

WP1: Requirements and strategy for Pan-Arctic Observing Systems

Lead: Stein Sandven, NERSC, co-lead: Erik Buch, EuroGOOS

The overall objectives of WP1 are to

- (1) Review the high-level requirements and develop the strategy for the Pan Arctic Observing system based on present initiatives⁽ⁱ⁾
- (2) Plan and coordinate the INTAROS activities in agreement with AOS recommendations and stakeholder requirements, and
- (3) Strengthen European participation in Arctic Observing Networks

(i) GEO Cold Region Initiative (CRI), SAON and other international initiatives, related to the Arctic and European Blue Growth strategy;

WP1 Specific objectives

- 1) Formalize collaboration with other EU projects, programmes and infrastructures contributing to Arctic observing systems (EU-PolarNET, ALLOCATE, BLUE ACTION, ATLANTOS, INTERACT, ++
- 2) Establish cooperation with US Arctic programmes (ONR, NSF), Canadian programmes, Russia, China, Japan and Korea.
- 3) Establish and maintain links to stakeholder groups such as Arctic Council working groups (AMAP), global programmes (WCRP), Copernicus services, industries, ++
- 4) Formulate an Engagement strategy and establish a Pan-Arctic Observation Forum (e.g. Arctic Observing Summit)
- 5) Include indigeneous and local perspectives and knowledge in project planning and implementation
- 6) Prepare data management plan and data governance framework (e.g. through the IASC Arctic Data Committee)
- 7) Develop a roadmap for future sustainable Arctic Observing System

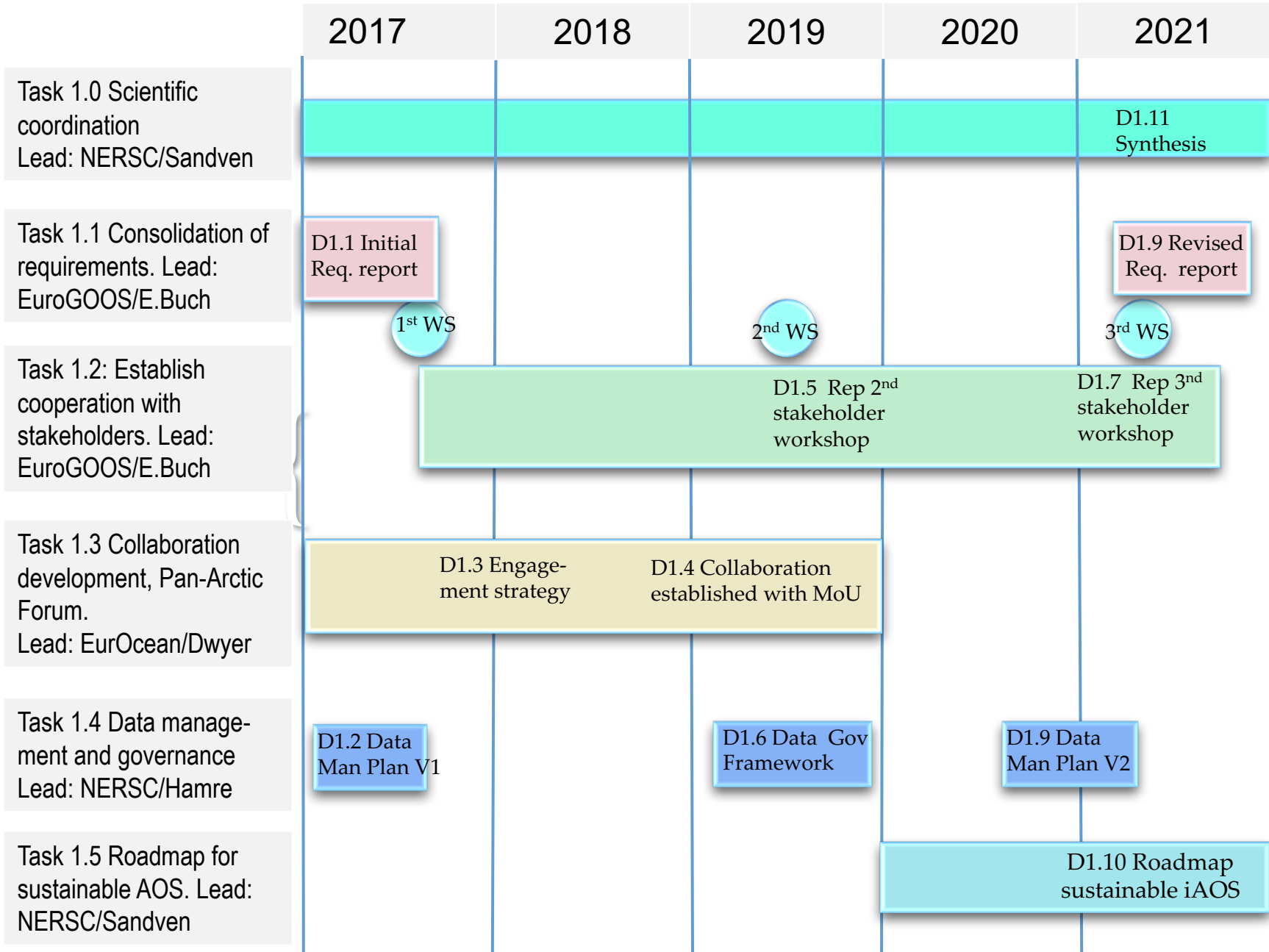


WP1 Tasks and task leaders

Tasks	Task leaders
1.0 Scientific coordination	S. Sandven, NERSC
1.1 Consolidation of high-level requirements	E. Buch, EuroGOOS
1.2 Establish cooperation with stakeholders	E. Buch, EuroGOOS
1.3 Collaboration development, Pan-Arctic Forum.	N. Dwyer, EurOcean
1.4 Data management and governance	T. Hamre, NERSC
1.5 Roadmap for sustainable Arctic Observing System.	S. Sandven, NERSC

Contribution to the work from Theme leaders and other WP-leaders

Schedule of tasks



Task 1.0 Scientific coordination

Work includes:

- (1) Coordination within the consortium, with focus on
 - Steering committee meetings with WP-leaders and Theme leaders
 - 4 meetings have been held
- (2) Coordination with partners outside Europe in the Pan-Arctic region
- (3) Dialogue and meetings with numerous projects, programmes and initiatives to ensure that INTAROS is aligned with national and international efforts to build Arctic observing systems

Task 1.1 Consolidation of high-level requirements of iAOS

See slides from Erik Buch

Task 1.2: Establish and maintain cooperation with the key stakeholder groups in Europe and internationally

- The first workshop was organised by EuroGOOS in Brussels 5 May 2017
- A second workshop was organised in Oslo 9 November 2017
- Presentations and meetings with AMAP, EuroARGO, Copernicus Marine Services, Norwegian Environment Services, European infrastructure projects (ICOS, EPOS, ACTRIS, ENVRI PLUS)
- Invited presentation of INTAROS at SAON Board meetings, and meetings with ADC and CON, EuroGEOSS workshops and GEOCRI
- Work with the Arctic Cluster on communication and interaction with stakeholder groups at specific events (Arctic Circle, COP23, ++)

Task 1.3 Collaboration development and establishment of Pan-Arctic Observing Forum

- Prepare the Engagement Strategy document: who to we involve various actors and how do we do it ?
- Development of collaboration: Connect people in different projects, joint workshops and stakeholder events, sessions at conferences
Started to establish the Pan-Arctic Observing Forum
- Build on existing bodies, organisations and initiatives: SAON, US AON, AOS, AMAP, ArcticNet, GEOCRI, ++
- Collaboration with existing disciplinary network: e.g. IASOA for atmosphere, ARGO/EuroARGO for ocean, etc.
- Need more involvement of funding agencies, industry, governance bodies, etc.

Task 1.4 Data management and data governance framework

Lead: NERSC, T. Hamre;

Contributors: IOPAN, AWI, GEUS, NORDECO, MISU, FMI, EuroGOOS
...and all the other partners providing data in INTAROS

1: Making INTAROS data publicly available Provide procedures and methodologies to **enable data collected through the project to comply with international standards on quality and metadata**

2: Sustainability: Define a **data governance framework to ensure a sustainable data foundation for iAOS**

This task has 2 main deliverables:

Data Management Plan (M6, M54)

Data Governance Framework (M36)

Need to make the DMP a live document



D1.2 Data Management Plan V1

Initial plan for data management in the project describes how INTAROS will fulfill requirements for making INTAROS data and product available according to FAIR principles for data management (EC, 2016)

- F – “making data findable, including provisions for metadata”
- A – “making data openly accessible”
- I – “making data interoperable”
- R – “increase data re-use (through clarifying licenses)”

Note-1: Data collected or generated by INTAROS during the planned field campaigns and extensions to ongoing observations will be publicly available without undue delay.

Note-2: Data from community-based monitoring programmes and collaboration with local communities in the project, will be made available as agreed with the respective communities.

Template for dataset description

Description	Value
Title:	Short text naming the dataset and outlining its content.
Abstract:	Short description of contents of dataset, how data was collected or generated, what processing steps data have undergone, quality control procedures applied, estimated uncertainty.
Coverage area:	Geographic area covered by the dataset. Given either by name or by a bounding box/polygon.
Date/time range:	Start and end date and time for the dataset. For datasets from continuous monitoring systems or numerical simulations and predictions, the end date can be empty.
Parameters contained:	List of parameters contained in the datasets. Use the same parameter names as given in Questionnaire B from the INTAROS WP2 dataset survey.
Dataset owner:	Name of the organisation and/or individual that holds the ownership of the dataset.
Contact:	Name and e-mail of contact person for the dataset.
Data repository:	Name and (optional) URL of data repository/infrastructure where the dataset is/will be made available.
Available date:	Date when the dataset is/will be made available.
Access/Use restrictions:	Access and/or use restrictions for the dataset (if any).
Metadata structure:	What metadata standard is used to describe the dataset.
Dataset file format:	The file format that the dataset is provided in.
Estimated size:	Approximate file size of the dataset.
License:	License under which the dataset is made available.
Data policy:	Title of and link to the data policy document for the data owner (if available).
Comments:	Any additional information that the data owner would like to provide to potential users and stakeholders.

• App.A - datasets

- Short description of collected/generated and to-be-prepared datasets
- Will contact WP2+3+4 partners to get an update
- To be updated as data is collected/generated and decisions made on storage

Task 1.5 Roadmap for a future sustainable Arctic Observing system

- Engagement Strategy document (D1.3): the first step
- Numerous meetings and dialogues with organisations, programmes, projects and initiatives
- Work with SAON, AMAP and others such as Arctic Observing Summit – active participation from INTAROS at the meeting in Davos in June 2018
- Started dialogue with funding agencies
- Provide input to Arctic Science Ministerial in Berlin in October 2018, more than 20 scientists from the INTAROS consortium will participate in the Arctic Science Forum meeting, the day before the Ministerial meeting

Members of the Advisory Panel

Name/affiliation	Representing	Comments
Margareta Johansson, Lund University, Sweden	INTERACT, terrestrial/atmospheric stations	Signed, could not attend
Peter Pulsifer, University of Colorado	Arctic Data Committee (SAON/IASC), indigenous organisations	Signed, attended
Lars-Otto Reiersen, consultant, Univ. Tromsø	Former AMAP, extensive knowledge of the Arctic Council working groups	Signed, attended
Claire Gourcuff, <u>EuroARGO</u>	<u>Research Infrastructure, European contribution to the Argo programme</u>	Signed, attended
Ingunn Limstrand/ Marianne Kroglund	Norwegian Environment Agency (Marianne: AMAP Chair)	Signed, attended
Yubao QIU, RADI, China	Group on Earth Observation – GEOCRI (Geo Cold Regions Initiative)	Could not attend
Georgios Haralabus, CTBTO, Vienna	Preparatory Commission for the comprehensive nuclear-test-ban treaty organisation	Could not attend

Recommendations from Advisory Panel

WP1:

- Must use an "iterative" approach that constantly evaluates, modifies design and enhances the "Pan-Arctic" system as needed
- Concern about the sustainability of the results
- Leverage work with other efforts (e.g. Arctic Meteorological Summit, Arctic Observing Summit)
- Ensure strong presence of Arctic Community members in the stakeholder process