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Subject: Response by Creative Commons - Request for Information: Public Access to Peer-Reviewed Scholarly Publications, Data and Code Resulting From Federally Funded Research

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General comments

[Creative Commons](#) (CC) is pleased to provide its submission to the [Federal Register's Request for Information: Public Access to Peer-Reviewed Scholarly Publications, Data and Code Resulting From Federally Funded Research](#). We thank the Office of Science and Technology Policy (OSTP) for taking an earnest interest in this important issue and for taking the time to consult with stakeholders.

CC is committed to the goal of ensuring that the public is able to access immediately, freely and without restriction the peer-reviewed scholarly publications, data and code resulting from Federally funded research. We encourage the OSTP to pursue this goal. After supporting successful efforts in open access and open education with Federal agencies, including the OSTP, the U.S. Department of State, USAID, U.S. Department of Labor, and U.S. Department of Education, CC has the institutional knowledge to support this work. We address each question raised in the Request for Information in turn.

Question 1. What current limitations exist to the effective communication of research outputs (publications, data, and code) and how might communications evolve to accelerate public access while advancing the quality of scientific research? What are the barriers to and opportunities for change?

The lack of access to research outputs is a pressing issue. Tax-payers should have access to the research outputs that their tax dollars have funded. Many barriers that currently stand in the way of access could be removed with the help of CC's licenses and tools and thanks to the advice and information we provide to governments and institutions on the creation, adoption and implementation of open policies.

The twelve-month embargo period proposed in the 2013 memorandum [Increasing Access to the Results of Federally Funded Scientific Research](#) is a significant limitation to the effective communication of research outputs. We strongly argue against any embargo period on peer-reviewed scholarly publications resulting from publicly funded research.

Restrictive licensing terms as well as terms and conditions of use that do not allow full access and reuse of research outputs constitute a further limitation. Publications need to be immediately available under terms and conditions that allow their full reuse. Peer-reviewed scholarly publications should be licensed under the [Creative Commons Attribution 4.0 International license \(CC BY\)](#), to allow for the widest possible access, use and reuse of scholarly publications. When [articles are openly licensed](#) using CC BY, they can be translated into other languages, downloaded, and freely shared with scientists, scholars, students, practitioners and the general public the world over.

Increasing access to scholarly publications and underlying research data will undeniably advance the quality of scientific research by increasing the pool of resources available to other researchers working in related fields, by allowing greater transparency in the sharing of research outputs and by enriching scientific discussions and exchanges among researchers in an open and prompt manner.

Furthermore, to enable other researchers and the public to validate, replicate and put to new uses the data underlying scholarly publications, data should be made immediately available (0 embargo period) upon the article's publication and dedicated to the public domain using the [Creative Commons Public Domain Dedication \(CC0\)](#). Data should be FAIR (Findable, Accessible, Interoperable, Reusable). All research outputs (article text, images, charts, graphs, data, etc.) should be made available in machine-readable form in order to take advantage of new computational technologies, including text and data mining, machine learning and AI. Any corresponding software or code should be licensed under an [OSI-approved](#) open source software license.

Free public access to and long-term preservation of final peer-reviewed articles or published versions and supporting data should be provided via either a digital repository maintained by a Federal agency or in any repository that allows immediate and free access.

To sum up, requiring Federal agencies to develop, adopt, and implement open access policies that require:

- a 0 embargo period on the article and research data upon publication,
- the application of the CC BY license on the article,
- researchers dedicate their research data to the public domain using CC0, and
- openly license corresponding software or code

will foster increased access to and progress in scholarly research, science and innovation. CC is ready to engage with Federal agencies and interested stakeholders to provide further advice and expertise on these matters.

Question 2. What more can Federal agencies do to make tax-payer funded research results, including peer-reviewed author manuscripts, data, and code funded by the Federal Government, freely and publicly accessible in a way that minimizes delay, maximizes access, and enhances usability? How can the Federal Government engage with other sectors to achieve these goals?

Please see our comments under Question 1 for arguments in favor of making resources freely and publicly accessible in ways that minimize delay, maximize access and enhance usability.

Federal staff need support to develop their understanding and competency in open licensing before they can effectively achieve these goals. CC offers tutorials and a robust [open licensing training](#), which could be adapted for the specific licensing needs of Federal agency staff: policy, grant and contract officers. CC could develop a Certificate for Government specifically geared towards the needs of Federal agency staff.

The [Federal Open Policy Playbook](#), drafted in part by CC, is a good resource for developing Federal staff understanding of the importance of open licensing policies on publicly funded research, data and educational resources. It provides case studies from Federal agencies applying open policies and a list of key civil society contacts that can provide support.

The Federal Government may engage through exchanges of information and best practices with actors and stakeholders in other sectors that promote widespread open access, such as the [Open Education](#) sector. Creative Commons' Director of Open Education, Dr. Cable Green, is available to talk with OSTP any time: cable@creativecommons.org

Question 3. How would American science leadership and American competitiveness benefit from immediate access to these resources? What are potential challenges and effective approaches for overcoming them? Analyses that weigh the trade-offs of different approaches and models, especially those that provide data, will be particularly helpful.

American businesses in all sectors, particularly SMEs and startups, struggle to gain quick and unfettered access to scientific research publications, data and code for commercial application. These businesses undeniably stand to benefit from policies making those research outputs openly accessible. Open access will accelerate the creation and making of new, innovative products and increase the competitiveness of American industries at the global level.

Open access to publicly-funded research outputs is becoming the global norm as it increases a government's return on investment in research. As other nations around the world increasingly adopt open access policies, the U.S. risks lagging behind in global competition and missing out on innovation opportunities if it does not take a bold stance in favor of open access to publicly funded, peer-reviewed scholarly publication, research data and code.

Open access is also critical for higher education institutions. The U.S. cannot play a leadership role in science if U.S. [scientists](#) routinely cannot access, and build and innovate upon, critical research articles and data.

Question 4. Any additional information that might be considered for Federal policies related to public access to peer-reviewed author manuscripts, data, and code resulting from federally supported research.

Open access policies are increasingly being adopted, as obvious benefits emerge from their application to publicly funded research outputs. For example, in 2019, more than a dozen national research funders across Europe collectively identifying as [cOAlition S](#) introduced "Plan S," an open access policy. According to Plan S, all funded scientific works are made freely available upon publication. cOAlition S cites their fiduciary responsibility as funders to provide a strong, functional science system to the taxpayers who fund it.

More and more private research funders support open access policies and practices. The [Bill and Melinda Gates Foundation](#), for instance, has adopted an open access policy that requires grant recipients to publish their articles with a 0 embargo period, to

license the article CC BY, and to make the research data open so anyone in the world can immediately access its funded research. The [Wellcome Trust](#) and the [Hewlett Foundation](#) have a similar policy.

CC encourages Federal agencies to develop and apply open access policies that provide the public with immediate, comprehensive, and cost-effective access to peer-reviewed publications reporting on the results of the Federally funded research, following the principles established in the [Budapest Open Access Initiative](#). We also press for measures that would make [preprints](#) openly available as well.

Making sure the results of publicly funded research are readily accessible to all citizens speeds up the pace of scientific discovery, spurs innovation, and provides fuel for the creation of new jobs across a broad spectrum of the economy. This conclusion is widely supported by economic models and direct experience. As direct funders of Federally funded research, U.S. taxpayers are entitled to have access to its results in a timely manner and without any legal encumbrance. They also have a right to expect that the distribution and use of these results will be maximized to increase their return on investment. Further, open access policies improve transparency and accountability in government spending.

CC remains committed to working with Federal agencies and other stakeholders to ensure the public's investment in research is maximized for the benefit of researchers, industry and the public as a whole.

The U.S. has provided exemplary relief and support for humanitarian disasters, and epidemics that threaten American human security, such as Ebola. One of the most efficient ways to address epidemics and protect citizens is through enacting policies that enable the fast transfer and updating of information for scientists and humanitarian workers, i.e., open access policies. COVID-19 presents the greatest public health threat of our time, and [open access to research](#) is essential to address the pandemic.

In closing, we reiterate our gratitude to the OSTP for facilitating a robust discussion of this important issue. To follow through, we suggest implementing a strong immediate open access policy for the results of publicly-funded research.

Please contact Creative Commons anytime we can be of assistance.

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