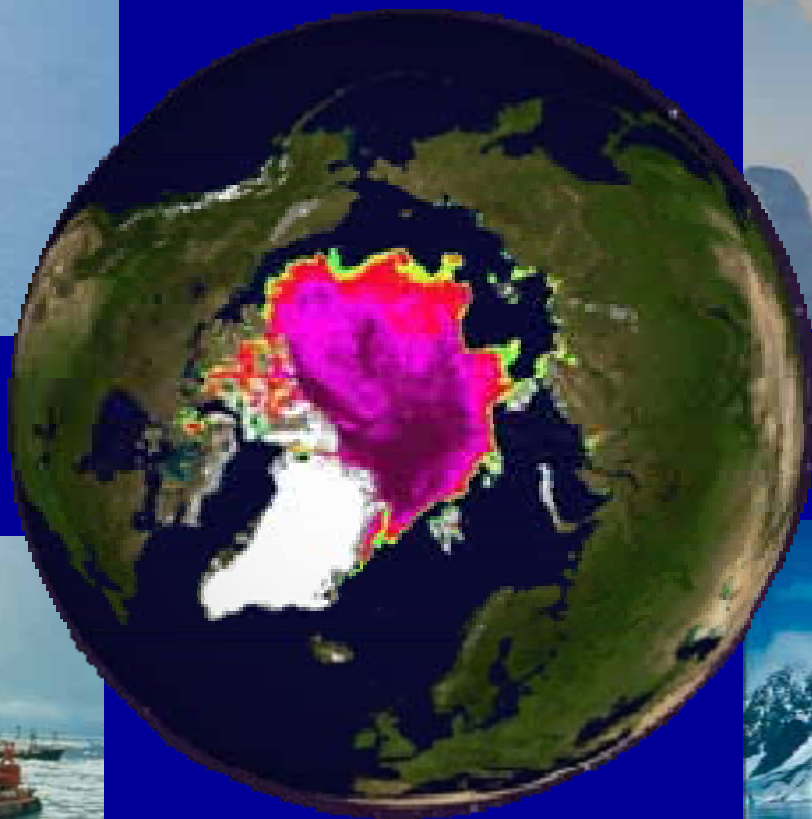


# **A New Arctic Ocean**

## **Implications for Changing Marine Access at the Top of the World**



**Ben Ellis**

**Institute of the North**

**Arctic Council's Arctic Marine Shipping Assessment Core Team**

# Institute of the North

- Anchorage-based think tank, founded by Alaska Governor Walter J. Hickel in 1994, focusing on Alaska and Arctic issues
- A member of the US delegation to the Arctic Council focusing on Arctic marine transport, telecommunications and aviation
- The only North American member of the Moscow-based Noncommercial Partnership for the Northern Sea Route Usages
- Organizer of the 2004 international Arctic Marine Transport Workshop at the Scott Polar Research Institute at Cambridge University

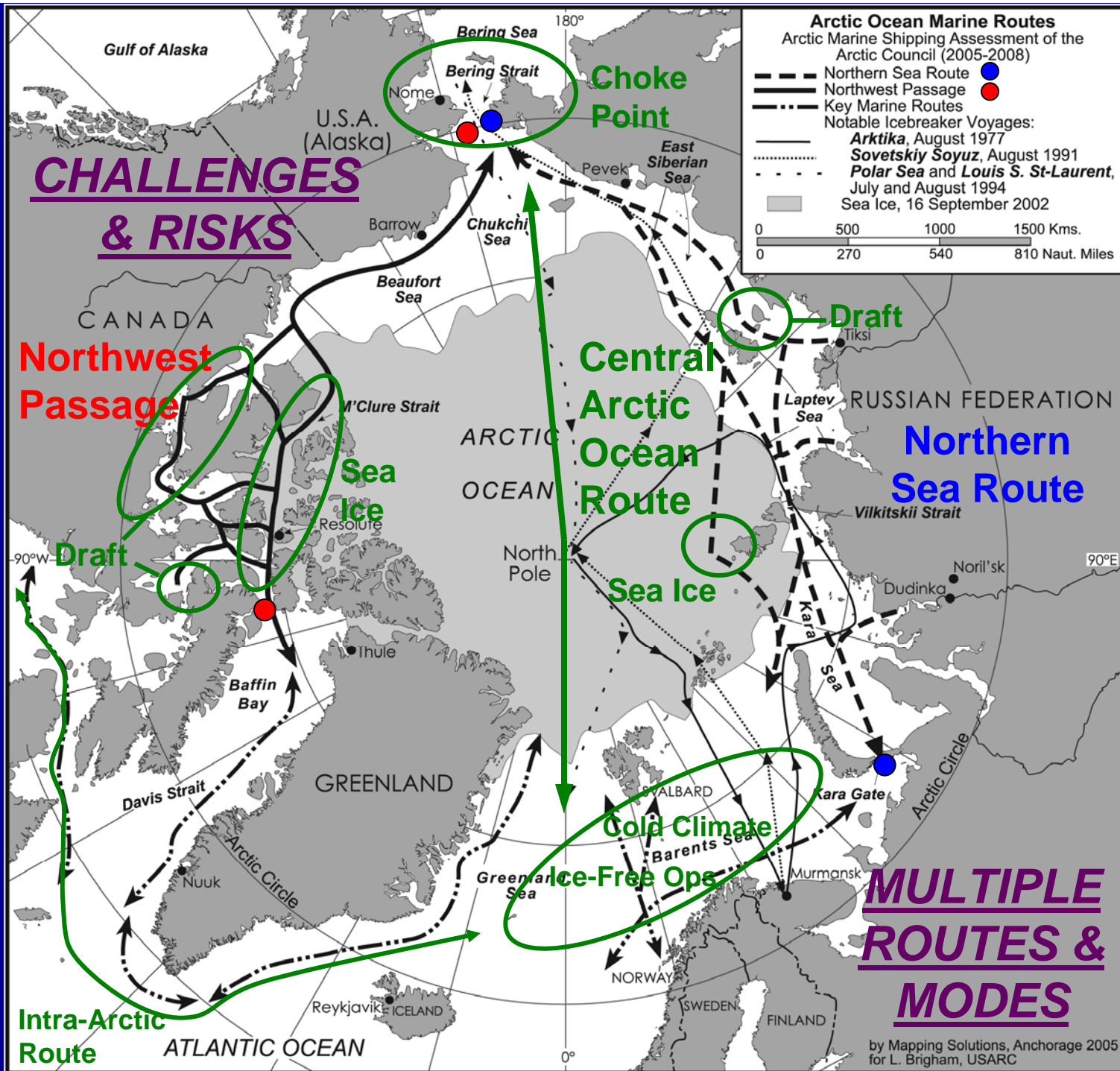
# Arctic Council

## Arctic Marine Shipping Assessment

- **Lead Countries:** Canada, Finland, and USA
- **Key Countries & Regions:** Norway & Russia (Norwegian-Barents-Kara seas), Iceland, Denmark-Greenland-Faroe Islands, Sweden
- **Timeline:** 2005 – 2009 (Completion Spring 2009)
- **Electronic Survey Questionnaire:** Sent to Senior Arctic Officials Jan 2006
- **Inclusive Participation:** Member States, Permanent Participants, Council Working Groups, Council Observers, Shipping Industry, Ship Classification Societies, Research Organizations, Others

# AMSA Chapter Outline

- Chapter 1:** Introduction
- Chapter 2:** Geography and History of Arctic Marine Use
- Chapter 3:** Current (2004) Levels of Arctic Marine Use
- Chapter 4:** Scenarios of Future Arctic Ocean Marine Activity for 2020 and 2050
- Chapter 5:** Environmental Impacts of Current & Future Marine Activity
- Chapter 6:** Social & Economic Impacts at Current & Future Levels
- Chapter 7:** Current Arctic Infrastructure (and Anticipated Needs)
- Chapter 8:** Conclusions and Findings



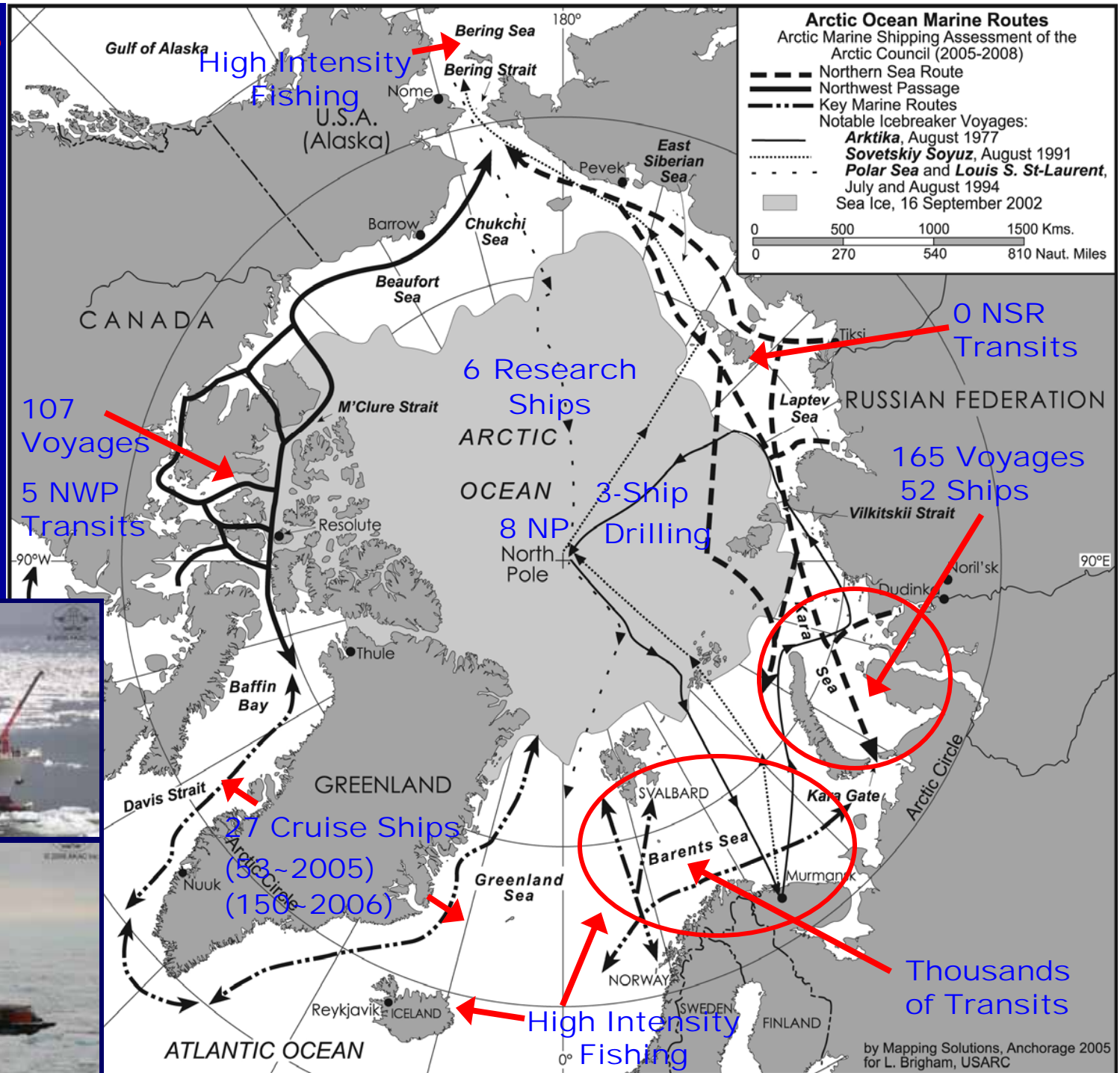


# How Many Ships in the Arctic?

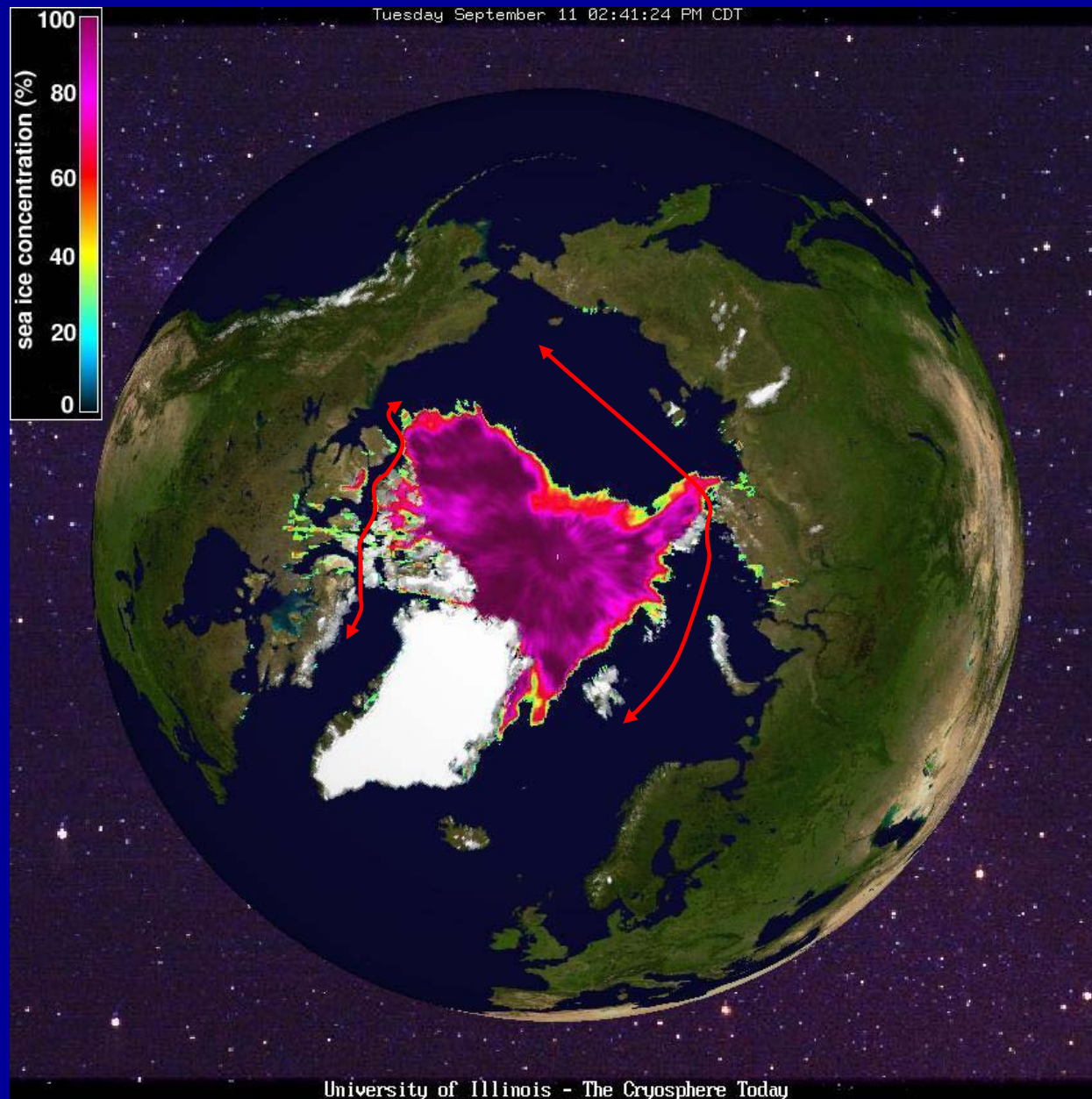
Snapshot of Summer 2004 Traffic

## Modes of Arctic Marine Transport

- Destinalional / Regional
- Trans-Arctic
- Trans-Arctic with Transshipment
- Intra-Arctic

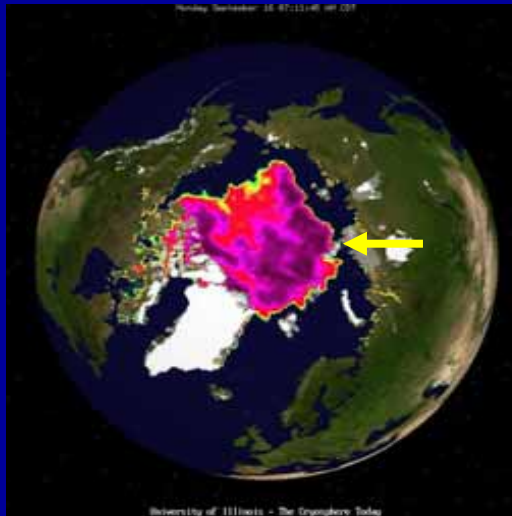


# 11 September 2007

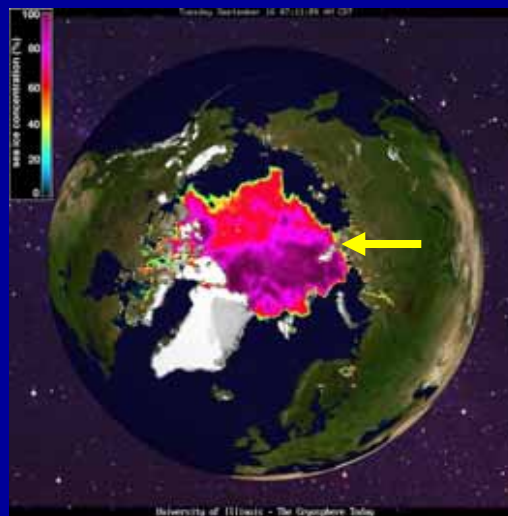




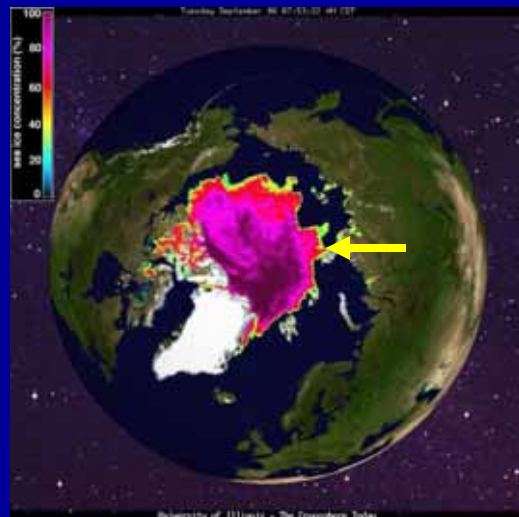
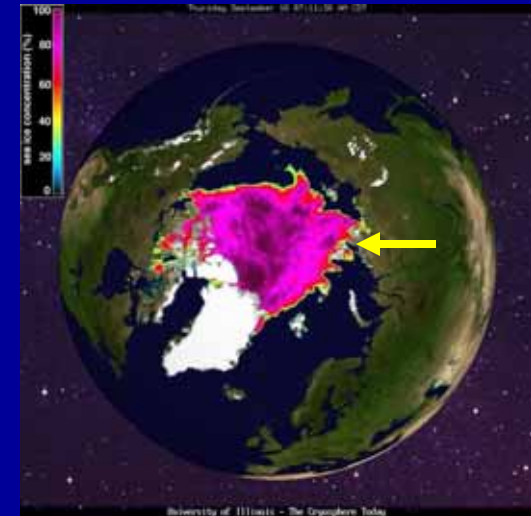
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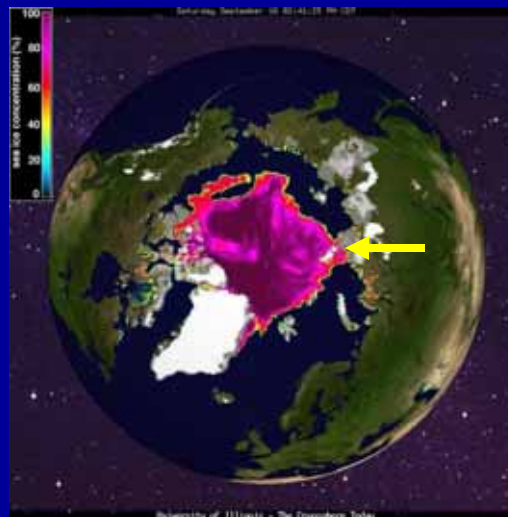
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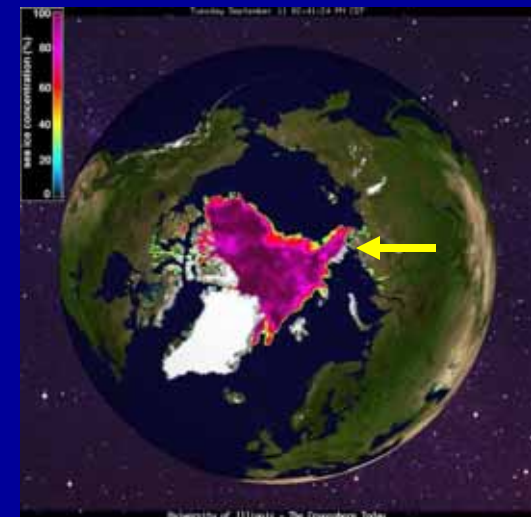
**16 September 2004**



**6 September 2005**



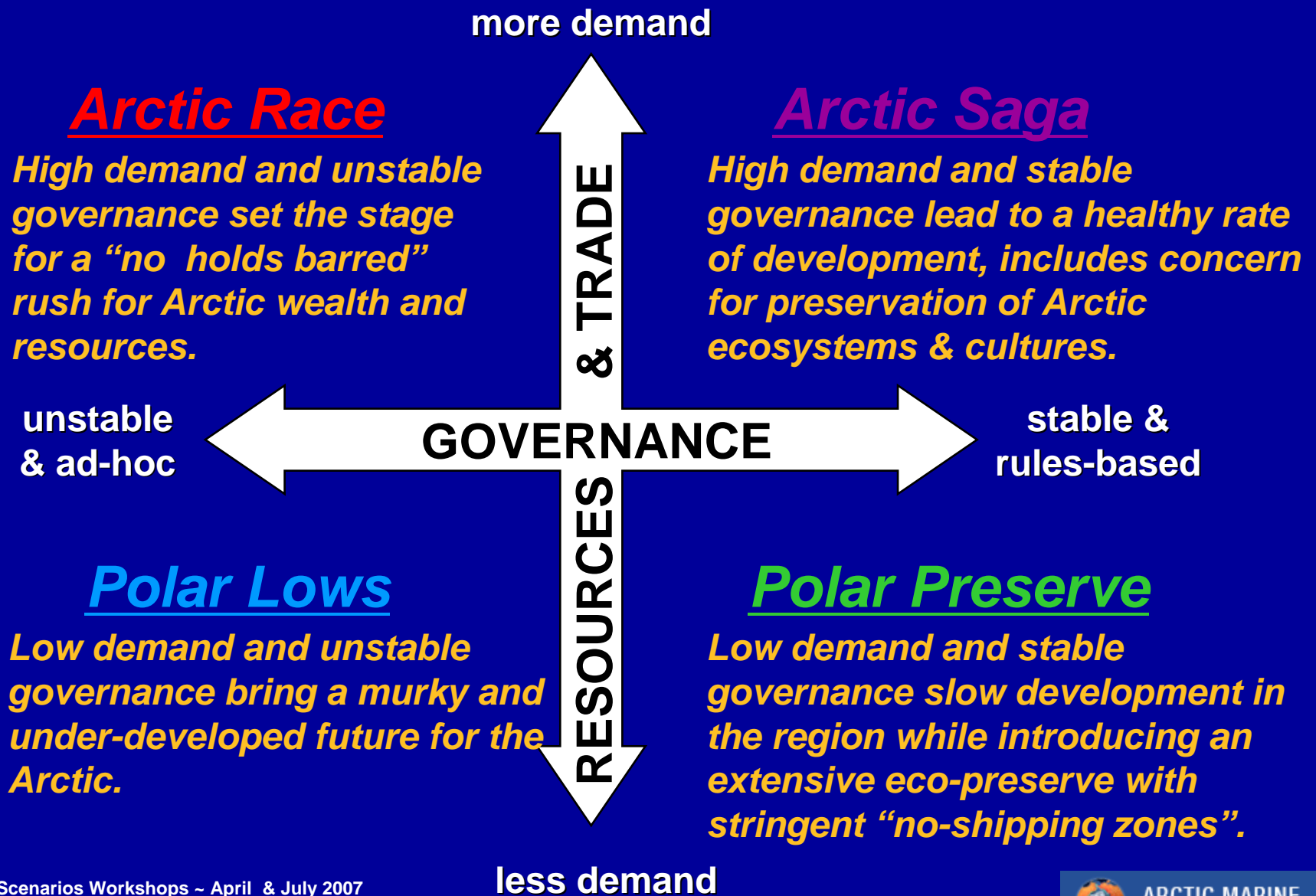
**16 September 2006**



**11 September 2007**



# Scenarios on the Future of Arctic Marine Navigation in 2050



**Future Convoy Requirements?**

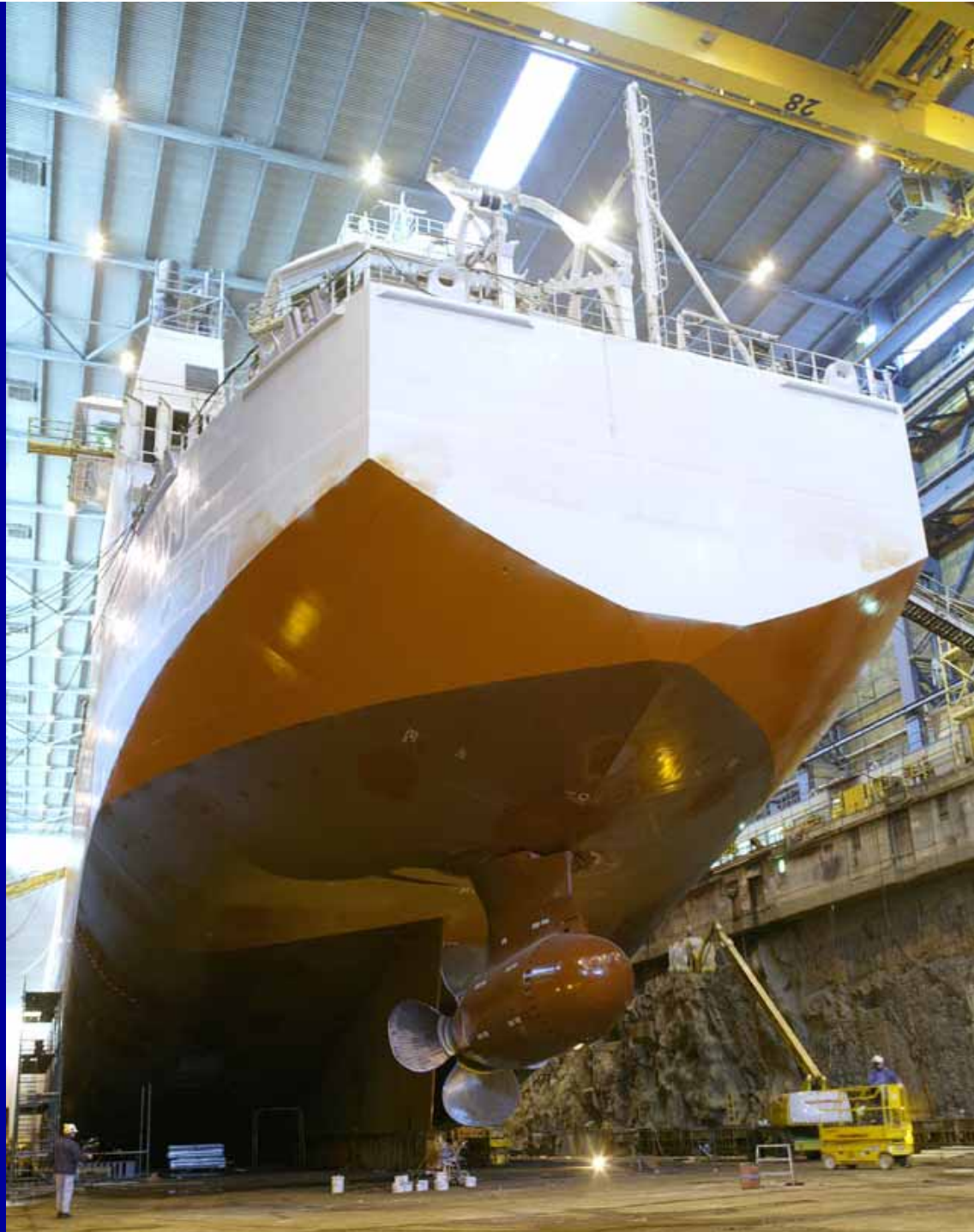


**Icebreaking (Double Acting) Container Ship**

***Norilskiy Nickel* in the Kara Sea**

**March 2006**

**Aker Arctic**



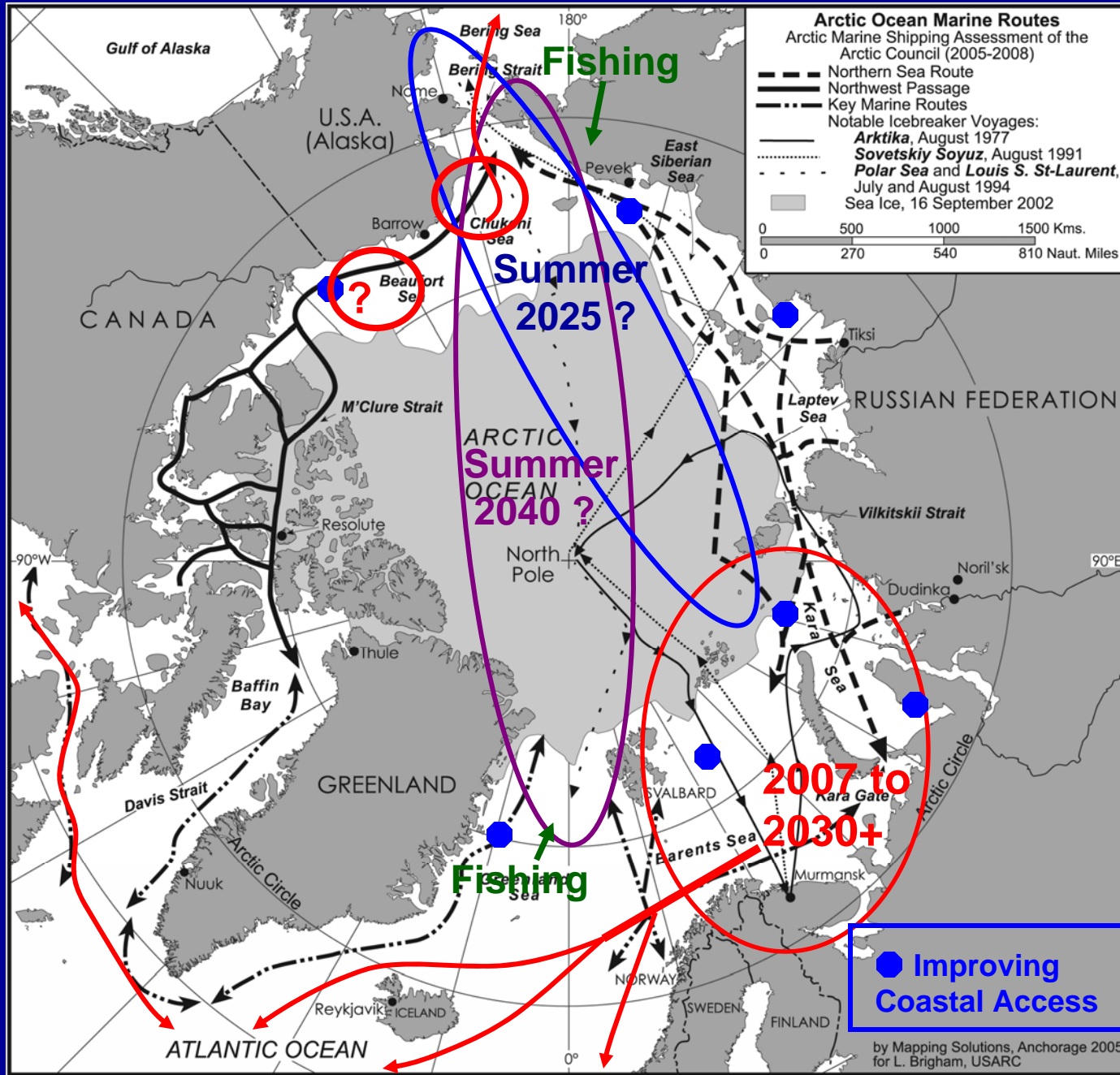
**Aker Arctic  
Technology**





**Aker Arctic Technology**

# Future Marine Transport of Arctic Energy Resources ?





# Arctic shuttle container link from Alaska US to Europe

AARC K - 63

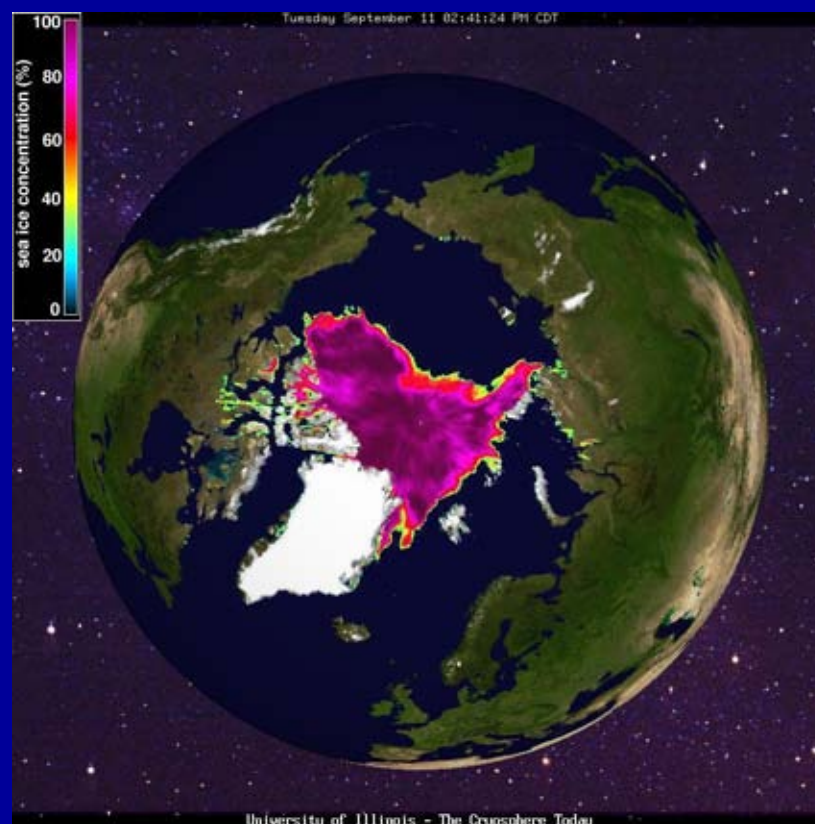
*Aker Arctic*



Mach 2006  
M. Arpiainen  
R. Kiili



# Opportunities, Challenges & Risks



Ben Ellis

Managing Director, Institute of the North

[www.institutenorth.org](http://www.institutenorth.org)

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