National Estuarine Research Reserve System Science Collaborative

2020 Collaborative Research Full Proposal Guidelines Question & Answer Record

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Collaboration and End User Engagement

Q: End users are under a lot of strain right now as we all struggle with the disruptions of COVID-19. How do you suggest we handle requests for letters of support?
A: We encourage applicants to limit the number of letters of support and only include letters from primary end users. One letter from a primary end user could be sufficient or multiple end users could sign a single letter that they write together.

Q: Can we include letters of support from end users who are part of the team and in the budget?
A: Yes, you may include letters of support from primary end users, even if they are on the project team and in the budget. These letters are most meaningful if they describe how the project stands to impact the end user's work—e.g., how they will use the outputs. As a reminder, all proposals must include at least one letter of support from a primary end user.

Q: Instructions say that letters of support are needed from team members not funded by the grant but involved in the approach. Do reserve staff such as the Education and Coastal Training Program Coordinators need to provide letters?
A: There are a few ways to demonstrate that you have all the needed human capital to complete the proposed project. If a reserve is a subcontractor and receiving money from the grant, they will need to submit a letter of fiscal commitment and confirm they are supportive of the proposed scope and can fulfill their role. Significant contributions to the project that are not funded by the grant should also be acknowledged in the budget narrative, including estimates of time that would be contributed by specific reserve staff.

See more questions and answers about letters of support later in this document.

Reserve Engagement

Q: If I am working with a reserve research coordinator to develop a proposal, is this sufficient for the reserve engagement requirement, or should I also reach out to the reserve manager directly?
A: As the applicant, it is your job to ensure that the relevant manager(s) are fully aware of and sufficiently engaged in your proposal as it is developed in order to provide a positive assessment. In this case, it would be good to double check that the research coordinator has connected with the manager about the proposed work to receive any input he/she may have and to ensure everyone is on the same page.

Q: Is it acceptable to ask reserve managers for the use of reserve equipment and/or personnel time?
A: You should feel free to reach out to reserve managers with these types of questions; however, it is of course up to them to decide how to respond. You should be aware that capacity and ability to accommodate these kinds of requests will vary from reserve to reserve.

Project Team

Q: Are changes in the team composition between the pre- and full proposal stages acceptable? E.g., one of the team members included in our pre-proposal stage is no longer able to participate on the project, and we have recruited a new team member to replace this person; adding a new team member in response to reviewer comments.
A: Yes, the composition of your team may change if needed. However, you cannot increase the total amount of funds requested.

Q: Could you clarify who needs to be included in the team? For example, if a technician is going to lead analyses, should that person be included as part of the team, or can they just be included in the scope of work and budget?
A: Anyone who is providing any kind of intellectual leadership in the project should be included on the cover page and in the project description. Any names included on the cover page should have clearly articulated responsibilities within the project description.

Q: Should the "team" sections on the cover page and in the project narrative include the names of technicians or field staff that will be working on the project under the direction of project team members?
A: No, you do not need to include the names of technicians as "team members" on the title page or in the team qualifications narrative, as they will be working under the direction/coordination of an identified project team member.

Q: What is the difference between the team section and the budget narrative in terms of the information that should be provided about individual team members' contributions to the project?
A: The substance of team members' contributions should be provided in the team section of the proposal narrative. These details will help reviewers confirm that the project team has the right set of skills and capacity to complete the proposed scope of work. The budget narrative should include a brief statement about the nature of the contribution and time commitment for each team member, including any unfunded team members.

Full Proposal Format and Appendices

Q: Is it ok to modify the title of our proposal between the pre-proposal and full proposal stages?
A: Yes, you may modify the proposal title. We are expecting a full proposal for the work you proposed at the pre-proposal phase but a modification of the proposal title is not a problem.

Q: We have a large project team, including some new additions since the pre-proposal, that we cannot fit them all on two pages, using 1 inch margins and 12 pt font. Can we exceed the 2-page limit for the title?

A: Your title page may be a bit longer if needed to accommodate all the required information. You can also think about ways to condense the team list, for example by including more detail for the core team, or using columns or tables.

Q: Can we use Appendix J to provide more context about the site and existing data available?
A: Appendix J is intended for detailed site maps and latitude/longitude information only. It is not required but encouraged if you have the information handy. This information will be used for the environmental compliance review NOAA must complete, should the project be selected for funding. It is NOT appropriate to include additional data figures to provide more context for existing data about the site. You could, however, include this information in Appendix J.

Q: We are proposing to do very low intensity field work at reserves. What information should we include in our proposal to assist with the NEPA review?
A: We suggest you include study area maps. Even though you will not be doing any destructive sampling we will still need to do a preliminary assessment of potential impacts to endangered species, and the maps and general coordinate information will help bound that assessment.

Q: What types of materials can be included in the full proposal's "Appendix I: Other supporting documents"?
A: Applicants may include up to five pages of documents in support of the project; this may include figures, maps, diagrams, letters of support, references, or other relevant items that help to clarify and/or demonstrate the value of the proposed work.

Q: Is it ok to include figures and tables within the narrative?
A: Yes, figures and tables may be included within the narrative so long as the 15-page limit is not exceeded. These are usually somewhat situational depending on the proposal. If including a figure or table is important to convey a message you can, and should feel free, to include them but it is not necessary for the success of a proposal.

Q: What is the purpose of the related work form?
A: It is helpful for reviewers to know whether you are doing other work related to your proposal topic. It can provide clarity about the larger context in which you and project partners are working. We encourage you to think fairly narrowly in terms of what you might include and be as concise as possible while conveying any necessary information about related work.

Q: We have a number of team members who would not receive funding from the grant. Do we still need to include related work from them in Appendix H, or just from the people receiving funding?
A: If people are considered part of the project team, then you should include their "related activities" in Appendix H.

Q: What would be the best way to explain changes we are making in the project we submit as a full proposal? Is there an expectation to explain differences in the full proposal narrative? Does the full proposal get reviewed entirely independently from the pre-proposal so no explanation is needed?
A: Minor changes are ok between the pre to full proposal stage. If there is a major change, state what the change is and why it is warranted in the narrative. The proposal is reviewed by a combination of individuals who reviewed it at the pre-proposal phase and some additional experts, so differences between the two documents will matter more for some and less for others.

Q: Any advice for how to include details about end user engagement in the full proposal? For example, if we meet with end users prior to proposal submission, should we include a table or other summary of that engagement?
A: Details about how you engaged end users during proposal development can go in the proposal narrative or, if the summary is longer or better as standalone document, in appendix I. The full proposal guidelines points to a number of instances for providing these kinds of details in your proposal narrative.

Q: What is the best way to respond to panel reviews from pre-proposals? Should they be built into the full proposal narrative or an appendix?
A: We do not have a specific recommendation. The full proposal guidelines give the option to include additional documents in appendix I but we have also seen applicants respond to reviewer comments through adjustments to the narrative.

Letters of Support

Q: Is there a limit to the number of letters of support we can include in our proposal?
A: No, there is no limit to the number of letters of support you may include in your full proposal stage but you must include at least one letter. Reviewers do need to make it through all of them, so please be thoughtful about how these letters are packaged.

Q: We have a large project team (some funded, some not) that are also are primary end-users. This could lead to a lot of letters if we asked all none budgeted team members and some external end-users to provide one.
A: Use the letters of support to demonstrate as specifically as possible end users' commitment and interest in the project and how they intend to use the products. There is no limit to the number of letters of support. That being said, if you have a group of primary end users who have similar perspectives, you might consider a group letter (that gets specific) with several signatures. The same approach could be used for non-budgeted team members. Do what you can to make it as easy as possible for reviewers to understand the specific interest and commitments, without overwhelming them.

Q: In addition to the end users that are on the project team, should we include letters of support from each of the members of the larger stakeholder committee that we will be working with?
A: You do not need to include individual letters of support from each of the members of your stakeholder committee. However, your proposal should indicate or convey which of the members have confirmed their participation in the project.

Q: If a reserve signs a letter of support, are they then not eligible to be a participating reserve in the project?
A: Signing a letter of support does not preclude a reserve from being a project partner; if a reserve is listed on the title page and also an end user, then it makes complete sense for them to provide a letter of support, if they feel so inclined.

Q: Who should letters of support be addressed to?
A: Letters of support should be addressed to the project lead or "Members of the Review Panel".

Q: End users not receiving funds from the project are those that need to provide a letter of support, correct?
A: There is not requirement about what kind of end users are supplying letters. It is up to you to collect the most compelling set of end user letters of support to include in your proposal.

Q: Can the letters of support used for the pre-proposals be included at the full proposal stage?
A: The same individual or organization can certainly provide a letter, especially if it helps to demonstrate a deepening of the engagement with that end user. Regarding use of the exact same letter, we would advise that you consider how clear and compelling that letter is, and whether it includes all the requested elements. If the proposal has changed significantly, it is advisable to make the effort to reach out again and obtain a new letter.

Q: If an end user is also contributing a letter of support for another proposal in this competition, does that mean they have a conflict of interest and cannot submit one for my proposal?
A: From our perspective, that does not constitute a conflict of interest. An end user could certainly be interested and benefit from more than one project, and is free to submit a letter of support for more than one proposal. However, it is important to make sure that, if both proposals happened to be funded, that they can commit whatever time they need to be engaged in the project.

Q: What should be included in fiscal letters of support?
A: Fiscal letters of support should confirm that that the fiscal point of contact at a fiduciary intuition or subcontracting institution has reviewed the proposal, approves its submission, and agrees to execute their role. It should also include contact information for the fiscal point of contact.

Q: If subcontractors are also end users who are planning on writing a letter of support that includes their commitment to the project, do they also need to have a separate letter that just addresses only their fiscal involvement?
A: No. If subcontractors are also end users who will be writing a letter of support, they can include all of the information about their involvement (end user and fiscal) in one letter. In these instances, please include the same letter in both appendices-- D and E-- for ease of review. This should keep things simple for your end users and ensures that reviewers can easily confirm the relevant support.

Proposal Submission

Q: How can I test my U-M Friend Account username and password in advance of submitting my proposal?
A: To submit your full proposal, your login credentials must be the same as those used to submit your pre-proposal. You can test your credentials by following the unique URL emailed to you when invited to full proposal. You will automatically be prompted to log in or will need to click the "Apply" button, which will then prompt you to log in. If the credentials are correct, you will be taken to your existing application where you will upload your full proposal when you are ready to submit. If you do not remember your password, there's a "need help?" box at the bottom of the login screen. If you click on that box, one of the options you will be given is "Reset Friend Password". You may also contact us at NERRS-info@umich.edu in advance of the proposal deadline for support in identifying the correct username and resetting your password if necessary.

Review and Selection

Q: How many teams were invited to the full proposal phase?
A: Ten teams were invited to submit a full proposal.

Q: What's the timeline for written technical reviews and responses?
A: Three to four weeks overall. We plan to send reviews to teams by May 19 and ask for a response by May 26.

Q: Can one assume panelists are familiar with NERR system and system-wide programs like SWMP (System Wide Monitoring Program) or the Coastal Training Program?
A: We advise applicants not to assume too great a depth of knowledge about NERRS programs, e.g., writing SWMP without spelling it out at least the first time. While many panelists are familiar with the NERRS, not all reviewers are well versed in the System.

Budget

Q: Are there any items that are not allowable in the budget; for example gift cards to stakeholders who may be missing a day of work to help with the project?

A: There are some particular guidelines for the budget, in particular around purchasing large pieces of equipment. Gift cards, honorarium, or travel reimbursements to encourage end user participation are examples of allowable costs, you just need to clearly articulate the purpose and justify the amount in the budget.

Q: Can I change my budget amount or reallocate portions of my budget to adjust for changes in item cost?
A: Guidelines say you cannot increase your overall budget request, but you can ask for less. At the pre-proposal stage we only asked for your bottom-line request, so you have complete flexibility to allocate your budget as you think most appropriate.

Q: Is there any flexibility for the $200K/year cap?
A: No. Proposals may request up to $200K per year but annual budgets should not exceed $200K. The total budget may not exceed $600,000 for a three-year project.

Q: Do we need to break down the budget by year and, if so, can we use our university fiscal years?
A: Yes, we would like to see your budget broken down into project years. Please do use the project years (Oct 1 - Sept 30), and not your university fiscal years.

Q: Can you clarify what the IDC cap on subcontracts means?
A: In most indirect cost agreements with the Federal Government, you can only charge indirect on the first $25K of a subcontract. Subcontracts can be any size they need to be to make the project work.

Q: For the requirement that IDC may only be applied to the first $25K of a subcontract, is that intended for the primary fiscal agent, or for the subcontractor?
A: This rule is intended for the primary fiscal agent. The primary fiscal agent may charge IDC on the full amount staying in house but, for subcontracts it issues and manages, may only charge IDC on the first $25k of the subcontract. The subcontractors themselves may charge IDC on the full amount. For subcontracts that subcontractors issue and manage, they should follow suit and only charge IDC on the first $25k of the subcontracts.

Q: Should travel to the NERRS Annual Meeting be included in the budget? Are PIs expected to attend the Annual Meeting?
A: You are not required to attend the Annual Meeting, but it may advance your project in some way. If this is the case, and you need to attend as part of the scope of your project, you should include that in your budget.

Q: Is there a preferred category for participant support costs or support to attend workshops in the budget template?
A: Those can go as a separate line under "participant support," "travel support," or can be classified as "other."

Q: I am developing a proposal that includes several reserves and a couple of other subcontracts, which has implications for administering and indirect costs. Is there an alternate way for the Science Collaborative to administer funds to multiple reserves on a project like this or is it best to plan this as a single award to one fiscal agent with subcontracts below that?
A: Please plan the budget as a single award to one fiscal agent with subcontracts below that.

Q: I would like to offer staff at many different reserves who are engaged in the project and experts/advisors to the project the ability to invoice to cover the cost of their time (roughly $2k-5k apiece). Do I need to present these as individual contracts and include fiscal letters of commitment or is there a simpler way?
A: You could go the route of subcontracts or maybe think about these expenses as honoraria that you set a maximum amount for and account for as separate lines in your budget. You need to provide an explanation for them in your justification but can avoid drawing up lots of subcontracts and letters of fiscal commitment.

Alternatively, depending on the fiduciary's rules, a partner institution may invoice (vs subcontract) small amounts for reserve staff time. For example, a fiduciary may have a rule that allows them to reimburse up to 10K without a subcontract. Typically an honorarium is to compensate an individual for work outside their regular work, so the language might affect your approach.

Q: Can the fiduciary institution sub-contract with one entity, which will then manage other sub-contracts for project tasks or activities?
A: Yes, this is an acceptable approach**.**

Q: Can CESU (Cooperative Ecosystem Studies Unit) entities apply their negotiated reduced indirect rates to Science Collaborative grants?
A: Contracts for funded Science Collaborative grants will be made between the University of Michigan and the project's fiduciary institution; as such, project's fiduciary institution should apply their federally negotiated indirect rate to the project.

Q: Can a nongovernmental organization serve as the primary fiduciary institution? If so, are there specific guidelines to guide selection of an appropriate organization?
A: Yes. This is permissible and NGOs have successfully served as the fiscal agent for previous NERRS Science Collaborative projects. To serve as a fiscal agent, the NGO should be a 501(c)(3) organization and be registered and fully credentialed through the Internal Revenue Service. The NGO should also have an interest and role in the proposed work.

Q: What are the requirements for Science Collaborative projects regarding indirect cost rates?
A: The Science Collaborative recognizes federally negotiated indirect cost rates (i.e., there is no cap on indirect costs). Lower indirect cost rates are acceptable, if the proposing organization or institution approves it. If the fiscal agent does not have a federally

negotiated indirect cost rate, they may apply a rate of 10%. Indirect costs, including fringe, for subcontractors may be folded into the itemized budget line items; we do not need to see these costs broken out. However, subcontractors should adhere to their federally-negotiated IDC rate; if they do not have a federally negotiated indirect cost rate, they should apply a rate of 10%.

Q: Is graduate student tuition an eligible expense?
A: Yes, projects that include graduate student support may include tuition for these students in the budget.

Q: Are expenses associated with infrastructure eligible expenses?
A: No, infrastructure is not supportable with the type of funds we have for this grant program.

Q: The July funding time and fall start time are difficult for recruiting graduate student research assistants. What leeway do fundees have to alter salary distribution (to a lab manager or technician, for example)? Or are submitted budgets set in stone?
A: You have flexibility within your budget unless your home institution treats student support differently than it does faculty or staff support. Typically that's considered a single budget line so you have flexibility within that budget line item to distribute funds.

Q: The full proposal guidelines recommend that 10-15% of the proposed budget support data management related activities. How should that 10-15% be budgeted?
A: As described in the full proposal requirements,

> *If collecting new data, full 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. For budget allocation guidance, it is anticipated that 10% to 15% of the overall budget should go to support data management activities.*

This figure is based on past experience and is intended to serve as a guide when developing your budget; your team should budget for data management activities as appropriate for your project. The expectation is that adequate salary and expertise will be allotted to sufficiently cover the details of data management. The budget justification and team sections are good places to specify an experienced technician associated with the project who will dedicate some percentage of their time toward data management activities. The full proposal budget, budget narrative, and data sharing plan should clearly convey that the team has adequate resources dedicated to meeting the project's data sharing management plan needs.

Q: How will budgets be handled for multi-institutional teams?
A: The University of Michigan will make one award to the fiscal agent, and the fiscal agent will be responsible for issuing and managing any subcontracts. The full proposal should have one overall project budget from the project's fiscal agent - section F in the budget

worksheet should include the total amounts going to each sub-contractor. The proposal must also include a separate budget and budget narrative from each sub-contractor. Both the overall project budget and the sub-contractor budgets should be developed using the budget template available on the grant page: www.nerrssciencecollaborative.org/research

Q: How should a subcontract that will be open for bid (i.e., not yet itemized) be displayed in the budget?
A. Detailed budgets must be provided for all sub-contracts. If a proposal budget includes an *estimate* for a subcontract, for example for a web developer or data specialist that has not yet been identified, the budget should include a line item under "other" with a cost estimate of the subcontract services; the estimate and services should be summarized in the budget narrative.

Q: Is there a match requirement for Science Collaborative grant funding?
A: This is not a requirement but is one way to demonstrate commitment and engagement from your partners. If you would like to include a description of match in your proposal, we ask that you not include it in the budget, but rather describe it elsewhere in the proposal, e.g. the budget narrative.

Q: Can international collaborators participate as contractors?
A: Yes. Researchers from institutions outside the U.S. may be included on the project but cannot serve as the fiscal agent. Foreign researchers may also be funded by sub-awards through an eligible U.S. entity.

Q: What budget template should subcontracts use?
A: Subcontracts should use the same budget template, which is available on the grants page. The budget template should be completed for the full budget *and* for any subcontracts. The full budget should provide the total annual amounts for each subcontract in section F. Specific costs for each subcontract must then be detailed in a separate budget sheet which should follow the same format as the template. Each subcontract should also be accompanied by a budget narrative.

Q: Our budget includes subcontracts with multiple reserves; though the exact amounts of the line items for these subcontracts vary slightly due to variations in salary, IDC rates, etc., the justifications are identical. Can we use a blanket budget justification for each of these sub-contracts, or do we need separate, but identical, justifications for each sub-contract budget?
A: In this situation, it is acceptable to use a blanket budget justification; however, the exact figures in each of the respective subcontracts should reflect the actual line item budgets.

Data Management and CDMO Services

Q: Is using the NERRS Centralized Data Management Office (CDMO) for data archival the preferred approach?

A: We don't have a preference for data archival, it just needs to be logical and accessible to the maximum number of people. It might be helpful to see where similar types of data, such as genetic data or remote sensing data, are already archived and accessible.

Q: Does using CDMO for data archival and management need to be budgeted for?
A: Data archival services are provided as part of CDMO core requirements and do not need to be part of a project's budget. If a project has more involved data management or archival needs, CDMO can work with project leads to evaluate whether there needs to be an associated cost; those conversations should take place as early as possible with those submitting proposals.

Q: Is there a maximum size limit on data that can be archived on CDMO?
A: CDMO has not yet encountered any data collections that they cannot archive. If this changes at a later date, CDMO will evaluate each situation on a case-by-case basis.

Q: Who should we contact with data management questions?
A: All questions regarding the full proposal guidelines and development, including data management, should be sent to nerrs-info@umich.edu. The Science Collaborative will coordinate responses with other team members, including CDMO.

Q: What services are the CDMO able to provide for funded NSC projects? What services will the CDMO NOT provide?
A: The CDMO can host data and associated metadata for funded NSC projects that need such a service. The CDMO can also provide web services for projects that need to provide data pushing or pulling services. Individual projects are responsible for expenses and activities associated with data collection, QA/QC and metadata development, though the CDMO can provide some guidance in these areas if needed. Please note that the CDMO can only provide web-based data archiving and access services; the CDMO will NOT provide for the development and maintenance of full-blown websites for individual projects.

Q: If we plan to use the CDMO to host our data, do we need to get permission or some sort of agreement to include in the proposal?
A: CDMO is committed to helping all recipients of Science Collaborative grants in a few ways, including consulting on data sharing plans and processes, and archiving and making accessible project datasets using their servers and typical protocols. If CDMO's standard archival/access process, as explained below, meets your project needs, applicants are welcome to include that approach in their proposal's data sharing plans without a detailed conversation with CDMO.

The Science Collaborative can provide the following access and archival process for any project teams that wish to archive data with CDMO: We will create an entry about your datasets in the Science Collaborative online library, as well as in national data catalogs (InPort), and potential users 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. More complicated data sharing ideas, such as developing an interactive user interface for a database, would require some extra conversations with CDMO and likely additional resources, as this is not part of CDMO's typical support for Science Collaborative projects. You are welcome to reach out to Dwayne Porter from the CDMO (porter@sc.edu) to discuss more involved data management needs.

Q: Our project involves the synthesis of existing published and unpublished data collected by the project team, and some additional new data collection. Does the synthesis component of the project need to be in the data management plan? Does that qualify as new data products that are created?
A: Data sharing expectations apply to both newly created data, generated data, i.e. modeling results, and data products. Not all the data sharing plan questions will apply perfectly to a data synthesis effort - for example, there may not be a standard metadata format for your new database - but you should indicate how the database could be made accessible down the road and will be archived long term.

Q: Are there formatting requirements for data that will be transferred to the CDMO for data-hosting services?
A: The Centralized Data Management Office (CDMO) will not be requiring specific data formats. The CDMO will be available to offer assistance, if requested. What will be expected is that associated metadata provided by projects will clearly state the data formats, QA/QC methods, etc. as outlined in the Data Sharing Plan Requirements and Outline.

Data Management for Unique Types of Data

Q: If part of the project is to develop and improve code, are there special places to share it? Special requirements?
A: CDMO can provide access to code directly, but also considers GitHub a legitimate and effective way of sharing statistical and modeling code.

Q: For projects that are collecting very large data sets, e.g., imagery, can the team submit the metadata to the CDMO or other NOAA repository but store or archive the raw data using a proposing team member's institutional resources?
A: Yes, this is an appropriate strategy; NOAA's repositories may be able to accommodate such large data sets for archival purposes, but timely access of stored data can be an issue. The proposing team should describe this process in their Data Sharing Plan and provide links to any existing websites that will be used to make data accessible.

Q: What is the definition of "derived data"?
A: The NOAA/NERRS Science Collaborative requirements for data sharing are in effect for new data collected as part of a NSC-funded activity and for derived data created as part of such activity. "Derived data" refers to information derived from existing data resources and/or new data that you have collected. As an example, a project focusing on coastal resiliency may collect data on the environmental, social, infrastructural and policy characteristics of communities in support of developing a coastal resiliency index for each

community. The determined resiliency index for each community would be considered derived data.

Q. For projects that propose running models, how should the storage and availability of model outputs be addressed?
A: Archival and access to model outputs can present the same challenges as with imagery described above. Project teams should develop an appropriate strategy for both archival and access of model outputs.

Q: Is there a standard for social science data, similar to the standards for environmental data?
A: No, there is no standard for social science data, as the Institutional Review Board (IRB) process for human subject research varies from institution to institution. In general, social science data collected as part of a research project that had to go through IRB approval is also subject to federal data sharing rules. Research studies involving human subjects require IRB review. Evaluative studies, such as needs assessments, user experience surveys and program/tool evaluation activities typically do not require IRB approval, unless the activity is being conducted to answer a broader research question. However, it is not always easy to distinguish between these two types of projects and many projects frequently have elements of both.

Human subjects are defined as "living individual(s) about whom an investigator conducting research obtains (1) data through intervention or interaction with the individual; or (2) identifiable private information." Research involving the secondary analysis of existing data must be also reviewed by the IRB to ensure that the original data was properly and ethically obtained and that the objectives of the secondary analysis are aligned with those for which consent was obtained. All human subject research, as explained above, regardless of whether or not identifying information is collected must be reviewed by the IRB. The research, including the recruitment of research participants, cannot begin until the application has been reviewed and approved. Therefore, the decision about whether review is required should be made in concert with the IRB. Proposing teams should identify and comply with the IRB process that is appropriate for their project team. If you have any questions about whether this applies to your project, please contact us (nerrs-info@umich.edu).

Q: What is considered data? For example, are interviews or evidence libraries considered data?
A: Survey responses collected as part of a research are typically considered data in the eyes of NOAA and the Federal Government. Evidence libraries would require further discussion to determine whether they meet requirements.

Q: If we are collecting data with an existing DSP under CDMO, such as SWMP data, as well as new, original data, how should we articulate this in our data sharing plan?
A: It is important to be as detailed as possible on what data are being collected, where it will be stored, and how it can be accessed. In the case above, it is important to detail which

data being collected are SWMP data and what are new, original data and how they will be managed. NERRS CDMO wants to know where data management responsibilities lie and where the data resides in case authorized individuals are interested in seeing portions of the data collected.

Q: Our data collection coincides with a NERRS Long-Term Ecological Research (LTER) program. Does this affect our data sharing plan at all?
A: If data are collected as part of LTER activities, it is expected that data collection activities are adhering to LTER data management requirements. Please specify if your data are being managed through the LTER program in your DSP.

General Data Sharing Expectations

Q: What is the time frame for data sharing? Do data need to be shared by the end of the grant timeline?
A: The expectation is that data will be made available as quickly as possible. For some projects this could be throughout the life of the project, for others it could be at the end of the project or within 2 years of the end date. The National Oceanic and Atmospheric Administration (NOAA) requires that environmental data collected and/or created under NOAA grants and cooperative agreements must be made visible, accessible, and independently understandable to general users, free of charge or at minimal cost, in a timely manner, typically no later than two (2) years after the data are collected or created, except where limited by law, regulation, policy or security requirements.

Q: How should projects address long-term accessibility and usability of project data sets, results, models or other tools?
A: Ideally, the project team should engage intended users from the beginning and work together to develop a plan for making data, results and tools accessible and usable for end users during and after the project period. Intended users will have different needs, capabilities and expectations for how they might access and use project outputs. Storing project datasets in established data repositories (e.g., CDMO, NODC) is important, but additional steps may need to be taken to ensure that intended users are able to find and apply project results.

Q: Does including collected data in a table or as an appendix of a published manuscript or technical report suffice for meeting the requirements for data sharing?
A: 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. While including collected data in a table or as an appendix in a published manuscript or technical report is encouraged, that alone does not meet the NOAA requirements for data sharing. It is expected that each project collecting new data will make the actual QA/QC'd data and associated metadata available and archived via a web portal or data repository maintained by the project investigators, project partners, a NOAA-approved data warehouse, or the CDMO.

Q: If our project is collecting new data to augment or integrate into an already existing dataset, do we also need to make available the previously collected data?
A: No; the requirement to archive and share data applies only to data collected with Science Collaborative funding.

Data Sharing Plan and Metadata Requirements

Q: Is the data sharing plan similar to those required as part of NOAA or NSF proposals?
A: Yes. The National Oceanic and Atmospheric Administration (NOAA) requires that data collected and/or created under NOAA grants and cooperative agreements must be made visible, accessible, and independently understandable to general users, free of charge or at minimal cost, in a timely manner (typically no later than two (2) years after the data are collected or created), except where limited by law, regulation, policy, or security requirements. Therefore, NERRS Science Collaborative project full proposals must include a section describing the Data Sharing Plan (DSP). This section should describe how the proposal will conform to Department of Commerce and NOAA/NOS guidelines for data sharing and metadata and should include descriptions of the following components:

- Methods and protocols for data collection.
- Data quality control / quality assurance (QA/QC) procedures.
- Metadata.
- Data access.
- Data archival.

It is expected that methods and protocols for data collection, QA/QC, and metadata development will be described within the DSP. Plans for data access and archival should include how data will be made accessible and how data will be archived. Examples of data management plans are available at the NOAA Environmental Data Management Wiki (https://geo-ide.noaa.gov/wiki/index.php?title=Main_Page) under the Data Management Plan Repository. A valid DSP may include only the statement that no detailed plan is needed, as long as the statement is accompanied by a clear justification (e.g. no new data are being collected).

Q: All of the existing data that we are planning on using is public domain, and are currently in our possession; what information should we include in the "Data Accessibility" section of the DSP?
A: If the existing data you plan to use are already publicly available, you should indicate in the "Data Accessibility" section that the data you plan to use are already in the public domain; be sure to include a description from where those data are available.

Q: Where can we find the ISO 19115 Metadata Standards that are referenced in the DSP guidance?

A: The ISO 19115 Metadata Standards are available on NOAA's website at: https://geo-ide.noaa.gov/wiki/index.php?title=ISO_19115_Core_Elements

Q: Can you provide an example Data Sharing Plan for a project that is related to coastal or estuarine research?
A: Yes – a sample estuarine research Data Sharing Plan is available of the full proposal requirements webpage: www.nerrssciencecollaborative.org/research

Q: Are there other examples of data sharing plans that have been done well?
A: Yes, NOAA has put together a set of examples of well-constructed data sharing plans. Examples of data management plans are available at the NOAA Environmental Data Management Wiki under the Data Management Plan Repository: www.ngdc.noaa.gov/wiki/index.php/Main_Page