Today's Data, Tomorrow's Discoveries
Increasing Access to the Results of Research Funded by the
National Science Foundation

<u>Executive Summary</u>

NSF 15-51

Today's Data, Tomorrow's Discoveries, the National Science Foundation's (NSF) plan for increasing public access to the results of research NSF funds, builds on the Foundation's long-standing commitment to data sharing and clear and open communication of research findings. Given the importance of reducing barriers to communication and in keeping with the policy objectives contained in the memorandum *Increasing Access to the Results of Federally Funded Scientific Research*, released by the White House Office of Science and Technology Policy (OSTP) on February 22, 2013, NSF has developed a plan that:

- Is open, flexible, and incremental;
- Minimizes burden on awardees and staff;
- Recognizes the diversity of the science and research communities the Foundation supports;
- Manages journal publications and scientific data in an integrated approach; and
- Leverages infrastructure, resources, services, and best practices across the government and in the private sector while remaining open to future technological change.

Wherever possible, NSF retains existing policies and procedures, including the data management plan (DMP) requirement, data citation guidance, reporting requirements, and policies on covering costs for publication and preparing data for deposit and curation, as well as existing processes for public notice and comment. Specifically:

- All proposals must include a two-page DMP that explains how data collected during the award will be managed. These plans are evaluated as part of merit review and are monitored by program officers during the period of the award. Proposals that do not include a DMP are returned without review.
- Investigators may include citations to relevant data sets in their Biographical Sketches that are included in their proposals. Appropriate citations include identification of the creator or author of the data set as well as a persistent identifier, together with other information deemed relevant by the repository or the discipline. Data citation and description remain topics of active discussion, and the plan calls for continued consultation with the concerned research communities to formulate guidance on best practices and to incorporate discipline-based innovations as they emerge.
- Investigators are required to make available copies of publications based on the award to the Cognizant Program Officer. The plan builds on existing requirements for journal publications and juried conference papers by requiring deposit of either the final accepted manuscript or the version of record in a designated repository where the final accepted manuscript or version of record can be made available to the public, free of charge, at the conclusion of an embargo

period of no more than 12 months, depending on the policy of the journal. Metadata describing the items must be available upon publication, free of charge to end users. In the future, NSF expects to expand the scope of research products covered by the deposit policy to include other materials such as white papers, technical reports, instructional materials, and so on.

- Proposals may include costs of publication and the sharing of research results as a direct cost in the proposal budget. Like the DMP, these are evaluated during merit review.
- Any changes to existing policies will become part of *NSF's Proposal & Award Policies & Procedures Guide* and will be subject to the government-wide processes for notification and comment. NSF expects to announce a change in its policy governing mandatory deposit of peer-reviewed journal publications and juried conference papers in April 2015 for implementation in January 2016. Journal articles and juried papers that are supported by awards resulting from proposals submitted on or after the January 2016 effective date must be made available to the public by submission to a designated NSF-supported repository. In anticipation of the new deposit requirement, NSF expects to stand up a system for voluntary use by the investigator community by the end of December 2015.
- NSF supports a very wide range of scientific disciplines and communities and recognizes that publication traditions and practices may vary substantially. A process for requesting a waiver to the embargo period of no more than a year is outlined in the plan.

In keeping with the Foundation's policy of leveraging resources and developing partnerships with other agencies and with the private sector, NSF has entered into a collaboration with the Department of Energy's Office of Scientific and Technical Information (DOE/OSTI) to develop a system for deposit of journal articles and juried conference papers that will make them available to the public as well to third-party search engines, and will also provide long-term preservation. DOE/OSTI has maintained good relationships with the scientific publishing community and has a system that will allow end users to access the best available version of a given item, including the version of record that will be made available directly by cooperating publishers.   Over time, NSF hopes to expand its partnerships in a federated system to work with other Federal agencies and repositories; repository systems built by publishers who meet relevant criteria for access and long-term preservation; and repository systems maintained by the universities and academic libraries that, again, will meet relevant requirements.

Finally, NSF recognizes that managing investigator research data that result from Federal investments is a major challenge. NSF supports a diversity of science, and data sets are highly heterogeneous, vary widely in size and granularity, and can carry restrictions associated with personal privacy, confidentiality, and security among other considerations. The NSF directorates provide specific DMP guidance, some of it relating to unique data types, and the high level, flexible plan accommodates this approach. Moreover, given the range of scientific disciplines that NSF supports, the Foundation intends to maintain extensive communication with the research communities, publishers, and stewardship institutions, as well as with other state and Federal agencies, to encourage adopting best practices appropriate to the scientific disciplines and the research communities that advance public access goals.