

EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF SCIENCE AND TECHNOLOGY POLICY
WASHINGTON, D.C. 20502

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MEMORANDUM FOR THE HEADS OF EXECUTIVE DEPARTMENTS AND AGENCIES

FROM: John P. Holdren 
Director

SUBJECT: Increasing Access to the Results of Federally Funded Scientific Research

1. Policy Principles

The Administration is committed to ensuring that, to the greatest extent and with the fewest constraints possible and consistent with law and the objectives set out below, the direct results of federally funded scientific research are made available to and useful for the public, industry, and the scientific community. Such results include peer-reviewed publications and digital data.

Scientific research supported by the Federal Government catalyzes innovative breakthroughs that drive our economy. The results of that research become the grist for new insights and are assets for progress in areas such as health, energy, the environment, agriculture, and national security.

Access to digital data sets resulting from federally funded research allows companies to focus resources and efforts on understanding and exploiting discoveries. For example, open weather data underpins the forecasting industry, and making genome sequences publicly available has spawned many biotechnology innovations. In addition, wider availability of peer-reviewed publications and scientific data in digital formats will create innovative economic markets for services related to curation, preservation, analysis, and visualization. Policies that mobilize these publications and data for re-use through preservation and broader public access also maximize the impact and accountability of the Federal research investment. These policies will accelerate scientific breakthroughs and innovation, promote entrepreneurship, and enhance economic growth and job creation.

The Administration also recognizes that publishers provide valuable services, including the coordination of peer review, that are essential for ensuring the high quality and integrity of many scholarly publications. It is critical that these services continue to be made available. It is also important that Federal policy not adversely affect opportunities for researchers who are not funded by the Federal Government to disseminate any analysis or results of their research.

To achieve the Administration's commitment to increase access to federally funded published research and digital scientific data, Federal agencies investing in research and development must have clear and coordinated policies for increasing such access.

2. Agency Public Access Plan

The Office of Science and Technology Policy (OSTP) hereby directs each Federal agency with over \$100 million in annual conduct of research and development expenditures to develop a plan to support increased public access to the results of research funded by the Federal Government. This includes any results published in peer-reviewed scholarly publications that are based on research that directly arises from Federal funds, as defined in relevant OMB circulars (e.g., A-21 and A-11). It is preferred that agencies work together, where appropriate, to develop these plans.

Each agency plan must be consistent with the objectives set out in this memorandum. These objectives were developed with input from the National Science and Technology Council and public consultation in compliance with the America COMPETES Reauthorization Act of 2010 (P.L. 111-358).

Further, each agency plan for both scientific publications and digital scientific data must contain the following elements:

- a) a strategy for leveraging existing archives, where appropriate, and fostering public-private partnerships with scientific journals relevant to the agency's research;
- b) a strategy for improving the public's ability to locate and access digital data resulting from federally funded scientific research;
- c) an approach for optimizing search, archival, and dissemination features that encourages innovation in accessibility and interoperability, while ensuring long-term stewardship of the results of federally funded research;
- d) a plan for notifying awardees and other federally funded scientific researchers of their obligations (e.g., through guidance, conditions of awards, and/or regulatory changes);
- e) an agency strategy for measuring and, as necessary, enforcing compliance with its plan;
- f) identification of resources within the existing agency budget to implement the plan;
- g) a timeline for implementation; and
- h) identification of any special circumstances that prevent the agency from meeting any of the objectives set out in this memorandum, in whole or in part.

Each agency shall submit its draft plan to OSTP within six months of publication of this memorandum. OSTP, in coordination with the Office of Management and Budget (OMB), will review the draft agency plans and provide guidance to facilitate the development of final plans that are consistent with the objectives of this memorandum and, where possible, compatible with the plans of other Federal agencies subject to this memorandum. In devising its final plan, each

agency should use a transparent process for soliciting views from stakeholders, including federally funded researchers, universities, libraries, publishers, users of federally funded research results, and civil society groups, and take such views into account.

3. Objectives for Public Access to Scientific Publications

To the extent feasible and consistent with law; agency mission; resource constraints; U.S. national, homeland, and economic security; and the objectives listed below, the results of unclassified research that are published in peer-reviewed publications directly arising from Federal funding should be stored for long-term preservation and publicly accessible to search, retrieve, and analyze in ways that maximize the impact and accountability of the Federal research investment.

In developing their public access plans, agencies shall seek to put in place policies that enhance innovation and competitiveness by maximizing the potential to create new business opportunities and are otherwise consistent with the principles articulated in section 1.

Agency plans must also describe, to the extent feasible, procedures the agency will take to help prevent the unauthorized mass redistribution of scholarly publications.

Further, each agency plan shall:

- a) Ensure that the public can read, download, and analyze in digital form final peer-reviewed manuscripts or final published documents within a timeframe that is appropriate for each type of research conducted or sponsored by the agency. Specifically, each agency:
 - i) shall use a twelve-month post-publication embargo period as a guideline for making research papers publicly available; however, an agency may tailor its plan as necessary to address the objectives articulated in this memorandum, as well as the challenges and public interests that are unique to each field and mission combination, and
 - ii) shall also provide a mechanism for stakeholders to petition for changing the embargo period for a specific field by presenting evidence demonstrating that the plan would be inconsistent with the objectives articulated in this memorandum;
- b) Facilitate easy public search, analysis of, and access to peer-reviewed scholarly publications directly arising from research funded by the Federal Government;
- c) Ensure full public access to publications' metadata without charge upon first publication in a data format that ensures interoperability with current and future search technology. Where possible, the metadata should provide a link to the location where the full text and associated supplemental materials will be made available after the embargo period;

- d) Encourage public-private collaboration to:
 - i) maximize the potential for interoperability between public and private platforms and creative reuse to enhance value to all stakeholders,
 - ii) avoid unnecessary duplication of existing mechanisms,
 - iii) maximize the impact of the Federal research investment, and
 - iv) otherwise assist with implementation of the agency plan;
- e) Ensure that attribution to authors, journals, and original publishers is maintained; and
- f) Ensure that publications and metadata are stored in an archival solution that:
 - i) provides for long-term preservation and access to the content without charge,
 - ii) uses standards, widely available and, to the extent possible, nonproprietary archival formats for text and associated content (e.g., images, video, supporting data),
 - iii) provides access for persons with disabilities consistent with Section 508 of the Rehabilitation Act of 1973,¹ and
 - iv) enables integration and interoperability with other Federal public access archival solutions and other appropriate archives.

Repositories could be maintained by the Federal agency funding the research, through an arrangement with other Federal agencies, or through other parties working in partnership with the agency including, but not limited to, scholarly and professional associations, publishers and libraries.

4. Objectives for Public Access to Scientific Data in Digital Formats

To the extent feasible and consistent with applicable law and policy²; agency mission; resource constraints; U.S. national, homeland, and economic security; and the objectives listed below, digitally formatted scientific data resulting from unclassified research supported wholly or in part

¹ Section 508 Of The Rehabilitation Act, as amended, available at: <https://www.section508.gov/index.cfm?fuseAction=1998Amend>

² These policies include, but are not limited to OMB Circular A-130, Management of Federal Information Resources, available at: http://www.whitehouse.gov/omb/circulars_a130_a130trans4

by Federal funding should be stored and publicly accessible to search, retrieve, and analyze. For purposes of this memorandum, data is defined, consistent with OMB circular A-110, as the digital recorded factual material commonly accepted in the scientific community as necessary to validate research findings including data sets used to support scholarly publications, but does not include laboratory notebooks, preliminary analyses, drafts of scientific papers, plans for future research, peer review reports, communications with colleagues, or physical objects, such as laboratory specimens. Each agency's public access plan shall:

- a) Maximize access, by the general public and without charge, to digitally formatted scientific data created with Federal funds, while:
 - i) protecting confidentiality and personal privacy,
 - ii) recognizing proprietary interests, business confidential information, and intellectual property rights and avoiding significant negative impact on intellectual property rights, innovation, and U.S. competitiveness, and
 - iii) preserving the balance between the relative value of long-term preservation and access and the associated cost and administrative burden;
- b) Ensure that all extramural researchers receiving Federal grants and contracts for scientific research and intramural researchers develop data management plans, as appropriate, describing how they will provide for long-term preservation of, and access to, scientific data in digital formats resulting from federally funded research, or explaining why long-term preservation and access cannot be justified;
- c) Allow the inclusion of appropriate costs for data management and access in proposals for Federal funding for scientific research;
- d) Ensure appropriate evaluation of the merits of submitted data management plans;
- e) Include mechanisms to ensure that intramural and extramural researchers comply with data management plans and policies;
- f) Promote the deposit of data in publicly accessible databases, where appropriate and available;
- g) Encourage cooperation with the private sector to improve data access and compatibility, including through the formation of public-private partnerships with foundations and other research funding organizations;
- h) Develop approaches for identifying and providing appropriate attribution to scientific data sets that are made available under the plan;

- i) In coordination with other agencies and the private sector, support training, education, and workforce development related to scientific data management, analysis, storage, preservation, and stewardship; and
- j) Provide for the assessment of long-term needs for the preservation of scientific data in fields that the agency supports and outline options for developing and sustaining repositories for scientific data in digital formats, taking into account the efforts of public and private sector entities.

5. Implementation of Public Access Plans

Some Federal agencies already have policies that partially meet the requirements of this memo. Those agencies should adapt those policies, as necessary, to fully meet the requirements. Once finalized, each agency should post its public access plan on its Open Government website.

The agency plan shall not apply to manuscripts submitted for publication prior to the plan's effective date or to digital data generated prior to the plan's effective date. The effective dates can be no sooner than the publication date of the agency's final plan.

OSTP will oversee implementation through regular meetings with agencies. Each agency shall provide updates on implementation to the Directors of OSTP and OMB twice yearly; these updates shall be submitted by January 1 and July 1 of each year for two years after the effective date of the agency's final plan. An agency may amend its public access plan consistent with these objectives, in consultation with OSTP and OMB.

6. General Provisions

Nothing in this memorandum shall be construed to impair or otherwise affect authority granted by law to an executive department, agency, or the head thereof; or functions of the Director of OMB relating to budgetary, administrative, or legislative proposals.

Consistent with the America COMPETES Reauthorization Act of 2010, nothing in this memorandum, or the agency plans developed pursuant to it, shall be construed to authorize or require agencies to undermine any right under the provisions of title 17 or 35, United States Code, or to violate the international obligations of the United States. This memorandum is not intended to, and does not, create any right or benefit, substantive or procedural, enforceable at law or in equity, by any party against the United States; its departments, agencies; or entities, its officers, employees, or agents; or any other person.