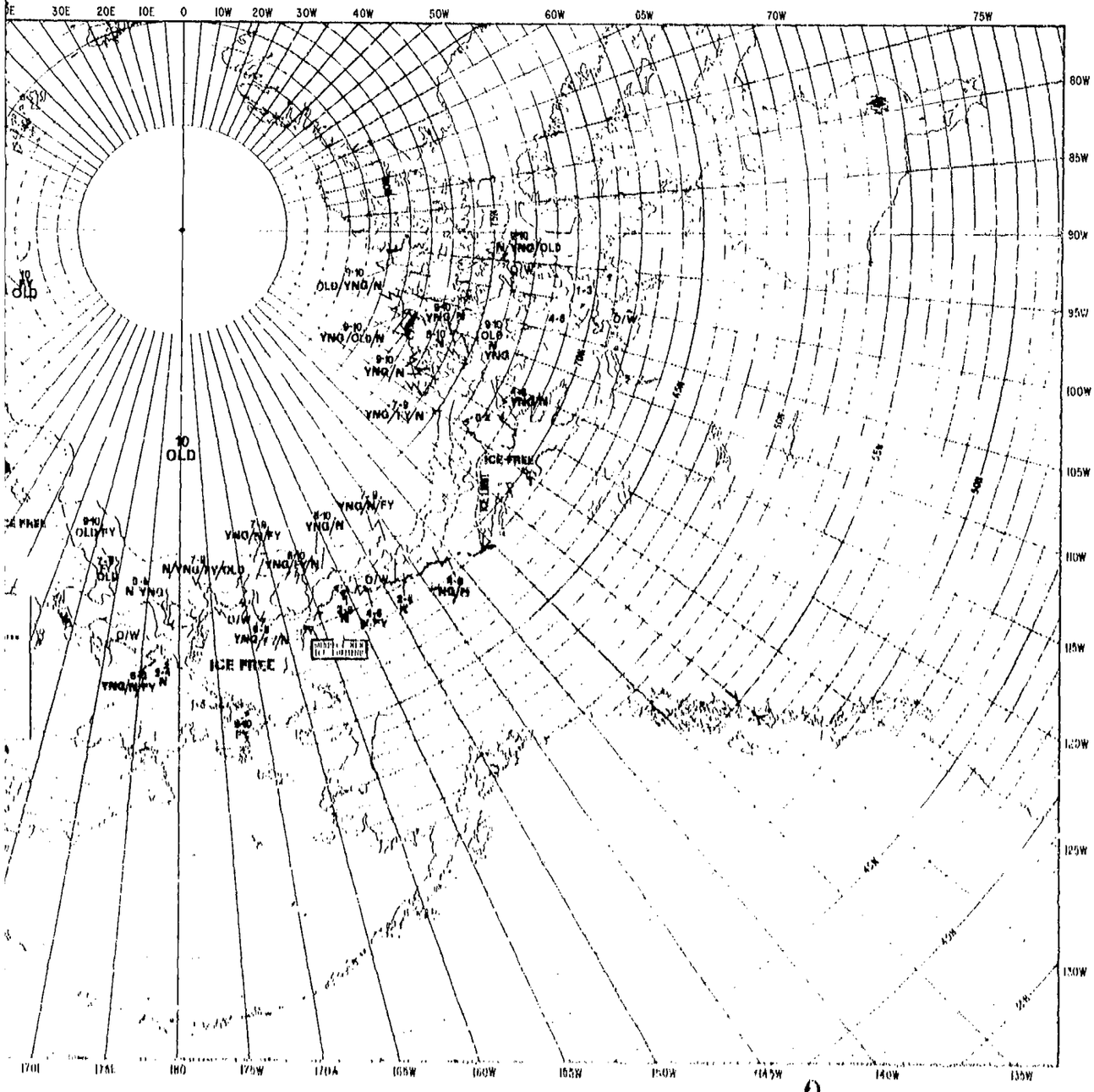

30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
O/W
ICE FREE
OLD
FYYNG
FY
ICE LIMIT

2

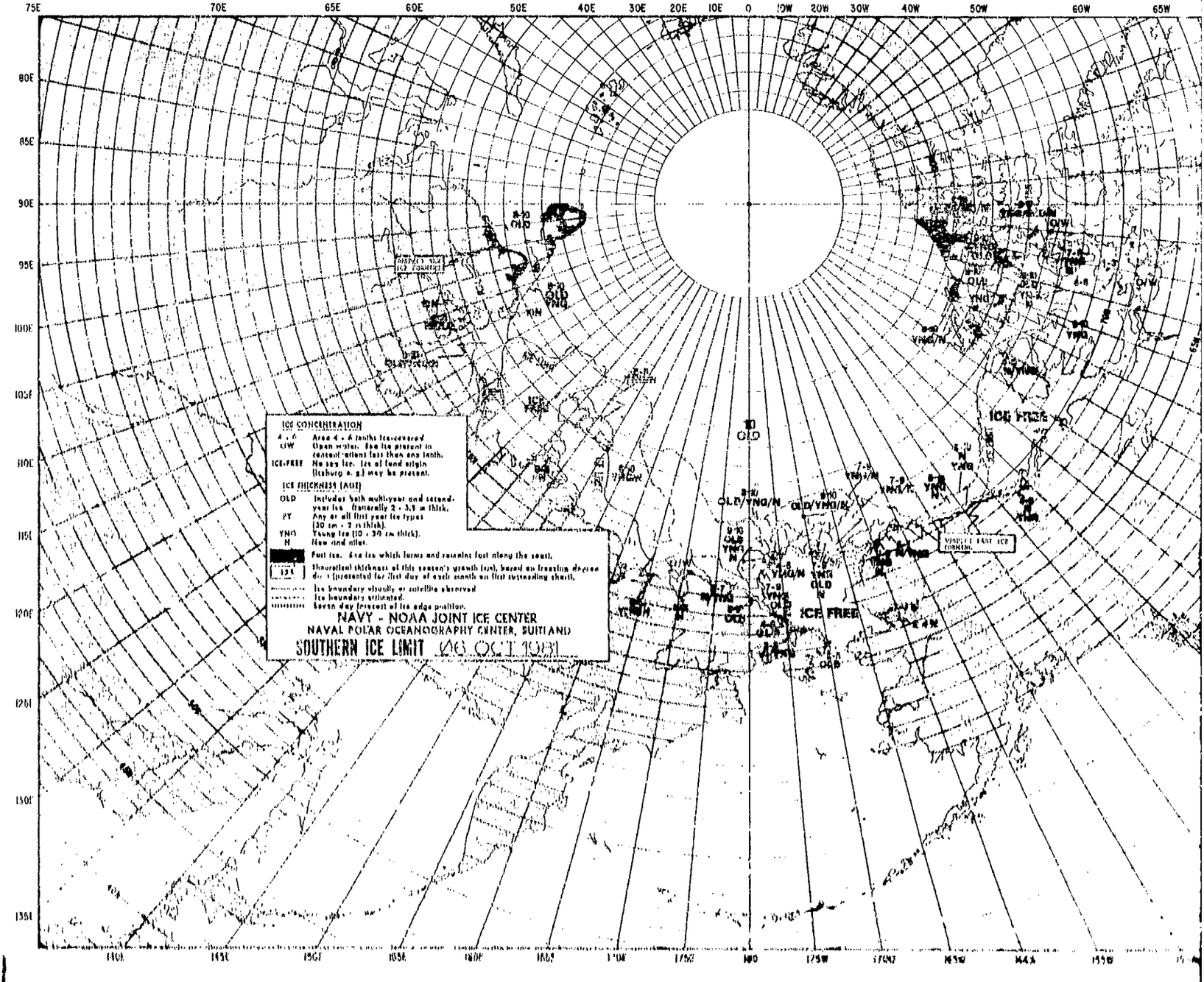

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice... cred.
OW Open water - Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOI)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
194 Theoretical thickness or this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 22 SEP 1981
ICE FREE
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

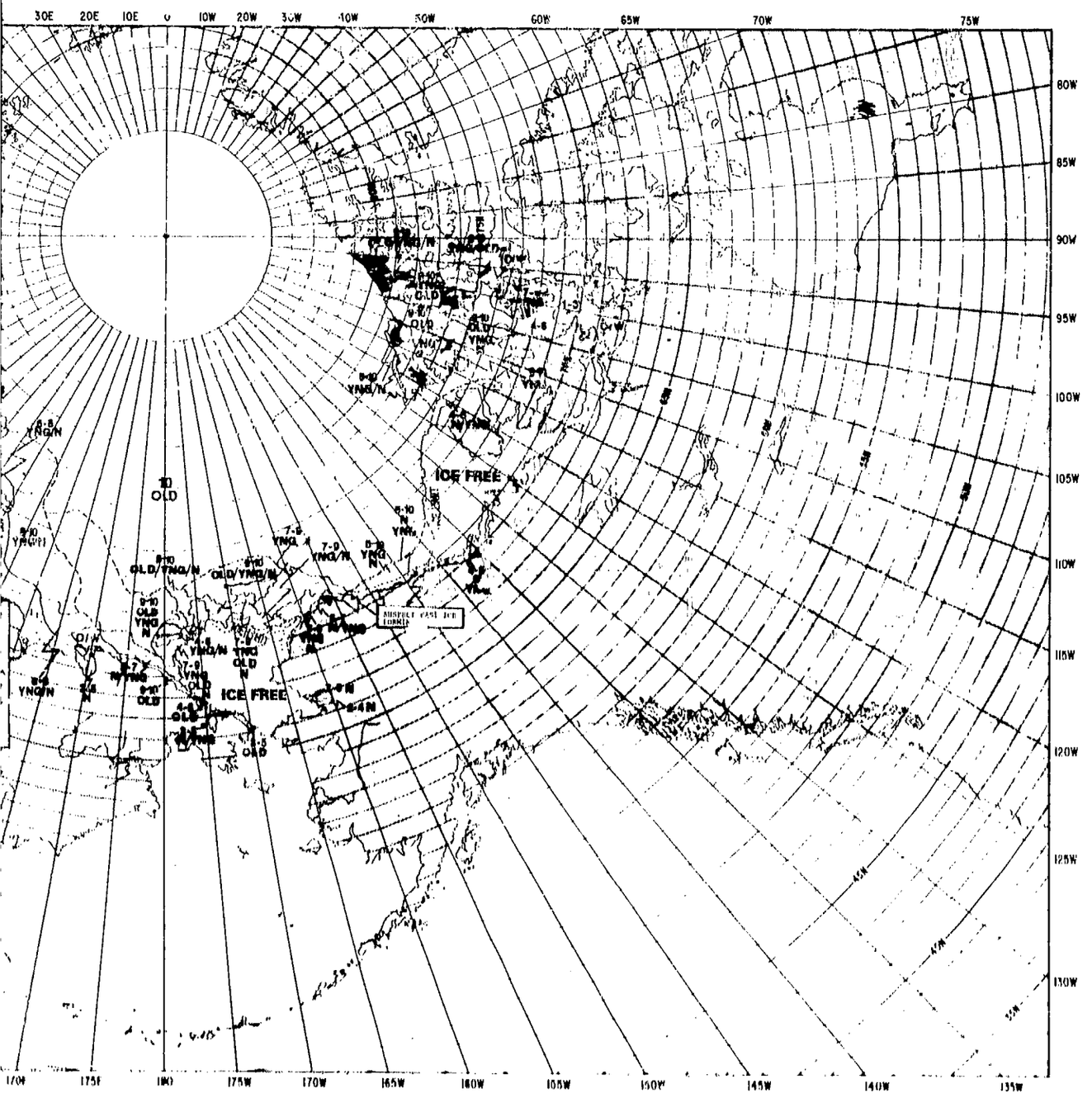

40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
170E
ICE FREE
ICE FREE
O/W
O/W
O/W
O/W
OLD
OLD
OLD/FY
OLD/FY
FY/N
FY/N
FY/N

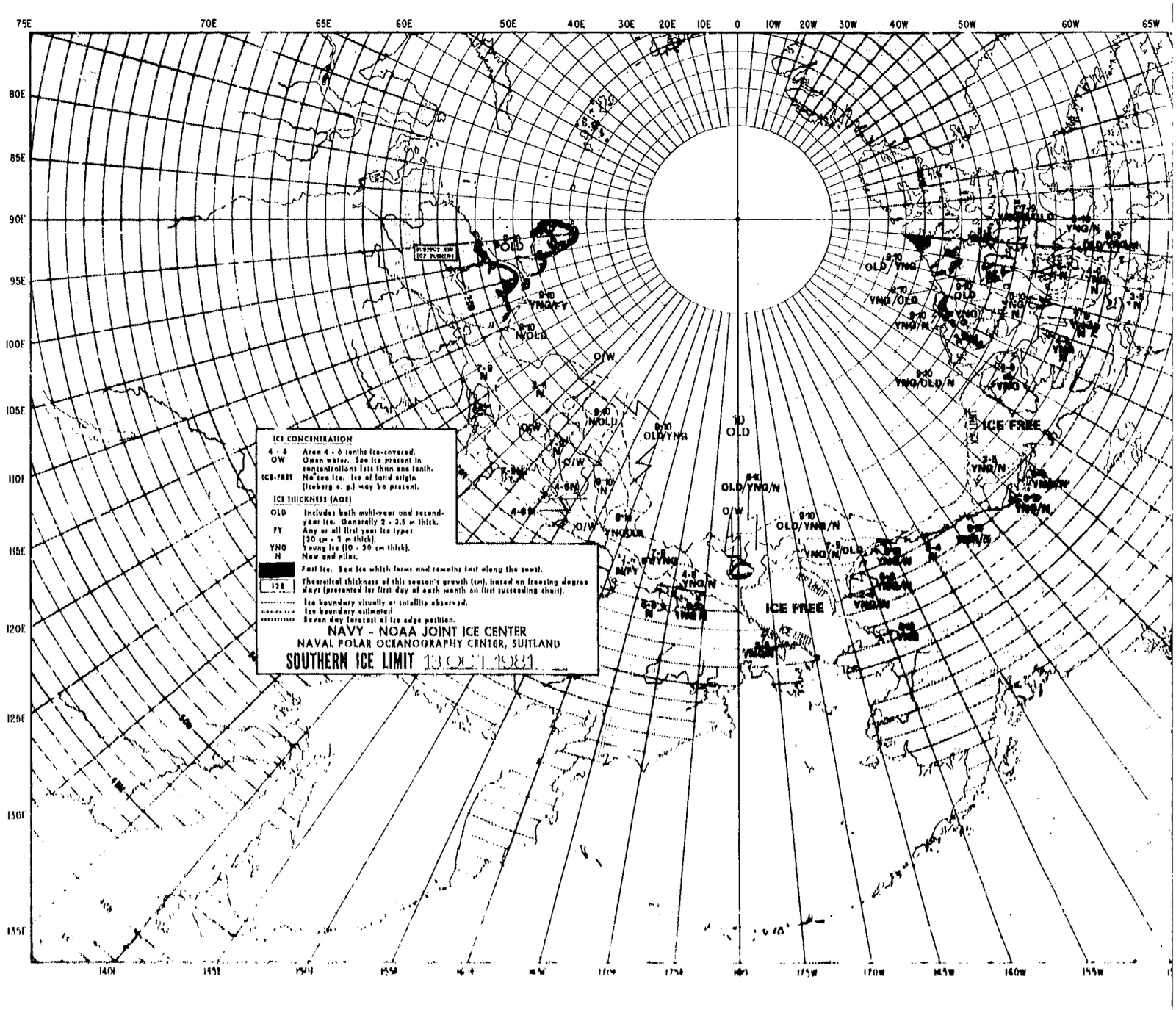

75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Sea ice present in concentration(s) less than one tenth
ICE-FREE No sea ice. Ice of land origin (iceberg e.g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas
Fast ice. Sea ice which forms and remains fast along the coast.
[12A] Thickest additions of this season's growth (cm), based on freezing degree days. Forecasted for first day of each month or first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT
ICE FREE
ICE LIMIT
OLD
OLD/YNG/N
YNG/OLD/N
YNG/N
YNG
YNG/FY/N
YNG/N/FY
OLD/FY
N/YNG
YNG/N/FY/OLD
YNG/FY/N
ICE FREE

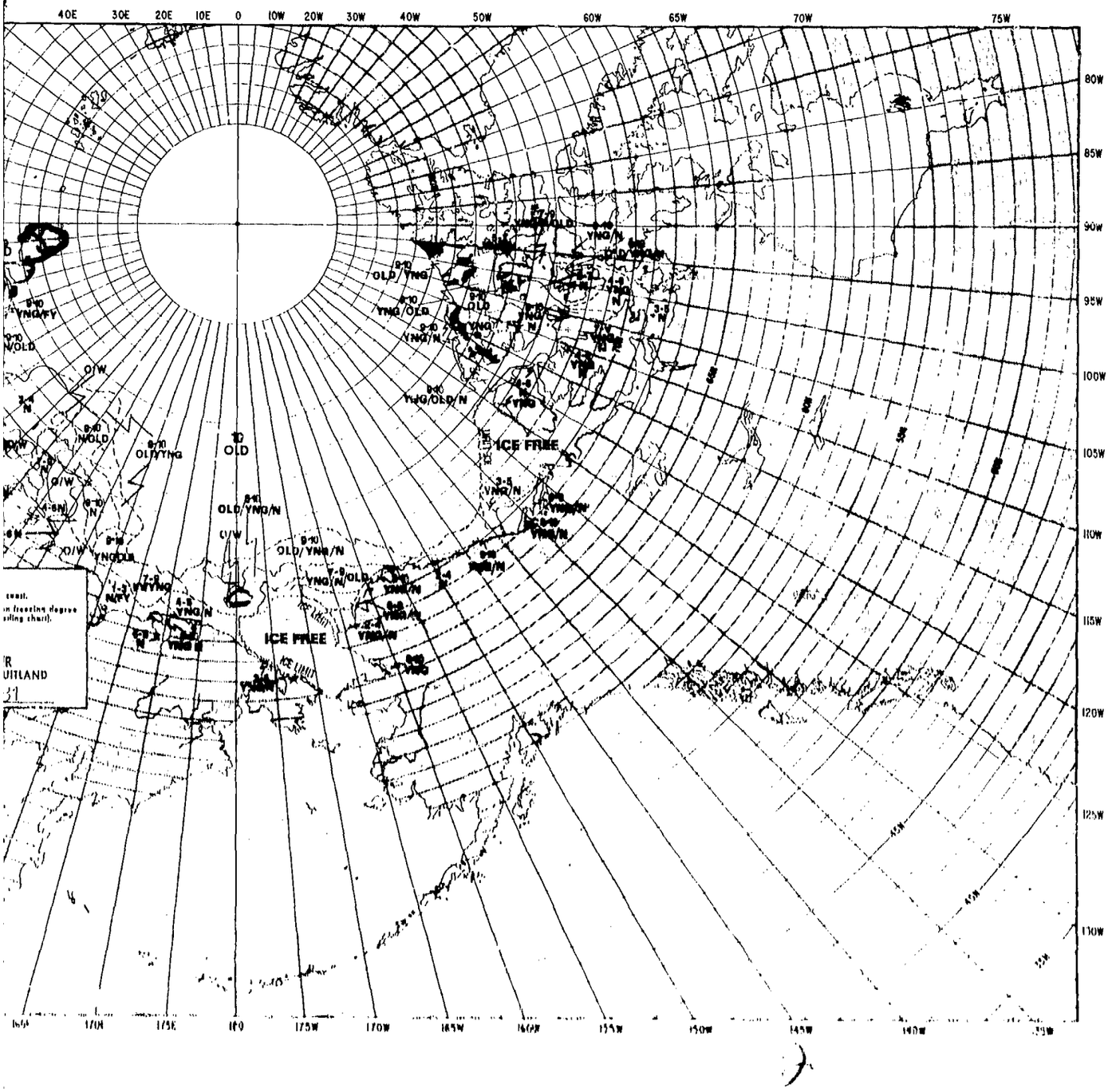

30E
20E
10E
0
10W
20W
30W
40W
50W
60W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170A
175W
180
175E
170E
ICE FREE
ICE FREE
ICE FREE
10 OLD
10 OLD
OLD/YNQ/N
YNQ/OLD/N
YNQ/N
YNQ/N/FY
OLD/FY
N/YNQ/FY/OLD
D/W
N/YNQ/OLD
OLD
N
YNQ
1-3
4-6
7-9

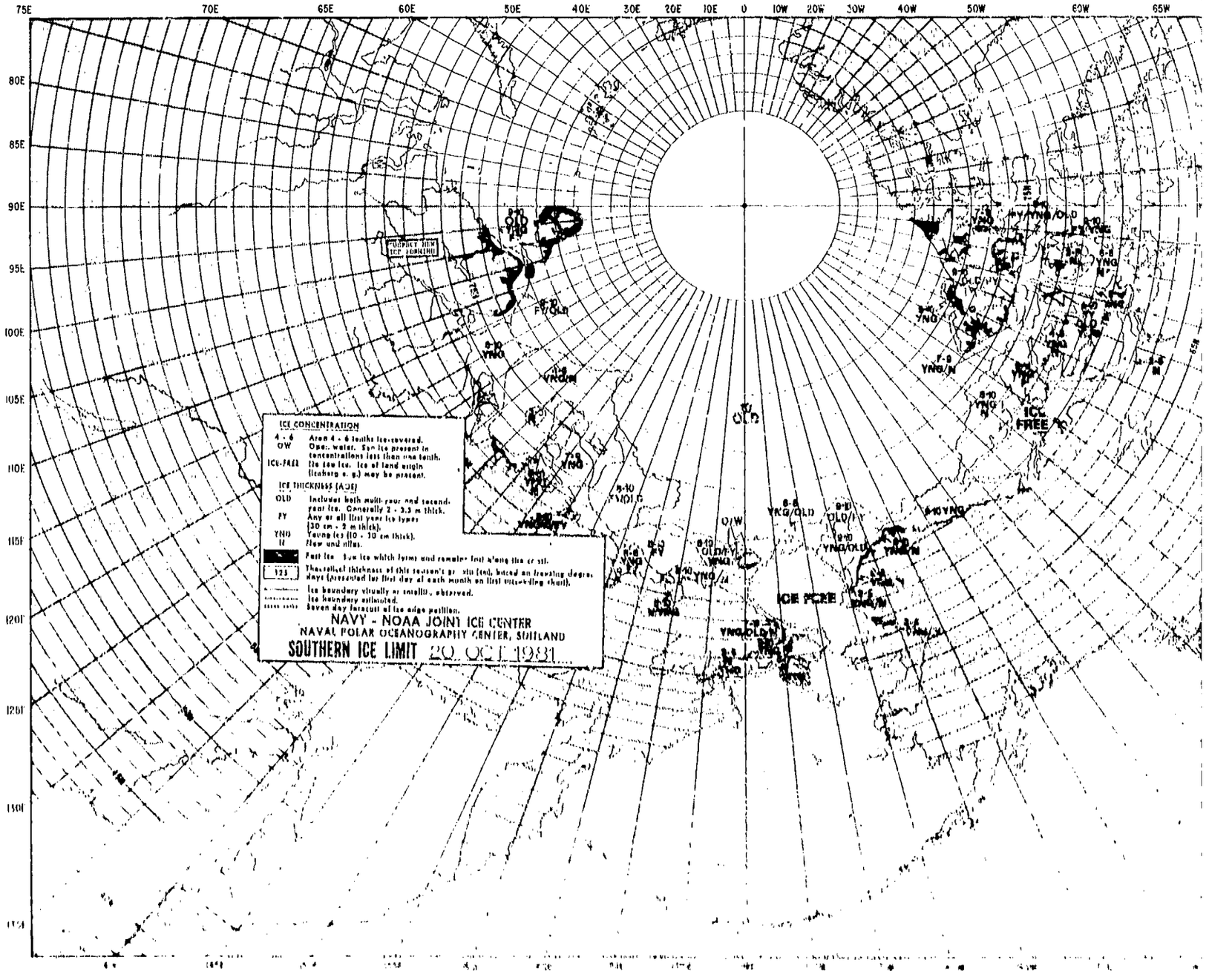
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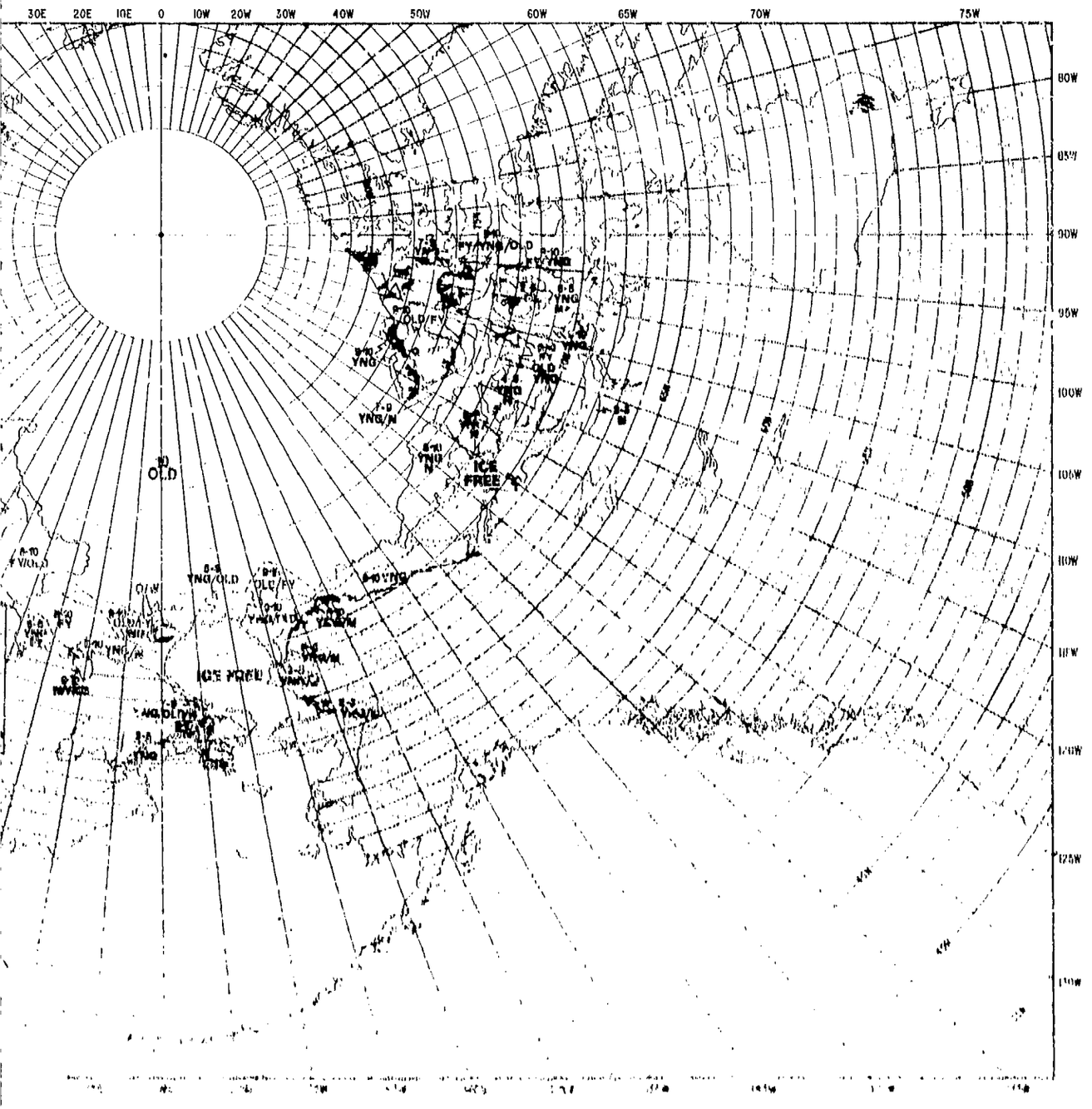

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered
OW Open water. Ice is present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 06 OCT 1981
ICE FREE
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W

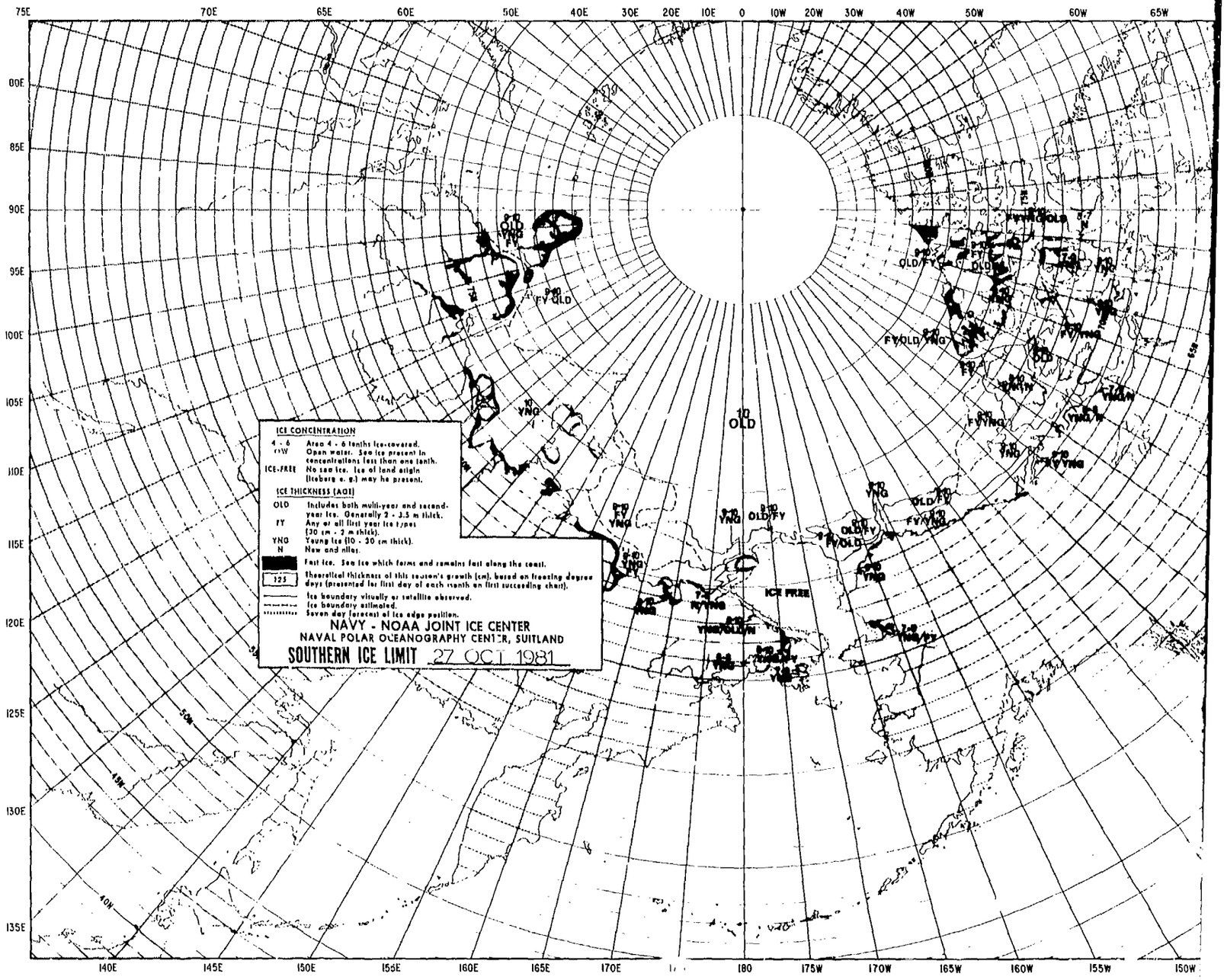

30E
20E
10E
0
10W
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30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
ICE FREE
ICE FREE

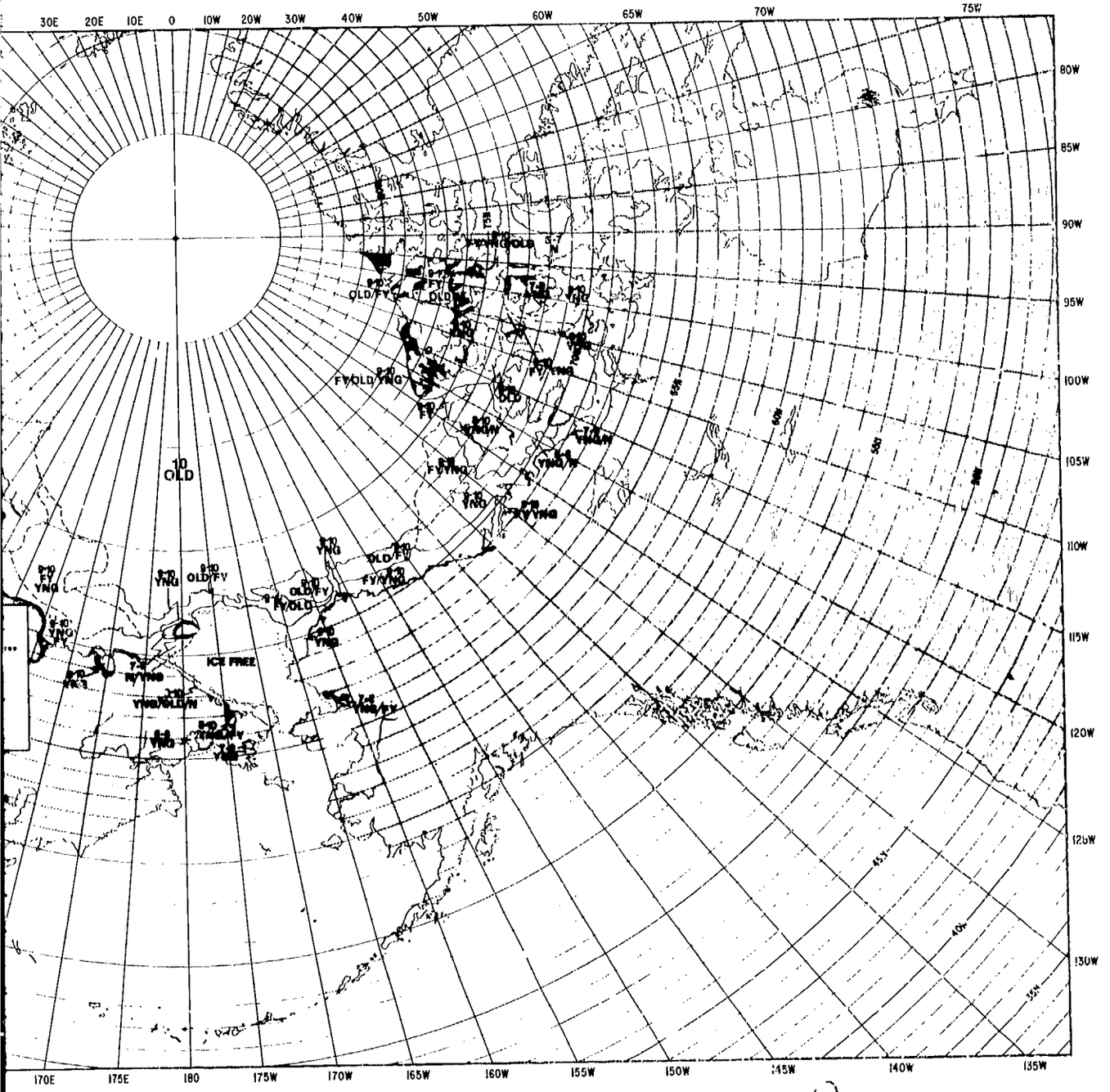

75E
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115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
ICE CONCENTRATION
4 - 6 Areas 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 13 OCT 1984
ICE FREE
ICE FREE
OLD
OLD/YNG
OLD/YNG/N
YNG/OLD/N
YNG/N
O/W


40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
ICE FREE
ICE FREE
OLD
OLD/YNG/N
OLD/YNG
YNG/OLD
YNG/N
O/W

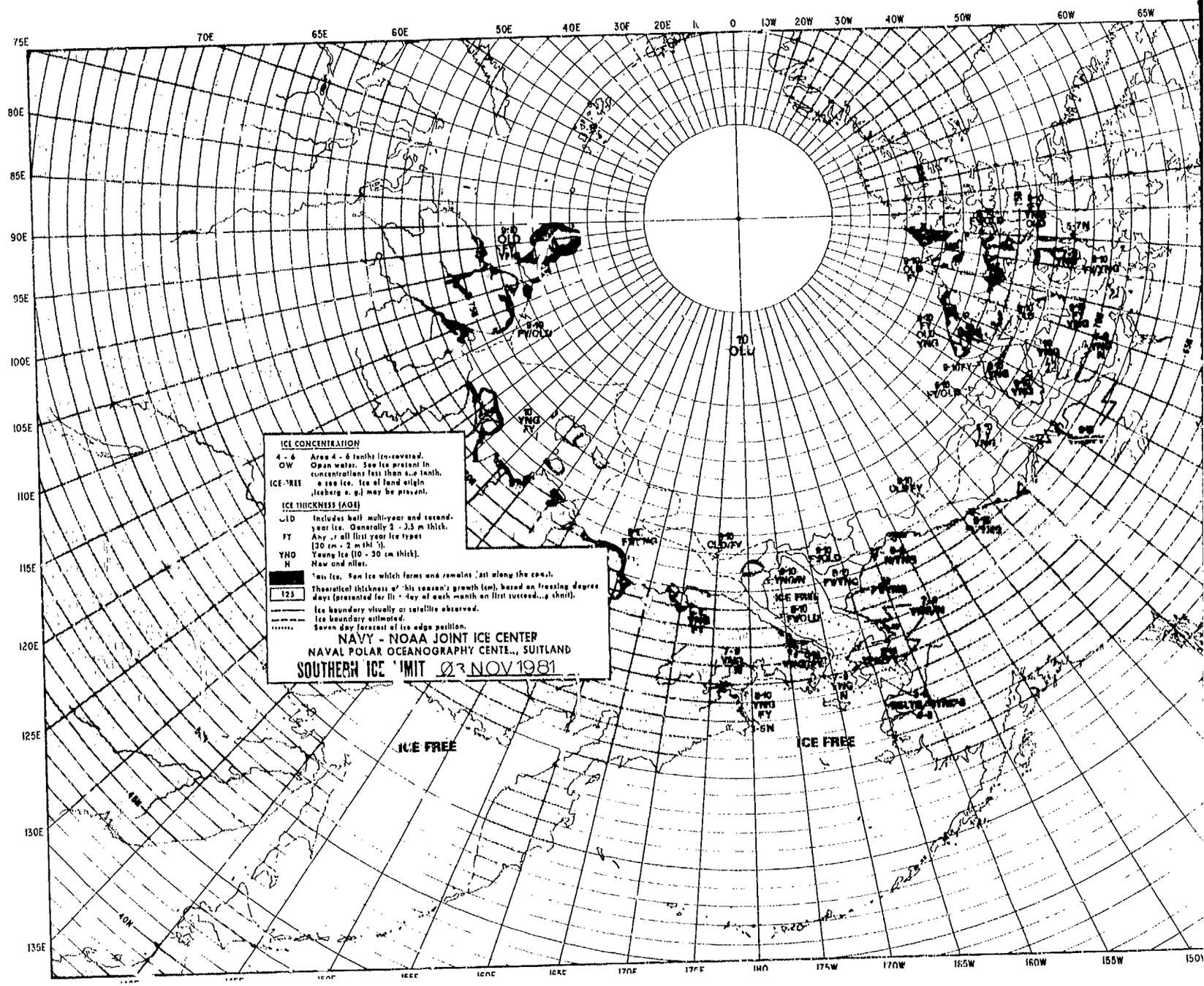

75E
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40W
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60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
ICE CONCENTRATION
4 - 6 Areas 4 - 6 tenths ice-covered.
OW Open water. Few ice present-ice concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice - Sea ice which forms and remains fast along the coast.
725 Theoretical thickness of this season's growth, based on freezing degree days (presented for first day of each month on first outward cruise).
Ice boundary virtually or actually observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 20 OCT 1981
SUSPECT NEW ICE FORMING
ICE FREE
ICE FREE

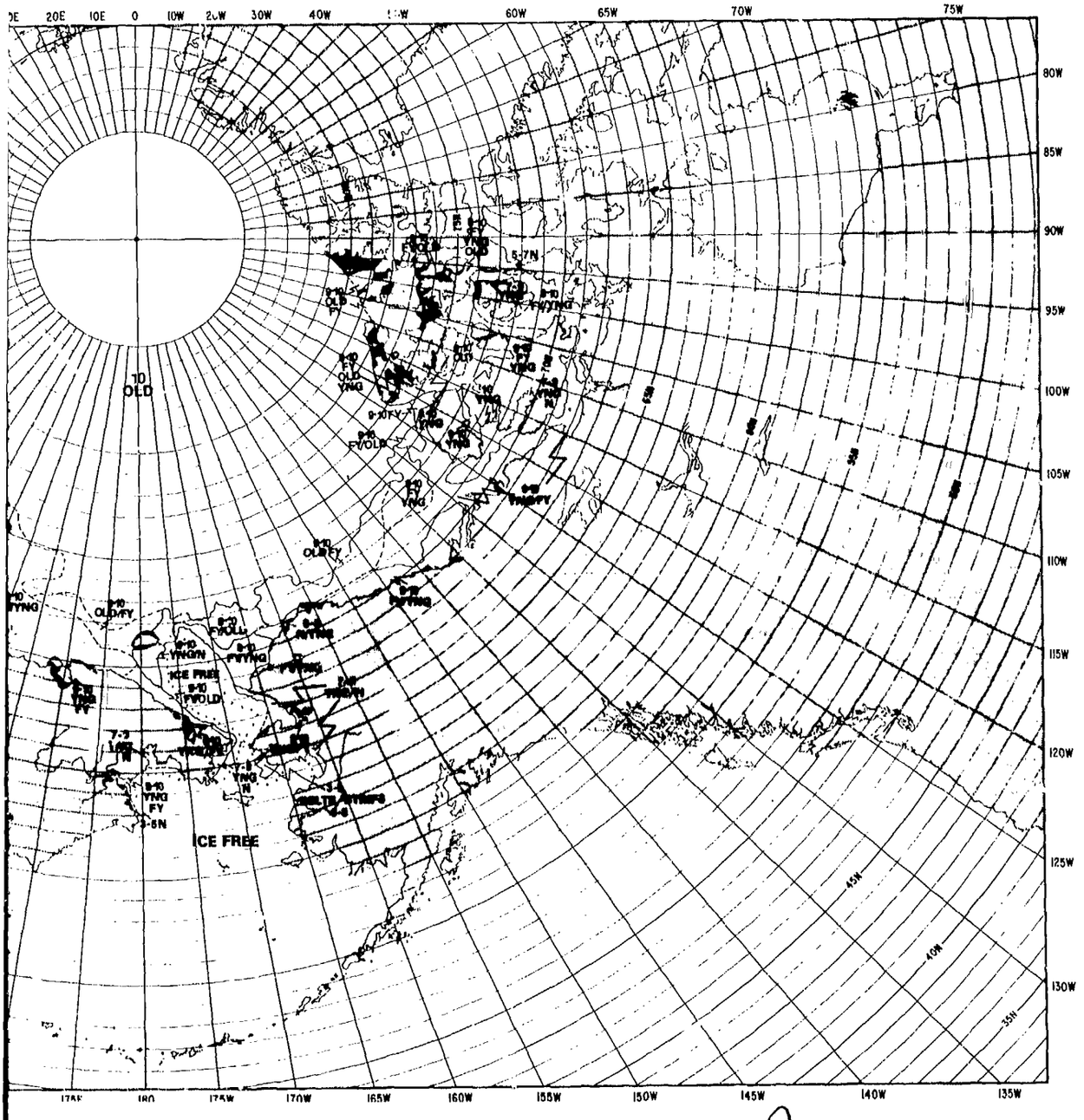

30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
OLD
ICE FREE
ICE FREE / YNG/U


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OPEN W Open water. See ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 27 OCT 1981
ICE FREE
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
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155E
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165E
170E
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175W
170W
165W
160W
155W
150W

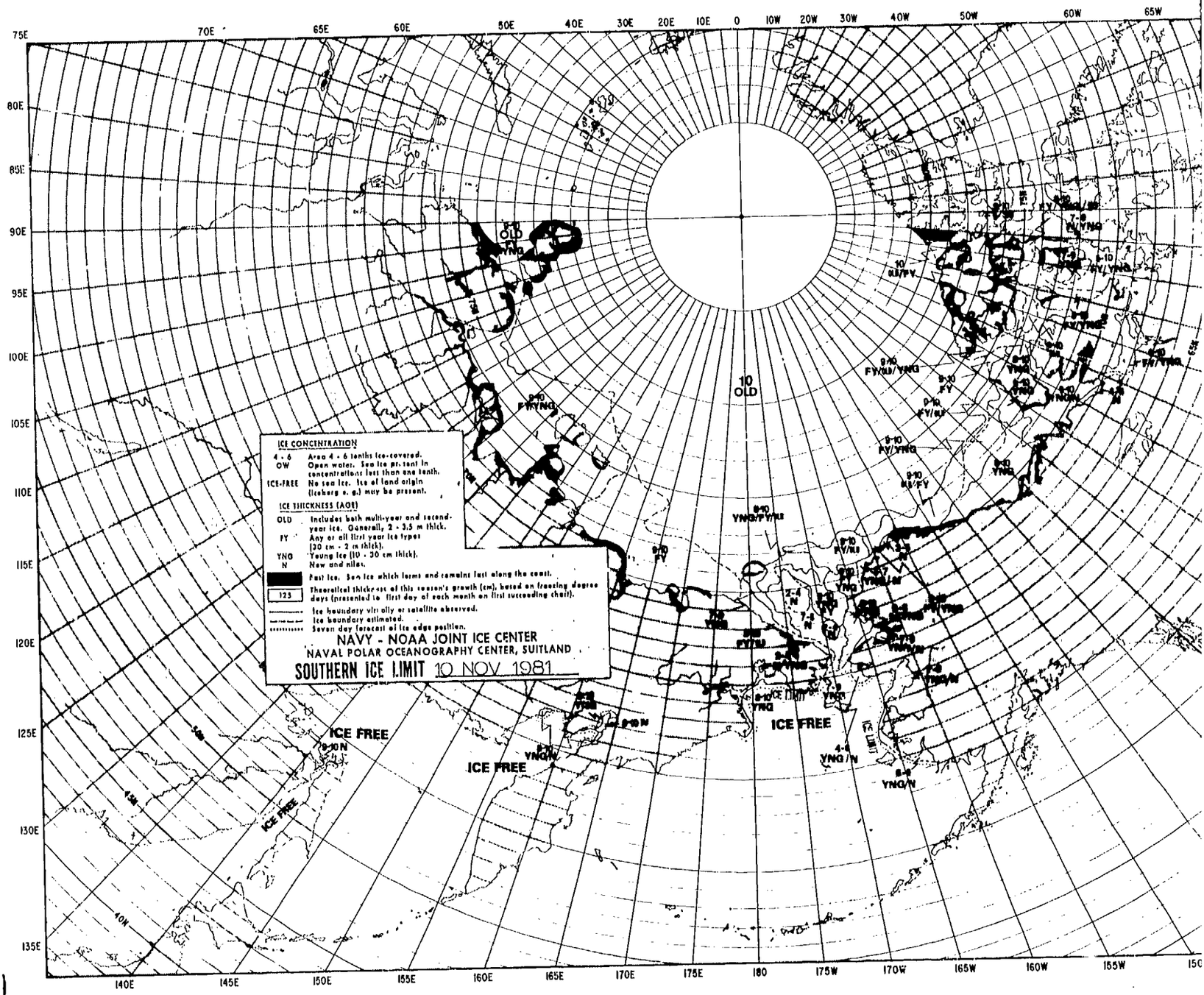

30E
20E
10E
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10W
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30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
126W
130W
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
10
OLD
ICE FREE

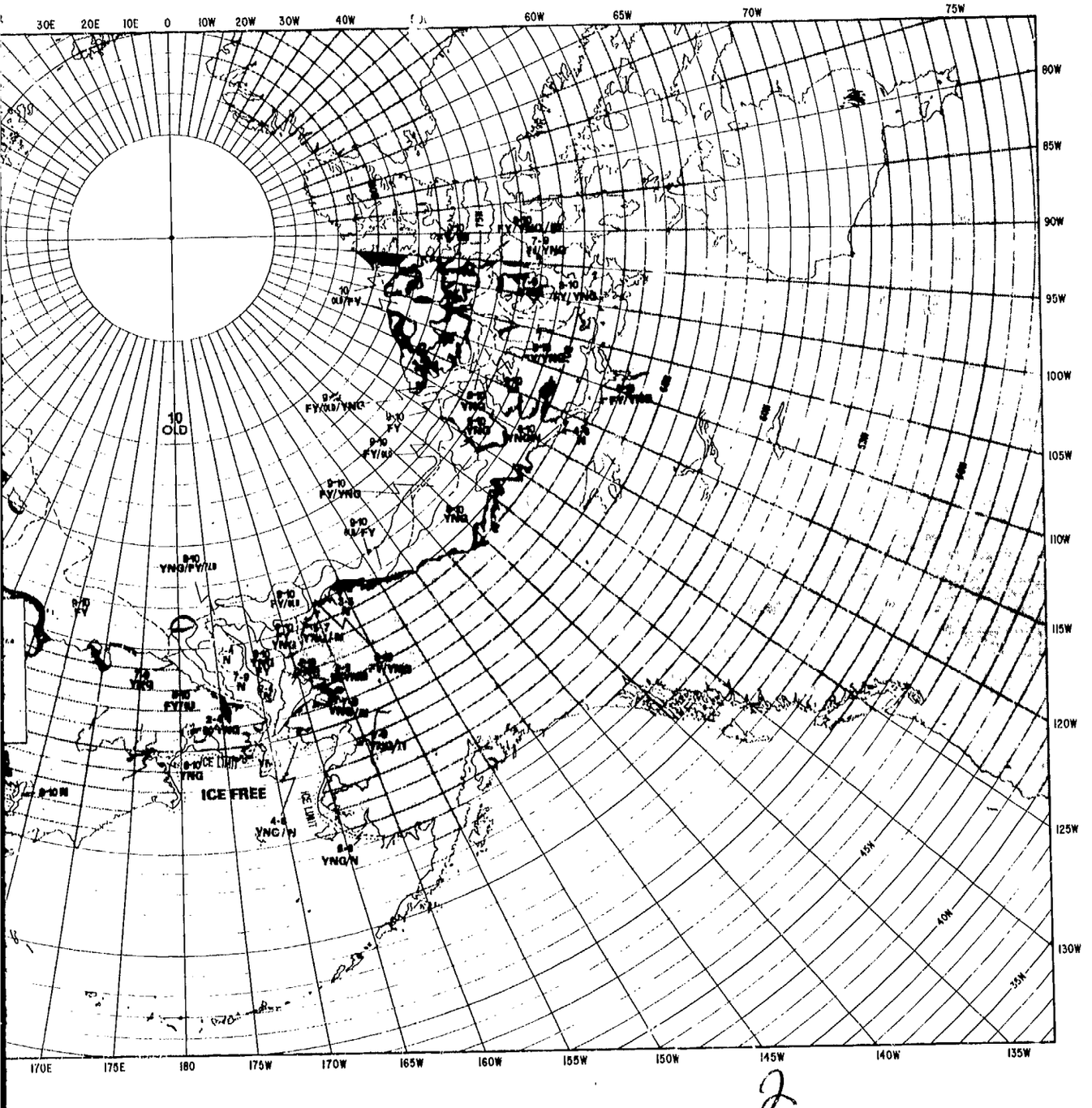
2


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than 4.e tenth.
ICE-FREE e sea ice. Ice of land origin ,iceberg e. g.] may be present.
ICE THICKNESS (AGE)
OLD Includes bolt multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any ,r all first year ice types (30 cm - 2 m thi k).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
'ast Ice. Sea ice which forms and remains ;ast along the coast.
123 Theoretical thickness of 'his season's growth (cm), based on freezing degree days (presented for th • 1day of each month on first succeed...g chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTE.., SUITLAND
SOUTHERN ICE LIMIT 03 NOV 1981
ICE FREE
ICE FREE
75E
70E
65E
60E
50E
40E
30E
20E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
40N
160W
155W

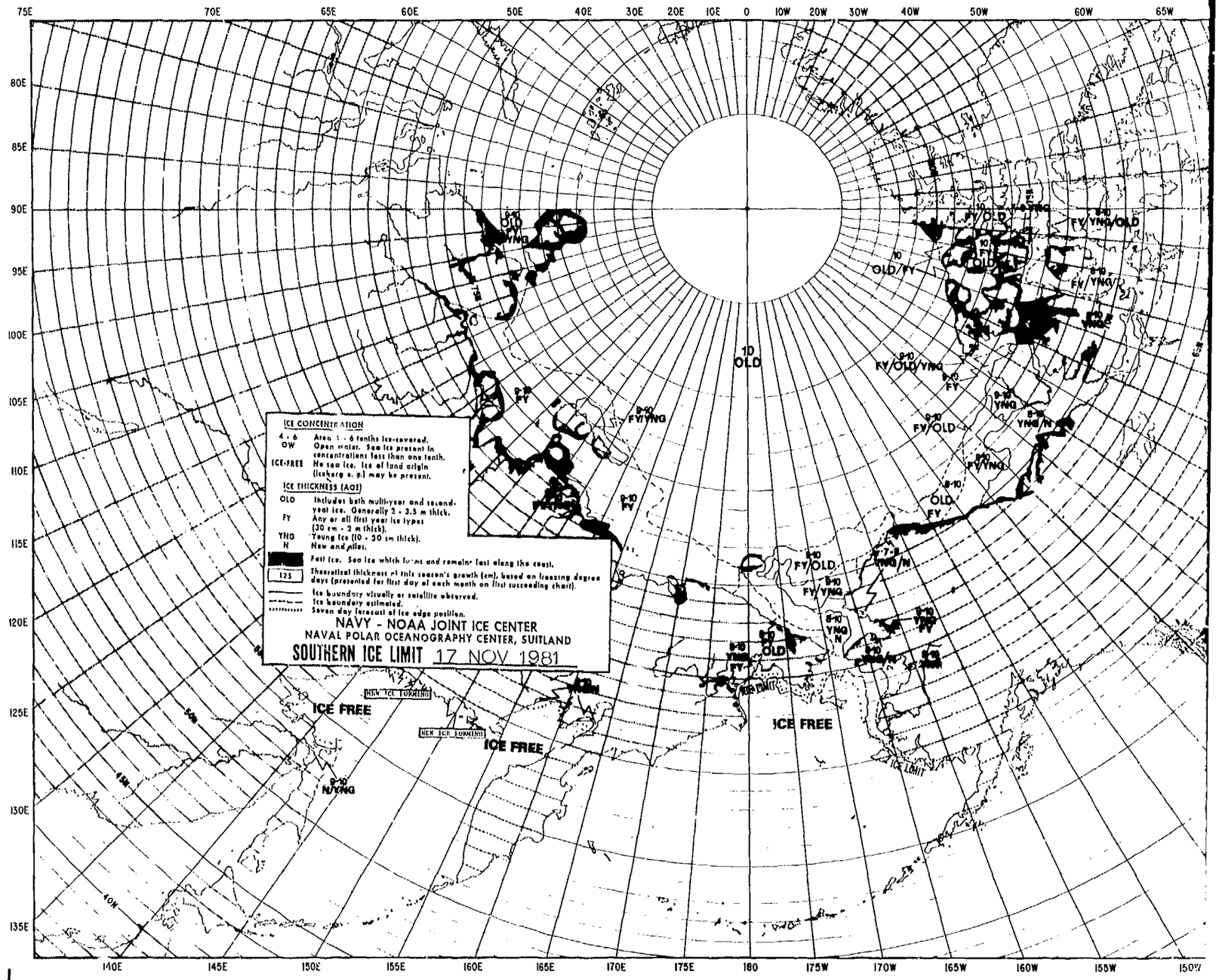

20E
10E
0
10W
20W
30W
40W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
45N
40N
35N
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
10
OLD
ICE FREE
9-10
FY
8N
7N

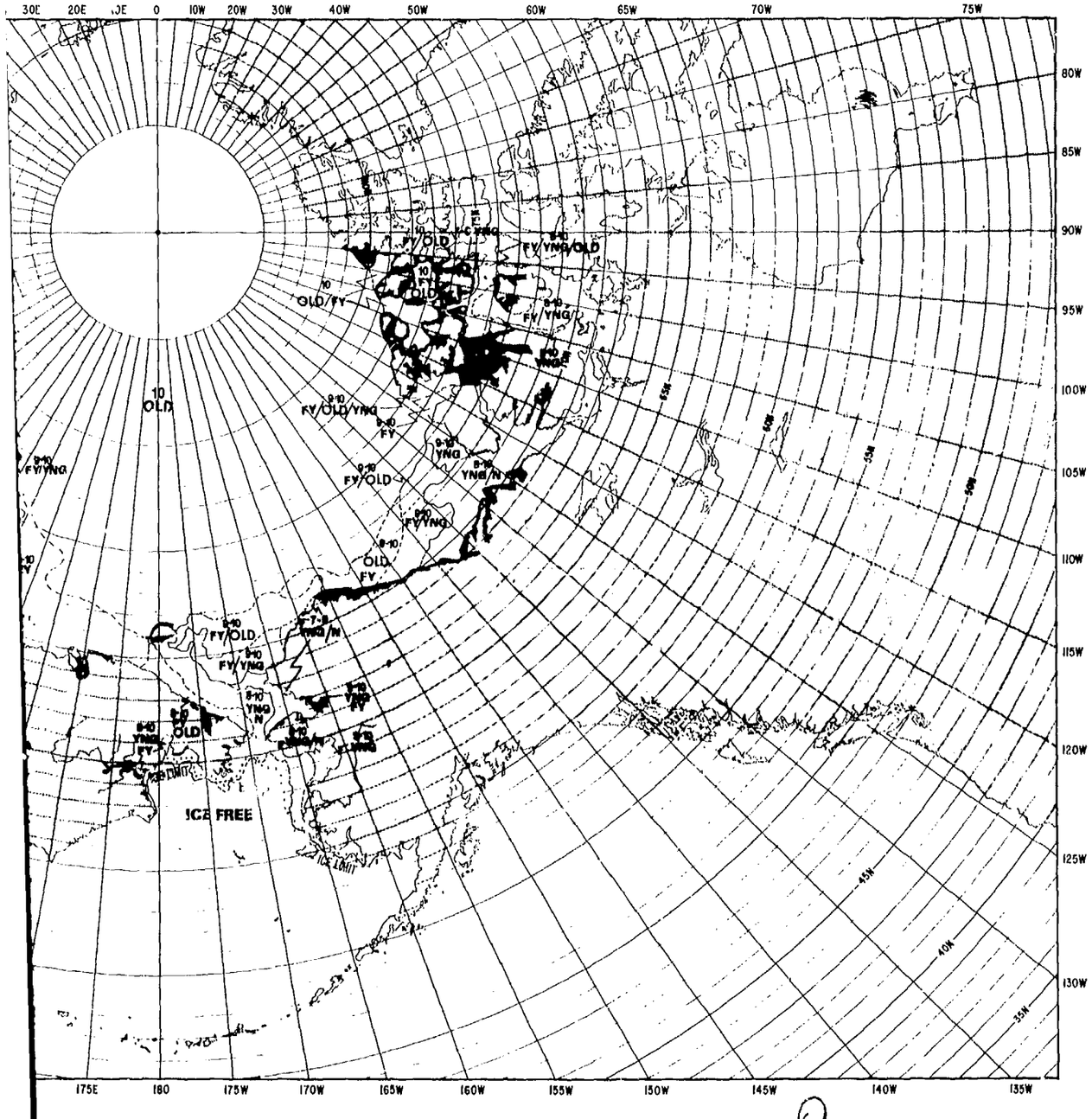
2


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally, 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented to first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 10 NOV 1981
ICE FREE
ICE FREE
ICE FREE
ICE LIMIT
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W

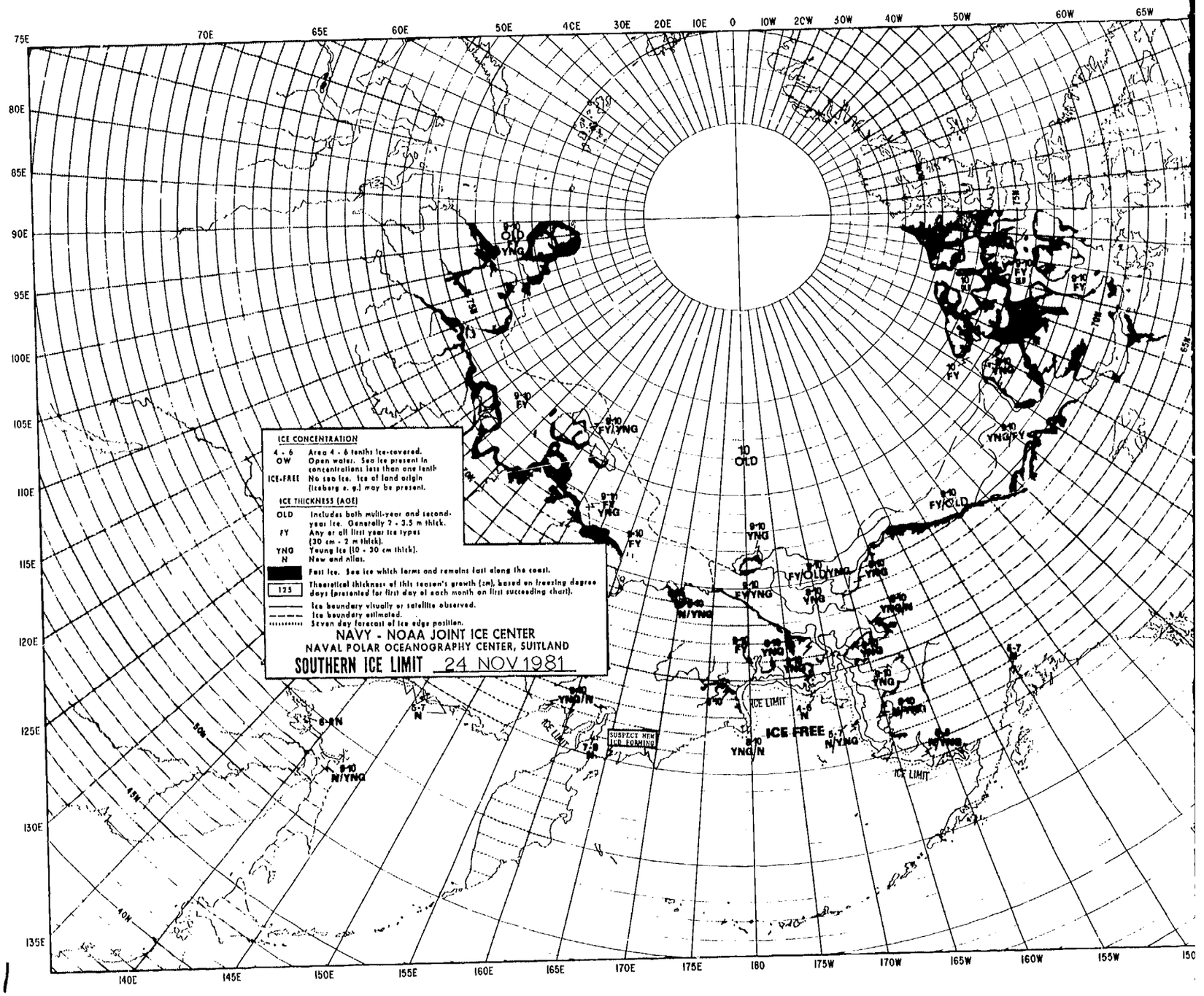

30E
20E
10E
0
10W
20W
30W
40W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
10
OLD
ICE FREE
ICE LIMIT
45N
40N
35N

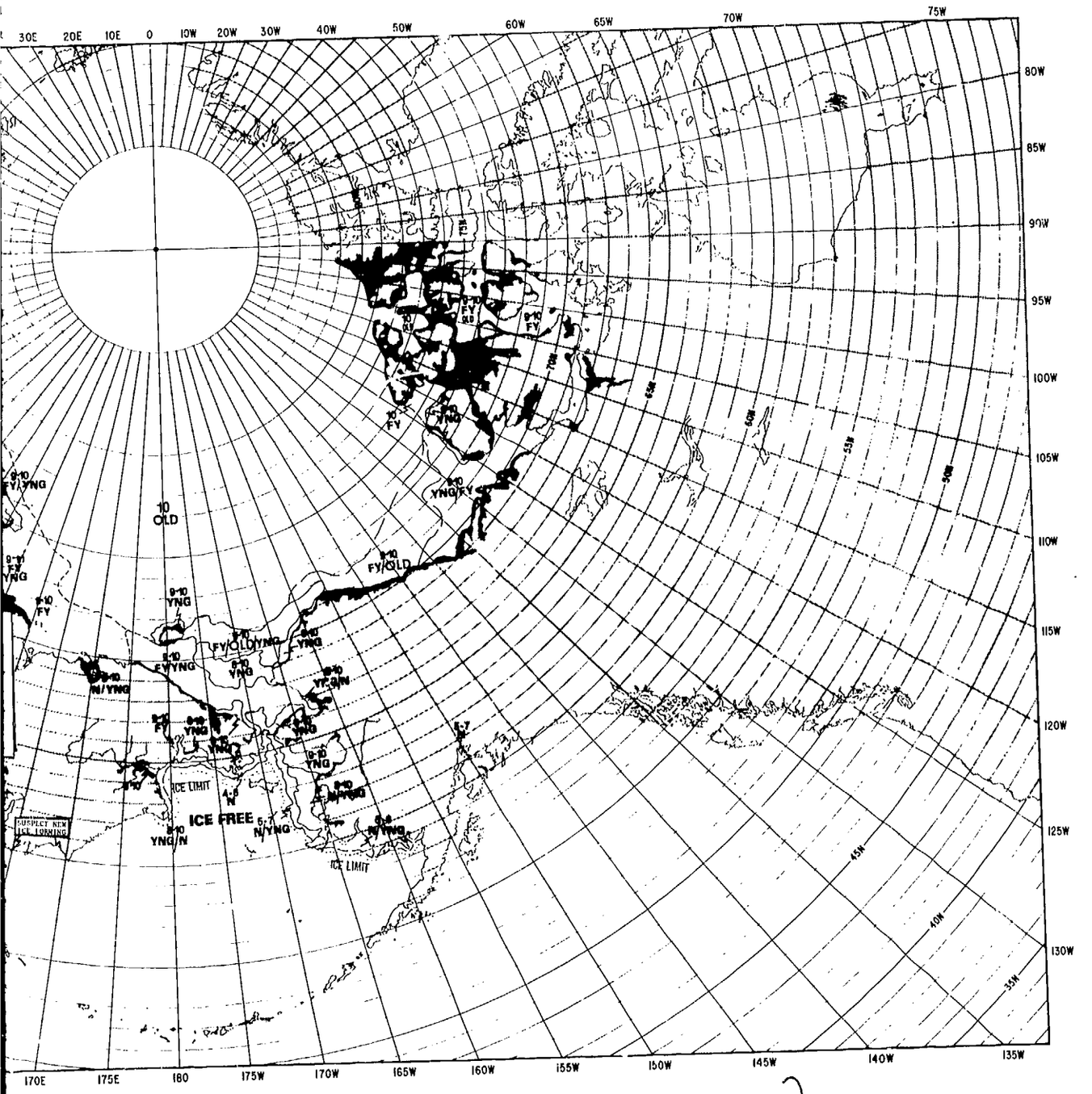
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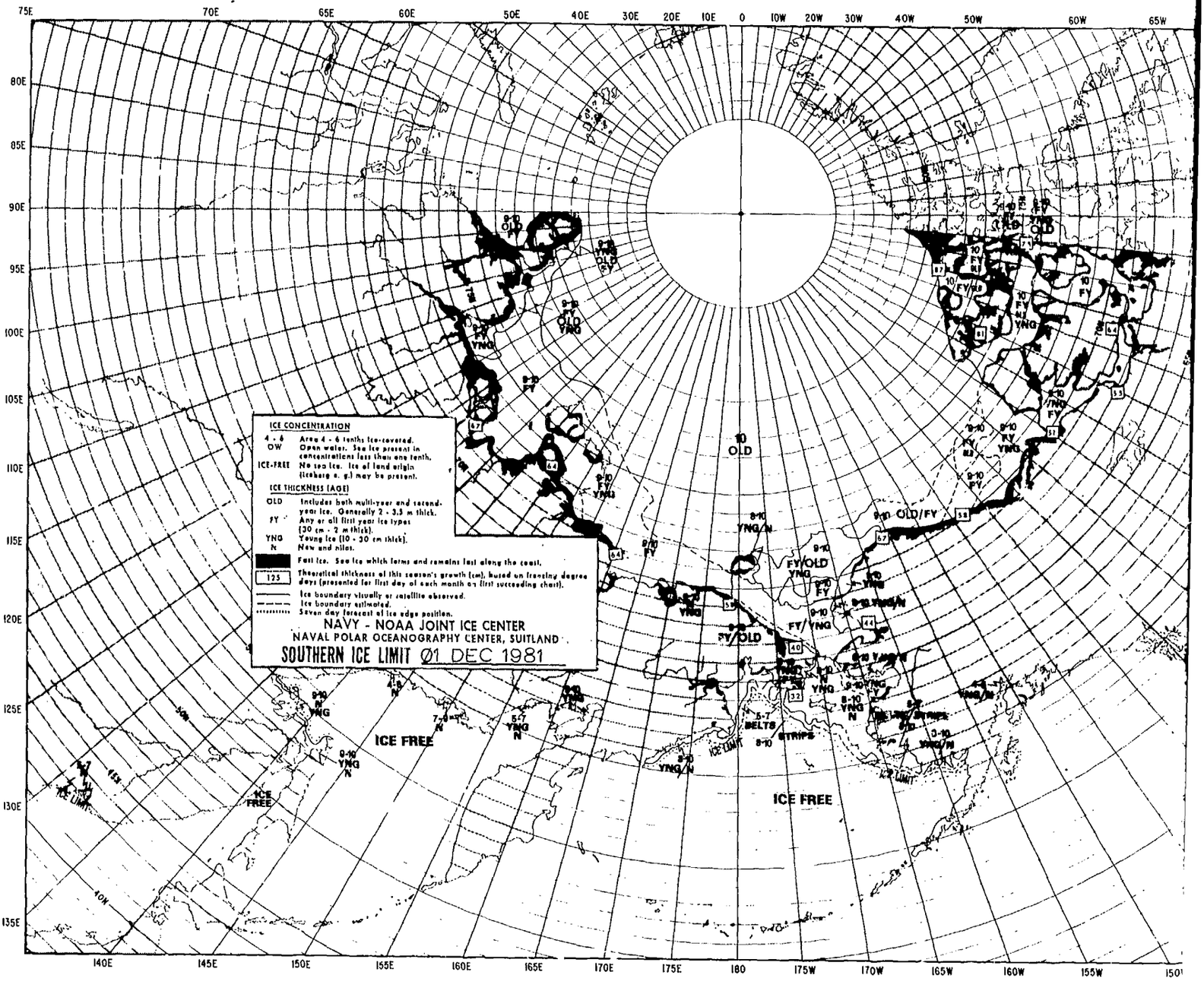

ICE CONCENTRATION
4 - 6 Area 1 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 17 NOV 1981
ICE FREE
ICE FREE
ICE FREE
NEW ICE FORMING
NEW ICE FORMING
ICE LIMIT
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

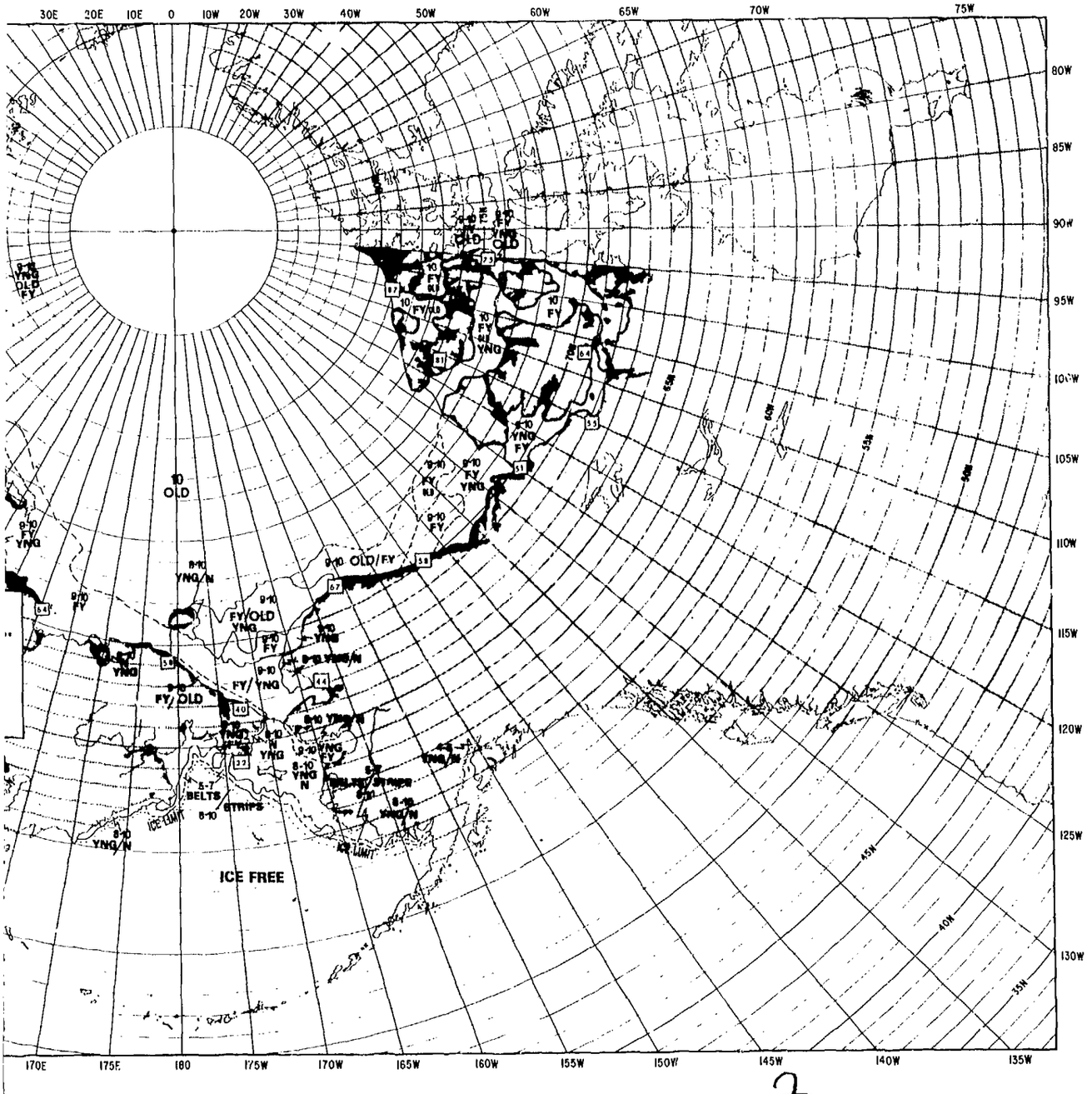

30E
20E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
FY/OLD
FY/YNG/OLD
OLD/FY
FY/OLD/YNG
FY/YNG
YNG/N
OLD
FY
ICE FREE
ICE LIMIT
45N
40N
35N

2

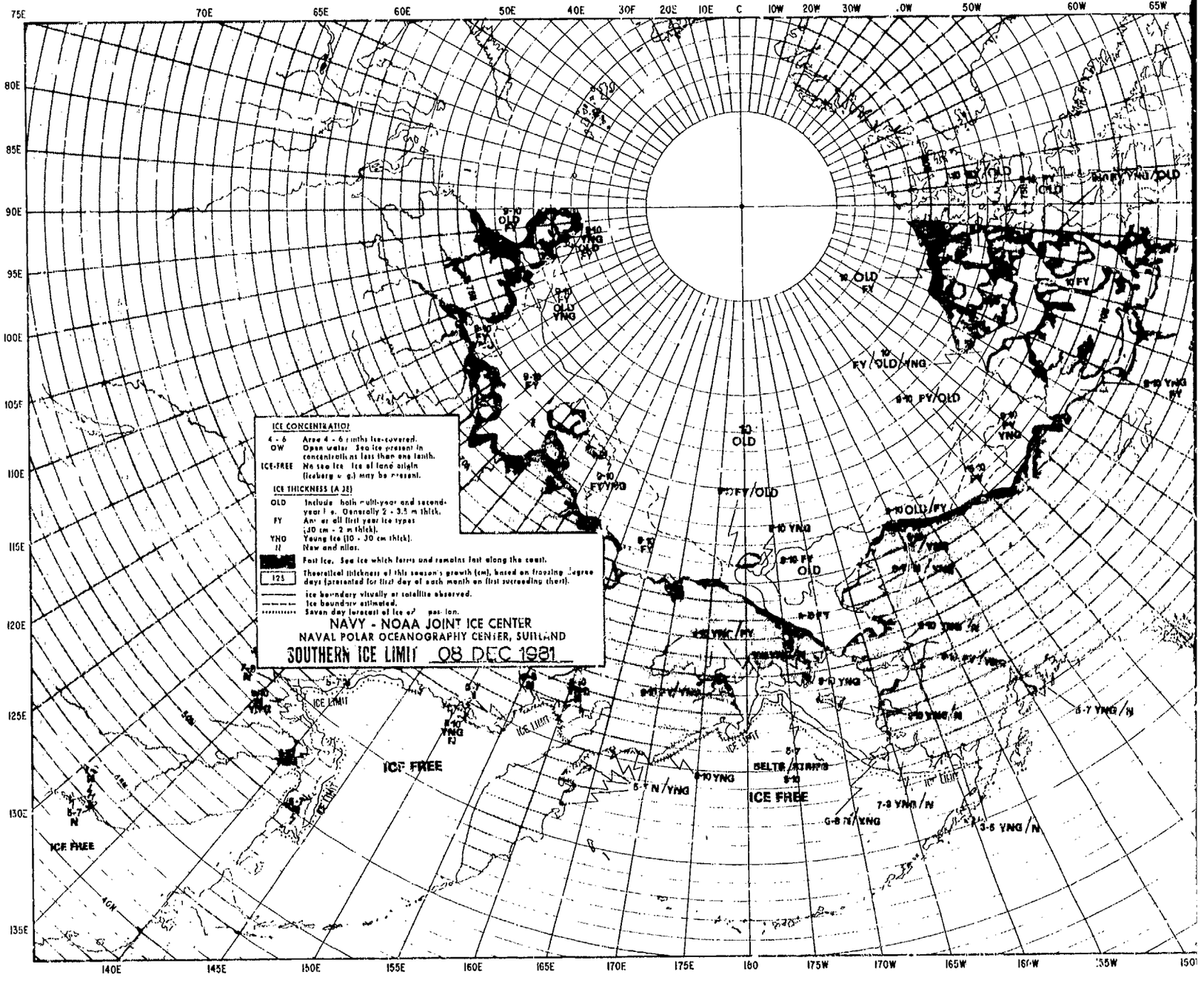

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 24 NOV 1981
ICE LIMIT
ICE FREE
SUSPECT NEW ICE FORMING

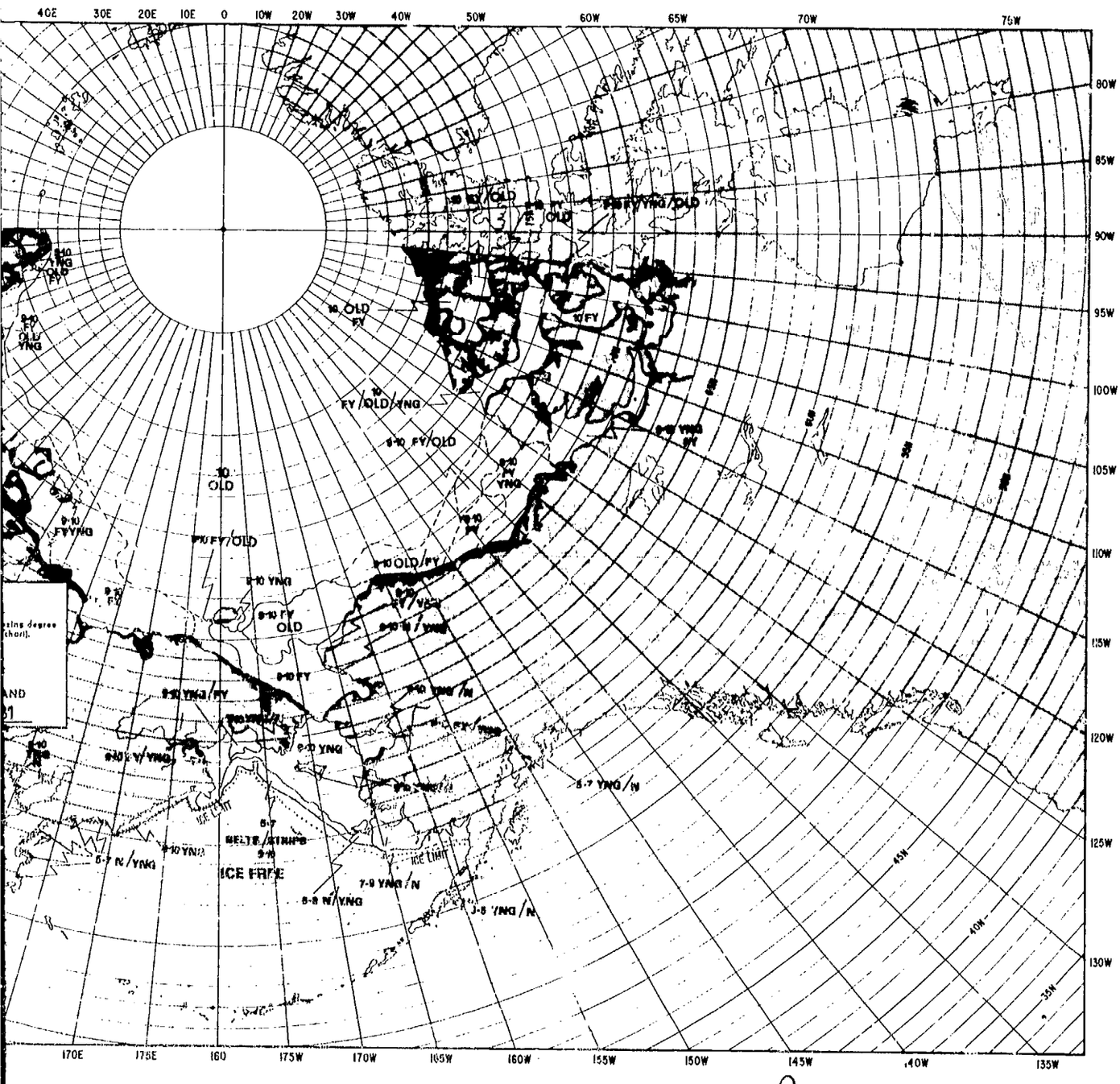

30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
45N
40N
35N
ICE FREE
ICE LIMIT
ICE LIMIT
SUSPECT NEW ICE FORMING
10 OLD
9-10 FY/OLD
9-10 YNG/FY
9-10 FY
9-10 YNG
9-10 FY/YNG
9-10 N/YNG
9-10 YNG/N
9-10 YNG/OLD
9-10 FY/OLD/YNG
9-10 YNG/N
6-7 N/YNG
4-6 N
7


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT Ø1 DEC 1981
ICE FREE
ICE FREE
ICE FREE
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150

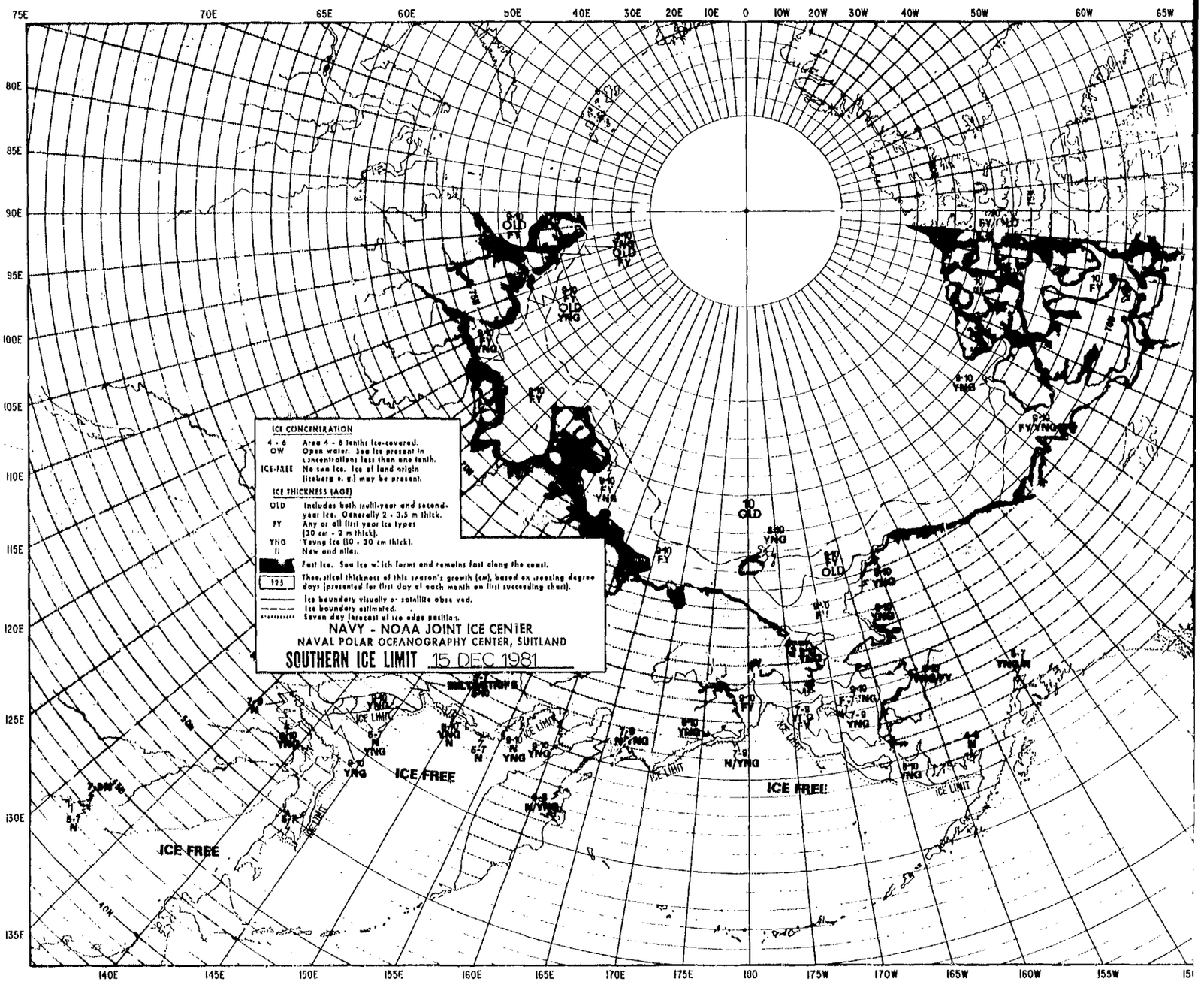

30E
20E
10E
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10W
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70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
45N
40N
35N
170E
175E
180
175W
170W
165W
160W
155W
150W
145W
140W
135W
ICE FREE
ICE LIMIT
5-7 BELTS
8-10 STRIPS
10 OLD
9-10 OLD/FY
9-10 FY/OLD YNG
9-10 FY/ YNG
9-10 FY/ OLD
9-10 YNG/N
9-10 FY YNG
9-10 YNG
9-10 N YNG
8-10 YNG N
8-10 YNG/N
10 FY/OLD
10 FY

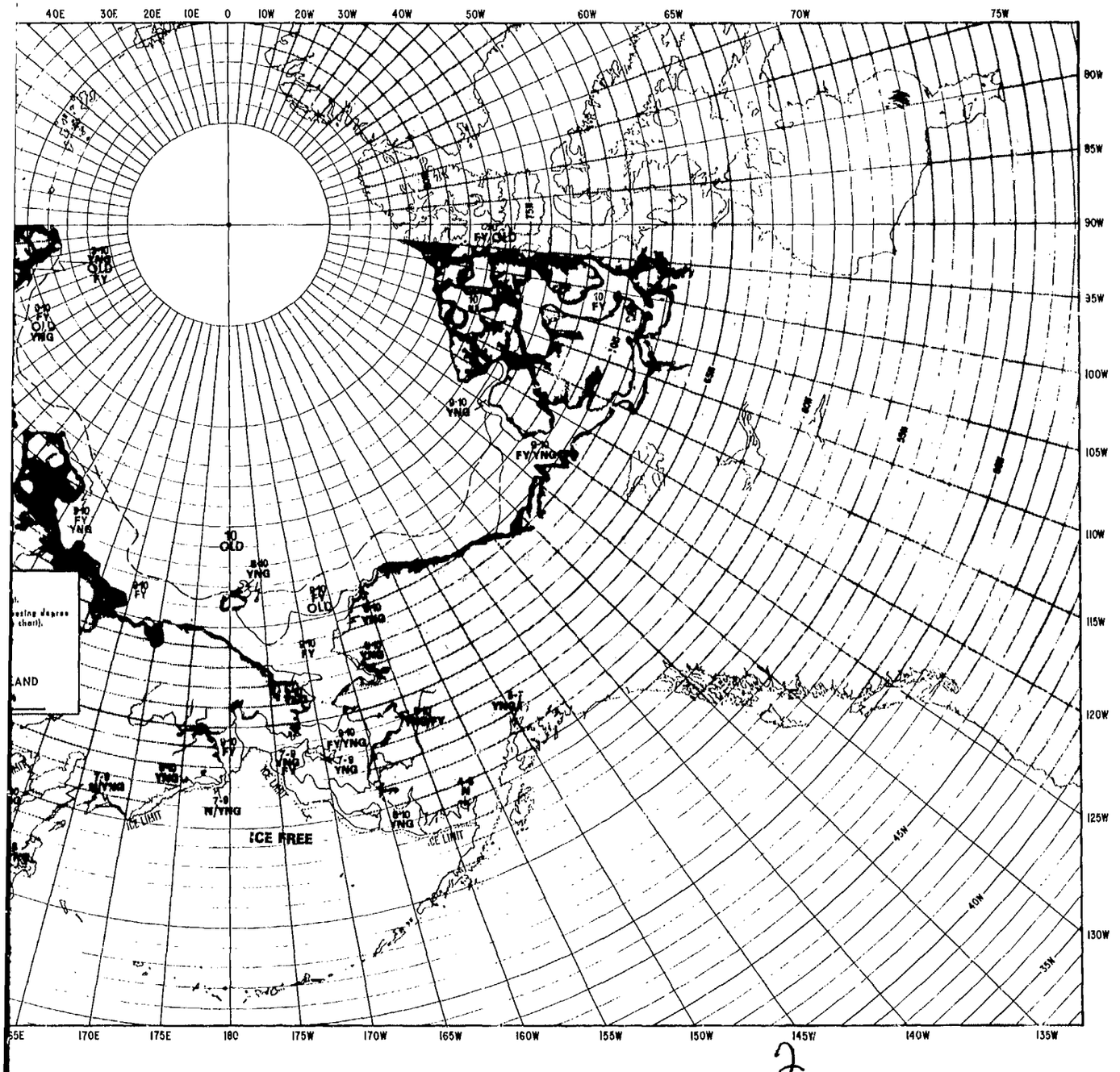
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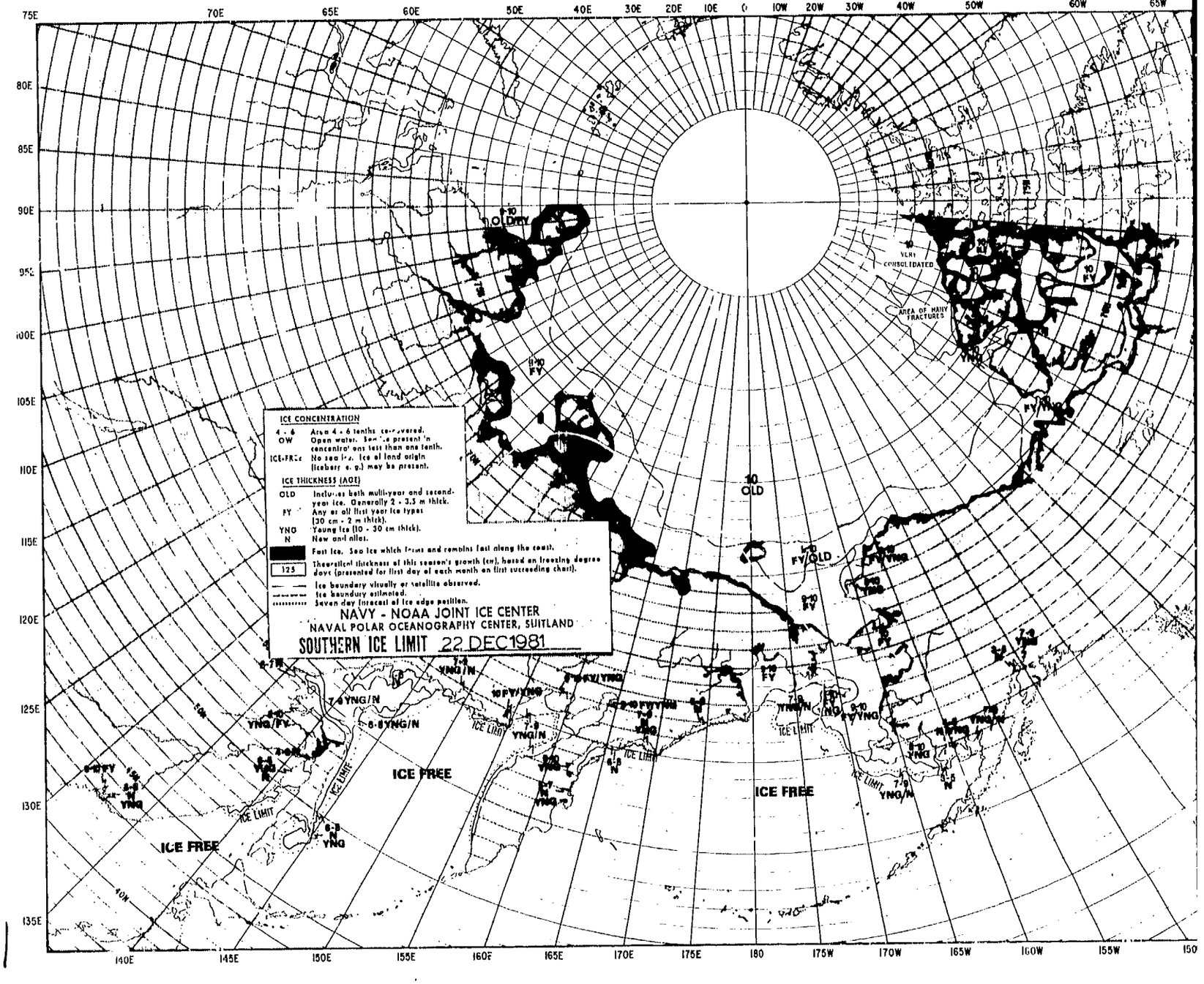

ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (A 28)
OLD Include both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast Ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 08 DEC 1981
ICE FREE
ICE LIMIT
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W

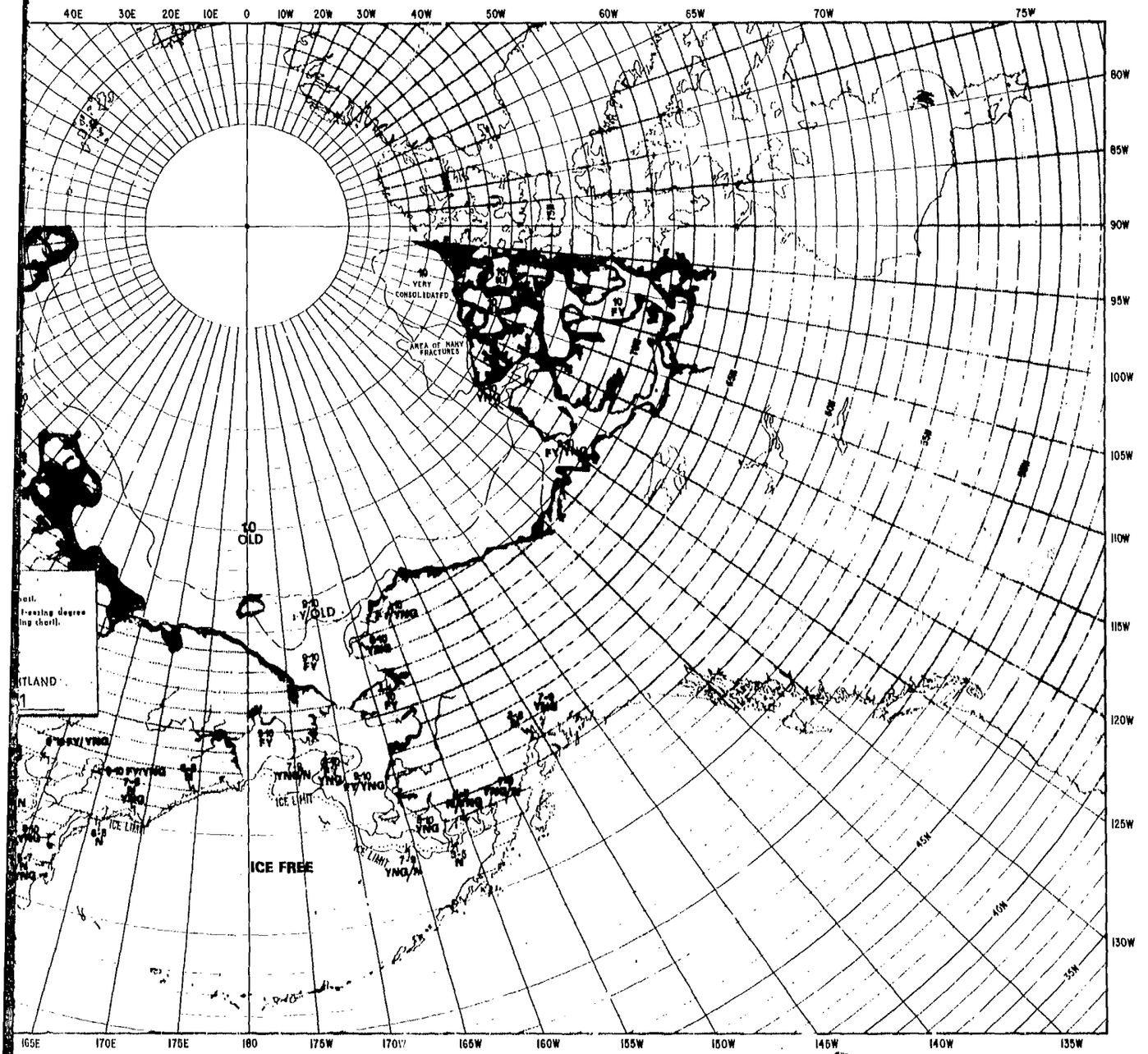

40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
45N
40N
35N
ICE FREE
ICE LIMIT
ICE LIMIT
10 OLD
10 FY/OLD/YNG
9-10 FY/OLD
9-10 OLD/FY
9-10 YNG
9-10 FY
OLD
9-10 YNG/FY
9-10 YNG
8-9 N/YNG
7-9 YNG/N
5-7 YNG/N
8-9 N/YNG
9-10 YNG
9-10 FY/OLD
9-10 FY/YNG/OLD
10 FY
10 OLD
FY
9-10 FY
OLD
YNG
9-10 FY
YNG
9-10 FY/YNG
9-10 FY/OLD
9-10 OLD/FY
9-10 YNG
9-10 FY
OLD
9-10 YNG/FY
9-10 YNG
9-10 YNG
9-10 N/YNG
9-10 YNG
9-10
BELTS/STRIPS
9-10
5-7
5-7 YNG/N
8-9 N/YNG
7-9 YNG/N
5-7 YNG/N

2

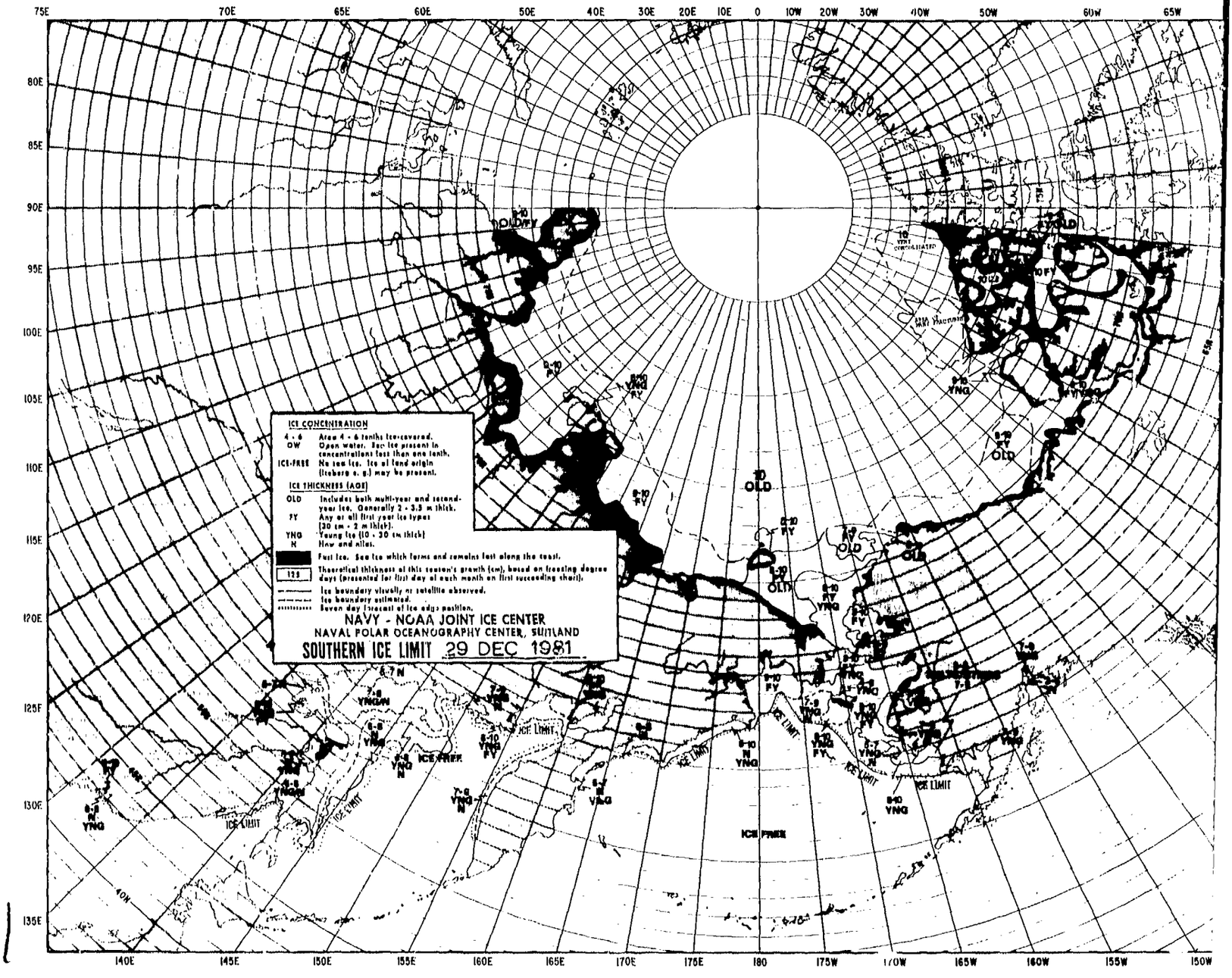

75E
70E
65E
60E
50E
40E
30E
20E
10E
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10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths ice-covered.
OW Open water. Sea ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AGE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
123 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 15 DEC 1981
ICE FREE
ICE FREE
ICE FREE
ICE LIMIT

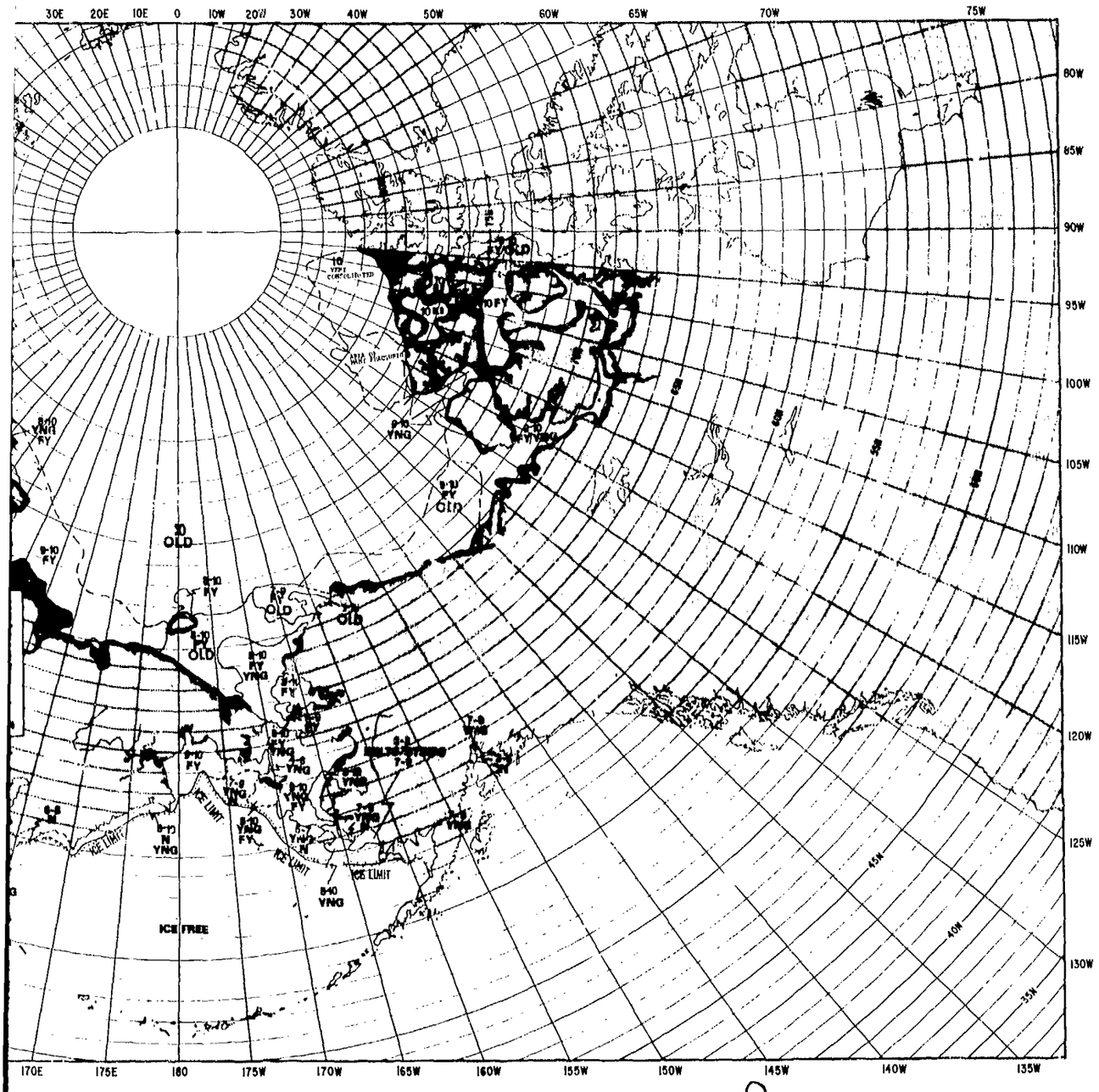

40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175W
180
175E
170E
ICE FREE
ICE LIMIT
ICE LIMIT
45W
40W
35W


ICE CONCENTRATION
4 - 6 Area 4 - 6 tenths covered.
OW Open water. Some ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (iceberg e. g.) may be present.
ICE THICKNESS (AOE)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick).
N New and alles.
Fast ice. Sea ice which forms and remains fast along the coast.
125 Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 22 DEC 1981
ICE FREE
ICE FREE
ICE FREE
ICE LIMIT
VERY CONSOLIDATED
AREA OF MANY FRACTURES
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W


40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
70W
75W
80W
85W
90W
95W
100W
105W
110W
115W
120W
125W
130W
135W
140W
145W
150W
155W
160W
165W
170W
175E
180
170E
165E
ICE FREE
ICE LIMIT
AREA OF MANY FRACTURES
VERY CONSOLIDATED
OLD
FY
YNG
45N
40N
55N

2


ICE CONCENTRATION
4 - 6 Areas 4 - 6 tenths ice-covered.
OW Open water. Bare ice present in concentrations less than one tenth.
ICE-FREE No sea ice. Ice of land origin (icebergs e. g.) may be present.
ICE THICKNESS (AOR)
OLD Includes both multi-year and second-year ice. Generally 2 - 3.5 m thick.
FY Any or all first year ice types (30 cm - 2 m thick).
YNG Young ice (10 - 30 cm thick)
N New and nilas.
Fast ice. Sea ice which forms and remains fast along the coast.
Theoretical thickness of this season's growth (cm), based on freezing degree days (presented for first day of each month on first succeeding chart).
Ice boundary visually or satellite observed.
Ice boundary estimated.
Seven day forecast of ice edge position.
NAVY - NOAA JOINT ICE CENTER
NAVAL POLAR OCEANOGRAPHY CENTER, SUITLAND
SOUTHERN ICE LIMIT 29 DEC 1981
ICE LIMIT
ICE FREE
75E
70E
65E
60E
50E
40E
30E
20E
10E
0
10W
20W
30W
40W
50W
60W
65W
80E
85E
90E
95E
100E
105E
110E
115E
120E
125E
130E
135E
140E
145E
150E
155E
160E
165E
170E
175E
180
175W
170W
165W
160W
155W
150W



2

USCOMM-NOAA-ASHEVILLE, N.C. 5/82/150

TABLE I SATELLITE DATA UTILIZED DURING 1981

Time Period		Satellite Remote Sensing			Resolution	Coverage
From	To	Sensor Platform	Sensor Type	Spectral Region		
1-81	12-81	NOAA-6	AVHRR HRPT/LAC		1km	Regional
			VIS	0.55-0.68 um		
			NIR	0.73-1.10 um		
			IR	3.55-3.93 um		
			IR	10.5-11.5 um		
			GAC		4km	Global
			VIS	0.55-0.68 um		
			IR	10.5-11.5 um		
7-81	12-81	NOAA-7	AVHRR HRPT/LAC		1km	Regional
			VIS	0.58-0.68 um		
			NIR	0.73-1.10 um		
			IR	3.55-3.93 um		
			IR	10.3-11.3 um		
			GAC		4 km	Global
			VIS	0.58-0.68 um		
			IR	10.3-11.3 um		
1-81	12-81	NIMBUS-5	ESMR	1.55 cm	25 km	Global
1-81	12-81	NIMBUS-7	SMMR	0.81 cm 1.66 cm	50 km	Global

Abbreviations and Acronyms

AVHRR - Advanced Very High Resolution Radiometer
cm - Centimeter
ESMR - Electrically Scanning Microwave Radiometer
GAC - Global Area Coverage
HRPT - High Resolution Picture Transmission
IR - Infrared
km - Kilometer
LAC - Local Area Coverage
NIR - Near Infrared
SMMR - Scanning Multifrequency Microwave Radiometer
VHRR - Very High Resolution Radiometer
VIS - Visual
um - Micrometer

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Sea ice, polar ice fields, satellite imagery, concentration, stage of development, fast ice, concentration of thickness, theoretical thickness, Arctic

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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).

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