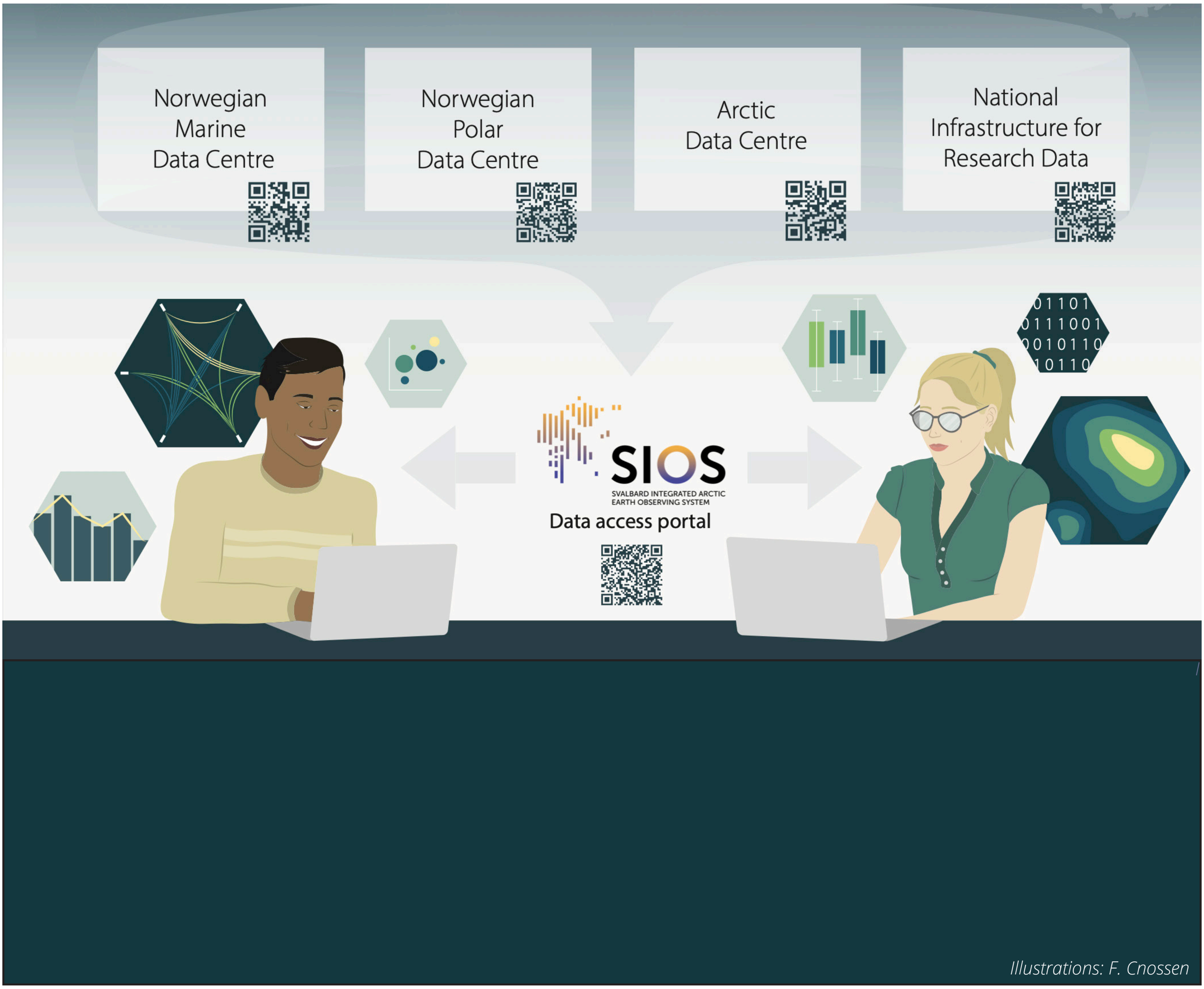
The Nansen Legacy Data Management Plan
2025



The Nansen Legacy Report Series 44/2025

The Nansen Legacy

Data Management Plan 2025

Version 20 (Final Version)

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the Nansen LEGACY

Data Management Plan

Version 20, 2025-02-13: Final version as project has ended.

Versions

Date	Comment	Responsible	Approved by board
2025-02-13	Modified table of datasets. Final version as project has ended.	Luke Marsden Tove Margrethe Gabrielsen Øystein Godøy	
2024-02-22	Updated dataset list. Some cleaning of content.	Luke Marsden Tove Margrethe Gabrielsen Øystein Godøy	
2023-02-02	Updated cruise list, list over data centres contributing, correction of typos and specific emphasis on modelling results.	Øystein Godøy Luke Marsden	
2021-09-23	Updated cruise list and status.	Øystein Godøy	
2021-01-31	Modifications in core text, addition of list of datasets as appendix and list of cruises completed and planned in the near future. Reviewed by Project Leader Team.	Marit Reigstad Tove Margrethe Gabrielsen Øystein Godøy	
2019-06-24	Integration of dataset overview based on Proposal.	Øystein Godøy	
2019-04-11	Modifications following Data Policy discussions and improved knowledge of data flows in RA-B.	Øystein Godøy	
2017-05-26	Review of existing text and incorporation of decisions made by the steering board.	Marit Reigstad Tove Margrethe Gabrielsen Øystein Godøy	
2017-05-19	Review of existing text.	Tove Margrethe Gabrielsen Øystein Godøy	Intermediate version
2017-03-13	Draft for discussion	Øystein Godøy	

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1. Admin details

Project Name	Nansen Legacy
Funding	Research Council of Norway
Partners	Akvaplan-niva (APN) Institute of Marine Research (IMR) Nansen Environmental Remote sening Centre (NERSC) Norwegian Meteorological Institute (MET) Norwegian Polar Institute (NPI) Norwegian University of Science and Technology (NTNU) The University Centre in Svalbard (UNIS) University of Bergen (UiB) University of Oslo (UiO) University of Tromsø The Arctic University of Norway (UiT)

This document is to be considered a living document that is updated twice yearly or when necessary. Not all versions are published.

2. Data summary

2.1. Purpose of the data collection/generation

The Nansen Legacy comprises a dedicated Norwegian team of research excellence that has been assembled for the specific purpose of the 6-year project period (2018–2023). The Norwegian government funded a pre-project for 2017 preparing the project start in 2018.

The *Nansen Legacy* project explores the integrated nature of the environment, climate and the arctic marine ecosystem. The living Barents Sea is evolving under external constraints of physical forcing, and direct and indirect human impacts. The consequent management of the region and resources should be informed by, and based on the past, present and future.

The team reflects the complimentary scientific and logistic capabilities of the eight participating governmental institutions committed to Arctic research, and to the Barents Sea region in particular. The new Norwegian ice-breaker *Kronprins Haakon* will be a core facility.

The Nansen Legacy will improve the scientific basis for future sustainable management of a region characterised by rapid and unknown changes and unidentified potential for the harvesting of marine resources.

The main principles of data sharing within the Nansen Legacy project is defined in the Nansen Legacy Data Policy.

2.2. Relation to the objectives of the project

The Nansen Legacy project will establish a novel and holistic Arctic research platform and provide the integrated scientific knowledge base required for the sustainable management of the environment and marine resources of the Barents Sea and adjacent Arctic Basin through the 21st century.

The Nansen Legacy will improve, secure and operationalise national data archives and ensure data availability in accordance with national and international standards. A distributed data management system where physically distributed data repositories are forming a virtual data centre with seamless access to datasets regardless of physical location, will support the project by:

1. Unified data discovery through standardised discovery metadata indexed in the SIOS Data Management System.
2. Online access to datasets.
3. Visualisations of datasets.
4. Combination of datasets.

By bringing many types of observations together and asking questions about how these are influenced by each other new insights on the region's role in the Earth system is created.

Nansen Legacy will pursue its vision by addressing the following overarching objectives:

1. Improve the scientific basis for sustainable management of natural resources beyond the present ice edge
2. Characterize the main human and natural influences on the changing Barents Sea ecosystems and their response – past, present, and future
3. Resolve the mechanisms governing the Barents Sea ice cover and climatic state, including predictive capability
4. Optimize use of emerging technologies, logistic capabilities, research recruitment and stakeholder interaction to explore and manage the emerging Arctic

2.3. Types and formats of data generated/collected

Nansen Legacy will collect a wide range of data, including but not restricted to biological information on species in the water masses, and physical, chemical and dynamical features of the ocean, the atmosphere and the cryosphere.

Self-explaining file formats (e.g. NetCDF, HDF/HDF5, Darwin Core Archives) combined with semantic and structural standards like the Climate and Forecast Convention (for NetCDF) will be used. Where no clear standard is identified initially, dedicated work is attributed to identifying a common approach for those data.

Nansen Legacy will gather and make available existing data collected from monitoring programs and research projects focused on the Barents Sea ecosystem over the past decades. Some of these data will be fundamental as reference conditions to assess change. In cases where such data are not already in repositories, attempts will be made to rescue them and make them available as part of the legacy of the project. Joint data rescue efforts with Russian colleagues focusing on oceanographic and atmospheric data from the Barents Sea and Franz Josef Land respectively has been undertaken. The work on atmospheric data was completed before relations froze and the dataset is in progress for being published. The Norwegian Meteorological Institute has full right to publishing these data. Concerning the oceanographic measurements, this work never materialised due to insufficient personnel resources.

Relevant information held in national and international catalogues, like WMO GTS, Norwegian Meteorological Institute/Arctic Data Centre, Norwegian Polar Data Centre (Norwegian Polar Institute), Norwegian Marine Data Centre, etc will be made searchable in the same catalogue.

Some data are already existing, some are already being sampled and will be included. Else data will primarily be collected through dedicated cruises with a number of research vessels (primarily RV Kronprins Haakon, RV G.O. Sars, and RV Helmer Hanssen) and through modelling efforts. The cruises will include dedicated field activities in the ice as well.

The total amount of data is yet not known currently in detail. A coarse estimate for the full project duration is 45 TiB.

The data collected is vital to improve the understanding of the Barents Sea and its role in the climatic system and resource utilisation. This information is of relevance to scientists and management processes for the region.

2.4. Making data findable, including provisions for metadata [fair data]

2.4.1. Discoverability of data

Standardized interfaces to data in combination with standardized documentation makes integration of data between data centres and in scientific work flows possible. Well defined governance structures for data collection and a data management system based on data centres with a long-term mandate ensure preservation of the scientific legacy. The metadata driven approach chosen, ensures interoperability with national and international systems and frameworks, including WMO Information System, Year of Polar Prediction (YOPP), and many national and international Arctic and marine data centres. The Svalbard Integrated Arctic Earth Observing System's (SIOS) Knowledge Centre (KC) capitalizes on the above-mentioned efforts to provide an integrated data management solution. A dedicated data collection is established for Nansen Legacy. This is available through the SIOS data search catalogue and the human interface is shown in Figure 1.

Figure 1. Screenshot of the human search interface for the SIOS Data Management System, showing the Nansen Legacy Data Collection.

2.4.2. Standard identification mechanism

Nansen Legacy promotes the implementation of Persistent Identifiers at each contributing data centre. Some have this in place, while others are in the process of establishing this.

2.4.3. Naming conventions

Nansen Legacy is promoting utilisation of standards. Measurements of the physical environment should be encoded using NetCDF following the Climate and Forecast convention and biological or geological data that includes a species list should be encoded as Darwin Core Archives. Both these standards cover discovery and use metadata aspects.

2.4.4. Search keywords

The initial model is based on GCMD Science Keywords for parameter mapping. Not all data centres use this. Where possible, the central node will map between local vocabularies used by the data centres and the GCMD keywords until a more uniform tagging of data is possible.

2.4.5. Approach for clear versioning

Versioning of data is the responsibility of the contributing data centre. Documentation of newer datasets should contain references to older versions where necessary. Some data centres have this in place, while others are working on this.

2.4.6. Standards for metadata creation

The central node can consume discovery metadata as GCMD DIF and ISO19115 records (using GCMD keywords to describe variables[1]). Support for more formats is considered. For use metadata the Climate and Forecast convention is promoted for measurements of the physical environment and Darwin Core for biological or geological data that includes a species list.

2.5. Making data openly accessible [fair data]

Nansen Legacy embraces an open data policy and all metadata will be available through a dedicated human search interface. Some data may have access restrictions. This may be data that are ethical sensitive, are under processing or that are to be used in e.g. a doctoral dissertation. For the latter two categories, access restrictions will only be imposed for a limited time period. According to the decision of the board (2017-05-02), the embargo period may vary from dataset to dataset, depending on the time required for post-processing and quality assurance. However, the basic principle is free and open access as soon as possible, and no later than 4 years after data collection for data used by Ph.D. students. For the first category, this may refer to e.g. information on endangered species in line with the data policies of the International Polar Year and the International Arctic Science Committee. All data will nevertheless be available online for the project participants as soon as technically possible. Data with access restrictions will be handled accordingly by the responsible data centre.

2.5.1. How the data will be made available

Data are made available by the responsible data centre. A list of data centres supporting Nensen Legacy is provided in Table 3. No data is handled centrally, only services towards the data. Initially a wide range of access solutions and formats will be used. To facilitate synthesis products, standardisation of data access interfaces and linkage to the Common Data Model through OPeNDAP[2] is promoted. This enables direct access of data within analysis tools like Python, Matlab, and R.

The intention is to use internationally accepted open standards (as mentioned above) which have a wide range of open software tools available.

2.5.2. Deposition of data and associated metadata, documentation and code

Metadata and data for the datasets are maintained by the responsible data centres, metadata supporting unified search is harvested and ingested in the central node. Dedicated GitHuB areas has been set up for sharing software by both SIOS, NMDC and NorDataNet. These will be used where necessary, but much of the software is already open source and in well maintained repositories. The addresses of these repositories will be collected and published.

2.5.3. Access in case of restrictions

Datasets with restrictions are initially handled by the responsible data centre. Generally, the metadata will be searchable and contain information on how to request access to the dataset.

2.6. Making data interoperable [fair data]

2.6.1. Data and metadata vocabularies

The current situation for the legacy datasets of Nansen Legacy which is supported by the contributing data centres is that there is no common level of interoperability at the data level. Some data centres support OPeNDAP and use metadata following the Climate and Forecast conventions, but not all.

At the metadata level, interoperability is better as most of the data centres do support GCMD DIF with the appropriate controlled vocabularies.

A system for semantic translation of annotated discovery metadata content is under development, but a full overview of the controlled vocabularies applied are not available in machine readable form, neither are they cross walked. However, more important for much of the *Nansen Legacy* data no controlled vocabularies are used. This is a requirement for the new data that are collected.

Initially GCMD Science keywords will be used, but this has to be evaluated continuously. Currently mapping between GCMD and CF keywords is supported (but needs to be updated).

2.7. Increase data re-use (through clarifying licenses) [fair data]

The Nansen Legacy data policy promotes free and open data sharing. Each dataset needs a license attached.

NOTE The recommendation is to use Creative Commons attribution for data. This is compatible with the Norwegian License for Public Data (NLOD).

2.7.1. Availability for re-use

Similar to the SIOS, the *Nansen Legacy* is promoting free and open access to data. The general principle is that all data shall be public available as soon as possible.

Scientific datasets may be given an embargo period (see the Nansen Legacy Data Policy for details) to ensure the publication process for the data provider. However, independent of the embargo period, all data shall be available online for the project partners, regardless their affiliation.

The embargo period will vary depending on the dataset and the time required to complete and quality assure the data.

NOTE	The maximum embargo period allowed is 4 years and this is only used for datasets used by Ph.D. students. Within the embargo period, information on the dataset shall be available through searchable discovery metadata. This allows direct contact at the scientific level to explore potential reuse of data within the embargo period.

Concerning data generated by the permanent instrumentation of the vessels (hereafter referred to as standard cruise data), these data shall be public available within 1 week after the cruise[3].

After the *Nansen Legacy* project has ended, data are still maintained by the contributing data centres and availability of data depends on the resources and priorities of those data centres.

2.7.2. Data quality assurance processes

Nansen Legacy relies on the data quality assurance processes implemented at each contributing data centre and by the Principal Investigators involved.

2.7.3. Time period for which the data will remain re-usable

Observations should be available at any time, for simulations or analysed products, the norm will be 10 years. Exceptions from this is decided by the Principal Investigator or the project steering board.

2.8. List of datasets, status and responsibilities

2.8.1. List of research cruises

The list of cruises where data will be generated is provided in Table 1.

Table 1. List of research cruises and their status concerning data management. Information in parentheses in column marked Cruise is Vessel abbreviation[4]/cruise number.

#	Cruise	Start	End	Status	Data available internally	Comment
1	Ocean Mixing Process Study cruise (OMPS) (KB/2018616) (**process cruise**)	2018-06-27	2018-07-10	Completed	Yes	
2	Joint cruise 1-2 (JC12) (KPH/2018707)	2018-08-06	2018-08-23	Completed	Yes	
4	Physical Process cruise (PPC) (KPH/2018709) (**process cruise**)	2018-09-14	2018-09-24	Completed	Yes	

#	Cruise	Start	End	Status	Data available internally	Comment
5	Technology Test cruise (TTC)+ (KB/2019616) (**process cruise**)	2019-05-25	2019-05-31	Completed	Yes	
6	Seasonal Study Q3 (Q3)+ (KPH/2019706) ,	2019-08-05	2019-08-27	Completed	Yes	
7	Mooring service/A-Twain (MS)+ (KPH/2019710) . (**process**)	2019-11-12	2019-11-27	Completed	Yes	
8	Seasonal Study cruise Q4 (Q4) (KPH/2019711) ,	2019-11-28	2019-12-17	Completed	Yes	
9	Seasonal cruise Q1 (Q1)	2020-03-05	2020-03-29	Cancelled	NA	
10	Seasonal cruise Q2 (Q2)	2020-04-14	2020-05-07	Cancelled	NA	
11	Mooring service (MS)+ (GOS/2020113) (**process cruise**)	2020-10-06	2020-10-27	Completed	Yes	
12	Winter Process Cruise (WPC)+ (KPH/2021702) (*process cruise) , *	2021-02-09	2021-03-01	Completed	Yes	
13	Seasonal Study cruise Q1 (Q1) (KPH/2021703)	2021-03-02	2021-03-24	Completed	Yes	
14	Seasonal Study cruise Q2 (Q2) (KPH/2021704)	2021-04-27	2021-05-20	Completed	Yes	
15	Joint cruise 2-1 (JC21)+ (KPH/2021708)	2021-07-12	2021-07-29	Completed	Yes	
16	Joint cruise 2-2 (JC22)+ (KPH/2021710)	2021-08-24	2021-09-25	Completed	Yes	

#	Cruise	Start	End	Status	Data available internally	Comment
17	Mooring service/A-TWAIN (MS)+ (KPH/2021713) **(process cruise)**	2021-11-06	2021-11-16	Completed	Yes	
18	Remaining mooring service (Polarsyssel)			Completed	NA	NA
19	Joint cruise 3 Closing the Gaps (JC3)+ (KPH/2022702)	2022-02-19	2022-03-11	Completed	Yes	
20	Polarfront Study cruise (PS)+ (KB/2022625) *(process cruise) *	2022-09-28	2022-10-13	Completed	No	Under embargo
21	Mooring Service cruise (MS)+ (KPH/2022712) **(process cruise)**	2022-10-02	2022-10-13	Completed	Yes	Under embargo
22	Connectivity in Polar Cod and Capelin cruise (CPCC) (GOS/2022114)	2022-11-12	2022-11-21	Completed	No	

2.8.2. Standard cruise data

Standard raw cruise data shall be publicly available within 1 week after the cruise ends. Standard cruise data are published through various frameworks (e.g. some through Copernicus Marine Environmental Monitoring Service, and some through WMO Global Telecommunication System). These data, as initially published are not always identified as Nansen Legacy datasets. Work is in progress to improve tagging in this publication process. A list of standard cruise data is provided in Table 2. All datasets have a space/time location. The time specification is coordinated between all logging systems. Responsibility indicates the institution and PI that has the primary responsibility for timely publication of the data. Some data are in raw versions, and post-processing is required before use.

Table 2. List of standard cruise data.

Dataset	Parameters	Responsibility	Embargo
Cruise logger	Date and time Ship heading and speed Ship position Ocean depth	IMR, Helge Sagen	None

Dataset	Parameters	Responsibility	Embargo
Thermosalinograph	Date and time Ship position Surface temperature Surface salinity Fluorscence (4m) Density (4m) CDOM	IMR, Helge Sagen	
xCO_2, oxygen	Date and time Ship position xCO_2 in surface water dissolved oxygen	NPI, Agneta Fransson	ICOS project, public after substantial QC, restricted for use by PD
ADCP	Date and time Ship position Ocean current profile	Responsible oceanographer on the cruise if embargo, IMR by Helge Sagen if not	None/Restricted access to data from RF1 process and mooring service cruises (list of cruises…) for use by PhD/PD candidates
CTD	Date and time Ship position Ocean profiles of pressure, temperature, salinity, density and other sensors on the CTD (e.g. oxygen, chl fluorescence, CDOM)	Responsible oceanographer on the cruise if embargo, IMR by Helge Sagen if not	None/Restricted access to data from RF1 process and mooing service cruises (list of cruises…) for use by PhD/PD candidates
Echosounder (EK80)	Date and time Ship position EK80 EM302 (multibeam, bottom topography)	IMR, Helge Sagen	None
Multibeam echosounder (EM302)		IMR, Helge Sagen	Embargo until data are published by PhD candidates.[5]
TOPAS		IMR, Helge Sagen?	Embargo until data are published by PhD candidates.

Dataset	Parameters	Responsibility	Embargo
Weather station	Date and time Ship position Wind speed and direction Relative humidity Mean sea level pressure Air temperature Photosynthetic Active Radiation Solar incoming broadband irradiance	MET, Øystein Godøy	None
Radiosonde	Date and time Ship position Atmospheric pressure, temperature and humidity profiles	IMR, Helge Sagen	None

2.8.3. Ad hoc cruise generated datasets

The listing of these datasets is updated every 6 months and details are provided in Appendix 1 Ad hoc datasets. The information provided for each cruise is yet not complete and may be updated in future revisions of the document.

IMPORTANT These tables are under revision and will be replaced by a new view.

2.8.4. Numerical simulation datasets

None of the numerical simulation datasets are discoverable through the Nansen Legacy data collection, nor have it been possible to get information on when it will be made available. Below, some information on these datasets is added.

University of Bergen is actively using CMIP6 data which are available through the Earth System Grid Federation (ESGF) framework and simulation data from NCAR which are available through https://www.earthsystemgrid.org/. Furthermore they are using high resolution NorCPM/NorESM (only available internally at the Norwegian Infrastructure for Research Data, contact Fei Li at Fei.Li@uib.no for details or Ingo Bethke at Ingo.Bethke@uib.no) and CESM-LE that are available through https://www.cesm.ucar.edu/projects/community-projects/LENS/data-sets.html. Output from the NorESM CMIP6 baseline and DCPP simulations with NorCPM1 are available through https://esg-dn1.nsc.liu.se/search/cmip6-liu/. Description of the output is available in https://doi.org/10.5194/gmd-2021-91.

The Norwegian Meteorological Institute is producing numerical simulation datasets through RF 1. These datasets include:

- Spatiotemporal variability in mortality and growth of fish larvae and zooplankton in the Lofoten-Barents Sea ecosystem (SVIM Hindcast Archive) made in collaboration with IMR (Arne Melsom).
    - 2 datasets are published, one for daily means and one for monthly means.

- TOPAZ data for Nansen Legacy (Nikki Brown)
  - Not published, in progress

The Norwegian Meteorological Institute is producing numerical simulation datasets through RF 4 task 1. These datasets include:

- Sea-ice lead experiment (Batrak and Müller, 2018)
  - Not published
- N-ICE experiment (Batrak and Müller, 2019)
  - Not published
- Coupled wave-atmosphere experiment (Thomas et al. 2021)
  - Published

2.8.5. Interaction between work packages

Some inconsistency between datasets produced by work packages and expected datasets by other work packages has been identified, but the current overview is too sparse to identify consequences for the project. The gap is especially related to expected input in RF 3 and the output produced by RF 1. This will be elaborated (and if possible mitigated) when more details are available.

3. Allocation of resources

3.1. Costs and available resources for making data FAIR

It is not possible in the current situation to estimate the total cost of making *Nansen Legacy* data FAIR. Part of the reason is that is an ongoing effort at the national level and that the cost thus will be shared with other national efforts. Basically, the resources allocated to data management within *Nansen Legacy* project are attributed to direct follow up on the data collected (i.e. preparation, documentation etc), data rescue for some specific datasets and tailoring of specific products based on the data. Costs for the sharing and preservation is covered through other activities.

3.2. Responsibilities for data management in the Nansen Legacy

The backbone of the data management system is the institutional archives (Table 3) and the National Research Data Archive (NIRD). These perform the data curation which includes life cycle management, data documentation, publication and preservation. Above these there is a number of national and international virtual data management systems. In particular this refers to the Norwegian Marine Data Centre (NMDC) and the Norwegian Scientific Data Network (NorDataNet). These are funded by the Research Council of Norway, and cooperates with the institutional archives and coordinate interoperability efforts. All published data will be searchable through the data catalogue of Svalbard Integrated Arctic Earth Observing System (SIOS) which links activities to European and Arctic data management activities.

When Nansen Legacy scientists are publishing data, only datasets published through the data centres listed in will be visible in the Nansen Legacy data collection.

NOTE Datasets published through Zenodo and Dataverse are not ingested as the information model used by these repositories lacks important elements needed for the data discovery services.

NOTE Datasets published through PANGAEA may be ingested, but requires additional efforts by the scientists to be picked up in the data collection.

NOTE Work is in progress to establish a work flow that enables publication of data in GBIF. Similar efforts are considered for GenBank.

Table 3. Data centres that are integrated in the Nansen Legacy data management setup.

Data centre	URL	Contact	Comment
Norwegian Marine Data Centre	*http://www.nmdc.no/*	*Helge Sagen*	Subsystem is currently under development. Integrates information from many partners. Discovery metadata is served through OAI-PMH, the interoperability at the data level is varying from FTP with no standardisation to OPeNDAP and NetCDF-CF.
Norwegian Meteorological Institute	*http://_adc.met.no/_*	*Øystein Godøy*	This subsystem is integrated through NorDataNet. Discovery metadata interfaces are available, data interoperability is supported using OGC WMS and OPeNDAP. Will integrate relevant data from WMO GTS and NBS (Sentinel).
Norwegian Polar Institute	*http://data.npolar.no/*	*Stein Tronstad*	Metadata interoperability interfaces are available. Some challenges for data interoperability.
Norwegian Scientific Data Network	*https://www.nordatanet.no/*	*Øystein Godøy*	Interoperability interfaces are supported for discovery metadata and data through OAI-PMH, OGC WMS and OPeNDAP. Institutional archives that will connect (e.g. MET, HI, NP, NERSC and NILU) will have to support metadata and data interoperability in the long run (OAI-PMH, GCMD DIF or ISO19115 and OGC WMS and OPeNDAP). The national Research Data Archive hosted by UNINETT Sigma2, NIRD is under integration with Nansen Legacy through NorDataNet.

Data centre	URL	Contact	Comment
SIOS	*https://www.sios-svalbard.org/*	*Øystein Godøy*	SIOS provides the single entry point to Nansen Legacy data. Nansen Legacy data are incorporated as a data collection in the system. This is available here.
University of Bergen	*https://www.bcdc.no/*		There is no integration of this repository available or planned due to man power issues.
UiT The Arctic University of Norway	*https://opendata.uit.no*	*Rahman Mankettikkara*	There is no integration of this repository available or planned due to insufficient discovery metadata.

Each data centre is responsible for accepting, managing, sharing and preserving the relevant datasets. Concerning interoperability interfaces the following interfaces are required[6]:

1. Metadata
    1. OAI-PMH serving either CCMD DIF or ISO19115 minimum profile with GCMD Science Keywords.
    2. The project relies on tagging of datasets with “Nansen Legacy” in the project element of the metadata (both for long and short name).
2. Data (will also use whatever is available and deliver this in original form, for those data no synthesis products are possible without an extensive effort)
    1. OGC WMS (actual visual representation, not data)
    2. OPeNDAP

NOTE An open question currently is related to the data flow from RV Kronprins Haakon to the involved scientists.

The three owning and operating institutions of Kronprins Haakon (IMR, UiT, and NPI) will develop the necessary infrastructure to receive and manage data from the on-board instrumentation, under the umbrella of the Norwegian Marine Data Centre (NMDC). This system is however yet not fully developed and implemented. Thus, the project is partly relying on existing data streams at IMR and ad hoc solutions covering known gaps. For long term archiving of the *Nansen Legacy* data, mandated data centers and NIRD (Norwegian Infrastructure for Research Data) will be used. Traceability and cross-referencing of data, documentation, and software are ensured through the use of Digital Object Identifiers (DOIs) for all released data, issued through the national service implemented by UNIT. The primary services to the user community will include data discovery, visualization, retrieval and streaming to analysis tools, transformations (subsetting by time, space, and variables, reformatting, reprojecting, etc.), and data upload. Proper data management starts when collecting data, thus a primary focus of this RA is to develop guiding documentation and tools that help scientists manage data properly from the beginning, simplifying structured data management efforts and quality control of the data.

3.3. Costs and potential value of long-term preservation

In the current situation there is no overview of the costs of long term preservation of data as this is the responsibility of the contributing data centres and the business model for these differs. This information will be updated during the project, to the extent it is possible to provide an accurate estimate.

4. Data security

4.1. Data recovery, secure storage and transfer of sensitive data

Data security relies on the existing mechanisms of the contributing data centres. The Nansen Legacy recommends to ensure the communication between data centres and users with secure HTTP. Concerning the internal security of the data centre, the Nansen Legacy recommends the best practises from OAIS.

The central node relies on secure HTTP traffic, but not all contributing data centres support this yet. This is expected to evolve during implementation.

5. Ethical aspects

The Nansen Legacy is aligned with ethical considerations outlined by the IASC Statement of Principles and Practises for Arctic Data Management (April 16, 2013). In particular, the Nansen Legacy is supporting the IASC objective of "*Provide for the freedom and ethical conduct of science*" and adopts the IASC concept of "*Ethical Open Access*". Within the IASC section on Ethical Open Access it specifically stated that the only exceptions to full, free and open access to data are:

- where human subjects are involved, confidentiality shall be protected as appropriate and guided by the principles of informed consent;
- where local and traditional knowledge is concerned, rights of the knowledge holders shall not be compromised;
- where data release may cause harm, specific aspects of the data may need to be kept protected (for example, locations of nests of endangered birds or locations of sacred sites).

6. Other

6.1. National structures used for data management

The *Nansen Legacy* data management is as mentioned above based on existing institutional systems as well as national and international research infrastructures (NMDC, NorDataNet and SIOS).

Appendix 1 Ad hoc datasets

Ad hoc datasets are collected on cruises (Table 1), based on experiments, the results of numerical modelling[7] and/or from remote sensing activities[8]. A preliminary list of ad hoc datasets was prepared during the preparation of the proposal (Table 4) and the level of information provided differs. The concept of dataset differs between the responses received. The list is kept while the progress of publishing datasets is monitored in

- Table 5: Datasets collected by scientists on each cruise
- Table 6: Datasets from ship-mounted instrumentation
- Table 7: Other project datasets (e.g. from numerical models, moorings, etc.)

NOTE Table 5, Table 6 and Table 7 show all datasets that we are aware that are published from the research crusies conducted by Nansen Legacy. Unfortunately some of the datasets are not properly published, just referenced in scientific papers. Furthermore, some datasets are published in insufficient form or in data repositories that cannot be integrated in the discovery portal. Thus not all datasets are discoverable in the unified view of Nansen Legacy datasets yet. This issue will be addressed by requesting manual addition of discovery metadata for those datasets.

In Table 5, Table 6 and Table 7, cells marked with 'P' represents datasets that are yet not published but where the PI has informed that the dataset will be published. Cells marked by a number refer to datasets that are published. A link to the publication is list by that number below the table. Empty cells indicate that no dataset will be generated from this cruise. The header row identifies the cruise in question through cruise codes which are reflected in Table 1. The list of cruises goes from the first at the left to the last on the right. Remaining columns are used to indicate the research focus and if data are planned to be published.

NOTE Check that all cruises are listed appropriately in Table 1.

Table 4. Preliminary list of datasets from the planning of the project.

Dataset	Parameters	Responsibility	Embargo
About 25 datasets	Moorings producing temperature, salinity, oxygen, ocean currents, ice thickness, turbulence + Process studies producing irradiance, atmospheric fluxes, various fluxes under sea ice Numerical simulations using ROMS+CICE	RF 1 (Arild Sundfjord)	For some
About 3 datasets	• Persistent Organic Pollutants • Abiotic matrixes • Responses to Persistent Organic Pollutants in organisms • Health parameters for organisms	RF 2 (Sissel Jentoft)	For some

Dataset	Parameters	Responsibility	Embargo
About 9 datasets	• Abundance/biomass, point samples from cruises, species list (max. 2000 rows) times one or multiple columns for each station, georeferenced species occurrences; chlorophyll concentrations from standard depths at station locations. • Rate measurements, few data points from experiments on cruises and in labs. Experimental results on growth rates, respiration rates, egg production rates and such; vertical flux rates from sediment traps; in situ primary production measurements. • Sequences, can range from short sequences of environmental, mixed samples, to full genomes of individual species; should be interoperable with Genbank. • Stable isotops, sample identifier linked in relational data base to station file and taxon (species name) with isotopic ratio, signal strength, reference standard etc. in separate columns; standard delta notation relative to reference standards. • Models, food web model could have compartments with topology (who eats who), rates (ingestion, egestion, productivity etc.). • Chromatographs, output from chemical analyses of e.g. plant pigments, fatty acid profiles, etc. • Photos, videos, may include photo documentation of biota, underwater imagery, video-plankton recorder etc. • Acoustics, possibly long-term recordings on moorings (raw-data and ascii-files). Acoustic recordings of zooplankton, fish, marine mammals; multiple frequencies.	RF 3 (Randi Ingvaldsen)	For some
Uncertain, expected around 10 datasets	Auxiliary data necessary for cruise preparations (including weather forecasts, satellite products, ice charts).	RF A (Mathias Forwick)	No
About 100 datasets	Biological, chemical, physical data from ROV, AUV, gliders, buoys and UAVs	RF C (Martin Ludvigsen)	For some

Table 5. Datasets collected by scientists from research cruises in the project and their current status.

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Agneta Fransson	pCO2 from underway water system		P												P						RF2	yes
Agneta Fransson	Sea water column d18O isotope data from Niskin bottles CTD-Rosette		P				P		P			P	P		P					P	RF2	yes
Agneta Fransson	Sea ice/snow/brine/ UIW d18O isotope data		P				P		P			P	P		P						RF2	yes
Amanda Ziegler; Bodil Bluhm; Lis Jørgensen	Carbon and nitrogen stable isotope composition organisms						23		23			23	23	23	P						RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Anders Goksoyr	Transcriptomics and quantification of selected genes and proteins across species						24, 25, 26, 27														RF2	yes
Andreas Altenburger	Invertebrate tissue genome and microRNA																159				RF3	yes
Andreas Altenburger; (PhD Joel Wernstrøm)	Sequencing data of select meiobenthos taxa						P										P				RF3	
Andreas Altenburger; Bodil Bluhm; (PhD Joel Wernstrøm)	Meiobenthos abundance and community composition (sample fraction from E Alve team UiO)						P		P			P	P		P		P				RF3	

PI	**Dataset**	**2018 616**	**2018 707**	**2018 709**	**2018 710**	**2019 616**	**2019 706**	**2019 710**	**2019 711**	**2020 113**	**2021 702**	**2021 703**	**2021 704**	**2021 708**	**2021 710**	**2021 713**	**2022 702**	**2022 625**	**2022 712**	**2022 114**	**RF**	**Publishing data**
Anette Wold; Camilla Svensen; Janne Søreide (in collabaoration with Sanna Majaneva at NTNU)	Gelatinous zooplankton abundance (ind/m3), volume & species composition (species list)								P			P	P	P	P		P				RF3	yes
Anette Wold; Janne Søreide; Camilla Svensen	Mesozooplankton community (combined data for 180 um & 64 um)		2				28		61			93	112	134	P		160				RF3	yes
Anna Vader	Parasite diversity and prevalence in zooplankton						P		P			P	P									
Anna Vader; Lise Øvreas	Bacterial diversity, proportional abundance, dynamics and distribution, in sea ice and water		3				3		3			3	3	3	P		P				RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Anna Vader; Miriam Marquardt	Sea water chl a total and > 10um biomass		4				29		62			94	113	135	143		P				RF3	yes
Anna Vader; Miriam Marquardt	Sea ice chl a total and > 10um biomass		4				29		62			94	113	135	143		P					
Miriam Marquardt; Yasemin Bodur; Anna Vader	protist diversity in sediment traps		P				P		P			P	P	P								
Anna Vader; Snorre Flo; Bodil Bluhm; Camilla Svensen; Kim Præbel	Nematode diet/prey diversity						30		30			30	30								RF3	yes
Anna Vader; Snorre Flo; Camilla Svensen; Kim Præbel; Bodil Bluhm	Zooplankton (3 copepod species) diet/prey diversity						30		30			30	30								RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Anna Vader; Tove M. Gabrielsen	Microbial eukaryote diversity, proportional abundance, and activity levels across seasons based on rRNA metabarcoding		P				P		P			P	P	P	P		P				RF3	yes
Anna Vader; Tove M. Gabrielsen	Metatranscriptomics and quantification of gene expression of select genes across season		P				P		P			P	P	P	P						RF3	yes
Arild Sundfjord	Temperature, salinity, density														144						RF1	yes
Arild Sundfjord	Turbulence, velocity, nutrients, fluorescence														145						RF1	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Arild Sundfjord	Mooring M1-4 Current profiles (150 kHz ADCP), CTD and T-sensors, incl. one instrument with Chlorophyll/PAR (RBR), sea ice draft and ice/upper ocean velocity (500 kHz ADCP)							59			59								59		RF1	yes
Arild Sundfjord; Angelika H. H. Renner	Temperature, salinity, density																161				RF1	yes
Zoe Koenig; Karen Assmann; Øyvind Lundsgaard; Arild Sundfjord	Turbulence																145				RF1	yes
Sundfjord et al?	Velocity, nutrients, fluorescence																				RF1	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Arild Sundfjord; Ilker Fer	CTD profiles	1		21				60		83	P		114								RF1	yes
Bente Edvardsen	Coccolithophore diversity, dynamics and distribution						P					P	P		P						RF3	yes
Bente Edvardsen; Luka Supraha	LM (live), SEM, TEM (fixed) micrographs of protists. Taxonomic descriptions		P				P						P								RF3	yes
Bente Edvardsen; Luka Supraha	Microalgal strains, morphological, genetic (rDNA operon), phylogenetic and physiological characterisation. Contribute to reference sequene databases.		P				P								P						RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Bente Edvardsen; Anna Vader; Tove M. Gabrielsen	Protist diversity, proportional abundance, seasonal dynamics and distribution in sea ice and water		P				P		P			P	P		P		P				RF3	yes
Bente Edvardsen; Philipp Assmy	Protist diversity >10um						P		P			P	P		P						RF3	yes
Bodil Bluhm; Andeas Altenburger	Megafauna taxonomy of select taxa and archival at Tromsø Museum						31, 32, 33, 34, 35														RF3	
Bodil Bluhm; Kristine Cerbule; Torstein Pedersen	Carbon content of benthic invertebrates						P														RF4	yes
Bodil Bluhm; et al.	Macrobenthos data JC2-2														146						RF3	

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Bodil Bluhm; et al.	Macrobenthos data JC3														147						RF3	
Camilla Svensen	spatial and temporal variability of copepod secondary production, specific egg production rate as an estimate for copepod production		P				P		P	P		P	P		P		P				RF3	yes
Camilla Svensen	Grazing by Oithona and Calanus,experiment						P														RF3	

PI	**Dataset**	**2018 616**	**2018 707**	**2018 709**	**2018 710**	**2019 616**	**2019 706**	**2019 710**	**2019 711**	**2020 113**	**2021 702**	**2021 703**	**2021 704**	**2021 708**	**2021 710**	**2021 713**	**2022 702**	**2022 625**	**2022 712**	**2022 114**	**RF**	**Publishing data**
Cristea; A.; Gerland; S.; Bratrein; M.	Results of regional scale sea ice and snow thickness surveys during Nansen Legacy/Synoptic Arctic Survey Joint Cruise 2 (JC2-2) in August – September 2021 using helicopter-borne electromagnetic induction sounding instrument (EM-bird)														95						RF1	yes
Dmitry Divine	Snow depth								P			P									RF1	yes
Dmitry Divine; Adam Steer	RGB aerial photography from a drone platform												P								RF1	yes

PI	**Dataset**	**2018 616**	**2018 707**	**2018 709**	**2018 710**	**2019 616**	**2019 706**	**2019 710**	**2019 711**	**2020 113**	**2021 702**	**2021 703**	**2021 704**	**2021 708**	**2021 710**	**2021 713**	**2022 702**	**2022 625**	**2022 712**	**2022 114**	**RF**	**Publishing data**
Dmitry Divine; Adam Steer	RINEX v2.1 GNSS observations												P								RF1	yes
Dmitry Divine; Adam Steer	GPX tracks and point marks												P								RF1	yes
Dmitry Divine; Marius Bratrein; Jan Are Jacobsen; Sebastian Gerland	Results of regional scale sea ice and snow thickness surveys during Nansen Legacy Q1 research cruise in March 2021 using helicopter-borne electromagnetic induction sounding instrument (EM-bird)											95			95						RF1	yes
Dmitry Divine; Sebastian Gerland	ASSIST sea ice observations		5				P	P	P			5	5	5	5		P				RF1	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Dmitry Divine; Sebastian Gerland	Vertical profiles of ice salinity, temperature, stratigraphy, density and optical properties		P																		RF1	yes
Dmitry Divine; Sebastian Gerland	Ice and snow thickness along transect lines		6									6	6		6		6				RF1	yes
Dmitry Divine; Sebastian Gerland; others	Physical characteristics of sea ice in the northern Barents Sea from in situ observations		7									7	7	7	7		7				RF1	yes
Doreen Kohlbach	Oithona fatty acids through seasons						P														RF3	
Elisabeth Alve; Thaise Freitas; Silvia Hess; Paul Renaud	Carbon uptake of benthic foraminifera						P					P	P								RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Elisabeth Alve; Thaise Freitas; Silvia Hess; Paul Renaud	Radiometric dating (210Pb, 137Cs)				P																RF1	yes
Elisabeth Alve; Thaise Freitas; Silvia Hess; Paul Renaud	sediment grain size fractions, sediment total organic carbon (TOC, %), sediment total nitrogen (TN, %), d13C (per mil), d15N (per mil)				P		36		63			96	115		148		162				RF1; RF3	yes
Elisabeth Alve; Thaise Freitas; Silvia Hess; Paul Renaud	Foraminifera abundance, diversity and composition				P		P		P			P	P		P		P				RF1; RF3	yes
Emmelie Åström; Bodil Bluhm	Sediment properties		P																		RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Emmelie Åström; Bodil Bluhm; Lis Jørgensen	Food web (benthic fauna, fish, POM inc. ice-POM) - d13C and d15N isotopes (different data set from Amanda's)		P																		RF3	yes
Espen Bagøien	Macroplankton species abundances, biomass and lengths (Macroplankton trawl and MIK)						37		37			37	37		149		163				RF3	yes
Geir Johnsen	Health status of phytoplankton and ice algae by looking at rapid light curves in combination with pigments and cell traits											P	P								RF1; RAC	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Geir Wing Gabrielsen; Haakon Hop	Physiological responses of lower trophic levels of arctic ecosystems, when exposed to stressors of anthropogenic origin											P			P						RF2	yes
Gunnar Bratbak; Aud Larsen; Oliver Müller	Microbial abundance		8				38		64			97	116	136	150						RF3	yes
Gunnar Bratbak; Jorun K. Egge; Tatiana Tsagaraki	Concentration of total particulate O, P, Na, Mg, Si, S, Ca, Mn, Fe, Zn (µM)		9				39		65			P		P	P						RF3	yes
Gunnar Bratbak; Oliver Müller	Bacterial carbon production		10				40		66			98	117	137	151						RF3	yes
Gunnar Bratbak; Ruth-Anne Sandaa	Viral diversity		P				P		P			P	P	P	P						RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Heather Cannaby; Randi Ingvaldsen	Mooring M5-BioAC: Bioacoustics, ADCP						41			41						41					RF3	yes
Heather Cannaby; Randi Ingvaldsen	Mooring M5						41			41						41					RF3	yes
Heather Cannaby; Randi Ingvaldsen	Mooring M1-BioAC: Bioacoustics, ADCP							41		41		41				41					RF3	yes
Heather Cannaby; Randi Ingvaldsen	Mooring AT-800-BioAC: Bioacoustics, ADCP															41					RF4	yes
Heidi Ahonen; Kit Kovacs	Whale sound recorder at the M1 mooring.																					no

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Henning Reiss; Eric Jorda Molina; Paul Renaud; Bodil Bluhm & IOPAN collaborators	Macrofauna abundance, diversity and composition; metazoan macrofauna abundance, diversisty and composition, community analysis						42		42			42	42								RF3	yes
Ilker Fer	MSS (Microstructure Sensor Profiler) Ocean temperature, conductivity, pressure, dissipation rate of turbulent kinetic energy	1		21						84	86				145			169	86		RF1	yes
Ilker Fer	Glider Temperature, Conductivity, Depth-average-current										87							170			RF1, RA-C	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Ilker Fer	Microrider on slocum glider Ocean temperature, pressure, dissipation rate of turbulent kinetic energy									85								171			RF1, RA-C	yes
Ilker Fer	Microrider on AUV			21							88										RF1, RA-C	yes
Ilker Fer	2 RDI 300kHz ADCPs mounted upwards and downward looking at the CTD framevertical profile of horizontal velocity																				RF1	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Ilker Fer	Ship mounted 150 kHz RDI Ocean Surveyor ADCP time series of vertical profiles of horizontal velocity	1		21														172			RF1	yes
Ilker Fer	Apex Argo Float Temperature, Conductivity,Pressure, location																				RF1	already done
Ilker Fer; Arild Sundfjord	L-ADCP profiles	1		21						83	89							172			RF1	yes
Ilker Fer; Heather Cannaby; Arild Sundfjord	VM-ADCP	1	11	21			11		11	83	89	11		11	11			172			RF1	yes
Janne Søreide	Mesozooplankton total biomass						P														RF3	yes
Janne Søreide	Individual dry weight of species identified Calanus males								P			P					P				RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Janne Søreide	individual dry weight, Calanus species ID molecular tools								P			P					P				RF3	yes
Janne Søreide	Mesozooplankton biomass and food quality > 180 um								P				P	P			P				RF3	yes
Janne Søreide	Mesozooplankton biomass and food quality > 64 um								P				P	P			P				RF3	yes
Janne Søreide	Zooplankton lipids, body size, species and stage distribution, antennae colour																			P		
Janne Søreide	Calorimetry weights, length measures, energy content and species count																			P		

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Janne Søreide	Stable isotopes of zooplankton community								P			P			P						RF3	yes
Janne Søreide; Haakon Hop	zooplankton respiration								P			P	P		P		P				RF3	yes
Janne Søreide; Kim Præbel	Mesozooplankton metabarcoding >180 um						P		P			P	P	P	P		P				RF4	yes
Janne Søreide; Kim Præbel	Mesozooplankton metabarcoding >64 um						P		P			P	P	P	P		P				RF4	yes
Jasmine Nahrgang: Ireen Vieweg	Polar cod lipid, protein, carbohydrate values, total energy values		P																		RF2	yes
Jean Rabault	Wave recorder Sea ice drift and wave properties every 3 hours			22							90, 91										RF1	yes

PI	**Dataset**	**2018 616**	**2018 707**	**2018 709**	**2018 710**	**2019 616**	**2019 706**	**2019 710**	**2019 711**	**2020 113**	**2021 702**	**2021 703**	**2021 704**	**2021 708**	**2021 710**	**2021 713**	**2022 702**	**2022 625**	**2022 712**	**2022 114**	**RF**	**Publishing data**
Jens E. Bremnes; Tore Mo-Bjørkelund; Martin Ludvigsen	Transects with hyperspectral line scans												P								RA-C	yes
Jens E. Bremnes; Tore Mo-Bjørkelund; Martin Ludvigsen	Transects with multibeam echosounder measurements												P								RA-C	yes
Jens E. Bremnes; Tore Mo-Bjørkelund; Martin Ludvigsen	Poing measurements of irradiance at different depths and different ice/snow conditions												P								RA-C	yes
Joachim Reuder (UiB)	Vertical profile of wind speed and direction, air temp., pressure, rel. humidity, precipitation and ship motion information																P				RF1	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Karley Campbell	sea ice bacterial production rate																P					yes
Karley Campbell	sea ice bacteria, virus and small protists abundance																P					yes
Karley Campbell	sea ice chlorophyll a, POC, PON, nutrients, DOC																P					yes
Karley Campbell	sea ice PAR																P					yes
Karley Campbell	sea ice change in oxygen concentration, net community production																P					yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Katrine Borgå	food web contaminant biomagnification: bulk stable isotopes, mercury, persistent organic pollutants, chlorinated paraffins						43		P			P	P								RF2	yes
Katrine Borgå; Ketil Hylland	Copepod survival, body size, development, egg reproduction											P			P		P				RF2	yes
Ketil Hylland	PAH metabolites in individual fish						P														RF2	yes
Ketil Hylland	DNA damage in individual fish						P														RF2	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Kim Præbel; Anna Vader; Snorre Flo	Sediment metabarcoding metazoans (from Lise's extracts)						P		P			P	P									
Kim Præbel; Jacob Christensen	whole organisms metabarcoding and genome sequencing																			P	RF2	
Kim Præbel; Paul Renaud	molecular diet analysis for Pandalus borealis								P			P									RF2/ RF3	yes
Lis Jørgensen; Bodil Bluhm	Megabenthos composition from Campelen trawl?		12																			
Lise Øvreås; Anna Vader	Microbial eukaryote diversity in sediment across season based on metabarcoding						P		P			P	P		P		P				RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Lise Øvreås; Anna Vader	Sampling frostflowers for metabarcoding								67												RF3	yes
Lise Øvreås; Paul Renaud	Sediment microbial community diversity, before and after incubation														P						RF3	yes
Luka Supraha; Karoline Saubrekka; Bente Edvardsen	Coccolithophore diversity, dynamics and distribution		P						P												RF3	yes
Malte Müller	Radiation measurements (CNR4)										P										RF4	possible
Malte Müller	Wave recorder v2 Sea ice drift every 3 hours										92										RF1	yes
Marit Reigstad; Gunnar Bratbak; Miriam Marquardt	POC/PON		13				44	P	68			99	118	138	152		164				RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Marit Reigstad; Miriam Marquardt	Nutrient profile							P													RF3	yes
Marit Reigstad; Miriam Marquardt	Total Chl A profile							P									165				RF3	yes
Marit Reigstad; Yasemin Bodur	Total particulate matter from long-term sediment traps (M1 mooring)										P										RF3	
Marit Reigstad; Yasemin Bodur	Protist community and abundance from long-term sediment traps (M1 mooring)										P										RF3	
Marit Reigstad; Yasemin Bodur	Sediment trap Chl a total and > 10um		14				45		69			100	119		P						RF3	yes
Marit Reigstad; Yasemin Bodur	Sediment trap POC/PON		15				46		70			101	120		P						RF3	yes
Marit Reigstad; Yasemin Bodur	Sediment trap stable isotopes						47		71			102	121		P						RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Marit Reigstad; Yasemin Bodur	Sediment trap phytoplankton communities		16				48		72			103	122		P						RF3	yes
Marit Reigstad; Yasemin Bodur	Sediment trap fecal pellets		P				49		73			104	123		P						RF3	yes
Marit Reigstad; Yasemin Bodur; Paul Renaud	HPLC from sediment trap samples and box cores						P		P			P	P		P						RF3	yes
Marit Reigstad; Yasemin Bodur; Paul Renaud	IP25 from sediment trap and boxcore samples						P		P			P	P		P						RF3	yes
Martin Ludvigsen	Underwater video of zooplankton stratification								P												RA-C	yes
Martin Ludvigsen	Echo sounder data (AZFP)								P												RA-C	yes
Martin Ludvigsen	Video recordings from ROV under ice																P				RAC	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Martin Ludvigsen	Navigation data of ROV under ice using USBL																P				RAC	yes
Martin Ludvigsen?	Under ice landscape from ROV video																P				RA-C	yes
Mats Granskog; Børge Hamre	Inherent optical properties from in situ profiler											105	124								RF1	yes
Mats Granskog; Børge Hamre	CDOM and Particulate absorbtion from standard depth sampled from CTD at all process stations											106	125								RF1; RF3	yes
Maximilian Semmling (DLR; Germany)	Sea-ice permittivity derived from GNSS reflection profiles; sea ice concentration around the ship											P			P						RF1, RA-C	yes

PI	**Dataset**	**2018 616**	**2018 707**	**2018 709**	**2018 710**	**2019 616**	**2019 706**	**2019 710**	**2019 711**	**2020 113**	**2021 702**	**2021 703**	**2021 704**	**2021 708**	**2021 710**	**2021 713**	**2022 702**	**2022 625**	**2022 712**	**2022 114**	**RF**	**Publishing data**
Melissa Chierici	Mooring M1-4 pH, oxygen (seaphox), CTD (MicroCAT), CO2 (Contros)										P								P		RF2	yes if good
Melissa Chierici; Agneta Fransson; Elizabeth Jones	Sea ice/snow/brine/ UIW pH, dissolved inorganic carbon, total alkalinity		P						P			P	P	P	P		P				RF2	yes
Melissa Chierici; Agneta Fransson; Elizabeth Jones	Sea water column from Niskin bottles CTD-Rosette, dissolved inorganic carbon, total alkalinity,		P				P	P	P			P	P	P	P	P	P			P	Rf2	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Melissa Chierici; Agneta Fransson; Elizabeth Jones	Sea ice/snow/brine/ under ice water nutrients (nitrate, phospahet, silicate)		P				P		P			P	P	P	P						RF2	yes if good
Melissa Chierici; Elizabeth Jones	Sea water column from Niskin bottles CTD-Rosette, nutrients (nitrate, phosphate, silicate)		17				50	P	74			107	126	139	P		P			P	RF2	yes
Miriam Marquardt; Rolf Gradinger; Bodil Bluhm	Ice meiofauna abundance/taxonomy		18				51		75				127, 128, 128	140	153		166				RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Murat V. Ardelan; Maria G. Digernes	Variation, composition, and distribution of DOM and TOC, with ancillary POC and DOC measurements								P			P	P								RF2	yes
Murat V. Ardelan; Nicolas Sanchez	Total and dissolved trace elements in Seawater		P				P		P			P	P								RF2	yes
Murat V. Ardelan; Nicolas Sanchez	Dissoveld, particulate and total trace elements in sea ice														P						RF2	yes
Murat V. Ardelan; Stephen Kohler	Total mercury and methylmercury transect profile		P				52		76			108	129		P						RF2	yes
Murat V. Ardelan; Stephen Kohler	Distribution of trace elements in sediments						53		53			53	53		53		P				RF2	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Nicole Aberle-Malzahn	Cell abundances of protists > 10um													P							RF3	
Nicole Aberle-Malzahn; Maja Hatlebakk	Micro- and mesozooplankton grazing dataset, with PP and MZP diversity, Flow Cytometry, nutrients, Chl a and HPLC data		P				P		P			P	P								RF3	yes
Nils Olav Handegard	Echosounder trarget strength probe		P						P												RA-C	yes
Øystein Varpe; Katrine Borgå; Geir Wing Gabrielsen	Seasonal variation in macrozooplankton and fish energy content; Seasonal remobilization of pollutants in polar cod						P		P			P	P	P							RF2	yes

PI	**Dataset**	**2018 616**	**2018 707**	**2018 709**	**2018 710**	**2019 616**	**2019 706**	**2019 710**	**2019 711**	**2020 113**	**2021 702**	**2021 703**	**2021 704**	**2021 708**	**2021 710**	**2021 713**	**2022 702**	**2022 625**	**2022 712**	**2022 114**	**RF**	**Publishing data**
Øyvind Breivik	OpenMetBuoy wave buoys GPS location, wave spectra																		92		RF1	check with MET
Paul Renaud	Sediment pigments						54		77			109	130		154		P				RF3	yes
Paul Renaud	sediment pigments HPLC						P		P			P	P		P		P				RF3, CAO	yes
Paul Renaud	sediment community oxygen uptake						P		P			P	P		P						RF3	yes
Paul Renaud; Henning Reiss	Macronutrient concentrations in bottom water before and after incubation						P		P			P	P		P						RF3	yes
Paul Renaud; Henning Reiss	Stable isotopes, C and N, before and after incubation						P		P				P		P						RF3	

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Philipp Assmy; Rolf Gradinger; Bente Edvardsen; Anette Wold; Lucie Goraguer; Jozef Wiktor; Agnieszka Tatarek	Phytoplankton/ protist abundance		19				55		78			110	131	141	155		167				RF3	yes
Philipp Assmy; Rolf Gradinger; Bente Edvardsen; Anette Wold; Lucie Goraguer; Jozef Wiktor; Agnieszka Tatarek; Zofia Smola	Ice algae biodiversity		20				56		79			111	132	142	156		168				RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Philipp Assmy; Rolf Gradinger; Bente Edvardsen; Jozef Wiktor; Agnieszka Tatarek; Lucie Goraguer	Ice algae biodiversity slurp gun												133								RF3	yes
Philipp Assmy; Doreen Kohlbach	Fatty acids of POM, main zooplankton taxa & fish						57		80			P	P								RF3	yes
Philipp Assmy; Doreen Kohlbach	HBI of POM, main zooplankton taxa & fish						58		81			P	P								RF3	yes
Philipp Assmy; Doreen Kohlbach	Lipid classes						P		82			P	P								RF3	yes
Philipp Assmy; Doreen Kohlbach	Stable isotopes of POM, main zooplankton taxa & fish						P		P			P	P								RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Polona Itkin	georeferenced profiles of snow hardness												P								RF1	yes
Polona Itkin	Snow structure												P								RF1	yes
Polona Itkin	regional scale sea ice properties												P								RF1	yes
Randi Ingvaldsen; Elena Eriksen	Target strength and identity (acoustic data)														157						RF3	
Randi Ingvaldsen; Elena Eriksen	Fish body size and weight, diet														158					P	RF3	
Rolf Gradinger	Ratios of Carbon and Nitrogen stable isotopes before and after incubations, F-ratios of primary production						P		P			P	P		P						RF3	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Rolf Gradinger; Martí Amargant-Arumí; Tobias Vonnahme	Vertical profiles of primary production across latitude and seasons		P				P		P			P	P		P		P				RF3	yes
Rolf Gradinger; Martí Amargant-Arumí; Tobias Vonnahme	Primary production response to various light intensitites		P				P		P			P	P	P	P						RF3	yes
Rudolf Krakauer (DWD; Germany)	Altitude profile of air temp., pressure, moisture, wind during the cruise period											P			P		P				RF1	yes
Sissel Jentoft	Polar cod, arctic cod and capelin whole-genome sequences (individual level)		P				P		P			P		P			P			P	RF2	yes
Stephan Kral; Christiane Duscha; Joachim Reuder	Wind profiles 10 to 290 m										P										RF1	yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Stephan Kral; Joachim Reuder	Trajectories of temperature, relative humidity, surface temperature. Vertical profiles of temperature, humidity, wind speed and direction.										P										RF1	yes
Stephan Kral; Joachim Reuder	Timeseries of atmospheric turbulence, radiation, wind speed direction, temperature and humidity, from micrometeorological mast on sea ice.										P										RF1	yes

PI	**Dataset**	**2018 616**	**2018 707**	**2018 709**	**2018 710**	**2019 616**	**2019 706**	**2019 710**	**2019 711**	**2020 113**	**2021 702**	**2021 703**	**2021 704**	**2021 708**	**2021 710**	**2021 713**	**2022 702**	**2022 625**	**2022 712**	**2022 114**	**RF**	**Publishing data**
Stephan Kral; Joachim Reuder; Zoe Koenig	Timeseries of atmospheric turbulence, radiation, wind speed direction, temperature and humidity, from micrometeorological mast on sea ice.														P						RF1	yes
Tine L. Rasmussen	Relative and absolute abundance of marine calcifiers on the water column and their contribution to the carbonate pump						P					P	P		P						RF2	yes
Tine L. Rasmussen	Sediment pore water geochemistry														P						RF1; RF3	

PI	**Dataset**	**2018 616**	**2018 707**	**2018 709**	**2018 710**	**2019 616**	**2019 706**	**2019 710**	**2019 711**	**2020 113**	**2021 702**	**2021 703**	**2021 704**	**2021 708**	**2021 710**	**2021 713**	**2022 702**	**2022 625**	**2022 712**	**2022 114**	**RF**	**Publishing data**
Tine L. Rasmussen	Relative and absolute abundance of marine calcifiers on the water column and their contribution to the carbonate pump						P		P												RF2	yes
Tore Mo-Bjorkelund	AUV adaptive sampling of polar front										88										RAC	
Tore Mo-Bjorkelund	Under ice hyperspectral imaging										P										RAC	
Wenche Eikrem	Secchi disk light depth visual														P						RF3	

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159. https://doi.org/10.21335/NMDC-821760066
160. https://data.npolar.no/dataset/ae7180c0-4c6f-49e2-8163-66532be29db3
161. https://doi.org/10.21335/NMDC-675177809
162. https://doi.org/10.21335/NMDC-1793102323
163. https://doi.org/10.21335/NMDC-32250601
164. https://doi.org/10.11582/2022.00052
165. https://doi.org/10.21335/NMDC-201639673
166. https://doi.org/10.11582/2023.00081
167. https://data.npolar.no/dataset/473a8cbb-13a3-4571-b5d1-009f355d4bb5
168. https://data.npolar.no/dataset/f2b62219-2d0b-482e-87b9-d0f73171e9a8
169. https://doi.org/10.21335/NMDC-1169583367
170. https://doi.org/10.21335/NMDC-571158912
171. https://doi.org/10.21335/NMDC-247353299
172. https://doi.org/10.21335/NMDC-943526062

Table 6. Ship-mounted datasets generated in the project and their current status.

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Randi Ingvaldsen	EK80 Acoustic data surveying fish and zooplankton, logged continuously							P							2							yes
Helge Sagen	EM302 Multibeam mapping							P														yes
Øystein Godøy	Weather station Air and sea temperature (8 m depth), air pressure, wind speed and direction, relative humidity and solar radiation logged continuously							P			P											yes

PI	Dataset	2018 616	2018 707	2018 709	2018 710	2019 616	2019 706	2019 710	2019 711	2020 113	2021 702	2021 703	2021 704	2021 708	2021 710	2021 713	2022 702	2022 625	2022 712	2022 114	RF	Publishing data
Agneta Fransson	pCO2 underway pCO2 in air and ocean, dissolved O2 in ocean, saturation of O2 in ocean, sea water temperature							P														yes
Heather Cannaby; Randi Ingvaldsen; Marit Reigstad; Janne Søreide; Sebastian Gerland; Martin Ludvigsen; Agneta Fransson	Vessel mounted Acoustic Doppler Current Profiler data		1				1		1			1	1	1	1							

1. https://doi.org/10.21335/NMDC-1175579976
2. https://doi.org/10.21335/NMDC-1275935147

Table 7. Other datasets generated in the project and their current status.

PI	Dataset	Status	RF
Mats Granskog; Børge Hamre	Inherent optical properties of waters in Storfjorden (Svalbard) in summer 2020	1	RF1
Erin E. Thomas	Uncoupled Atmosphere and Wave model control experiment, output from the atmosphere model HARMONIE-AROME	2	RF1
Erin E. Thomas	Uncoupled Atmosphere and Wave model control experiment, output from the wave model Wave Watch III	2	RF1
Erin E. Thomas	Fully coupled Atmosphere and Wave model experiment, output from the atmosphere model HARMONIE-AROME	3	RF1
Erin E. Thomas	Fully coupled Atmosphere and Wave model experiment, output from the wave model Wave Watch III	3	RF1
Arild Sundfjord	Time series of ocean currents, temperature, salinity, and pressure from ocean moorings M1 and M2 in the northwestern Barents Sea	4	RF1
Arild Sundfjord	Time series of sea ice draft and drift from moorings M1 and M2 in the northwestern Barents Sea		RF1
Ilker Fer	Physical oceanography data from moorings north of Svalbard, September 2018 - September 2019	5	RF1
Ilker Fer	Ocean current, temperature and salinity measurements from moorings north of Svalbard: September 2018 - November 2019	6	RF1
Ilker Fer	Physical oceanography data from a Seaglider mission north of Svalbard, late fall 2018. https://doi.org/10.21335/NMDC-1841837601	7	RF1
Ilker Fer	Physical oceanography data from gliders in the Barents Sea, August 2019 - February 2021	8	RF1
Ilker Fer	Physical oceanography data from a Seaglider mission west of Svalbard, October 2020 - February 2021	9	RF1

PI	Dataset	Status	RF
Marit Reigstad	Nansen Legacy and Arctic PRIZE sequential sediment trap protist and zooplankton data, collected north of Svalbard from October 2017 to October 2018	10	RF3
Marit Reigstad	Nansen Legacy and Arctic PRIZE sequential sediment trap particle data, collected north of Svalbard from October 2017 to October 2018	11	RF3
Arild Sundfjord	A-TWAIN mooring data 2017-2019	12	RF1
Jean Rabault	Wave recorder Sea ice drift and wave properties every 3 hours	13	RF1
Adam Steer; Dmitry Divine	Sea ice concentrations in the northern Barents Sea and the area north of Svalbard at Nansen Legacy stations during 2017-2021	14	RF1
Katrine Husum	Holocene biomarker (HBIs) and stable isotope data from 80N	15	
Jørgen Berge	Time series of irradiance in the PAR (photosynthetically active radiation) region measured under the dome of a light observatory in the Arctic (Ny-Ålesund, Svalbard, Norway) derived from an USSIMO spectroradiometer	16	RF1
Jørgen Berge	Time series of irradiance in the PAR (photosynthetically active radiation) region measured under the dome of a light observatory in the Arctic (Ny-Ålesund, Svalbard, Norway) derived from SLR camera	17	RF1
Louise Steffensen Schmidt	Dataset of daily and monthly mass balance and runoff for glaciers in Svalbard and seasonal snow forced by AROME-ARCTIC 2016-2022	18	RF1
Arild Sundfjord	A-TWAIN mooring data 2015-2017	19	RF1
Arild Sundfjord	A-TWAIN mooring data 2013-2015	20	RF1
Kirsteen MacKenzie; Kit M. Kovacs	Stable isotope (C&N) and dietary fatty acid compositions (>1%) for marine mammals in the European Arctic	21	RF3
Benjamin Planque	Modelled trophic interactions in the Norwegian Sea pelagic food-web, 1988-2020	22	RF3
Vidar S. Lien; Yvonne Gusdal; Arne Melsom	Spatiotemporal variability in mortality and growth of fish larvae and zooplankton in the Lofoten-Barents Sea ecosystem - daily means	23	RF3

PI	Dataset	Status	RF
Vidar S. Lien; Yvonne Gusdal; Arne Melsom	Spatiotemporal variability in mortality and growth of fish larvae and zooplankton in the Lofoten-Barents Sea ecosystem - monthly means	24	RF3
Mats Granskog; Børge Hamre	Inherent optical properties from in situ profiler in western Nansen and Amundsen basin in 2022		RF1
Jasmine Nahrgang; Leah Strople; Ireen Vieweg et al.	Spawning time in adult polar cod (Boreogadus saida) altered by crude oil exposure, inde- pendent of food availability	25	RF2
Yasemin Bodur; Maria Digernes	POC/PON, EPS, FCM from Aggregation experiment in Ramfjorden	26	RF3
Yasemin Bodur; Maria Digernes	Monthly flow cytometry measurements from Ramfjorden, Tromsø (September 2020-August 2021)	27	RF3
Down, E.J.; Aaboe, S.; Divine	Sea ice drift back-trajectories of Nansen Legacy cruises sea ice stations	28	RF1
Yasemin Bodur; Maria Digernes	Monthly measurements of dissolved nutrients (nitrate, nitrite, phosphate, silicate) in a sub-Arctic fjord, Ramfjord in Tromsø, Norway between September 2020 and August 2021	29	RF3
Yasemin Bodur; Maria Digernes	Monthly measurements of extracellular polymeric substances in a sub-Arctic fjord, Ramfjord in Tromsø, Norway between September 2020 and August 2021	30	RF3
Yasemin Bodur; Maria Digernes	Monthly measurements of extracellular polymeric substances in a sub-Arctic fjord, Ramfjord in Tromsø, Norway between September 2020 and August 2021	30	RF3
Yasemin Bodur; Maria Digernes	Monthly measurements of total particulate matter and its organic and inorganic compartment in a sub-Arctic fjord, Ramfjord in Tromsø, Norway between September 2020 and August 2021	31	RF3
Yasemin Bodur; Maria Digernes	Monthly measurements of size-fractionated Chlorophyll-a and phaeopigments in a sub-Arctic fjord, Ramfjord in Tromsø, Norway between September 2020 and August 2021	32	RF3
Yasemin Bodur; Maria Digernes	Monthly measurements of particulate organic carbon and nitrogen concentrations in a sub-Arctic fjord, Ramfjord in Tromsø, Norway between September 2020 and August 2021	33	RF3

PI	Dataset	Status	RF
Yasemin Bodur; Maria Digernes	Monthly resolution of suspended protist taxonomy and abundance in Ramfjorden/Gáranasvuotna (Northern Norway) between September 2020 – August 2021	34	RF3

1. https://doi.org/10.21334/npolar.2022.e6974f73
2. https://thredds.met.no/thredds/catalog/arcticdata/nl/AWUncoupled/catalog.html
3. https://thredds.met.no/thredds/catalog/arcticdata/nl/AWCoupled/catalog.html
4. https://doi.org/10.21334/npolar.2022.1a68b156
5. https://doi.org/10.21335/NMDC-1852831792
6. https://doi.org/10.21335/NMDC-1075977612
7. https://doi.org/10.21335/NMDC-1841837601
8. https://doi.org/10.21335/NMDC-381060465
9. https://doi.org/10.21335/NMDC-1878084716
10. https://doi.org/10.11582/2022.00045
11. https://doi.org/10.11582/2022.00044
12. https://doi.org/10.21334/npolar.2020.e7041026
13. https://doi.org/10.21343/AZKY-0X44
14. https://doi.org/10.21334/npolar.2023.24f2939c
15. https://doi.org/10.21334/npolar.2021.435e2671
16. https://thredds.met.no/thredds/dodsC/arcticdata/infranor/UiT-LysdataNyA/ussimo-agg.html
17. https://thredds.met.no/thredds/arcticdata/infraNOR.html?dataset=arcticabc-nya-slrcam-agg
18. https://doi.org/10.21343/ncwc-s086
19. https://doi.org/10.21334/npolar.2020.ceb74f92
20. https://doi.org/10.21334/npolar.2020.c972dd9c
21. https://doi.org/10.21334/npolar.2022.0725f70a
22. https://doi.org/10.21335/NMDC-1000944115
23. https://thredds.met.no/thredds/nansen_daily.html?dataset=nansen-legacy-ocean/svim_daily_agg
24. https://thredds.met.no/thredds/nansen_monthly.html?dataset=nansen-legacy-ocean/svim_monthly_agg
25. https://doi.org/10.18710/59XOI4.
26. https://archive.sigma2.no/pages/public/datasetDetail.jsf?id=10.11582/2024.00121
27. https://archive.sigma2.no/pages/public/datasetDetail.jsf?id=10.11582/2024.00132
28. https://doi.org/10.21334/npolar.2023.0c7cbaa2
29. https://archive.sigma2.no/pages/public/datasetDetail.jsf?id=10.11582/2024.00120
30. https://archive.sigma2.no/pages/public/datasetDetail.jsf?id=10.11582/2024.00119
31. https://archive.sigma2.no/pages/public/datasetDetail.jsf?id=10.11582/2024.00118
32. https://archive.sigma2.no/pages/public/datasetDetail.jsf?id=10.11582/2024.00117
33. https://archive.sigma2.no/pages/public/datasetDetail.jsf?id=10.11582/2024.00116
34. https://archive.sigma2.no/pages/public/datasetDetail.jsf?id=10.11582/2024.00131

[1] This is in line with SIOS, NorDataNet and NMDC approaches.

[2] http://apievangelist.com/2014/12/05/history-of-apis-noaa-apis-have-been-restful-for-over-20-years/

[3] This is applying to raw data which may require further quality control and processing to achieve a useful dataset.

[4] Kronprins Haakon (KPH), Kristine Bonnevie (KB), G.O. Sars (GOS).

[5] Contact Katrine Husum and Matthias Forwick for details.

[6] Work is in progress to add more exchange mechanisms for discovery metadata (e.g. DCAT and schema.org).

[7] Concerning numerical simulations, identification of the subsets of simulations that will be published is ongoing. Full datasets are normally available upon request. This is normal procedure for simulated datasets due to the volumes created and since some variables are for internal use by the model development teams.

[8] Concerning remote sensing products, identification of the end products that will be published is ongoing.

The Nansen Legacy in numbers

7 years

The Nansen Legacy is a seven-year project, running from 2018 to 2024.

1 400 000 km² of sea

The Nansen Legacy investigates the physical and biological environment of the northern Barents Sea and adjacent Arctic Ocean.

350 people

In total there are over 300 researchers working with the Nansen Legacy, of which 120 are early career scientists. In addition, 50 persons are involved as technicians, project coordinators, communication advisers and board members.

10 institutions

The Nansen Legacy unites the complimentary scientific expertise of ten Norwegian institutions dedicated to Arctic research.

>10 fields

The Nansen Legacy includes scientists from the fields of biology, chemistry, climate research, ecosystem modelling, ecotoxicology, geology, ice physics, meteorology, observational technology, and physical oceanography.

>350 days at sea

The Nansen Legacy has conducted 21 scientific cruises, equivalent to over one year at sea, in the northern Barents Sea and adjacent Arctic Ocean between 2018 and 2022. Most of these cruises were conducted on the new Norwegian research icebreaker *RV Kronprins Haakon*.

50/50 financing

The Nansen Legacy has a total budget of 740 million NOK. Half the budget comes from the consortiums' own funding, while the other half is provided by the Research Council of Norway and the Ministry of Education and Research.

Kunnskapsdepartementet

Funded by The Research Council of Norway

nansenlegacy.org

nansenlegacy

nansenlegacy@uit.no

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