



# **CAPARDUS - Capacity-building in Arctic standardization development**

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### **Final report on communication and outreach activities**

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Authors: Stein Sandven and Finn Danielsen

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DISSEMINATION LEVEL		
PU	Public, fully open	X
CO	Confidential, restricted under conditions set out in Model Grant Agreement	
CI	Classified, information as referred to in Commission Decision 2001/844/EC	

### ***EXECUTIVE SUMMARY***

This report describes the communication, dissemination and outreach activities conducted during the project. A list of all the activities is provided with date, event and organisations involved. A list of publication is provided, education and capacity-building is presented, and some future exploitation of results is suggested.

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## 1. Introduction

The objectives of WP8 have been to plan and implement communication, dissemination, outreach and education activities in the project. In this report a list of all the activities is provided, with description of the audiences and stakeholders engaged in the activities.

When the pandemic started in March 2020, the planned communication and dissemination activities were cancelled or replaced by online events. The consortium partners continued to collaborate within their existing network, including the local communities in the four case studies, while the possibility to meet new representatives from Indigenous People, other projects and stakeholder groups was strongly reduced. Online meetings became the normal method of communication whereas physical meetings started to be used again in 2022 and 2023.

The communication plan (D8.1), website and first set of dissemination material (D8.2) were prepared in March 2020 and revised in November 2020. The communication, dissemination, and outreach activities address the project work on 1) development of a comprehensive framework for Arctic Standards (WP1), 2) case studies in selected regions of the Arctic regarding natural resource management, community-based monitoring, citizen science and how practices, guidelines and standards are developing (WP2-WP5). 3) Finally, the project was promoting and suggesting an Arctic Practice System as method to build up and share knowledge among different communities in the Arctic.

The main target groups from the communication plan were:

- Indigenous communities and other local communities in Greenland, Alaska, Svalbard and Russia
- A broader scientific international community related to the Arctic from natural and social sciences
- Political entities and decision-makers: national agencies, municipalities, regulatory bodies, emergency services, environmental protection, Indigenous organisations
- European bodies and programmes
- Economic actors: maritime industry, oil and gas companies, shipping, tourism, fisheries, mining, construction, transport and logistics providers, environment technology, risk assessment, and consultancy companies.

As a Coordination and Support Action, the main exploitable results from the project are documents on how practices, guidelines and standards develop within observing systems, data systems, management of natural resources, tourism, shipping, safety, community planning and decision making. The project has also supported some technical development regarding Bayesian Belief Network model as a tool for fisheries management and a prototype database for documenting and analysing the arctic standards ecosystem. For the Arctic Practice System a requirement, design and roadmap document has been prepared. The project has not produced any scientific or CBM data, but it has supported some community-based monitoring activities through the regional case studies.

Further exploitation of the results is described in section 6.

## 2. List of communication and dissemination activities

The list below shows the events where project partners have participated by presentations, posters, panel discussions or as session leaders on CAPARDUS topics.

Date-month	Event
18-19 Nov 2019	Polar Data Forum, Helsinki: P. Pulsifer was leader of the conference and accompanying workshops from 20-22 Nov. S. Sandven gave invited oral presentation of the CAPARDUS project plan to the Third Polar Data Forum
3-4 February 2019	<a href="#">Kickoff meeting</a> in Copenhagen, participation from all partners.
21 February 2020	NORDECO participated in virtual meeting to discuss a strategy for how to do the CAPARDUS work on best practices and standards with the communities, in Alaska and in other places as needed.
03 March 2020	The planned CAPARDUS poster at <a href="#">ISAR-6 conference 2020</a> in Tokyo was cancelled. The conference was held online. Two presentations were given online by Shuhei Takahashi, Hokkaido University; and F. Danielsen, NORDECO.
31 March – 02 April 2020	Three presentations were given at the online <a href="#">Arctic Observing Summit</a> (AOS), by Olivia Lee (UAF/IARC); M. K. Poulsen and F. Danielsen (NORDECO)
4-9 May 2020	EGU: Three online presentations: by Shuhei Takahashi, Hokkaido University; Hajo Eicken, UAF; and F. Danielsen
12 June 2020	NORDECO participated in the virtual Citizen Science workshop invited by Citizen Science Network Denmark and SDU (Syddansk Universitet).
From June 2020 onwards	Pulsifer chaired Polar to Global Online Interoperability and Data Sharing Workshop/Hackathon (Bi-monthly online workshops). ). <a href="https://arcticdc.org/meetings/conference-calls-webinars/polar-to-global-online-interoperability-and-data-sharing-workshop-hackathon">https://arcticdc.org/meetings/conference-calls-webinars/polar-to-global-online-interoperability-and-data-sharing-workshop-hackathon</a>
8 September 2020	M. K. Poulsen gave an e-poster presentation at the European Citizen Science Conference in Italy: “Lessons learnt from developing a web-library with tools for cross-fertilizing knowledge in the Arctic”. <a href="https://www.ecsa-conference.eu/">https://www.ecsa-conference.eu/</a>
23 September 2020	L. Iversen co-organised Longyearbyen Community Dialogue about tourism as an <a href="#">online event</a> .
19-25 October 2020	L. Iversen presented a webinar about collaboration in Longyearbyen at Arctic Innovation Week, The webinar is in Norwegian and lasts 1 hour. It was recorded: <a href="https://drive.google.com/file/d/1Ax5o0Xc8VcUiLl5kmBT4GtNyH_vKvygZ/view">https://drive.google.com/file/d/1Ax5o0Xc8VcUiLl5kmBT4GtNyH_vKvygZ/view</a>
27 October 2020	NERSC participated in EU-PolarNet webinar and informed about CAPARDUS
28 October 2020	F. Danielsen organised a session with title ‘Grand Challenges in Science’ at European Polar Science Week with four presentations and a plenum discussion, 90 min., in collaboration with P. Pulsifer. F. Danielsen presented “Cross-weaving knowledge systems in natural resource management and community decision-making.” The session was organized in collaboration with P. Pulsifer and is available on YouTube: <a href="https://youtu.be/ljUTNlw4slM">https://youtu.be/ljUTNlw4slM</a> (1.5 hours)
18 November 2020	L. Iversen presented at session “Effective local measures for inclusive towns“: at the Nordregio Forum. <a href="https://nordregioevents.org/programme/">https://nordregioevents.org/programme/</a>

23 November 2020	Commentary on Mobilizing Diverse Knowledge in the Arctic Information Ecosystem. P. Pulsifer presented at Environmental Evidence Summit (online)
29 November 2020	Building Globally Interoperable Data Infrastructure: contributions from the Arctic data community. Presentation and panel participation at the Royal Society of Canada's Celebration of Excellence and Engagement (online conference). P. Pulsifer gave an invited talk.
2 December 2020	Building Globally Interoperable Data Infrastructure: contributions from the Arctic data community. Presented at 5th Pan-Canadian SDI Summit (online conference). P. Pulsifer gave an invited keynote.
13 January 2021	L. Iversen presented "Localizing and downscaling of the UN SDGs in Arendal - through co-creation and inclusion". Part of webinar: Planning for equal rights: integrating gender and youth perspectives in SDG work (SDG5, SDG 10) NORDREGIO-Taking the 2030 Agenda to the local level: How to reach the goals and measure success in municipalities and regions? Nordregio Webinar Planning for equal rights: integrating gender and youth perspectives in SDG work (SDG5, SDG 10).
27 January 2021	NORDECO organized a virtual meeting with AECO regarding expedition cruise monitoring
22 February 2021	NORDECO organized an international workshop on good practice for international environmental management bodies on natural resource management decision-making on the basis of resource users' knowledge and observations, to our knowledge the first of its kind. The focus was on the North Atlantic Marine Mammal Commission (NAMMCO) and the Convention on International Trade in Endangered Species (CITES), Co-funded by Nordic Council of Ministers' Arctic Cooperation Programme. More information at <a href="https://capardus.nersc.no/node/106">https://capardus.nersc.no/node/106</a>
22-24 February 2021	L. Iversen participated in the international Nature-Culture Webinar and workshops "Think globally, act locally" workshops and plenary discussion.
9 March 2021:	Building Globally Interoperable Data Infrastructure. Presented at NRC Forum on Responsible Data (online conference), P. Pulsifer gave an invited talk. This series of similar talks with the same title was the result of direct requests by conference organizers based on their awareness of Pulsifer's previous work.
11 March 2021	L. Iversen participated in the Governors hour with members of the Svalbard local community (digital presentation).
11 March – 24 May 2021	L. Iversen participated in the climate walk-series from March 11-May24 2021, <a href="#">Climate Change through the Lens of an Inter- and Transdisciplinary Project: "Climate Walk"</a>
24 March 2021	Workshop on Cultural heritage sites in Svalbard, organized by NERSC in collaboration with the NIKU and the CULTCOAST project. Online event with ca. 20 participants. Programme and presentations are available at <a href="https://capardus.nersc.no/node/74">https://capardus.nersc.no/node/74</a>
25 March 2021	S. Sandven gave an online presentation on CAPARDUS: "Data sharing between Community-based observing systems and scientific observations", Arctic Science Summit Week, session ID25.
26 March 2021	F. Danielsen co-chaired with Noor Johnson the session "Use and Usability of Data and Information within Arctic Community-Driven Research" at Arctic Science Summit Week, session ID85. In this session L. Iversen gave the presentation "Linking top-down and bottom-up initiatives and knowledge:

	Community-based monitoring and co-creation approaches for sustainable urban development in the Arctic”
07 April 2021	NORDECO gave a presentation for the Danish Citizen Science Network on Biodiversity, Nature and Environment hosted by University of Copenhagen (virtual). Presented Expedition Cruise Monitoring (Svalbard), including Cultural Heritage Monitoring
27 April 2021	T. Hamre gave the presentation “A Standards-based Data Catalogue integrating scientific, community-based and citizen science data across the Arctic”, at EGU Session ESSI3.3: <a href="https://doi.org/10.5194/egusphere-egu21-15783">https://doi.org/10.5194/egusphere-egu21-15783</a>
30 April 2021	M. K. Poulsen et al. gave Presentation at EGU Session ITS2.4: <a href="https://doi.org/10.5194/egusphere-egu21-15951">Monitoring Svalbard’s environment and cultural heritage through citizen science by expedition cruises</a> , <a href="https://doi.org/10.5194/egusphere-egu21-15951">https://doi.org/10.5194/egusphere-egu21-15951</a>
05 May 2021	NORDECO gave a presentation for Study Abroad in Scandinavia (DIS) on PISUNA and Expedition Cruise Monitoring.
05 May 2021	L. Iversen took part in oral presentation/ round table discussion on Planning for equal rights: integrating gender and youth perspectives in SDG work. NORDREGIO/ NORDIC COUNCIL Agenda 2030 webinar series. <a href="https://nordregio.org/publications/agenda-2030-how-to-reach-the-goals-and-measure-success-at-the-local-level/">https://nordregio.org/publications/agenda-2030-how-to-reach-the-goals-and-measure-success-at-the-local-level/</a>
12 July 2021	NERSC participated in EU-PolarNet online meeting informing about CAPARDUS.
15 September 2021	NERSC co-organised the first community-science panel in Longyearbyen Cultural house in Longyearbyen as a public outreach event
20 September 2021	S. Sandven organized a session at the Ocean Best Practice System workshop: “Towards an Arctic Practices System” <a href="https://capardus.nersc.no/node/81">https://capardus.nersc.no/node/81</a>
5-7 October 2021	Olivia Lee and Noor Johnson gave presentation at “Community and Citizen Science in the Far North”. The presentations were recorded and are available on <a href="#">Youtube</a> via <a href="#">ARCUS website</a>
21 October 2021	NORDECO organise a <a href="#">coffee chat meeting</a> with other EU projects about work with CBM and Citizen Science in the Arctic.
29-31 October 2021	The first physical workshop after the pandemic was organized by L. Iversen in Longyearbyen in collaboration with the Svalbard Social Science Initiative. Agenda and report is available: <a href="https://capardus.nersc.no/node/103">https://capardus.nersc.no/node/103</a>
4 November 2021	NERSC co-organised with SSSI a workshop as a side-meeting to Svalbard Science conference in Oslo. A <a href="#">report</a> from the workshop was prepared.
9 November 2021	Book launch event during <a href="#">Greenland Science Week</a> , in Nuuk for the book “Community-Based Monitoring in the Arctic” by F. Danielsen et al. Ca. 50 people attended. See <a href="https://old.uarctic.org/news/2021/10/book-launch-event-community-based-monitoring-in-the-arctic-at-the-greenland-science-week/">https://old.uarctic.org/news/2021/10/book-launch-event-community-based-monitoring-in-the-arctic-at-the-greenland-science-week/</a>
12 November 2021	Ilisimatusarfik and Greenland Self-Government, Department of Natural Resources organised a session at the Greenland Science Week (GSW) on the topic was on Climate Change Induced Tsunamis in Greenland. Ilisimatusarfik gave a presentation on Rock Avalanches - Climate Change and Societal Security.
15-16 November 2021	Workshop: <i>Svalbard: circular economy, opportunities and challenges</i> , organised by the Norwegian Environment Agency, the Governor of Svalbard and Longyearbyen local council. The aim of the workshop was to look at topics like

	construction, plastics and waste management, to share knowledge, identify challenges and knowledge needs, and point to possible ways forward, by bringing together relevant actors from business, research and administration. L. Iversen from NERSC participated.
01 December 2021	NERSC attended the evening seminar: «The Future of Longyearbyen- a showcase for sustainability», organized by the Norwegian Scientific Academy for Polar Research and The University Centre in Svalbard ,UNIS. The background for the seminar was the decision by Longyearbyen local council (LL) to close down the coal-fired power plant in 2023, and the fact that Store Norske Spitsbergen Kulkompani (SNSK) has decided to close down Mine 7.
December 2021	NORDECO facilitated a PISUNA planning meeting with Qeqertalik Municipality, KNAPK, ELOKA and Oceans North Greenland, agreeing on development of a media strategy, translation of PISUNA-net to Greenlandic, and engagement with <a href="#">The Indigenous Knowledge Social Network</a> , SIKU.
December 2021	Organised a meeting with staff of Government of <a href="#">Greenland Mineral Resources Activities Agency</a> on the potential use of CBM for mineral resource activities
31 March 2022	S. Sandven organized a CAPARDUS session at Arctic Science Summit Week in Tromsø. The session was hybrid. Contributions from CAPARDUS partners and invited speakers. Agenda and presentations are available: <a href="https://capardus.nersc.no/node/101">https://capardus.nersc.no/node/101</a>
May 2022	NORDECO presented lessons on Community-Based Monitoring and contributed to discussions at a workshop organized by British Ecological Society, “Equipping volunteer and citizen scientists for future professions”
May 2022	NORDECO shared and discussed Arctic experiences with Community-Based Monitoring with similar initiatives in montane regions elsewhere at the 2 <sup>nd</sup> World Summit on High Mountains in Colombia
9 June 2022	NORDECO shared experiences and contributed to discussions at a virtual seminar by the Convention on Biological Diversity and Smithsonian Institution on " <a href="#">The Critical Role of Citizen Science</a> " intended to inform the 5th Science-Policy Forum for Biodiversity and the post-2020 Global Biodiversity Framework
13 June 2022	NORDECO held a key-note presentation and contributed to discussions about Citizen Science at a <a href="#">conference on Citizen Engagement in Aarhus</a> , organized by Aarhus University, Denmark
6-9 August 2022	S. Sandven and Lisbeth Iversen organized the CAPARDUS a 4-day workshop in Longyearbyen in collaboration with NIKU: "Community-based monitoring and Citizen science" More information in section 3 and in <a href="https://capardus.nersc.no/node/95">https://capardus.nersc.no/node/95</a>
8-12 September 2022	Lisbeth Iversen participated in a field trip with MS Nordstjernen around Svalbard, organized by Hearths-In-The-Ice. The programme included lectures about climate change, adaptation to climate change, citizen science and co-creation pilots to provide for a sustainable future, and panel discussions. Participants were representatives from many actors in Svalbard, including school children, students local politicians, business sectors and more (see the <a href="#">programme</a> for the expedition).
26-30 September 2022	NORDECO shared lessons from CBM in the Arctic and suggestions for Field Station Managers at <a href="#">INTERACT III</a> Station Managers’ Forum Annual Meeting in Iceland

6 – 8 October 2022	NORDECO co-organized a 90-minute session on Citizen Science in non-Western contexts (inc. Russia and Greenland) at the <a href="#">European Citizen Science Conference in Berlin</a> , with about 60 participants
10 October 2022	NERSC attended the dialogue meeting: <i>Svalbard in the Future-New and old possibilities</i> , which was arranged at the Cultural House in Longyearbyen for tourist operators, researchers, local decisionmakers and inhabitants. Around 100 participants.
13 October 2022	Lisbeth Iversen participated in two sessions at Arctic Circle 2022. <ul style="list-style-type: none"> <li>(1) <i>Booming Arctic Cruise: Safety and Environmental risks</i>, under The session was organized by Icelandic Coast Guard, LHG, Icelandic Arctic Cooperation Network, IACN, and Icelandic Tourism Research Centre, ITRC.</li> <li>(2) The workshop LESS TALK–MORE ACTION: UN GOALS IN THE ARCTIC, TOOLS &amp; GAMES WORKSHOP organized by Nordic Marine Think Tank, Denmark; University of Bergen, Norway; SINTEF Ocean, Norway; <a href="#">ARCT/SDGCARDS.NO</a>, Norway in collaboration with Lisbeth Iversen, NERSC</li> </ul>
October 2022	NORDECO presented a keynote “Community-Based monitoring: A tool for nature-based solutions, OECMs (Other Effective area-based Conservation Measures) and convivial conservation?” as a series of tweets on Twitter and at a hybrid conference at the prestigious British Ornithologists’ Union Annual Scientific Meeting
25 October 2022	NERSC attended a workshop organized in Longyearbyen by the projects <b>Balancing Act</b> and <b>Face-it</b> . The main questions were: <i>How will climate and environmental change affect tourism and the use of natural resources on Svalbard?</i>
25 October 2022	Discussion at the <a href="#">UArctic Caucus meeting in Copenhagen</a> , on how CBM can contribute to decision-making and collaborative management of natural resources in Greenland
17 December 2022	Co-organized an official side-event for the CBD COP-15 “ <a href="#">Promoting knowledge and rights of Arctic Indigenous Peoples through Community-Based Monitoring</a> ” with the Russian Indigenous Peoples organizations CSIPN
December 2022	Prepared a <i>BioScience Talks</i> podcast “ <a href="#">Empowering communities through local monitoring</a> ” (48 min.) and circulated the link via the newsletters of the European Citizen Science Association, and <a href="#">GEOBON</a> .
24 February 2023	S. Sandven and F. Danielsen organized a double session at Arctic Science Summit Week (ASSW) 2023 in Vienna. Session ID06: Community-based observing and citizen science – tools for participatory, sustainable development in the Arctic. Several CAPARDUS partners gave presentations. <p>S. Sandven, NERSC, presented “Development of community-based observations and citizen science in the Svalbard area”</p> <p>Jay Pearlman, IEEE, presented “An Arctic Practices System (APS) – understanding the needs and potential”</p> <p>Uffe Jacobsen, Ilisimatusarfik, gave a presentation on a white paper prepared by the Government of Greenland in January 2023 as a response to the June 2017 tsunami incident in the Karrat Fjord.</p> <p>Olivia Lee, IARC/UAF presented “Community-based monitoring of coastal risks and hazards in Alaska: A case study contribution to CAPARDUS”</p>



	Paruna Egede Dahl, Oceans North Kalaallit Nunaat, presented “Engaging youth from Uummannaq Fjord in climate research through sea ice thickness measurements”
9 March 2023	<a href="#">ISAR-7 conference</a> in Japan: Presentations of CAPARDUS activities in two sessions, by S. Sandven and F. Danielsen
5 May 2023	NORDECO presented and discussed experiences with Community-Based Monitoring and citizen science in the Arctic at the <a href="#">“Citizen Science in the North”</a> event at University of Oulu,
20-21 May 2023	Final meeting of CAPARDUS was organized in Nuuk by Ilisimatusarfik (University of Greenland). About 20 people attended. The <a href="#">program</a> is available.
8-9 June 2023	NERSC organised a workshop i Longyearbyen on <a href="#">Practices, guidelines and standards connected to Arctic Safety</a> .
June 2023	NINA produced a storymap showing some highlights from CAPARDUS activities in Greenland Svalbard, see <a href="https://storymaps.arcgis.com/stories/7890877a76e84e278af6de4067112353">https://storymaps.arcgis.com/stories/7890877a76e84e278af6de4067112353</a>

### 3. Communication with the European Commission, Arctic organisations and other international bodies

NERSC and NORDECO, in collaboration with the other CAPARDUS partners, have communicated with international science and management organisations through participation in a number of international conferences, workshops, and other events as listed in section 2. The CAPARDUS partners have participated by organizing sessions, give oral presentation, contribute to panel discussions, publish reports and scientific articles.

CAPARDUS has participated in and contributed to European events, in particular the European Citizen Science Conference (08 Sept 2020) EU-PolarNet webinar (27 Oct 2020) and, the European Polar Science Week (28 Oct 2020), EU Polarnet online meeting (12 July 2021), online seminar with other EU projects working with CBM and CS systems (21 October 2021), INTERACT III annual meeting. (26-30 Sept 2022), workshop in Longyearbyen co-organised by Face-IT (25 Oct 2022).

Globally, the project has provided input to the new Kunming-Montréal Global Biodiversity Framework Agreement<sup>1</sup>. The Agreement was adopted by the Kingdom of Denmark and 194 other countries at the UN Biodiversity Conference in Montréal in December 2022. Prior to the conference, the participants at the workshop in Aasiaat had submitted nine recommendations to the CBD Secretariat with copies to the delegations from the EU, Denmark, Germany and Brazil. One of the recommendations, i.e. that CBM should be supported by governments and used to help implement and track the achievement of the goals and targets of the new global agreement was incorporated into the final version of the agreement.

<sup>1</sup> <https://www.cbd.int/doc/c/e6d3/cd1d/daf663719a03902a9b116c34/cop-15-l-25-en.pdf>;  
<https://www.cbd.int/doc/c/179e/aecb/592f67904bf07dca7d0971da/cop-15-l-26-en.pdf>

## 4. Scientific and popular science articles and other publications

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- Danielsen, F., Enghoff, M., Poulsen, M.K., Funder, M., Jensen, P.M., & Burgess, N.D. (2021b). The concept, practice, application, and results of locally based monitoring of the environment. *BioScience* 71(5): 484-502.
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## 5. Education and capacity-building

The CAPARDUS partners have contributed to training, education and capacity development of public resource managers and young scientists in participatory approaches to natural resource monitoring and management in the Arctic. Deliverable D8.3 provides an overview of material for education and training activities prepared for the project. The material consists of selected presentations given at workshops and conference sessions, instruction videos, interviews, a storymap and selected documents on standards, guidelines and practices.

Specific activities were:

- NORDECO led the development of a UArctic Thematic Network on collaborative resource management and CBM in the Arctic with the aim to increase the number of resource managers and scientists who can use bottom-up, participatory tools and connect local, Indigenous and science knowledge for management decisions. All material from the Thematic Network is available at this [link](#).
- Ilisimatusarfik was invited to participate in a field study trip to Switzerland 3-7 April 2023 organized by the Swiss Polar Institute (SPI) and Greenland Self-Government, Department of Mineral Resources. The field study gave extraordinary access to sites of avalanche protection and meetings, presentations and discussions with Swiss authorities on Swiss emergency management in a comparative perspective and on best practices, standards and guidelines in terms of possibilities for knowledge transfer.
- NERSC organized two workshops on data management in collaboration with institutions working with ocean data (01 December and 15-16 Decembe3 2022). The aim of the workshops was to develop a joint understanding of the current practices and gaps in the data delivery chain from research driven ice-ocean observing and citizen science programs in Svalbard and other Arctic regions. This will be used to provide guidelines for how to establish efficient data delivery chains. Two dedicated workshops will be held to advance the cooperation between data collectors and data managers. The overarching goal is to contribute to a practical implementation of the FAIR principles in research projects building trust in fair sharing and use of research data. All [material from the workshops](#) are available.

## 6. Dissemination after the end of the project

### Scientific technical results and recommendations

#### 1) *A prototype database for documenting and analysing the arctic standards ecosystem*

Peter Pulsifer and Torill Hamre will continue to work with the prototype database in collaboration with a working group proposed under the Arctic Data Committee. This working group will leverage and contribute to the work of existing initiatives such as the Mapping the Polar Data Ecosystem project and the Arctic Data Committee Semantics and Vocabularies Working Group. The new working group will be proposed at the next Polar to Global Hackathon at the end of summer 2023.

## 2) *Bayesian Belief Network model as a tool for fisheries management*

The Bayesian Belief Network model will be further developed using the [SurBayes tool](#) developed by NINA. The surBayes tool is made to construct, learn and infer discrete Bayesian Belief Network models in a web-based rendering interface. The tool has been developed for other ecosystem service, such as demonstrated in the EU-funded [AfricaBioServices](#).

## 3) Arctic Practice System

The results from the APS design and roadmap document is a description of a digital knowledge system for sharing and accessing methodological knowledge related to the Arctic region. The next step will be to establish follow-up projects to implement some prototype APS. This prototype should aim to demonstrate some of the functionalities that the user requirements have specified, such as discovery of practices and access to practices. As part of implementation, it is recommended that training programs, workshops, and support materials are developed to enhance users' understanding of the APS and its functionalities. This capacity-development component aims to empower stake- and knowledge-holders, particularly IPLCs, to contribute their knowledge while maintain control and authority over it, while benefiting from the other knowledge hosted by APS. A main goal of an APS is to facilitate multidisciplinary collaboration and help in co-design and co-production of knowledge in collaboration with different users' groups in the Arctic.

### **Other exploitation plans**

Results are obtained on how practices, guidelines and standards develop withing the topics of the project, with recommendations for further actions. Each of the case studies have suggested a number of follow-up activities to be addressed in new projects. New projects should be co-designed and co-implemented between scientists and the different actors involved, in particular Indigenous People and other local communities in the Arctic.

More results are planned to be published after the end of the project.

The project website will be maintained and updated regarding follow-up projects and other exploitation of the project results.

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1	NERSC	STIFTELSEN NANSEN SENTER FOR MILJO OG FJERNMALING	NO
2	NORDECO	NORDISK FOND FOR MILJØ OG UDVIKLING	DK
3	Ilisimatusarfik	Ilisimatusarfik, Grønlands Universitet, University of Greenland	GL
4	AWI	Alfred-Wegener-Institut Helmholtz-Zentrum für Polar- und Meeresforschung	DE
5	IEEE	IEEE France Section	FR
6	NINA	STIFTELSEN NORSK INSTITUTT FOR NATURFORSKNING NINA	NO
7	UCPH	KOBENHAVNS UNIVERSITET	DK
8	NIERSC	Scientific foundation Nansen International Environmental and Remote Sensing Centre	RU
9	ARC-HU	Arctic Research Centre, Hokkaido University	JP