Policy Forum on Public Access to Federally Funded Research: Management

By Diane DiEuliis

Happy New Year! On this first day of 2010, the White House Office of Science and Technology Policy is launching Phase Three of our Public Access Policy Forum. The forum asks scientists, primary and secondary publishers, librarians, universities, researchers, students, and the public to help us understand when and how research articles – funded by taxpayers but with value added by scholarly publishers – should be made freely available on the internet.

Over the past three weeks, we have broken down the broader question into focused topics. In Phase One, the public weighed in on which agencies should enact public access policies and how those public policies should be designed. But, access demands not only availability, but also meaningful usability. In Phase Two, participants provided insight on how the Federal government can make its collections of peer-reviewed papers more useful to the American public. Thank you again for your terrific comments on both of these topic areas, especially over the busy holiday season. For those of you who are new to the forum, you can review the full set of blog postings and public comments here.
Today, our discussion turns to questions of management. Phase Three will run through Thursday, January 7, 2010. Between now and then, we would like for you to address the following questions:

- Compliance. What features does a public access policy need to ensure compliance? Should this vary across agencies?
- Evaluation. How should an agency determine whether a public access policy is successful? What measures could agencies use to gauge whether there is increased return on federal investment gained by expanded access?
- Roles. How might a public private partnership promote robust management of a public access policy? Are there examples already in use that may serve as models? What is the best role for the Federal government?

We invite your comments and in particular encourage you to be specific in your thoughts and proposals, providing empirical data and specific supporting examples whenever possible so this discussion can generate maximum practical value. You may want to start by reading a more complete description of this issue as it appeared in the Federal Register.

Importantly, this is a community-moderated blog. That means we count on you to keep the forum focused and on-topic—something you can do by "voting" on comments. Voting is an expression of how germane to the topic a comment is. Voting up a comment expresses approval of the relevance. If enough people vote down a comment, the comment in question "collapses" into a link so that it doesn't interrupt the flow of discussion. Please read the complete Terms of Participation, where you can also learn how to "flag" comments such as spam or obscenities that violate the Terms.

We welcome your thoughtful comments in this open and participatory forum.

Diane DiEuliis, Assistant Director, Life Sciences, Office of Science and Technology Policy

This entry was posted on Friday, January 1st, 2010 at 4:01 pm and is filed under News, OpenGov, Public Access Policy, Requests for Comment. You can follow any responses to this entry through the RSS 2.0 feed.

Responses to "Policy Forum on Public Access to Federally Funded Research: Management"

+1 Victoria Stodden said on January 7, 2010 at 4:40 pm:

Q1: Compliance. What features does a public access policy need to ensure compliance? Should this vary across agencies?
One size does not fit all research problems across all research communities, and a heavy-handed general release requirement across agencies could result in de jure compliance – release of data and code as per the letter of the law – without the extra effort necessary to create usable data and code facilitating reproducibility (and extension) of the results. One solution to this barrier would be to require grant applicants to formulate plans for release of the code and data generated through their research proposal, if funded. This creates a natural mechanism by which grantees (and peer reviewers), who best know their own research environments and community norms, contribute complete strategies for release. This would allow federal funding agencies to gather data on needs for release (repositories, further support, etc.); understand which research problem characteristics engender which particular solutions, which solutions are most appropriate in which settings, and uncover as-yet unrecognized problems particular researchers may encounter. These data would permit federal funding agencies to craft release requirements that are more sensitive to barriers researchers face and the demands of their particular research problems, and implement strategies for enforcement of these requirements. This approach also permits researchers to address confidentiality and privacy issues associated with their research.
Examples:
One exemplary precedent by a UK funding agency is the January 2007 "Policy on data management and sharing"
(http://www.wellcome.ac.uk/About-us/Policy/Policy-and-position-statements/WTX035043.htm)
adopted by The Wellcome Trust (http://www.wellcome.ac.uk/About-us/index.htm) according to which "the Trust will
require that the applicants provide a data management and sharing plan as part of their application; and
review these data management and sharing plans, including any costs involved in delivering them, as an integral part of the funding decision."
A comparable policy statement by US agencies would be quite useful in clarifying OSTP's intent regarding the relationship between publicly-supported research and public access to the research products generated by this support.
An exemplary precedent by a US funding agency is that of NSF's "broader impact criterion" (cf.
http://www.ndsciencehumanitiespolicy.org/workshop/ for an links to extensive discussions on history and examples of what qualifies as evidence

of broad impact). Such an existing requirement could allow, encourage, or require data and code sharing plans as possible examples of broader impact.

A second exemplary precedent by a US funding agency is that of NIH's development of PubMed Central. Submission of manuscripts resulting from NIH support is now mandatory (cf. http://grants.nih.gov/grants/guide/notice-files/NOT-OD-08-033.html). NIH or other agencies might consider developing a similar repository for code, data, or (even better) full compendia (manuscript, data, and code together) of computational research, and possibly requiring use of this reliable, searchable, open repository for future federal funding. By creating and requiring an open access repository for manuscripts, NIH has avoided the possibility that research results can only be accessed by libraries able to pay the increasing costs of subscriptions to closed-access journals.

Q2: Evaluation. How should an agency determine whether a public access policy is successful? What measures could agencies use to gauge whether there is increased return on federal investment gained by expanded access?

One simple gauge is the proportion of funded projects, by field and by agency, which are in compliance. Compliance could be easily measured: whether the research compendia have been made available according to agency policy and the details of the particular grant funding the researcher. When the work is computational, funding agencies could consider implementation of the Reproducible Research Standard (cf. V. Stodden "Enabling Reproducible Research: Licensing For Scientific Innovation" at http://www.ijclp.net/issue_13.html) to untangle intellectual property rights associated with research release and clarify requirements.

The Reproducible Research Standard (RRS) realigns the Intellectual Property framework faced by computational researchers with longstanding scientific norms. The RRS suggests a licensing structure for research compendia, including code and data, that permits others to use and re-use code and data without having to obtain prior permission or assume a Fair Use exception to copyright, so long as attribution is given. The RRS utilizes existing open licenses that permit the free use of licensed work, so long as attribution is given, and is satisfied if the following four conditions hold:

1. The full research compendium, including code and data, is available on the Internet,
2. The media components such as text or figures, (including original selection and arrangement of the data), are licensed under the Creative Commons Attribution License 3.0 or released to the public domain under CC0,
3. The code components are licensed under one of Apache 2.0, the MIT License, or the Modified BSD license, or released to the public domain under CC0,
4. The data have been released into the public domain under CC0 or according to the Science Commons Open Data Protocol.

Using the RRS on all components of computational scholarship will encourage reproducible scientific investigation, facilitate greater collaboration, and promote engagement of the larger community in scientific learning and discovery.

Moreover, in evaluating compliance, we would also want to encompass the ability to build, run, and verify any source code. This might be accomplished using
* spot checks of the repository
* automated checks akin to unit tests
* tests run by a separate reviewer at the time of inclusion

Q3: Roles. How might a public private partnership promote robust management of a public access policy? Are there examples already in use that may serve as models? What is the best role for the Federal government?

Two notable examples of public-private partnership which have benefited science are http://arxiv.org, which is partially NSF-supported, and http://PDB.org, funded by a number of (public and private) sources. PDB in particular has for more than a decade been an integral part of the funding and publication policies in the structural biology community (cf. http://www.nature.com/nsmb/wilma/v5n3.892130820.html).

That said, previous experimentation with private management of scientific works has been problematic in at least one case. In December 2008 Google shut down http://researchdatasets.google.com - a repository for research data (cf. http://www.wired.com/wiredscience/2008/12/googlescienceda/). Private interests are not aligned with those of the scientific community, and there must be a public role in the preservation of this aspect of our culture. Moreover, reliance on private resources comes with venerability to changing missions of or solvency of these private and/or corporate partners. The principle of Open Access recognizes that such collections should be considered valuable stewards of our culture just as the Library of Congress and the National Archives. Rewards for the availability of scientific compendia — papers, data, and code — come not only through views and downloads, but through the acceleration of scientific research, technological development, and an increase in scientific integrity.

Possible roles for the federal government include:
* facilitating and supporting an open an sustainable database comparable to the PDB for research compendia (manuscripts, data, and code)
* encouraging funding agencies to draft clear statements encouraging reproducibility (e.g., distribution of compendia) and public access to research results (e.g., submission to open access journals or arxiv.org)
* clarification of the relationship between copyright and open access (a topic currently under debate in the form of competing proposed congressional bills, cf.
http://www.publishers.org/main/PressCenter/Archicves/2009_Feb/02_FairCopyright.htm and
http://www.taxpayeraccess.org/issues/access/access_supporters/ for background)
* clarification of the relationship between broad impact of publicly-funded research (and public access to the output of this federal support) versus university-specific IP policies (e.g., governing code and data even where generated by publicly-funded research), which often act as a disincentive to sharing the results of federally-funded research.

Victoria Stodden
Yale Law School, New Haven, CT
Science Commons, Cambridge, MA
http://www.stanford.edu/~vcs
Chris Wiggins
Columbia University, New York, NY
http://www.columbia.edu/~chw2
Matthew G. Knepley
University of Chicago, Chicago, IL
http://www.cs.uchicago.edu/~knepley

References These issues were discussed at a roundtable convened by one of the authors on research sharing issues held at Yale Law School on November 21, 2009. The webpage, along with thought pieces and research materials, is located at
http://www.stanford.edu/~vcs/Conferences/RoundtableNov212009/.

Hope Leman said on January 7, 2010 at 6:19 pm:

Victoria Stodden et al make an important point here, "One solution to this barrier would be to require grant applicants to formulate plans for release of the code and data generated through their research proposal, if funded. This creates a natural mechanism by which grantees (and peer reviewers), who best know their own research environments and community norms, contribute complete strategies for release. This would allow federal funding agencies to gather data on needs for release (repositories, further support, etc.); understand which research problem characteristics engender which particular solutions, which solutions are most appropriate in which settings, and uncover as-yet unrecognized problems particular researchers may encounter." Given the rise of Open Science and its myriad modes of communication as Cameron Neylon so well illustrates here:
Capturing Process: Challenges and opportunities
http://www.slideshare.net/CameronNeylon/capturing-process-challenges-and-opportunities
and the appearance in PubMed of the Journal of Visual Experiments (JoVE)
http://blog.openwetware.org/community/2008/08/21/pubmed-indexing-jove-video-publications/
it would indeed make sense to require from grantees a plan for the dissemination of their results. Such a requirement would have the salutary effect of educating grant applicants unfamiliar with Open Science about its huge potential for rendering the research process and scientific communication more efficient.

D Kennedy said on January 7, 2010 at 6:27 pm:

At the outset, it should be said that public access should apply to *all* completed publicly-funded research, not just medical or NIH research. Some research communities already do this partially, for example, the National Academy of Sciences and the National Research Council. Physics and related fields have the open preprint server at xxx.lanl.gov.
Certain time restrictions could be applied to preserve limited copyright for research published in for-profit journals, for example, for one year. But public access should be, in part, a way of addressing the scandal of the expensive and restrictive journals that publish publicly-funded research, but retain exclusive and long-duration copyrights to that research.
For publicly-funded research published in journals, conferences, and non-governmental forums, such rules could simply be applied to the publication venue "as is." No additional government role is needed.
For research conducted by government agencies themselves, and not already published in some other forum, a more comprehensive approach is needed to make research publicly available as soon as it is finished. Over a number of decades, too many cases have occurred of policy decisions made on the basis of research or knowledge not disclosed before or at the time of a decision. Sometimes this information is made available later. But the availability is not timely, and decisions are often hard to reverse, even when the original basis for it has proven flawed or non-existent.
I believe such a system would be better than the "freedom of information request" model now used by many governments. This current mechanism is clumsy and open to obfuscation and abuse. The public release of publicly-funded research should be timely and proactive, not delayed and reactive.

Howard Burrows said on January 7, 2010 at 8:55 pm:

Evaluation:
Accessibility to research results hardly equates to accessibility to scholarly articles. Scholarly research articles aren't usually very accessible, even to researchers in the field–certainly not to the public at large. Rather, we want to measure how well we are harnessing Science and Technology to "improve our quality of life and establish the foundation for the industries and jobs of the future", as stated in Section 3D of the September 9 National Economic Council Strategy for American Innovation.
http://www.whitehouse.gov/administration/eop/nec/StrategyforAmericanInnovation/
This same NEC document suggests that we channel research results into "a rich, interactive digital library at the fingertips of every child." I'd extend this to the fingertips of every citizen and business person. This is a very different vision from an electronic page-turner for the current slew of research articles. The "product" of publicly funded research is NOT an article. Moreover, current incentives stretch each study into many near-redundant articles to facilitate the academic bean-counting of publications for performance evaluation and funding. Citation counting, especially the increase in citations from Open Access, merely adds to the clutter: without seeing the contribution and overlap of each citation too many are empty time sinks that waste the scientist's time to be digested.
An integrated knowledge base could serve to demonstrate what is new and how it impacts other work and the public; we had hoped that the NSDL.org would serve this purpose, but this NSF project has became a computer science project.
Roles:
I believe that the first years of the NSDL, when the projects came together to create a truly integrated digital library, might still serve as the best model. We have the chance with such an approach to change the way science is done, but it is not a "simple" task. Yet it is the best hope for economic recovery (and the survival of life on Earth and all that…). In my article "A healthy information economy" in the January 2007 library journal Against the Grain 18(6)18, I argue for using open markets as a necessary adjunct to Open Access. We need a public private partnership to allow effective promotion of science. Eighty per cent of NSF research proposals are going unfunded, even in areas where there is money and need: this is market failure. Socialized science is not efficient: Vanevar Bush started both the NSF and Raytheon. Most science has recognizable value; a marketplace is needed in which researchers can display their proposals and find customers who stand to benefit from their results.

Jamaica Jones said on January 7, 2010 at 9:03 pm:

Dear Dr. DiEuliis,
The NCAR Library serves in support of the broader community of the University Corporation for Atmospheric Research, a community that last year voiced its support for public access to federally funded research by becoming the first NSF funded facility to adopt an Open Access mandate. We are heartened by the OSTP's interest in this important issue and are grateful for the opportunity to respond.

• Compliance

The NCAR Library advocates that, in the interest of the quality and advancement of science, all research generated as a result of federal funding be made freely and openly available immediately upon publication.

To reduce administrative burden, including the costs and other resources associated with ensuring compliance, we recommend that all such research be made available through the publishers' websites rather than deposited into a centralized federal repository. We also suggest that Federal efforts be redirected from author and institutional compliance to publisher compliance and accommodation. In this scenario, the federal government would work with publishers to ensure that their publishing and copyright transfer agreements were sufficiently amended to allow for unrestricted, immediate, free online access to all papers arising from federally funded research. Recognizing that a great deal of academic publishing, especially in the sciences, is also sponsored by the professional societies, we further recommend the vigorous investigation of new economic models for publishing open content.

Should a repository model be adopted instead, we believe that the attending compliance process should be streamlined to every extent possible. Any system that is burdened with a complicated patchwork of logins, IDs, protocols, and procedures will discourage use and increase the need for monitoring and administration. A singular website should be used for all grant reporting requirements, including submission of published works, and should include in clear and easy-to-understand language all attending policies.

While a step in the right direction, the NIH Manuscript Submission System (NIHMS) is dishearteningly complicated, and its corresponding policies obfuscated by multiple workflows and possible means of submission. To guard against this, submission to a centralized federal repository should be a privilege limited to authors or their agents; although publishers now provide submission to PubMed Central as a service to their NIH-funded authors, this serves in the long run to complicate the system.

• Evaluation

It is important here to differentiate between "success," "value," and "return." Success will be achieved when a sustainable system providing open and immediate access to the federally funded research results has been broadly implemented and adopted.

Value and return on federal investment, however, can only be assessed after those terms are properly and contextually defined. At the NCAR Library, we recognize the importance and influence of traditional impact measurements such as citation rates and the h factor. In addition, however, we believe that, particularly in the case of federally funded research, private sector and educational use of these resources must also be gauged. Among the many benefits that would be inherent in a public access policy such as the one suggested by this RFI are the democratizing of access to information and the harnessing of collective intelligence to solve problems, inspire innovation, and stimulate the economy. We therefore recommend that funding agencies invest in the research and development of new, broadly relevant metrics that gauge the use of resources across diverse communities, as well as the evolution of those resources as they are reused and remixed.

• Roles

We believe that it should not be the role of the federal government to host or preserve the results of the research it funds. Publishers and research institutions provide these services competently, and their efforts should not be duplicated. Rather, we believe that after issuing a public access mandate, the federal government should fund research and development in a number of key areas - primarily licensing, standards, and metrics - that will ensure broad access, ongoing innovation, and economic growth.

Thank you, again, for your interest in public access to federally funded research, and for the opportunity to contribute to this important discussion.

Regards,

Mary Marlino, Director

Jamaica Jones, Special Projects Librarian

NCAR Library

Boulder, Colorado

N. Dean Pentcheff said on January 8, 2010 at 6:21 pm:

A comment from the Natural History Museum of Los Angeles County in response to: The Call for Submissions from the President's Office of Science and Technology Policy on Open Access for Federally-funded research

[Transmitted by N. Dean Pentcheff for John Long, Vice President of Research and Collections, Natural History Museum of Los Angeles County]

5 January 2010

The Natural History Museum of Los Angeles County (NHMLAC) is one of the premier research and educational institutions in the United States. Our extensive collections, containing an estimated 35 million specimens and artifacts, form the basis for regular scientific publications and the disseminating of knowledge in a variety of forms. Our researchers, among the best known in the world in their respective fields, are often the recipients of federal funding and regularly play an important role in reviewing proposals for federal funding from other institutions throughout the country.

A core mission of research museums such as NHMLAC is to generate knowledge through research and to disseminate that knowledge through a mixture of scholarly activity and direct contact with the general public. Federally-funded research is essential for the expansion of knowledge through further research activities, but also because research in turn is the core of the extensive exhibit and educational programs that depend on that research and that are uniquely the purview of major natural history museums like ours. For instance, this museum is currently making once-in-a-lifetime changes to more than half of its permanent exhibit space in part to be able to bring to the public new understanding and new questions that have been generated by recent research advances, including those funded by federal grants.

Therefore it is natural that the NHMLAC fully and enthusiastically supports the greatest possible public access to the products of federally funded research. Our job is to make research knowledge publicly accessible. Full open access to scholarly publications is clearly parallel to the traditional role already played by museums.

The Museum and its staff fully support the "unprecedented level of openness in government" as outlined by President Obama in his Memorandum on Transparency and Open Government, and we strongly support the Federal Research Public Access Act (FRPAA). We urge the White House to direct federal funding agencies to mandate a policy of immediate Open Access for any publications stemming from federal funding (or at most within six months of their appearance in printed form), following the current NIH model of Open Access for all federally funded research.

In answer to the specific questions raised, our replies follow.

1. How do authors, primary and secondary publishers, libraries, universities, and the federal government contribute to the development and dissemination of peer reviewed papers arising from federal funds now, and how might this change under a public access policy?

Answer: The Natural History Museum of Los Angeles County publishes peer-reviewed research papers from its federal funding for science. It also disseminates information through its exhibitions, public programs and in-house publications, such as its journal Contributions to Science and the less frequent Science Series publications. Under a public access policy that provided funding to disseminate research papers, this aim could be realized by allowing direct public access to research papers from its web site , and by the digitization of its Contributions to Science and Science Series publications to allow free public access to all back issues (funding would be required to do so).

2. What characteristics of a public access policy would best accommodate the needs and interests of authors, primary and secondary publishers, libraries, universities, the federal government, users of scientific literature, and the public?

Answer: Creating and maintaining open access to research results will require a commitment to financial support from the federal government. Making research results available on demand does take time, effort, and resources. Financial support will be needed to establish and maintain central or institutional repositories (e.g. for computer hardware and ongoing curatorial work), for the initial digitization and organization of the materials (e.g. scanning and processing of paper documents), and for the accommodation of special or extensive requests for materials.

For all of the stakeholders listed in question 2, with one exception, the unambiguously clear answer is that immediate and full access to published research provides the greatest benefit. The sole exception to that, of course, is the publishers. The scientific publishing model that developed over the last few centuries is built on the idea that it costs significant amounts of money to print and distribute scientific papers. To recoup that expense, publishers use copyright to prohibit or limit dissemination of published papers unless they receive payment for them. Researchers are not paid for their publications, nor are the scientific editors or the peer reviewers. Publishers today are trying to make that traditional model persist by limiting dissemination of scientific publications in electronic form (via copyright).

Over the last two decades, the actual cost of publishing and disseminating a scientific paper has plummeted to near-zero. The added value that scientific publishers used to provide (typesetting, printing, and distributing) is essentially non-existent today. Although increased public access might hurt some publishers, it is not the mission of the federal research establishment to ensure continued business success for publishers. It is, however, incumbent on the government to make the products of federally funded research available to the public as widely and quickly as possible. We strongly urge immediate public access to the products of federally funded research. The benefit to researchers, practitioners, and the general public outweighs any harm that would result to commercial scientific publishing companies.

3. Who are the users of peer-reviewed publications arising from federal research? How do they access and use these papers now, and how might they if these papers were more accessible? Would others use these papers if they were more accessible, and for what purpose?

Answer: The users of peer-reviewed research publications include other researchers, government agencies, universities (for both research and teaching), environmental consultants, non-university school teachers at various levels, and to some degree the inquisitive public. They currently access papers either by being subscribers to the journals (principally through their libraries) or by requesting reprints of the papers directly from the authors. If the papers were freely accessible, we expect there would be much greater use of the work, especially by students and the general public.

4. How best could federal agencies enhance public access to the peer-reviewed papers that arise from their research funds? What measures could agencies use to gauge whether there is increased return on federal investment gained by expanded access?

Answer: Federal agencies could best enhance public access to their peer-reviewed papers arising from their research funds by mandating that all funded researchers publish in open access journals, by allowing costs for the purchase of pdf reprints for each journal, by funding improvement of the host institutions website so that public access to research publications (by pdf download) is facilitated, and by direct negotiation with journals in order to seek access to all published work.

Ensuring effective access will require financial support for either (or both) centralized or institutional repositories. This expense, however, will be trivial compared to the investment already made in generating the research. We strongly recommend that federal funding agencies be instructed to set aside a small but significant amount of funding directly for public access to research. This very small amount of funding would multiply the value of the research by making it available and would allow the researchers to comply with the access mandate.

5. What features does a public access policy need to have to ensure compliance?

Answer: To be effective, a public access policy must provide strong incentives to ensure that publications (and possibly supporting data) are properly deposited. We recommend that future funding from federal agencies should be made contingent on proper deposition of previously funded publications (starting from the time of adoption of a public access policy). This could be achieved by requiring the "Results of Prior Research" sections of grant applications to enumerate the public depositories where those results were placed. Failure to properly deposit publications in a public access repository should be treated in the same way as failure to publish the results of federally funded research, or failure to account for expenditure of federal research funds.

Additionally, to ensure compliance, a public access system must take into account the legal requirements of the publishing companies who produce the original papers and often retain copyright over each publication with respect to providing open access to the published intellectual property; the system must also take into account clear and unambiguous acknowledgement of the author and institutional rights pertaining to copyright and intellectual property embodied within the publications being made freely public. Publishers who wish to publish the results of federally funded research will be required to make Open Access to the papers a part of their copyright policy.

6. What version of the paper should be made public under a public access policy (e.g., the author's peer reviewed manuscript or the final published version)? What are the relative advantages and disadvantages to different versions of a scientific paper?

Answer: We believe that the final published version is preferable to earlier copies of the manuscript. Clearly, only peer-reviewed manuscripts should be required to be available to the public. Any non-reviewed work could be erroneous or represent the biased views of an individual rather than a peer-assessed viewpoint. We see no hypothetical cases whereby a non-reviewed scientific paper would have advantages for clarity or correctness over a peer-reviewed manuscript.

A common compromise in scientific publishing today is for publishers to permit open access to the final peer-reviewed manuscript in public depositories, but to prohibit public access to the final published version. This approach is not acceptable to museum scientists, and we recommend requiring public access to the final published version. An example of the reasoning behind this recommendation stems from the requirements of a major component of museum research: taxonomic publications. Taxonomy, the discipline responsible for systematically naming and organizing our biodiversity knowledge, depends on precise knowledge of publication dates and the exact language of textual species descriptions in order to achieve stability in describing the natural world. Those requirements are analogous to the need to know a date of publication to determine precedence in other scientific fields when essentially similar ideas are near-simultaneously published. However, in taxonomy, those date of publication requirements pertain to every single publication that erects a new species or taxon name.

Because of the requirements for precise knowledge of dates of publication in taxonomy, having multiple versions of papers accessible (for example, a final manuscript in a depository and a "published" version at a journal depository) is damaging to the science. Therefore we strongly recommend that a public access requirement should require access to the final published version.

7. At what point in time should peer-reviewed papers be made public via a public access policy relative to the date a publisher releases the final version? Are there empirical data to support an optimal length of time? Should the delay period be the same or vary for levels of access (e.g., final peer reviewed manuscript or final published article, access under fair use versus alternative license), for federal agencies and scientific disciplines?

Answer: We believe that access to peer-reviewed papers should be immediate upon publication. The only reason for delaying access is to provide financial reward to publishers. We believe that the benefits of immediate open access outweigh the harm to publishers that is likely to result. Because we recommend that the final published version should be the version made available (see answer to question 6), there is no decision to be made regarding different delays for different versions.

8. How should peer-reviewed papers arising from federal investment be made publicly available? In what format should the data be submitted in order to make it easy to search, find, and retrieve and to make it easy for others to link to it? Are there existing digital standards for archiving and interoperability to maximize public benefit? How are these anticipated to change?

Answer: Peer-reviewed papers arising from federal investment could be made publicly available from the host institution website or from newly created websites that host specific subject areas where the public can access published works (e.g. a portal about North American biodiversity or Paleontology etc). Data should be submitted as published pdfs of the papers with a consistent naming system (e.g. author date abbreviations and subject abbreviation). We would suggest that devising a system for free public access be done by archivists working with scientific librarian expertise. We do not know how these systems might change in future.

9. Access demands not only availability, but also meaningful usability. How can the federal government make its collections of peer-reviewed papers more useful to the American public? By what metrics (e.g., number of articles or visitors) should the Federal government measure success of its public access collections? What are the best examples of usability in the private sector (both domestic and international)? And, what makes them exceptional? Should those who access papers be given the opportunity to comment or provide feedback?

Answer: The federal government could make its collections of peer-reviewed papers more accessible to the public if funds were made available to develop clear, easily understood short summaries to accompany each paper, such as a synopsis written in lay terms that summarizes the fundamental points of the publication. Museums that use federally funded research to enhance their exhibitions and public programs could highlight areas in displays where federally funded research enabled the information to be developed, or have free access via download stations within its newly developed exhibitions if funds were made available to add such facilities to existing exhibitions. A tangible example of this might be in the Natural History Museum of Los Angeles County's newly developed "Age of Mammals" Gallery (to open July 2010) where several new kinds of prehistoric mammals will be display publicly, some of which were described using federally funded grants. If funds were made available a simple computer terminal could be added to the gallery where interested members of the public could type in a request for a free copy of the research paper and then have it automatically e-mailed to them.

*** End of Comment ***

+1 rob mayhew said on January 9, 2010 at 6:48 pm:

"That is why there should be a simple Web site with a user-friendly interface run by the NIH or a comparable agency that would be accessible to all and featured on the home pages of public libraries. Upload document here, sort of thing."
This comment is spot on informations should be for all not the rich who can access the big libaries. Info posted to the net is the key
Rob
http://www.greenteastore.co.uk

Hope Leman said on January 19, 2010 at 12:28 pm:

I recently attended ScienceOnline2010 and heard there some excellent talks and would like to share some information from those gatherings. Dorothea Salo gave an outstanding presentation on institutional repositories, which she discusses in her blog post, "Science Online 2010: Lessons for IRs and data curators" http://scienceblogs.com/bookoftrogool/2010/01/science_online_2010_lessons_fo.php
and Victoria Stodden discussed her very interesting ideas about new models for licensing in the sciences that would be very valuable reading for the policymakers of OSTP: "Enabling Reproducible Research: Open Licensing For Scientific Innovation." Her papers can be found here: http://www.stanford.edu/~vcs/Papers.html
Both of these women would be excellent advisers for any committee OSTP puts together.

J. Alex Speer said on January 19, 2010 at 6:02 pm:

Policy Forum on Public Access to Federally Funded Research: Management
The short comment period does not allow for an official statement by Mineralogical Society of America (MSA). What I write are my own thoughts, not those of my employer.
Compliance with and evaluation of a public access policy have been well covered buy others in this Phase on Management. Fewer have addressed the public private partnership question, which may offer a workable path to implementation.
There appears to be a too narrow perception of what is meant by "private" when it comes to publishers. "Private" has been equated by most with for-profit or commercial, but there are publishers that are neither commercial nor governmental. These are the technical and scientific membership societies. They need to be recognized because many technical and scientific membership societies are important and long-term publishers in their fields.
A persistent theme through-out the comment period is that the articles ought to be deposited after peer review, and that the ideal would be to post the final "published" version. Peer review and production of a final "published" version are two tasks currently done by publishers. Many assume that publishers will continue to coordinate peer review, as well as copy edit, layout, produce and archive a "published" version of journal articles even in a world of public or open access wherein both users and authors both have an expectation they need not pay. Without a payer to support

these tasks, publishers will not be doing them. Some believe that publishers are now unneeded for publishing and disseminating a scientific paper, but they limit their definition of publishing to typesetting, printing, and distributing rather than considering the entire enterprise from start to finish, and beyond. There is the suggestion that publisher-organized peer review can be replaced by an open-peer review. Will a fortuitous, open-peer review system guarantee the type of peer review needed of every article posted or will a compliance mandate and process also be needed to achieve less random peer review? It is a bit easier to imagine authors and their institutions being mandated to do their own copy-editing, text layout, database formatting, and posting. This is not to say they will be happy about it.

A public/private partnership that could result in a workable public access policy would be for federal agency repositories to work with publishers. The federal agency repositories could link to the final versions of any supported research publications at the publisher's site, creating a higher quality experience and certainly guaranteeing immediate public or open access compliance when published. The federal agency repositories could also include on their sites other of its research that is self-published or normally not published at all to complete their public access mandate. Should a single, large repository model be adopted instead, publishers could use it instead of or in addition to their own sites to post electronic articles. Such a model could be extended to non-US funded authors, providing a mechanism wherein they could or be willing to continue to publish in US-based journals. Many non-US private and governmental funding organizations are considering mandating publishing in open or public access journals.

Publishers have the experience, organization, and expertise to accomplish public or open content publishing. What is needed is the acceptance by funding agencies and funding recipients of a succession of new and specific publishing concepts contained in grants and contracts, as well as new business models by publishers. Publication monies should be requested as part of any research proposal and directed through the funded author's organization. In that way the funding agency could review publication plans and compliance though the regular proposal review and funding processes. The funded organization needs to encumber the monies to be spent on publications so that they are available when the publication is actually submitted, even if the funding period ends. This approach is redirection of that portion of grant and contract overhead monies now spent for library subscriptions or pay-per view options.

There may actually be few business model options in publishing. Until some, as-yet to-be-discovered pool of money is found, any "new" publishing business model means a transition from a subscription or user-pays model to an author-pays model with the financial burden ultimately falling on the funding agency or author's home institution. Publishing costs are likely to be higher if it is the publishers that must seek funding and develop, submit, and administer separate grant or contract proposals to numerous federal agencies to cover publication costs of submitted manuscripts.

A few unkind words have been said about for-profit or commercial publishers in this blog. Regardless of their basis, we must keep in mind that most goods and services that the government uses are provided by the private, for-profit sector. It is even possible that the depository envisioned by many respondents may be contracted out to the private sector.

There are loose ends here. How are the costs of publishing unfunded research to be covered? Are congressional and executive branch mandates of what and what cannot be published with taxpayer dollars possible to avoid?

J. Alex Speer

Mineralogical Society of America

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