

ARCTIC ROUTE

A VISION OF ARCTIC ROUTE FOR THE FUTURE



Markku Mylly
CEO
Master Mariner / Principal Advisor
MyNavix OÜ



CONTENTS

International regulations and policies

- **IMO Polar Code**
- **EU role**

Northern Searoute Administration

- **Main role and functions**

Ice conditions and navigation in the NSR

Russian policy in the NSR

Future challenges



IMO POLAR CODE

- **The International Maritime Organization has adopted a mandatory Polar Code to provide for safe ship operation and environmental protection in the polar regions.**
- **If you operate a SOLAS or MARPOL ship in Arctic or Antarctic waters, then your ship will need to comply with all or part of this Code.**



IMO POLAR CODE

The Polar Code has several different implementation dates.

PART I (SOLAS)

Safety requirements are phased in for new and existing ships as follows:

- **New ships** (ships built on or after 1 January 2017) must comply with Part I upon delivery.
- **Existing ships** (ships built before 1 January 2017) must comply with Part I by their first intermediate or renewal survey after 1 January 2018.

PART I (STCW)

Manning and training requirements come into force for both new and existing ships.

1 January 2017

1 January 2018

1 July 2018

PART II (MARPOL)

Environmental protection requirements come into force for new and existing ships

EU ROLE



EUROPEAN
COMMISSION

HIGH REPRESENTATIVE
OF THE UNION FOR
FOREIGN AFFAIRS AND
SECURITY POLICY

Brussels, 27.4.2016
JOIN(2016) 21 final

JOINT COMMUNICATION TO THE EUROPEAN PARLIAMENT AND THE COUNCIL

An integrated European Union policy for the Arctic

Rectangula



➤ **EU ROLE**

**EU POLICY THAT
FOCUSES;**

**INTERNATIONAL CO-
OPERATION**

CLIMATE CHANGE

**SUSTAINABLE
DEVELOPMENT**

THE NORTHERN SEA ROUTE ADMINISTRATION



FEDERAL AGENCY FOR
MARITIME AND RIVER
TRANSPORT

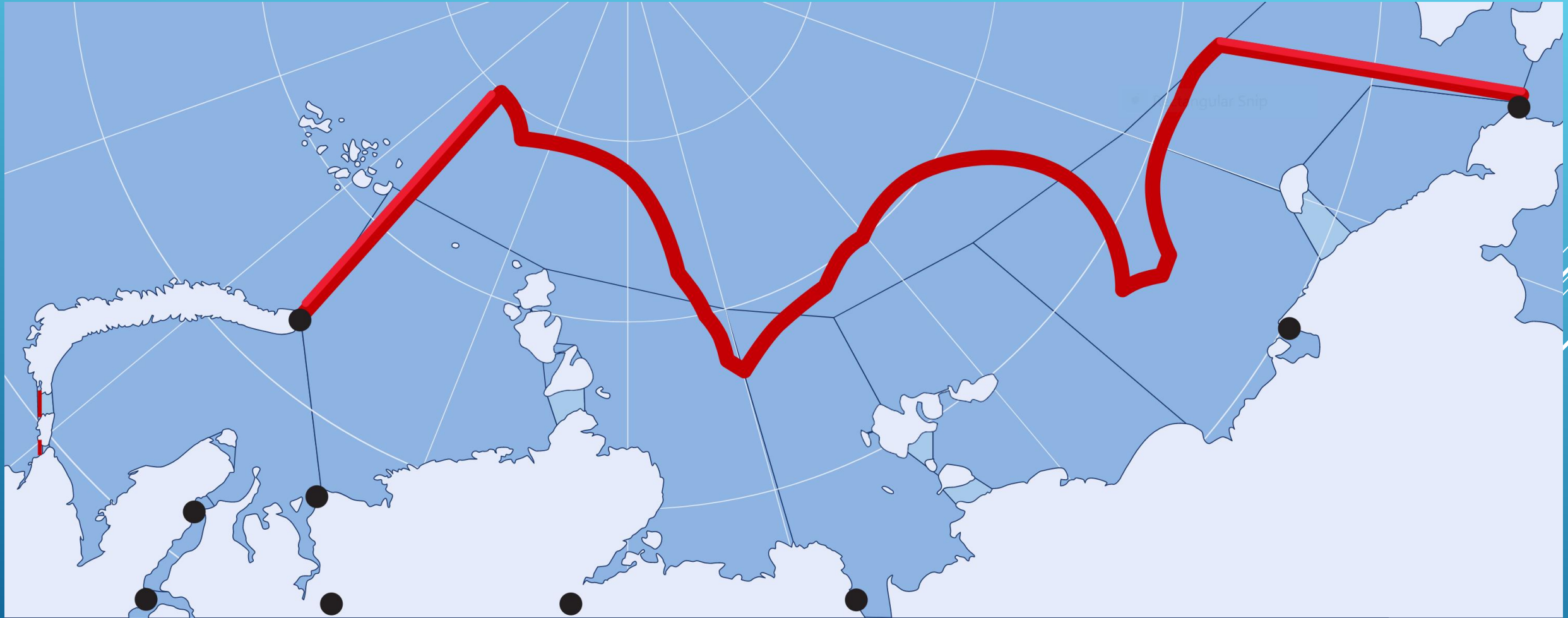


MINISTRY OF TRANSPORT OF
RUSSIAN FEDERATION

FEDERAL STATE BUDGETARY INSTITUTION
THE NORTHERN SEA ROUTE ADMINISTRATION



THE WATER AREA OF THE NORTHERN SEA ROUTE



THE MAIN FUNCTIONS OF THE NSR ADMIN.

The main functions are the following; (1/2)

- **Obtaining and considering the submitted applications and issuing the permissions for navigation through the NSR;**
- **Issuing the certificates of the ice conventional pilotage on NSR;**
- **Researching weather, ice, navigational and other conditions on NSR;**
- **Coordination of installation of navigational aids and harmonization of regions to carry out hydrographical survey operations on NSR;**
- **Assistance in the organization of search and rescue operations in the water area of NSR;**
- **Assistance in eliminating the consequences of pollution from vessels of harmful substances, sewage or garbage;**



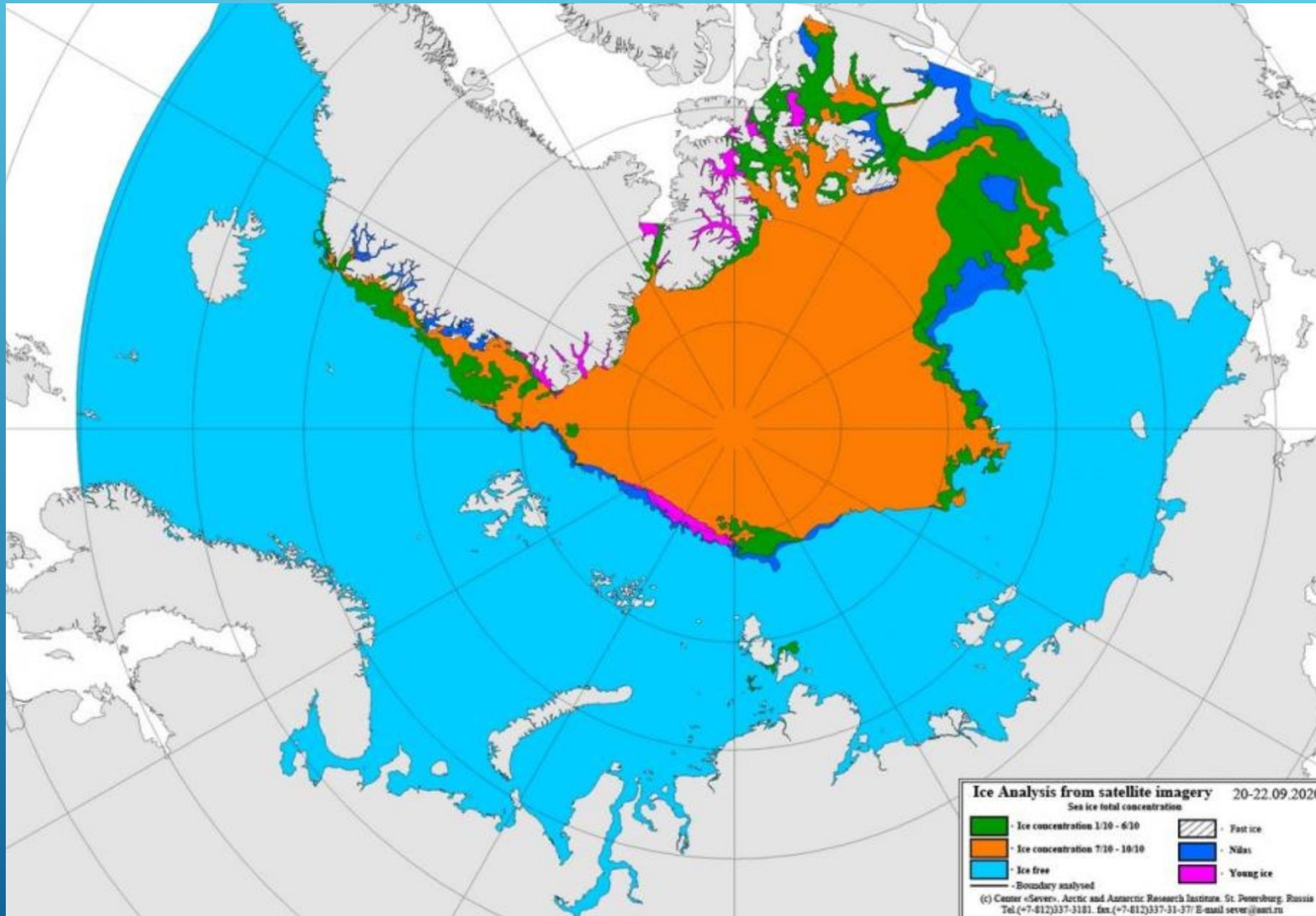
THE MAIN FUNCTIONS OF THE NSR ADMIN.

The main functions are the following; (2/2)

- **Rendering the information services in relation to the water area of the NSR, for example, about the organization of navigation, requirements of safe navigation and others;**
- **Making recommendations about development of routes of navigation and using icebreaking fleet in the water area of the NSR, ice and navigational conditions there;**
- **Timely data retrieval from Russian hydro meteorological service about hydro meteorological forecast and ice analysis,**
- **The intent is also towards a more justified fee policy,**
- **Fee rates for icebreaker escorts and ice pilotage of ships in the water of NSR are determined based on ship capacity,**



ICE-FREE WATERS ALONG RUSSIA'S NSR IN SEPTEMBER 2020



ПРАВИТЕЛЬСТВО РОССИЙСКОЙ ФЕДЕРАЦИИ

ПОСТАНОВЛЕНИЕ

от 18 сентября 2020 г. № 1487

МОСКВА

THE GOVERNMENT OF RUSSIA FEDERATIONS

RESOLUTION

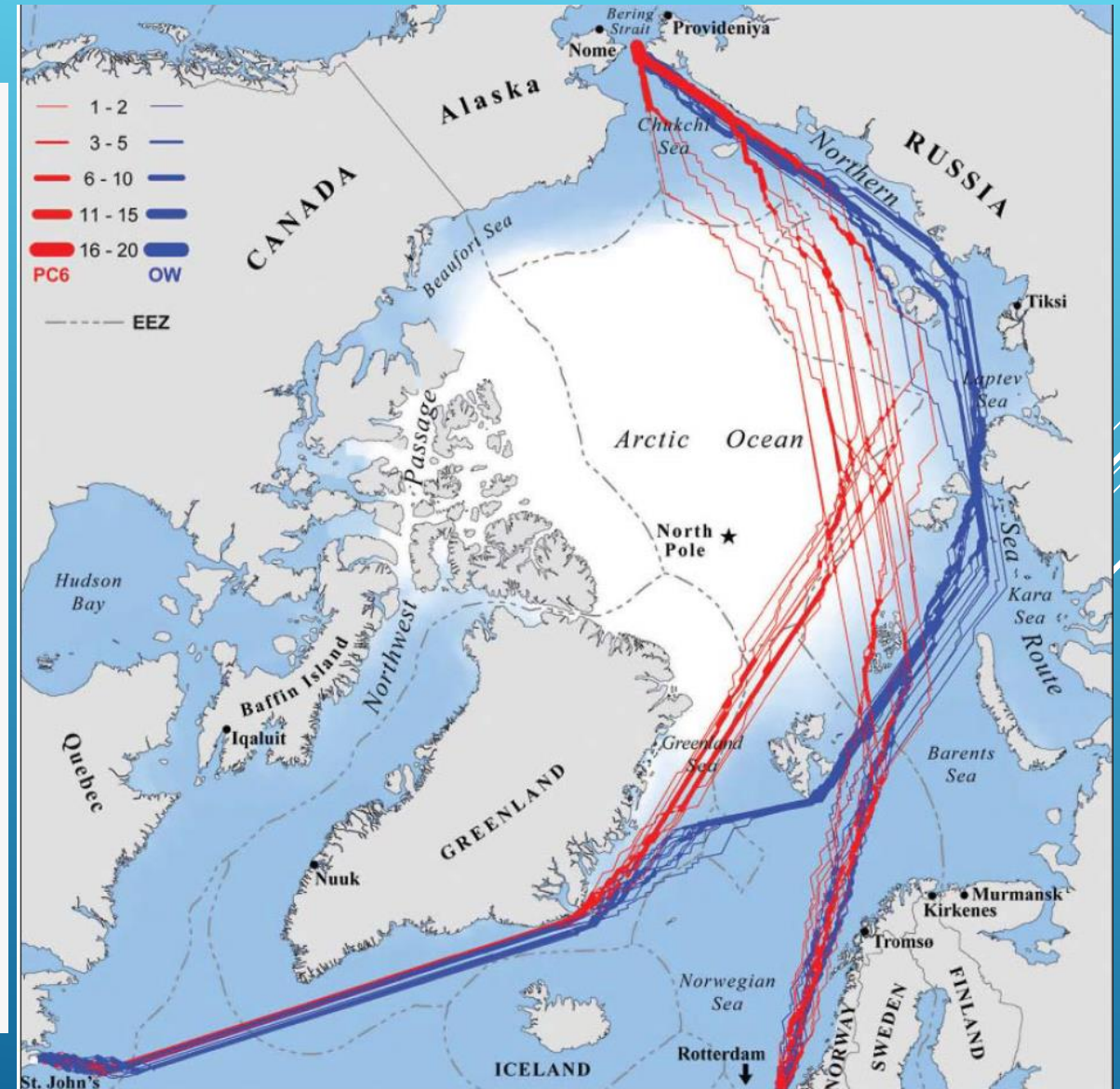
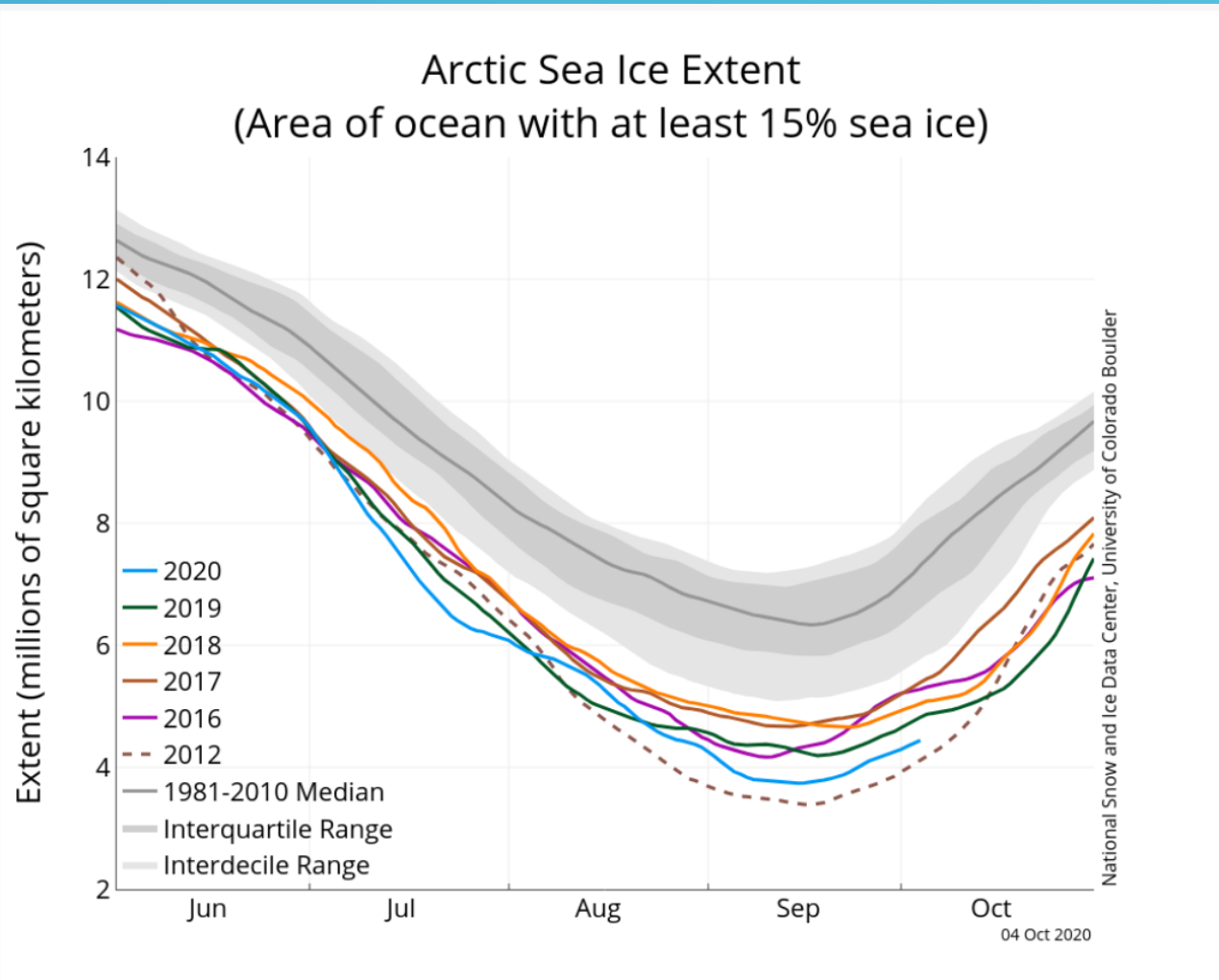
18 September 2020 N: 1487

MOSCOW

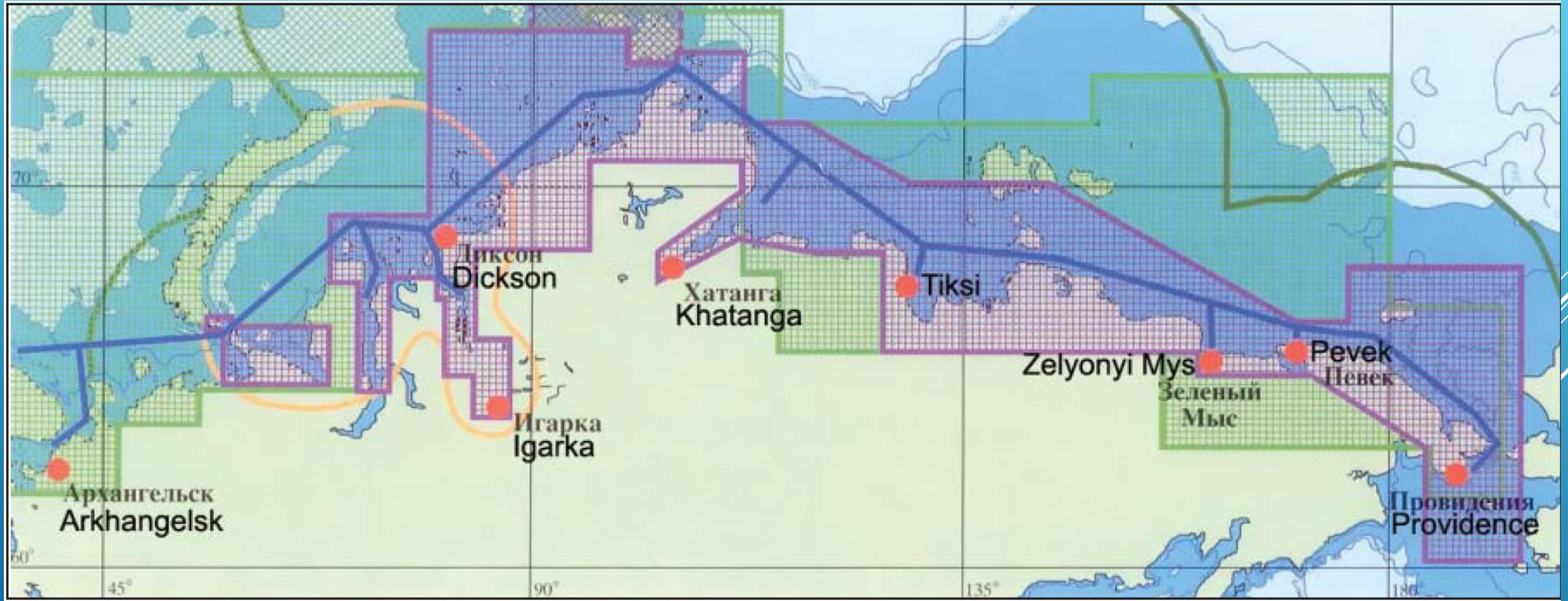
(Source: Russian Meteorological Service)



SEA ICE EXTEND & NAVIGATION ROUTES



ELECTRONIC NAVIGATIONAL CHART COVERAGE



EXAMPLE OF VESSELS NAVIGATING IN ARCTIC



Arctic container vessels

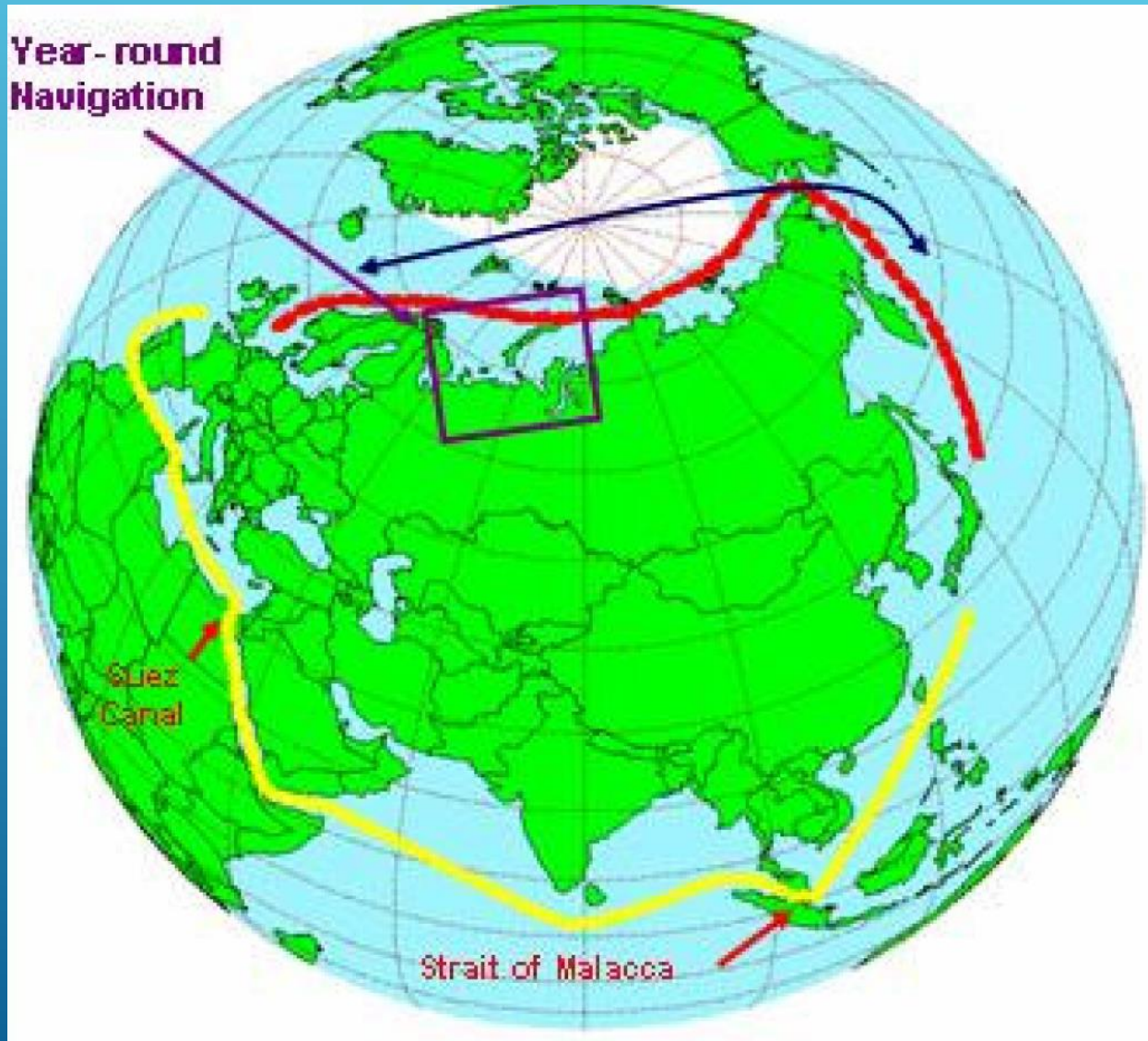
The container vessels designed for Norilsk Nickel in 2006 used the new revolutionary Double-Acting ship (DAS™) concept Aker Arctic developed. Today this technology is more or less the standard in Arctic vessels used in year-round traffic. These were among the first ships able to operate year-round in the Kara Sea without icebreaking support.



The Arc7 ice-class LNG tanker Vladimir Rusanov has completed the Northern Sea Route (NSR) passage via the Eastern direction and delivered a cargo of LNG produced by Novatek's Yamal LNG project to China.



YEAR-AROUND NAVIGATION & DISTANCES



Distance (Nautical Miles)
Hamburg to Yokohama

Northern Sea Route ~ 6,920

Suez Canal ~ 11,073

Panama Canal ~ 12,420

Cape of Good Hope ~ 14,542

KREMLIN'S PROPHECY FOR THE NORTHERN SEA ROUTE IS KEEPING MOSCOW OFFICIALS BUSY



CARGO VOLUMES IN 2024 → CA. 80 MTONS

The figure includes;

- 41 million tons of **liquified natural gas** from Novatek's Yamal LNG and Arctic LNG 2.
- Included is also 17,5 million **tons of oil**, five of it from the Vankor area, another five from the Payakha field and 7,1 million from Novy Port,
- In addition comes a total of 23 million tons of **coal**, 19 million of it from the Taybass basin in Taymyr Peninsula and four million from the Syradasayskoye field.



MULTIPLE BARRIERS TO ARCTIC SHIPPING

Multiple barriers to Arctic shipping, including the following: (1/2)

- **Limited duration of the navigable season on NSR compared with SSR,**
- **Considerable year-on-year variations in the length of the navigable season,**
- **Volatility of the navigability within a season due to unpredictable weather and ice patterns, threatening the reliability of timely delivery ,**
- **Ice reinforcements in different ship classes (ICE 1 to 3, Arc 4 to 9 and Ice-breaker 7 to 9) leading to higher investments into new fleet and increased fuel consumption on SSR ,**



MULTIPLE BARRIERS TO ARCTIC SHIPPING

Multiple barriers to Arctic shipping, including the following: (2/2)

- **Cost increases for insurance and crew,**
- **The need for icebreakers in the outer window navigation regime, leading to waiting time for a convoy to form and payment of fees for icebreakers,**
- **Lower navigation speeds in the presence of sea ice and in nearly ice-free Arctic waters in general, which decreases time savings but also reduces fuel consumption,**
- **Limitations for economies of scale because of shallow straits and the maximum width of the then available icebreaker fleet,**
- **Lower number of ports and markets on NSR compared with SSR (which negatively affects the average utilisation of capacity).**



THANK YOU FOR YOUR ATTENTION !

