

**Seminar & Mini-Workshop**

**International scientific collaboration and legal regimes in a changing Arctic Ocean**

**Monday 1:30 - 4pm  
September 21  
Akasofu/IARC 401**

**Betsy Baker**

**Vermont Law School**

International ocean law, marine scientific research,  
and intersections with national legal regimes

**Bernie Coakley**

**Dept. of Geology & Geophysics, UAF**

UNCLOS Article 76 and possible impacts on scientific access

**Igor Polyakov**

**IARC-UAF**

Collaborative research in Russian Arctic seas - Brief overview of regulations,  
organizational structures and recommendations for improved coordination

**Hajo Eicken**

**GI/IARC-UAF**

The emerging Arctic Observing Network  
Critical needs for international collaboration and coordination

**Workshop Participants' remarks**

*Discussion and recommendations on potential future contributions from  
IARC, North by 2020 and the UA Geography Program*



Sponsored by North by 2020, IARC, and UA Geography Program

# The emerging Arctic Observing Network

Critical needs for international collaboration & coordination

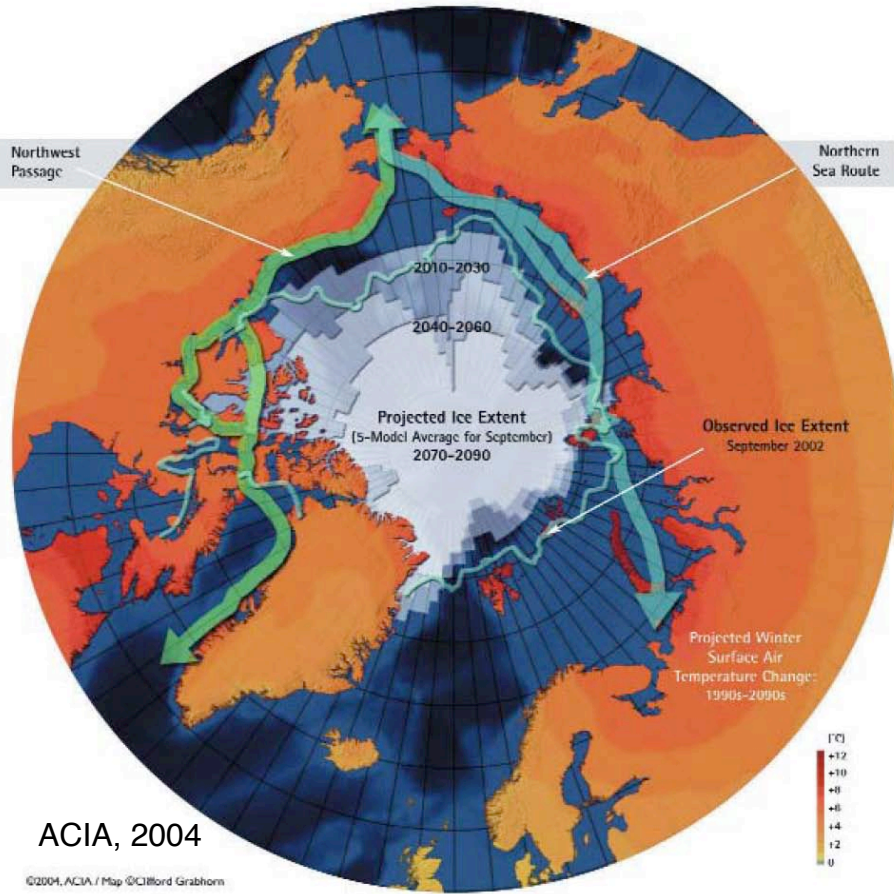


Hajo Eicken

International Arctic Research  
Center & Geophysical Institute  
University of Alaska Fairbanks,  
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- Introduction
- Arctic Observing Networks
- Int'l Arctic Ocean Buoy Program as a model?
- Discussion

“Reduced sea ice is very likely to increase marine transport and access to resources.”



ACIA, 2004

©2004, ACIA / Map © Clifford Grabhorn

### Response to changing conditions:

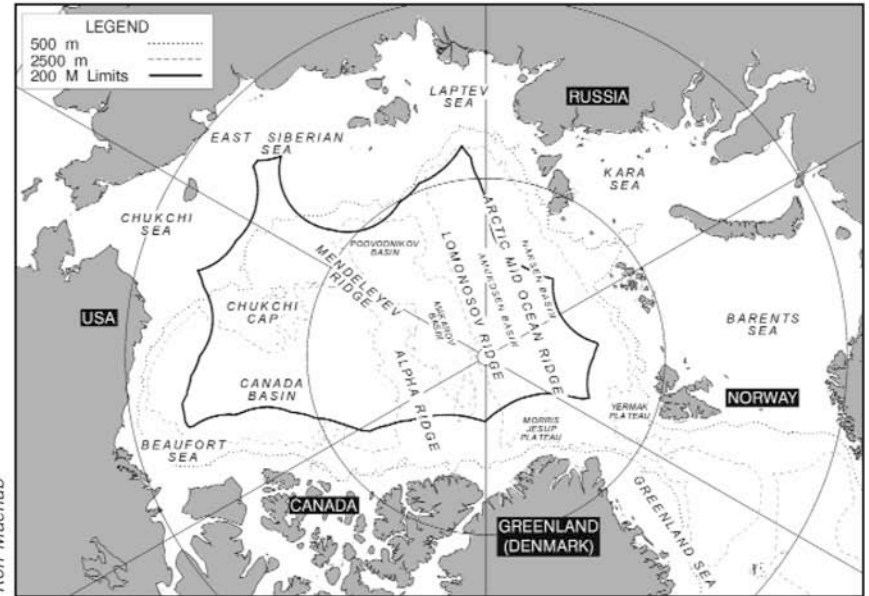
Reexamination of EEZ/territorial claims in the context of marine transportation and resource extraction (Russia, Denmark/Greenland, Canada)

9/21/09

International Arctic Ocean

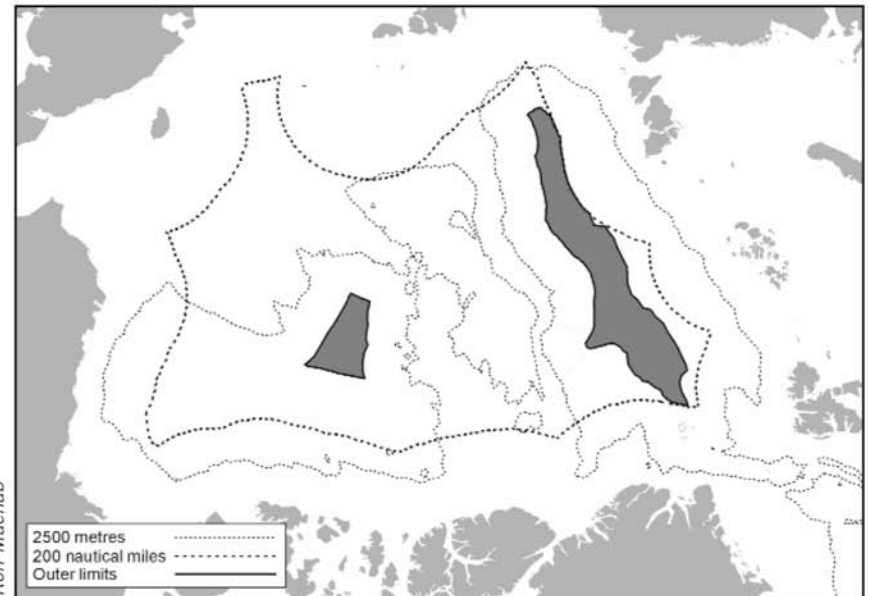
Arctic Research Commission, 2004

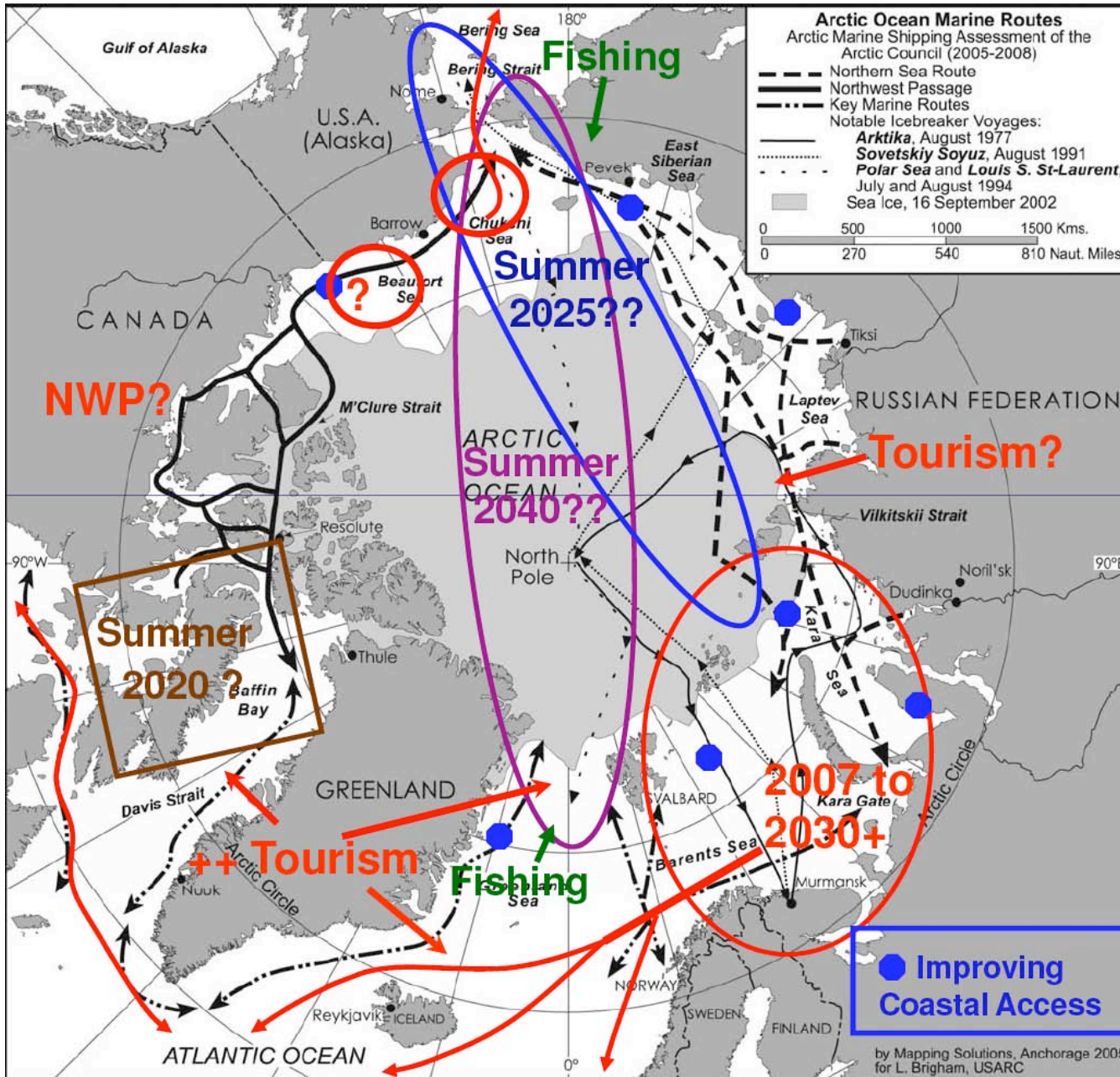
Ron Macnab



Map showing the coastal Arctic states, their joint Exclusive Economic Zones (EEZs), and the natural prolongations of their land territories.

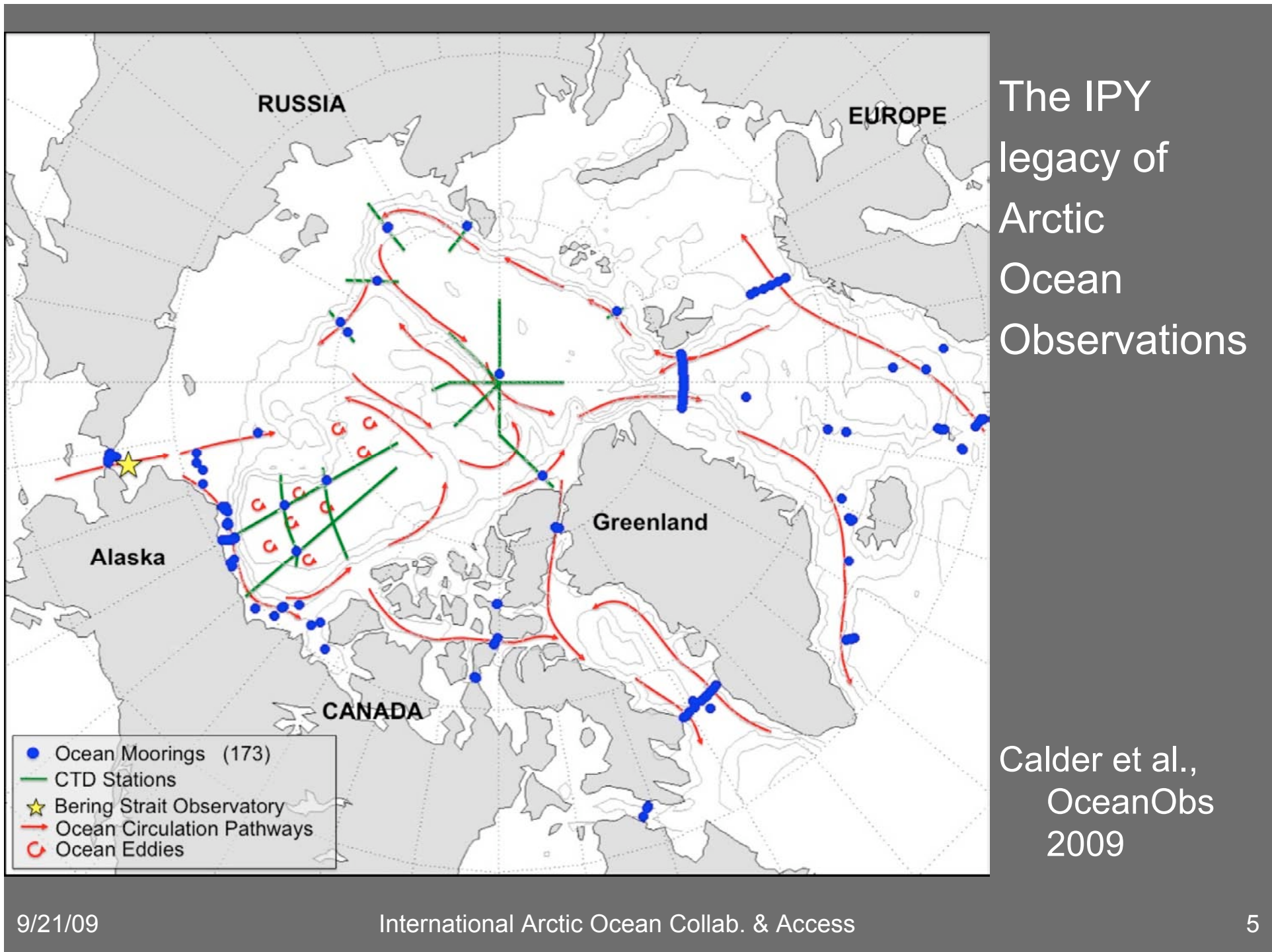
Ron Macnab



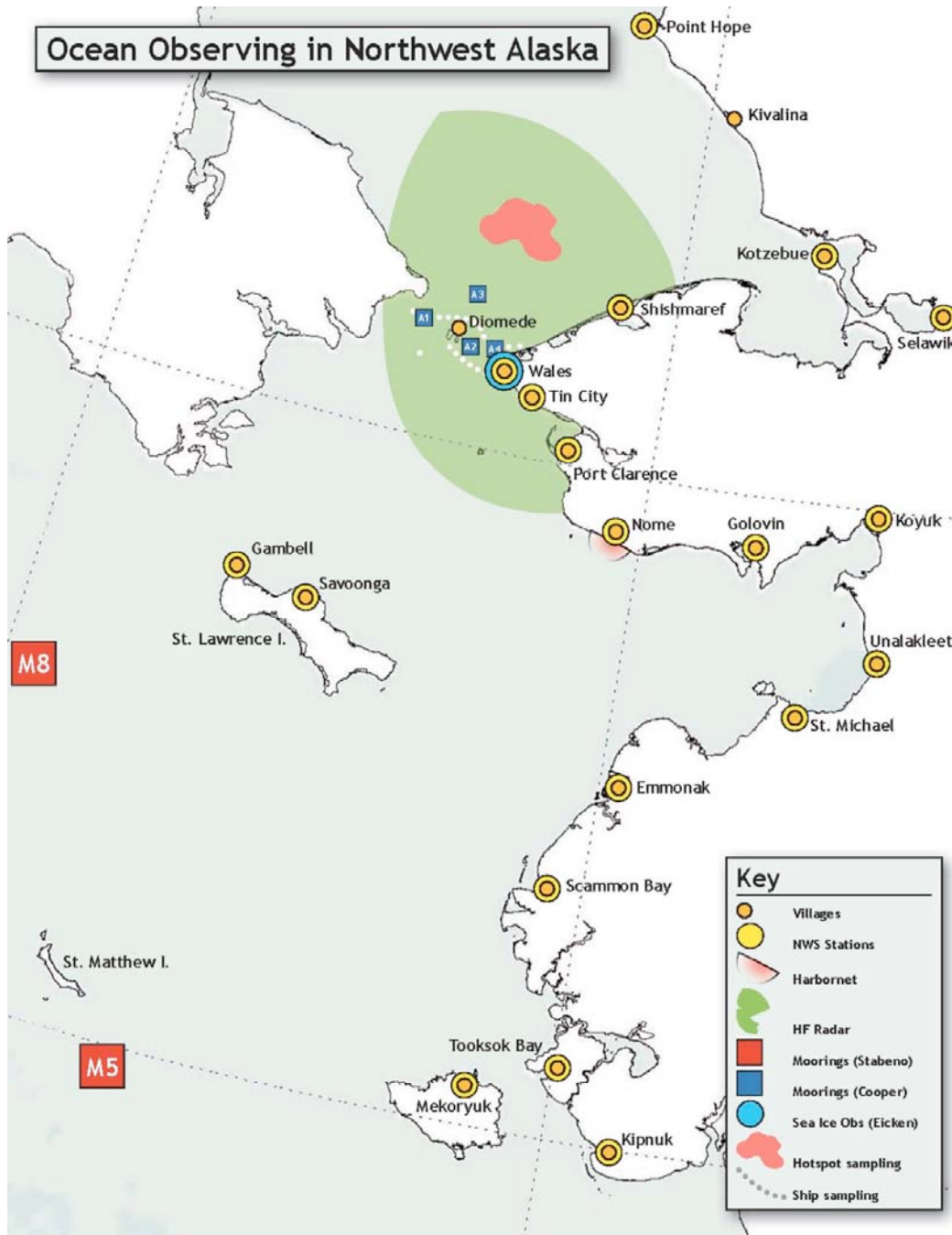


- Increasing conjoined uses of sea ice zone
- What kind of governance regime can guide fair & sustainable use?
- Arctic Treaty Monolith (potentially several decades in the making) vs. nimble, multi-faceted approaches

Lawson Brigham, Arctic Marine Shipping Assessment



## Ocean Observing in Northwest Alaska



The need for international coordination and collaboration off Alaska

Calder et al., OceanObs 2009

## Scientific planning

### Science questions

ISAC Science  
Questions 1-5

ISAC Science  
Questions 5-9\*

SEARCH Science  
Questions 1-5, 7

SEARCH Science  
Questions 3, 6, 7\*

### Themes & disciplines

Atmosphere

Terr'l  
ecosystems

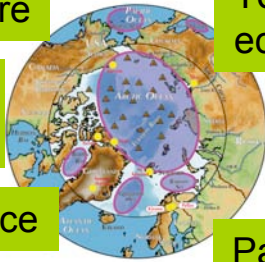
Hydrology/  
cryosphere

Human  
dimensions

Ocean/sea ice

Marine resources/  
ecosystems

Paleo-  
Environm't



### Projects



## Parsing, translation & guidance

*ISAC Steering Group & Council*

Interagency & internat'l  
coordination, Arctic-global  
linkages

Interdisciplinary  
integration

Regional coordination

*SEARCH OCP & UCP,  
AON PIs, IPMC*

Coordination of  
measurement efforts  
(siting, sampling rate etc.),  
interdisciplinary  
integration, interagency  
coordination

## Implementation & program design

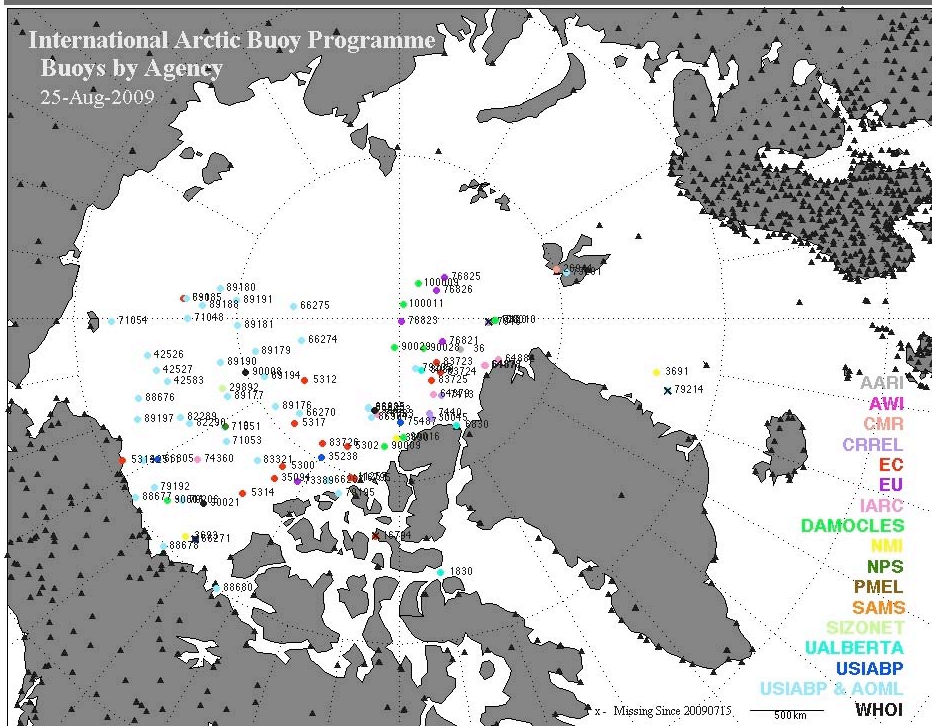
*International overarching  
coordination (iSAON, ?)*

*National implementation  
efforts (SIW Report,  
ArcticNet, DAMOCLES, ??)*

*International & national  
working groups &  
workshops (IABP,  
OceanObs 2009, CliC Sea  
Ice Working Group, ??)*

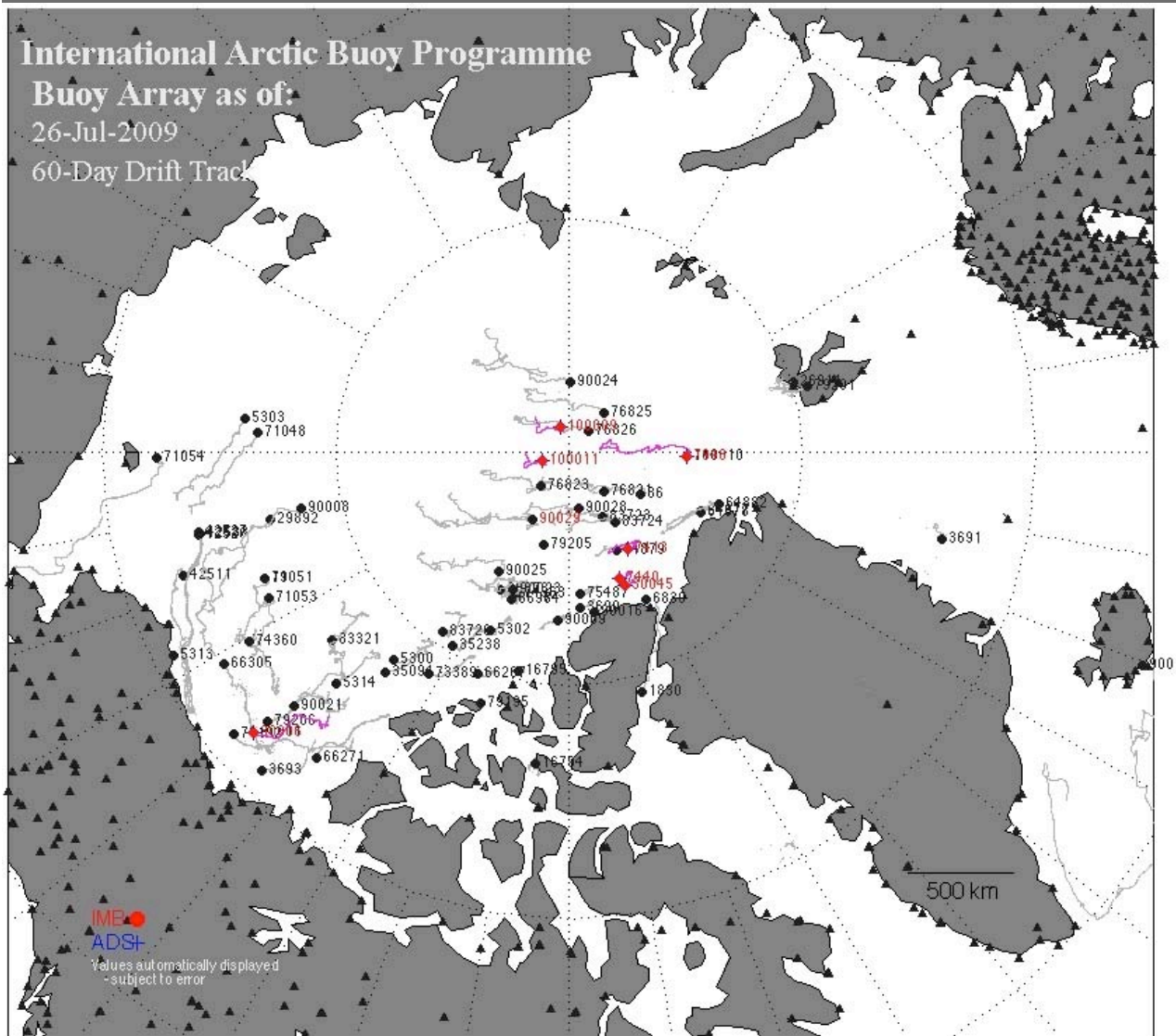
*AON projects, Agency-  
driven programs etc.*

# IABP as a model?



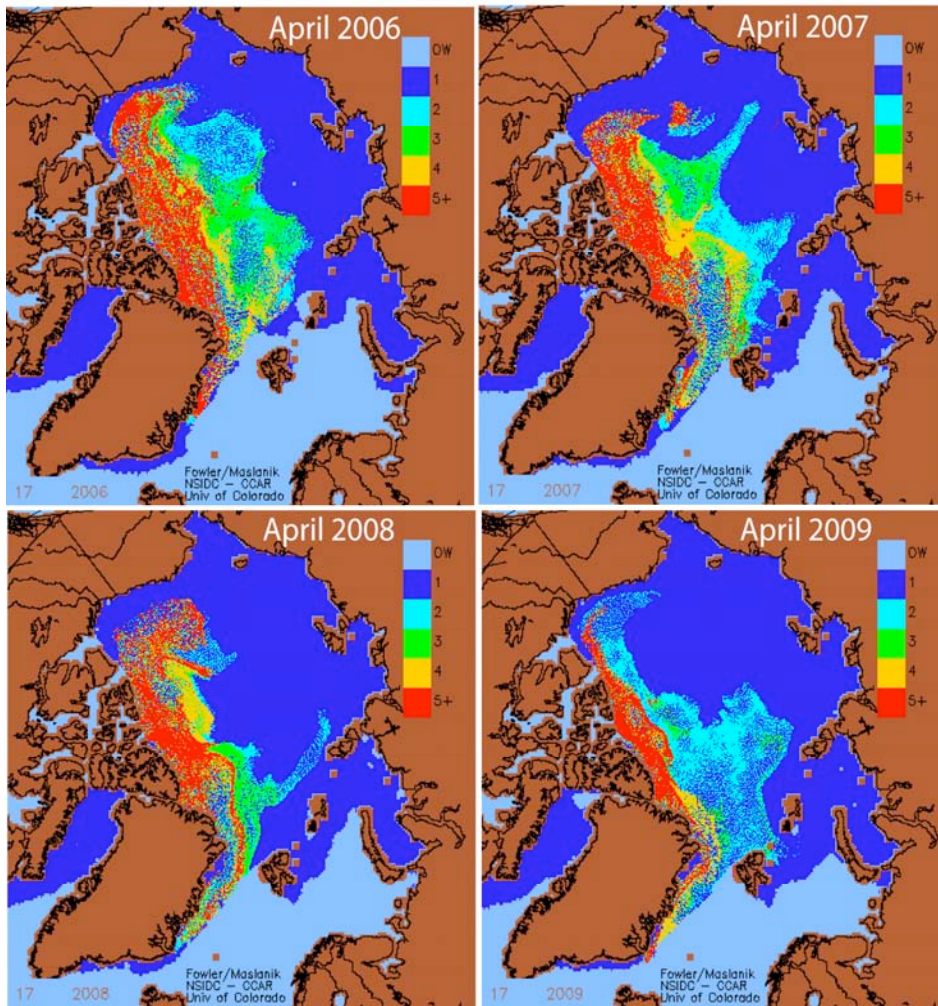
- International Arctic Ocean Buoy Programme (IABP)
- [iabp.apl.washington.edu](http://iabp.apl.washington.edu)
- Operating principles:  
**3.1. Operational Area** The operational area of the Programme will include the central Arctic Ocean and its marginal seas, excepting Exclusive Economic Zones where agreements of the Coastal States have not been obtained.

# IABP as a model?



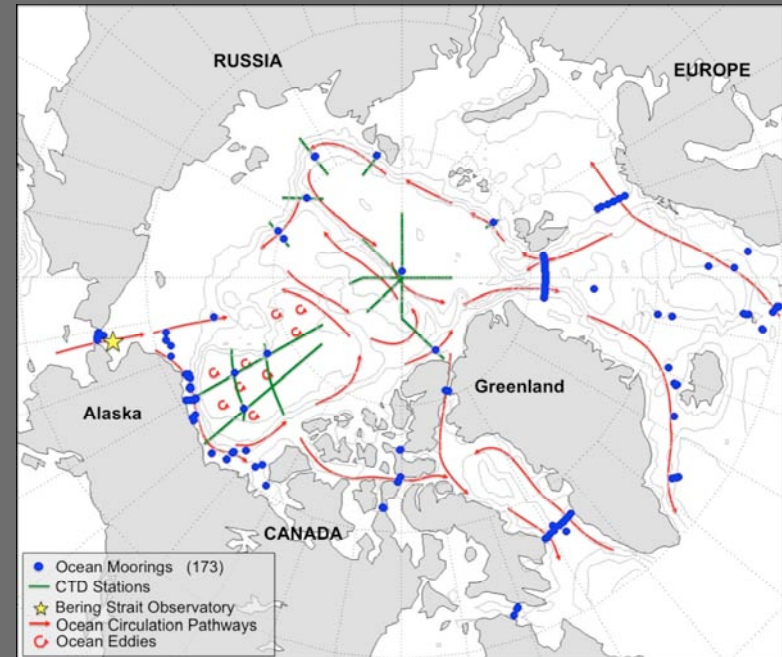
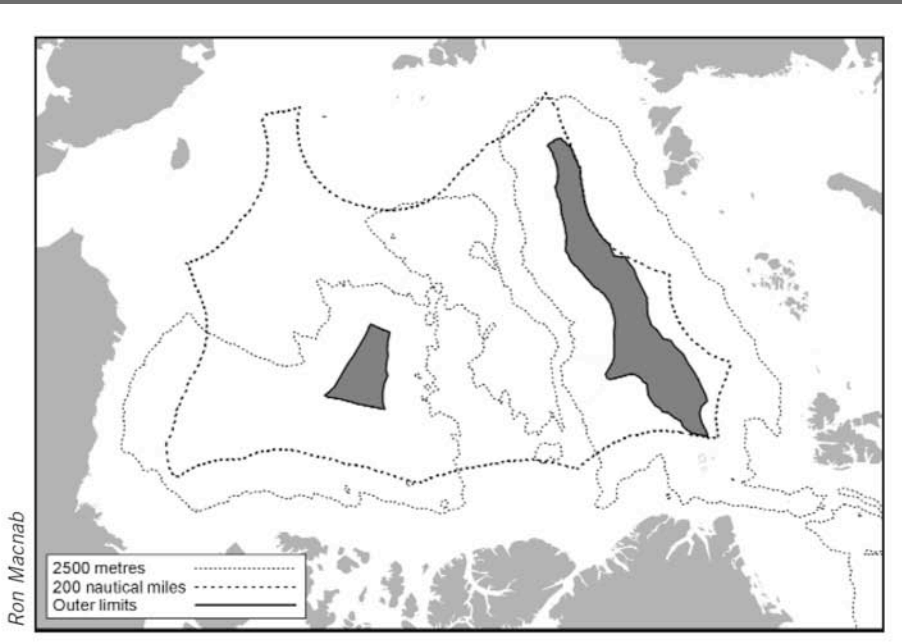
- Are buoys conducting hydrographic surveys?
- Are they operational (in a legal sense)?
- No deployment in EEZs of non-partners
- No agreement with Russia

# Sea Ice Outlook 2009: Ice age distribution



- Maslanik & Fowler: Age distribution derived from ice velocity fields (obtained from passive microwave data)
- 2009 has the smallest proportion of old ice since 1979
- Old ice crowded into North American sector; ice velocities & export increased in Eurasian Arctic

# How & where to proceed?



- Current practice & interpretation
- Ideal (science collaboration) regime that holds up to legal scrutiny
- Communication & refinement
- Potential partners/models: IABP, IMO, Arctic Council WGs, ?