



Teleconference November 22, 2022 15-16:30 CET / 9-10:30 EDT / 5-6:30 AKDT

Workspace for agendas and meeting notes:

<https://drive.google.com/drive/folders/1KNN03pnm3UAS9TUHbSrMDMwFhfZY4kU>

## 1. Welcome and Opening Remarks

The ROADS Advisory Panel (AP) co-chair, Lauren Divine opened the meeting and welcomed participants to this ninth meeting of the Panel. Twenty participants attended the meeting (Appendix 1). Jan Rene Larsen welcomed two new members – Alice Bradley, AOS WG#4 and Alona Yefimenko, Indigenous Peoples Secretariat, University of Tromsø. The Agenda was adopted without changes (Appendix 2).

## 2. Review of Developments in the Pilot Efforts and Recap of the In-Person Advisory Panel Meeting

### a) Pilot Effort: Recap of RNA Co-Obs Meeting

Margaret Rudolf made a short presentation that highlighted recent discussions of the RNA Co-Obs (Research Networking Activities in support of Sustained Coordinated Observations of Arctic Change) initiative. She highlighted that there are currently eleven institutes involved and still growing. It works in partnership with the Arctic Observing Summit (AOS) Food Sovereignty/Security Working Group. RNA Co-Obs is focussed on the Indigenous-led benefit identification and system development within the ROADS process of developing Shared Arctic Variables (SAVs). Margaret highlighted five vision statements that will be attained as a result of their efforts. These vision statements relate to equity (e.g. transparency, accessible, societal benefit, build capacity, inclusion); expanding network and partnerships; systemic change; and, accessible informational portal. Margaret referenced two papers that provide further information on this approach, that AP members may wish to read -

<https://blogs.lse.ac.uk/impactofsocialsciences/2021/08/06/the-hitchhikers-guide-to-co-production-six-ways-to-link-knowledge-and-action-for-sustainability/> and also *A Framework for Co-Production of Knowledge* <https://ecologyandsociety.org/vol27/iss1/art34/>

In conclusion, she noted that process is as important as the product, the complexity of Indigenous engagement, and that their next step is formalizing partnerships for an Expert Panel (EP) and informational portal with continued work on the methodology.

### b) Pilot Effort: Recap of Arctic PASSION progress at Arctic Circle Assembly & Related Meetings

Heikki Lihavainen presented a poster on Arctic PASSION that will be used at the upcoming AGU meeting and that summarized the initiative. He reported that the meetings and discussions at the recent ACA were very productive and have moved the initiative forward. The differences between cultures and disciplines are challenging and efforts will need to continue to focus on this. Another element requiring attention is the building of trust amongst partners in moving SAVs forward. He reported that a draft of a concept paper on **Permafrost (Living in the Frozen Ground) Expert Panel** has been prepared (that includes possible sub-variables under this theme) and that the first documentation could be available to the AP as early as the end of December. Heidi Sevestre reported that the possible **Wildfire Expert Panel** is moving more slowly and that they are still seeking possible names for the EP. Christine Barnard spoke on a third possible **Expert Panel on Sea Ice** that might be led by Maribeth Murray (Arctic Institute of North America, Canada) and link with the Arctic Corridors initiative of Jackie Dawson, ArcticNet (Canada)

<https://www.arcticcorridors.ca/>. These efforts are underway and next steps will be reported at a future meeting.

In response to comments by Heikki regarding the costs of developing SAVs, Sandy led a brief discussion on the need to estimate the costs associated with the development of SAVs, stating that the ROADS background material noted that this work needs a funding source. Early estimates of the costs to develop a single SAV range from \$100,000 Euros (Heikki) to \$140,000 Euros (Mikko Strahlendorff) – for efforts associated with experts, meetings and collaboration time. These are significant costs that reinforce the need to seek efficiencies across the emerging EPs and to encourage cooperation where possible. The AP could perhaps help pilot and future efforts in efforts to secure funding sources. It was noted that each SAV and EP will likely take a unique process to reach its goal but that opportunities for collaboration and sharing would still exist.

### c) Recap of Hybrid Advisory Panel Meeting at Arctic Circle Assembly

Lauren noted that the Minutes from the hybrid AP meeting (in-person and zoom participation) held in Iceland on October 14th, 2022 are available on the ROADS AP Google drive

[https://docs.google.com/document/d/1y7ptjO00y-GIHuLI8C5SkUzF5D12ltS/edit?usp=share\\_link&oid=100978649835470979475&rtpof=true&sd=true](https://docs.google.com/document/d/1y7ptjO00y-GIHuLI8C5SkUzF5D12ltS/edit?usp=share_link&oid=100978649835470979475&rtpof=true&sd=true)

Lauren stated that the October meeting had valuable discussions and that it had been beneficial to work with many of the AP members in a face-to-face environment. It was noted that further work is needed on Science Communications and that this could be the focus of the next AP meeting in December 2022.

Lauren stated that good progress has been made on the definition of SAVs and that no further work was considered necessary at this time. Sandy agreed that the current definition will be considered as a "working definition" that could be revised in the future, dependent on the work coming from the EPs. Sandy also described that some EPs were apparently concerned that the AP would review the first drafts of EP work and assign a pass/fail grade. She clarified that the AP is an advisory panel (not a review committee) that will guide and advise with the intent of maintaining the integrity of the ROADS process. Christine Barnard agreed that the AP could react and respond to material from the EPs with the objective of moving efforts forward. Alice Bradley described the current situation as a "chicken and egg" scenario where SAVs need to be defined but that the definition itself will be altered by the SAVs that are developed within the EPs. She suggested that examples of SAVs from the AP would be helpful to provide a framework of levels and scales. It was concluded that the EPs will need to first develop SAVs that the AP could then provide advice on; the pilot EPs on permafrost and wildfire were in agreement to this next step.

### 3. Discussion: Reflecting on the Role of the AP and Needed Next Steps

The following documents were provided in advance of today's meeting and remain available for review on the AP Google Drive:

- The draft Workplan document: <https://docs.google.com/document/d/1ADlwdw6LhRdT9lwwbOjHwkVvICIinS7-/edit?usp=sharing&oid=100978649835470979475&rtpof=true&sd=true>
- The draft Guidance to Expert Panels document: [SAON-ROADS Expert Panel Guidance v.18-NOV-22.docx](#)

Sandy opened discussions by reviewing highlights from the Guidance to Expert Panels document and thanked members who had already provided comments. The working definition of SAVs is now included in this document. Comments from Victoria Qutuuq Buschman need to be further addressed regarding Indigenous engagement. She noted that the Integrated Advisory Process diagram (the diagram with the images of woven ribbons in it) has been updated to be consistent with the Phases in the development of SAVs, and that it now includes language provided by Margaret Rudolf in shaping the phases. Further comments on this document are welcomed.

Sandy then moved the discussion to the questions of: do AP members feel that they have a solid understanding of the roles and responsibilities of the AP? Is the AP ready to receive EP material? Are internal processes clear now? Tetsuo Sueyoshi reinforced the importance of clearly defining the overall process – moving from SAON, to SAON ROADS, to the AP and now the EPs, and the need to fully understand the whole picture. This point reinforces the need for Science Communication materials.

Alona Yefimenko spoke on the need for diversity amongst the AP members to be best positioned to respond to the EPs. She noted that further representation from Indigenous persons should be encouraged (including the Saami people who are not yet on the AP). In regards to funding, she asked for clarification on what activities might be incurring expenses. Alona also noted that the AP should not be overly prescriptive on the requirements to develop SAVs but that examples will be needed and helpful for guidance. The need for an Engagement Strategy was discussed as an Action Item that needs to be considered. In addition, Sandy noted that funding strategies could also be an Action Item for the AP (perhaps for inclusion in guidance to the EPs) over the coming months.

Lauren referenced the Integrated Advisory Process diagram again that shows the various SAV phases, stating that the AP will need to guide the EPs at each phase of the SAV development and that it is not a one time review. She agreed that more diversity on the AP would enable the AP to provide better guidance and advice.

Sten Lund spoke of the ROADS AP and asked how it could be used more directly by Indigenous peoples. More information would be beneficial on the role of the AP versus the EPs. Sandy acknowledged the need for basic communication on the overall process, including information on the external facing process and the sharpening of internal interactions between the AP and the EPs.

Christine Barnard agreed with earlier comments on the need for further Indigenous participation and setting up the roles of the different Panels. In response to the question of whether the AP is ready to review documentation from the EPs, she suggested that it would facilitate the review process by defining some criteria that could be used in the evaluation of EP documentation (see last page of the Guidance document) – examples could include: what are societal benefits of SAVs? what are the scientific benefits of SAVs? what is the Indigenous involvement in the SAVs? how measureable/sustainable are the data? She suggested that a grid framework would be beneficial as a rating system to provide feedback and advice to the EPs on where further work might be required. The AP could use the framework to provide advice to the EPs and also make connections for the EPs.

Sandy noted that members are encouraged to review the current version of the Guidance to Expert Panel documents and provide input directly into the Google drive documentation.

#### **4. Science Communication Discussion**

Sandy addressed this agenda item stating that the feedback received to date has shown that the documentation is still too high context; and, that communication needs to be simplified. Discussions have taken place with Hajo Eicken, U of Alaska, who might be in a position to provide funding to advance science communication work with the objective of simplifying the material.

The ROADS Advisory Panel now has a web page - <https://arcticobserving.org/governance/roads-advisory-panel>

#### **5. Action Items Recap/ Next Call**

The next AP meeting will be scheduled as a Zoom meeting on Tuesday, December 20th, 2022. AP members were asked to reserve the third Tuesday of every month (15-1615 CET / 9-1015 am EST) for the monthly meetings.

The following upcoming events were noted. Sandy noted that these events will be very helpful as mechanisms to advance the ROADS science communications and engagement strategy and to keep broadening discussions and getting feedback.

- i. [AGU22 - American Geophysical Union Fall Meeting 2022](#) - 12-16 December, Chicago, USA - poster sessions [C21A](#) & [C25C](#) - 'Advances in Arctic Observing and Data Systems'
- ii. [Arctic Frontiers 2023](#) 30 January - 2 February, session 'Session 6: Adaptive management of rapidly changing Arctic ecosystems using interdisciplinary and system-science approaches' - Abstract submitted.
- iii. [Arctic Science Summit Week](#) 17-24 February 2023, Vienna, Austria - "Developing Shared Arctic Variables (SAVs)" Session convened by Ilkka Matero, Christina Goethel, and Lauren Divine combined with "Observing the Arctic" convened by Hajo Eiken, Alice Bradley and Victoria Buschman.
- iv. [ISAR-7 Seventh International Symposium on Arctic Research](#). March 6-10, 2023, Tachikawa, Tokyo, Japan. Abstract submitted

In conclusion, Sandy and Lauren thanked all participants for their contribution, and they look forward to continued engagement from all members.

**Appendix 1**

**Participants ROADS Advisory Panel Meeting**

**November 22nd, 2022**

**Advisory Panel Member Participants**

Christine Barnard, ArcticNet  
Alice Bradley, AOS WG#4 and SAON CON Co-Chair  
João Canário, University of Lisbon, Portugal & IASC  
Finn Danielsen, Nordic Foundation for Development and Ecology (NORDECO)  
Lauren Divine, Aleut International Association (AIA) – ROADS AP Co-Chair  
Ola Grabak, European Space Agency  
Hanna K Lappalainen, PEXX  
Heikki Lihavainen, Arctic PASSION & SIOS  
Sten Lund, Government of Greenland  
Volker Rachold, AWI Germany  
Margaret Rudolf, RNA CoObs  
Hanne Sagen, NERSC, Norway/ INTAROS  
Andrea Spolaor, CNR, Italy  
Sandy Starkweather, NOAA, USA – ROADS AP Co-Chair  
Tetsuo Sueyoshi, JAMSTEC/NIPR, Japan  
Alona Yefimenko, Indigenous Peoples Secretariat, University of Tromsø

**Member Regrets Absent**

Amber Budden, University of California, USA (nominated by ADC)  
Cathy Coon, CBMP/CAFF  
Mikko Strahlendorff, FMI, Finland

**Advisory Panel Ex-Officio members**

SAON Board Chair – Sandy Starkweather, NOAA, USA and ROADS AP Co-Chair  
SAON Secretariat – Jan Rene Larsen, Helen Joseph (consultant support)  
SAON Secretariat - Heidi Sevestre  
SAON – IASC Fellow – Christina Goethe  
SAON Data Committee – Peter Pulsifer

## ROADS Advisory Panel

Teleconference September 20th, 2022, 15-16:30 CET / 9-10:30 EDT / 5-6:30 AKDT

Zoom connection link: <https://cuboulder.zoom.us/j/4105560408>

Workspace for agendas and meeting notes:

<https://drive.google.com/drive/folders/1JXwXxTCdDRMWBI9fjOHtYmVl3hUa8C8k>

1. Welcome and opening remarks (Lauren Divine, 10 min)
  - o Minutes from call 16th August, including acknowledging input on documents (including work plan and documentation framework):  
<https://docs.google.com/document/d/1GqKdvbO0Y5p5YhfYAAQIHW7iJRHvfey5R/edit?usp=sharing&oid=100978649835470979475&rtpof=true&sd=true>
2. SAV definition - The purpose of this agenda item is to drive convergence across several linked efforts that have sought to adequately define the SAV concept and how it will proceed in the context of Expert Panels. We've provided some resources to help you advise us on a unified concept. (3 break-out groups. Leads: Lauren, Margaret, Sandy, 30+15 min)  
[SAV short definition document](#)  
[Comments to definition document have been provided by several reviewers](#)  
[Wild-fire - concept document](#) (to be applied in item b. below)

Questions for break-out groups:

- o Do you understand the expectations of the ROADS process (better) from reading the SAV definition document? Which comments require more discussion?
- o Wild-fire example: From this example (even as a non-expert), how would you interpret/map out the Theme/SAV/Variables/sub-variables/observing requirements ([templates provided](#)) based on the SAV short definition document?

0. Input on the draft Guidance Document (Sandy, 20 min)
  - o Overview of [draft Guidance Document](#), see also relevant documents and visualisations from May meeting, [here](#)
  - o Updated graphics
  - o Discussion and next steps

0. [Arctic Circle Assembly – 13-16th October](#) (Lauren, 10 min)

In-person side meeting of the Advisory Panel; a draft agenda will be shared.

In addition, there will be several very relevant ROADS sessions, including a session on ROADS/SAVs (14th October at 9:30) and wild-fire as a SAV (14th at 15:15) (both tentative); these are proposing to move forward as ROADS Expert Panels and we encourage you to attend ACA in person to join in those sessions ([Invitation](#)).

Program:

[https://prismic-io.s3.amazonaws.com/arctic-circle-www/35df8f99-e31f-410a-9db4-11ef3fec5b00\\_2022+ACA+1st+Draft+Program.pdf](https://prismic-io.s3.amazonaws.com/arctic-circle-www/35df8f99-e31f-410a-9db4-11ef3fec5b00_2022+ACA+1st+Draft+Program.pdf)

0. Upcoming events:
  - o [Arctic Science Summit Week](#) 17-24 February 2023, Vienna, Austria. One session is "Community-based observing and citizen science – tools for sustainable development in the Arctic". Abstract deadline is 2nd October 2022.
  - [ISAR-7 Seventh International Symposium on Arctic Research](#). March 6-10, 2023, Tachikawa, Tokyo, Japan. Abstract deadline 31st October 2022.

0. Actions items recap. The next call is planned to be held during Arctic Circle (date, tbd)

## Appendix 3

### Shared Arctic Variables (SAVs) - short definition

Based on feedback from the Pilots, we are asking for your input on a more unified and robust definition of SAVs. The definition has been divided into its three underlying concepts (Shared/Arctic/Variable Sets) for simplicity. We want to make sure that we are clear on what we mean by each concept. We have included reference texts below the working definition. Please add your suggestions to the following language, avoiding jargon:

Shared: Developed through a process of co-design and sustained partnerships, inspired by an intersection of interests related to how observations will be **used** by different groups.

Arctic: Specific phenomena and constraints found in the Arctic.

Variables\*: Observable phenomena (from both scientific processes and Indigenous Knowledge Systems) that are critical for characterizing a system and its changes. They should be specific enough that it is possible to define observing and data requirements and implementation strategies, but not so specific that the information loses potential value in a sharing context.

\*Note: SAV's are related to, but distinct from, essential variables. We anticipate that SAVs will follow the convention of other essential variables are typically further specified into "Sub-Variables", "Supporting Variables" and other more granular elements. We will address the definition of these more granular concepts once we are satisfied with the definition for the overarching concept.

[To do - develop an example from one of the Pilots]