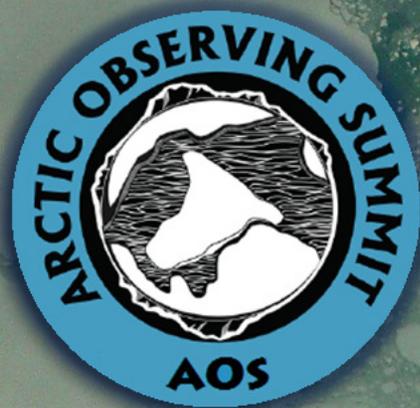


THE ARCTIC OBSERVING SUMMIT:



Progress Towards an Integrated,
Multipurpose, International
Arctic Observing System

Gabriela Ibarguchi¹, Maribeth S. Murray¹, Peter Schlosser²,
Lize-Marie van der Watt³ and Vinay Rajdev¹,

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University of Calgary, Canada*

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ARCTIC OBSERVING SUMMIT (AOS)

www.arcticobservingsummit.org



- **Biennial gathering, workspace and forum:**
 - **GOAL:** Design, implementation, coordination & sustained operation of international, **pan-Arctic observing system**
 - Collaborative: Arctic observing system of systems
 - Comprehensive: cross-disciplinary
 - Community-driven (needs considered; engagement)
 - Science-based guidance

- **Planning and development led by ISAC**



ISAC: INTERNATIONAL STUDY OF ARCTIC CHANGE



- Arctic environmental change research program
- Long-term, cross-disciplinary & international
 - *inclusive: non-Arctic countries also*
- Initiated in 2003 by:
 - International Arctic Science Committee (IASC)
 - Arctic Ocean Sciences Board
- **Leads development of Arctic Observing Summit**

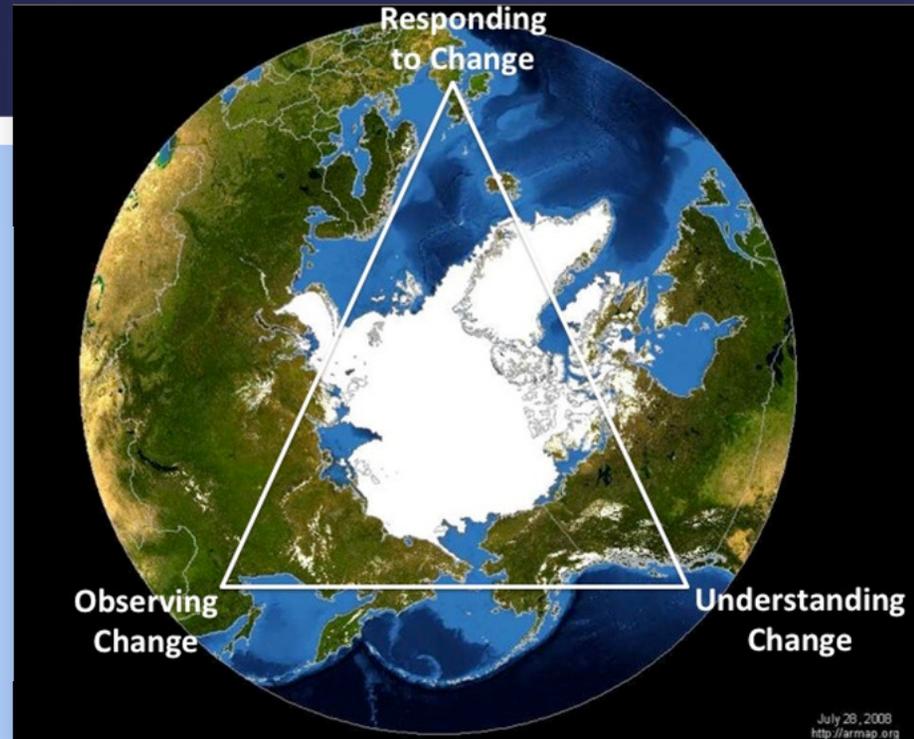
**Timely, relevant and accessible scientific information
for society for responding to Arctic change**



ISAC COMPONENTS

OUR Arctic:

- Observing
- Understanding
- Responding to change



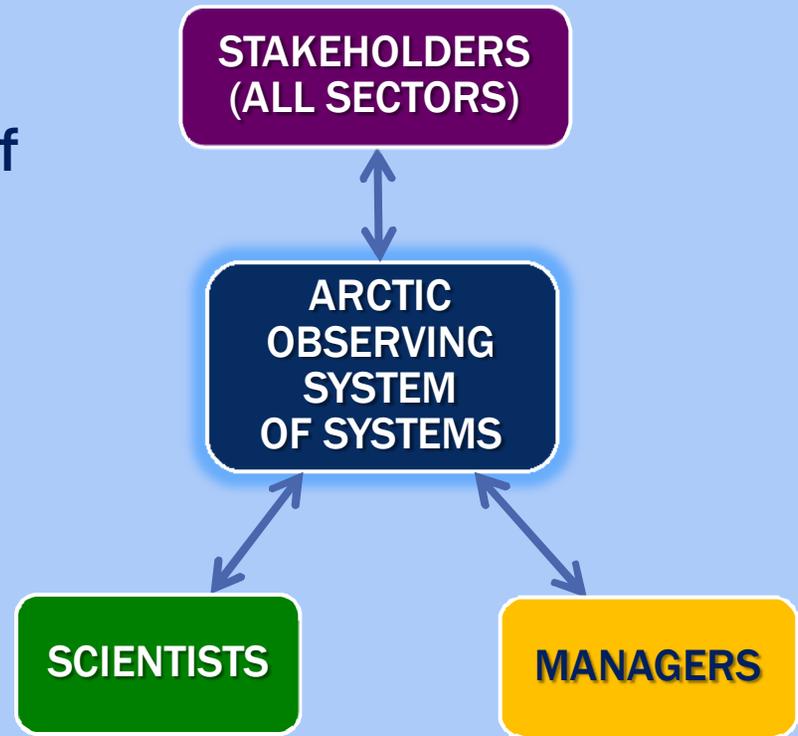
- Including building knowledge, synergies and strategies:
 - Research, monitoring, Traditional Knowledge, communities
 - Planning, forecasting, analyses, synthesis
 - Communication, data-sharing
 - Adaptation & mitigation strategies

INFO: ISAC SCIENCE PLAN & SCIENCE QUESTIONS: www.arcticchange.org

THE ARCTIC OBSERVING SUMMIT (AOS)



- **PLATFORM:** address urgent & broadly recognized needs of Arctic observing across all components of the Arctic System
- **FORUM:** optimizing resource allocation, minimizing gaps; avoiding duplication.
- **WORKSPACE:** develop solutions, recommendations, and make tangible contributions for operation



THE ARCTIC OBSERVING SUMMIT (AOS)



■ FOSTERING:

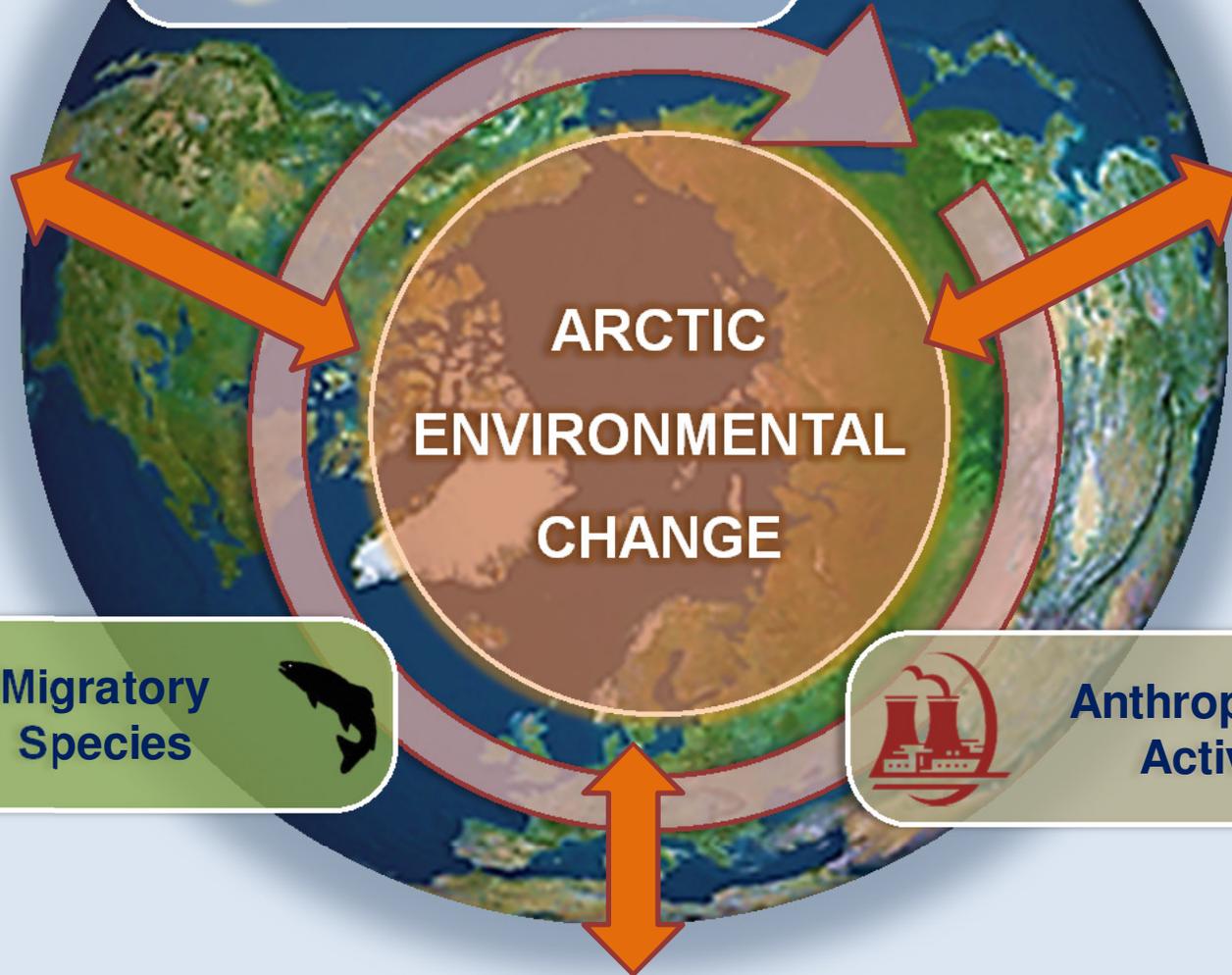
- Communication, international collaboration & coordination of long-term observations to improve understanding of & response to system-scale Arctic change.
- Exchange among researchers, agencies, Northern Peoples, NGOs, the private sector & others involved/interested in long-term observing activities



Arctic linkages and feedbacks



Atmospheric and
Ocean Circulation



Migratory
Species



Anthropogenic
Activities

ARCTIC OBSERVING SUMMIT (AOS): AN ISAC-LED INITIATIVE



- Biennial meeting; with Arctic Science Summit Week (ASSW)
- A SAON task (Sustaining Arctic Observing Networks activity – Arctic Council & IASC)
- 1st: AOS 2013: Vancouver, B. C. Canada – FIRST AOS
2nd: AOS 2014: Helsinki, Finland (with ASSW 2014)
UPCOMING 3rd: AOS & ASSW 2016: Fairbanks, Alaska



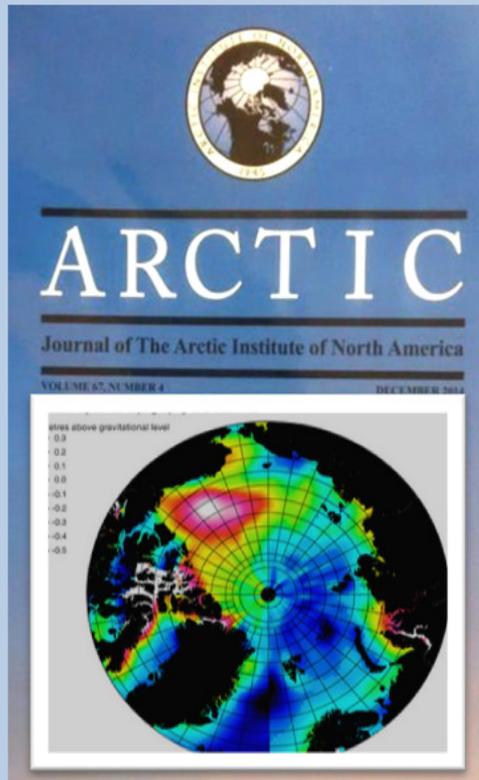
University of Alaska, Fairbanks, AK

Input from AOS 2013 & 2014

AOS White Papers and Special journal issue -

***ARCTIC* Arctic [Suppl. 1] vol. 68(5), 2015:**

(<http://arctic.journalhosting.ucalgary.ca/arctic/index.php/arctic/issue/view/281>)



AOS White papers:

Available on AOS website:

<http://www.arcticobservingsummit.org/aos-2013-white-papers>

Subset of white papers has been peer-reviewed: articles and reports in special *Arctic* issue

AOS THEMES: 2013 AND 2014

CROSS CUT DISCIPLINES & INTERESTS



2013 Vancouver

- 1. State of the current observing system**
- 2. System design and coordination**
- 3. Stakeholder needs and perspectives**
- 4. Coordination, support, sustainability, operation**

2014 Helsinki

- 1. Stakeholder engagement**
- 2. Coordination**
- 3. Technology and innovation**
- 4. Remote sensing solutions**
- 5. Data management, accessibility, and interoperability**

3RD AOS: 2016

15-18 MARCH, FAIRBANKS, AK

www.arcticobservingsummit.org



Exec Committee

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Hajo Eicken, SEARCH

Hiroyuki Enomoto, NIPR

Larry Hinzman, UAF

Eva Kruemmel, ICC Canada

Jan Rene Larsen, AMAP

Ex. Officio

Volker Rachold, IASC

Maribeth Murray, ISAC

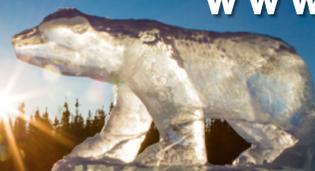
Gabriela Ibarguchi, ISAC

THEMES

1. International frameworks and strategies for funding & support
2. Technology
3. Global Linkages and feedbacks
4. Stakeholder needs & engagement
5. Private Sector Engagement
6. Interfacing Traditional Knowledge & Environmental Science

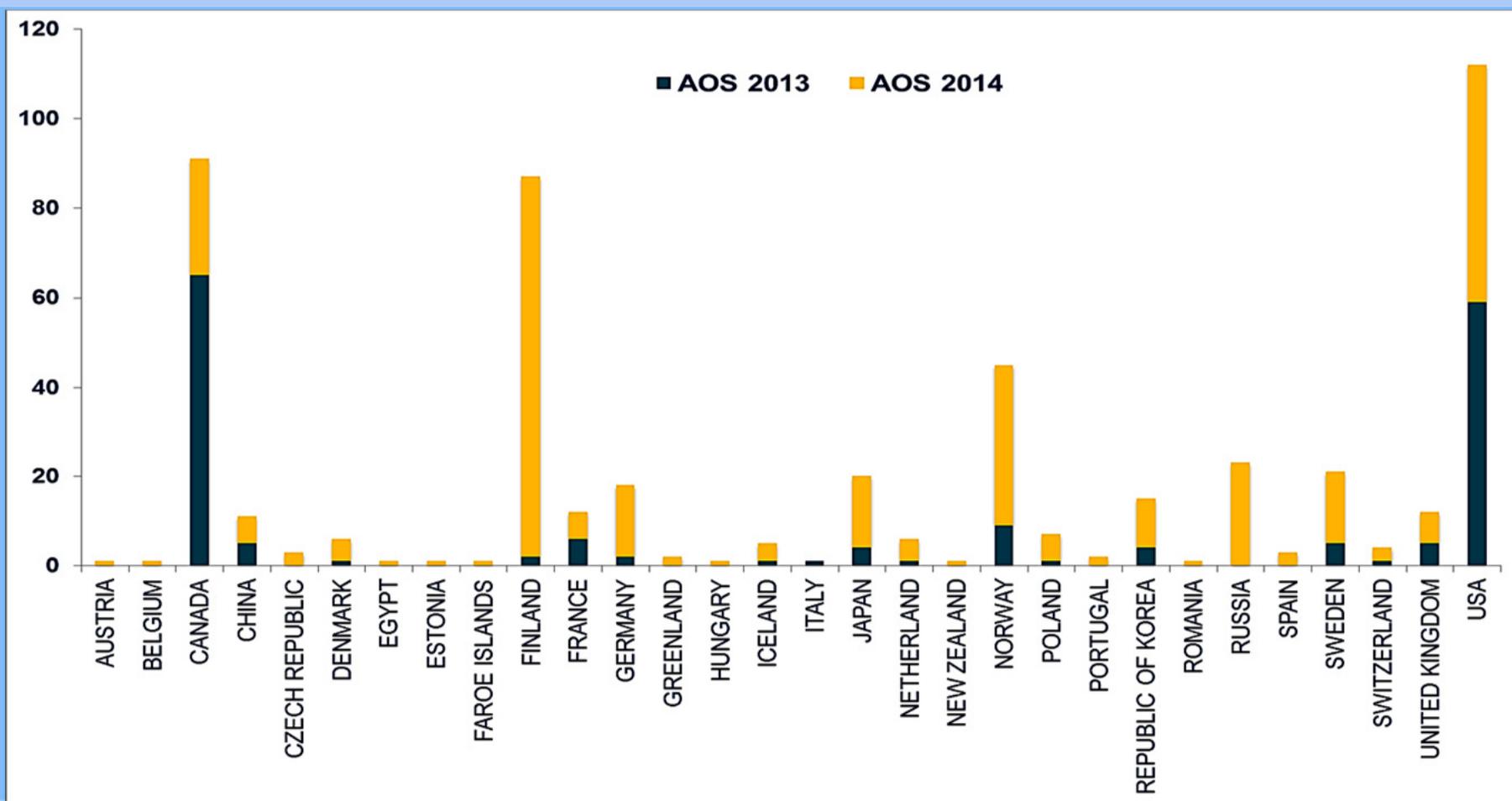


www.assw2016.org



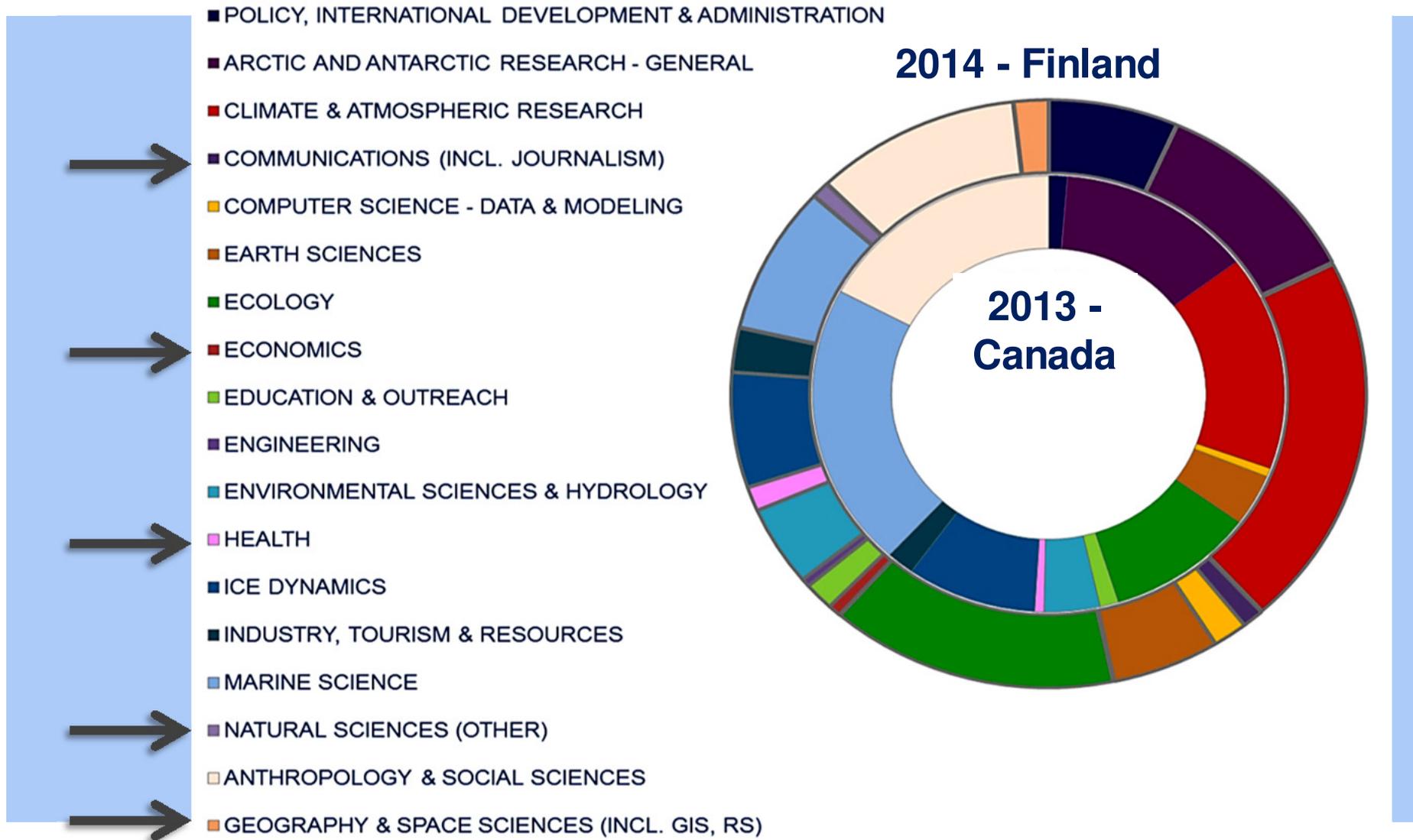
AOS INTERNATIONAL PARTICIPATION 2013 & 2014

Increased participation - Countries (17 in 2013; 30 in 2014); including non-Arctic nations



AOS PARTICIPANT EXPERTISE - 2013 & 2014

More fields in 2014; new themes represented

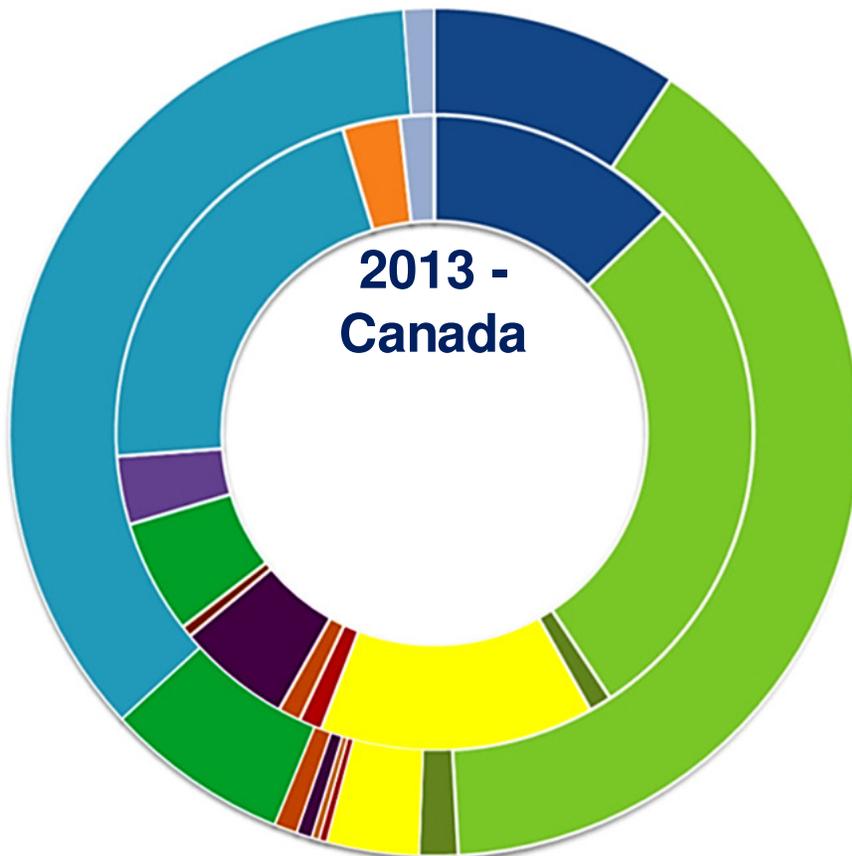


AOS: ENTITIES REPRESENTED – 2013 & 2014

LOCATION OF SUMMIT MATTERS

Diversity of Stakeholders: Indigenous Peoples organizations and the private sector were better represented in 2013

2014 - Finland



- EDUCATIONAL INSTITUTE: RESEARCH GROUP/CENTRE
- EDUCATIONAL INSTITUTE: UNIVERSITY/COLLEGE
- FUNDING BODIES
- GOVERNMENT: FEDERAL/NATIONAL
- GOVERNMENT: PROVINCIAL OR REGIONAL
- INDIGENOUS: INTERNATIONAL REPRESENTATIVE
- INDIGENOUS: LOCAL OR REGIONAL REPRESENTATIVE
- MUSEUM
- ORGANIZATION: GOVERNMENT AGENCY
- ORGANIZATION: INTERNATIONAL
- ORGANIZATION: NON-GOVERNMENT/NON-PROFIT
- PRIVATE SECTOR: CONSULTANT
- PRIVATE SECTOR: BUSINESS/INDUSTRY

AOS: RECOMMENDATIONS



Highest priority recommendations from 2013 & 2014:

- Improve the **diversity of participants and stakeholders**
- Include **diversity of observing systems** (monitoring, array networks, Traditional Knowledge, academic, private sector, community-based programs, health surveillance, logistics, ecosystems)
- **Link efforts, standards, methods, variables and indicators** in use (e.g. Arctic Council, SAON, GEOSS, WMO, GCW, etc.)

AOS: RECOMMENDATIONS



- Engage stakeholders at all stages, from assessing needs to creation of solutions-based, useful products
- Incorporate technology for real-time data capture and accessibility; invest in data rescue and baselines.
- Design: need to improve infrastructure, cyber-infrastructure
- Data: need open data, sustained archiving, data products (knowledge translation)
- Sustainable funding
- Capacity building, training



AOS and ISAC



- AOS is coordinated by ISAC International Program Office, ISAC Science Steering Group and ISAC partners.
- AOS website: www.arcticobservingsummit.org



ISAC International Program Office
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Co-Chairs**
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Jean Claude Gascard, France

SSG Members
David Atkinson, Canada
Christine Cuyler, Denmark/Greenland
Hiroyuki Enomoto, Japan
Michael Tjernström, Sweden
Jinping Zhao, China
+ 3 New Members in 2015

SUPPORTING AOS & ISAC: THANK YOU!

gabriela.ibarguchi@ucalgary.ca



ISAC International Program Office: Arctic Institute of North America, University of Calgary, Calgary, Canada, www.arcticchange.org

Chinese Office: Qingdao

Former Program Office Locations: SPRS, Stockholm; IARC, UAF Fairbanks

