National Estuarine Research Reserve System Science Collaborative

Data Sharing Plan Requirements & Outline

In this document:

Data Sharing Requirements & Definitions

The National Oceanic and Atmospheric Administration (NOAA) requires that environmental and social science data collected and/or created under NOAA grants and cooperative agreements be made visible, accessible, quality controlled, documented, and independently understandable to general users. It should be available free of charge or at minimal cost, and made available in a timely manner (typically no later than two years after the data are collected or created), except where limited by law, regulation, policy, or security requirements.

Defining Data

Data are defined as recorded and derived observations and measurements of the physical, chemical, biological, geological, and geophysical properties and conditions of the oceans, atmosphere, space environment, sun, and solid earth, as well as correlative data to include social and socio-economic data, related documentation, and metadata. This also includes social and socio-economic data collections such as individual surveys or other personal information that are subject to data collectors' Institutional Review Board (IRB) review and approval.

In addition, NOAA has requirements about the use of Traditional Ecological Knowledge, defined in the NOAA Consultation Handbook as "a cumulative body of knowledge, practice and belief evolving by adaptive processes and handed down through generations by cultural transmission, about the relationship of living beings (including humans) with one another and with their environment."

Finally, media, including voice, video or other recordings and photographs, may be defined as data.

Sharing data

Sharing data is defined as making data visible, accessible, and independently understandable to users in a timely manner at minimal cost to users, except where limited by law, regulation, policy or by security requirements.

Guidance for Use and Communication of Traditional Ecological Knowledge

NOAA provides specific guidance about use and communication of use of Traditional Ecological Knowledge (TEK). As excerpted from NOAA guidance,

> Communication about [TEK] data use should include ways in which data will not be used and any applicable procedures in place to protect sensitive data and the identity of individual communities or informants. It is important to communicate precisely about the ways in which data will be secured and protected, and the circumstances in which data may or may not be used, including being made publicly available. It is important to tell the community that their data, generally, may nonetheless be subject to release under the Freedom of Information Act (FOIA) or other legal requirements.

It is important to tell project participants from Indigenous communities that data collected using Science Collaborative funding may be released under state or federal Freedom of Information Act or other legal requirements, even if the data are not made available in state or federal data repositories. Therefore, if teams anticipate receiving or incorporating sensitive data that should not be released for any reason, they should take appropriate steps to ensure data are safeguarded by data sharing agreements that clearly stipulate ownership and specific conditions of use.

For more information, see https://www.legislative.noaa.gov/docs/19-065933-Traditional-Knowledge-in-Decision-Making-Document-Signed.pdf.

Who Needs a Data Sharing Plan?

Applicants that propose the collection of new data, including receiving or incorporating sensitive data such as Traditional Ecological Knowledge, are required to develop and include a Data Sharing Plan as a part of their proposal package. This plan must address elements such as methods and protocols for data collection, data quality control/quality assurance procedures, metadata, data access, and data archival. Applicants must account for the costs associated with implementing a Data Sharing Plan in their budget and project narrative.

Science transfer activities typically do not include new data collection, except for the purpose of a needs assessment, refining a method, training, or evaluation as part of a transfer activity. Therefore, projects that address objective three of this RFP do not typically need to complete a Data Sharing Plan.

If a project is proposing the collection of natural or social science data (e.g., surveys or interviews, demonstration or training test data, calibrating a protocol, or user experience studies) it is important to consider the purpose of that work. In general, natural and social science data collection that is intended to inform the development of a program or

product (such as a needs assessment or methods training) or to evaluate a program or tool is not subject to federal data sharing requirements.

In contrast, if data are also being used to answer a broader research question and the team is hoping to develop a scholarly publication about their findings, then teams may need to develop a data sharing plan. For data collection involving human subjects, teams should consult with the Institutional Review Board (IRB) that oversees human subject research at their institution.

If a team anticipates receiving or incorporating sensitive data, e.g., Traditional Ecological Knowledge, they should develop a data sharing plan to ensure data are safeguarded by data sharing agreements that clearly stipulate ownership and specific conditions of use.

Data Sharing Support Available to Applicants and Grantees

The NERRS Centralized Data Management Office (CDMO) is the coordinating entity for Science Collaborative data management activities. CDMO personnel are available to provide guidance during proposal development and will provide technical support for projects. In addition, CDMO can help teams archive and make accessible their project datasets using CDMO's access and archival services and standard protocols.

Teams are encouraged to identify long-term data archival portals that make sense for their type of data and potential users of that data. If teams would like to use CDMO for data access and data archival, their standard process for making data accessible would be as follows:

- The Science Collaborative will create an entry about a project's datasets in the Science Collaborative online resource library, as well as in national data catalogs (InPort), outlining the scope of the datasets and making them discoverable; and

- Potential users of the data will have an option to complete a data request form. The form will generate an email response with a data download link connecting the user to the package of data and metadata files that have been archived with the CDMO.

If this archival/access process meets a project's needs, applicants may include it as part of their proposal's data sharing plan without consulting with CDMO in advance of proposal submission. More involved data or information sharing ideas, such as development of an interactive user interface for a database, are not part of CDMO's typical support for Science Collaborative projects. Project teams should plan for this kind of activity within their project scope and budget.

You can direct questions about data sharing requirements and support to nerrs-info@umich.edu.

What Does a Sharing Plan Entail?

All NERRS Science Collaborative proposals must address data management requirements in Appendix H of the proposal in one of two ways:

a) <u>For projects that propose the collection of new data, including receiving or incorporating sensitive data such as Traditional Ecological Knowledge</u>: Develop a Data Sharing Plan (DSP) of two to five pages using the <u>DSP outline</u>.

b) <u>For projects that do not propose the collection of new data</u>: Provide a statement that "no detailed data sharing plan is needed", accompanied by a clear justification as to why, e.g., no new data are being collected.

These are the core required components:

a) Brief overview of the data to be generated by the project, referencing the proposal narrative as appropriate;

b) Data quality control / quality assurance procedures;

c) Data documentation, including the standards to be used for data/metadata format and content. The NOAA recommended metadata standards is the ISO 19115 Metadata Standard for Geographic Data, but there may be other or additional metadata standards (for example, Ecological Metadata Language for biological data) that are more applicable depending on the data type;

d) Data access, including the anticipated procedures and timeline for making data accessible publicly; and

e) Planned data archival location.

Proposals must include appropriate budgets to support required data management activities. It is anticipated that for projects proposing significant new data collection efforts, appropriate personnel time should be committed for data QA/QC and metadata development. ***As a general rule of thumb, approximately 10% to 15% of a project's budget should be allocated to data management activities, including processing and quality checking data and preparing datasets for archival and public access.***

Failing to share data in accordance with the submitted DSP may lead to disallowed costs and may impact future funding decisions by the NERRS Science Collaborative.

NERRS Science Collaborative Data Sharing Plan Outline

A Data Sharing Plan (DSP) of two to five pages is required for all proposals that collect new data. If you intend to receive and use Traditional Ecological Knowledge/Indigenous Knowledge as part of your project, be sure to review [NOAA's Best Practices for Engaging and Incorporating Traditional Ecological Knowledge in Decision-Making](#) and consult with your Indigenous partners to ensure that you have fully addressed all relevant considerations in your DSP.

Please use this outline, including headers, to develop your DSP. <<[Click here to download an easily fillable template](#)>>

1. **Points of Contact** – Identify the person(s) responsible for implementing the project's data sharing plan. Give the name, title, location, e-mail address, phone number and mailing address, for the individual(s) responsible for data collection and maintenance on this project.

2. **General Description of Data to be Managed**

   2.1 Provide a summary description of the data to be generated, collected or received.

   2.2 What will the temporal and geographic coverage of the data be?

   2.3 What data types will you be creating or capturing?

   2.4 How will you capture or create the data? If you will receive TEK/IK as part of your project, in addition to leaning heavily on your organization's Institutional Review Board processes, it will be important to consult with your Indigenous partners to identify appropriate community practices such as, but not limited to, mode of consent and attribution.

   2.5 Will the data contain personally identifiable information or any information for which the distribution may be restricted by law or national security? If you will receive TEK/IK as part of your project, how will you confirm that knowledge received from Indigenous knowledge keepers is protected according to their specifications?

3. **Data Quality Control / Quality Assurance Procedures**

   3.1 What quality control and quality assurance procedures will be employed?

   3.2 What is the overall life cycle of the data from collection or acquisition to making them available to the intended end user?

4. **Data Documentation / Metadata** – What standards will be used to represent data and metadata elements in this data collection?

5. **Data Access and Sharing**

5.1 How will the data be made available to the public? What is the expected date of first availability? Is this a one-time data collection, or an ongoing series of measurements? Will there be a Principal Investigator hold or other delay between data collection and publication, and if so for how long?

5.2 If the data are not to be made available to the public, explain why and under what authority distribution may be restricted. If you will receive TEK/IK as part of your project, distribution may be restricted and should be indicated here.

5.3 Will users be subject to any access conditions or restrictions, such as submission of non-disclosure statements, special authorization, or acceptance of a licensing agreement?

5.4 What data access protocols will be used to enable data sharing? The use of open-standard, interoperable, non-proprietary web services are highly recommended.

6. Data Archival

6.1 Where and how will the data be stored initially (i.e., prior to being sent to a long-term archive facility)?

6.2 How will the data be protected from accidental or malicious modification or deletion? Discuss data back-up, disaster recovery/contingency planning, and off-site storage relevant to the data collection.

6.3 If there will be limitations to data access, how will these data be protected from unauthorized access? How will access permissions be managed? What process will be followed in the event of unauthorized access?

6.4 How will the data be archived for long-term preservation?