# The Office of the Director of National Intelligence

# Plan for Increased Public Access to Scientific Scholarly Publications and Research Data

### 30 September 2016

## 1. PURPOSE

This document presents a plan to increase public access to scholarly publications and digitally recorded scientific research data arising from Office of the Director of National Intelligence (ODNI) funded intramural and extramural research.  As a plan, it does not, by itself, impose any requirements or responsibilities on ODNI or recipients of ODNI funding; rather any such requirements or responsibilities will be effected via issuance of new or revised policies, instructions, directions, or guidance that conform to this plan (e.g., contract language to performers, broad agency announcement templates, public websites).  The ODNI embraces the potential of federally funded research results to enhance innovation and competitiveness and intends, to the fullest extent practicable and as allowed by National Security constraints, to make available to the public scholarly publications and digital data arising from unclassified publicly releasable research.  By providing greater public access to the results of ODNI funded research, ODNI seeks to encourage and accelerate scientific breakthroughs and innovation of potential interest to the intelligence community in carrying out its mission and the greater national good.  A robust industrial base and commercialization of ODNI technologies will also benefit entrepreneurship, and enhance economic growth and job creation.  The proposed ODNI public access plan will promote the following objectives:

- Establish ODNI's commitment to public access to scientific research results and digital data.
- Support governance of and best practices for managing scholarly publications and digitally recorded scientific research data within the ODNI.
- Ensure effective access to and reliable preservation of ODNI funded scholarly publications and digitally recorded scientific research data for research, development, and education.
- Preserve and increase the use of research results to enhance scientific discovery and innovation.
- Maximize the impact of federal research investment.
- Comply with National Security Directives to protect sensitive information from unlawful or improper release.
- Comply with all applicable privacy and civil liberties laws, regulations, Executive orders, and policies to protect personally identifiable information from unlawful or improper release.

While always vigilant in protecting the National Security interests of the Nation, the ODNI fully supports free scientific exchanges and dissemination of research results to the maximum extent practicable subject to law; executive order; agency mission; resource constraints; and U.S. national, homeland, and

economic security.  This plan will provide a framework for information sharing and research collaboration pertaining to publicly releasable results of science, technology and engineering efforts.

## 2.  SCOPE

This is a prospective plan scheduled to go into effect on January 1, 2017.  The public access plan will apply to any peer-reviewed scientific manuscript accepted for publication in a scientific, technical, or engineering journal on or after January 1, 2017, and any digitally recorded scientific research data that:

- Arises from any ODNI funded contract, grant, or cooperative agreement resulting from a research proposal submitted on or after January 1, 2017; or is produced by ODNI personnel as part of their official duties for ODNI on or after January 1, 2017;

- Is unclassified and approved for public release via the established process for pre-publication review of all material prepared for public dissemination;[1]

The ODNI public access plan applies only to research publications and data resulting from unclassified research that has been approved for public release.  The ODNI public access plan does not apply to: (a) digitally formatted factual material funded in whole by a third party non-federal entity; or (b) digitally formatted factual material funded in part by a third party non-federal entity that is not reasonably segregable from recorded factual material funded directly under an ODNI grant, cooperative agreement, or contract.  Implementation will not be applied retroactively to any scientific manuscripts or digitally recorded scientific research data produced under contracts, grants, or cooperative agreements resulting from a research proposal submitted prior to January 1, 2017, or produced by ODNI personnel prior to January 1, 2017.  Scientific manuscripts and research data will not be considered subject to the ODNI public access plan unless they are based on research that directly arises from ODNI funding, in whole or in part.  Jointly funded research efforts must comply with the requirements of all funding agencies unless otherwise agreed to by all parties involved.

## 3.  REQUIREMENTS

ODNI plans to implement a policy that requires authors to submit to its designated public access repository system (to be created and maintained by the Defense Technical Information Center (DTIC)) final peer-reviewed journal manuscripts that meet the scope criteria above.  In lieu of the final peer-reviewed journal manuscript, ODNI will accept the final published article, provided the author has the right to submit the published version.  The author must submit the article to the repository at the time of publication.  A maximum allowable embargo period (i.e., the time between the official data of publication and the date on which the article is made accessible to the public), not to exceed 12 months, will be observed before providing public access.

In addition, extramural researchers requesting federal grants, cooperative agreements, and contracts for scientific research and intramural researchers will be required to develop and submit data management plans describing how they will provide for long-term preservation of, and access to, scientific data in digital formats resulting from federally funded research, or explain why long-term preservation and access cannot be justified.   This requirement will not mandate that all research data need be shared or preserved; the costs and benefits of doing so must be determined for each Program or research effort.  However, there remains the expectation that the investigator will preserve and make accessible at least the data that underlies or supports each publication.  Investigators should consider

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[1] ODNI Instruction 80.04

the costs and benefits of data preservation and access in their data management plans for evaluation by ODNI program staff.  Research data formats should be appropriate to the type of data collected and described in the research data management plan.  It is expected that disclosure of data supporting a publication will be before or coincident with the time of release of the publication for public access. ODNI staff who generate research data in the course of their official duties, will also develop a data management plan and make at least the data underlying a publication accessible.

This plan will further require that these scholarly publications and digitally recorded scientific research data be available to the public without charge no later than 12 months after the official date of publication, following the guideline established in the memorandum from the White House Office of Science and Technology Policy (OSTP).[2]

The inclusion of appropriate costs for data management and access in proposals for federal funding for scientific research will be allowed.  Data management plans should identify what reasonable steps will be taken to maximize access to data while protecting confidentiality and personal privacy and recognizing proprietary interests, business confidential information, and intellectual property rights and avoiding significant negative impact on intellectual property rights, innovation, or U.S. competitiveness. ODNI staff will evaluate the merits of each data management plan as part of the review of the project proposal.

## 4.  DEFINITIONS

A **data management plan** is a part of a research proposal (for extramural research projects via contracts, grants, and cooperative agreements, as well as for intramural research projects) that describes how the researcher(s) will comply with ODNI policy on the dissemination and sharing of research results and addresses: (a) the types of data, samples, physical collections, software, curriculum materials, and other materials to be produced in the course of the project; (b) the standards to be used for data and metadata format and content; (c) policies for access and sharing including provisions for appropriate protection of privacy, confidentiality, security, and intellectual property; (d) policies and provisions for re-use, re-distribution, and production of derivatives; and (e) plans for archiving and preserving access to data, samples, and other research products.

A **final peer-reviewed journal manuscript** *is defined as* an author's final manuscript of a peer-reviewed paper accepted for journal publication, including all modifications from the peer-review process.

A **final published article** *is defined as a* publisher's authoritative copy of the paper, including all modifications from the publishing peer-review process, copyediting, stylistic edits, and formatting changes.

**Research data** is defined as the digital recorded factual material commonly accepted in the scientific community as necessary to validate research findings, including data sets used to support scholarly publications, but does not include laboratory notebooks, preliminary analyses, drafts of scientific

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[2] John P. Holdren memo, "Increasing Access to the Results of Federally Funded Scientific Research," dated 22 February 2013.

papers, plans for future research, peer review reports, communications with colleagues, or physical objects, such as laboratory specimens.[3]

*Scholarly Publications* is defined as including both final peer-reviewed journal manuscripts and final published articles.

## 5. APPLICABILITY

To the maximum extent practicable, and subject to applicable law; executive order; agency mission; resource constraints; and U.S. national, homeland, and economic security, the ODNI public access policy will apply to within-scope scholarly publications and digitally recorded scientific research data authored by ODNI personnel or by entities that receive ODNI funding for the underlying research.

## 6. ROLES AND RESPONSIBILITIES

**ODNI IARPA Director will:**

- Serve as the ODNI lead for establishing, managing, and implementing public access to scholarly publications and digital research data across the ODNI through partnership with other Government agencies.

- Coordinate the implementation and update of the ODNI public access policy.

- Establish, by mutual agreement, a formal relationship with the Defense Technical Information Center (DTIC) to ingest, curate and maintain a central repository(ies) for ODNI-funded scientific publications and research data.

- Inform ODNI employees who author scholarly publications that peer-reviewed papers written by federal employees as part of their official duties are not subject to copyright in the United States (17 USC 105).

- Advocate and foster public-private partnerships with scientific journals.

- Promote the deposit of digital data in publicly accessible databases, where appropriate and available.

- Serve as the final adjudication authority within ODNI for operational parameters (e.g., embargo periods).

**ODNI elements that generate or fund the generation of scholarly publications and research data will:**

- In accordance with ODNI's public access policy, determine if the publications and/or research data generated by a specific research effort may be made public and if ODNI funded, determine if public access terms and conditions should be acknowledged.
- Include, where applicable, the requirements of this plan as terms and conditions of funding for contracts, grants, and cooperative agreements resulting from a proposal submitted on or after January 1, 2017.
- Identify internal funding to ensure the successful implementation of this plan.
- Implement a process to assess compliance with this plan.

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[3] This definition is consistent with OMB Circular A-110

**Cognizant ODNI contracting and grants management offices will:**

- Ensure that extramural organizations are aware of and comply with the ODNI public access plan, including the responsibility to not sign any agreements with publishers that preclude compliance with the ODNI public access policy.
- Monitor the compliance of all terms and conditions of awards, including the submission of final peer-reviewed manuscripts and digitally recorded scientific research data that arise directly from their awards.
- Evaluate the merits of submitted data management plans.

## 7. IMPLEMENTATION

In accordance with this plan, ODNI will establish major implementation requirements to which ODNI programs, offices, and procedures must adhere when addressing the planning, submission, management, access, and preservation of scholarly publications and digitally recorded scientific research data.

ODNI will modify its current proposal solicitation processes to include the public access and data management requirements outlined in this plan (i.e., author submission of manuscripts to the DTIC repository and submission of data management plans with new project proposals); terms and conditions of contract awards, grants, or cooperative agreements will reflect these requirements as well. ODNI will also generate internal guidance to ensure that ODNI staff are aware of their obligations under this plan.

ODNI intends to partner with DTIC to provide and manage a repository that provides free public access to a publication's metadata upon first publication, and to the full-text of the article after the embargo period. As currently envisioned, the DTIC system will provide long-term preservation and storage for all submitted full-text publications and selected datasets. Metadata will be in a data format that ensures interoperability with current and future search technology (e.g., OpenSearch compliant). ODNI (via the DTIC repository) will retain a copy of the full text manuscript in the repository, but may also provide a link to the full-text available from another source (e.g., the publisher). This joint effort aims to create and maintain a repository for peer-reviewed scholarly publications that:

- Includes an author upload capability and public access portal for publications.
- Leverages the Department of Energy's Public Access Gateway (PAGES) software.
- Uses services from CrossRef and CHORUS to help identify ODNI-funded publications and links to full-text copies of publications from participating publishers (although the repository will in all cases retain the full-text version submitted by the author).
- Establishes metadata standards for content deposit at DTIC.
- Provides an online search for metadata, and full text of peer-reviewed scholarly publications after any embargo period. This system will provide metadata and abstracts for such publications in a way that is open, readable, and available for bulk download. Attribution to authors, journals, and original publishers will be maintained.
- Tracks metrics on compliance and public usage.

In addition, ODNI intends to partner with DTIC for a data repository and catalog. The DTIC system will serve as the preferred repository for digital data resulting from ODNI-funded R&D. The DTIC system will also serve as a catalog of datasets to support discovery of ODNI-funded datasets that are stored in the

DTIC repository or elsewhere. ODNI-funded investigators will have the option to submit data resulting from ODNI-funded research to other repositories, but use of other repositories must be approved by ODNI during review of the data management plan. Investigators submitting data to other repositories will be required to provide metadata to the DTIC repository to enable discovery of the data deposited in other data repositories. This joint effort aims to create and maintain a repository for research data that:

- Accepts submission of datasets (up to 2GB initially).
- Includes an author upload capability and public access portal for digital data.
- Includes a dataset catalog that describes and points to the location of publicly available data sets, whether in the repository or in external repositories.
- Establishes metadata standards for content deposit at DTIC.
- Tracks metrics on compliance and public usage.
- Complies with the Open Data Directive (M-13-13) to make it machine readable and easily accessible formats.

**Planning**

The ODNI will adopt a systematic approach to implement the ODNI public access policy in coordination with DTIC that includes the following:

- Establish an iterative process of policy design, planning, implementation, evaluation/impact assessment, and policy redesign.
- Work to maintain and improve the ODNI public access policy.
- Explore new approaches and partnerships with publishers and other stakeholders to obtain final peer-reviewed published articles to maximize potential for creative reuse to enhance value to all stakeholders and avoid unnecessary duplication of existing mechanisms.
- Maintain attribution of scholarly publications to authors, journals, and original publishers.
- Establish a framework that enables the public to search, read, and download the scholarly publications without charge no later than 12 months following publication.
- Determine acceptable licensing options for ensuring the public can access, download, and analyze by machine scholarly publications. Acceptable options will be identified and selected in collaboration with ODNI and partner-agency contracting and grants management offices from a range of options, for example, an assertion of minimum government rights or existing licensing terms and conditions such as the Creative Commons Attribution-Noncommercial license (CC BY-NC).
- Establish systems to identify, store, and access digitally recorded scientific data that can be discovered and accessed by the public.
- Establish mechanisms (via metadata) for associating research data with any scientific publications they underpin.
- Establish counterintelligence guidance on risk analysis procedures to mitigate data aggregation and compilation risks.

- Support training, education, and workforce development related to data management, analysis, storage, preservation, and stewardship, in coordination with other agencies and the private sector.

- Revise ODNI instructions for research contracting, grants, cooperative agreements, and other transactions to include requirements for:
    - Submission of scholarly publications.
    - Submission of data management plans.
    - Data management plan review process to include merit-based evaluation criteria, review process, and execution.
- Encourage cooperation with the private sector to improve data access and compatibility, including through the formation of public-private partnerships with foundations and other research funding organizations.

**Submission**

In coordination with DTIC, the ODNI will establish procedures to enable the submission of scholarly publications and digitally recorded scientific research data to the DTIC repository(ies), including the following functionalities:

- Allows submission to the designated repository(ies) by the author.

- Accepts manuscripts in pdf format.
- Accepts additional files (up to 2GB) containing figures, tables, or supplementary information provided in open data formats.
- Accepts metadata to support data discovery including if an investigator submits to an alternative data repository
- Provide multiple flexible approaches for manuscript and digitally recorded scientific research data submission and management.

ODNI will encourage deposit of data into appropriate publicly accessible repositories. ODNI will consider on a case-by-case basis whether or not situations in which data might be submitted to a publicly accessible data repository other than DTIC's (e.g., Inter-University Consortia for Political and Social Research) meet the ODNI public access requirement.

**Management**

The ODNI will use a DTIC system to serve as a repository of full-text scholarly publications and digitally recorded scientific research data. This system will:

- Store, organize, and manage publications collected or submitted under this policy.
- Use an open architecture and follow industry standards to facilitate open government, enable integration, and promote interoperability; publications and associated content (e.g., digital data) will be stored in nonproprietary or widely-distributed archival formats.
- Enable interoperability with other federal public access archival solutions and other appropriate archives, to the maximum extent practicable.
- Prevent the unauthorized mass redistribution of scholarly publications.

- Have the capacity to link scholarly publications to associated data stored in appropriate scientific databases.
- Ensures the public can read, download, and analyze publications in digital form.
- Enables the ODNI to monitor compliance with this public access policy.

**Discoverability, Access, and Preservation**

The ODNI will work with DTIC to enable easy search, analysis, and download of scholarly publications and digital research data arising from research funded by the ODNI by implementing industry standards and best practices. Key elements of the final publicly available capability will include:

- **Accessibility:** Properly maintain the system to ensure it is reliably available through the Internet and develop approaches for routine backups to ensure long-term preservation.
- **Embargo:** Make the full text of scholarly publications available without charge no later than 12 months following publication, and provide a mechanism to allow stakeholders to petition for changes to lengthen or shorten the embargo period for publications in a specific scientific or technical discipline. Petitions should present compelling evidence demonstrating that the planned embargo period is inconsistent with the objectives of the OSTP memorandum (e.g., enhance innovation and competitiveness, maximize the potential to create new business opportunities, and maximize the impact and accountability of the federal research investment). Designated DTIC and ODNI officials will work together with other federal agencies to promote consistent implementation of embargoes for specific scientific disciplines. The IARPA Director will serve as the final adjudication authority within ODNI for decisions regarding embargo periods.
- **Search:** Allow users to search, retrieve, and analyze by machine publications and digital data resulting from ODNI-funded research through a public-facing online database.
- **Access to Metadata:** The public will have access to journal article and research data metadata without charge upon first publication through the public-facing database. The metadata will ensure attribution to authors, journals and original publishers, and link to the full text article in the DTIC repository and/or the publisher's website, if available and a public access subscriber. The full text of the article and associated supplemental materials and data will be accessible to the public after the expiration of any embargo period. ODNI will work with DTIC and other Federal agencies to develop approaches for identifying and providing appropriate attribution to scientific data sets wherever they reside.
- **Acceptable use policies:** Adhere to applicable copyright and/or related license terms of the respective authors or publishers but ensure that users may search, retrieve, and analyze by machine publications and digital data resulting from ODNI-funded research consistent with any embargo period.
- **Bulk Downloads:** Bulk downloads will be permitted by special arrangement with the DTIC system administrator, e.g., to permit text-mining. Web usage monitoring protocols will alert system administrators of potentially improper activity which will be investigated as it occurs. A warning regarding copyright and other prohibitions on use will be published in the terms of use agreement.

- **Exposure to third party services:** Make public data sets available through de facto open standards as practicable. Metadata will be made available for public articles with links to the full text at DTIC through the Open Archives Initiative (OAI) to public crawlers (e.g., Google, Bing).
- **508 compliance:** Ensure that publications and digital data are accessible to people with disabilities and compliant with Section 508a of the Rehabilitation Act (29 USC 794d).
- **Repository Standards:** Establish a framework that allows for the permanent preservation and long-term accessibility of scholarly publications and digitally recorded scientific research data funded by the ODNI, and ensures metadata are stored in an information technology solution that provides for long-term preservation and access to the content without charge.
- **Dissemination:** Advertise this search, analysis and retrieval capability online via the ODNI.gov and IARPA.gov websites, and via an open DTIC application program interface (API).

## 8. METRICS, COMPLIANCE AND EVALUATION

The ODNI funding elements (i.e., IARPA, AT&F/S&T), in coordination with DTIC, will adopt procedures that ensure author compliance for published articles and research data, including reviewing regular progress reports for evidence that publications and data have been submitted. Compliance procedures will include reminders to investigators/authors, contract closeout checklists, comparisons to programmatic data, and testing (by program staff/contract managers) to determine that publications and data sets are available in the way described in the data management plan. Subsequent awards and funding allocations will require evidence of policy compliance. Non-compliance may be considered as a negative indicator of past performance and may result in withholding of current or future funding.

DTIC plans to explore the use of a database and federal data sources such as usaspending.gov and the Federal Data Procurement System to support compliance and tracking for both journal articles and digitally formatted scientific research data sets. Projected content and functionalities include:

- Metadata on articles submitted for publication: Author and Co-Author Name(s), Subject, Title, Date Submitted, Status (in peer review, accepted by journal, scheduled for publication), Date Published, Journal Title, Copy of author's accepted manuscript, Link to Full-Text version, for public and government access, Embargo Period End Date, Public Affairs and Security review confirmation.

- Metadata on digital data: Summary of Data Management Plan, List of Digital Datasets identified for access and preservation, Location of preservation archive (e.g., URL), Distribution Code for each dataset, Metadata for each dataset identified, Methodology for public access, Compliance status, Public Affairs and Security Review confirmation.

- Analytics to track compliance and evaluate utility:
  - Comparison of usaspending.gov and fpds.gov records reported
  - Comparison to funding acknowledgement data from an organization, such as CrossRef
  - Testing that data sets do not contain Personally Identifiable Information and are approved for public release
  - Public access/use statistics on published articles

        ○    Public access/use statistics on data sets

## 9. PUBLIC CONSULTATION EXPERIENCE

ODNI participated in the Public Meetings held on 14-17 May 2013 at the National Academy of Sciences in Washington, DC that solicited views from stakeholders, including libraries, publishers, federally-funded researchers, universities, users of federally funded research results, and civil society groups. Persistent engagement with federally funded researchers and universities, and feedback from other stakeholders via DTIC website feedback will help shape ODNI policy going forward.

## 10. UPDATE AND RE-EVALUATION OF THE PLAN

The ODNI will assess the effectiveness of its public access plan annually; compliance will be a major component of this evaluation.  This annual assessment will include an assessment of long-term needs for the preservation of scientific data in fields that ODNI supports, and consideration of options for developing and sustaining repositories for scientific data in digital formats, with specific emphasis placed on public and private sector efforts.  Since ODNI will be reliant on DTIC to provide computer file ingestion and repository services, adjustments will be made as required to maintain alignment with DTIC's configuration and policies.  Finally, updates will be provided to OSTP and OMB on January 1 and July 1 for two years following finalization of the plan.

## 11. TIMELINE FOR IMPLEMENTATION

- July 2016 -- staff revised plan to ODNI components for final approval
- August 2016 -- initiate changes in existing ODNI instructions to comply with the approved public access plan
- August 2016 –  draft a Memorandum of Agreement (MOA) between ODNI and DTIC to provide and manage a full-text scholarly publication repository, data repository and catalog
- September 2016 – once approved, distribute revised ODNI instructions and regulations reflecting new ODNI public access plan
- January 2017 – begin executing the new ODNI public access plan

## 12. RESOURCES

The OSTP memorandum "Increasing Access to the Results of Federally Funded Scientific Research," dated 22 February 2013, directs that resources to implement this plan should be identified within existing agency budgets.  Costs associated with the initial implementation and ongoing operation and maintenance of this new program will be shared proportionally by ODNI components funding open R&D and will be reflected in ODNI's future budget submissions.

## 13. ADDITIONAL INFORMATION

Additional public access policies and guidance include:
- Memorandum for the Heads of Executive Departments and Agencies – Open Government Directive, Executive Office of the President, Office of Management and Budget, December 8, 2009: http://www.whitehouse.gov/omb/assets/memoranda_2010/m10-06.pdf

- National Digital Information Infrastructure & Preservation Program: A Collaborative Initiative of the Library of Congress:  http://www.digitalpreservation.gov/
- NIH Public Access: http://publicaccess.nih.gov/
- Open Government Directive, Memorandum for the Heads of Executive Departments and Agencies, M-10-06 (Dec 8, 2009): http://www.whitehouse.gov/sites/default/files/omb/assets/memoranda_2010/m10-06.pdf
- Planets – Preservation and Long-Term Access through Networked Services. Open Planets Foundation: http://www.planets-project.eu/
- Public Access to Scholarly Publications Policy Objectives – Interagency Working Group (March, 2012): http://www.whitehouse.gov/sites/default/files/microsites/ostp/public_access-final.pdf
- Scholarly Publishing Roundtable, Report and Recommendations from the Scholarly Publishing Roundtable (2009): http://www.aau.edu/policy/scholarly_publishing_roundtable.aspx?id=6894
- Executive Order 13642 "Making Open and Machine Readable the New Default for Government Information," May 9, 2013:  http://www.gpo.gov/fdsys/pkg/FR-2013-05-14/pdf/2013-11533.pdf
- OMB Memorandum "Open Data Policy-Managing Information as an Asset," May 9, 2013, http://www.whitehouse.gov/sites/default/files/omb/memoranda/2013/m-13-13.pdf

## 14. MATERIAL SUPERSEDED

Initial release.

Additional comments: