



National Center for Atmospheric Research
NCAR Library
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Response to
Request for Information: Public Access to Peer-Reviewed Scholarly Publications
Resulting From Federally Funded Research
Submitted by the University Corporation for Atmospheric Research
January 2012

Background:

The ideal that scientific information should be widely available for free within a reasonable time after its creation has always been the norm in the atmospheric sciences, where progress would be halted without global data. Although the scientific community has always embraced this ideal, changes in the larger landscape of scholarly publishing have made the issues much more complex. Over the past decade, the publishing industry has undergone a significant transformation. The birth of new scientific sub disciplines, growth of interdisciplinary research, and increase in the volume of data being produced have led to a skyrocketing number of scientific journals. Subscription prices are escalating at a rate well beyond the Consumer Price Index. With more journals costing more money, even the best-funded research libraries can no longer count on being able to maintain a complete collection, and smaller libraries have to weigh each acquisition.

In September, 2009, the University Corporation for Atmospheric Research (UCAR) became the first management entity of a Federally Funded Research and Development Center (FFRDC), the National Center for Atmospheric Research (NCAR), to pass an open access mandate, which states that:

“...each employee will provide an electronic copy of the final version of his/her Scholarly Work in an appropriate format at no charge to the NCAR Library.”

It further states:

“The NCAR Library will take reasonable measures to make the Scholarly Works available to the public, including through an open-access repository.”

OpenSky, the new institutional repository serving UCAR and NCAR was launched in September 2010. It was developed in support of the organization’s newly passed open access policy. OpenSky allows people both inside and outside the institution to freely access peer-reviewed publications and other works by

NCAR and UCAR authors. Although not even 2 years old, the impact on the atmospheric science research and education community has been significant. For example, students from our affiliate universities are using OpenSky to access journal articles for a class on the History of Atmospheric Instrumentation. Many of our university members have expressed their appreciation for our policy, as their university libraries cannot afford the journal subscriptions for all of the sub-disciplinary areas of atmospheric science. It is not difficult to conclude that open access has had a positive impact on both education and scholarship in the atmospheric sciences. We therefore are delighted to be able to respond to this Request for Information.

Comments:

(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?

- NSF and other Federal agencies should follow the policies of the NIH in requiring free and immediate access, with minimal restrictions for reuse, upon publication of federally funded peer-reviewed scholarly articles.
- Federal agencies should support through their grant funds, as a matter of course, publisher fees associated with Open Access.
- Data-mining and text-mining are two potential avenues for economic growth resulting from greater access to scientific results.
 - A specific example of this is to be found in the medical community: as a result of data mining, medical scientists were able to complete the sequencing of the Alzheimer's gene. This finding is leading to increased economic and research activity in the medical and pharmaceutical communities to support both early intervention and a potential cure.
 - Having a corpus of scientific literature available to be mined will spur activity and innovation in computer science, natural language processing, text-mining, software systems for repository development, and new digital preservation services. An example of economic growth in this sector can be found in DuraSpace, which now offers both repository and preservation services.

(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 Community should adopt Creative Commons licensing which is flexible and comprehensive enough to offer benefits to scholars, publishers, and the grant funding organizations.
- We understand, as does most of the community, that Open Access is not free. Hence, it would be not desirable for Open Access to be mandated without some consideration of publishing and archiving costs.

(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?

- We advocate a decentralized approach to managing public access to federally funded peer-reviewed scholarly publications through the creation of disciplinary repositories. We believe that disciplinary communities are best suited to manage their scholarship, given support for these repositories, and the preservation of their collections.
- These disciplinary repositories should be required to ensure interoperability with allied disciplinary repositories, and to take appropriate measures to ensure long-term preservation.

(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?

- Although we support the idea of Public-Private partnerships, we believe additional institutional and disciplinary repositories could better guarantee long term preservation and access to federally funded peer-reviewed scholarship. UCAR/NCAR's OpenSky repository is an example of a successful partnership with professional societies and commercial publishers, providing additional discovery and preservation services to published scholarship.

(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?

- Minimal metadata standards and interoperability protocols must be established by the community, and federal agencies can ensure compliance by insisting that adherence to these protocols is a condition of funding to repository developers, either public or private.

(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 support legitimate costs for all the stakeholders involved in the creation of peer-reviewed publications that result from federally funded scientific research.
- Federal agencies should also support efforts that generate new and expanded models of publication and their long term preservation, including the economics and scholarly prestige associated with these new models.

(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?

- Given the variability between disciplines in terms of scholarly publishing norms, we believe that the individual disciplines are best suited to make determinations regarding the types of additional material that should be included under these recommendations.

(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?

- It is our position that there should be no embargo period after publication when Open Access fees have been paid to the publishing agency.

Summary:

In conclusion, we urge the development of an equitable and uniform public access policy approach for all major federal research granting agencies. The scientific challenges that we face in the 21st century are too great and too urgent for the dominant paradigm in scholarly publishing to continue to be either relevant or realistic.

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