Data Management Plan Description

Plans for data management and sharing of the products of research. Proposals must include a document of no more than two pages uploaded under "Data Management Plan" in the supplementary documentation section of FastLane. This supplementary document should describe how the proposal will conform to NSF policy on the dissemination and sharing of research results (see Chapter XI.D.4), and may include:

1. The types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project;

2. The standards to be used for data and metadata format and content (where existing standards are absent or deemed inadequate, this should be documented along with any proposed solutions or remedies);

3. Policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, intellectual property, or other rights or requirements;
4. Policies and provisions for re-use, re-distribution, and the production of derivatives; and
5. Plans for archiving data, samples, and other research products, and for preservation of access to them.

Data management requirements and plans specific to the Directorate, Office, Division, Program, or Other NSF unit, relevant to a proposal are available at: http://www.nsf.gov/bfa/dias/policy/dmp.jsp.
If guidance specific to the program is not available, then the requirements established in this section Apply.

Simultaneously submitted collaborative proposals and proposals that include subawards are a single unified project and should include only one supplemental combined Data Management Plan, regardless of the number of non-lead collaborative proposals or subawards included.

A valid Data Management Plan may include only the statement that no detailed plan is needed, as long as the statement is accompanied by a clear justification. Proposers who feel that the plan cannot fit within the limit of two pages may use part of the 15-page Project Description for additional data management information. Proposers are advised that the Data Management Plan must not be used to circumvent the 15-page Project Description limitation. The Data Management Plan will be reviewed as an integral part of the proposal, considered under Intellectual Merit or Broader Impacts or both, as appropriate for the scientific community of relevance.

Types of Data Produced:
Data to be generated will include [.......]

Data and Metadata Standards:
Data will be organized into individual experiments containing question or rationale behind performing a particular experiment, the method used to perform the experiment, the results obtained, and the meaning of the results. This will be stored as a hard copy (laboratory notebook) in the office of the PI, as well as a digital copy of the PI's office computer and backed up on an external hard drive. The raw data will also be stored digitally in these locations and organized in folders referencing the data generator, the project title, a short description of the experiment, and a reference to the digital hard copy laboratory notebook where the originally recorded information can be found.

Policies for Access and Sharing, and Provisions for Appropriate Protection of Privacy:
All data will be available through request of the PI. Summarized results will be made publicly available through local presentations and reports as well as scholarly publications. All applicable University of Maine and research ethics protocols will be followed. Final, peer-reviewed manuscripts accepted for publication and other media-based deliverables will be uploaded to DigitalCommons@UMaine in electronic format for free, worldwide dissemination via open access. DigitalCommons@UMaine (http://digitalcommons.library.umaine.edu/), the University's institutional repository (IR) will provide long-term, stable delivery of final, resulting, peer-reviewed manuscripts accepted for publication in peer reviewed journals. DigitalCommons@UMaine software is a product of bepress of Berkeley, CA. The service offers unlimited storage with offsite backups of files on Amazon Glacier as well as quarterly full-site archives. Long-term accessibility to resulting, peer-reviewed content will be facilitated by bepress' (Open Access Scholarly Publishing Services) commitment to the provision of long-term stable URLs and the preservation of all objects uploaded to the repository in the original format. In addition, the service is committed to making PDF documents web-accessible on a permanent basis.

Policies and Provisions for Re-Use and Re-Distribution:
The PI and/or the University of Maine will retain the right to decide when, where, and to who the data may be re-used or redistributed. This includes both to companies who may be interested in the outcome of the experiments for product development and improvement or private individuals engaged in research or technology transfer.

Plans for Archiving and Preservation:
During the execution of this project, all primary data will be placed on an external hard drive and stored in the office of the PI. In addition, the Advanced Computing Group (ACG) at the University of Maine will be used to provide cloud computing and storage capabilities for this project. As such, all data produced will be stored on multiple redundant disk arrays housed in a secure, climate-controlled data center with backup power. Operation and maintenance of the machines as well as backups of all data is provided by the ACG in order to ensure that all data are continuously available. Both an internal firewall and an external firewall are in place to ensure the security of the data.