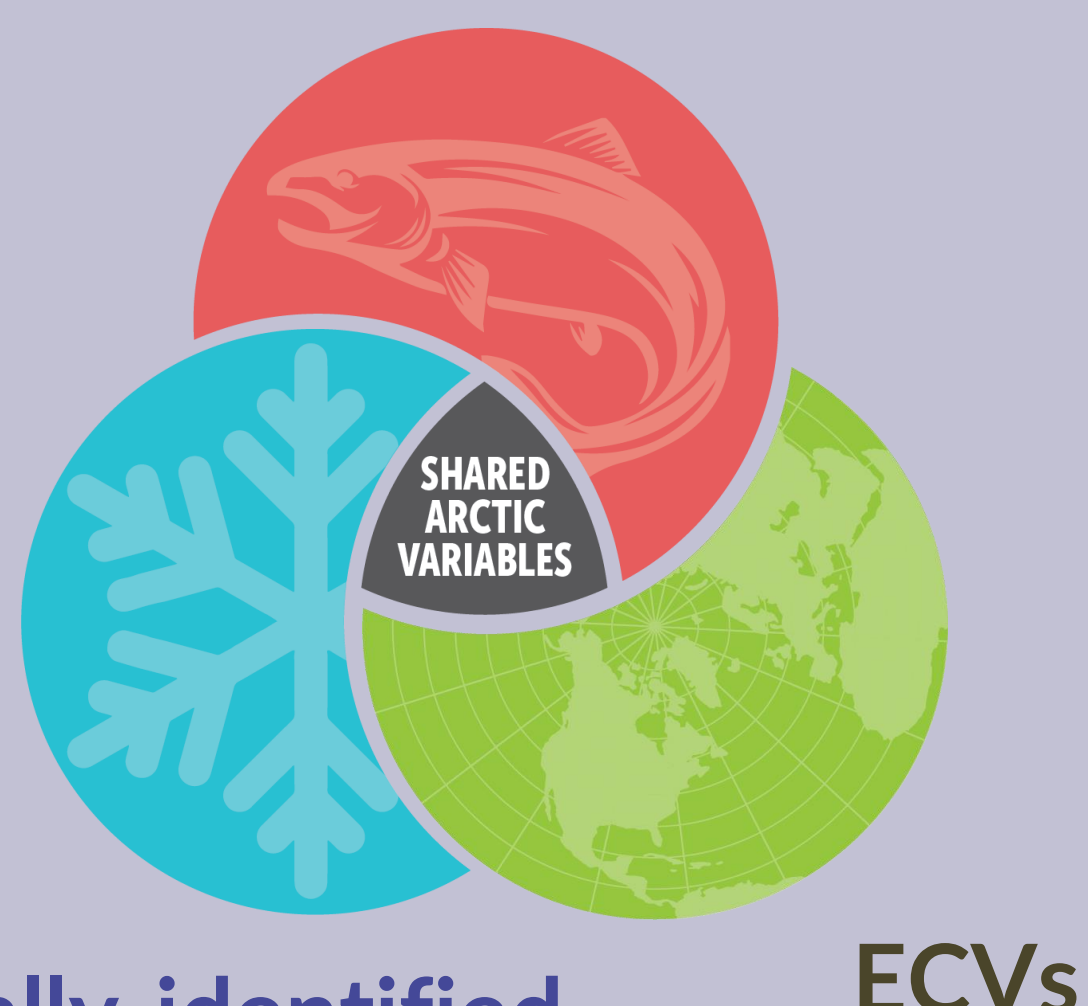


Indigenous-led Benefit Identification



Regionally-identified
Science & Decision
Making Needs

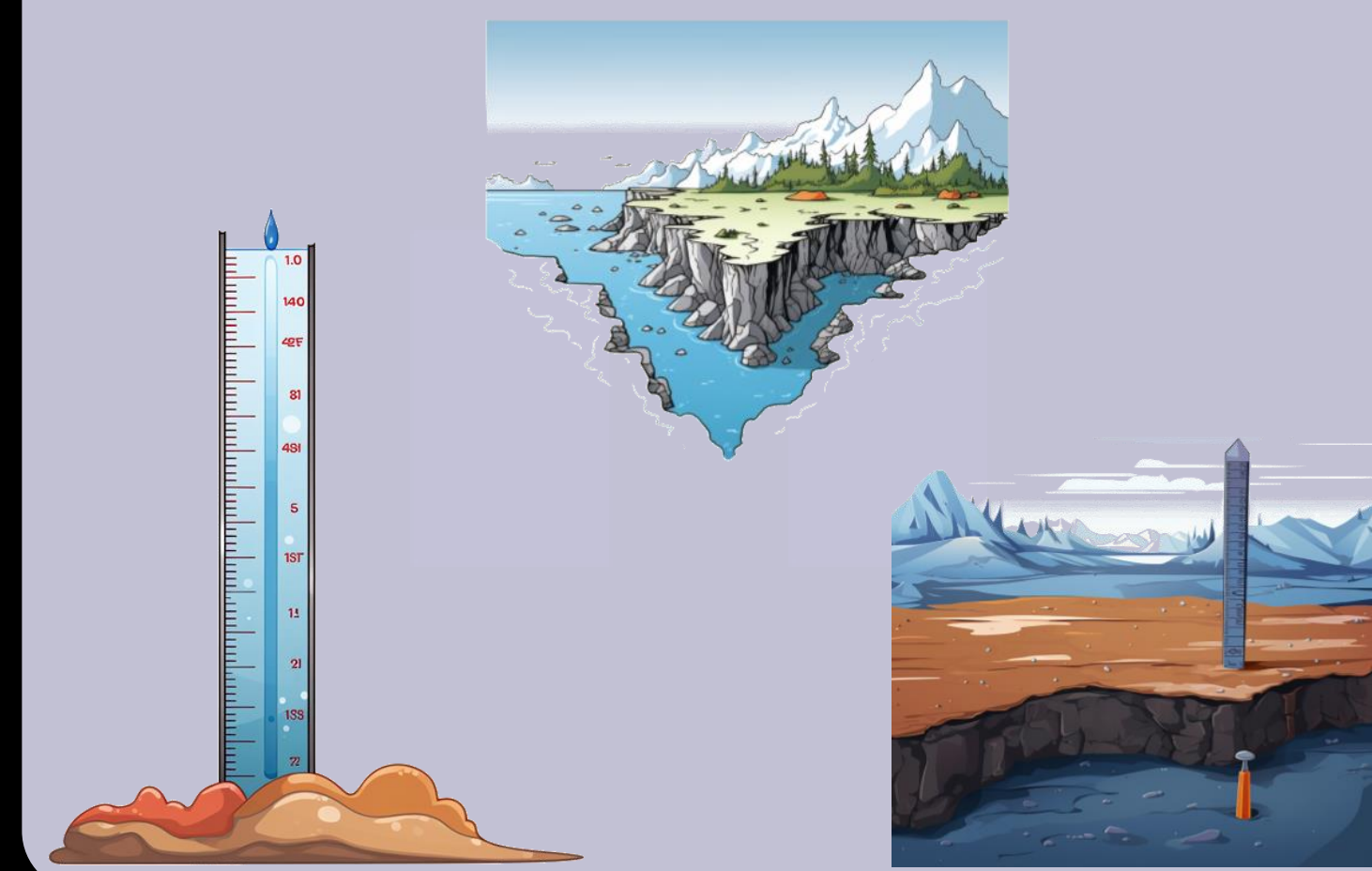
ECVs

Arctic ROADS and Shared Arctic Variables

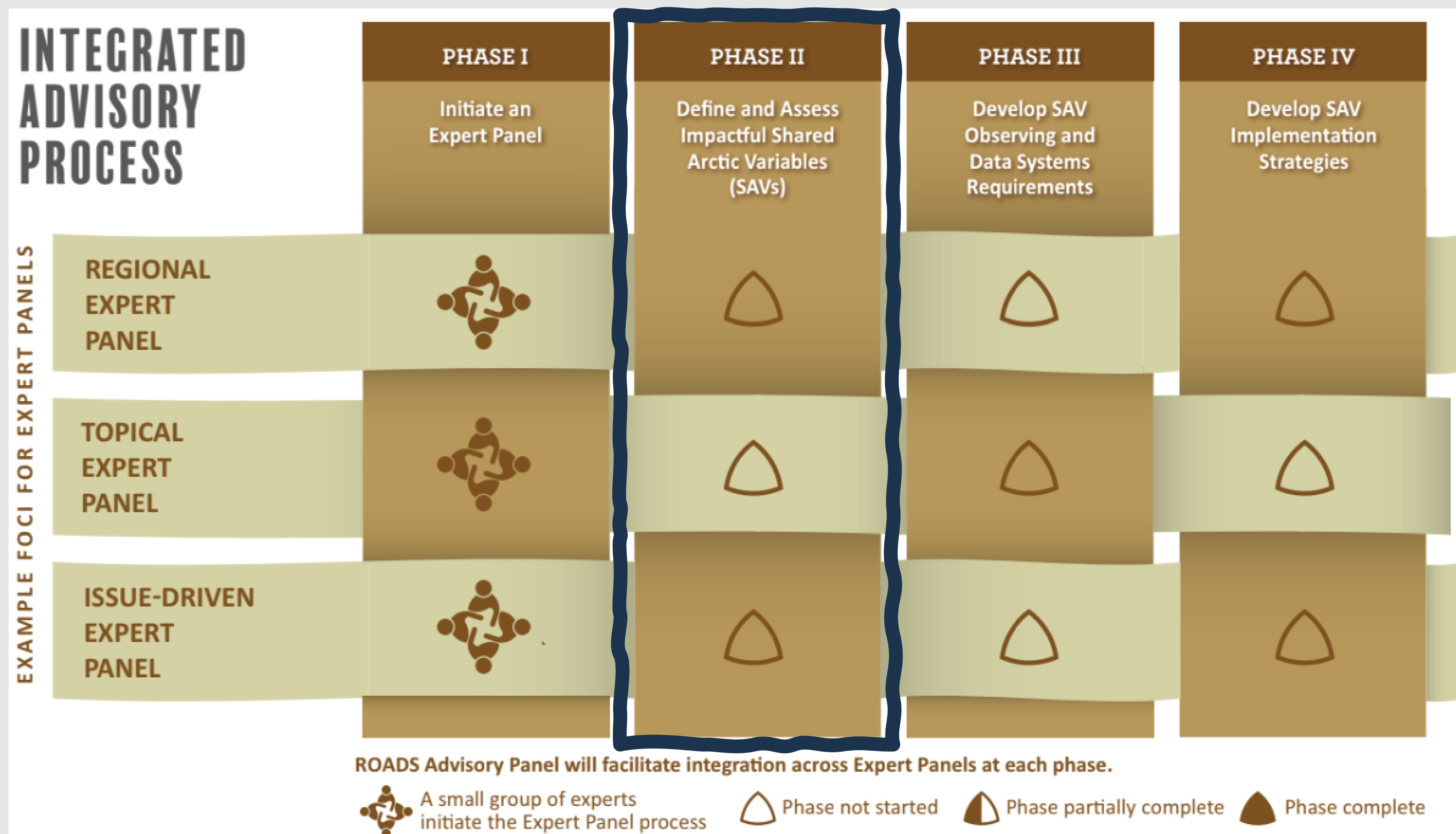
- Sustaining Arctic Observing Networks (SAON)'s Arctic Roadmap for Observing and Data Systems (ROADS) is a new effort to develop partnerships and well-defined plans for improving observing and data systems.
- SAON invites Experts Panels to form around a topic, region or issue to develop robust plans for this purpose.
- Permafrost has been chosen as a topic to form an expert panel on in the Arctic PASSION project, with a regional foci on issues around two localities: Longyearbyen, Svalbard and Tuktoyaktuk, Northwestern Territories, Canada

Potential SAV candidates

- Ground temperature
- Ground deformation
- Active layer thickness



Current status of the Shared Arctic Variable definition process:



Planned 4 phases of the process of SAV definition as described in ROADS [1]. Each phase is expected to take ~6 mo, with 1 in-person workshop and online meetings in between per phase.

Phase 1 – done!

- Initial expert panel put together and documentation of the purpose and scope of the planned work done
- **Experts with various backgrounds:** Indigenous knowledge-holders, local Arctic communities, natural + social sciences, engineering & medicine

Phase 2 - Ongoing

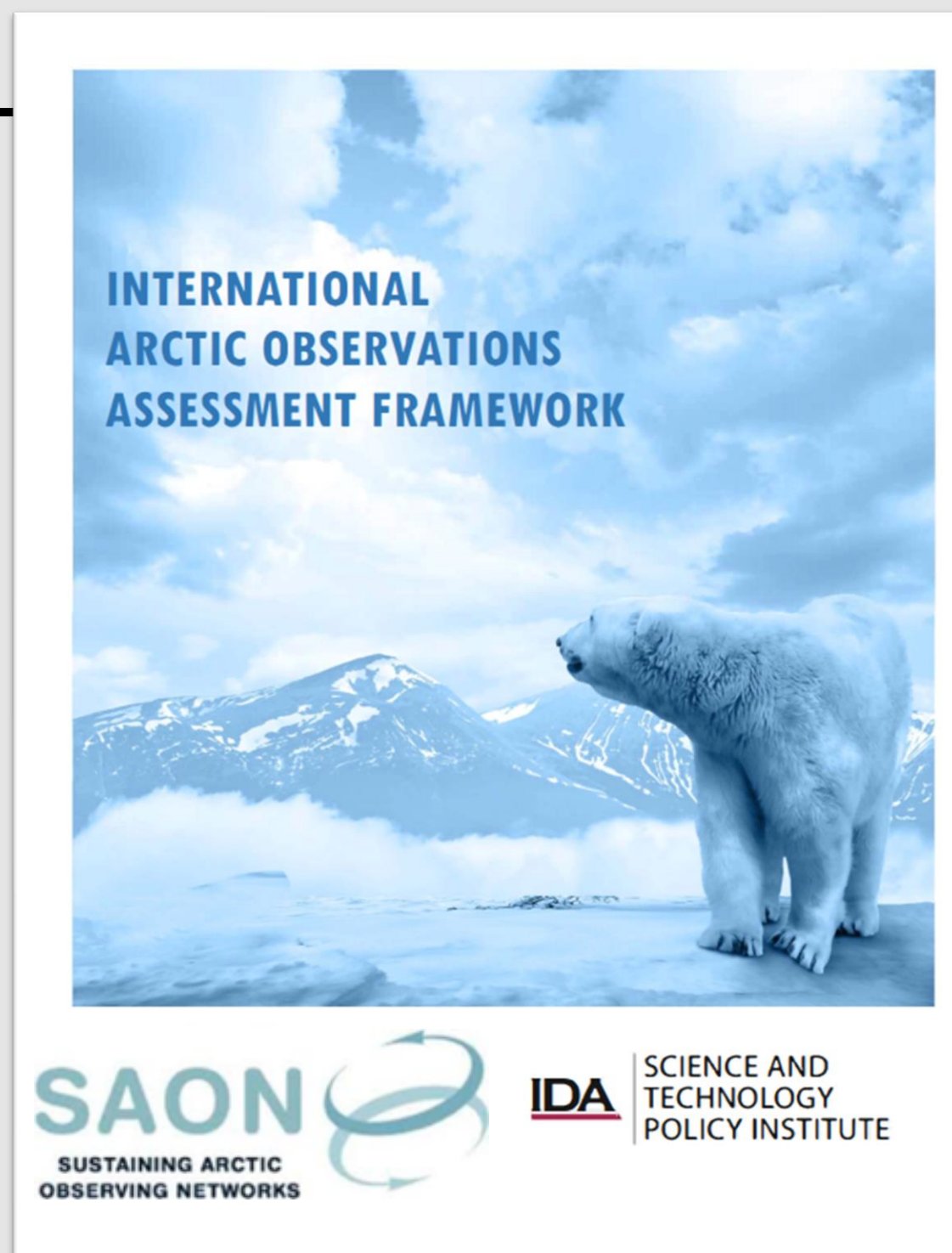


Goals:

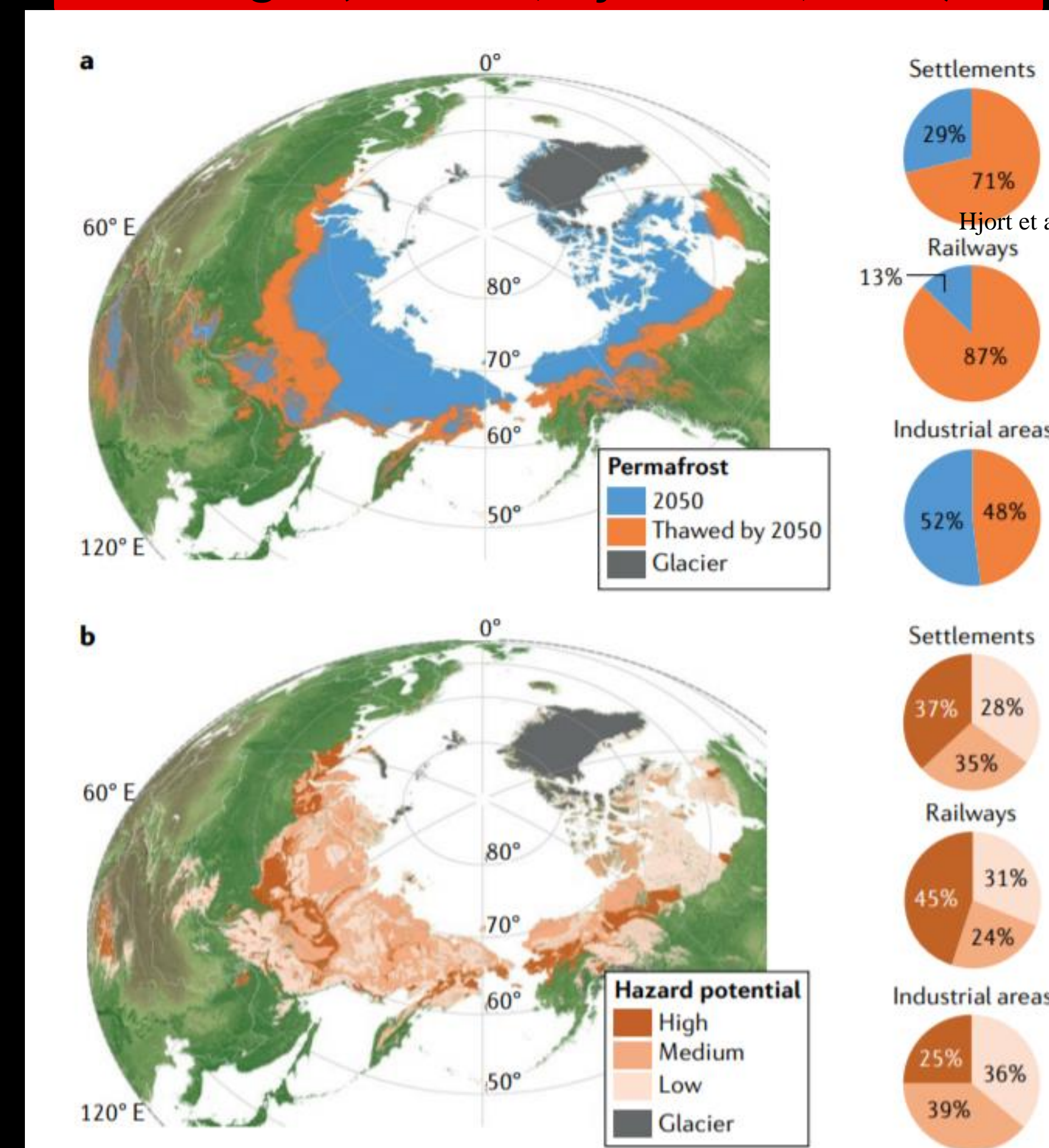
- Assess societal benefits of permafrost observations
- Identify most impactful phenomena to focus developing observations on → SAV candidates

Progress:

- Initial mapping results - most impact expected in the underlined societal benefit areas to the right



Significant risks to circumpolar infrastructure by 2050 due to permafrost changes (RCP 4.5; Hjort et al., 2022)



(Slightly modified) SAON's Arctic Societal Benefit Areas:

1. Disaster Preparedness

2. Environmental Quality

3. Food Security

4. Fundamental Understanding of Arctic Systems

5. Human Health

6. Infrastructure and Operations

7. Ecosystems & Processes

8. Natural Resources

9. Resilient Communities

10. Sociocultural Services

11. Weather and Climate

