Arctic PASSION – Towards a pan-Arctic Observing System of Systems to serve Societal Needs

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Helmholtz Center for Polar and Marine Research

Learn more here:

ARCTIC PASSION

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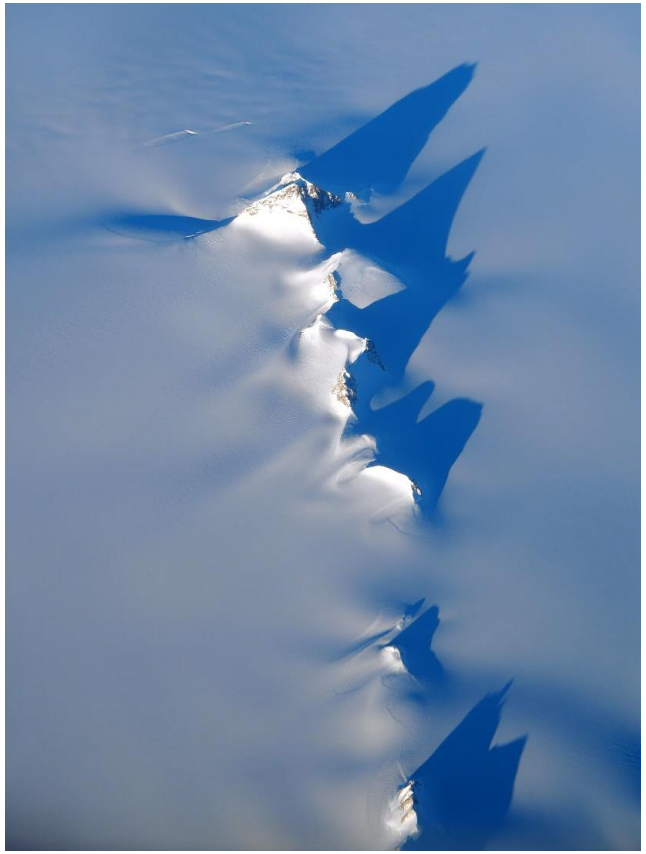
European Commission

ARCTIC PASSION

Pan-Arctic Observing System of Systems: Implementing Observations for Societal Needs

- European Commission H2020 Program
- 4 years, 15 Mio Euro, 18 countries
- > 30 partner organizations and 6 Indigenous Communities
- July 2021 – June 2025
- Website: www.arcticpassion.eu
- Coordination: Alfred Wegener Institute for Polar and Marine Research



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Overall Project Objectives

- Co-create a **coherent, integrated and sustainable pan-Arctic Observing System of Systems**
- Meaningful collaboration with **Arctic communities, Indigenous Peoples and organisations;**
- **Expand monitoring capabilities**, also through **broad inclusion of Indigenous Knowledge and Local Knowledge**;
- Improve **data interoperability** and simplify access to 'application-ready' environmental data for the benefit of all users;
- **Improve monitoring** to **support predictions, risk assessment**, **inform** and **guide mitigation and adaptation** and **sustainable development**
- Develop **EuroGEO Pilot Services and support SAON to upgrade Arctic GEOSS into a 'GEO initiative'**
- Initiate **SAV Expert Panels** and develop SAVs in support of SAON's ROADS program

The Structure of Arctic PASSION

Strengthening core observing system elements

Pillar A

Core observing systems elements and Services

Work Package-1
Establishing an adaptive and more complete Arctic observing system

Work Package-2
Bringing the Arctic Data System to action

Work Package-3
Supporting a smart Arctic Observing System by model-based impact assessments

Work Package-4
Innovating user-driven Arctic EuroGEO Pilot Services

Decision-making support

Pillar B

Societal, science policy and decision-making support

Work Package-5
Assessing Societal Benefits and Economic Impacts

Work Package-6
International Cooperation and Clustering for essential Arctic Integration

Work Package-7
Supporting coherent Policy and decision-making

Synthesis and outreach

Pillar C

Synthesis, integration, and outreach

Work Package-8
Co-developing an integrated and sustainable pan-AOSS

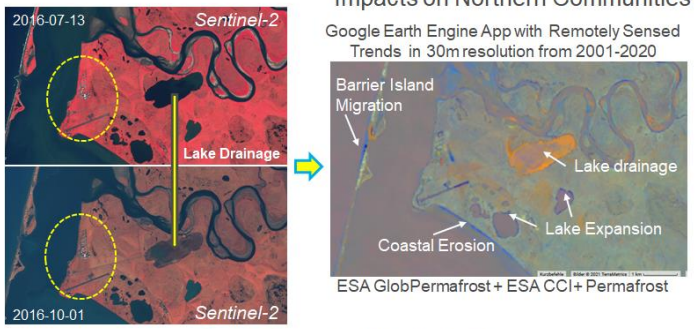
Work Package-9
Connecting the pan-AOSS with society through communication, dissemination, and engagement

Co-create Pilot Services to support emergency preparedness, food security, responses to climate and socio-economic changes.

PS1: ‘Event Database of CBM Using Oral Histories, IK and LK’ (Snowchange)

Ph.: Snowchange

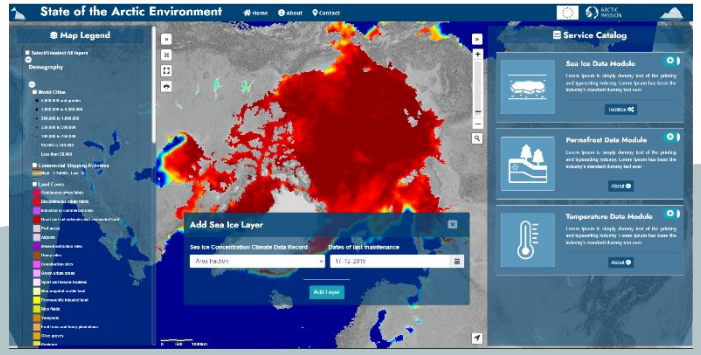
PS2: 'Pan-Arctic requirements-driven Permafrost’ (AWI)



G. Grosse & A.Irrgang, AWI

Village of Point Lay, Northern Alaska

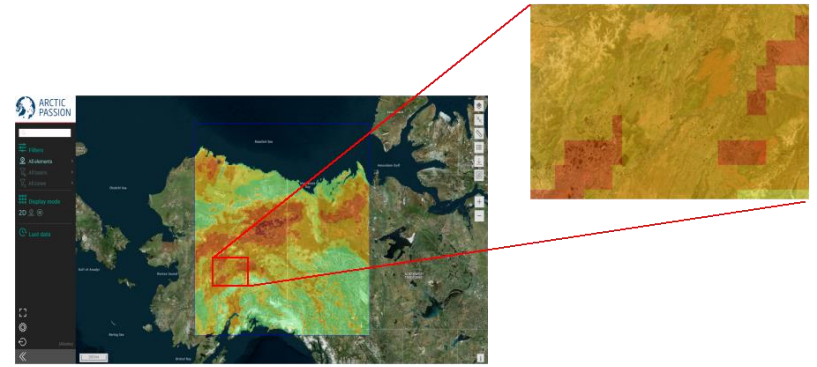
PS3: ‘State of the Arctic Environment’ (NPI)



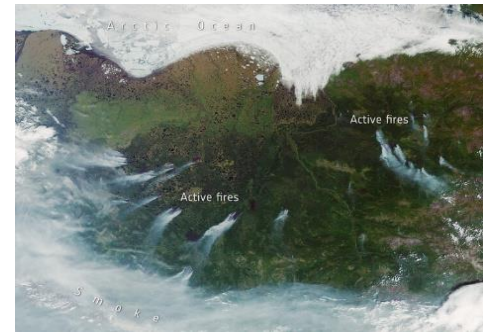
A. Sundfjord, NPI

Co-create Pilot Services to support emergency preparedness, food security, responses to climate and socio-economic changes.

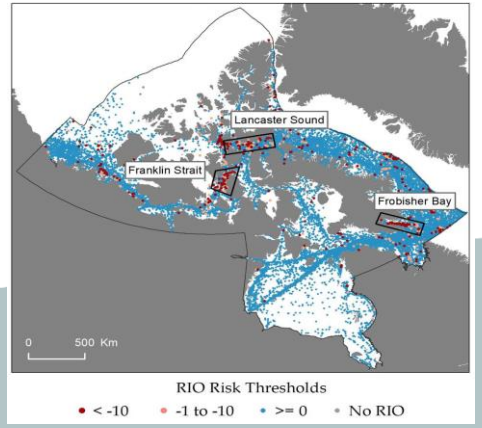
PS4: ‘Integrated Fire Risk Management - INFRA’ (CNR)



PS5: ‘Local Atmospheric Pollutant Forecast Service’ (JRC)



PS6: ‘Improving Safety for Shipping in the Polar Seas Service’ (BAS)



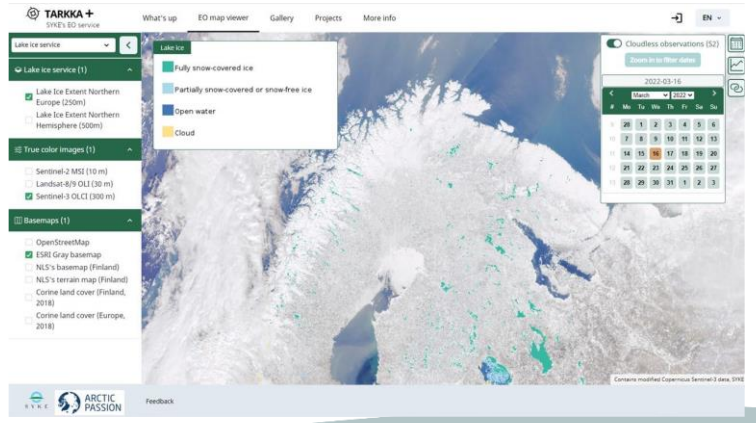
J. Dawson & A. Cook, U Ottawa

Co-create Pilot Services to support emergency preparedness, food security, responses to climate and socio-economic changes.

PS7: ‘CBM for Arctic marine climate change, noise pollution & impacts on marine living resources’ (GINR/DMI)

S. Olsen, DMI

PS8: 'Lake Ice Service for Arctic Climate and Safety’ (SYKE)



K. Heinila, SYKE

Shared Arctic Variables (SAVs)

Concept based on SAON ROADS and Arctic Observing Summit (AOS).

Sets of observables that help tackling local/regional problems (based on science, IK & LK)

Arctic PASSION with Canadian partners and US RNA CoObs first projects to launch SAV processes

Three SAV themes

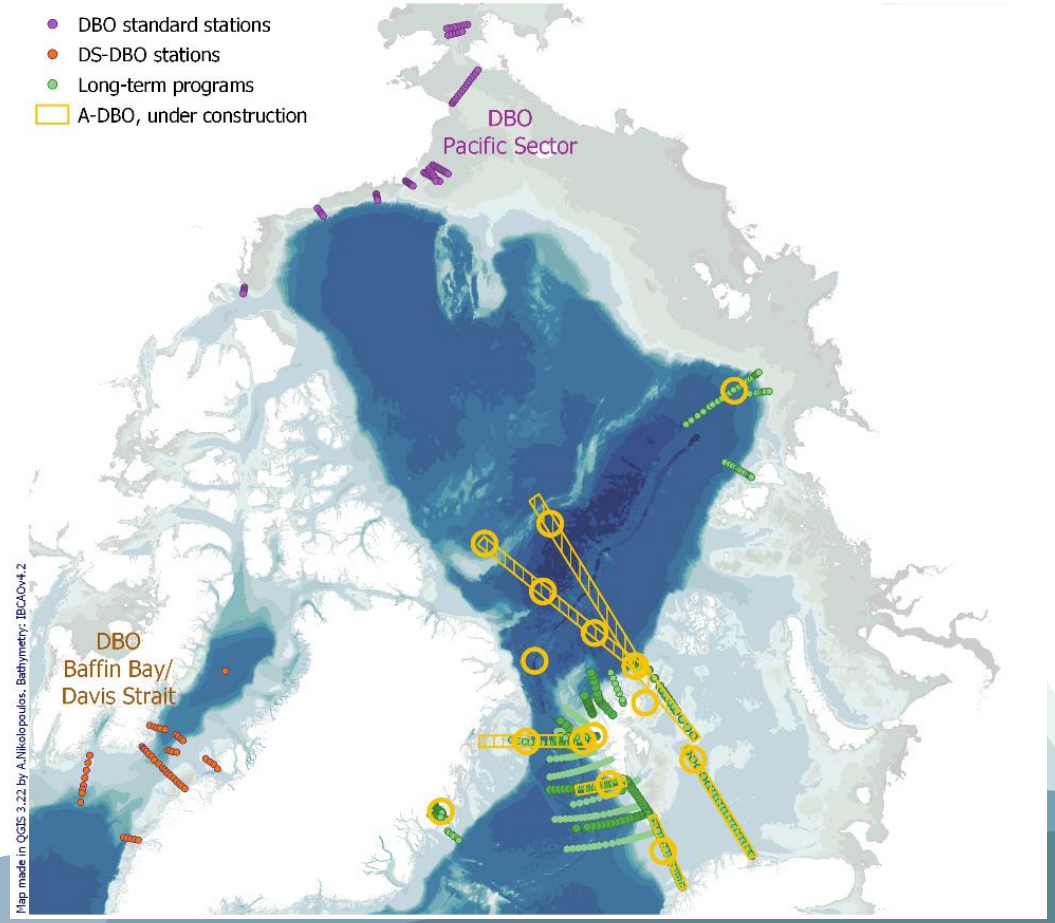
- *Permafrost (Living on frozen ground)*
- *Wildfires*
- *Sea Ice*

Launching an Atlantic-Arctic DBO (A-DBO)

Developing an Atlantic-Arctic Distributed Biological Observatory (A-DBO) in collaboration with the Pacific and Davis Strait/Baffin Bay DBOs

Implementing a comprehensive marine observing system for climate and environment in the Atlantic sector of the Arctic Ocean

Better integrated and accessible observations across disciplines within dedicated geographical areas of common interest and relevance (focus areas/hotspots)



A. Nikolopoulos, NPI

https://arcticpassion.eu/adbo/

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EU polar observation – challenges ahead in terms of technology and governance

- Increased and streamlined collaboration
- Enhanced co-creation
- Refurbished funding structures (e.g.: funding inclusion of IP from call-writing process onwards, international cross border funding schemes)
- Enhance Interoperability and FAIR, TRUST and CARE principles
- Lean and transparent governance structure
- Establishment of sustainable communication channels between end-users, data-providers and the governance structure

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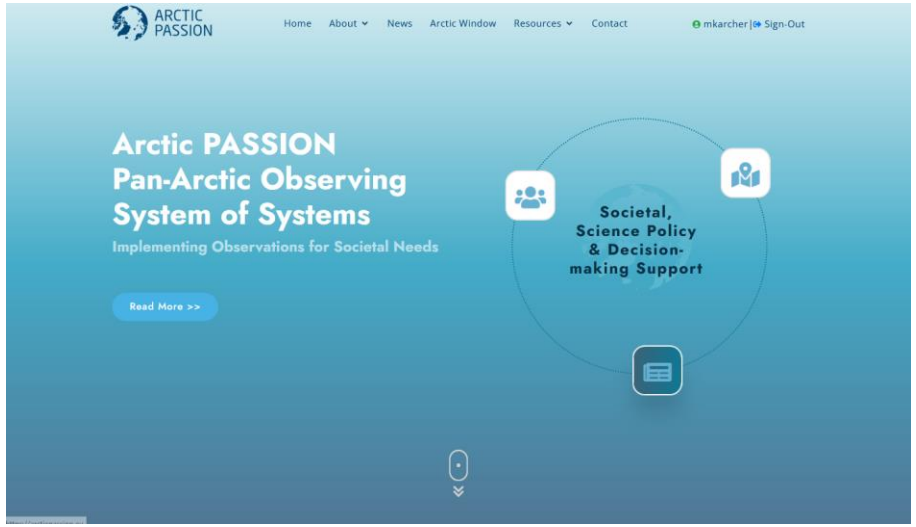
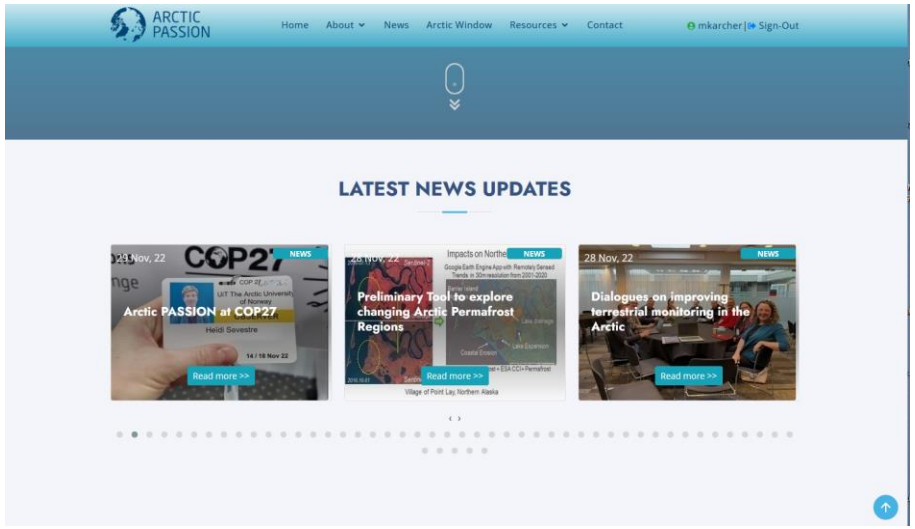
Pan-Arctic Observing System of Systems: Implementing Observations for Societal Needs





Appearance or sessions at upcoming meetings:

- Arctic Frontiers (Jan/Feb 2023, Tromsø)
- ASSW (Feb 2023, Vienna)
- ISAR-7 (March 2023, Tokyo)

Website:

www.arcticpassion.eu