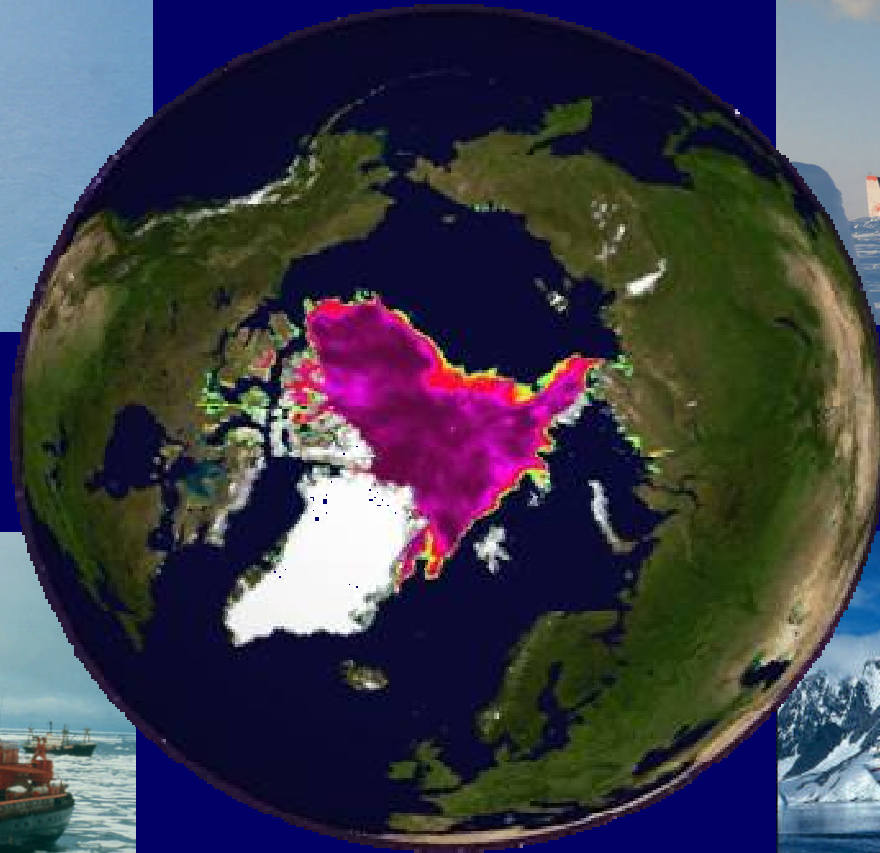


# Arctic Marine Shipping Assessment (AMSA): Status for the Senior Arctic Officials

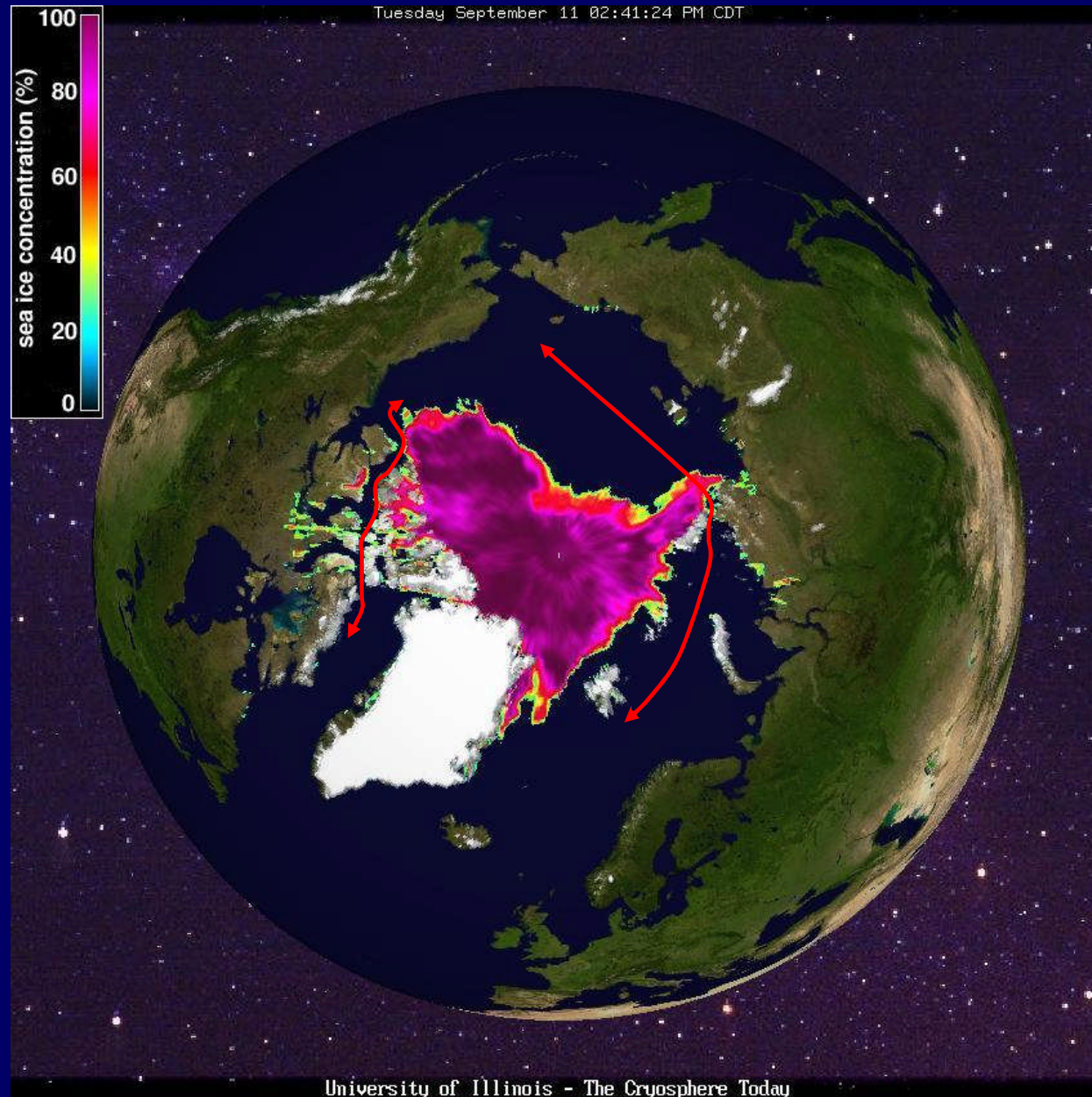
Arctic Council SAO Meeting  
Narvik, Norway

29 November 2007



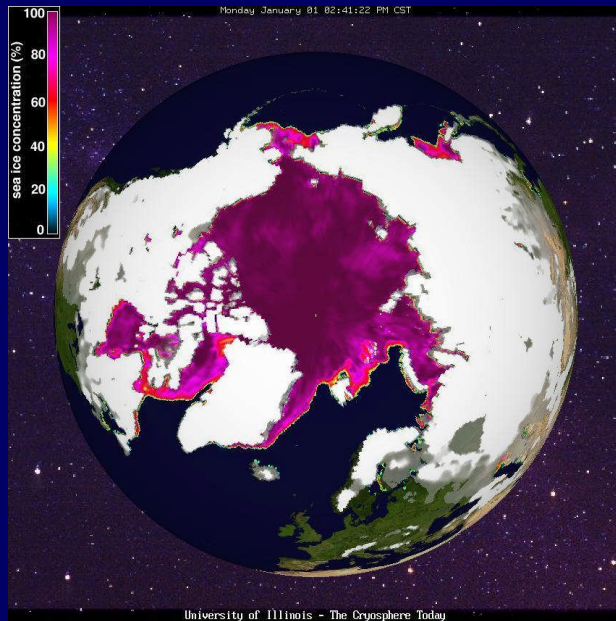
Lawson W. Brigham, PhD  
Vice Chair, PAME & Chair, AMSA  
U.S. Arctic Research Commission ~ Anchorage

# 11 September 2007

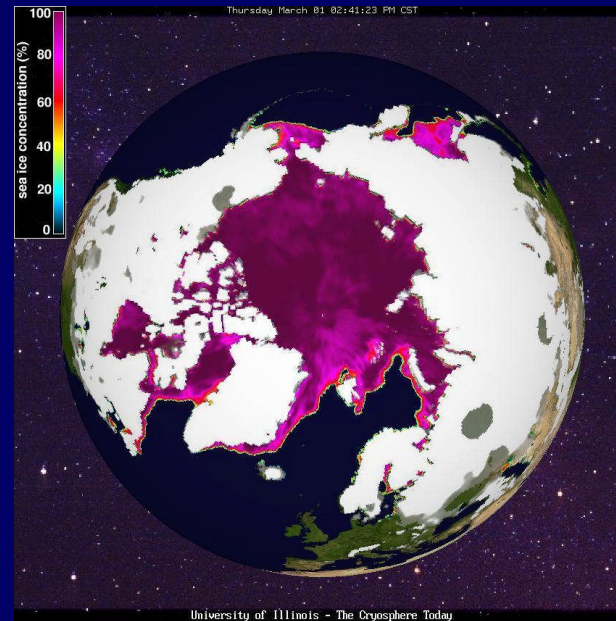




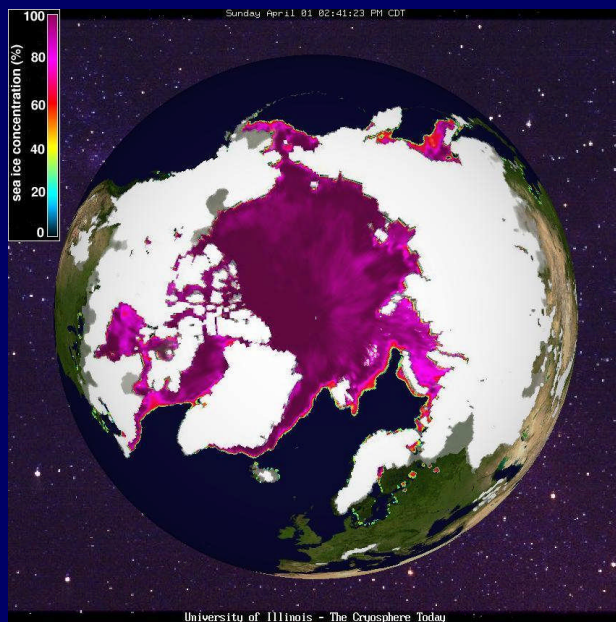
**1 January 2007**



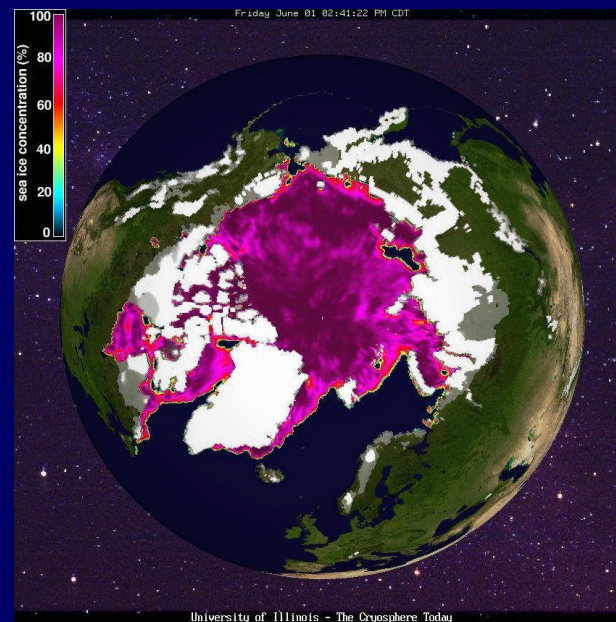
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**1 April 2007**

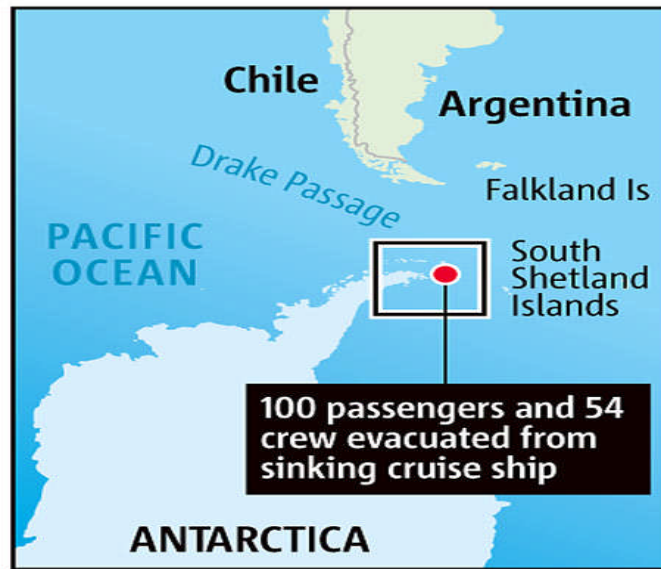


**1 June 2007**





# “Stricken cruise ship off Antarctica evacuated” MSNBC- 11/23/07



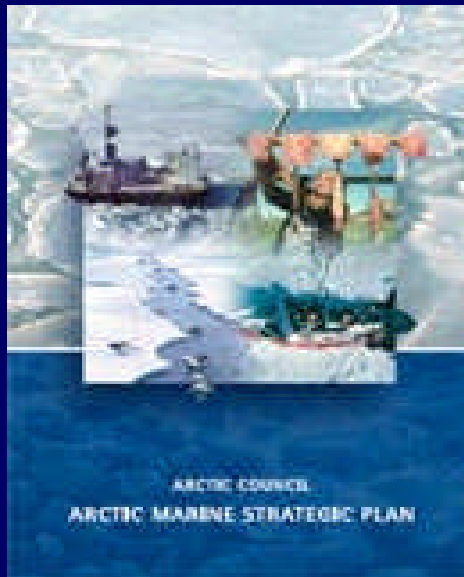
# Arctic Council

## Arctic Marine Shipping Assessment (AMSA)

Reykjavik Declaration, 4<sup>th</sup> Ministerial (Nov 2004)

*“ Request PAME to conduct a comprehensive Arctic marine shipping assessment as outlined in the AMSP under the guidance of **Canada, Finland, and the United States as lead countries** and in collaboration with the EPPR working group and other working groups of the Arctic Council and Permanent Participants as relevant.”*

# Arctic Marine Shipping Assessment (AMSA) Key Points



- AMSA Natural Follow-on to:
  - Arctic Climate Impact Assessment (ACIA)
  - Arctic Marine Strategic Plan (AMSP)
- Circumpolar, *yet* Regional *and* Local Focus
- Use Large Marine Ecosystems (LMEs) Concept
- Global Maritime Industry ~ Many Non-Arctic Actors
- Focus: Marine Safety & Arctic Marine Environmental Protection
- Member State Commitment & Support with Data Collection Effort (Survey to SAOs)

# **AMSA Final Report Structure**

## **Chapter Outline & Recent Accomplishments**

### **Chapters**

#### **1: Introduction & Geography (US)**

*Drafting Underway*

#### **2: History of Arctic Marine Transport & Governance (US, CAN)**

*Drafting Underway for All Sections*

*'Governance Team' Experts from Dalhousie University in Halifax*

#### **3: AMSA Marine Activity Data, Sea Ice & Accidents (2004) (CAN)**

*Data at 75%; More Required from 2 Arctic States; 2004 Adjustments*

*Formatting for GIS; Exploring Mapping Options*



The image is a composite. The main background is a large white cruise ship with red stripes, sailing in a blue sea with snow-capped mountains in the distance. In the top-left corner, there is a smaller inset image showing a person in a kayak on a body of water with icebergs and a large ice formation in the background. The text is overlaid on the bottom portion of the image.

**Timeless Arctic  
Marine Transport**

**Arctic Marine Vessel Activity ~ AMSA Ship Types ~ 75%**

Tankers ~ Bulk Carriers

Container Ships ~ Tug-Barge Combinations

Fishing Vessels ~ Ferries ~ Passenger Vessels/Cruise Ships

Research Vessels ~ Offshore Supply Vessels

Icebreakers (Government & Commercial) ~ Others



**4: The Human Dimension: Town Hall Meetings & Impacts**  
(Temporary Co-Leads: US & CAN) (Future: US & DEN)

*Town Hall Meetings in Canada, Iceland, Norway, US*

*More Planned in Canada, US, Greenland, Norway*

*Survey in the Russian Arctic (RAIPON)*

**5: Scenarios & Futures (2020/2050) (US)**

*Scenarios Workshops San Francisco (April) & Helsinki (July)*

*Scenario Narratives (Stories) in Draft Form*

*3 Regional (2020) Case Studies Underway*

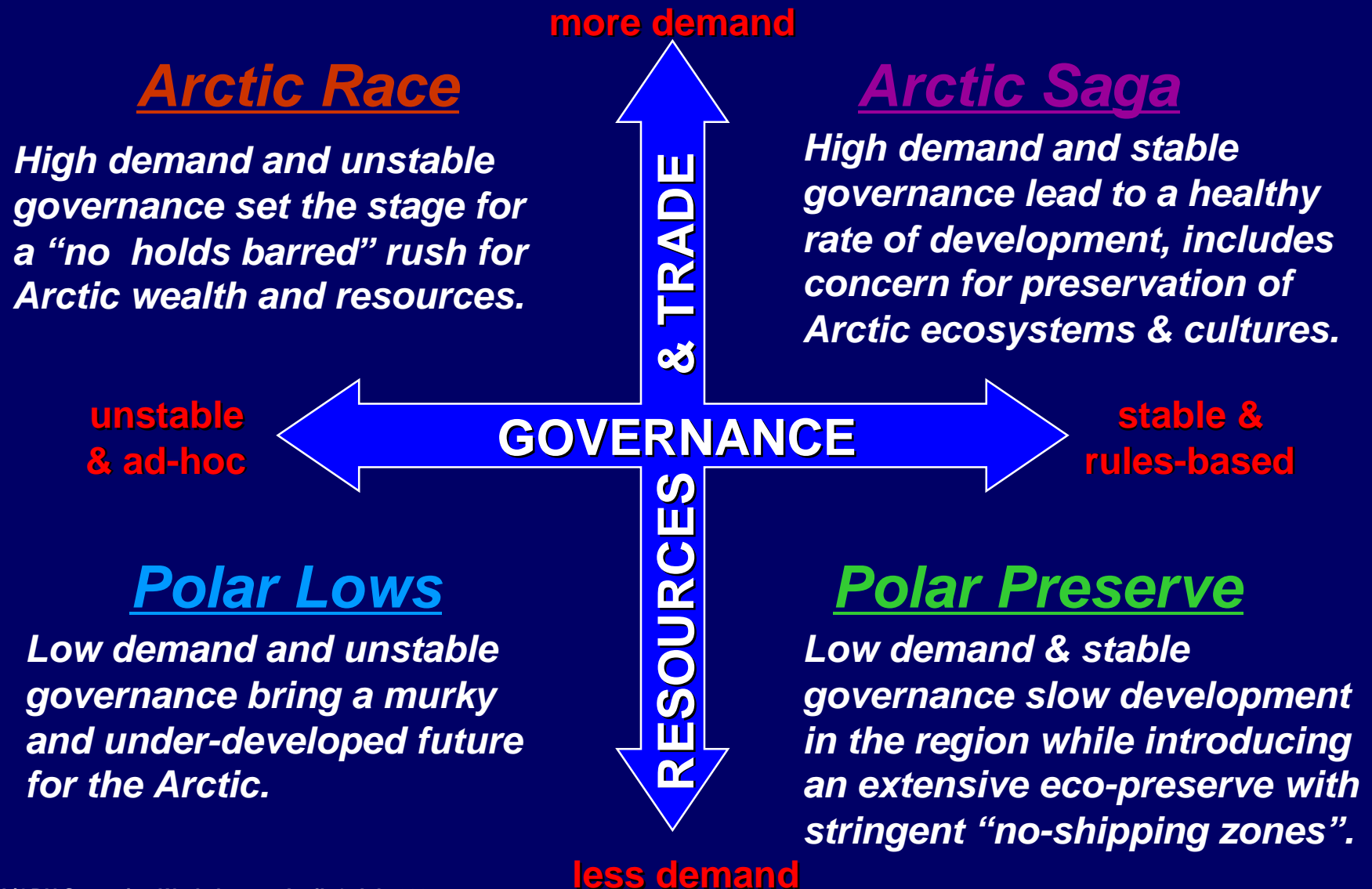
**6: Environmental Impacts ~ Current & Future (NOR, RU)**

*Co-Lead Authors Identified by Norway & Russia*

*Workshop at Arctic Frontiers ~ Contributing Authors: US & CAN*

*Input from Oil & Gas Assessment & Arctic LMEs (from PAME WG)*

# Scenarios on the Future of Arctic Marine Navigation in 2050



## **7: Arctic Marine Infrastructure & Anticipated Needs**

(Co-Leads: US, CAN, Iceland, EPPR, RU)

**Infrastructure** ~ SAR, Ports, Monitoring, Incident Response, Sea Ice Forecasts, Charting, Aids to Navigation, Vessel Traffic Systems & More

*Ottawa Workshop 29-31 Oct 07: Drafting Underway*

*Baltic Case Study Underway (Finland)*

*Arctic Incidents Workshop ~ 18-20 MAR 08 (US-NOAA)*

## **8: Findings of the Assessment (All Authors)**

*Compilation Underway*

*First Review June PAME Meeting*

**AMSA Research Agenda, Appendices**



## **Chapter 4 ~ Human Dimension**

**Town Hall Meetings ~ Review & Analysis  
Outcomes from Chapters 2,3,5,6, & 7  
Current Marine Uses (Arctic States & PPs)**

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## **Chapter 5 ~ Scenarios and Futures**

**Scenarios to 2050**

*Framework, Assumptions, Key Drivers*

**Regional Case Studies to 2020**

*Bering Strait (US)*

*NW Russian/Norwegian Offshore (FIN ~ ARCOP)*

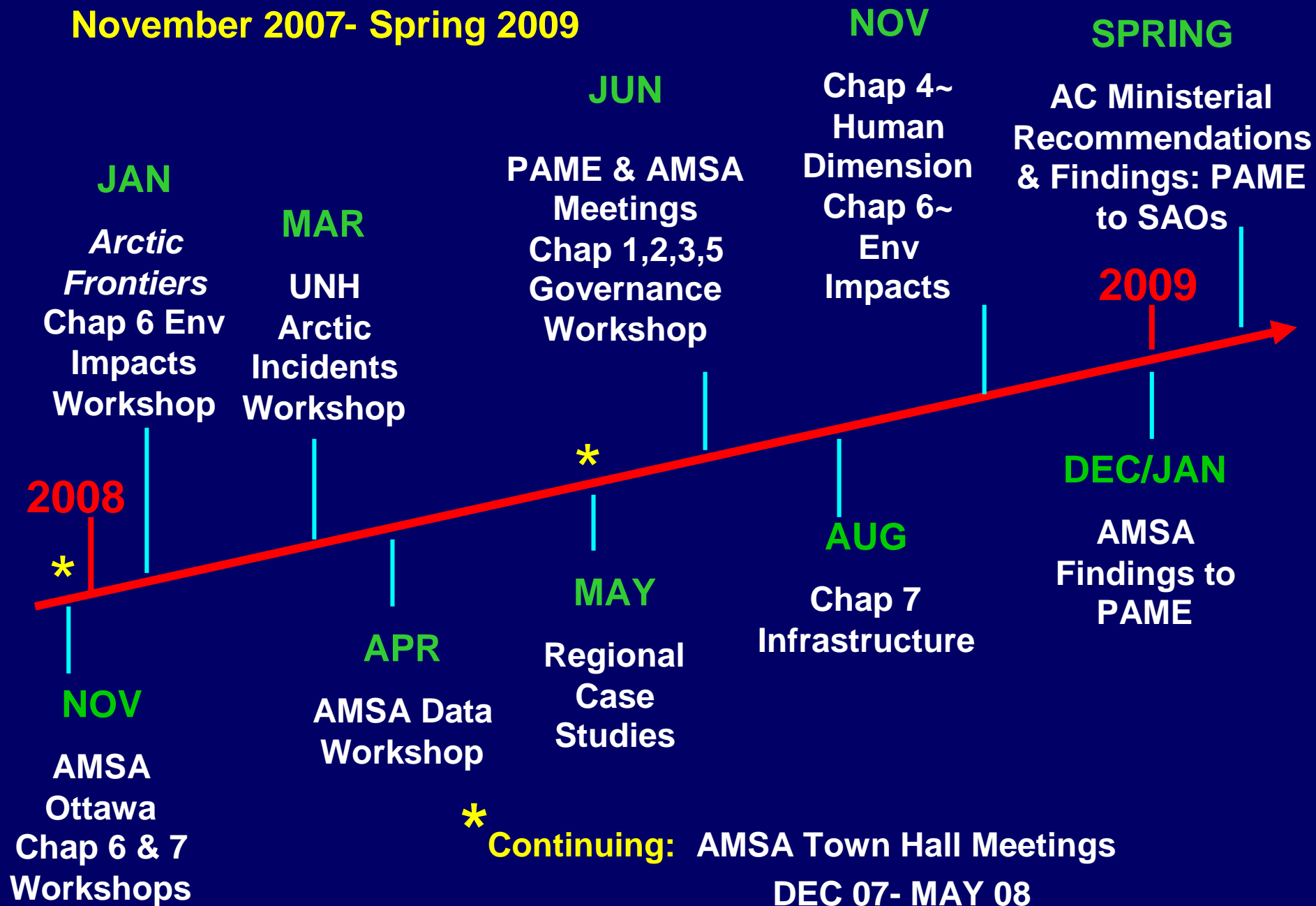
*Canadian Arctic (CAN)*

**Future of Arctic Marine Tourism (?)**

**Arctic Sea Trends (ACIA, IPCC, Regional) ~ Review  
Comments ~ Trans-Arctic Plausibility (?)**

# AMSA Timeline

November 2007- Spring 2009



# Potential AMSA Findings

Primary Driver ~ Regional & Global Natural Resource Development

**Lack of Integrated Governance-Regulatory Framework**

Continued Sea Ice Retreat ~ Increased Access

**Winter Arctic Sea Ice Cover Remains**

New Ship Technologies ~ Allow Greater Access & Independent Operations (No Convoys)

**Global Maritime Industry ~ Key Stakeholders**

Minimal Arctic Infrastructure to Support Expanded Marine Activity & Provide Adequate Safety Net

**Sectors: Oil & Gas, Hard Minerals, Tourism, Fishing & Water**

Greatly Enhanced Monitoring Required

**Intense Development ~ NW Russia & Norwegian-Barents-Kara Seas**

Balance ~ Freedom of Navigation with Coastal State Marine Safety & Environmental Protection Interests

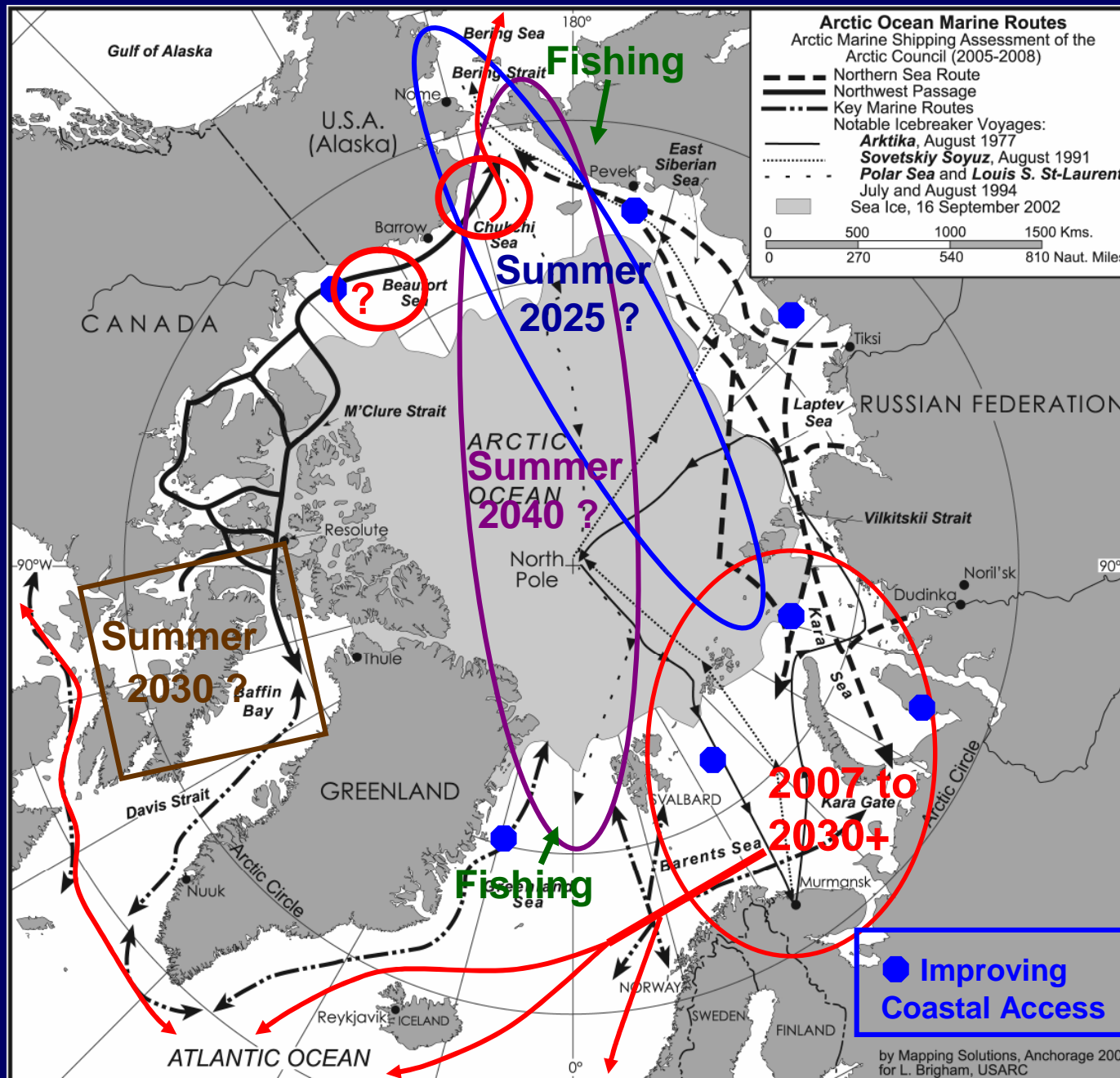
**Lack of Experienced Mariners**



# Challenges

- **Timeline ~ Spring 2009**
- **Capacity ~ Require Experts / Contributing Authors for Chapters 4,5,6 & 7**
  - **Engagement of the Arctic State Governmental Maritime Organizations**
- **Complete AMSA Data Survey & Conduct Analysis**
  - **Funding ~ Editing and Production**

# The Maritime Arctic of the Future?



by Mapping Solutions, Anchorage 2005  
 for L. Brigham, USARC

# 11 September 2007

