

22 December 2011

Re: FR Doc. 2011–28623

Dear Sir or Madam,

I am writing to respond to OSTP's November 3, 2011, "Request for Information" (RFI) regarding "Public Access to Peer-Reviewed Scholarly Publications Resulting from Federally Funded Research." The American Geophysical Union (AGU) is a 501(c)(3) corporation with more than 60,000 members whose research interests take in a broad range of earth and space sciences. AGU publishes 19 peer-reviewed journals across these scientific disciplines. AGU employs 180 staff including 120 engaged in publishing.

As a scholarly society publisher, our goal is to expand access to the latest breakthroughs in the scientific research and developments in academic thought. The main purpose of a scholarly journal is to publish articles that analyze and interpret original research or experimentation in order to make such information available to the global research community. We are uniquely positioned to help the federal government in expanding public access to publications that describe and interpret federally funded research, ensuring the long-term stewardship of these publications, and supporting innovation and economic development derived from scholarly discovery.

AGU has contributed significantly in support of the scientific community by expanding accessibility to content, improving interoperability, and fueling innovation. We have invested in a digital platform with evolving Web capabilities to provide students, faculty, researchers, and other interested users with faster and more robust delivery of earth and space science information, including dynamic ways to present data and scientific articles. Working with others in the publishing community, we have improved interoperability through new metadata standards and pilot projects, which are driving innovation and providing for better information discovery and expanded use of research results.

The core publisher activities of supporting peer review, ensuring the continued integrity and reliability of the scholarly record, formatting this content to make it accessible to users worldwide, and preserving the scholarly record for future generations do not come without costs and ongoing investment. These activities are threatened by access policies that do not take these costs into account. In considering policies that could potentially expand public access to research results, it is critically important that any new policy does not damage the private institutions on which the federal government and its scientific enterprise depend.

AGU is not unique among scientific societies in that a major portion of the funds supporting the activities of the members through meetings, programs, and outreach is provided by net revenue earned from publishing operations. Beyond the obvious cost of loss of jobs if revenues are

impacted through federal government mandates with an adverse impact on publishing, the entire scientific program of AGU is at risk. Multiplied across the hundreds of society publishers similarly dependent on publishing revenues, a major portion of activities in the scientific community is at risk.

A federal agency public access policy that is sustainable in the long term and maximizes benefits to researchers and the public at large will function as a balanced public-private partnership to enhance access and interoperability; adequately protect fundamental intellectual property rights; and respect proprietary contributions of added value to ensure sustained private investment in innovation. This approach meets the needs of the scientific community by relying on evidence-based assessments and providing access to taxpayer-funded research results through both public and private channels.

The America COMPETES Act, which established a public access policy for research funded by the National Science Foundation (NSF), provides a constructive model that can be replicated in a timely manner at other federal agencies. This is to be contrasted with the NIH policy, which has the potential to significantly damage a well-functioning system of communication for scientific discovery and innovation, reduce economic benefits and employment, and undermine intellectual property. Each of these models should be carefully analyzed to be sure its long-term impact on all stakeholders is fully understood.

The America COMPETES Reauthorization Act of 2010, signed by President Obama earlier this year, calls upon OSTP to coordinate agency policies related to the dissemination and long-term stewardship of the results of federally funded unclassified research. We strongly support this goal, as well as the guiding principles of transparency, participation, and collaboration that President Obama and OMB Director Orszag articulated at the onset of this administration.

Scholarly publishers strongly support the view that the federal government should be guided by “principles of transparency, participation and collaboration” as noted in the Transparency and Open Government Memorandum and Open Government Directive. We stand ready to work in collaboration with all partners to ensure the continued success, vibrancy, and innovation of the U.S. scientific community.

In addition to the general suggestions above, we would like to comment specifically on some of the questions outlined in OSTP’s November 3 Federal Register Notice requesting public comment.

1. Are there steps that agencies could take to grow existing and new markets related to the access and analysis of peer-reviewed publications that result from federally funded scientific research? How can policies for archiving publications and making them publically accessible be used to grow the economy and improve the productivity of the scientific enterprise? What are the relative costs and benefits of such policies? What type of access to these publications is required to maximize U.S. economic growth and improve the productivity of the American scientific enterprise?

AGU provides a robust, innovative market for peer-reviewed publications around the world that has led to multiple channels of access to and analysis of research across a broad array of scientific disciplines. AGU has worked actively with library consortia, both in the United States and globally, to disseminate our content to libraries that on their own would not be likely to subscribe to our content, thereby making content available to users who would not otherwise have access. These and other publisher initiatives have helped accelerate and broaden electronic access to the peer-reviewed literature.

AGU is willing and able to work with all stakeholders to address existing or future gaps in access. Agencies should identify specific needs of particular user groups that are not already being met and collaborate with publishers and other stakeholders to meet those needs most effectively. Researchers, the general public, funders, students, teaching faculty, and others each have different information requirements. AGU is committed to identifying and addressing these access gaps.

Some options to broaden access to materials that analyze and interpret research for scientists and the public:

- Work to develop standards for data and metadata to make research more readily searchable and discoverable. AGU is already working with other publishers to develop standardized information and collections through initiatives like CrossRef.
- Work with researchers and other stakeholders to create appropriate policies that recognize costs to make the federal agency–collected and -maintained outputs of taxpayer-funded research, such as grant reports and research progress reports, freely available to the public.
- Make funds available to support payment for services publishers provide to authors so authors may elect to provide unfettered public access to their articles. Publishers provide valuable services in managing the peer review process, disseminating research, archiving content, and collaborating to make discovery of science easy and complete. Publishers are currently compensated for those services principally through subscription revenue; a shift to compensation from authors for these services has some inherent faults but is an alternative that needs to be explored. Several research funders already do this (e.g., Howard Hughes Medical Institute, The Wellcome Trust, Max Planck Institutes).
- License content from publishers to make it available to specific audiences. Publishers license content to customers of many kinds and can generally customize those licenses to meet specific or specialized user needs, including those of government agencies, and have the ability to ensure the availability of their content with existing infrastructure.

Public access government mandates have significant costs to the U.S. economy and the scientific enterprise:

- The data from PubMedCentral at NIH indicate that two-thirds of users are from overseas, undermining critical export opportunities for an \$8 billion publishing industry that employs 50,000 Americans. Those users are being supported by U.S. taxpayers; current technology capable of limiting access to U.S. users only would be expensive to implement and would be easily circumvented.
- Significant value added by the publishing industry could be eliminated if revenue channels necessary for publishers to reinvest in their businesses and innovations continue to be threatened by government-mandated access policies that provide free access to publishers' works and enable piracy and unauthorized reuse.
- Even as the U.S. government is considering policies that would have significant long-range costs to the government by creating repositories that must be maintained and migrated as technology changes, there have been reports of library closing and other budget cuts. Publishers provide a robust archive of articles through their own databases, through shared archiving in projects such as CLOCKSS (<http://www.clockss.org/clockss/Home>), and through commercial archives such as Portico (<http://www.portico.org/digital-preservation/>) as one of the many services we provide.
- We do not yet know all of the impacts of the NIH policy, but there are significant concerns that it may undermine U.S. competitiveness and negatively impact U.S. jobs.

2. What specific steps can be taken to protect the intellectual property interests of publishers, scientists, Federal agencies, and other stakeholders involved with the publication and dissemination of peer-reviewed scholarly publications resulting from federally funded scientific research? Conversely, are there policies that should not be adopted with respect to public access to peer-reviewed scholarly publications so as not to undermine any intellectual property rights of publishers, scientists, Federal agencies, and other stakeholders?

The best way for the federal government to protect the intellectual property interests of all stakeholders in the scholarly communication process is to work in collaboration with researchers to create appropriate policies for making public the research progress reports that it receives as a condition of grantmaking. This approach would include free access to all final project reports and citations of published research documents publicly available via the Internet. It would ensure that public access policies do not undermine the peer-reviewed scientific journals in which scientists publish.

Any regulations should be constructed to ensure copyrighted materials are protected from unauthorized dissemination and piracy. Copyright is an essential ingredient in promoting creativity, innovation, and the continued integrity and reliability of the scholarly record. We have seen that the NIH policy undermines intellectual property rights and promotes pirating. Not only is PMC undermining an important U.S. export market, but PMC copies of copyrighted material appear on other unauthorized sites, contributing to millions of dollars in annual losses to U.S. publishers.

The federal government should:

- Provide open access to a final research report, rather than asserting a type of eminent domain over the peer-reviewed journal article. This solution would allow standardization of information reported, rapid and broad dissemination of the government-funded materials even before publication of a peer-reviewed article, and the preservation of intellectual property. The reports, which are already mandated and filed as a part of grants, should be open to the public and would constitute the resolution of the requirement that results of publicly funded research be made publicly available. The further value that publishers add is outside of this mandate and would work in conjunction with this resolution, but AGU and other publishers are willing and eager to cross-link between the reports and final published articles. The scientific record would be enhanced by this linkage, and users would have an option if they do not have access to the published article.
- Support the continued operation of various models of publishing to ensure access to innovation and the ability of researchers to publish in the venue of their choice. The traditional subscription model successfully serves many researchers, users, and libraries both in the United States and internationally. A different model, often titled Open Access, combined with the strategy of authors compensating publishers for valuable services has gained some traction in recent years. There may be a different model that evolves or the market may settle on one of these, but the government should not mandate a specific model, especially with imperfect information about the consequences of such an action; AGU is already experimenting with alternative models and will experiment with new models as they arise.

3. What are the pros and cons of centralized and decentralized approaches to managing public access to peer reviewed scholarly publications that result from federally funded research in terms of interoperability, search, development of analytic tools, and other scientific and commercial opportunities? Are there reasons why a Federal agency (or agencies) should maintain custody of all published content, and are there ways that the government can ensure long-term stewardship if content is distributed across multiple private sources?

There are many opinions about whether centralized government control of scientific publications and the tools by which they can be searched and analyzed is consistent with democratic and free market principles. Centralized, government-controlled custody of publication carries significant risks and few benefits.

Long-term stewardship of content carries significant costs that are already being borne by publishers. In an era of dwindling federal resources, central federal repositories are duplicative and an unnecessary expense and recurring burden that may not be viable for long-term stewardship. As noted above, federal agencies are already being forced to close libraries; are the agencies involved able to commit funds far into the future to maintain and evolve depositories of electronic articles? What impact will shrinking budgets have on various aspects of repositories? How will these repositories be integrated with each other? With nongovernmental repositories?

With current publishers' repositories? In the latter case, even if all current content funded by the federal government were located in government repositories, previous content still has significant intellectual value to researchers and must be integrated to be effectively used. With multiple sources of scholarly publications, many of which are not based on government-funded research, partnerships among stakeholders are essential for achieving effective access to literature that represents the latest scholarly discoveries.

A centralized governmental approach will deter private sector innovation by establishing unnecessary levels of oversight and bureaucracy that stifle creativity. It will also minimize scientific and commercial opportunities by reducing potential traffic to innovative new applications that facilitate the work of researchers. The government must be prepared to invest in technology to provide features, functionality, services, and innovations that match those provided by AGU and other publishers.

The publishing industry is already doing a good job of promoting interoperability, search, development of analytic tools, and other scientific and commercial opportunities. There is no reason to doubt that publishers will continue to provide innovative products and services, unless their financial livelihood is undermined by harmful policies.

A competitive publishing environment of not-for-profit and for-profit organizations — all of whom must receive a return on investment to survive — has led to robust technology development in scholarly publishing during the past 20 years. This sector of the publishing community, which includes professional associations, commercial publishers, and university presses, moved quickly and decisively to introduce new technologies that meet researchers' demands for faster and more user-friendly delivery of scholarly information. That innovation has not stopped; new ideas are constantly being evaluated and field tested. Many of these ideas add value to the scientific enterprise by enhancing the reach of scholarly communication, making data more easily discovered and analyzed, and by expediting the dissemination of results of research to an ever-expanding pool of scientists. Publishers over the past decade have developed the Digital Object Identifier (DOI), a unique identifier for each piece of content in a scholarly publication. In partnership with stakeholders, we are continuing to innovate in the creation and standardization of metadata to make it easier for researchers and the public to find and use scientific research information.

A collaboration of publishers, librarians, and database providers established COUNTER (Counting Online Usage of NeTworked Electronic Resources), which has produced an international set of standards and protocols governing the recording and exchange of online usage data. This enables libraries to better understand how the digital collections are being used, and it allows publishers to better understand the usage patterns of their digital content. COUNTER standards continue to be refined and extended to provide ever more information about usage of published content.

Internet search engines, abstracting services, and other tools do an excellent job of ensuring the discoverability of research, and innovations in this area occur every day without government interference.

4. Are there models or new ideas for public-private partnerships that take advantage of existing publisher archives and encourage innovation in accessibility and interoperability, while ensuring long-term stewardship of the results of federally funded research?

AGU is engaged in a Microsoft research project to create a new search and discovery service (Microsoft Academic Search) that will add another service for searching articles and mining text and will provide linkages among authors. The advantages of such a service to AGU constituents include the following:

- Enhancing discoverability of articles.
- Enabling editors to identify reviewers in areas that are underserved or emerging.
- Enabling scientists to identify possible collaborators for research.
- Enabling scientists to identify emerging areas of research and those who are working in those areas.

AGU staff has participated in workshops with NSF and NAS to explore what options fit the mandate of the America COMPETES Act to create the greatest benefit to science without harming publishers, especially society publishers. AGU seeks out opportunities such as this request for participation and will continue to work formally and informally with interested stakeholders. AGU regularly consults with our library community on the needs of researchers and other constituents, and to understand the changing needs of librarians in this dynamic economic environment.

Journal publishers are actively working with federal research agencies to develop and implement multiple collaborative projects that will enhance the public access, utility, and preservation of materials that report on, analyze, and interpret federally funded research, including progress reports, scholarly publications, and data for use by both the research community and the general public.

5. What steps can be taken by Federal agencies, publishers, and/or scholarly and professional societies to encourage interoperable search, discovery, and analysis capacity across disciplines and archives? What are the minimum core metadata for scholarly publications that must be made available to the public to allow such capabilities? How should Federal agencies make certain that such minimum core metadata associated with peer-reviewed publications resulting from federally funded scientific research are publicly available to ensure that these publications can be easily found and linked to Federal science funding?

Publishers are dedicated to the widest possible dissemination and discoverability of publications that analyze and interpret research. Partnerships with industry are already underway to determine, develop, and include appropriate metadata in publications. Examples of such metadata initiatives include the following:

1) Standards and persistent identifiers to enhance the discoverability of publications that analyze and interpret government-funded research and to promote interoperability among the funding agencies, publishers, and any third-party databases and platforms:

- a. Standardizing and facilitating funding agency information. Publishers are collaborating with agencies to create a pilot initiative to clearly indicate the funding agency responsible for research described and analyzed in a scholarly publication or an associated data set, giving the research community and public easy links to a variety of access options on the publishers' site. Working with the publishing community to gather and link this information will save agencies considerable effort and expense compared with producing or maintaining such information or services on agency websites.
- b. DOIs for data sets and article supplementary material. There is considerable opportunity for strengthening the multiple organizational partnerships that already exist to promote the identification, discoverability, and archiving of data, including Datacite (www.datacite.org) and the NISO/NFAIS Working Group on Supplementary Journal Information (www.niso.org).
- c. Author and institution disambiguation. Name ambiguity and attribution are persistent, critical problems embedded in the scholarly research system. The Open Researcher & Contributor ID (ORCID) project (www.orcid.org) is a successful public-private partnership with 275 participating organizations, funded by \$2M in loans from publishing partners and building on successful investments by publishers in the past. A pilot demonstration began earlier this year and is on schedule, and institutional IDs will be addressed in a second stage.

2) Discovery tools to facilitate journal content mining, access dark archives, and improve data management:

- a. Content mining. Content mining projects could be developed as collaborations between publishers and federal funders. Publishers are already working on projects to mine journal and book content, and it might be helpful for federal funders to develop a content mining demonstrator to illustrate the value of content mining to the broader scientific community.
- b. Author-driven data management. For many years, publishers have produced and archived data-specific journals, and they are maintaining and updating such data sets with DOIs and semantic tagging. There are also many examples of pilot projects on data management.

Federal agencies should work with publishers and other stakeholders who have expertise in developing and promulgating metadata to ensure standardization across disciplines and share best practices.

6. How can Federal agencies that fund science maximize the benefit of public access policies to U.S. taxpayers, and their investment in the peer-reviewed literature, while minimizing burden and costs for stakeholders, including awardee institutions, scientists, publishers, Federal agencies, and libraries?

Federal agencies should maximize public access to the federally funded research in which taxpayers invest. However, it is publishers that invest in the systems and processes that result in

peer-reviewed literature. The federal investment is in research, not publication, with significant value added by the publisher. U.S. federally funded research agencies should neither take publishers' products nor require publishers to provide their products for public access.

An excellent mechanism to ensure public access to materials that analyze and interpret research funded by the taxpayer is already partially implemented. By law, every federally funded research project is required to provide a detailed final report. Some science funding agencies make these reports freely available via the Web, but others do not. Making them all available would solve the access problem. Other agencies, such as NSF, are exploring alternate means of providing public access to researcher-supplied reports.

Agencies should seek productive and mutually beneficial projects and partnerships that ensure greater availability of both taxpayer-funded research directly from the government and peer-reviewed, value-added publisher content. For example, publishers are ready to partner with federal agencies to provide easy links between progress reports detailing research results, perhaps including lay summaries, and the peer-reviewed version of record, including complete access to the abstract or summary. Such projects would result in interoperability between funding agencies and publisher content, ensuring more timely and complete availability of scientific communication related to federally funded research, as well as better reporting on the results of taxpayer funding for research.

7. Besides scholarly journal articles, should other types of peer-reviewed publications resulting from federally funded research, such as book chapters and conference proceedings, be covered by these public access policies?

No. Publishers also invest in these other types of content used by researchers, often by conceptualizing the project, commissioning the content, and investing heavily in its development. As with any kind of content published by a nongovernmental entity at its own initiative, government-mandated access to books, proceedings, or other such materials is an expropriation of private property. The same model used for journal publishing, in which the federal agency publishes the detailed final report from a grant and the publisher provides valuable peer review, editing, and curation services should be followed for books publishing.

8. What is the appropriate embargo period after publication before the public is granted free access to the full content of peer reviewed scholarly publications resulting from federally funded research? Please describe the empirical basis for the recommended embargo period. Analyses that weigh public and private benefits and account for external market factors, such as competition, price changes, library budgets, and other factors, will be particularly useful. Are there evidence-based arguments that can be made that the delay period should be different for specific disciplines or types of publications?

The federal government should not mandate any such embargo period because peer-reviewed papers should not be made public within the duration of the article's copyright without the copyright holder's permission. For accepted author manuscripts and published journal articles,

both of which publishers have invested in heavily, publishers should determine the business models on which their publications operate, and this should include the time, if any, at which the final peer-reviewed manuscript or final published article is made publicly available. AGU and several other publishers permit limited distribution of articles by the author as a matter of policy, but that policy should be at the publisher's discretion or at the option of the author. Many publishers that derive revenue from subscriptions have options to allow authors to allow anyone to have unfettered access to the authors' article; at AGU this is a program called Author Choice. For a fee to compensate AGU for the valuable publishing services provided to the author, the author may make an article open, subject to copyright restrictions on the end user.

Peer-reviewed articles are not the direct result of the expenditure of taxpayer funds; on the contrary, they result from a significant publisher investment. The ability to recoup that investment enables innovation, allows infrastructure to be developed (including archives and metadata), and provides incentives to try new approaches.

There are, therefore, no "appropriate" embargo periods, and the research in different disciplines (and even subfields) has different life spans. For example, articles published in AGU's 12 journals have a long citation half-life of 8 years and lifetime usage that exceeds 20 years. Recent articles are important to any field of research, but at AGU and other publishers, articles retain important value many years into the future. Any embargo period is a dramatic shortening of the period of copyright protection afforded all publishers and is likely to significantly impact publishers' ability to add value and innovate.

We appreciate the opportunity to respond to this RFI and hope that AGU and other stakeholders will be involved in the continuing discussion of this topic.

Sincerely,

A handwritten signature in black ink that reads "Christine W. McEntee". The signature is fluid and cursive, with the first name "Christine" being the most prominent part.

Christine W. McEntee
Executive Director/CEO