

# Pacific Gateway ... To the Arctic!

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**RAdm Nigel S. Greenwood** CMM, CD, RCN (Ret'd)  
Master Mariner FRIN, FNI



# Not just “Red Routes” to the Orient...

- Exploration
- Disaster/Rescue
- Science and Sovereignty
- The “Cold” War
- Technological Innovation/Exploitation
- Climate Change...
- NWP Transits/Navigation
- The “Great Game” Revived...?

➤ ***West coast historically and practically connected to the Arctic!***

# Explorers (1)

Dezhnev 1648

Bering (Steller) 1741

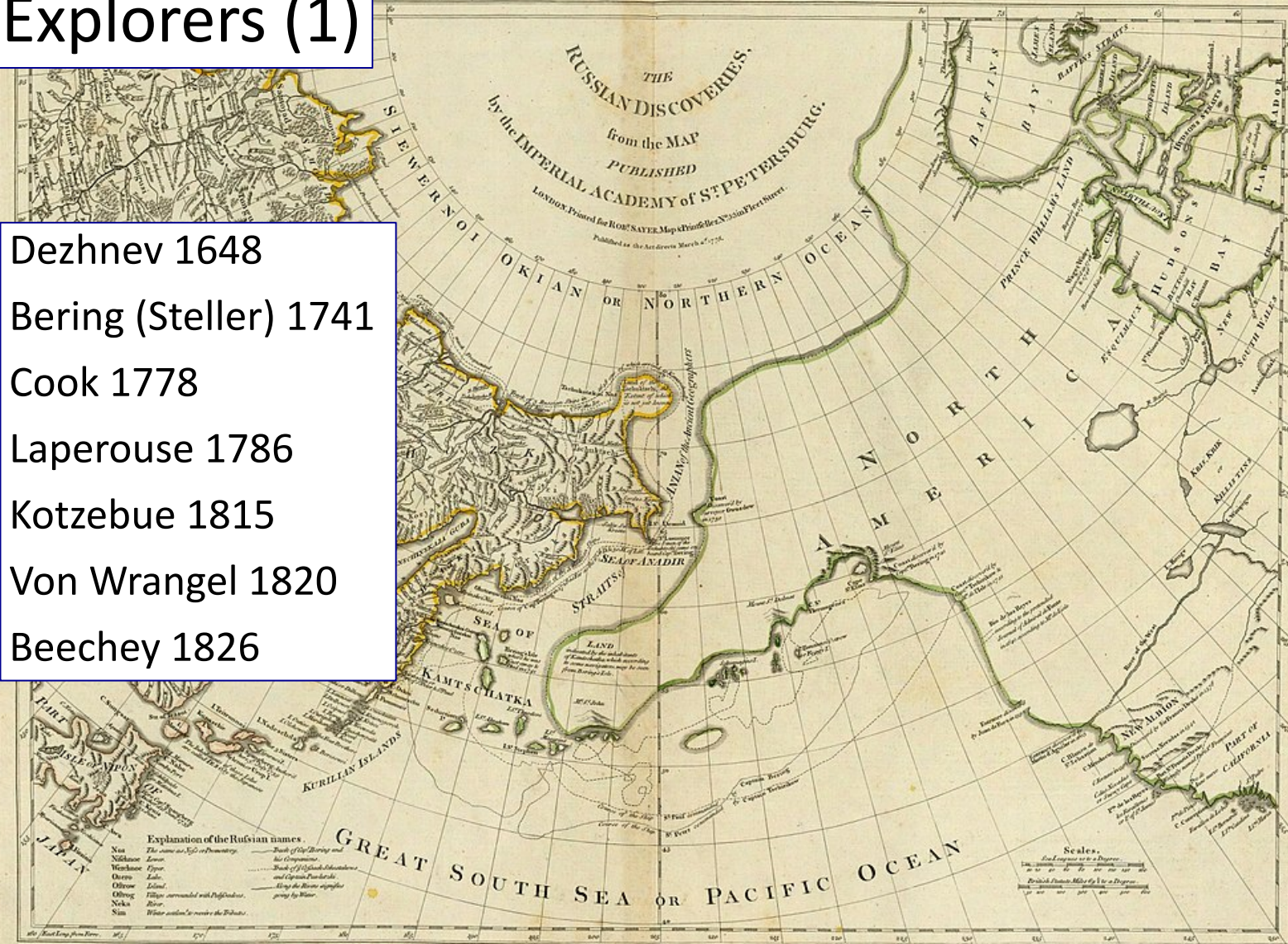
Cook 1778

Laperouse 1786

Kotzebue 1815

Von Wrangel 1820

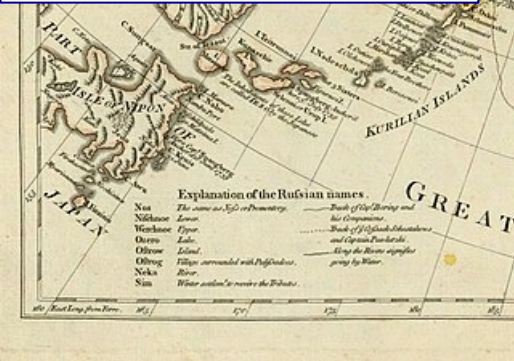
Beechey 1826



Bering's Voyage

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Bering's Voyage

Cook's 3rd Voyage

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Bering's Voyage

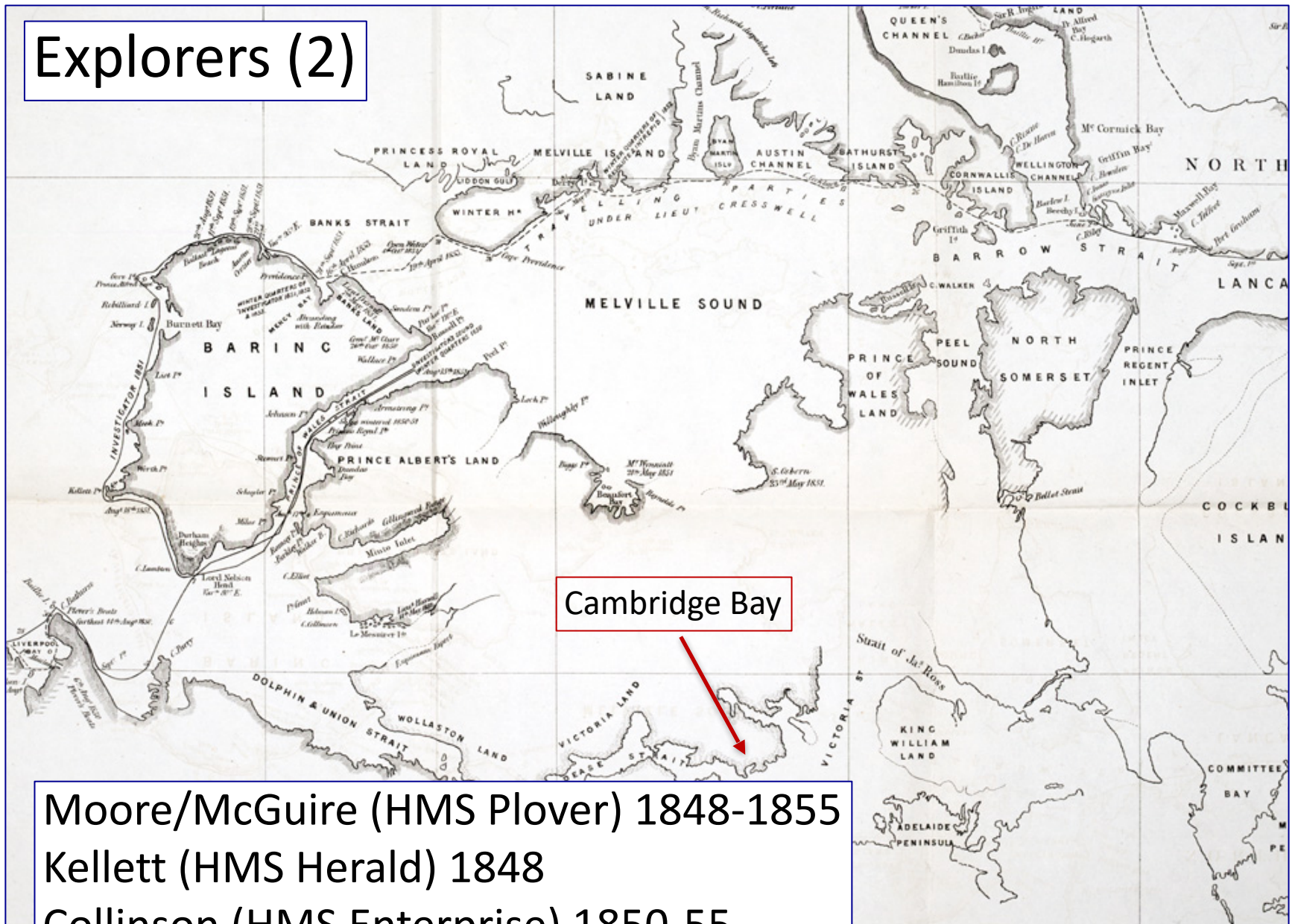


Cook's 3<sup>rd</sup> Voyage



Beechey's Voyage 1826

# Explorers (2)



Cambridge Bay

Moore/McGuire (HMS Plover) 1848-1855

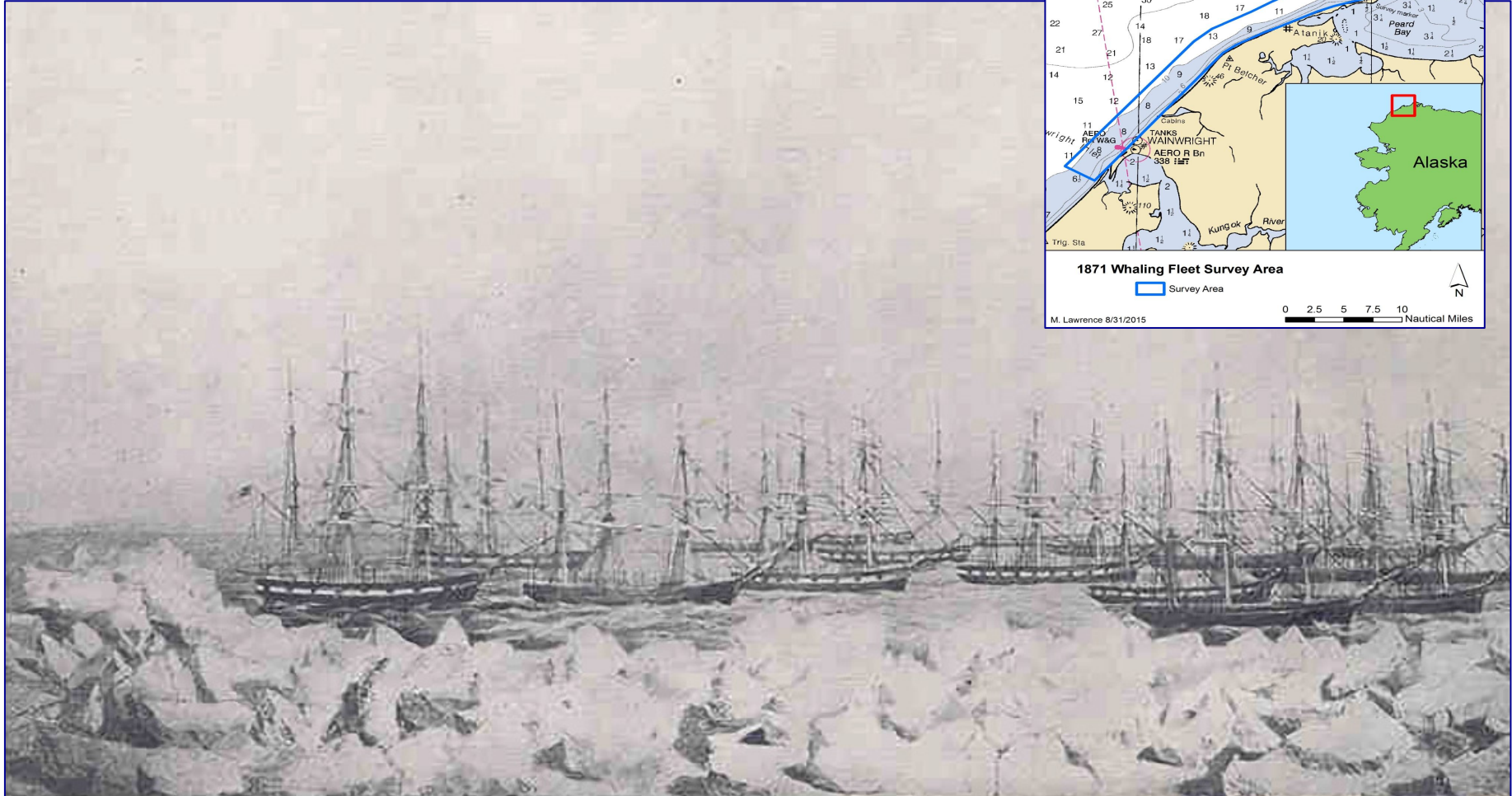
Kellett (HMS Herald) 1848

Collinson (HMS Enterprise) 1850-55

McClure (HMS Investigator) 1850-1854

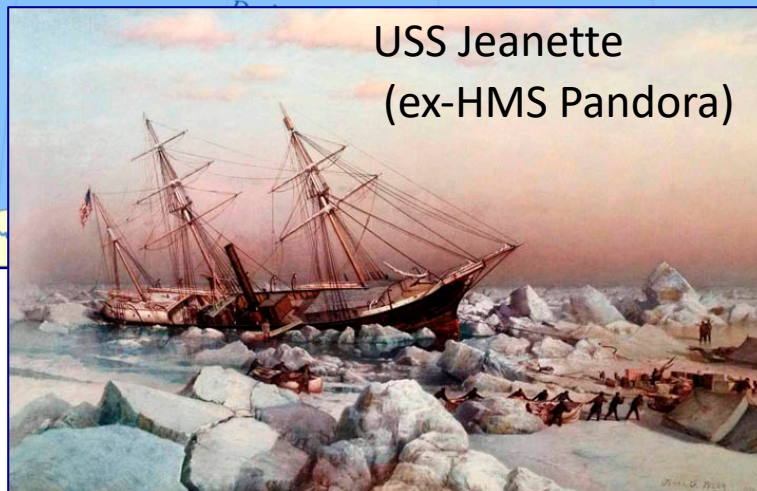
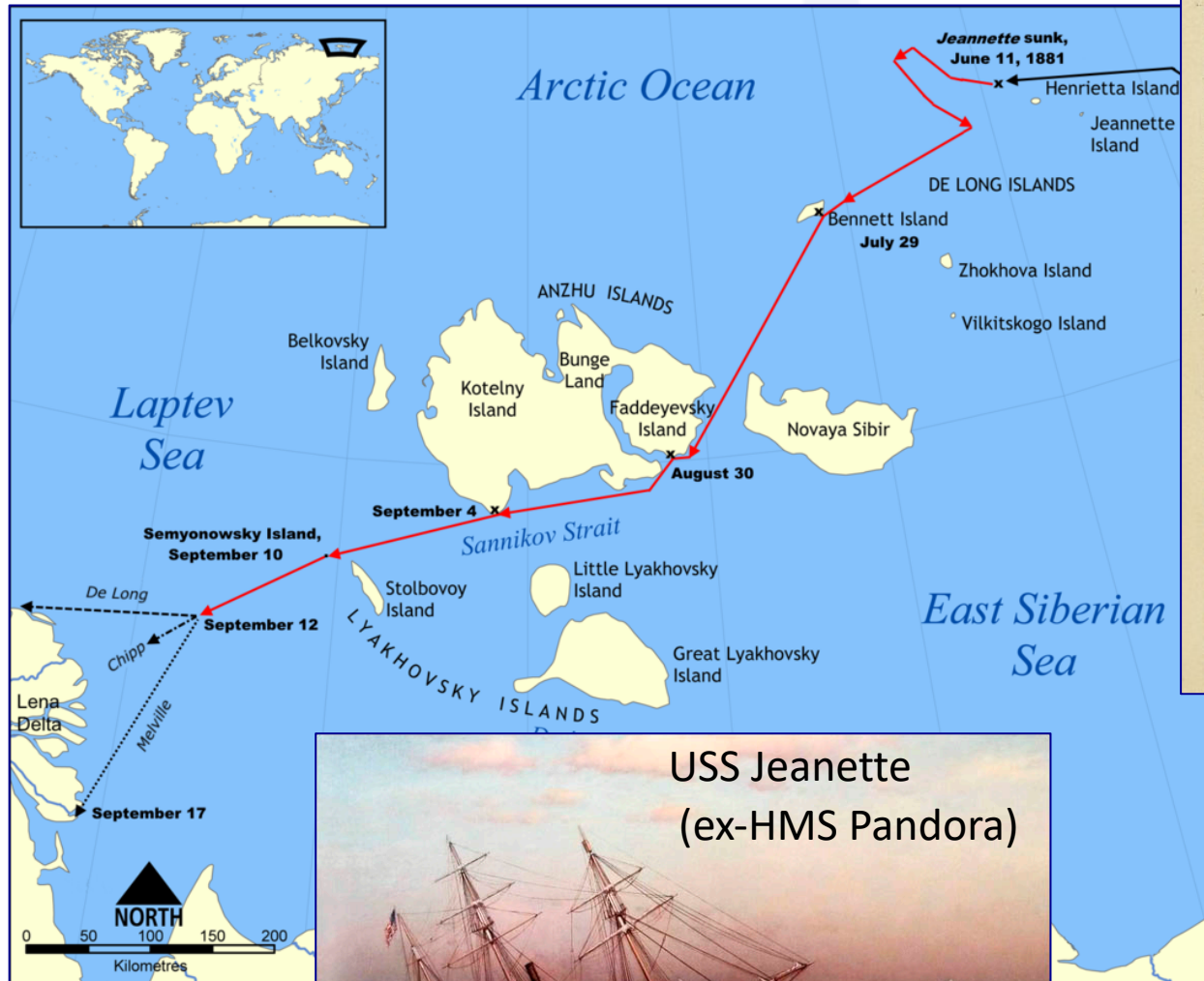
# Near Disaster

US Whaling Fleet Loss of 1871; remnants found 2016



33 ships lost, 1219 sailors rescued ...no casualties!

# Disaster



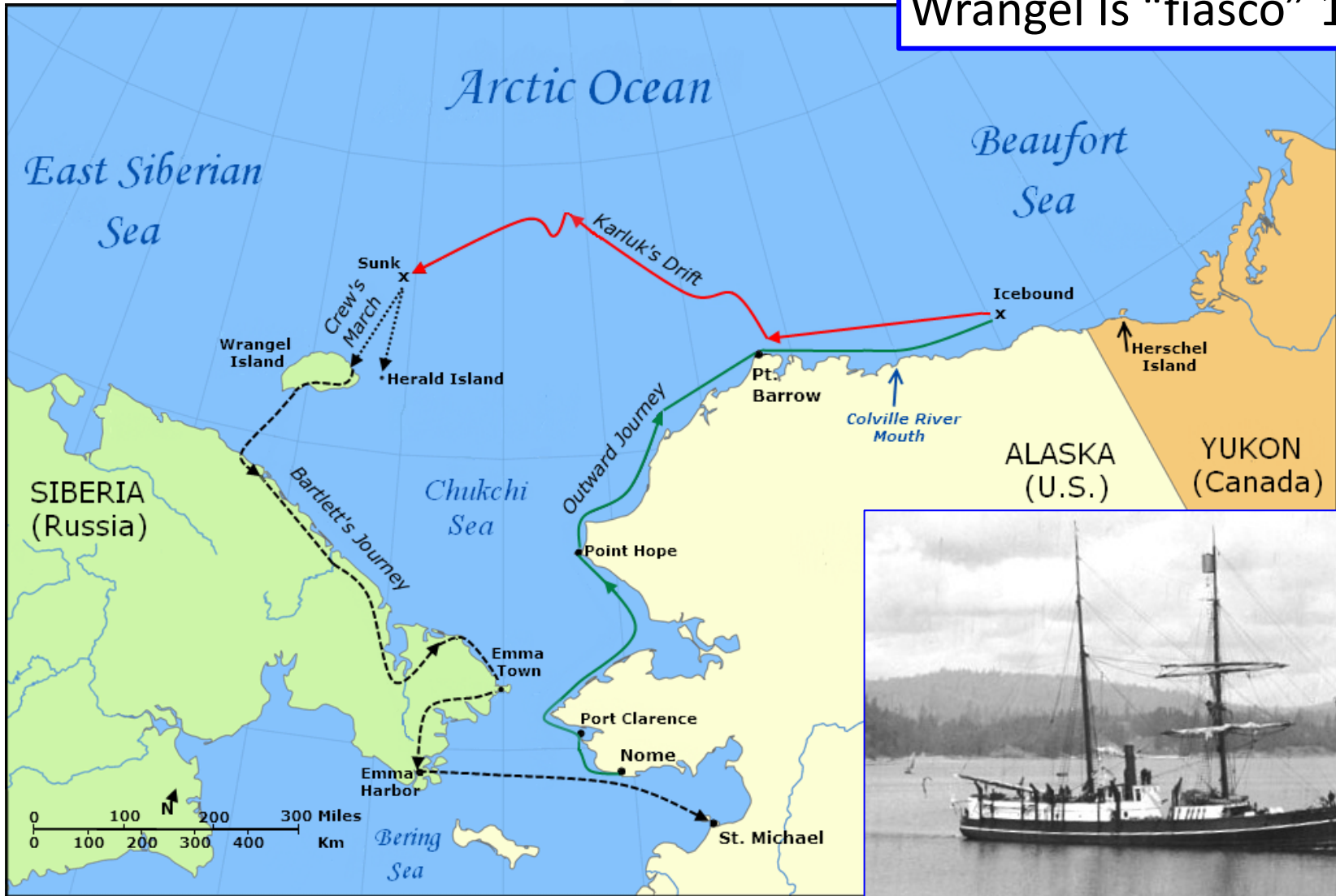
USS Jeanette  
(ex-HMS Pandora)

Voyage 1879-81  
In search of Petermann's  
"Ice-Free Polar Sea"  
33 crew... 13 survivors



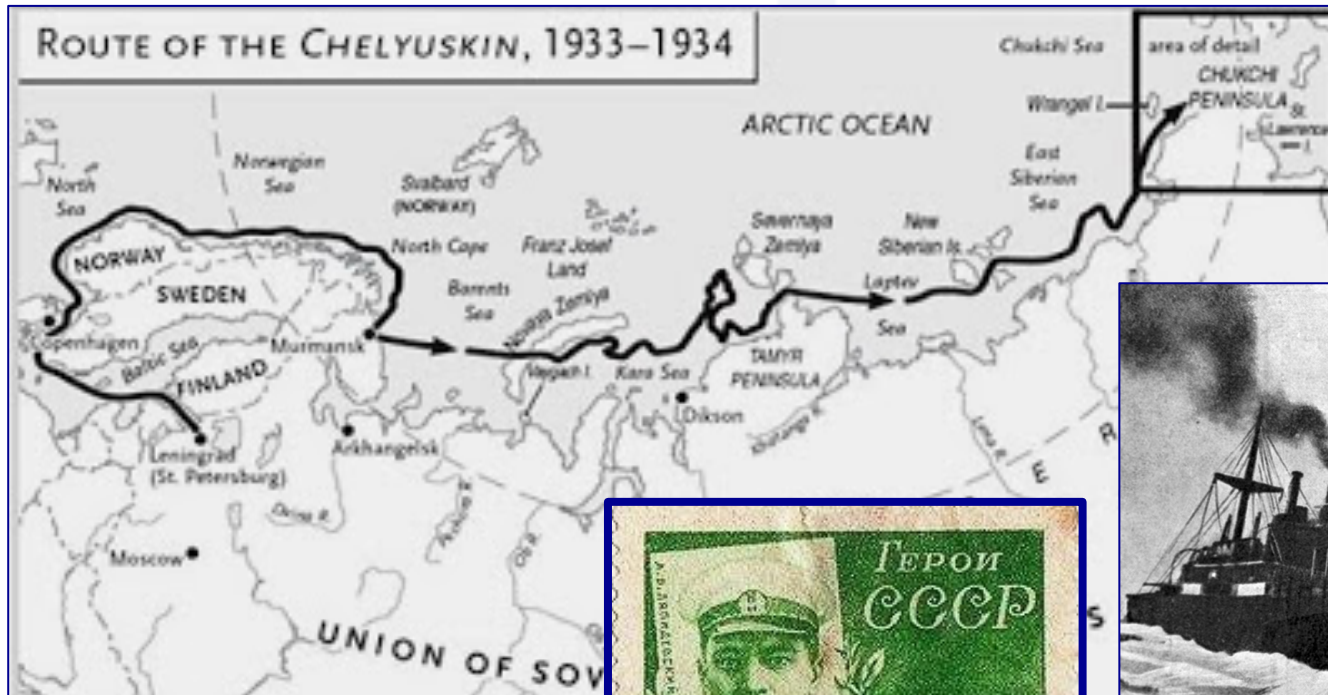
# Science and Sovereignty

(HMCS?) Karluk 1914  
Wrangel Is “fiasco” 1921



Canadian Arctic Expedition 1913-16,  
Capt. Bob Bartlett: “We did not all come back.”

# Proof of Northern Sea Route (...almost)

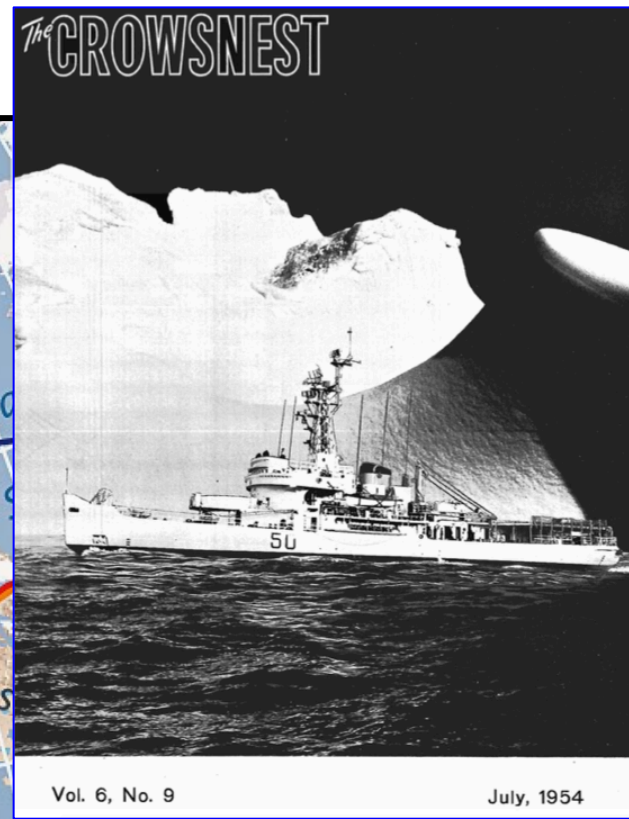


Maiden voyage  
Ship sailed Aug 1933,  
sunk Feb 1934  
Major air rescue Apr 1934  
Ice runway rebuilt 13 times  
110 persons rescued



*Order of Lenin to pilots... and  
also to 2 US air mechanics*

# First Transits of the NWP

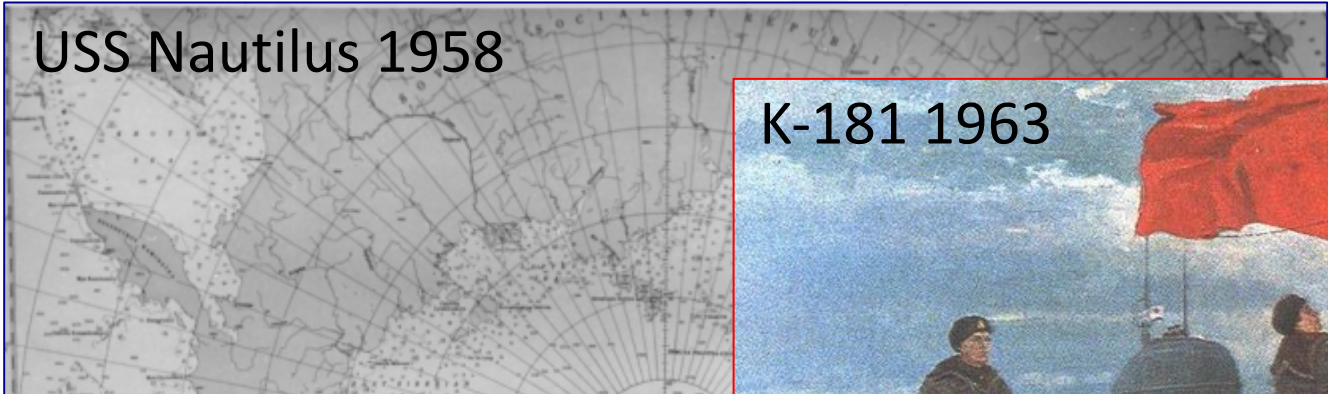


- ← Amundsen 1903-06
- Larsen 1940-42
- ← Larsen 1944

- Gjoa – 70ft, 47t
- St Roch – 104ft, 323t
- Labrador – 269ft, 6490t

# The "Cold" War

USS Nautilus 1958



K-181 1963



USSR/Russian Drift Stations

- North Pole 1
- North Pole 2
- North Pole 3
- North Pole 4
- North Pole 5
- North Pole 6
- North Pole 7
- North Pole 8
- North Pole 9
- North Pole 10
- North Pole 11
- North Pole 12
- North Pole 13
- North Pole 14
- North Pole 15
- North Pole 16

ICEX 2016/18



- North Pole 38
- North Pole 39
- North Pole 40
- North Pole 2015

1935 1940 1945 1950 1955 1960 1965 1970 1975 1980 1985 1990 1995 2000 2005 2010 2015

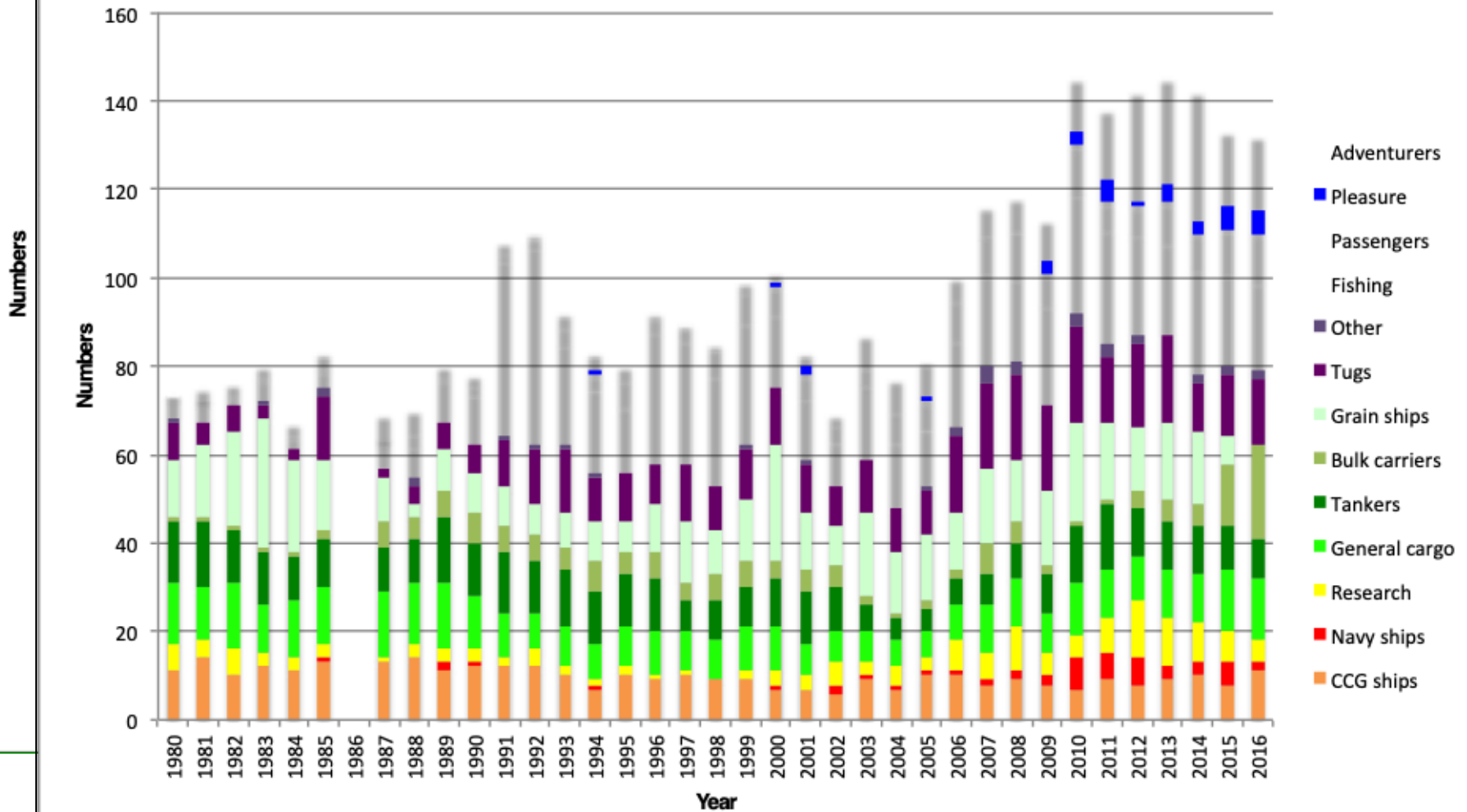
Country: ■ USSR ■ Russia

# Technological Innovation – '70's to present



# Voyages in the NWP 1980-2016

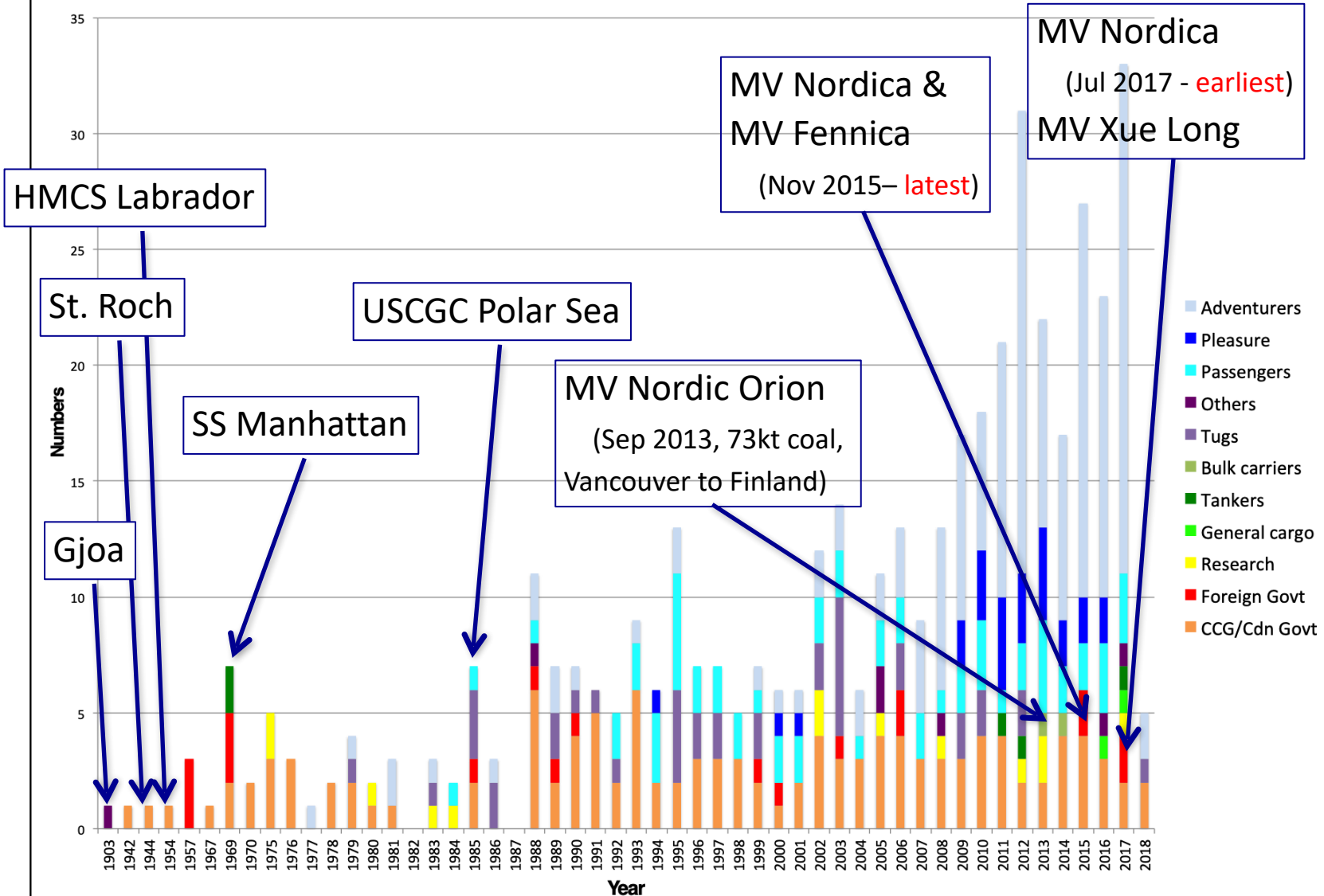
## Vessels in the NWP 1980-2016



Source: NORDREG Iqaluit, and Martech Polar Consulting Ltd.

\* Total numbers of vessels each season relatively low, not all in the NWP (eg: fishing)

# Full Transits of the NWP 1903-2018



Source: NORDEG and Scott Polar Research Institute (<https://www.spri.cam.ac.uk/resources/infosheets/northwestpassage.pdf>)

Complete through-transits ...very much reduced in 2018 due to heavy ice conditions in Franklin/Victoria Str.

Xue Long, Sep 2017, off Nome AK



Peel Sound



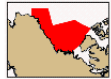
Franklin/Victoria Strait





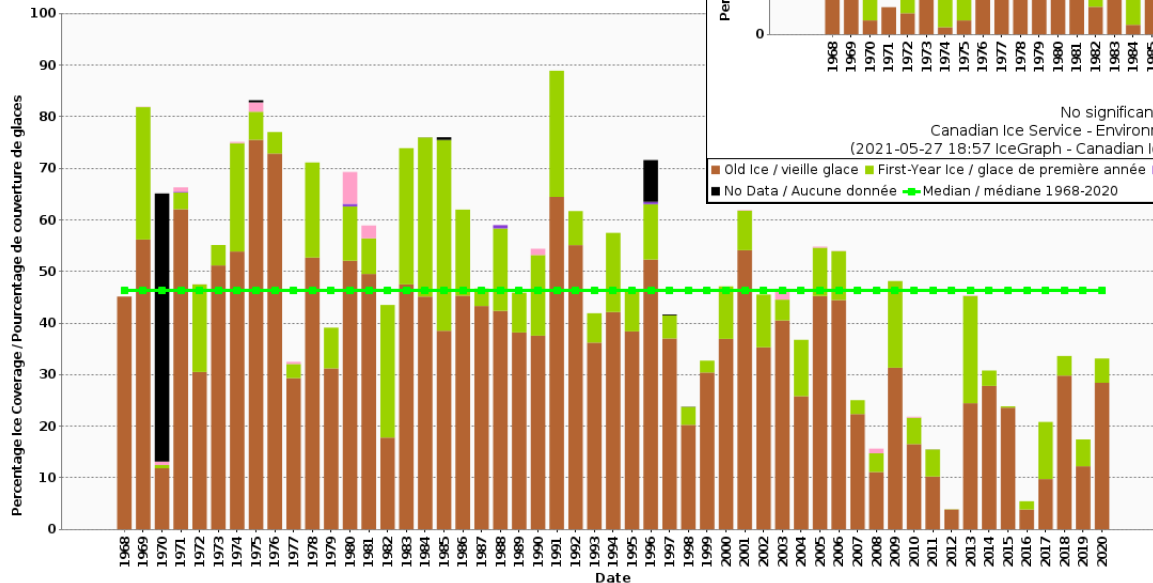
# Climate Change

- % coverage by yr  
and stage of  
development



Same Week: Historical Ice Coverage Development for the week of 0903, seasons:1968-2020  
Même semaine: Couverture des glaces par stade de formation pour la semaine du 0903, saisons:1968-2020

CIS WA Beaufort Sea /  
CIS WA Mer de Beaufort



No significant interpolated data / Pas d'interpolation significative  
 Canadian Ice Service - Environnement Canada / Service canadien des glaces - Environnement Canada  
 (2021-05-27 18:59 IceGraph - Canadian Ice Service/Graphe des glaces - Service canadien des glaces 2.0.7 2014/01/21 )

■ Old Ice / vieille glace ■ First-Year Ice / glace de première année ■ Young Ice / jeune glace ■ New Ice / nouvelle glace ■ Interpolated Data / Interpolée  
 ● Median / médiane 1968-2020

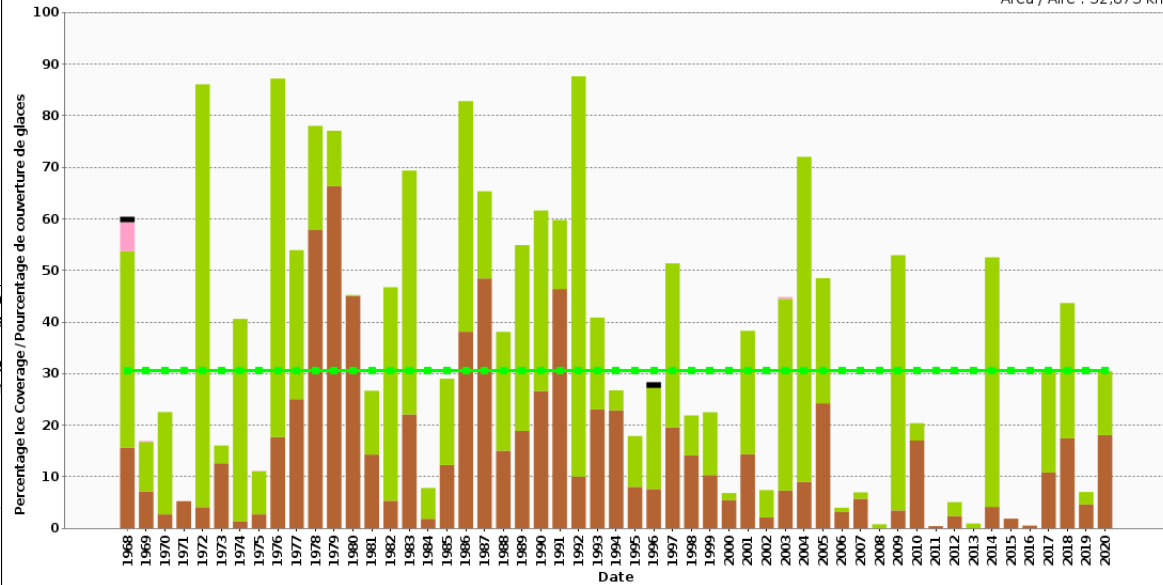


Same Week: Historical Ice Coverage by Stage of Development for the week of 0903, seasons:1968-2020

Même semaine: Couverture des glaces historique par stade de formation pour la semaine du 0903, saisons:1968-2020

CIS WA Franklin: Larsen - Victoria /  
 CIS WA Franklin : Larsen - Victoria

Area / Aire : 32,873 km<sup>2</sup>



No significant interpolated data / Pas d'interpolation significative  
 Canadian Ice Service - Environnement Canada / Service canadien des glaces - Environnement Canada  
 (2021-05-27 18:57 IceGraph - Canadian Ice Service/Graphe des glaces - Service canadien des glaces 2.0.7 2014/01/21 )

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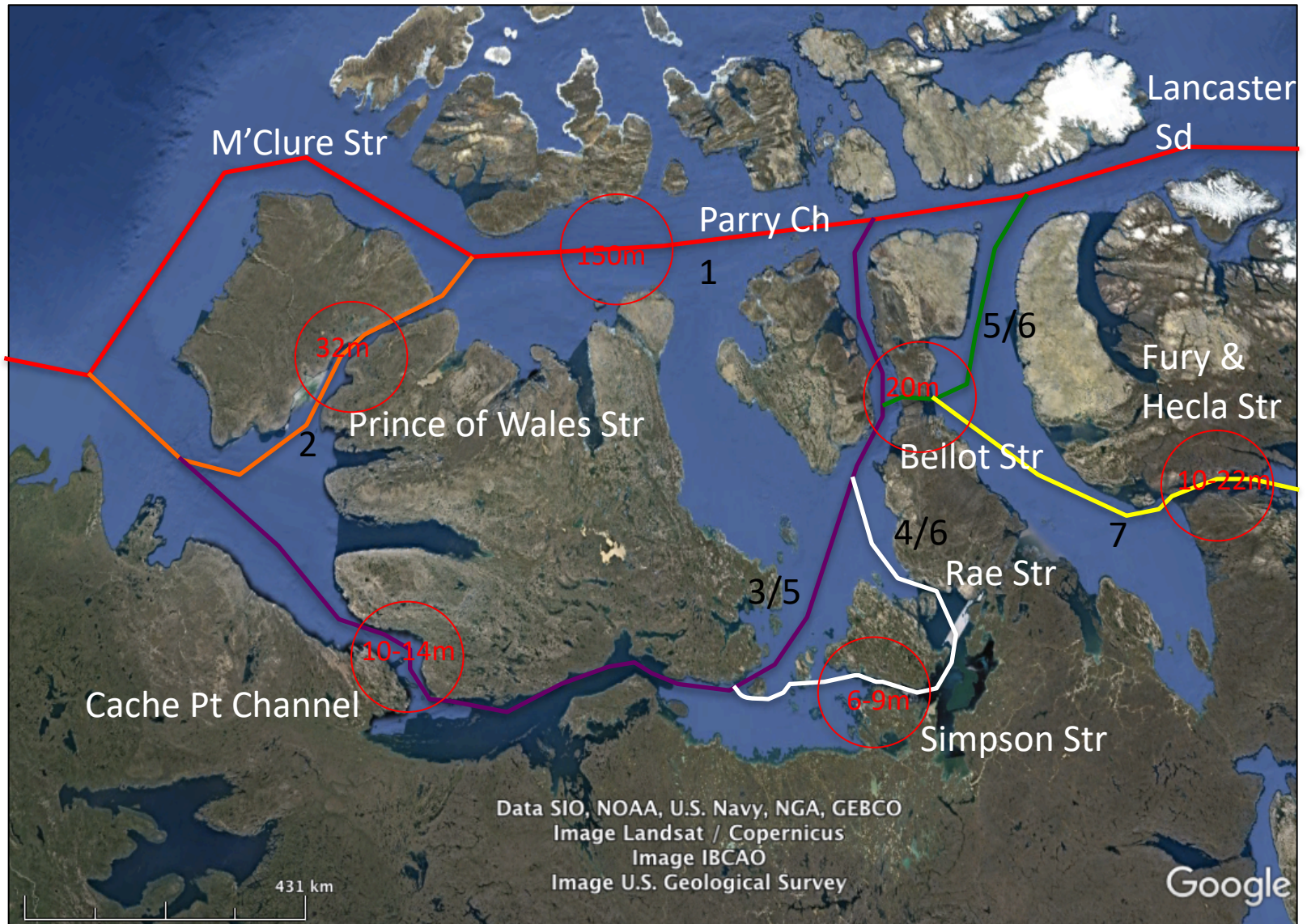
Source: Canadian Ice Service Ice Graph website:

<https://iceweb1.cis.ec.gc.ca/IceGraph/page1.xhtml?lang=en>





# Navigable routes through the Northwest Passage



NB: Numbering iaw SPRI; Route 6 is Bellot Str & Rae/Simpson Straits



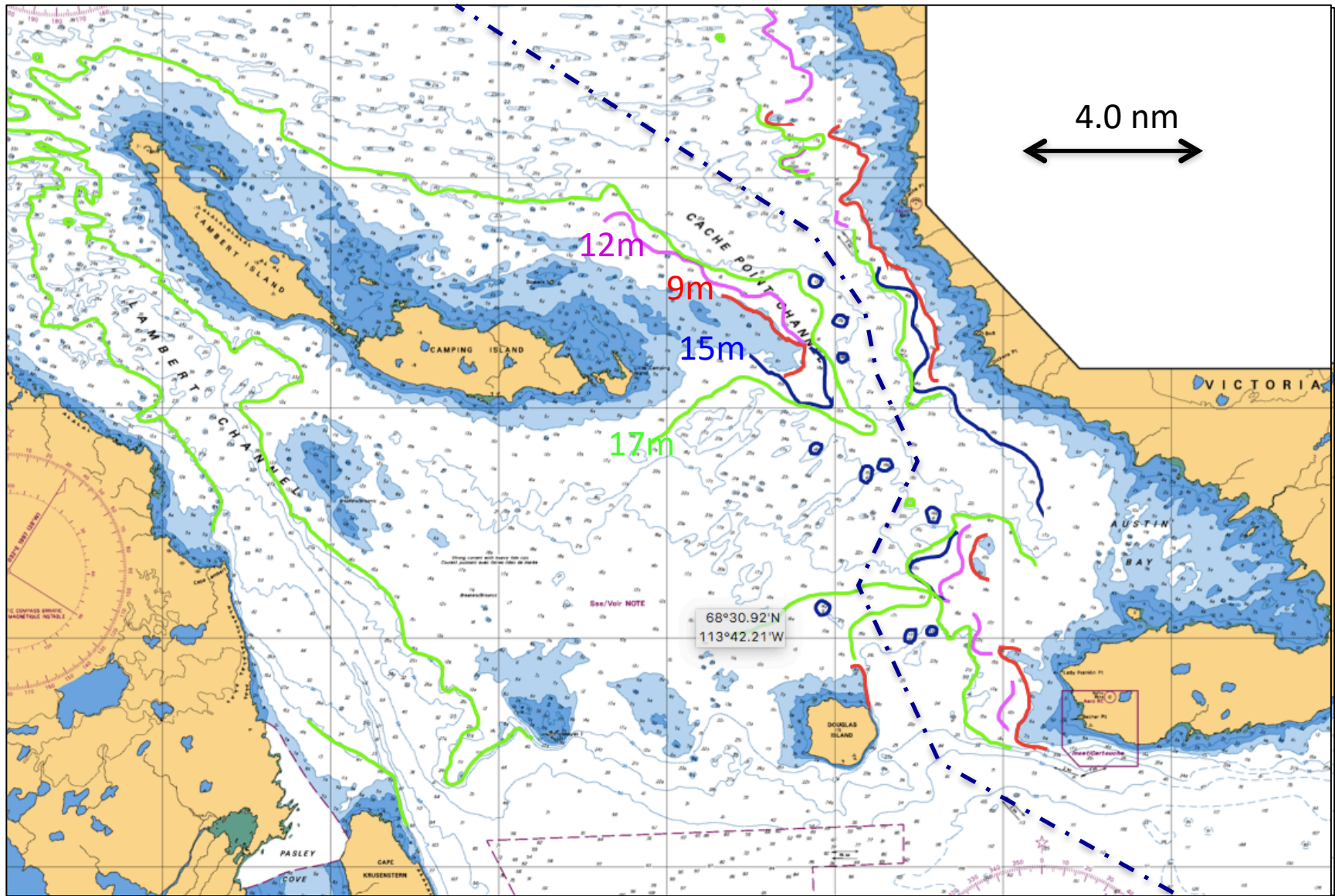
10m

Limiting Drafts

3 – Route Numbers



# The real NWP: Cache Point and Lambert Channels...



# Conclusion

A person is silhouetted against a bright sunset over the ocean. The sun is low on the horizon, creating a strong reflection on the water. The scene is viewed from the deck of a ship, with railings and a structure visible in the foreground.

- Great tales of large and small ships
- Heroic accounts of self-sufficiency, endurance, survival and loss
- Hugely variable conditions ...still!
- Great incentives for innovation ...and nationalism
- The Arctic is becoming a “Pacific” issue ...not necessarily peaceful
- Canada must retain a flexible, bi-coastal approach
- Guard against disaster as a stimulus for action



Questions?



**RAdm Nigel S. Greenwood** CMM, CD, RCN (Ret'd)  
Master Mariner FRIN, FNI

4022 Rainbow Hill Lane  
Victoria, BC Canada V8X 0A6

1 (250) 507-8445  
nsg@greenwoodmaritime.com

[GreenwoodMaritime.com](http://GreenwoodMaritime.com)

