



BIMCO

MARAD

Arctic Transportation Conference

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Head of
Marine Department

Washington 5 June 2008

Program



BIMCO

BIMCO's role as Ice Info provider

Present involvement

Future possibilities

What is BIMCO?



BIMCO



The world's largest shipping organisation founded in 1905 in Copenhagen.

- **Standard contracts, Charter Parties, Clauses, etc.**
- **On-line service to members**
- **IMO observer since 1969**

What is BIMCO?



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BIMCO membership consists of:

- **Shipowners, Managers and Operators**
- **Shipbrokers and Agents**
- **P&I Clubs and National Associations**
- **Others with interests in shipping, e.g. classification societies, maritime law firms, ports, financial institutions**

What is BIMCO?



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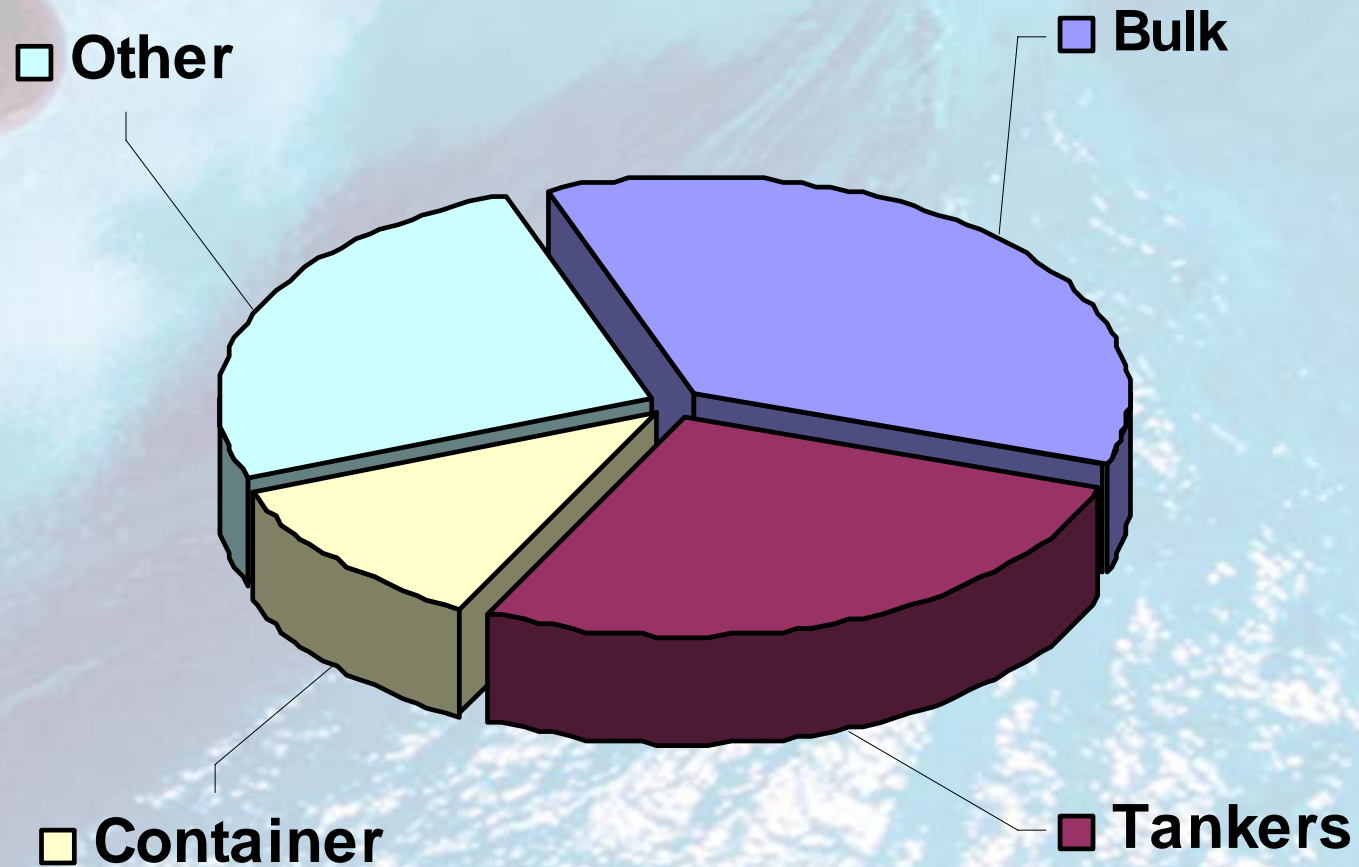
- 2,450 members in 123 countries
- 950 Ship Owners, Managers and Operators with a fleet of 620 mill. DWT – equalling about **65% of the world merchant fleet**
- 1,400 brokers and agents
- 44 clubs, including the majority of International P&I Group members
- About 70 associate members

What is BIMCO?



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~ 13,500 ships



BIMCO house



BIMCO

45 employees
in head office.

Permanent
representatives
in Washington,
London and
Brussels.



History



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1938: First Voyage C/P Ice Clause issued

1939: BALTIME C/P containing an Ice Clause

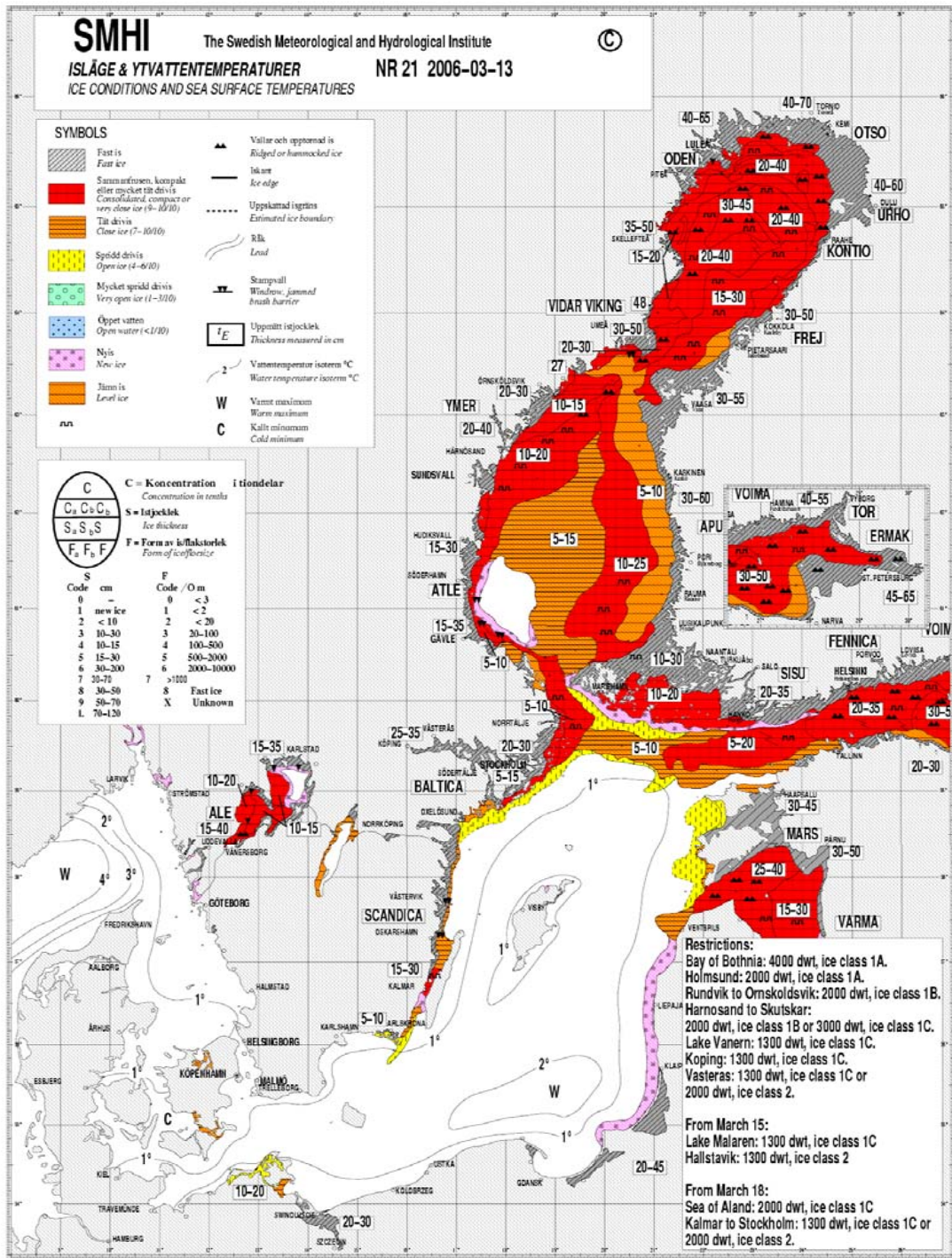
1947: The NORDICE clause issued

1954: BIMCO started providing Ice Information regarding the Baltic Sea and Danish Waters to our members.

1957: The Ice Service was expanded to also include Saint Lawrence Seaways.

2008: Ice charts covering all relevant areas.

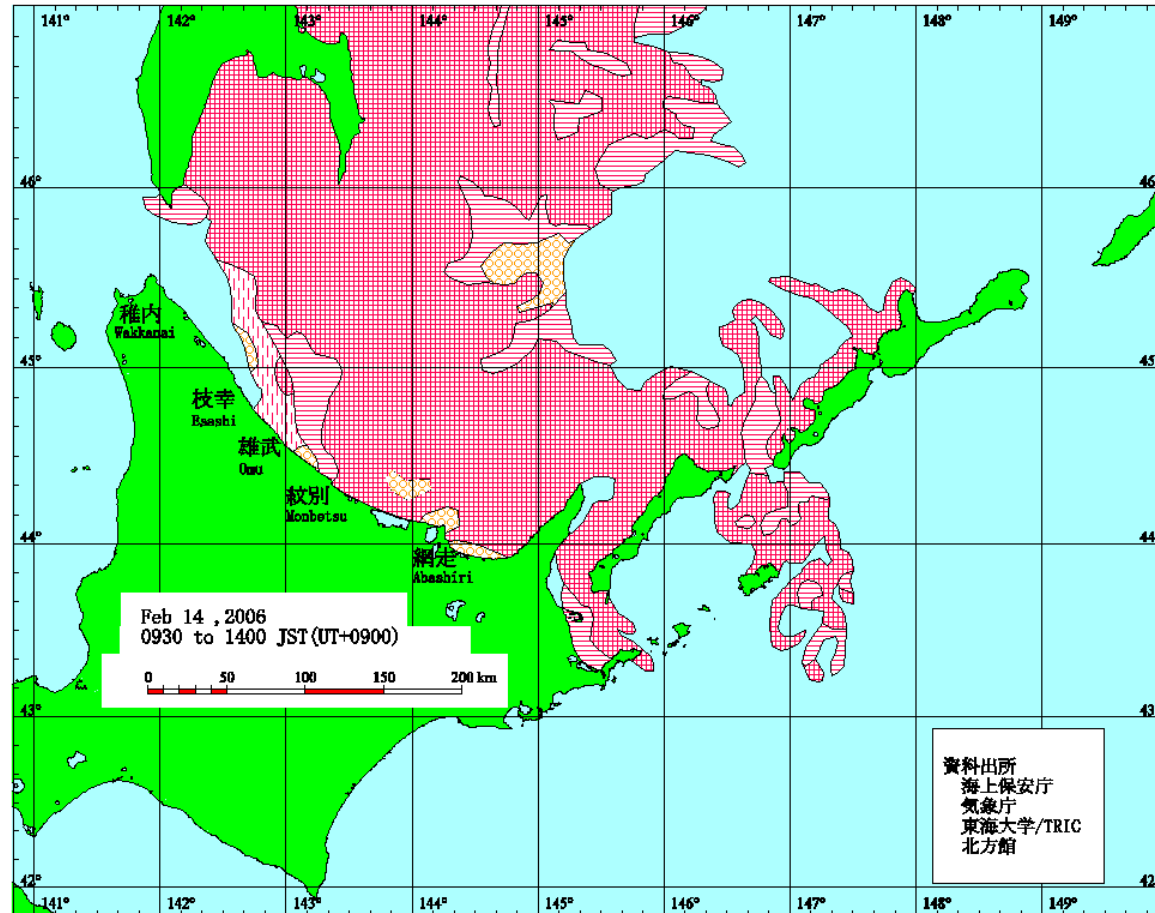
Baltic Sea



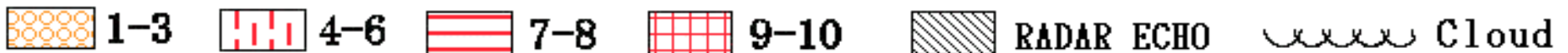
La Perouse Strait



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Legend

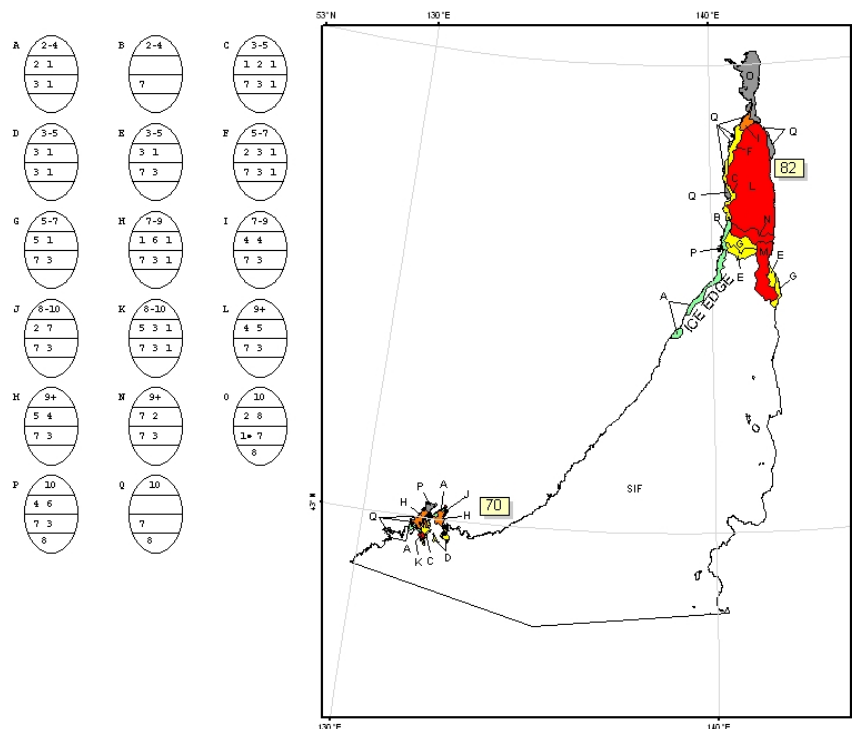


Concentration in numerical scales

Sea of Japan



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[CM] = THEORETICAL ICE THICKNESS IN CENTIMETERS

SIF = SEACE FREE

COLOR CODES BASED ON TOTAL CONCENTRATION		
ICE FREE	4-6 TENTHS	FAST ICE (TEN TENTHS)
LESS THEN 1 TENTH	7-8 TENTHS	ICE SHELF
1-3 TENTHS	9-10 TENTHS	UNDEFINED ICE

ICE ANALYSIS SEA OF JAPAN NATIONAL/NAVAL ICE CENTER

Analysis Week 27 Feb - 03 Mar 2006

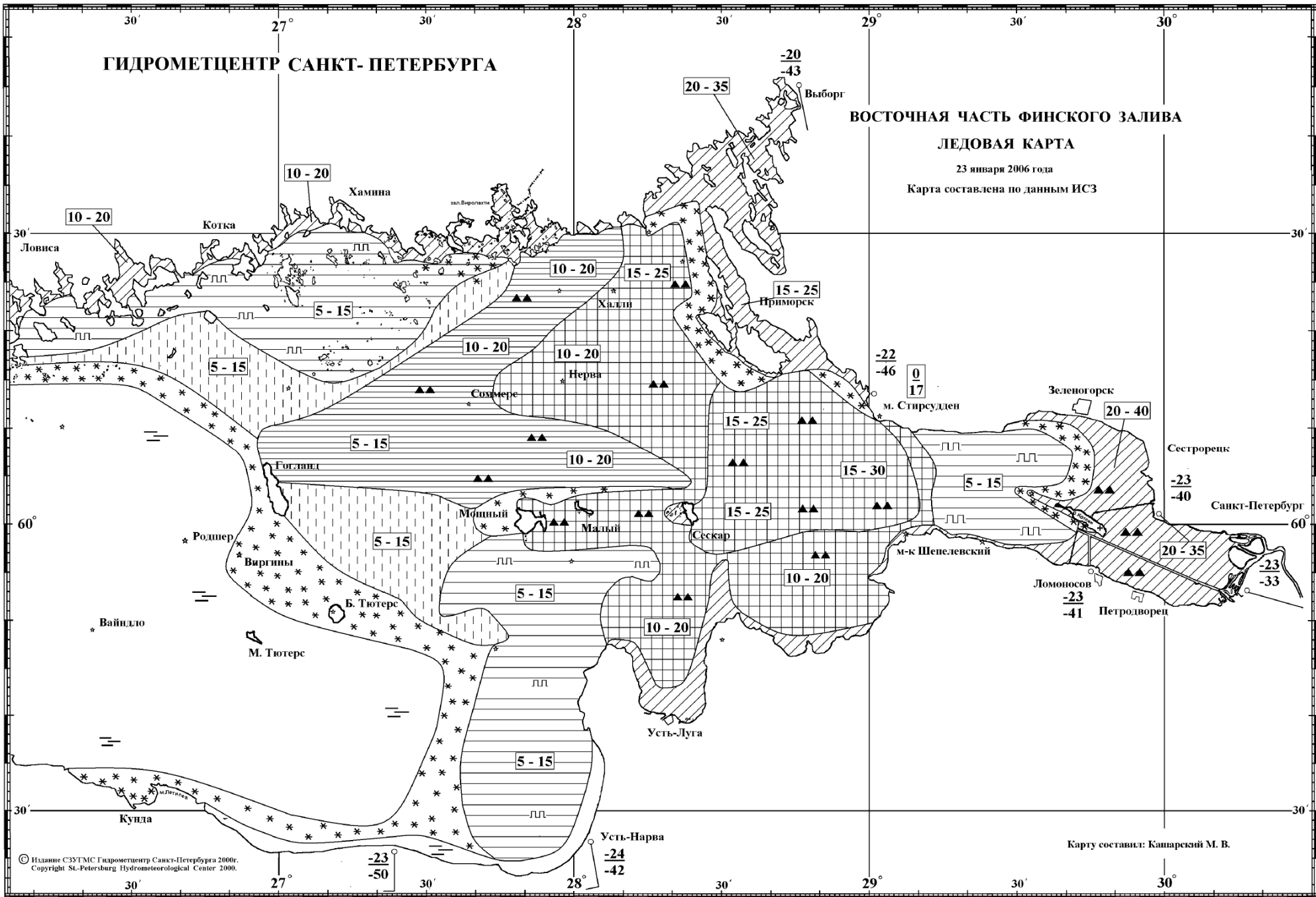
Data Sources Date

MODIS.....25 - 26 Feb

ESTIMATED.....28 Feb

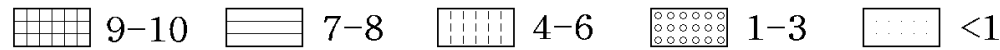
Analysts: Helfrich, Sean

UNCLASSIFIED



STPN JMH
SEA ICE
CONDITION CHART
17 FEB 2006

SEA ICE CONCENTRATION (UNIT 1/10)



-2- SEA SURFACE TEMPERATURE(℃)

全般海氷情報 SEA ICE INFORMATION (NO. 23)

流氷は、知床半島に接岸しているほかは沖合いに遠ざかっています。また、流氷は瑛瑠瑠水道と国後水道から太平洋へ流出しています。

今後1週間、北海道オホーツク海側では流氷はさらに沖合いに遠ざかるでしょう。また、引き続き太平洋へ流出するでしょう。船舶は流氷の動きに注意して下さい。

DRIFT ICE IS FAR AWAY FROM THE COAST OF HOKKAIDO FACING THE SEA OF OKHOTSK EXCEPT ON SHORE AT SHIRETOKO PENINSULA, AND FLOWS INTO THE PACIFIC OCEAN THROUGH THE GOYOMAI PASS AND THE KUNASHIRI PASS.

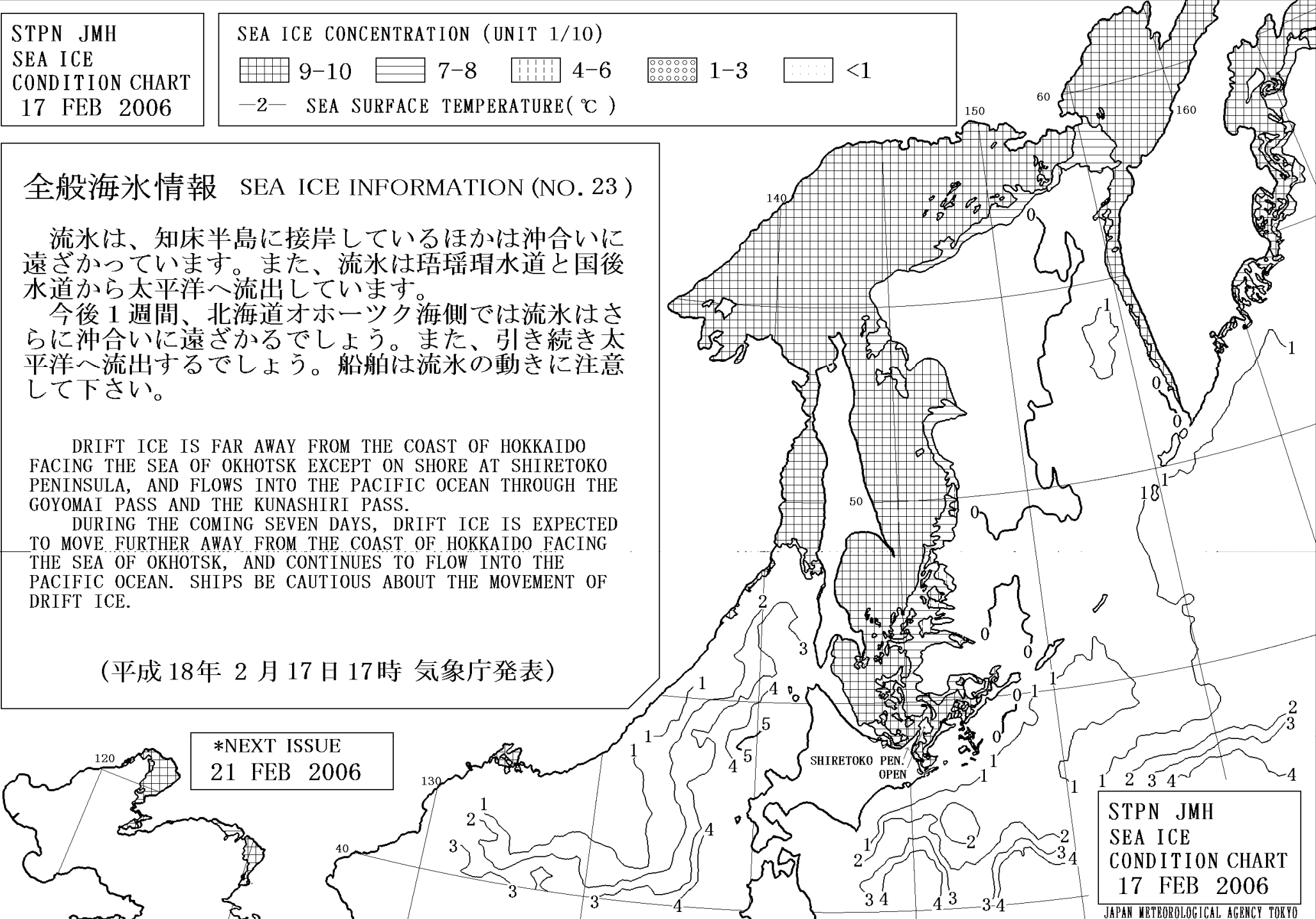
DURING THE COMING SEVEN DAYS, DRIFT ICE IS EXPECTED TO MOVE FURTHER AWAY FROM THE COAST OF HOKKAIDO FACING THE SEA OF OKHOTSK, AND CONTINUES TO FLOW INTO THE PACIFIC OCEAN. SHIPS BE CAUTIOUS ABOUT THE MOVEMENT OF DRIFT ICE.

(平成18年 2月17日 17時 気象庁発表)

*NEXT ISSUE
21 FEB 2006

STPN JMH
SEA ICE
CONDITION CHART
17 FEB 2006

JAPAN METEOROLOGICAL AGENCY TOKYO



History



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Besides providing Ice Charts BIMCO also offers Courses covering:

- **Sea Ice and Ice Charts**
- **Ice Glossary + Egg Code**
- **Ice Classification**
- **Comparison between Ice Classes**
- **Interpretation of Ice Clauses**

”Have an Ice Day with BIMCO”

Ice Navigation



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Ice navigation is a lot more than just assigning an ice class to the ship!

The entire ship should be subjected to a "winterization" process.

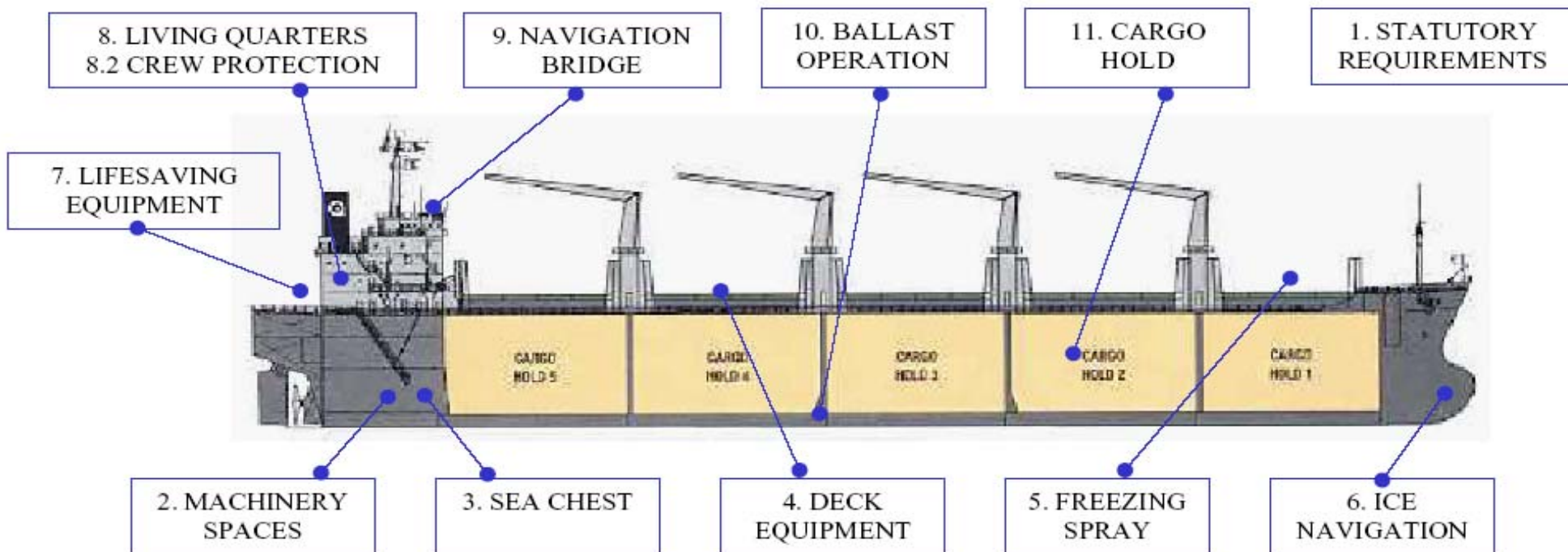
The crew should preferably have some ice navigation experience.

Ice Navigation

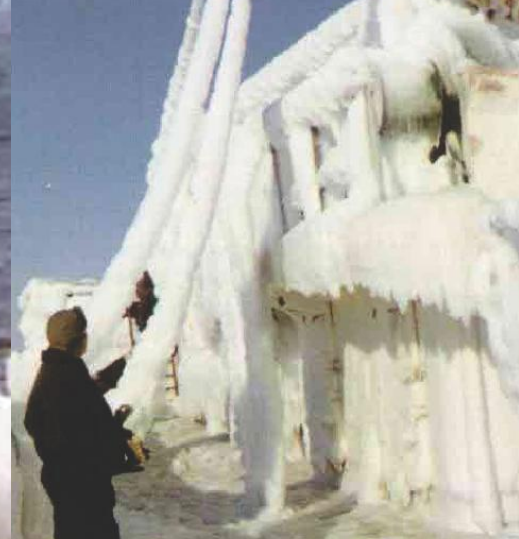


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Areas of concern when navigating in ice



Ice Navigation



Icebergs



- Icebergs



- Icebergs



Example on Ice Classes



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DNV Ice Class Notations

- Icebreaker
- Polar-05 (or-10 or -20)
- Ice-05 (or -10 or -15)
- Ice-1A*F
- Ice-1A*
- Ice-1A
- Ice-1B
- Ice-1C
- Ice-C
- (Sealer)

Ice Class Equivalents



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Lloyds	DNV	Russian 1999-	Finnish- Swedish
Ice Class 1AS	Ice 1A*	JIY6	1A Super
Ice Class 1A	Ice 1A	JIY4	1A
Ice Class 1B	Ice 1B	JIY3	1B
Ice Class 1C	Ice 1C	JIY2	1C
Ice Class 1D		JIY1	II
100 A1		JIY1	II

Ice class – what to expect?



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What can reasonably be expected from an ice classed ship, e.g. 1A Super?

- **That depends.....**

Ice class – what to expect?



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Ordering a 1A Super newbuilding :

- **Finnish-Swedish rules:**

- 5 knots in 1.0m brash ice with 0.1m frozen top layer

- **Lloyd's Register:**

- 5 knots in 0.3m solid ice with snow on top

- **American Bureau of Shipping:**

- Only brash ice

- **Det Norske Veritas:**

- Ship specific

Confused?

Ice class – what to expect?



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BIMCO has requested IACS (International Association on Classification Societies) to harmonize the Ice Classes within its members.

IACS has agreed to Common Structural Rules – CSR - for tankers and bulk carriers, but if these ships come with an Ice Class, they are not “Common” anymore.

IACS is sympathetic to the proposal, but IACS is presently stifled by the ongoing investigation from EU’s DG COMP.



- **Guidelines for Ships operating in Arctic Ice-Covered Waters.**
- **Approved by IMO in 2002**
- **Presently being updated by a Correspondence Group chaired by Canada**
- **Target completion date 2010**
- **Likely to include the Antarctic – again!**

Application of the Polar Code:



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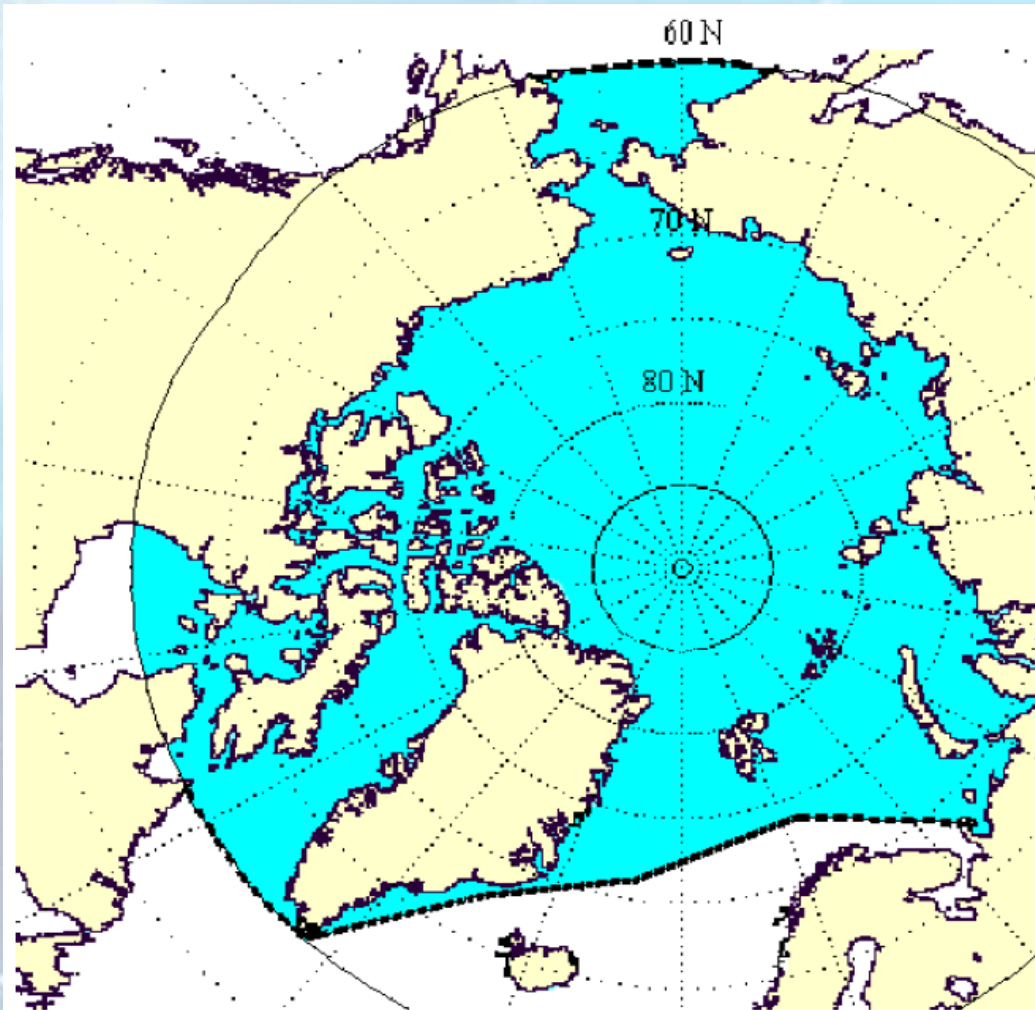




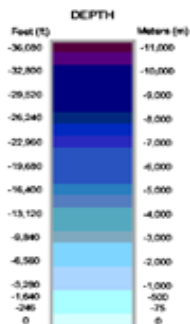
Figure 1 – Maximum extent of application (see paragraph G-3.2.1)

MAP KEY:

LME Numbers:

- 1 East Bering Sea
- 2 Gulf of Alaska
- 3 California Current
- 7 Northeast U.S. Continental Shelf
- 8 Scotian Shelf
- 9 Newfoundland - Labrador Shelf
- 10 Beilin Bay - Davis Strait
- 18 Iceland Shelf - Southeast Greenland
- 20 Barents Sea
- 21 Norwegian Sea
- 22 North Sea
- 23 Baltic Sea
- 24 Celtic-Biscay Shelf
- 48 Yellow Sea
- 50 Sea of Japan
- 51 Oyashio Current
- 52 Sea of Okhotsk
- 53 West Bering Sea
- 54 Chukchi Sea
- 55 Beaufort Sea
- 56 East Siberian Sea
- 57 Laptev Sea
- 58 Kara Sea
- 59 Greenland Sea
- 60 Faroe Plateau
- 62 Black Sea
- 63 Hudson Bay
- 64 Arctic Ocean
- 65 Arctic Archipelago

-  Large Marine Ecosystems
-  Watershed Boundaries
-  Political Boundaries

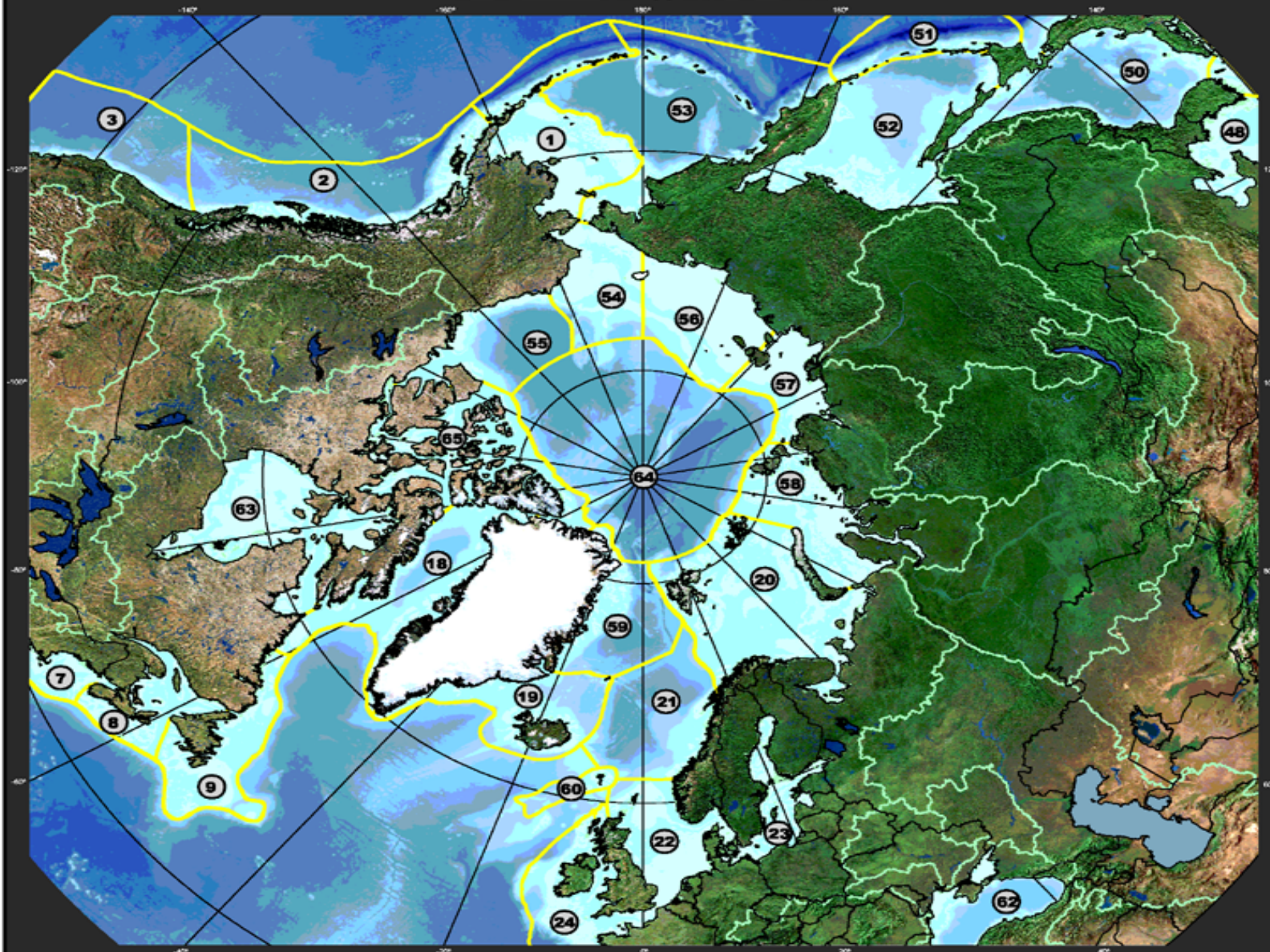


SCALE = 1 : 25,000,000
Universal Polar Projection
Units: Meters



Data Sources:
Bathymetry (2-minutes) : Smith and Sandwell, 1997
Bathymetry (5-minutes) : NAVOCEANO, DSD03
Watersheds (HYDRIO 1-k): USGS Eros Data Center
Terrestrial Image, Political Boundaries : ESRI

Large Marine Ecosystems of the Northern Polar Region and Linked Watersheds



LARGE MARINE ECOSYSTEMS are areas of the ocean characterized by distinct bathymetry, hydrography, productivity, and trophic interactions. They annually produce 95 percent of the world's fish catch. They are national and regional focal areas of a global effort to reduce the degradation of linked watersheds, marine resources, and coastal environments from pollution, habitat loss, and over-fishing.

For More Information Visit: <http://www.lme.noaa.gov>



Arctic navigation



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POLAR CLASS	GENERAL DESCRIPTION
PC 1	Year-round operation in all Arctic ice-covered waters
PC 2	Year-round operation in moderate multi-year ice conditions
PC 3	Year-round operation in second-year ice which may include multi-year ice inclusions
PC 4	Year-round operation in thick first-year ice which may include old ice inclusions
PC 5	Year-round operation in medium first-year ice which may include old ice inclusions
PC 6	Summer/autumn operation in medium first-year ice which may include old ice inclusions
PC 7	Summer/autumn operation in thin first-year ice with which may include old ice inclusions

Finnish/Swedish (Baltic)Class*	ASPPR Class	Russian Register Class	Polar Class
IA Super	Type A	UL	PC6
IA	Type B	L1	PC7

Double acting tanker



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“Umiak I”

State of the art Arctic ship



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ARCTIC EXPRESS

ICEBREAKER FINNCO

Navigation in the Arctic



BIMCO



Navigation in Antarctica



Future expectations



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- **Expect ships for Arctic navigation to be of the highest standard,**
- **Expect the Littoral States to provide high quality ENC, but would not expect visual Aids to Navigation,**
- **Expect the Littoral States to provide 24/7 ice information,**
- **Same rules to apply to the region rather than local requirements,**



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Questions?