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Cc: GS-GIO Freedom of Information Act <foia@usgs.gov>
Sent: Wed, Apr 26, 2017 5:16 pm
Subject: USGS FOIA 2017-00091 - Final Response Letter

This is in response to your Freedom of Information Act request dated March 14, 2017, assigned tracking number 2017-00091. You requested the following information:

A copy of the Detailed Guidance to ensure compliance with Fundamental Science Practices requirements, which is available on the internal employees-only website here

<http://internal.usgs.gov/fsp/index.html>

And

<http://internal.usgs.gov/fsp>

Our office is providing you with copies of the intranet webpages in one document, consisting of 98 pages, which is being released to you in its entirety.

The FOIA Fee for processing your request is \$124.00, calculated as follows:

2 Managerial Hours @ \$15.50 per 15 minutes, \$62 per hour

Please note that you have not been charged for the first two hours of search time. See [43 C.F.R. § 2.39](#). There is no billable fee for the processing of your request.

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National Archives and Records Administration
8601 Adelphi Road - OGIS
College Park, MD 20740-6001
E-mail: ogis@nara.gov
Web: <https://ogis.archives.gov>
Telephone: (202) 741-5770
Fax: (202) 741-5769
Toll-free: 1 (877) 684-6448

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You also may seek dispute resolution services from our FOIA Public Liaison, Mr. Brian May, at the following address:

U.S. Geological Survey
FOIA Public Liaison
5522 Research Park Drive
Baltimore, MD 21228
Email: foia@usgs.gov
Telephone: (443) 498-5521
Fax: (443) 498-5510

If you have any questions, please do not hesitate to contact me at (703) 648-7179, or at foia@usgs.gov. Thank you for your interest in the U.S. Geological Survey.

Sincerely,

Litsa Marinos
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Note: For the purpose of these FAQs, the term "Science Center Director" is equivalent to other terms that may be used in the USGS, such as Chief Scientist, Science Center Manager, Center or Branch Chief, Coop Unit Leader, and Cost Center Manager. Other terms used frequently throughout this FAQ collection will be referred to by the acronyms (in parenthesis) as follows: Fundamental Science Practices (FSP), Information Product Data System (IPDS), Bureau Approving Official (BAO), Office of Science Quality and Integrity (OSQI), Science Publishing Network (SPN), and Publishing Service Center (PSC).

FSP FAQs: Peer Review

1. [How does USGS define peer review and what are the FSP peer review requirements?](#)
2. [Can supervisors and/or managers serve as peer reviewers for information products authored by employees they supervise and vice versa?](#)
3. [What are the recordkeeping requirements for peer review comments, peer review reconciliation, and draft documents associated with a given USGS information product?](#)
4. [What are the OMB requirements for peer review of influential products?](#)
5. [Is internal guidance available to help ensure we meet the OMB peer review requirements?](#)
6. [What are the categories of peer review used by "Open Access" journals and what are the FSP requirements for these products?](#)

1. How does USGS define peer review and what are the FSP peer review requirements?

USGS defines peer review (also referred to as technical peer review, refereeing, or scientific peer review) as scrutiny of work or ideas by colleagues (peers) who are well qualified and who are of equal standing with one another. In the scientific field the implication is that education and/or experience qualify one to comment on the work of others in a particular field of expertise. Qualified peer reviewers of USGS information products must have no stake in the outcome of the review or publication of the work, are not associated with the work being performed, and are without conflict of interest. The FSP requirements for peer review of USGS science

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information products are found in [SM 502.3](#).

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2. Can supervisors and/or managers serve as peer reviewers for information products authored by employees they supervise and vice versa?

For all USGS science information products other than peer-reviewed journal articles an author and his/her supervisor are not allowed to serve as peer reviewers for one another, regardless of any collegial relationship or the expertise of either because doing so could be perceived as a conflict of interest. This prohibition includes products for release in USGS publication series, non-peer reviewed outside publications, and **all** products (whether published by USGS or an outside entity) that have been designated by USGS as "influential" and that are posted on the USGS Peer Review Agenda Web site (refer to FAQ 4 below). When the journal will conduct additional separate peer reviews, supervisors or managers who meet the qualifications and requirements in SM 502.3 can serve as the USGS initiated peer reviewer for peer-reviewed journal products authored by employees they supervise. Also refer to additional [FAQs related to peer-reviewed journal publications](#).

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3. What are the recordkeeping requirements for peer review comments, peer review reconciliation, and draft documents associated with a given USGS information product?

Peer review comments and peer review reconciliation documents, like manuscripts and other draft documents related to developing a final information product, are considered part of the official "review and approval record" for that information product and must follow the National Archives and Records Administration-approved recordkeeping schedule requirements found in the USGS General Records Disposition Schedule (GRDS), Chapter 1300. These short-term, temporary records must be retained by the Bureau for 3 years after publishing or until they are no longer needed for reference, whichever is later; then they may be destroyed. The [GRDS, Chapter 1300](#) allows employees to maintain these records in one of two ways: as paper copies retained at the Science Center originating office (for sensitive or confidential documentation) or digitally in the [IPDS](#).

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4. What are the OMB requirements for peer review of influential products?

The Office of Management and Budget's (OMB) [Final Information Quality Bulletin for Peer Review](#) requires public posting of documentation about the planning and conducting of peer review for those information products that Federal agencies have designated as influential scientific information or highly influential scientific assessments (terms defined by the OMB). The Bureau complies with this OMB requirement with the documentation that is posted on the public [USGS Peer Review Agenda Web site](#).

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5. Is internal guidance available to help ensure we meet the OMB peer review requirements?

A USGS intranet Web site ([Guidance for Meeting the OMB Peer Review](#)

[Requirements](#)) is available for use by authors, their managers, and others. The site includes [procedures](#) that outline the process for designating influential USGS products and preparing the required documentation, [FAQs on posting influential products](#) that include additional guidance, a key or [flowchart](#) that can be used to determine whether a product fits the OMB influential definitions, and templates and other tools. Staff in the USGS Office of Science Quality and Integrity will work with authors, Science Center Directors, and others to ensure the required documentation is complete before subsequent posting to the public Peer Review Agenda site.

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6. What are the categories of peer review used by “Open Access” journals and what are the FSP requirements for these products?

There are two categories of open-access journals; distinction is based on the peer review process used. Category 1 has peer reviews characterized by anonymous peer reviews and draft manuscripts are not available to the public. For this category, use the USGS approval process for peer-reviewed journal articles. Category 2 is characterized by having peer review of draft manuscripts open to the public. For this category, two USGS-initiated peer reviews and Bureau approval are required before sending the manuscript to the journal. Note that if substantive changes are made after approval it is the author’s responsibility to obtain additional review by the approving official (SM 502.4).

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[U.S. Geological Survey Intranet](#)

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FSP Compliance: Recommended Best Practices for Approval of USGS Science Information Products

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Below are some recommended best practices to incorporate in an effort to continue to achieve on-time approval of USGS science information products prior to their public release. Approving officials for USGS scientific information products include Science Center Directors (or equivalent) and Bureau Approving Officials (BAOs) in the Office of Science Quality and Integrity (OSQI).

1. Become familiar with Fundamental Science Practices (FSP) Survey Manual (SM) policy on peer review ([SM 502.3](#)) and Bureau approval ([SM 502.4](#) and [SM 205.18](#)) of USGS information products.
2. Enter information into the [Information Product Data System](#) (IPDS) in real time or near real time to more accurately track and monitor the review and approval status of manuscripts.
3. Check the IPDS for information product status at regular intervals.
4. Make sure review packages submitted in IPDS are complete (including for example, original correspondence from peer-reviewed journals and peer-review reconciliation documents) to eliminate delays in final approvals.
5. Communicate tight deadlines as early as possible to approving officials as described in [SM 205.18](#).
6. If a BAO in the OSQI rejects an information product in IPDS, Center Directors should immediately contact supervisors and USGS authors to ensure timely revision and resubmittal of the product for Bureau approval.
7. Have processes in place that monitor communications on the status of information products in IPDS, even when the supervisor or Center Director is absent, to avoid delays.
8. For peer-reviewed journal submissions, Bureau approval should be obtained immediately after revising the manuscript following the first round of journal reviews. Even if the manuscript has not been accepted for journal publication, Bureau approval should be obtained **before** sending the manuscript back to the journal. Refer to the FSP FAQs on the journal peer-review process (http://internal.usgs.gov/fsp/faqs_peer_reviewed_journals.html).
9. Make sure to identify open peer review journals that make draft manuscripts available for public review; Bureau approval **must** be obtained before submittal to the open-access journal (refer to the FSP [Open Access FAQ](#)).
10. Science Center processes (such as additional peer reviews and specialist reviews) that exceed minimum FSP review and approval requirements may be necessary at times but such additional processes should be considered with great care and Centers should do their best to avoid overly lengthening the overall review and approval process."

In addition to the best practices above, consider the following suggestions for information products in which a USGS employee is not the senior author.

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1. Prepare a standard summary of FSP requirements and make it available to non-USGS co-authors so they are aware of the Bureau FSP policies. Base the summary on, for example, [SM 502.3](#), [SM 205.18](#), [SM 1100.4](#), and the peer-reviewed journal FAQs (http://internal.usgs.gov/fsp/faqs_peer_reviewed_journals.html) and provide reference to the public FSP Website (<http://www.usgs.gov/fsp/>).
2. Regularly stay in communication with and remind non-USGS senior authors and collaborators about FSP requirements to ensure they are considered.
3. Contact a [BAO in the OSQI](#) with USGS co-authorship questions.

[U.S. Geological Survey Intranet](#)

URL: http://internal.usgs.gov/fsp/toolbox/fsp_compliance_IPapproval_best_practices.html

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FSP FAQs: Editing, Production, and Release

1. [What are the editing requirements for USGS science information products?](#)
2. [How is the production of approved USGS series information products handled?](#)
3. [Is there flexibility in publication formats of USGS series information products?](#) [Added January 2016]
4. [What does the FSP policy say about release of USGS series information products?](#)
5. [Who can post approved USGS series information products to the Web?](#)
6. [How are published USGS series information products revised \(if errors are identified after release\) or superseded \(if the information is later updated or expanded\)?](#) [Added September 2015]
7. [What does FSP policy say about the release of USGS science information in journals and other outside publications?](#)

1. What are the editing requirements for USGS science information products?

Editing of USGS series information products is **required** as detailed in [SM 1100.2](#) and must be coordinated or performed by USGS [SPN](#) staff located in the various [PSCs](#). Editors in the SPN are available to provide editorial review for other science information products as well, including outside publications and Web pages for which editing is recommended but optional. For more information, refer to [requirements for using the SPN](#) or contact your [local PSC Chief](#).

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2. How is the production of approved USGS series information products handled?

Production support, including developing illustrations and graphics and design and layout for approved USGS series information products ([SM 1100.3](#)) is performed by SPN staff, who will work closely with authors to provide this support. For Open File-Report (OFRs) series products, authors may opt to do some or all of the production preparation as a cost-saving measure. The internal [SPN Web site](#) provides a variety of resource information and materials that authors and managers will find useful for their production and other publishing support needs.

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3. Is there flexibility in publication formats of USGS series information products?

Yes. Although all USGS series products (except administrative reports) must meet USGS Visual Identity System standards, individual products may, depending on content and length, be designed in traditional book or map formats, as posters, or as short pamphlets or fliers with minimal text and extensive use of illustrations and photographs. Regardless of plans for final product design and formatting, authors should prepare draft manuscripts and maps by using the [supported software](#) and the appropriate SPN [templates](#). For more information, contact your local [PSC Chief](#).

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4. What does the FSP policy say about release of USGS series information products?

The FSP policy states that a Bureau-wide approach to the release of USGS series information products (SM 1100.3), such as professional papers, scientific investigation reports, and fact sheets, is critical to ensuring that USGS science information is made available to all in a consistent and uniform manner.

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5. Who can post approved USGS series information products to the Web?

All USGS series information products must be posted to the Web by SPN staff in [PSCs](#). As part of coordinating the release of series publications, SPN staff also ensure that the information products meet Section 508 accessibility and Visual Identity System-compliance standards as appropriate prior to being posted to the Publications Warehouse for release.

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6. How are published USGS series information products revised (if errors are identified after release) or superseded (if the information is later updated or expanded)? Considerations and steps for revising and superseding USGS series information products are as follows.

- *Revising:* Although a few USGS series information products are designed to be updated periodically with numbered versions, most products are not—the first version of most products should be the only version. Nevertheless, errors sometimes are discovered after publication and in many instances need to

be corrected. Guidance and instructions for revising published products are documented in USGS [Publishing Standards Memorandum No. 2013.05](#).

- *Superseding*: A USGS series information product may, with Center Director concurrence based on justification provided by the author or other scientist associated with the study, be superseded by a new product published in the same series, in a different series, or outside the USGS. For example, a book or map released in the USGS open-file report series may be superseded by a book or map released in the USGS scientific investigations report series, the USGS scientific investigations map series, the USGS techniques and methods series, the USGS circular series, or the USGS professional paper series. A notice is added to both the Web citation page for the new product (if the new product is a USGS publication) and the citation page for the superseded product, each providing a link to the other page. Because superseded products have been officially released (published) by the USGS, may have been assigned Digital Object Identifiers (DOIs), and may have been cited in other publications, access to superseded online and print (if applicable) versions is maintained, and the products will continue to be retrievable through Publications Warehouse and USGS Library searches.

For more information or assistance regarding procedures for revising or superseding products, contact your [local PSC Chief](#).

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7. **What does FSP policy say about the release of USGS science information in journals and other outside publications?**

Presenting USGS data and findings in non-USGS outlets (such as journals, society publications, cooperator publications, and commercial publishing houses) can provide USGS authors with an effective means of conveying USGS science to a broad audience of scientists, to a limited audience of specialists, or to the general public. These outside entities can be effective in broadening the stature and impact of USGS science and generating support and partnerships for USGS programs and scientists. Refer to [SM 1100.4](#) for policy requirements on the use of outside publications.

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FSP FAQs: FSP Importance and Basic Requirements

1. [Why are the USGS Fundamental Science Practices or FSP important?](#)
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3. [What are the FSP requirements related to review, approval, and release of science information products?](#)
4. [What USGS science information products must follow FSP?](#)
5. [What types of information are excluded from the FSP requirements?](#)
6. [What are the consequences for intentionally publishing USGS science information without following FSP?](#)
7. [With regard to authoring science information products, what major violations can lead to an allegation of scientific misconduct?](#)

1. **Why are the USGS Fundamental Science Practices or FSP important?**
FSP help ensure that the USGS provides unbiased, objective, and impartial science. The FSP foundation is based on a set of fundamental principles that are intended to uphold our tradition of providing authoritative science to help solve pressing societal issues ([SM 502.1](#)). These principles address (1) how we plan and conduct our data collection and research activities ([SM 502.2](#)) and (2) how we ensure the broad release and communication of our science for example in the form of information products that are appropriately reviewed and approved for release ([SM 502.3](#) and [SM 502.4](#)). While the choice of what work is to be accomplished remains in the purview of the Bureau's science planning process, the FSP represent the minimum requirements to which all USGS organizational units must adhere. Individual organizational units may implement more stringent requirements as they deem necessary. Additional information is found in [USGS Circular 1367](#), which provides an

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overview of the FSP.

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2. **What are the basic FSP requirements related to planning and conducting data collection and research?**

USGS data collection and research activities must be carried out in a consistent, objective, and replicable manner that has been vetted through a vigorous and open process of peer review. Data collection and research activities are often governed by work plans. Work plans can be a component of proposals that are developed and handled through the USGS mission areas' science planning process, and are reviewed by appropriate experts and approved at some level higher than the project chief, generally by the Science Center Manager or equivalent ([SM 502.2](#)). Proper data collection and research documentation, such as field notes are **required** to ensure that scientific goals are achievable and are appropriate to the mission of the USGS and that research can be accurately interpreted. Information products resulting from data collection and research activities conducted by the USGS, regardless of the outlet in which they are published, must follow the appropriate FSP requirements for review, approval, and release.

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3. **What are the FSP requirements related to review, approval, and release of science information products?**

The FSP review, approval, and release requirements are: (1) peer review to ensure the scientific quality and standards (as detailed in [SM 502.3](#)); (2) editorial review to ensure that appropriate Bureau quality assurance for accuracy and clarity of expression is met (**required** for USGS publications series, recommended but optional for outside publications as detailed in [SM 1100.2](#)); (3) policy review (part of Bureau approval) to ensure that all applicable policies relevant to FSP are followed and to identify policy-sensitive issues (as detailed in [SM 502.4](#)); (4) approval to officially validate the scientific quality of the information product by ensuring all appropriate reviews have been conducted and that the product is consistent with all pertinent policies (as detailed in [SM 205.18](#)); and (5) release to disseminate the approved products published by USGS (as detailed in [SM 502.4](#)), through, for example, the [USGS Publications Warehouse](#) and [USGS Store](#) or through an outside entity for publication. Other reviews including additional peer reviews, specialized names review, and courtesy review may also be required (refer to SM 502.3 and SM 502.4).

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4. **What USGS science information products must follow FSP?**

All USGS information products (whether they are published by the USGS or by an outside entity) must comply with FSP requirements if the author has full time, part time, or volunteer (including emeritus) USGS affiliation or shared affiliation (for example, between the USGS and a university). These products include USGS publication series, a set of information periodicals, and infrequently used special book or map products ([SM 1100.3](#)) as well as public USGS Web pages and exhibits. The FSP requirements must also be met for journal articles, abstracts, and other science products that USGS authors publish in non-USGS or outside publication

outlets ([SM 1100.4](#)) such as cooperating Federal, State, local, and tribal agencies, nongovernmental organizations, and scientific and technical societies.

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5. What types of information are excluded from the FSP requirements?

Poster sessions and materials for use in oral presentations that are presented once and not disseminated are excluded (refer to SM 205.18). Immediate release, time-sensitive products (for example, real-time data or an assessment of a pending landslide), news releases, letters to the editor, opinion pieces, and most other new media products are excluded as they are governed by other review and approval requirements (refer to [SM 500.5](#)). Internal and external correspondence that does not include interpretative science is excluded, as it follows standard USGS correspondence management requirements (refer to <http://www.usgs.gov/usgs-manual/410/431-2.html>).

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6. What are the consequences for intentionally publishing USGS science information without following FSP?

Consequences for not following FSP and other Bureau policies are guided by the "U.S. Department of the Interior Handbook on Charges and Penalty Selection for Disciplinary and Adverse Actions." For example, the DOI handbook specifies, under the table of penalties for disregard of directives or regulations, a first-offense penalty ranging from a written reprimand to a 14-day suspension and a subsequent-offense penalty ranging from a 5-day suspension to removal. A related USGS scientific integrity policy ([SM 500.25](#)) also addresses requirements related to the conduct of scientific activities as well as procedures for reporting, investigating, and adjudicating allegations of scientific misconduct.

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7. With regard to authoring science information products, what major violations can lead to an allegation of scientific misconduct?

Three major violations are **fabrication** (making up data or results and recording or reporting them); **falsification** (manipulating research materials, equipment, or processes or changing or omitting data or results such that the research is not accurately represented in the research record); and **plagiarism** (the appropriation of another person's ideas, processes, results, or words without giving appropriate credit). Plagiarism also includes "self"-plagiarism (for example, if an author reuses his/her own work without citing that previous work). Although not as serious as stealing someone else's work, self-plagiarism can still be an issue. For instance, if an author repeatedly uses the same information in subsequent publications without attributing it to his/her previously published work, it might seem as if that author has produced more work than he/ she really has. Note, though, that as ideas and interpretations evolve, authors may need to refer to their previous publications and use the same words in subsequent publications. This practice is acceptable. However, as a general rule, USGS authors should be sure to cite the appropriate source if they have previously published the same information (even if in a different way). One option is to show the same words in quotation marks and add a

bibliographic citation to the previous work.

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5. [What is the FSP policy for using previously approved abstracts, poster sessions, and presentation materials for various meetings?](#) [Revised March 2017]
6. [What is the FSP policy for submissions to an outside peer-reviewed journal that has its own peer review practices?](#)
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1. What is meant by "new interpretive" information?

Scientific information or research that has not been published or released previously in a USGS series publication or elsewhere (for example, in an outside journal or other venue), is considered "new interpretive" information. Such information goes beyond a simple listing, programmatic description, presentation

of data or datasets, or summary of previously published interpretive material. In other words, interpretive information includes information products that develop arguments describing the meaning or implications of data, including those presented by others as fact but also as opinion. Information products that are a synthesis of others' work are considered interpretive. In this case, "synthesis" means taking a series of related scientific products, finding relationships, and then developing extensions beyond the existing information. Examples of new interpretive information are as follows:

- Journal and other original articles based upon new science;
- USGS information products based upon new science;
- Review of the work of others (including book reviews, literature reviews, synthesis reports, book chapters);
- Response to criticism of work by self or others (rebuttals and responses to critiques); and
- Revisions of previously published new interpretive information.

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2. **When is it appropriate to mark the IPDS check boxes for *policy-sensitive*, *high-visibility*, and *OMB influential* information products?**

Mark these check boxes in the IPDS to provide a special alert about certain USGS information products. The ***policy-sensitive*** box refers to those products that may have implications related to current policy, potential controversy, impacts to other Department of the Interior Bureaus, Tribes, or Federal or State agencies, partners or cooperators, and so on or that may involve matters of national interest, security, or potential commercial gain. The ***high-visibility*** box refers to products that are newsworthy or currently in the headlines, related to natural hazards, have a human-interest perspective, or would provide increased visibility for USGS. The ***OMB influential*** box refers to those planned products the USGS has designated as "influential scientific information" or a "highly influential scientific assessment" (as defined by the Office of Management and Budget, or OMB). Contact a [BAO in the OSQI](#) for help determining when it is appropriate to mark any of these three IPDS check boxes.

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3. **What is the FSP policy for abstracts?**

It is important to note that USGS abstracts generally fall into two categories: they can be "placeholders" for scientific conference or meeting sessions or they can be "extended" abstracts that are multipage, summarize scientific studies, results, and principal conclusions, or contain new interpretive information, figures, and tables. Extended abstracts are often included in a larger volume containing other abstracts intended for release as proceedings or as refereed journal publications. The Science Center Director determines what constitutes an extended abstract and the need for peer review of abstracts that contain new interpretive content. Extended abstracts with new interpretive material require Bureau approval by a BAO in the OSQI. For all other abstracts, regardless of the content (new interpretive or previously published material), Bureau approval is granted by the Science Center Director. Additionally, all abstracts must be tracked and approval documented in the IPDS. Also refer to a [diagram showing review and approval for abstracts](#), SM 205.18, and SM 502.3.

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4. **What is the FSP policy for presentation materials and posters used in poster sessions?**

Poster sessions and presentation materials for scientific meetings, conferences, and hearings that are presented once and not left for conference dissemination or posted on a public Web site do not require peer review. If these products are left for conference dissemination or are posted on a public Web site, whether they do or do not contain new interpretive material, the need for their peer review is at the discretion of the Science Center Director. Presenters are cautioned that it is inappropriate to display sensitive, confidential, or proprietary information in these materials and they must consult with their supervisors and other managers before presenting any materials that potentially contain such information. Additionally, all poster session/presentation materials requiring Bureau approval must be tracked and approval documented in the IPDS. Also refer to a [diagram showing approval for poster session/presentation materials](#), SM 205.18 (<http://www.usgs.gov/usgs-manual/200/205-18.html>), and SM 502.3 (<http://www.usgs.gov/usgs-manual/500/502-3.html>). **Note:** If the poster session/presentation materials have been disseminated (made available to the public in any way) without author permission or knowledge and without Bureau approval, then an after-the-fact approval (and peer review as appropriate) must be done to confirm the record. The timing of the process should be made clear by adding applicable comments in the IPDS. Managers or supervisors may request changes to or require removal of the poster session/presentation materials from dissemination if an after-the-fact review and approval shows that such actions are warranted.

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5. **What is the FSP policy for using previously approved abstracts, poster**

sessions, and presentation materials for various meetings?

If an abstract, poster session, or presentation that has received prior review and approval is reused in a different meeting venue, then additional Bureau approval is not required as long as the content of these materials has not been substantially changed. However, authors should always ensure that supervisors and management are informed whenever USGS information is presented even if the material has been presented in a prior venue.

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6. What is the FSP policy for submissions to an outside peer-reviewed journal that has its own peer review practices?

A minimum of one USGS initiated peer review and one peer review by the journal are required as detailed in the separate FAQs at http://internal.usgs.gov/fsp/faqs_peer_reviewed_journals.html. Refer to SM 502.3 and SM 205.18 [need links to SM chapters] for additional information. All peer reviews, regardless of source and associated reconciliations, must be included in the package submitted for Bureau approval.

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7. Do FSP review and approval requirements apply when a non-USGS scientist is the lead or senior author?

Yes; the FSP review and approval requirements apply to a USGS scientist who is a coauthor even if a non-USGS scientist is the lead or senior author. If the FSP requirements are not followed, the USGS scientist may not be listed as a coauthor.

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8. What happens if a USGS scientist is notified that he/she has been added as an author on an information product already submitted for publication or that has already been published?

After-the-fact review and approval can be done to confirm the record, but the timing of the process should be made clear by adding applicable comments in the [IPDS](#). If the information product has already been published without a USGS author's prior knowledge and he/she was included as an author, review and approval can still be done after the fact.

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9. Can new interpretive material be posted on a USGS public Web page?

Yes, a web page can be used to release new interpretive material, such as an interactive web-based map or model simulations based on real-time data that cannot be effectively released in a USGS publication series or other information product. The USGS realizes as technology evolves more of our new interpretive information may be delivered via the Web. New interpretive material published in any media, includes on Web pages, must undergo the appropriate FSP review process and requires Bureau approval by a BAO in the OSQI, with the exception of all abstracts, including those that contain new interpretive material, which are approved by the Science Center Director. Web sites and pages that contain noninterpretive, informative content for example, information about current and past project activities and personnel, lists of previous publications and presentations, programmatic descriptions and summaries of capabilities are approved by the Science Center Director. All Web pages that contain interpretive or noninterpretive content must follow appropriate FSP review and approval requirements and must be entered into the IPDS as stated in the [Director of the OSQI's December 2011 memorandum](#). For additional guidance on IPDS requirements, contact the [IPDS Coordinator](#) or a [BAO in the OSQI](#).

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10. How is Web-only release of science information handled?

It is the content, not the format or medium of release (Web, print, etc.) that affects whether the FSP review and approval process is applicable (refer to [SM 205.18](#) and [SM 502.4](#)). USGS science information should be released in the appropriate media for the individual product and the intended [audience\(s\)](#). New or previously published interpretive content, whether released as Web-only in one of the USGS series or published in an outside electronic journal, must be handled the same way as any other form of science information that is released with regard to meeting FSP requirements.

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11. What affiliations need to be listed by USGS authors when they write journal articles or USGS series information products?

USGS and non-USGS affiliations may be listed. The USGS affiliation must be shown first. Additional affiliations may be added after the USGS author's affiliation or by footnote or other means, depending on the standards of the chosen outlet. Refer to [SM 1100.5](#) for specific guidance and examples for using affiliations in USGS series information products.

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12. Can contractors use a USGS affiliation in the author byline?

When work is done under contract, whether by an individual or through a company or other agency, the contracted author is not to use a USGS affiliation in the

author byline unless the contractual relationship is made clear. The contract author must also have been formally affiliated with the USGS at the time the work upon which the product is based was performed. The contract author's actual affiliation; that is, the name of the company, agency, or location/town (if self-employed), followed by "under contract to the U.S. Geological Survey" or similar wording, is to be used regardless of the type of publication or whether any USGS employees are included in the list of authors. The contractual relationship also should be described in the body of the report as "This work was done under contract to the USGS" or similar wording. An example for a contract author's affiliation in a USGS information product is as follows: "[add author's name], a contractor: Staffing Professionals, Inc., city, state; Work done under contract to U.S. Geological Survey." Refer to [SM 1100.5](#) for additional information on authorship and affiliations.

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13. Can volunteers (including scientists emeriti), visiting scientists, students, interns, and others use a USGS affiliation in their author byline?

Yes, if these individuals have a formal affiliation with USGS, meaning in this context USGS employment credentials or a formal agreement such as a volunteer agreement or emeritus agreement. Visiting scientists and others who are paid in whole or in part or receive other support, such as per diem, office space, or equipment to use, and others who perform volunteer work under the aegis of the USGS can add the USGS and their specific relationship in the author byline. Students are included in the USGS byline if they are U.S. Geological Survey employees in whole or part, covered by some other formal agreement such as a volunteer agreement, or affiliated with a program such as the National Association of Geoscience Teachers. The affiliations might be shown as one of the following: "Visiting scientist, U.S. Geological Survey," "Volunteer, U.S. Geological Survey" or "Scientist Emeritus, U.S. Geological Survey," or for students "Firstname M. Lastname, Student, U.S. Geological Survey." In any case, the specific relationship should be spelled out in the body of the manuscript with wording such as "The work by [add author's name] was done while serving as a visiting scientist with the U.S. Geological Survey."

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14. What are the requirements for audiovisual media and products?

The USGS Office of Communications and Publishing (OCAP) has primary responsibility and provides policy direction for audiovisual products, including video productions, motion picture films, public service announcements, video news features, and electronic/satellite transmissions that are produced by or attributed to the USGS. For these proposed audiovisual products, the OCAP reviews, approves, and certifies them for approval by the DOI Office of Communications (refer to [SM 1100.7](#)). Other audiovisual products that do not require approval by the OCAP include optical discs (such as CD, DVD, and Blu-ray), photographs, slide presentations, animations, and productions by private organizations produced in cooperation with the USGS or sponsored in part by the USGS through grants or cooperative agreements, provided that the USGS contribution does not exceed 50 percent of the total production cost. When in doubt about the requirements related to your audiovisual product, contact audiovisual_request@usgs.gov for guidance. In addition, FSP and publishing requirements related to review, approval, and release of information products must be followed as appropriate for applicable audiovisual products (refer to [SM 205.18](#) and [SM 502.4](#)).

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15. What is the review and approval process for news releases, letters to the editor, and opinion pieces?

News releases, opinion pieces (commonly called op-eds), and letters to the editor are under the purview of the USGS Office of Communications and Publishing and are governed by review, approval and release processes as detailed in [SM 500.5](#).

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16. Is guidance available on disclaimer statements that are allowed in USGS science information products?

Yes. Refer to <http://internal.usgs.gov/fsp/toolbox/disclaimers.pdf> for a list of various disclaimers that the BAOs in the OSQI consider acceptable to use as appropriate in USGS science information products.

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17. Is guidance available regarding advocacy and recommendations in USGS information products?

Yes, refer to http://internal.usgs.gov/fsp/toolbox/advocacy_and_recommendation_guidance.pdf for guidance on advocacy and recommendations in information products, including examples of acceptable and unacceptable statements.

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18. A journal requests that a USGS scientist contribute to a "book review"—what are the FSP review and approval requirements?

Book reviews are, by their nature, critical and may be positive, negative, or anywhere in between. The intent of the review is to address the content, not advance the notion of purchase. Book reviews are, by definition, new interpretive content. As for other new interpretive science information, two peer reviews are required and Bureau approval by a BAO in the OSQI is required for the book review prior to it being submitted to the journal for publication.

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19. **A book publisher has contacted me to contribute a short "blurb" review of content for the back of a book cover. As a USGS scientist, will my positive review be interpreted as an endorsement?**

Yes. By definition, a short review or "blurb" placed by the book publisher on the back cover, elsewhere on the book jacket, or as front matter or back matter inside the book is an endorsement of the contents in the sense that it is meant to encourage a potential reader to read or purchase the product. In other words, a short "blurb" review, regardless of the content, is designed to get a consumer to buy the book thereby contributing to the private gain of the book author and the book publisher. A USGS employee must not associate his or her position or affiliation with the USGS in these kinds of reviews. It is possible for an employee to conduct a short "blurb" review in his or her personal, off-duty capacity. Prior to providing a "blurb" to a publisher, the USGS Ethics Office must first evaluate whether the employee may review the book in an outside capacity and then approve the activity. For the evaluation, the employee must submit a USGS Form 9-1510, Request for Ethics Approval to Engage in Outside Work or Activity, through his or her supervisor to the Ethics Office. A short "blurb" review done in an outside capacity could mention a person's university degree(s), general professional title, and residence city and state. For example, "John J. Reviewer, Ph.D., Geoscientist, (City and State of Residence)." Employees contacted to provide a short "blurb" review in their official or unofficial capacity should contact the Ethics Office for guidance at the earliest opportunity.

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20. **What is a poster session and what is a poster?**

A **poster session** is a large-scale presentation displayed at a scientific meeting, conference, or hearing intended to convey the details of scientific research. It usually consists of a large poster on an easel, exhibit backdrop, or wall and is typically displayed in or near the area of the meeting. The quantity produced is usually one. By contrast, a **poster**, the size of which can vary, is printed in quantity for distribution or released on the Web and, if published by the USGS, is generally published in either the USGS general information product or scientific investigations map series.

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21. **Can working notes be posted to a public Web page as supplementary material for others to use?**

No, working notes, field notes, and other related material that have not met FSP requirements of peer review and Bureau approval cannot be posted to a public USGS or other Web site. These materials are considered predecisional and are protected from public disclosure as described in [SM 502.5](#), section 5, unless the notes, etc. have been specifically included for publication as part of the approved manuscript.

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22. **What are cooperator reports and how are they addressed in FSP?**

Cooperators are entities that mutually address research questions with USGS, most often through funding our work. Cooperator reports are one way to release the results of such endeavors. Cooperator reports are released (published) by the cooperating entity, are clearly a cooperator's product and not a USGS product, and usually are part of a named (and perhaps numbered) series that can include interactive Web-based publications. All cooperator reports must meet USGS standards for release of material to the public (refer to [SM 502.4](#)) and therefore cannot be a private communication to the cooperator, except in the case of other Federal agencies when alternatively an USGS administrative report would be permissible. A cooperator report is thus a published release under the auspices of another entity of USGS work that would otherwise be published as a USGS series report (e.g., open-file report, scientific investigations report etc.). As with all USGS products, cooperator reports must receive two peer reviews, reconciliation, managerial approvals, and Bureau approval before release ([SM 205.18](#)). Importantly, except for permitted courtesy reviews during peer review, the report **cannot** be given to the cooperator for distribution until all FSP approvals are obtained. These reports, designated 'cooperator publications' in the IPDS, rarely are edited by the cooperating entity; hence, great care must be taken in properly preparing such reports for publication by the cooperator.

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Fundamental Science Practices

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Note: For the purpose of these FAQs, the term "Science Center Director" is equivalent to other terms that may be used in the USGS, such as Chief Scientist, Science Center Manager, Center or Branch Chief, Coop Unit Leader, and Cost Center Manager. Other terms used frequently throughout this FAQ collection will be referred to by the acronyms (in parenthesis) as follows: Fundamental Science Practices (FSP), Information Product Data System (IPDS), Bureau Approving Official (BAO), Office of Science Quality and Integrity (OSQI), Science Publishing Network (SPN), and Publishing Service Center (PSC).

FSP FAQs: Approval

1. [Who are the approving officials with authority to grant Bureau approval of science information products?](#)
2. [How is approval granted and what documents at a minimum must be submitted to the approving official?](#) [Revised June 2015]
3. [How do BAOs respond to authors and Science Center Directors after reviewing a manuscript for approval?](#)
4. [For what reasons might a manuscript be rejected by a BAO and returned to the author for additional work?](#)
5. [What policy failures or issues can result in a manuscript's rejection, revision, and resubmittal to BAOs?](#)
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11. [How are disputes or disagreements concerning an approving official's comments handled?](#) [Revised February 2013]
12. [What is the role of the approving official in selecting an appropriate publication release or outlet?](#)

1. **Who are the approving officials with authority to grant Bureau approval of science information products?**
Depending on the product or product content, Bureau approval authority (formerly Director's approval) is delegated to Science Center Directors and BAOs in the OSQI. Refer to [SM 205.18](#) for detailed information on the approval authority for various information products. Guidance information on the [levels of delegated Bureau approval authority](#) and a [list of the BAOs in the OSQI](#) is also available.

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2. **How is approval granted and what documents at a minimum must be submitted to the approving official?**

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Approval is granted via the [IPDS](#). The following documents must be made available to the approving official:

- the original manuscript
- the revised manuscript
- for non-USGS series outlet, all comments from the editor in original form
- all original peer reviewers' comments, including memoranda or emails from reviewers, all manuscript markups
- a reconciliation document addressing all substantive peer review comments and any directions from the editor

If the information product is a USGS series publication, the revised final manuscript must have received an editorial review by an SPN editor and the SPN editorial comments must also be made available to the approving official.

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3. How do BAOs respond to authors and Science Center Directors after reviewing a manuscript for approval?

For brief comments, the BAOs will use the comment box in the IPDS and indicate changes needed on the manuscript as necessary. For more extensive comments, the BAOs will provide a memorandum attached as a supporting document in the IPDS that indicates changes needed in the manuscript as necessary. During review of a manuscript, the BAOs may also contact authors or supervisors by email or telephone outside of the IPDS to resolve or mitigate issues that may affect final approval.

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4. For what reasons might a manuscript be rejected by a BAO and returned to the author for additional work?

Reasons for rejection are not based upon exceeding a numerical quota for allowable errors, but instead are based upon overall science quality and the ability to understand what the author is trying to present. When possible, the BAOs will work with authors to obtain revised text, illustrations, or tables rather than reject the manuscript outright.

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5. What policy failures or issues can result in a manuscript's rejection, revision, and resubmittal to BAOs?

Issues in clear violation of FSP policy and procedures or other policies, such as scientific integrity, can result in rejection of a manuscript with a request for revision and resubmittal for approval. These issues include, but are not limited to, inappropriate peer reviewers, incomplete peer review or reconciliation, revised text not addressing reconciliation conclusions, inappropriate criticism of others and their work, advocacy in presentation of results, and lack of product endorsement disclaimers. In matters of policy wording, the BAOs may work with authors to mitigate these issues. If policy issues are not resolved, the manuscript will be rejected. If the issues are major or pervasive, manuscripts may be immediately rejected. Manuscripts with straightforward but required changes can be approved with the expectation that those changes will be made prior to release of the product.

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6. What editorial failures or issues always require manuscript rejection, revision, and resubmittal to BAOs?

The BAOs recognize poorly written/edited manuscripts as not acceptable under general USGS standards for science presentation and clarity of expression and will return them for further work. Texts with editorial issues of sufficient scope and scale such that one cannot focus on content usually result in

rejection. Overall, anything that gives the impression that USGS work is careless of detail, of poor quality, or otherwise insufficient will be rejected. More serious issues include incompleteness of text, inconsistency in presentation, deficient cross-checking of material, poor organization, poor grammar, and major problems with clarity.

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7. What is a reasonable timeframe for Bureau approval?

The length of time for Bureau approval depends on the length and complexity of the information product and the workload of the approving official. For example, a short paper might take less than one day, whereas a 500-page report may take much longer. If the approving official determines that additional reviews are needed, the time required for approval will increase. Authors should contact the approving official in advance to ensure that the timeframe in which approval is needed can be met.

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8. How will an author or Science Center Director be informed that an information product has been approved by a BAO in the OSQI?

The product's lead or senior USGS author and the individual identified as the "Science Center Director or designee" in the IPDS will receive an automated notice from the IPDS when an information product has received Bureau approval. Additional approval notifications, such as an email or memo, may be provided at the discretion of the approving official.

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9. What happens after a manuscript for an information product has received Bureau approval?

After Bureau approval of a manuscript, the author can return it to the PSC for production or submit it to the outside entity (for example, journal, cooperator, or publisher) for publication. Approved digital manuscripts are added to the IPDS document vault. Hard-copy manuscript-related materials (paper copy or optical disc) are returned to the author or the designated science center recipient.

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10. How is an author informed if a manuscript for an information product is not approved?

The author is informed by the Science Center Director or designee after he/she receives a rejection notification from IPDS. The approving official will indicate in a memo in the IPDS document vault what is needed (for example, additional reviews or revisions or modification to the selected manner of release) before the manuscript can be approved. The author has primary responsibility for responding to an approving official's comments, such as making any required revisions or modifications indicated before resubmitting the manuscript for approval.

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11. How are disputes or disagreements concerning an approving official's comments handled?

When disputes about approval cannot be resolved, the author can appeal through his/her supervisory/management organizational alignment up to the Regional Director or Associate Director, if necessary (refer to http://internal.usgs.gov/fsp/toolbox/appeal_BAO_decision.pdf). An approving official such as a BAO in the OSQI can also appeal to the Director of the OSQI, who works with the Regional Director/Associate Director as needed to mediate or assist in resolving approval-related disputes or disagreements.

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12. **What is the role of the approving official in selecting an appropriate publication release or outlet?**

Generally selection of the appropriate USGS publication series or outside outlet is made by the author and Science Center Director. However, approving officials will consult with authors and managers to ensure the manner of release is consistent with FSP and publishing practices and with the intended audience in mind, and they may make the final decision related to selecting the appropriate USGS series or external outlet.

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Fundamental Science Practices

For Internal USGS Access Only

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Fundamental Science Practices: Frequently Asked Questions

The USGS Fundamental Science Practices (FSP) encompass all elements of research investigations including data collection, experimentation, analysis, writing results, peer review, management review, Bureau approval, and publication of information products. The focus of FSP is on how science is carried out and how products are produced and disseminated.

This internal collection of frequently asked questions (FAQs) is intended to help USGS authors, managers, publishing professionals, support staff, and others comply with the FSP requirements. The FAQs represent a Bureau consensus to ensure that the FSP requirements are uniformly applied throughout the USGS.

The FAQs will be updated as needed. Updates and additions to the FAQs will be posted as they occur (*month/year*). Other questions about FSP policies and procedures that are not addressed here should be directed to the [FSP Advisory Committee](#) (FSPAC) or a local [Bureau Approving Official](#) in the Office of Science Quality and Integrity.

Click on the links below to access the individual FSP FAQ topic pages in this collection.

- [FSP Importance and Basic Requirements](#)
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The following FSP FAQs provide additional information on specific products.

- [Peer-Reviewed Journal Submissions](#)

The [FSP Internet Web site](#) contains a variety of guidance information that is not only publicly accessible but is useful to USGS employees. For example, a selected subset of some of the internal FSP FAQs as well as other topic specific FAQs (such as data release) are available on the public site (refer to <http://www.usgs.gov/fsp/faqs.asp>).

Click on the links below to access the public FSP FAQ

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Note: For the purpose of these FAQs, the term "Science Center Director" is equivalent to other terms that may be used in the USGS, such as Chief Scientist, Science Center Manager, Center or Branch Chief, Coop Unit Leader, and Cost Center Manager. Other terms used frequently throughout this FAQ collection will be referred to by the acronyms (in parenthesis) as follows: Fundamental Science Practices (FSP), Information Product Data System (IPDS), Bureau Approving Official (BAO), Office of Science Quality and Integrity (OSQI), Science Publishing Network (SPN), and Publishing Service Center (PSC).

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Information Quality

Publishing Network

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Note: For the purpose of these FAQs, the term "Science Center Director" is equivalent to other terms that may be used in the USGS, such as Chief Scientist, Science Center Manager, Center or Branch Chief, Coop Unit Leader, and Cost Center Manager. Other terms used frequently throughout this FAQ collection will be referred to by the acronyms (in parenthesis) as follows: Fundamental Science Practices (FSP), Information Product Data System (IPDS), Bureau Approving Official (BAO), Office of Science Quality and Integrity (OSQI), Science Publishing Network (SPN), and Publishing Service Center (PSC).

FSP FAQs: General Guidance and Procedures

1. [What is the linkage and distinction between FSP and the SPN?](#)
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9. [Is it appropriate that a recent USGS employee list his/her authorship affiliation for work done previously while not an employee of USGS and also list the USGS Center at which he/she is now located as their current address?](#) *[Added October 2016]*

1. **What is the linkage and distinction between FSP and the SPN?**
FSP policy directly impacts scientists but the FSP linkage to the [SPN](#) is indirect. For example, the [IPDS](#), which documents science information product workflow steps, includes both FSP and SPN workflow processes, and authors and SPN staff routinely

IPDS



collaborate to ensure that USGS series information products have met the appropriate FSP and publishing requirements prior to release. FSP governs and provides the foundation for how scientific investigations, research, and activities are planned and conducted and how resulting information products are reviewed and approved for release ([SM 502.1](#)) and requires (in [SM 502.4](#)) that information products “must conform with established USGS publishing requirements and procedures for production and release ([SM Part 1100 - Publishing](#)).” The SPN is the Bureau’s organizational unit that provides publishing support, services, and related needs (refer to the USGS [Director’s March 25, 2008 memo](#) for guidance on mandatory use of the SPN).

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2. Is guidance available that explains general review and approval procedures and the responsibilities for information product development?

Yes, some guidance available from the [FSP Website Toolbox](#) includes [procedures](#) that explain information product review and approval requirements; a [chart for developing information products](#) that shows the general responsibilities of authors, approving officials, and others; and an [information product workflow](#) table that spans the time from the creation of the manuscript for an information product to its approval for release. Guidance on [review and approval of scientific data for release](#) is also available. Additionally, requirements and guidance for development, review, and approval of metadata for these products is available (refer to [IM OSQI 2015-02](#) and [FAQs on metadata for scientific data](#)). There are also other resources available internally for geospatial metadata (refer to [metadata for GIS data sets](#)).

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3. What are the requirements regarding use of the IPDS?

Use of the [IPDS](#), the Bureau’s official internal information product tracking system, is **required** for all USGS science information products. The IPDS is used to manage information product development steps and provides documentation that appropriate FSP and publishing procedures are being followed. For example, IPDS data fields document authorship, title, purpose, publishing media, peer review, editorial review, Bureau approval, release, and other metadata specifics about science information products published by the USGS and outside entities. The IPDS documentation is part of the official record and is maintained in the IPDS or at the originating office (for sensitive or confidential documentation) in accordance with USGS General Records Disposition Schedule (GRDS), [Chapter 1300](#) recordkeeping requirements. Contact the [IPDS Coordinator](#) or the [IPDS Support Team](#) for more information about entering information products into the IPDS or for help in using the system. Additional details on IPDS requirements are found in the February 2, 2012, memorandum available at <http://internal.usgs.gov/publishing/documents/ipds-2-9-2012-memo.pdf>.

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4. What are the recordkeeping requirements regarding research activities?

Documentation and recordkeeping requirements associated with data collection and research activities are found in the USGS [Mission-Specific Disposition Schedules and General Records Disposition Schedules](#).

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5. Do final technical reports to cooperators or partners have to go through the FSP review and approval process?

Yes. All science information products, including reports submitted to agencies and organizations that have provided funding to the USGS to carry out scientific research, assessments, or investigations and report on final technical outcomes must go through the FSP review and approval process if the author has full time, part time, or volunteer (including emeritus) USGS affiliation or shared affiliation (for example, between the USGS and a university). Courtesy reviews by customers and outside organizations as appropriate prior to publication are permitted; however, these reviews must be treated carefully to avoid conflict of interest and manuscripts sent for courtesy review must carry a disclaimer statement (refer to [SM 502.4](#)).

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6. What are the provisions for expedited peer review and Bureau approval?

If an information product will need to be handled in an expedited manner, the author and/or Science Center Director should contact the approving official as soon as possible to arrange expedited approval. Expedited peer reviews should be arranged within the Science Center when the peer reviewers are selected.

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7. The OMB has other requirements related to data or information quality—how does the USGS comply with these requirements?

The public USGS Web site, [USGS Information Quality Guidelines](#), complies with the OMB requirements for ensuring the quality of Federal Government science information as stated in the Data Quality Act. The site details the Bureau's process for responding to complaints regarding the quality of USGS science information. Internal guidance on the procedures used for addressing such complaints is also available.

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8. If there is a difference of opinion between an author and her/his chain of command in regard to adequacy of response to peer review or in regard to scientific/technical interpretation, what are the options/avenues available to the author?

If there is a dispute between the author and his supervisor, Center Director, or others in her/his chain of command, regarding adequacy of peer review or scientific/technical interpretation, the author may contact the Director or Deputy Director of the Office of Science Quality and Integrity for assistance with resolution of the differences. The integrity of USGS science is closely tied to the integrity of the scientific process. The Office of Science Quality and Integrity is charged to monitor and enhance the integrity, quality, and health of USGS science. The OSQI will work with the author and others involved to find a suitable way to resolve the dispute. The author may also contact the FSPAC (gs_fspac@usgs.gov) for advice. This address will reach all members of the FSP Advisory Committee.

When there is a dispute regarding the comments of an approving official that cannot be resolved, the author can appeal through his/her supervisory/management

organizational alignment up to the Regional Director or Associate Director, if necessary (refer to http://internal.usgs.gov/fsp/toolbox/appeal_BAO_decision.pdf). An approving official such as a BAO in the OSQI can also appeal to the Director or Deputy Director of the OSQI, who will then work with the Regional Director/Associate Director as needed to mediate or assist in resolving approval-related disputes or disagreements.

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9. **Is it appropriate that a recent USGS employee list his/her authorship affiliation for work done previously while not an employee of USGS and also list the USGS Science Center at which he/she is now located as their current address?**

Yes, this is appropriate to do. The primary affiliation shown should reflect where the employee was located when the work was done and it should be clear that the USGS is not listed in a manner that might imply support, funding, or approval by the USGS if none of this support occurred. It is common for authors to show (by using an asterisk, second footnote, or other means depending on the standards of the chosen outlet) that their current address or affiliation has changed from when the work was previously done (for example, adding something like: "*current address: U.S. Geological Survey, National Wildlife Health Center, Madison, WI"). This is accurate and informative (in case someone would like to contact the employee), and would not imply that the work was done at or for the USGS.

Additionally, because the work was done and completed prior to employment with the USGS, and unless some of the work for the manuscript in question was done by a USGS co-author other than the author in question or the work was funded by the USGS, the manuscript would not be subject to the FSP review and approval requirements for information products.

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[U.S. Geological Survey Intranet](#)

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Fundamental Science Practices

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Guidance for Public Release of Preliminary or Provisional Data and Interpretive Information

October 2015

U.S. Geological Survey (USGS) preliminary or provisional data are defined in [IM OSQI 2015-03](#) as those data (such as real-time data, or preliminary measurements) that are subject to revision, and may be released prior to approval to meet an immediate need. Interpretive information products contain information about the interpretation or meaning of scientific data and may be released similarly as circumstance, described herein, warrants.

There are various situations where preliminary or provisional data and information are released or shared and USGS policy allowing this is provided in [SM 502.5](#). In most cases the decision to share or release these preliminary interpretive materials is determined by the Science Center Director (SCD) where the data or information originates. In some emergency situations Regional Director (RD) offices may have a better sense of the scope of these events, what is needed versus what is requested. The SCDs and RDs collaborate with each other in handling the event or situation, which includes deciding what data/information are released, determining which centers should respond, and coordinating with other Bureau managers and offices as needed. Further, certain emergency situations may require deviation from the existing policy related to this issue. If a specific emergency situation requires a decision to deviate from existing policy, that decision must be defensible.

Preliminary or provisional data or interpretive information released to the public must contain the appropriate disclaimer statement. These disclaimers are available at http://www.usgs.gov/fsp/fsp_disclaimers.asp.

Examples of Preliminary or Provisional Data or Preliminary Interpretive Information that may be Released Prior to Bureau Approval

The table below shows examples of data and information that depending on circumstance and at the discretion of the Science Center Director may be released prior to receiving Bureau Approval pursuant to [SM 502.5](#) and [SM 205.18](#).

Emergency Preliminary or	Non-Emergency Preliminary or
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Provisional Data and Information	Provisional Data and Information
<ul style="list-style-type: none"> • Remote sensing imagery related to natural disasters. • Chemical, Pathogen, or Algal bloom data. • Wildlife disease data. • Data on contaminant or toxic substance spills that would have immediate human health implications. • Earthquake alerts, such as the PAGER system. • Volcanic ash alerts. • Volcano alerts. • Landslide advisories, such as post-fire debris-flow hazard assessments. • Coastal lidar used to monitor shoreline change before and after severe storms. • Certain lidar data related to real time monitoring of "critical" landslide areas. • Model output of volcanic ash fall, volcanic ash cloud transport, lahars, debris avalanches, lava inundation, gas, volcano generated tsunamis, and landslides. • Changes to hazard assessments based on new information. • Severe storm data. • The response team data for the Deepwater Horizon (or BP) Oil Spill. • Emergency response data and interpretations such as that related to the Oso Landslide to protect first responders. • Precipitation network 	<ul style="list-style-type: none"> • Providing data to cooperators to meet immediate management decisions prior to "finalizing" a specific information product. • Providing preliminary data to cooperator as part of progress report since cooperator is part of project team. • Situations where cooperator is using real-time data for daily operations such as allocation of irrigation water (for example, the Columbia Basin Irrigation project), Army Corp dissolved gas real-time data, or evapotranspiration data where cooperator is using real-time data for daily operations. • Electromagnetic induction logs. • Bathymetry data (i.e., sedimentation survey data updating past reservoir surveys). • Data in the National Water Information System or NWIS prior to being categorized as "final" including real time gaging data, discrete water quality data, and real time groundwater data. • Standard monitoring data that is available even during non-emergencies such as seismic waveforms, earthquake locations, geodetic, web cameras, gas, photos, etc. • Earthquake monitoring data (locations and magnitudes) from temporary seismic networks that are not

<p>data to provide hazard assessment of debris flow related to projected runoff.</p> <ul style="list-style-type: none"> • Release of scour survey data around bridge piers to State Department of Transportation and emergency managers during floods. • Streamflow data such as volumetric discharge, water velocity, and water elevation • Water quality information including but not limited to such parameters as: pH, dissolved oxygen, temperature, turbidity, and sediment concentration obtained from "real time" sensors. • Release of preliminary water level data from autonomous sensors deployed for storm-tide surge during hurricane landfall. • If a volcano observatory gets numerous reports that a volcano is erupting and USGS determines that it is not, the observatory may still choose to send out a notice accompanied by annotated photos or satellite images on the USGS web site or USGS Facebook to show the public why we are saying that the volcano is not erupting. We would view the situation as an emergency because we need to get the information out the door to the public or decision-makers as soon as possible. • Locations of landslide source areas mapped 	<p>currently included in ComCat for use in response to evolving earthquake sequences (e.g., induced seismicity, where regulations are informed by earthquake data).</p> <ul style="list-style-type: none"> • Annotated maps and satellite images showing areas of interest. • Quarterly progress reports that include original data to their cooperators. This practice is common for projects that receive funding originally sourced from the Environmental Protection Agency (EPA), even if the funding passes through another cooperator such as the Department of Defense or a local environmental regulatory agency. It is typical for such projects to also have a formal, signed quality-assurance project plan or QAPP that spells out the quality control (r QC targets that must be met. The preliminary releases in the form of progress reports are intended to meet EPA requirements for quality assurance or QA and project oversight from the EPA's (or designee's) perspective. • The real-time groundwater well data used for monitoring groundwater levels and drought, or groundwater quality with respect to contaminant plumes. • Predecisional data and information shared
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<p>by geologists from aerial imagery.</p> <ul style="list-style-type: none">• Release of preliminary surface water/groundwater simulations in support of emergency water calls to support endangered species.• Outputs of novel data analysis and other pre-decisional information as needed to respond to emergency situations. (Note: For example, during volcanic activity, scientists will be scrambling through the data trying to better understand the volcanic processes and their threats/hazards. This analysis will not only be using the traditional methods, but may also involve new methods or ways of looking at the data that may not have undergone formal review. A similar situation occurred during the data analysis for the BP oil spill where novel analysis had to be released quickly in response to an emergency.)	<p>with other government agencies and critical infrastructure managers - this is to assist both groups in their decision-making process.</p> <ul style="list-style-type: none">• In general and as appropriate volcano observatories provide graphical output to the public rather than the underlying data. For instance, instead of a geographic information system or GIS shapefile, the USGS provides *.jpeg or similar files to the Web.• The real-time stream gages which are releasing preliminary data continuously.• Predecisional data shared with non-USGS research colleagues or groups based on existing trust relationships to assist ongoing research collaboration.• Annotated maps and satellite images showing areas of interest.• Pre-screened (by USGS) raw video footage from overflights.• Sediment input/accumulation data (real-time) and native/nonnative fish abundance estimates used to make adaptive management decisions regarding dam operations.
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Additional Information

Questions related to this guidance should be directed to the Fundamental Science Practices Advisory Committee at gs_fspac@usgs.gov.

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[U.S. Geological Survey Intranet](#)

URL: http://internal.usgs.gov/fsp/toolbox/provisional_data_information_release.html

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FSP Advisory Committee Members

(Updated August 2016)

For information about the purpose and function of Fundamental Science Practices Advisory Committee (FSPAC), refer to the [FSPAC Charter](#). To contact the Committee, send an e-mail to gs_fspac@usgs.gov.

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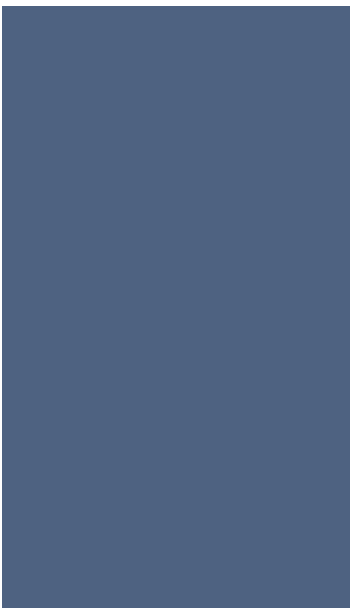
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Stakeholders	Member Name (Years to Serve) *	Member Phone Number	Member Affiliation/Location
Publishing Scientist for Mission/Regional Area or Office			
Climate and Land Use Change	Shawn Carter (3)	703-648-4085	National Climate Change and Wildlife Science Center, Reston, VA
Core Science Systems	Sky Bristol (3)	303-202-4181	Applied Earth Systems Informatics Research Program, Lakewood, CO
Ecosystems	Beth Middleton (3)	337-266-8618	Southeast Area; Lafayette, LA
Energy and Minerals Environmental Health	Bill Orem (2)	703-648-6273	Midwest Area; Reston, VA
Natural Hazards	Ruth Harris (3)	650-329-4842	Pacific Area; Menlo Park, CA
Water	Harry Jenter (3)	703-648-5916	Office of Surface Water; Reston, VA
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	Kevin Gallagher (3) (FSPAC Co-Chair)	703-648-5747	Core Science Systems; Reston, VA
Regional Director (RD)			
	Max	303-	Southwest Region,



	Ethrige (3) (FSPAC Co-Chair)	236-5548	Denver, CO
Science Center Director			
	Rip Shively (3)	573-876-1900	South Central Area; Columbia Environmental Research Center; Columbia, MO
	Cindi Barton (2)	253-552-1602	Northwest Area; WA Water Science Center; Tacoma, WA
Bureau Approving Official			
	Kevin Breen (2)	717-730-6970	Office of Science Quality and Integrity; New Cumberland, PA
Science Publishing Network Representative			
	Steve Longworth (3)	406-457-5910	Office of Communications and Publishing; Helena, MT
Ex-officio			
	Rama Kotra	703-648-6271	Office of Scientific Quality and Integrity; Reston, VA
FSPAC Support Staff			
	Carolyn Reid		Office of Scientific Quality and Integrity
	Carrie Curry (AD Co-Chair support)		Core Science Systems
	Susan Barnes (RD Co-chair support)		Southwest Region

*Members may be reappointed to serve longer terms.

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Fundamental Science Practices

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FSP Advisory Committee

[FSPAC Home](#)

The FSP Advisory Committee serves as the Bureau's advisory and working committee to provide support for the full implementation of USGS Fundamental Science Practices. This support includes but is not limited to, addressing pending and new FSP issues, listening to concerns about FSP, and developing recommendations for resolving issues.

[Charter](#)

[Members](#)

To contact the FSP Advisory Committee, send an e-mail to [GS FSPAC](#).

[Activities](#)



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URL: <http://internal.usgs.gov/fsp/fspac/index.html>

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Fundamental Science Practices

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USGS Fundamental Science Practices

Since its inception in 1879, the USGS has maintained comprehensive internal and external policy and procedures to ensure the quality, utility, and integrity of data, analyses, and scientific conclusions to protect the reputation of USGS science for excellence and objectivity. In 2003, the Executive Leadership Team (ELT) developed a concept document outlining a set of science practices, philosophical premises, and operational principles to serve as the foundation for USGS research and monitoring activities. Using the ELT concept document and the best of our longstanding policy and procedures as the basis, in 2006, USGS Fundamental Science Practices (FSP) policies were established and procedures related to applying these policies were developed, with the overall intent to ensure the quality and integrity of future USGS science activities.

The FSP focuses on the operational principles related to planning and conducting data collection and research, that is, how USGS science is carried out and how the resulting information products are reviewed, approved, and released. The FSP are not designed to address the question of what work the USGS should do—this is addressed in many documents related to Bureau science planning.

This intranet site serves as the primary internal resource for USGS employees, particularly USGS scientists, supervisors, managers, reviewers, approving officials, and publishing professionals to help them find the tools, procedures and other guidance information, such as an extensive collection of FAQs (available internally only), to ensure an understanding of and compliance with the [FSP policies](#). This site also includes a link to the [FSP internet site](#), which provides FSP information to our stakeholders, partners and the general public, such as a selected subset of the FAQs. Some content on public FSP site is also intended for use by USGS employees, such as the FSP policies and guidance documents, including review and approval procedures, a peer review checklist, and an information product workflow chart. This site also includes links to other internal and public sites related to disseminating USGS science information.

A standing [FSP Advisory Committee](#) (FSPAC) is in place to ensure the continued effectiveness of FSP and provide support and response to your questions and concerns about FSP.

IPDS

USGS employees are encouraged to review this site often and bookmark it to stay up to date on the latest FSP information.



Note: Some documents at this website are presented in Portable Document Format (PDF). To view PDF documents, download the free [Adobe Acrobat Reader](#).

[U.S. Geological Survey Intranet](#)

URL: <http://internal.usgs.gov/fsp/index.html>

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(date)

Memorandum

To: Approving Official
From: (author)
Subject: Justification for use of Open-File Report Series

I hereby request that the manuscript identified on the attached *Information Product Review and Approval Sheet* be approved for release as an Open-File Report for the following reason:

_____ It contains data or interpretive information that need to be released immediately to meet a deadline from a cooperator, partner, meeting, or specific assignment, and its release cannot be met through one of the other publication series

_____ It is a response to a Freedom of Information Act request

Deadline date (must be documented) _____

_____ It contains information or data that need to be released as supporting documentation because they are referenced, discussed, or interpreted in another information product and will not otherwise be published

_____ It contains preliminary findings (pending a final map or report)

_____ It contains information that is not sufficiently refined to warrant publication in one of the other USGS series.

_____ It is an interim computer program and/or user guide

_____ It is a bibliography

Signature of Author

Signature of Science Center Director/Team
Chief Scientist or Designee

Note: Use for signatures documentation (for example, when peer review or editorial review is not done electronically). Form 1325 can not be used to replace the IPDS requirements. Page 2 contains explanatory definitions for the fields on this form.

Form 9-1325 (revised January 2010) USGS			INFORMATION PRODUCT REVIEW AND APPROVAL SHEET										SCIENCE CENTER			INFORMATION PRODUCT TRACKING NO.											
AUTHOR(S): (last name first; show first name and(or) initials as shown in manuscript)																SCIENCE CENTER CONTACT: (name, address, telephone, fax, email)											
TITLE:																											
FORM OF PUBLICATION <i>USGS series</i> <input type="checkbox"/> Administrative Report <input type="checkbox"/> Circular <input type="checkbox"/> Data Series <input type="checkbox"/> Fact Sheet <input type="checkbox"/> General Information Product <input type="checkbox"/> Open-File Report <input type="checkbox"/> Professional Paper <input type="checkbox"/> Scientific Investigations Map <input type="checkbox"/> Scientific Investigations Report <input type="checkbox"/> Techniques and Methods										<input type="checkbox"/> Outside information product <input type="checkbox"/> Edit requested <input type="checkbox"/> No edit requested <input type="checkbox"/> Abstract PUBLISHER, JOURNAL, OR MEETING:						Format <input type="checkbox"/> Print <input type="checkbox"/> CD-ROM <input type="checkbox"/> WWW <input type="checkbox"/> Video <input type="checkbox"/> Print on Demand <input type="checkbox"/> Other Check all of above that apply						TOTAL PAGES (including title page and all page-size figures and tables) _____ TABLES COVERING _____ PAGES					
																NUMBER OF ILLUSTRATIONS: <i>Color</i> _____ <i>B&W</i> _____ _____ _____ _____ Line drawings _____ _____ _____ Photographs _____ _____ _____ Plates											
IF PART OF A MULTICHAPTER USGS PUBLICATION: Total number of chapters <input type="checkbox"/> To be published <input type="checkbox"/> Together <input type="checkbox"/> Separately										DEADLINE:						ARE GEOLOGIC NAMES USED? IF YES, TECHNICAL SPECIALIST REVIEW REQUIRED. Yes <input type="checkbox"/> No <input type="checkbox"/>			SUPERSEDES OPEN-FILE REPORT? No <input type="checkbox"/> Yes, number: _____								
REMARKS: (with initials, add additional pages if needed)																PUBLICATION CONTENTS <input type="checkbox"/> New interpretive <input type="checkbox"/> Previously approved interpretive <input type="checkbox"/> Noninterpretive											
NAME, TITLE, AFFILIATION		DATE IN	DATE OUT (indicate hours spent)	CHECK PROCESSING STEP WITH "X"										SIGNATURE (or attach e-mail)													
				Author Submission	Supervisor Approval	Peer Review	Technical Specialist Review	Office of Communications Review	Science Center Approval	Editorial Review	PSC Approval	Bureau Approval															
CONTINUE ON ADDITIONAL FORMS IF NECESSARY																											

Definitions for Form 9-1325

Information Product Review and Approval Sheet

The Information Product Data System (IPDS) is the Bureau's official system for managing the development of USGS information product requiring Bureau Approval (see http://communities.usgs.gov/oc_blogs/usgs_news/?p=645). Effective October 1, 2008, the IPDS must be used to record metadata and to electronically certify that the required approval steps have been completed (see http://communities.usgs.gov/oc_blogs/usgs_news/?p=651). The IPDS workflow history provides documentation to show that these steps have been taken.

The downloadable Form 9-1325 (Information Product Review and Approval Sheet) is retained for use as signatures documentation for manuscripts, for example, when the peer review and editorial review is not done electronically. The form may be supplied to Approving Officials to show signatures for such review steps, however it can not be used as a replacement for the IPDS metadata and approval requirements.

The following definitions explain the fields on Form 9-1325.

Information Product Tracking No. - The IPDS tracking number that identifies the information product.

Science Center Contact - The individual responsible for assembling the approval package for the science center

Signatures - The following signatures represent verification of USGS review and approval policy compliance (see <http://internal.usgs.gov/fsp/policies.html>). In some instances (e.g., multiple USGS authors, peer reviews, technical specialist reviews), more than one signature and check-off may be required.

Name, Title, and Affiliation - Name, area of expertise, affiliation

Author Submission - Author verifies that draft information product is ready for peer review

Supervisor Approval - Supervisor approves draft information product for peer review

Peer Review Verification - Two peer reviewers (at least one from outside the author's originating office) verify completion of review

Technical Specialist Review Verification - Authorized technical specialist review, including geologic, geographic, biologic, hydrologic, and geospatial names review and geodatabase and metadata review, where appropriate

Office of Communications Review Verification - Office of Communications review is required for General Information Product series and for policy-sensitive and high visibility topics

Science Center Approval - Science center manager confirms editorial review by the Enterprise Publishing Network (EPN) editor has been performed, as appropriate and approves the information product or forwards it to a Bureau Approving Official for approval

Editorial Review Verification - EPN staff in Publishing Service Centers (PSCs) provides editorial review for all USGS series information products. Editing of outside publications is optional

PSC Approval - Local PSC Chief approves series information products for USGS publishing policy requirements and visual identity system and Section 508 accessibility compliance, where appropriate, prior to release

Bureau Approval - Designated Bureau Approving Official approves information product for release.
Note: This approval must be obtained through the IPDS.

USGS Fundamental Science Practices Implementation Guidance

Version 2, Updated August 2010

This document provides supplementary guidance on the full implementation of USGS Fundamental Science Practices (FSP). The [FSP intranet web site](#) is intended to be the primary internal resource for employees, particularly USGS scientists, supervisors, managers, reviewers, approving officials, and publishing professionals to help them find the information they need to ensure we are continually maintaining the objectivity and quality of how USGS science is carried out and how resultant information products are developed, reviewed, approved, and released. The [USGS FSP internet web site](#) is the primary source for providing FSP information to stakeholders, partners, and the general public.

The [FSP Advisory Committee](#) (FSPAC) serves as the standing body that monitors and provides support for implementation of FSP. Please [contact the FSPAC](#) for questions and additional information about FSP policy, procedures, and implementation or to provide feedback.

This guidance document is presented in six sections: a background that summarizes how FSP were developed; an overview of how implementation of FSP has been approached; a summary of the various roles and responsibilities related to FSP; a summary of the pathways information products may take for distribution; and ongoing activities, lastly, a section on next steps.

I. Background

The USGS serves the Nation as an independent science agency that provides scientific information and understanding about natural resources and hazards. The USGS has no regulatory or management mandate and is thus able to provide impartial science that serves the needs of our changing world. A diversity of scientific expertise enables the USGS to carry out multiple-scale, multidisciplinary investigations that continue to add to the base of knowledge about the Earth. Through these efforts the USGS provides citizens and decision makers at all levels of government information needed to address critical societal issues.

The USGS has a long and proud tradition of world-class, unbiased science in service to the Nation. A reputation for impartiality and excellence is our most important asset. To help preserve this vital asset, in 2004, through a [concept document](#), the Associate Director for Water (Robert Hirsch) and the Geospatial Information Officer (Karen Siderelis) with input from members of the Executive Leadership Team (ELT) proposed “a set of fundamental principles to underlie USGS science practices,” including philosophical premises, and operational principles that are the foundation for all USGS research and monitoring activities. The concept document, “USGS Fundamental Science Practices” noted that protecting the reputation of USGS science for excellence and objectivity requires:

- clearly articulated, Bureau-wide fundamental science practices;
- a shared understanding at all levels of the organization that the health and future of the USGS depend on following these practices; and

- the investment of budget, time, and people to ensure that both the reputation and the quality are maintained.

Following a statement of philosophical premises, the concept document presented operational principles divided into two sections: (1) planning and conducting data collection and research and (2) review, approval, and release of USGS information products. The document's discussion of FSP focused on *how* the science is carried out and *how* the products are produced and disseminated. The FSP are not designed to address the question of *what* work the USGS should do—that is addressed in many documents related to USGS science planning.

At a meeting of all USGS managers in Austin, TX, in March 2004, the completion of the FSP concept document was announced. In the [Director's July 23, 2004 memo](#) that announced the concept document to all employees, a fundamental USGS value was articulated: "No matter what policies and guidelines are developed, the responsibility for science excellence remains where it has always been—in the hands and minds of the outstanding scientists of the USGS." In developing an implementation plan for the FSP policy, the intent was to recognize and incorporate the best of our long-standing practices to obtain the optimum overall program for our science.

An initial set of FSP draft policies and guidelines were developed with input from the ELT and employees from all USGS Disciplines and Regions by Ronald Kirby, Senior Advisory Biologist and Science Associate, Western Region, working through the Geospatial Information Office's (GIO), Science Information and Education Office (SIEO). Subsequently, an FSP Core Team was established to complete the FSP policies and guidelines and to finalize them for review by the ELT. The Core Team (led by Stan Ponce) comprised Regional Science Coordinators, Discipline Chief Scientists, and staff in the GIO/SIEO.

On May 26, 2006, the [approved policy chapters for FSP](#) were incorporated into the Survey Manual (SM) and were announced in the [Acting Director's June 15, 2006 memo](#). An [FSP interim implementation process](#) was announced in an all employees memo from the Regional Directors and the Geospatial Information Officer on July 24, 2006.

An interim FSP implementation team (Regional Science Coordinators Paul Young, Frank D'Erchia, Allison Shipp, and Steve Hammond of the GIO/SIEO), representatives from the Office of Communications, and a group of interim Bureau Approving Officials were identified and charged with the responsibility of an interim implementation of FSP and some responsibility to monitor the interim phase. During this period, an interim intranet web site for FSP that included procedures and frequently asked questions was established. This intranet site was a critical resource to scientists and managers for obtaining FSP information during the interim implementation period.

Late in 2006, a FSP Implementation Team (FSPIT) was established to develop a full FSP implementation plan for the Bureau. The FSPIT completed a comprehensive report that included aspects of implementation guidance and identified a number of FSP topics/issues in need of further investigation by a proposed successor group and recommendations for achieving full implementation. The report was submitted to the ELT in November 2007.

A May 8, 2008, Director's memo announced that the Bureau's [Information Product Data System](#) (IPDS) was adopted as the single, bureauwide system for managing the development of USGS information products. A subsequent May 29, 2008 memo provided additional guidance on required use

of the IPDS. The IPDS role in FSP is to provide the critical tracking and workflow documentation of processes involved in planning, review, approval, production, and distribution of information products by capturing a definitive record of these processes. The IPDS models the common, formalized USGS methods for creating a record of the information product lifecycle. The IPDS provides access to the status of and related information about USGS scientists/authors publishing efforts and verifies the Bureau's compliance with FSP requirements.

Considering recommendations derived from the aforementioned FSPIT report, a January 16, 2009, Director's memo announced that the interim FSP implementation period was closed and the USGS moved to full FSP implementation. The interim FSP intranet web site (<http://internal.cr.usgs.gov/fsp/>) was updated and replaced by the permanent [FSP intranet web site](http://internal.usgs.gov/fsp/) (<http://internal.usgs.gov/fsp/>), the interim BAOs became permanent, and this FSP implementation guidance document was developed. The January 16 memo also officially established the [FSPAC](#) to monitor the effectiveness of full implementation of FSP and to anticipate needs for policy and procedural modifications in the future. The FSPAC's functions also include addressing pending and new FSP issues and developing recommendations for resolving them; serving as a resource to USGS management by offering recommendations and advice to help ensure that the Bureau continues to produce high quality, objective science information products; listening to concerns and providing advice and guidance to USGS authors, managers, approving officials, and others involved in FSP activities.

II. FSP Implementation - Overview

FSP implementation is intended to ensure and enhance the quality, objectivity, and excellence of USGS science information products and will capture a definitive record of the processes and procedures supporting that objective. FSP implementation establishes a chain with specified responsibilities but the overall objectives are the responsibility of all USGS employees. FSP includes both technical and policy review elements. Independent peer review is the foundation of technical review. Policy review is intended to ensure consistency with Bureau policy and to enhance communication of science products.

FSP policy and implementation are not intended to unduly limit access to USGS expertise, participation of USGS employees in public discourse, or cooperative efforts where USGS information, science, and expertise provide value. Continued evolution in the collaborative conduct of research and the mechanisms for information dissemination require flexible implementation. FSP policy cannot provide detailed mechanisms for all conceivable modes of information exchange and dissemination. The judgment of USGS technical and management staff and guidance of the FSPAC, consistent with the broad goals of FSP, is an essential element in the development and communication of USGS knowledge and products.

In summary, the goals of FSP are to:

- establish a consistent peer review and approval process across all parts of the organization;
- improve the ability of USGS scientists to publish high-quality science;
- help ensure the objectivity, integrity, and excellence of USGS science and products;
- ensure that USGS high-impact science is broadly distributed to policymakers for maximum effectiveness; and

- enable USGS scientists and managers to speak freely about their science to policymakers, news media, and other key audiences with confidence in the excellence of the science and the integrity of the process.

III. Roles and Responsibilities

Successful implementation of the FSP requires a clear understanding of the roles and responsibilities by a variety of USGS staff. Authors, Reviewers and Science Center Managers have a primary responsibility for the technical, scientific, and editorial quality of the information product. Products submitted for approval must be suitable for final publication in quality, format, and clarity of expression. Submissions for approval must be accompanied by a record of the review process and a document reconciling peer reviewer comments with the submission. Authors, Supervisors, Reviewers, and Science Center Managers share responsibility for ensuring that independent peer review standards are met and documented. In the interest of effectively and appropriately communicating USGS science, they also have a critical role in identifying content that is policy-relevant, sensitive, or that has potential for high-visibility and thus, communicating that content at the proper time to appropriate USGS offices and managers. Additional guidance on the critical roles and responsibilities of the Author, Reviewers, Science Center Manager, as well as the Supervisor, and others is found at the FSP intranet web site, under the heading “Toolbox”, contains a table titled [Information Product Development Steps and Responsibilities](#).

IV. Outlets to Publishing Information Products

A USGS information product is defined in part as a compilation of scientific communication or knowledge (facts, data, or interpretations) in any medium or form to be disseminated to a defined audience or customer. These products are communicated in a variety of ways, generally released either internally, through [USGS publication series](#) or through an [external or outside publication outlet](#), in print, through electronic media, and posted on the web. Regardless of the outlet, all USGS information products must conform to Bureau review and approval requirements (see [SM 502.4](#)) consistent with both the content of the product and the intended outlet. An [information product workflow example](#) that depicts the pathway to publishing USGS information products is available.

There are still some areas of the FSP where more definitive consideration and guidance are required. For example, as we share more information via the internet, decisions are needed as to what can be posted without peer review. Similarly with “informal” information products that are status and progress reports for our partners, the level of peer review and appropriate product outlet needs clarification. Chapter [SM 502.3](#) (Fundamental Science Practices: Peer Review) states that peer review is required for all information products, regardless of media (print, digital, audiovisual, or Web), on condition that the work is partially or wholly funded by USGS or if USGS affiliation is identified with the authorship. Until additional guidance is communicated, all information products that are status or progress reports must undergo appropriate review and approval before release. Science Center Managers have the responsibility to determine whether or not they have authority to approve an information product or if the product needs to go to a Bureau Approving Official for approval.

One other note regarding publishing: the [Enterprise Publishing Network](#) (EPN) is the Bureau’s science publishing resource and is designed to support all USGS publishing needs. As stated in the [Director’s May 28, 2008 memo](#), publishing support for all USGS publication series is to be performed by EPN publishing professionals in EPN Publishing Service Centers (PSCs). This involves EPN managers and

PSC staff working with the author to help assure the manuscript meets USGS publishing standards; provide editorial review to improve readability by the intended audience; and provide production support and posting of publication series to the Web. Additional information, including a chart that summarizes the [requirements for the use of the EPN](#) is available. Using non-EPN personnel, including contractors and volunteers, to perform Bureau publishing activities related to USGS series publications is not permitted, unless such services are coordinated through the EPN.

V. Ongoing Activities

Periodic evaluation of the effectiveness of implementation of FSP policy and procedures and the impacts on review, approval and release of USGS information products provides the USGS opportunities for refining and enhancing our FSP as needed. If this evaluation results in modifications to policy and procedures, announcements indicating such will be made to all employees and (or) updates will incorporated posted on the FSP websites.

The FSPAC is intended to be a standing body for an indefinite period. The committee actively works through the issues raised about FSP. [FSPAC subcommittees](#) are formed to work on focused issue topics. For example, in 2010, as a result of recommendations from the FSPAC that were approved by the ELT, the FSP policy was modified for abstracts, posters used in meetings, and presentation materials to clarify and resolve issues related to review, approval and release of these products. The FSPAC also coordinated the development of [the public FSP site](#) in response to concerns about the need to provide information about FSP to our stakeholders, partners, and the general public. The FSPAC also conducted a targeted and voluntary survey to gather feedback on how the current policy on peer review of outside publications is working and upon reviewing of the survey results and considering other implications on this topic; FSPAC will make a recommendation to the ELT. Working through a comprehensive list of issues and concerns raised by USGS employees and managers is an ongoing FSPAC activity.

VI. Next Steps

It is not the intent of FSP to constrain interagency or public communication. However, an in depth consideration of the appropriate FSP requirement for some USGS information products remains pending. In the mean time, [FSP policy](#) is to be followed as written. The procedures found at the internal and public FSP websites provide additional guidance. The [FSPAC](#) will continue to provide advice and clarification on FSP as needed, address the issues, and in general, monitor the effectiveness FSP, considering the implications of the current requirements to determine if modifications are warranted and making recommendations accordingly. Based on the FSPAC's deliberations and recommendations and after necessary approval by the ELT, aspects of FSP policy, procedures, and guidance may be revised. This implementation guidance document will be updated as needed.

USGS INFORMATION PRODUCT USE CASE DIAGRAMS

ILLUSTRATING FUNDAMENTAL SCIENCE PRACTICE STEPS

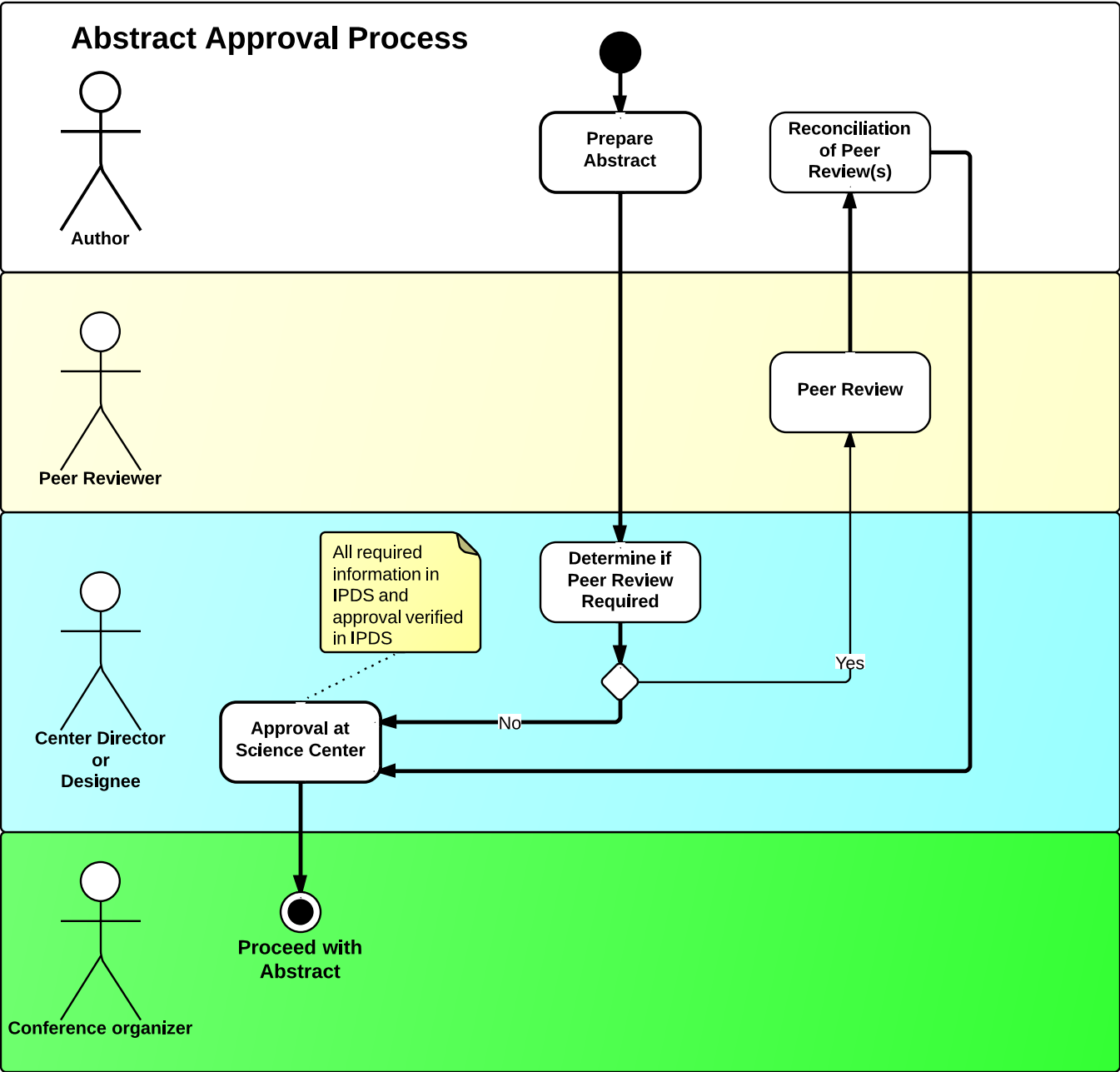
A use case analysis is a technique used to identify the requirements of a system process and the associated use case diagrams provided here may be used to provide a better understanding of the processes used to create, review and approve USGS information products.

To view the use case diagram for one of the five product types identified below select the product type with your mouse and click.

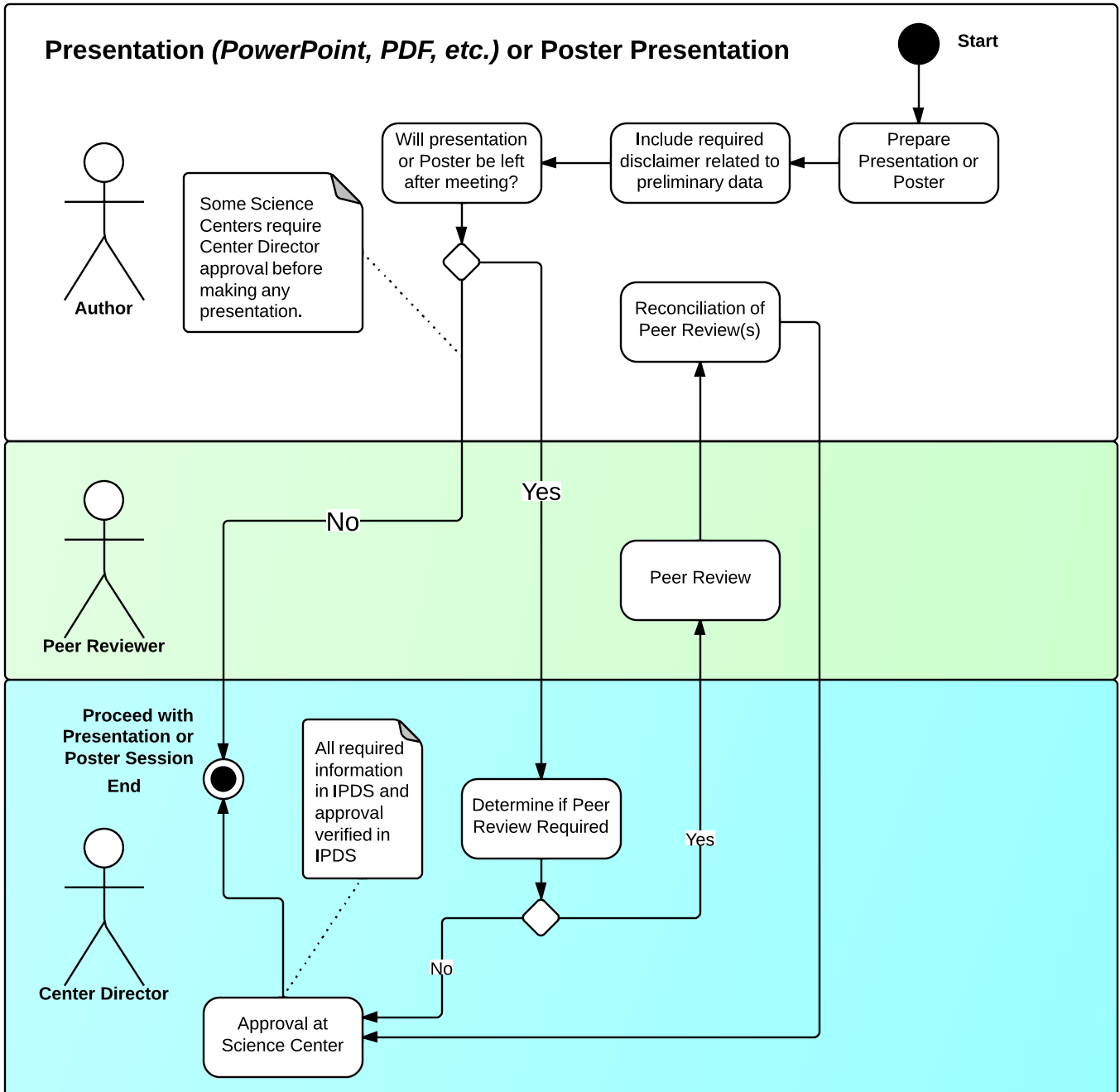
Abstract	Presentation or Poster	USGS Series Publication	Outside Publication & Cat 2 Open Access Journal	Peer-Reviewed Journal Article
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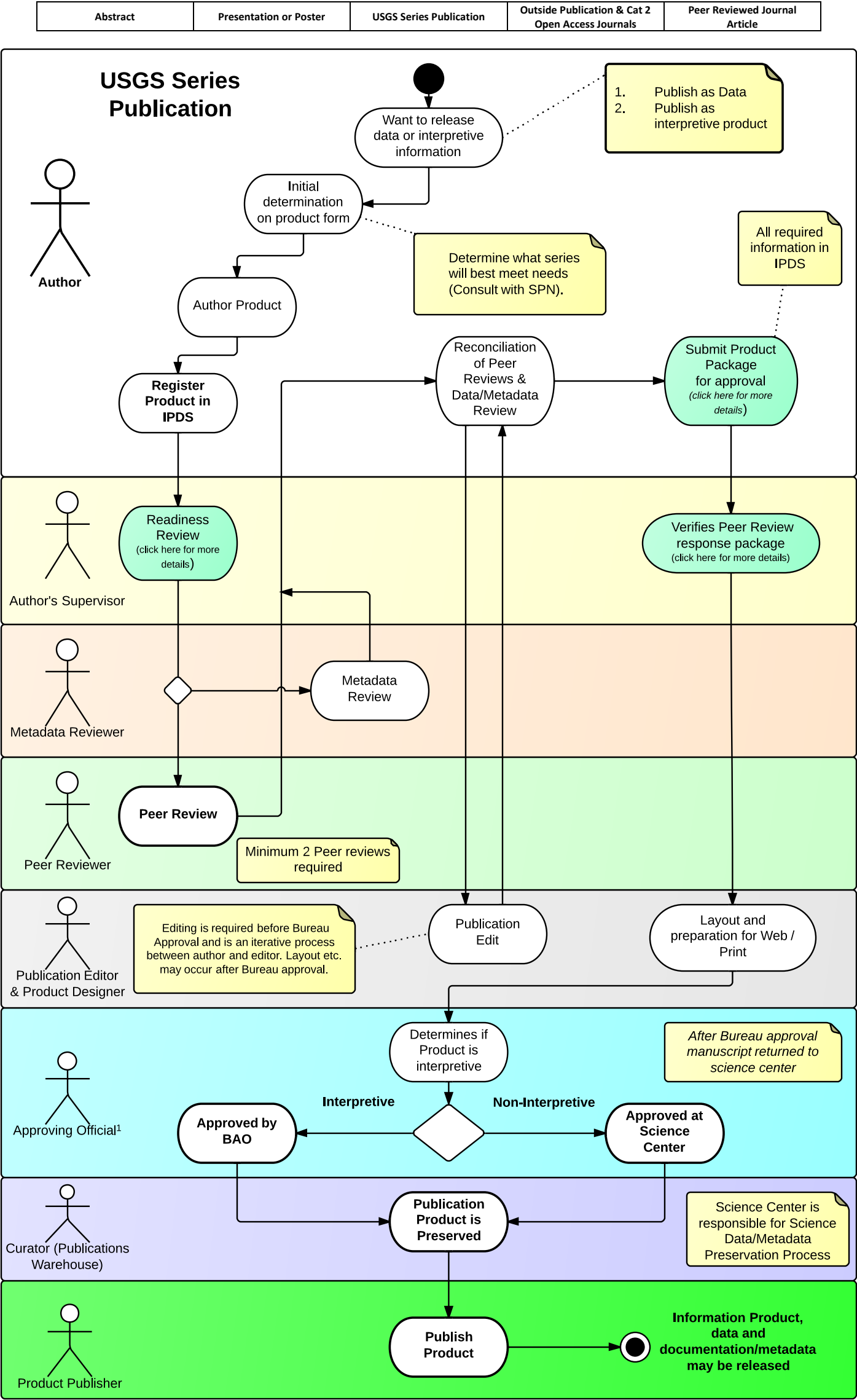
Note: Relative to *Open Access Journals* - There are two categories of open-access journals based on FSP approval process; distinction is based on the peer review process used.

- ✓ **Category 1** has peer reviews characterized by anonymous peer reviews and draft manuscripts are not available to the public. For this category, use the USGS approval process for peer-reviewed journal articles.
- ✓ **Category 2** is characterized by having peer review of draft manuscripts open to the public. For this category, two USGS-initiated peer reviews and Bureau approval are required before sending the manuscript to the journal.



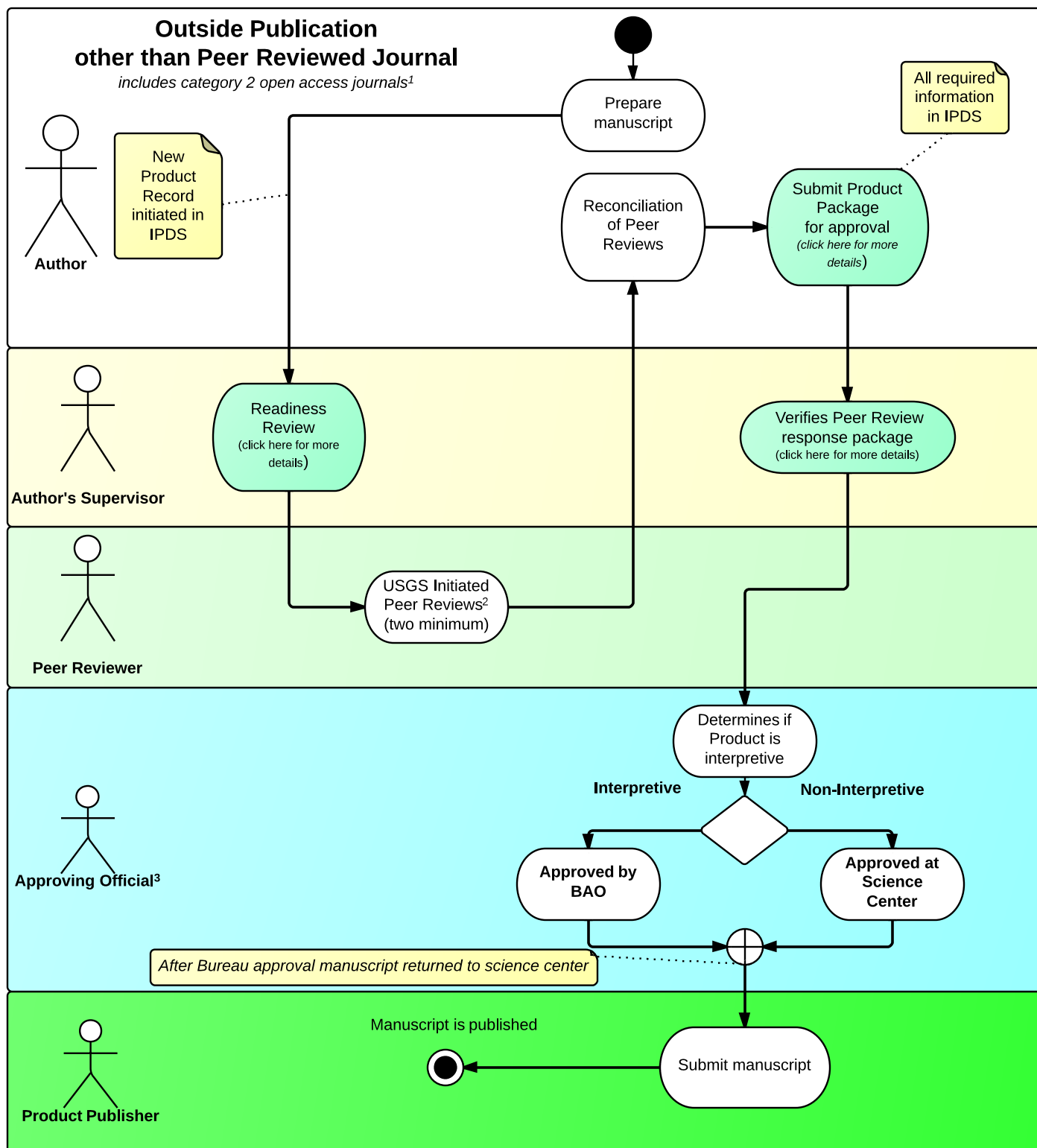
Presentation (*PowerPoint, PDF, etc.*) or Poster Presentation





1. The Science Center Director or designee determines if product is interpretive or non-interpretive. If non-interpretive may approve.

Abstract	Presentation or Poster	USGS Series Publication	Outside Publication & Cat 2 Open Access Journals	Peer Reviewed Journal Article
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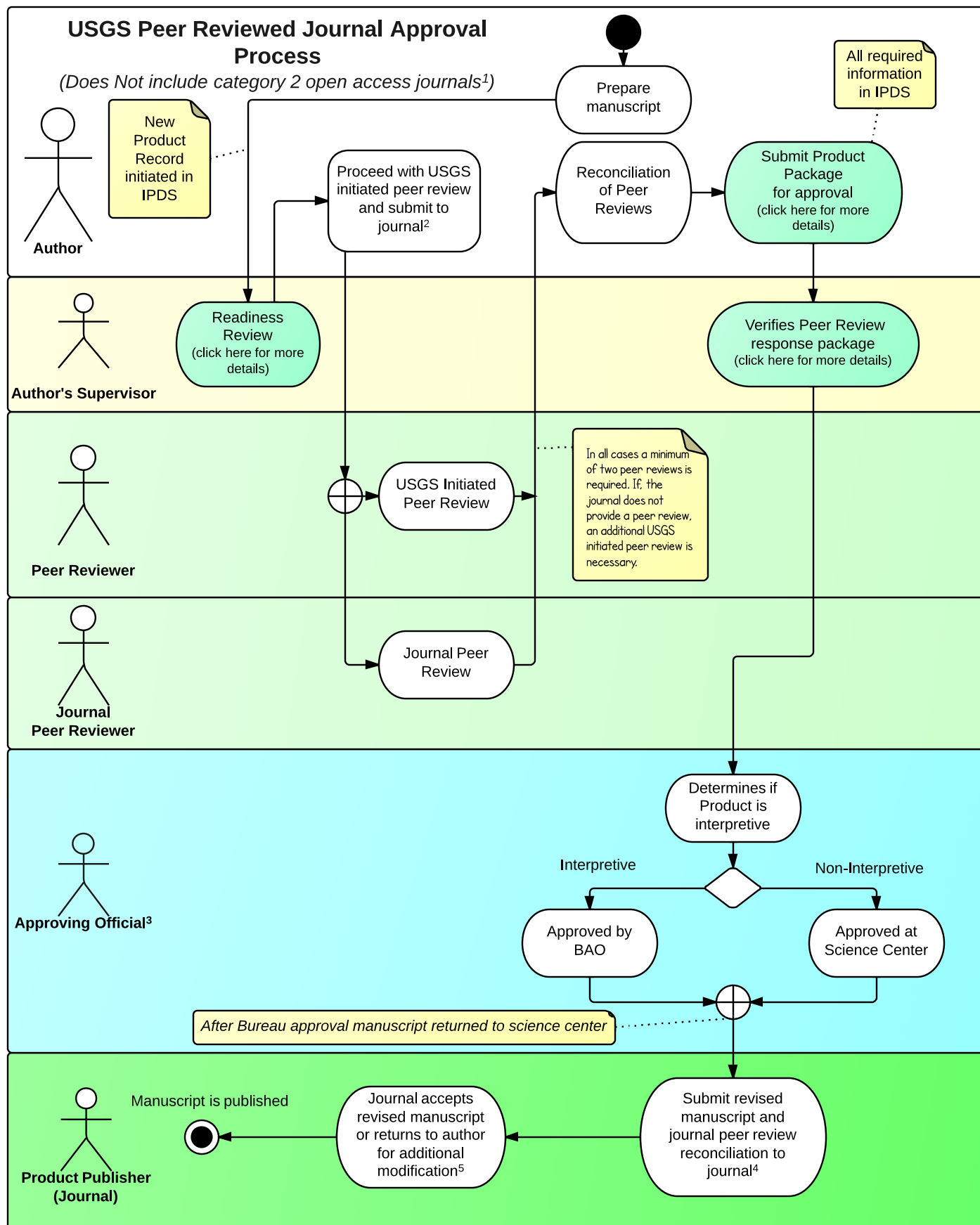


1) Category 2 Open Access Journals are defined here (<http://internal.usgs.gov/fsp/faqs-peer.html#openaccess>).

2) Peer reviewers, selected by publisher may be used for the USGS required peer reviewers at the discretion of the supervisor pursuant to requirements in SM 502.3.

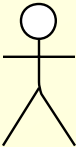
3) The Science Center Director or designee determines if product is interpretive or non-interpretive. If non-interpretive may approve at science center.

Abstract	Presentation or Poster	USGS Series Publication	Outside Publication & Cat 2 Open Access Journals	Peer Reviewed Journal Article
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Supervisor Review

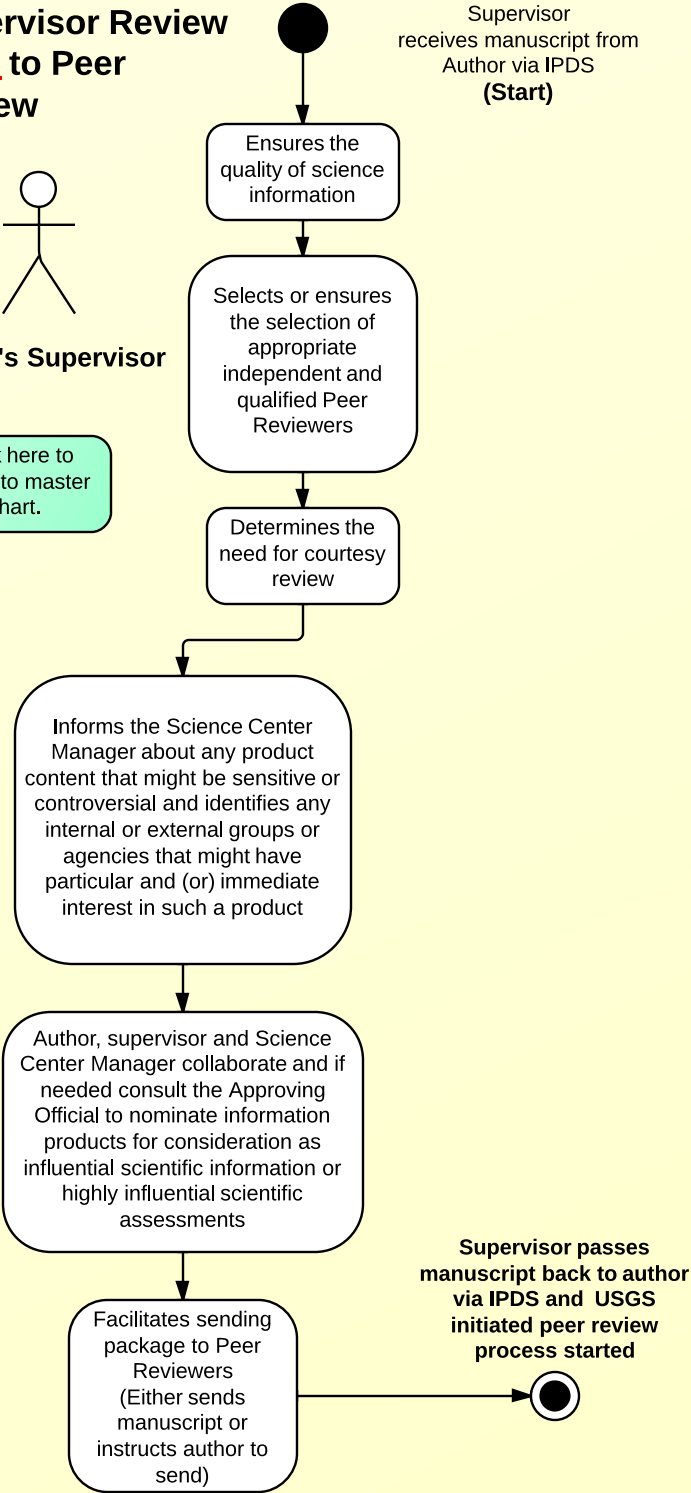
Prior to Peer Review



Author's Supervisor

Click here to return to master chart.

Supervisor receives manuscript from Author via IPDS (Start)



Submittal Package

The following documents must be part of the submittal package:

- ✓ the original manuscript,
- ✓ the revised manuscript,
- ✓ all original peer reviewers' comments, including memoranda or emails from reviewers and any manuscript markups, and a reconciliation document addressing peer review comments.

Supervisor Review

After Peer Review

Receives package for approval from Author
(Start)



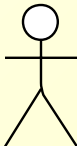
Ensures the Author has adequately addressed peer review and editorial comments and prepared a suitable final draft of the product.



Forwards revised package (via the IPDS) to the Science Center Manager for consideration for approval.



Moved to local or BAO approval decision step (end)

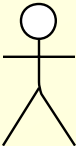


Author's Supervisor

Click here to return to master chart.

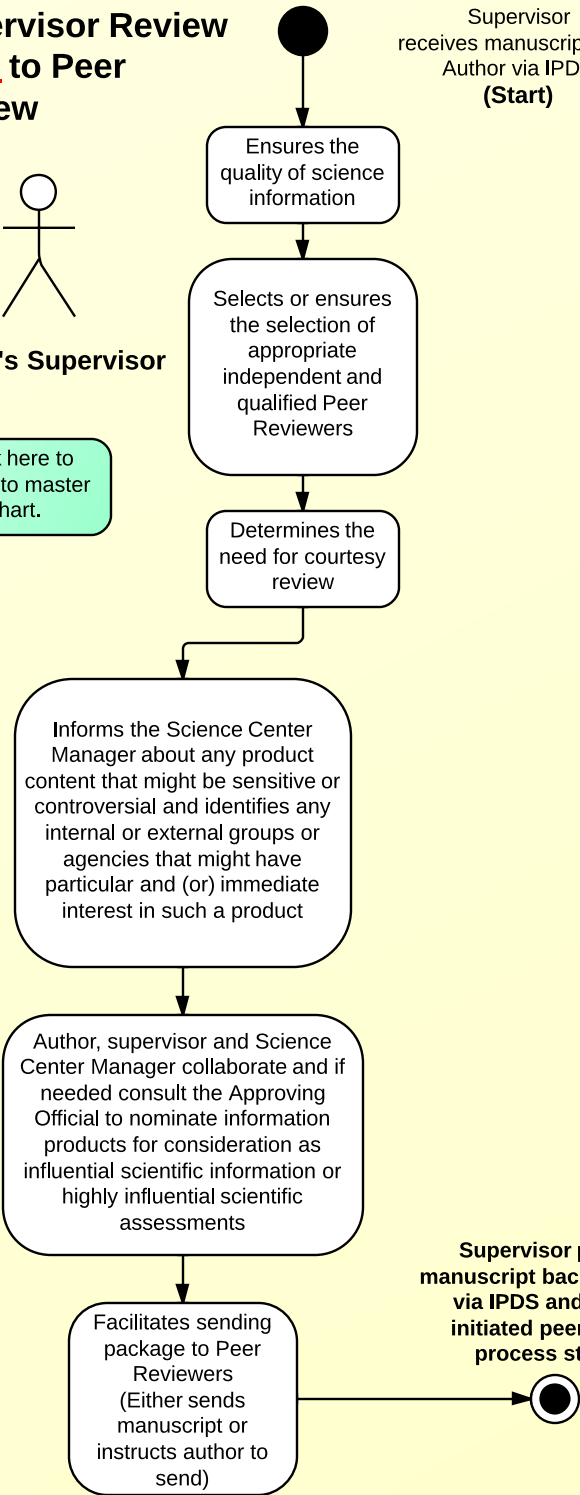
Supervisor Review
Prior to Peer
Review

Supervisor
receives manuscript from
Author via IPDS
(Start)



Author's Supervisor

Click here to
return to master
chart.



**Supervisor passes
manuscript back to author
via IPDS and USGS
initiated peer review
process started**

Submittal Package

The following documents must be part of the submittal package:

- ✓ the original manuscript,
- ✓ the revised manuscript,
- ✓ all original peer reviewers' comments, including memoranda or emails from reviewers and any manuscript markups, and a reconciliation document addressing peer review comments.

Supervisor Review

After Peer Review

Receives package for approval from Author
(Start)



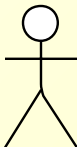
Ensures the Author has adequately addressed peer review and editorial comments and prepared a suitable final draft of the product.



Forwards revised package (via the IPDS) to the Science Center Manager for consideration for approval.



Moved to local or BAO approval decision step (end)

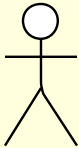


Author's Supervisor

Click here to return to master chart.

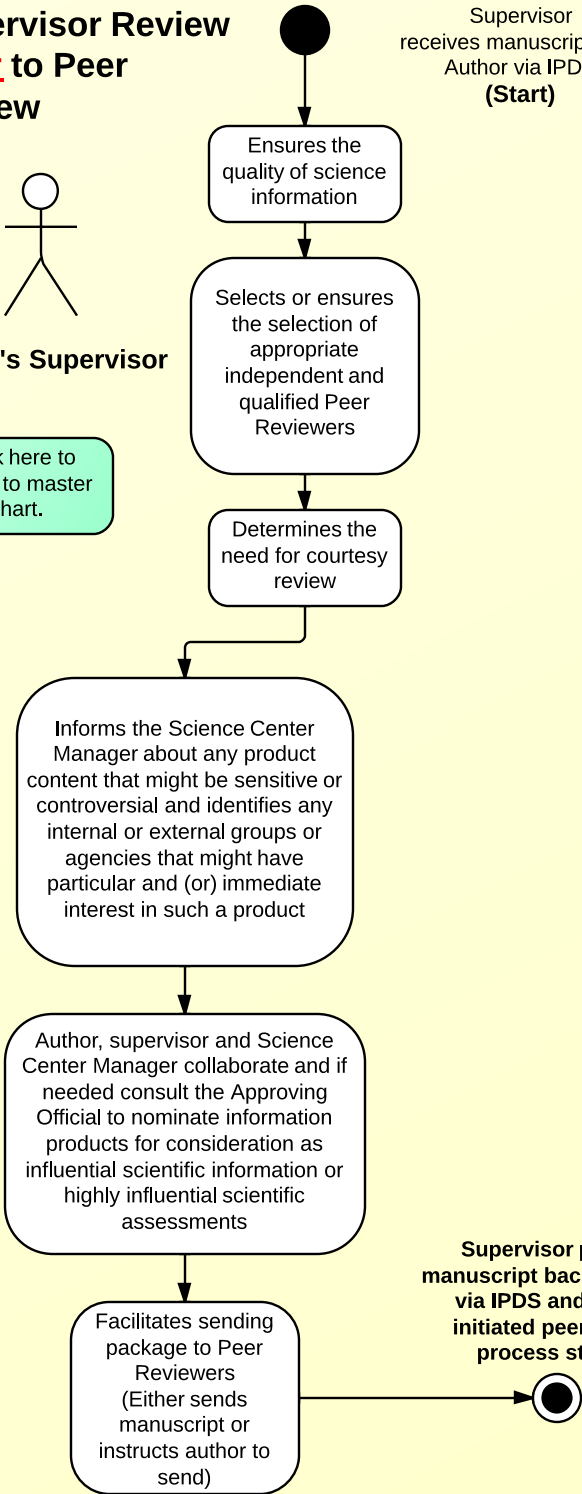
Supervisor Review
Prior to Peer
Review

Supervisor
receives manuscript from
Author via IPDS
(Start)



Author's Supervisor

Click here to
return to master
chart.



**Supervisor passes
manuscript back to author
via IPDS and USGS
initiated peer review
process started**

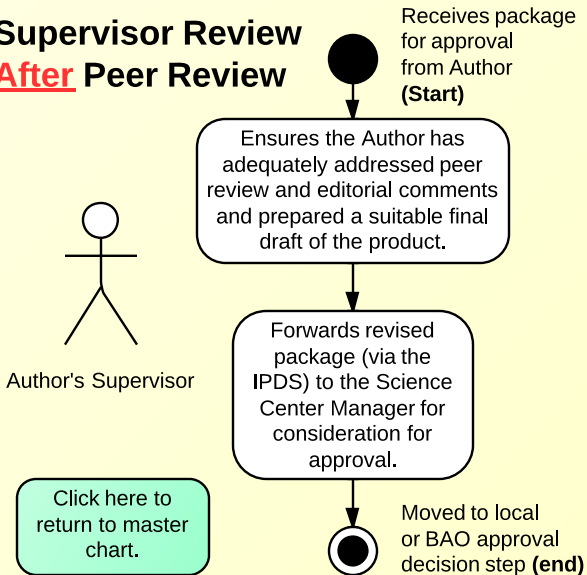
Submittal Package

The following documents must be part of the submittal package:

- ✓ the original manuscript,
- ✓ the revised manuscript,
- ✓ all original peer reviewers' comments, including memoranda or emails from reviewers and any manuscript markups, and a reconciliation document addressing peer review comments.

Supervisor Review

After Peer Review



Abstract	Presentation or Poster	USGS Series Publication	Outside Publication & Cat 2 Open Access Journals	Peer Reviewed Journal Article
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Click anywhere on page to return to previous diagram.

Click anywhere on page
to return to previous diagram.

Click on page to return to previous diagram.



Intranet Home
Find A Person
Search Intranet

Fundamental Science Practices

For Internal USGS Access Only

Can't Find It?

Training Resources

[Fundamental Science Practices of the U.S. Geological Survey](#) (30 minutes, Flash)

- What are the USGS Fundamental Science Practices?
- Where to find information on FSP.
- Roles and responsibilities of authors, supervisors, Science Center managers, Bureau Approving Officials, the Office of Science Quality and Integrity, the Director and the FSP Advisory Committee.
- Peer Review Requirements for various USGS information products.
- The Bureau Approval Process.
- Consequences of intentionally not following FSP.

[USGS Freedom of Information Act \(FOIA\) Training Module](#) (15 minutes, Flash)

- What is FOIA?
- Why is it important to you as USGS Scientist?
- Under USGS Fundamental Science Practices, what is excluded from release under FOIA?
- What should you do when you receive a FOIA request?

For additional details on FOIA visit the USGS FOIA intranet site at: <http://internal.usgs.gov/gio/irm/foia.html> or contact the USGS FOIA Officer, Brian May at 443-498-5521 or bmay@usgs.gov.

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[U.S. Geological Survey Intranet](#)

URL: <http://internal.usgs.gov/fsp/toolbox/training.html>

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Fundamental Science Practices

For Internal USGS Access Only

Can't Find It?

Fundamental Science Practices - Toolbox

About FSP

- [Circular 1367, USGS FSP](#)
- [FSP Implementation Guidance](#)
- [Training Resources](#)

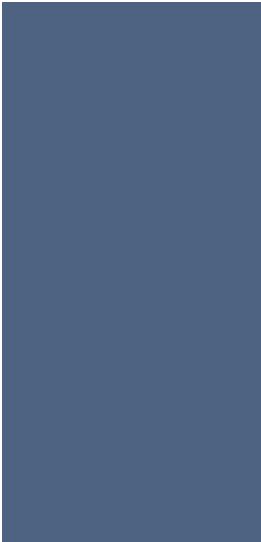
Procedures

- [Procedures for Review and Bureau Approval of USGS Information Products](#)
- [Information Product Workflow \(an Example\)](#)
- [Information Product Development Steps and Responsibilities](#)
- [USGS Information Product Use Case Diagrams Illustrating Fundamental Science Practice Steps](#)
- [Process for Appealing a Bureau Approving Official Decision Regarding Approval of Manuscripts for USGS Information Products](#)
- [FSP Compliance: Recommended Best Practices for Approval of USGS Science Information Products](#)
- [Standards for Establishing Trusted Repositories for USGS Digital Assets](#)

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- [Distinctions Between New Research or Interpretive Information Products and Previously Published or Noninterpretive Information Products](#)
- [Distinguishing Noninterpretive, Interpretive and New Interpretive USGS Information Products \(a Decision Workflow\)](#)
- [Disclaimer Statements Allowed in USGS Science Information Products](#)
- [Guidance on Advocacy and Recommendations in USGS Information Products](#)
- [USGS Code of Scientific Conduct](#)
- [Guidance for Public Release of Preliminary or Provisional Data and Interpretive Information](#)
- [Guidance on Use and Documentation of Horizontal and Vertical Datums in USGS Publication Series Information Products](#)
- [USGS Peer Review Checklist](#)
- [USGS Peer Review Checklist for Influential Products](#)
- [Justification for OFR](#)
- [Form 9-1325 with Definitions](#)
- [Acceptable Digital Repositories for USGS Scientific Publications and Data](#)

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Standards for Establishing Trusted Repositories for USGS Digital Assets

[Introduction](#) | [Preservation Elements](#) | [Preservation Levels](#) | [Roles and Responsibilities](#) | [Additional Information](#)
[Download PDF](#) |

Introduction

These standards are intended to assist in selecting, specifying, building, operating, or enhancing trusted repositories for USGS digital scientific assets. This document includes a table for use by Bureau scientists and management (in collaboration with information technology (IT) staff) in the technical evaluation of systems for preserving these digital assets. The table establishes the minimum USGS standards for a trusted digital repository (refer to Level Three in the table below). The standards in the table are based on material from the Library of Congress-sponsored National Digital Stewardship Alliance (National Digital Stewardship Alliance, 2013). These standards do not cover physical data or address topics such as preservation policies, funding, or organizational competency and longevity, which are critical for data preservation but beyond the scope of this document.

For purposes of this document, important definitions related to preservation of USGS digital assets are as follows:

- **Long-term:** A period of time long enough for there to be concern about the loss of integrity of digital information held in a repository, including deterioration of storage media, changing technologies, support for old and new media and data formats, and a changing user community. This period extends into the indefinite future.
- **Sustainable format:** The ability to access an electronic record throughout its lifecycle, regardless of the technology used to create it. A sustainable format is one that increases the likelihood of a record being accessible in the future.
- **Checksums:** A checksum is a short mathematical digest of a file, which changes if any bit in the file changes. Checksums are used to detect unexpected changes in file content. Federal agencies, including the USGS, should use the following National Institute of Standards and Technology (NIST) approved checksums for new systems: SHA-224, SHA-256, SHA-384, and SHA-512. MD5 and SHA-1 checksums are widely used but not approved for new systems. For more information on checksums, refer to http://csrc.nist.gov/groups/ST/toolkit/secure_hashing.html.

Elements to Consider for Digital-Asset Preservation

When considering how to preserve digital assets you should address the following technical elements, for which standards are provided in the table below:

- Storage and Geographic Location – Storage systems, locations, and data duplication to prevent loss.
- Data Integrity – Procedures to prevent, detect, and recover from unexpected or deliberate changes.
- Information Security – Procedures to prevent human-caused corruption, deletion, and unauthorized access.
- Metadata – Documentation to enable contextual understanding and long-term usability.



- File Formats – File types, structures, and naming conventions to aid long-term preservation and reuse.
- Physical Media – Basic recommendations to reduce obsolescence risks that can threaten the readability of physical media.

Levels of Digital-Asset Preservation

There are four levels of digital asset preservation:

- Level One:** Level One is the minimum criteria and activities needed to maintain digital assets through the life of a research project.
- Level Two:** To continue improving upon repository functionality, implement Level Two elements after all Level One elements are in place.
- Level Three:** Implement Level Three elements after all Level Two elements are in place. This is the USGS trusted digital repository minimum criteria for all long-term preservation records.
- Level Four:** Level Four is the optimum level for which USGS should strive.

The Levels of Digital Preservation table below is based on a left-to-right progression. For each element, the columns describe four levels of increasing assurance for digital assets to be preserved. Additional guidelines are as follows:

- Each level adds requirements to the previous levels.
- To enhance an existing digital data repository, upgrade all elements to the same level.
- To achieve designation as a trusted digital repository, the repository must meet at least Level Three.
- For highest assurance of data preservation, specify all elements at Level Four.

Levels of Digital Preservation				
ELEMENT	LEVEL ONE	LEVEL TWO	LEVEL THREE	LEVEL FOUR
Storage and Geographic Location	<ul style="list-style-type: none">• Two copies stored physically separate from each other• Transfer the digital content from temporary media into an established storage system• Managed storage system in	<ul style="list-style-type: none">• Three copies stored physically separate from each other• At least one copy in a different geographic location (off-site locations must follow NARA 1571 guidelines)• Document	<ul style="list-style-type: none">• At least one copy in a geographic location with a different disaster threat (e.g. hurricane-prone area versus an earthquake-prone area)• Maintain an obsolescence monitoring process for	<ul style="list-style-type: none">• At least three copies in geographic locations with different disaster threats• Implement a comprehensive plan that keeps files and metadata on currently accessible systems and media

	place	the storage system and storage media	the storage system and media	
Data Integrity	<ul style="list-style-type: none">• Verify checksums on ingest, if provided• Create checksums if not provided• Virus check all content	<ul style="list-style-type: none">• Verify checksums on all data ingest• Use read-only procedures when working with original media	<ul style="list-style-type: none">• Verify checksums at fixed interval of 2 years• Maintain logs of checksums and supply audit information on demand• Maintain procedures to detect corrupt data	<ul style="list-style-type: none">• Verify checksums of all content in response to specific events or activities• Maintain procedures to replace or repair corrupted data• Ensure no one person has write access to all copies• Create, store, and verify a second, different checksum for all content
Information Security	<ul style="list-style-type: none">• Identify who has authorization to read, write, move, and delete individual files• Limit authorizations to individual files	<ul style="list-style-type: none">• Document access restrictions for content	<ul style="list-style-type: none">• Maintain logs of who performed what actions on files, including deletions and preservation actions	<ul style="list-style-type: none">• Perform audit of logs
Metadata	<ul style="list-style-type: none">• Inventory of content and its storage location• Ensure backup and physical separation of inventory	<ul style="list-style-type: none">• Store all relevant database management information• Store information describing changes to	<ul style="list-style-type: none">• Preserve standard <i>technical, descriptive, and preservation</i> metadata	<ul style="list-style-type: none">• Same as Level Three

	<div>information</div> <ul style="list-style-type: none">• Adhere to current USGS metadata standards	<div>the structure or format of the data, including time of occurrence</div> <ul style="list-style-type: none">• Provide access to all forms of the metadata		
File Formats	<ul style="list-style-type: none">• Encourage the use of a limited set of documented and open file formats, codecs, compression schemes, and encapsulation schemes	<ul style="list-style-type: none">• Inventory the file formats in use	<ul style="list-style-type: none">• Monitor file format obsolescence issues	<ul style="list-style-type: none">• Perform format migrations
Physical Media	<ul style="list-style-type: none">• Inventory all physical media utilized including hard disks.	<ul style="list-style-type: none">• Develop a plan to utilize trade studies to evaluate medias suitable for USGS purposes.• Begin to transition away from all media utilized that are 10 years or more in age.	<ul style="list-style-type: none">• All non-recommended media have been properly disposed of following transition activities.	<ul style="list-style-type: none">• Base all media choices on trade studies• All information is migrated from an older media to a newer media every 3 to 5 years, including hard disks.
<div>Derived from Library of Congress, National Digital Stewardship Alliance, NDSA Levels of Digital Preservation: Version 1, February 2013.</div>				

Roles and Responsibilities

A repository manager or project chief ensures that all the table elements are addressed, although others, such as data managers or IT specialists, may be responsible for implementation and operation activities.

Scientists and research staff will use the table criteria to recommend the suitability of a potential repository for

preserving digital assets.

Management officials will use the table criteria for reviewing and approving the selection of trusted digital repositories.

In consultation with USGS scientist and managers, IT staff will use the table criteria for building, enhancing, or operating trusted digital repositories.

Additional Information

Additional information on preservation of USGS digital assets can be found at <http://www.usgs.gov/datamanagement/preserve.php>.

[U.S. Geological Survey Intranet](#)

URL: http://internal.usgs.gov/fsp/toolbox/trusted_respositories_digital_assets.html

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- [Announcing Four New Fundamental Science Practices \(FSP\) Data-related Survey Manual \(SM\) policy chapters \(SM 502.6 through SM 502.9\) \[February 14, 2017\]](#) - Memo from the Director, Office of Science Quality and Integrity
- [Announcing the Issuance of Two Revised Fundamental Science Practices Policy Chapters Related to Peer Review and Review, Approval, and Release of Information Products \(December 20, 2016\)](#) - Blog from the Acting Director, Office of Science Quality and Integrity
- [Announcing the Issuance of the Interim Software Release Policy \(December 14, 2016\)](#) - Blog from the Acting Director, Office of Science Quality and Integrity and the Associate Director, Core Science Systems
- [Science Data Policies Governing USGS-Funded Research: Scholarly Publications and Digital Data \(05/02/16\)](#) - Blog from the Director, Office of Science Quality and Integrity
- [Public Access to Results of USGS-Funded Research: Scholarly Publications and Digital Data \(03/08/16\)](#) - Blog from the USGS Deputy Director
- [Issuance of Four Interim Policies Related to Scientific Data \(03-09-15\)](#) - Memo from the Director, Office of Science Quality and Integrity
- [New Information Product Data System \(IPDS\) will launch on June 24, 2013 \(06-07-13\)](#) - Memo from the Director, Office of Science Quality and Integrity
- [U.S. Geological Survey \(USGS\) Regional Realignment is Official \(12-07-12\)](#) - Memo from the USGS Deputy Director
- [Revised Fundamental Science Practices Internal Frequently Asked Questions \(10-18-12\)](#) - Memo from the FSP Advisory Committee Co-Chairs and the Director, Office of Science Quality and Integrity
- [USGS Fundamental Science Practices-Release of Revised and Updated Policy Chapters and New Guidance on Advocacy and Recommendations in USGS Information Products \(12-28-11\)](#) - Memo from the Director, Office of Science Quality and Integrity
- [Peer Review for Journal Articles \(07-21-11\)](#) - Blog from the USGS Director
- [U.S. Geological Survey \(USGS\) Fundamental Science Practices \(FSP\)--Modifications to Policy on the Peer-Review Process for Submissions to Peer Reviewed Journals \(07-08-11\)](#) - All Employees memo from the USGS Director

- [Ensuring Scientific Integrity within the Department of the Interior \(09-29-10\)](#) - Secretary Order No. 3305 from the Secretary of the Interior
- [USGS Fundamental Science Practices Implementation Guidance, Version 2, Updated August 2010](#) - Archive Document for Historical Use Only
- [A New Fundamental Science Practices Internet Website is Available \(05-20-10\)](#) - All Employees memo from the Associate Director for Geospatial Information and Chief Information Officer
- [Neutral Science: Nonadvocacy at the USGS \(05-03-10\)](#) - Blog posting from USGS Director
- [USGS Peer Review Requirements for External Publications Survey \(03-04-10\)](#) - All Employees memo from the Associate Director for Geospatial Information and Chief Information Officer
- [Information Product Data System User Survey \(02-26-10\)](#) - All Employees memo from the Associate Director for Geospatial Information and Chief Information Officer
- [Modifications to Fundamental Science Practices Policy for Abstracts, Posters Used in Poster Sessions, and Presentation Materials \(12-10-09\)](#) - All Employees memo from the Associate Director for Geospatial Information and Chief Information Officer
- [The USGS and the President's Call for Scientific Integrity \(06-24-09\)](#) - Blog posting from Acting USGS Director
- [The USGS Fundamental Science Practices Are Now Fully Implemented \(01-16-09\)](#) - All Employees memo from the Director
- [Implementation of IPDS - the Director's memorandum of May 8, 2008 \(05-29-08\)](#) - Memo from the EPN Manager to the ELT, Regional Executives, and Science Center Directors
- [Use of the Enterprise Publishing Network \(05-28-08\)](#) - All Employees memo from the Director
- [Publications -- Use of the Bureau Information Product Data System \(05-08-08\)](#) - All Employees memo from the Director
- [Enterprise Publishing Network \(05-30-07\)](#) - Memo to Science Center Directors from the USGS Director
- [Internal FSP Interviews \(03-01-07\)](#) - Audio Podcasts (Parts 1-3) of talks with the USGS Director, Associate Director for Water, and Associate Director for Biology
- [Why We Value Alerting Senior Leaders About Policy-Sensitive or High-Visibility Reports \(02-12-07\)](#) - All Employees memo from the USGS Associate Directors

- and Regional Directors
- [Modifications to the Interim Fundamental Science Practices Policy \(01-23-07\)](#) - All Employees memo from the USGS Associate Directors and Regional Directors
- [Peer Review is the Bedrock of Credible Science \(12-15-06\)](#) - All Employees memo from Mark D. Myers, Director
- [Statement from USGS Associate Director for Biology Dr. Sue Haseltine Regarding the USGS Scientific Review Process \(12-15-06\)](#) - News Release
- [Fundamental Science Practices Implementation Team \(11-02-06\)](#) - All Employees memo from the Associate Director for Geospatial Information and Regional Directors
- [Interim Implementation of Fundamental Science Practices Now in Effect \(07-24-06\)](#) - All Employees memo from the Associate Director for Geospatial Information and Regional Directors
- [Fundamental Science Practices Policy Chapters Approved \(06-15-06\)](#) - All Employees memo from Pat Leahy, Acting Director
- [Fundamental Science Practices now online \(07-23-04\)](#) - All Employees memo from the USGS Director

Original FSP Concept Document

- [Fundamental Science Practices of the USGS](#) - Original concept document released as an attachment to the [07-23-04 All Employees memo from the USGS Director](#)

[U.S. Geological Survey Intranet](#)

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Process for Appealing a Bureau Approving Official Decision Regarding Approval of Manuscripts for USGS Information Products

The USGS Bureau Approving Officials (BAO) have latitude in determining if additional reviews or modifications are needed to ensure the final science information product upholds the USGS standards for quality prior to publication or release (refer to [SM 205.18](#)). However, if an author(s) disagrees with the BAO decision regarding approval of their manuscript, he/she may appeal the BAO decision by following the steps below:

1. BAO rejects manuscript on the basis of policy concerns.
 - a. Scientist accepts BAO decision, modifies manuscript as requested by the BAO, and resubmits it for approval.
 - b. Scientist disagrees with BAO decision and chooses to appeal it--**go to #2.**
2. Scientist informs his/her supervisor/Center Director.
 - a. Center Director rejects appeal and directs scientist to comply with original BAO decision--**go to #1.a.**
 - b. Center Director accepts appeal as having merit for moving forward--**go to #3.**
3. Center Director forwards the appeal to the Regional/Associate Director (as appropriate), outlining reasons for the appeal and provides a copy of the original BAO decision and necessary other materials.
 - a. Regional/Associate Director rejects the appeal, and the original BAO decision stands--**go to #1.a.**
 - b. Regional/Associate Director accepts appeal and forwards a summary reason for an alternative course of action to the Director, OSQI--**go to #4.**
4. Director, OSQI develops a response to the appeal within 7 working days.
 - a. If the appeal is denied, the Director OSQI provides the Regional/Associate Director with detailed justification and the original BAO decision (**#1.a**) stands. The next course of action is:

- i. Scientist revises manuscript per the BAO's original decision (**#1.a**).
 - ii. USGS withdraws from authorship of the manuscript, or the manuscript as a whole is withdrawn.
- or
- b. If the appeal is accepted, the Director OSQI provides directions for revising manuscript, reviews revised manuscript, and approves revised manuscript in the IPDS.

Questions about this BAO appeal process should be directed to GS-W-BAO@usgs.gov.

[U.S. Geological Survey Intranet](#)

URL: http://internal.usgs.gov/fsp/toolbox/appeal_BAO_decision.html

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Modified FSP Policy for Peer-Reviewed Journal Submissions: Questions and Answers

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Outside publications written by USGS authors include, but are not limited to, scholarly peer-reviewed and non-peer-reviewed journals, books published by scientific societies and universities or commercial publishing houses, and publications of cooperating agencies. Generally, USGS information products for release in outside publications must first receive a minimum of two peer reviews and Bureau Approval sequentially prior to being submitted to the outside entity for their review and subsequent publication.

For peer-reviewed journal submissions however, while a minimum of two peer reviews is still required, the policy regarding conducting these peer reviews and the point at which Bureau approval occurs has been modified. This modified policy for peer-reviewed journal submissions was initially announced by the USGS Director in an [all-employee memo on July 8, 2011](#) and subsequently incorporated into the revised Survey Manual (SM) chapters [SM 502.3](#) and [SM 205.18](#) in December 2011.

Below are some related questions and answers to help further clarify the modified FSP policy and the procedures for peer-reviewed journal submissions.

Refer to the various [FSP Frequently Asked Questions \(FAQs\) pages](#) or contact your Bureau Approving Official (BAO) in the USGS Office of Science Quality and Integrity (OSQI) for answers to other FSP-related questions, as well as a link to this FAQ document. If you don't find the information you need, send your comments and questions to the FSP Advisory Committee (FSPAC) at gs_fspac@usgs.gov.

1. [What are the modified and conditions and changes for manuscript submissions for articles and papers submitted to peer-reviewed journals? What procedure should I follow?](#) (revised June 2013)
2. [Can I still conduct internal USGS peer review before I submit my manuscript for the article or paper to the journal?](#) (revised June 2013)
3. [May Centers use additional internal peer reviews in excess of the one USGS-initiated peer review required to strengthen a manuscript before submitting it to a journal?](#) (revised June 2013)
4. [Have any adjustments to manuscript processing operations been made to help facilitate authors need](#)

[to rapidly response to journal resubmission requirements?](#) (revised June 2013)

5. [How will BAOs review the journal peer review and the associated reconciliation?](#) (revised June 2013)
6. [Are all guidelines regarding the modified policy for peer-reviewed journal submissions finalized?](#)
7. [How can authors manage timing of Bureau Approval to meet journal acceptance processes?](#) (revised June 2013)
8. [Is a cover letter to the journal and a nondisclosure disclaimer statement to peer reviewers still required?](#) (revised June 2013)
9. [If a Bureau-approved manuscript is rejected for publication by one journal and is then submitted to another journal, does the manuscript have to go back to the BAO for approval?](#) (revised October 2011)
10. [If my manuscript submission for a book review, comment or reply, or manuscript for a special issue is sent to a peer-reviewed journal but will not receive peer reviews from that journal, how should I proceed?](#) (revised June 2013)
11. [Does editorial review by the journal editor count as a peer review?](#) (revised June 2013)

1. **What are the modified conditions and changes for manuscripts for articles and papers submitted to peer-reviewed journals? What procedure should I follow?**

For manuscripts for articles and papers submitted to peer-reviewed journals must have completed all peer reviews before Bureau approval and **Bureau approval must be received before submitting peer review reconciliation** to the peer reviewed journal. **Note:** If the manuscript is a book review, technical comment, or technical reply (refer to [FAQ #10](#) below) or for Category 2 open-access journals in which draft manuscripts are available to the public for comment (refer to <http://internal.usgs.gov/fsp/faqs-peer.html#openaccess>), then peer review and Bureau approval must be obtained **before** submission to the journal just as for all outside publications that are not submitted to peer-reviewed journals (refer to SM 502.3).

- A. The following specific conditions and changes apply for manuscripts for articles and papers submitted to peer-reviewed journals:
 1. Peer review processes are initiated or conducted by both the USGS and by the journal. These processes may be conducted concurrently or sequentially, but most important is that Bureau approval is granted only by a [BAO in the OSQI](#) **after** these initial journal and USGS peer reviews and all peer review reconciliations are completed and before the reconciliations and revisions are returned to the journal.
 2. A minimum of two peer reviews are

required, with at least one peer review initiated or coordinated by the USGS. The USGS reviewer may be internal or external to the Bureau following the selection and criteria requirements found in Survey Manual (SM) [502.3](#). At least one additional peer review must be initiated or coordinated by the journal.

Note: additional reviews may be requested or required by the USGS (at the discretion of the author's supervisor, Science Center Manager, or BAO) or by the journal. All peer review comments must be addressed and will be reviewed by the BAO at the time of Bureau approval. Also, if the peer-reviewed journal provides no peer reviews, USGS must obtain the required minimum two peer reviews, all the reconciliations must be completed and Bureau approval must be granted by a [BAO in the OSQI](#) **before** returning the manuscript to the journal for publication.

3. The author's supervisor may serve as a peer reviewer on the condition that the manuscript is not identified as an information product containing "Influential Scientific Information" or "Highly Influential Scientific Assessments" (refer to the [USGS Peer Review Agenda](#)), and that the supervisor is a qualified reviewer according to the requirements in SM 502.3.
4. It's important to reiterate the timing of Bureau approval of manuscripts for articles and papers submitted to peer-reviewed journals. Bureau approval is granted **after** all initial peer reviews from the USGS and the journal are completed, and reconciled, and the manuscript is revised by the author(s), and all these components must be approved by the BAO before being sent back to the journal.
 - The BAO approval step occurs **before** the reconciliation to journal peer reviews are sent to the journal. Acceptance by that journal is not a prerequisite for review and approval by the BAO. In others words, whether the journal rejects the Bureau-approved paper, rejects it with an invitation to resubmit, accepts it provisionally, or accepts it outright does not determine when Bureau approval is obtained. The concern for submission to the BAO is that initial peer reviews from the journal and USGS, and all

reconciliations are reviewed by the BAO as part of the approval process.

- For USGS co-authored manuscripts for article and papers and where the senior author is not a USGS employee, the USGS author(s) must inform the senior author as early in the writing process as possible of our requirements for obtaining Bureau approval for peer-reviewed journal articles prior to submitting peer review reconciliation to the journal.

B. The procedure that must be followed for manuscripts for articles and papers submitted to peer-reviewed journals is:

1. The USGS author (or designee) will use the Information Product Data System ([IPDS](#)) to initiate the USGS manuscript review and approval process.
2. The author recommends a peer reviewer(s) for the USGS-initiated/coordinated peer review to the supervisor (or Science Center designee). The reviewer(s) may be internal or external to USGS.
3. The draft manuscript is added to the IPDS and submitted, via IPDS, to the supervisor for decision/action.
4. The supervisor or Science Center designee determines whether the manuscript is ready for peer review, either serves as the reviewer, selects the qualified reviewer, or approves the author's recommendation for the USGS peer reviewer(s), and determines if the manuscript is a candidate for the USGS Peer Review Agenda (that is, is it influential scientific information or a highly influential scientific assessment?).
5. The supervisor or Science Center designee notifies the author via the IPDS whether the manuscript may be submitted for both the USGS and the journal peer review process (refer to FAQ 2 below for sequencing possibilities).
6. The author includes the nondisclosure disclaimer statement (shown in [FAQ 8](#) below) on manuscripts that are submitted to all outside entities.
7. The author receives all the initial peer reviews (from USGS and the journal) and prepares reconciliation to the peer review comments.
8. The USGS-initiated peer review(s) and journal peer review(s), peer review reconciliation document(s), and revised manuscript are added to the IPDS by the

USGS author (or designee) and moved forward in the IPDS by the Science Center for Bureau approval by a BAO.

9. **Only** after the manuscript receives Bureau approval from a BAO and via IPDS notification to the Science Center may the "revised final" approved manuscript and journal peer review reconciliation be returned to the journal for publication.
 - At this time, before returning the revised final manuscript to the journal, the required nondisclosure disclaimer statement in the manuscript (refer to item 1.B.6. above) must be removed because from the USGS perspective, the manuscript for the article or paper in its present form is approved for release.

2. Can I still conduct internal USGS peer review before I submit the manuscript for the article or paper to the journal?

Yes, if you or your Science Center management believe that this is needed or appropriate. The BAO, however, will no longer approve the manuscript before it is sent to the journal for peer review. Bureau approval will only be granted after all peer reviews are complete, comments are reconciled, and the manuscript submitted for Bureau approval reflects all changes made in response to both the USGS and journal peer reviews. It is the author's responsibility to ensure that Bureau Approval is obtained after reconciliation of the peer-reviewed journal's peer review is completed and before the reconciliation is sent to the journal.

3. May Science Centers use additional peer reviews in excess of the one USGS-initiated peer review required to strengthen the manuscript before submitting it to a peer-reviewed journal?

This decision to request or require additional internal or USGS-initiated/coordinated peer reviews is at the discretion of the Science Center. Science Centers or authors may obtain any number of internal peer reviews they deem necessary to strengthen the quality of products before submitting the manuscript to a journal. Such reviews (and author reconciliation) can be made part of the permanent record in IPDS.

4. Have any adjustments to manuscript processing operations been made to help facilitate the author's need to rapidly respond to journal resubmission requirements?

Yes. The OSQI and the BAOs give priority to processing manuscripts accepted for publication in peer-reviewed journals. To accommodate this priority

review, the Science Center must submit the manuscript package for approval to the BAO, via IPDS, at least five (5) work days prior to the journal deadline. Although every attempt will be made to reply in five work days, BAO workload will factor into the amount of time it takes to approve journal manuscripts because there may be multiple, competing deadlines. Science Center Managers will thus be expected to modify their procedures. Specifically, to ensure that deadlines will be met, they must make every effort possible to send manuscripts to BAOs far in advance of the deadline requested by the journal. In the IPDS workflow comments to the BAO, each Science Center must clearly state the journal deadline.

5. How will BAOs review the journal peer review and the associated reconciliation?

The BAOs, when reviewing any peer reviews and reconciliations, will ensure that FSP requirements have been followed, that the science remains unbiased, and that the author has addressed and reconciled the peer review comments. The BAOs will not be evaluating the merits of the science. Note that all peer reviews (including the USGS and the journal) and all reconciliations must be submitted to the BAOs for review and Bureau approval **before** any reconciliations are sent back to the peer-reviewed journals (refer to [FAQ 1](#) above).

6. Are all guidelines regarding the modified policy for peer-reviewed journal submissions finalized?

No. The FSPAC and the OSQI continue to evaluate implementation guidance for the modified policy as we gain more insight on what still needs to be clarified or changed. These FAQs will be revised as needed to provide additional or updated guidance as use of the modified policy evolves (refer to the Director's [July 21, 2011](#) memo).

7. How can authors manage timing of Bureau Approval to meet journal acceptance processes?

Some journals require several revisions before a manuscript is judged to be acceptable. When the journal is finally satisfied with the manuscript, acceptance is often immediate, and no further changes are allowed in the text. To avoid the publication of manuscripts that have not received Bureau approval, authors must submit their manuscripts to a BAO after the first round of responses to journal peer review rather than after all discussions with the journal have been completed. Per current practice, an author has the responsibility to send a paper back to the BAO for further review if (and only if) subsequent changes may have policy implications (a supervisor can also make this decision).

8. Is a cover letter to the journal and a nondisclosure disclaimer statement to peer reviewers still required?

The previous requirement for a cover letter to journals has been rescinded. However, manuscripts that have not received Bureau approval and that are sent for peer review to any outside entity, including peer-reviewed journals, must carry the following disclaimer statement to inform external peer reviewers of the Bureau's nondisclosure policy (refer to SM 502.3): *"This draft manuscript is distributed solely for purposes of scientific peer review. Its content is deliberative and predecisional, so it must not be disclosed or released by reviewers. Because the manuscript has not yet been approved for publication by the U.S. Geological Survey (USGS), it does not represent any official USGS finding or policy."* At a minimum, this statement must appear on the title page of the manuscript (at the bottom or in the footer of the page), but may also be included on all pages.

9. If a Bureau-approved manuscript is rejected for publication by one journal and is then submitted to another journal, does the manuscript have to go back to the BAO for approval?

No. If a manuscript that has received BAO approval is subsequently rejected by the journal to which it was submitted, the author may resubmit the Bureau-approved manuscript to another peer-reviewed journal. It is the author's responsibility and obligation to inform their supervisor and the BAO if any significant revisions are made during the subsequent review and revision process that for example, affect any of the conclusions or that have new policy implications, so it can be determined if further review and approval is warranted.

10. If my manuscript submission for a book review, comment or reply, or a special issue is sent to a peer-reviewed journal but will not receive peer review from that journal, how should I proceed?

USGS FSP policy requires a minimum of two peer reviews. If the peer-reviewed journal does not provide peer review for the given type of submission, then the author must obtain two USGS-initiated/coordinated peer reviews, complete reconciliation, revise the manuscript, and submit these components to a BAO for Bureau approval **before** any submission to the journal, which is the same requirement for manuscripts submitted for publication to any non-peer reviewed journal or other outside entities (refer to SM 502.3).

11. Does editorial review by the journal editor count as a peer review?

Maybe: in cases where the journal editor's review critiques the science, that is, in effect the editor peer

reviews the manuscript, the review may be used as a peer review and as such must be reconciled by the author; in cases where the journal editor's review is editorial in nature only or if no peer review is provided by the journal, an additional USGS-initiated peer review must be provided to meet the requirement for a minimum of two peer reviews.

[U.S. Geological Survey Intranet](#)

URL: http://internal.usgs.gov/fsp/faqs_peer_reviewed_journals.html

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Guidance on Use and Documentation of Horizontal and Vertical Datums in USGS Publication Series Information Products

February 2016

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This document provides guidance to U.S. Geological Survey (USGS) authors on using and documenting geodetic datums for horizontal (location) and vertical (elevation) coordinates in USGS publication series information products (refer to Survey Manual (SM) chapter [SM 1100.3](#)).

Background

Scientists frequently use geospatial data obtained from multiple sources, and datums commonly must be standardized before datasets that are referenced to different or unknown datums can be used. The North American Datum of 1927 (NAD 27) and the National Geodetic Vertical Datum of 1929 (NGVD 29) are considered superseded as the national standards. The North American Datum of 1983 (NAD 83) and the North American Vertical Datum of 1988 (NAVD 88) provide a more accurate representation of the Earth's shape and a more accurate depiction of the location of objects in North America than previous datums. Use of these datums for Federal geospatial products is increasing, and it is important to record and publish datum information for any document that contains horizontal or vertical locations.

The North American Datum of 1983 (NAD 83) is the horizontal control datum for the United States, Canada, Mexico, and Central America, based on a geocentric origin and the Geodetic Reference System 1980. This datum, NAD 83, is the current geodetic reference system and is based on the adjustment of 250,000 points, including 600 satellite Doppler stations, which constrain the system to a "geocentric origin" (National Geodetic Survey Geodetic Glossary).

In 1993 NAVD 88 was affirmed as the official vertical datum in the National Spatial Reference System (NSRS) for the Conterminous United States and Alaska (see Federal Register (FRN) notice)" (National Geodetic Survey Geodetic Glossary).

Use of the term "sea level" as a synonym for NGVD 29 in USGS publication series information products has been discontinued. However, Mean Sea Level (MSL), a tidal datum that pertains to local mean sea level, should not be confused with or substituted for the fixed datums of NGVD 29 or NAVD 88. The Center for Operational Oceanographic Products and Services (CO-OPS), in the National Oceanic and Atmospheric Administration's National Ocean Service, publishes tidal bench mark information and information on the relation between NAVD 88 and various water level/tidal datums (such as Mean Lower Low Water, Mean High Water, Mean Tide Level, and others). For more detailed information about the CO-OPS, refer to <http://tidesandcurrents.noaa.gov/>.

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The NAD 83 and the NAVD 88 are the recommended datums to use in USGS publication series information products. The use of these datums establishes a common reference for all horizontal and vertical data in the NSRS for the conterminous United States and Alaska. For additional information on the NSRS, refer to <http://oceanservice.noaa.gov/facts/nsrs.html>. The NAD 83 and the NAVD 88 datums also provide the necessary linkages for Global Positioning System (GPS) data and are supported by GPS continuously operating reference stations. The Federal Geodetic Control Subcommittee of the Federal Geographic Data Committee (FGDC) has affirmed NAD 83 and NAVD 88 for official use for civilian surveying and mapping, and every effort should be made by USGS scientists to collect and publish new data using these datums. The FGDC is an interagency committee that promotes the coordinated development, use, sharing, and dissemination of geospatial data on a national basis. For vertical datums applicable to U.S. territories, refer to <http://www.ngs.noaa.gov/datums/vertical/>.

Datum Documentation

Include datum documentation in a USGS publication series information product according to the following criteria.

- **The product refers to an altitude or an elevation.**
 - State the vertical datum name and year in that document.

Example:

"Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88)."

- **The product expresses or provides relative location.**
 - State the horizontal datum name and year in that document.

Example:

"Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83)."

In some cases it may be necessary to state the adjustment (realization date and epoch) used for the horizontal coordinates (refer to [National Adjustment of 2011 Project, National Geodetic Survey](#)).

Include expanded documentation if the series information product has the following characteristics.

- **The product contains data that were converted into a uniform datum for the information product.**
 - State the datum name and year to which the data were originally referenced and the datum name and year to which the data were converted and appear in the product.

Example:

"Historical data collected and stored as National Geodetic Vertical Datum of 1929 (NGVD 29) have been converted to North American Vertical Datum of 1988 (NAVD 88) for this publication."

The methodology or software, including version number, used for the conversion also should be provided.

- **The product contains multiple datums within one document.**
 - State the datum names and years.

Examples:

"Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88) and to the Marcus Hook, Delaware River, Pennsylvania Mean Lower Low Water tidal datum (Mean Sea Level)."

"Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83), unless otherwise noted."

When the wording "unless otherwise noted" is included, each exception must contain a full datum reference. If the exception is on or in the same geospatial element as the standard datum, both shall be recorded. See also preceding note regarding adjustments for horizontal coordinates.

Placement of Documentation

Place the documentation in a USGS publication series information product according to the following criteria.

- **The product has a traditional book-report layout with front matter.**
 - State the datum information (as described in "Datum Documentation" above) immediately following the conversion factors.

If a vertical datum reference is needed within an illustration, the abbreviation for the standard datum can be used.

Example:

"NAVD 88"

- **The product is a fact sheet or has an otherwise nontraditional layout.**
 - State the datum information (as described in "Datum Documentation" above) where an elevation or location is given, for example in (1) the body of the text, (2) a footnote within the text, (3) a table headnote or footnote, or (4) an illustration explanation.

If a vertical datum reference is needed within an illustration, the abbreviation for the standard datum can be used if the full datum information is given elsewhere in the illustration.

Example:

"NAVD 88"

Additional Information

If the datum used for existing data is not apparent:

- Refer to the required metadata that accompanies the dataset.

Query the dataset by using your geospatial software package.

- Refer to the header file for the dataset.
- Visually compare the dataset in question to a dataset of known datum.
- Inspect information on the map or illustration source file.

References for additional information on datums:

- Federal Geographic Data Committee (FGDC) (<https://www.fgdc.gov/>)
- Federal Register Notice FR Doc. 93-14922, v. 58, no. 120
(http://www.ngs.noaa.gov/PUBS_LIB/FedRegister/FRdoc93-14922.pdf)
- National Geodetic Survey FAQs (<http://www.ngs.noaa.gov/faq.shtml>)
- National Geodetic Survey Geodetic Glossary
(http://www.ngs.noaa.gov/CORS-Proxy/Glossary/xml/NGS_Glossary.xml,
accessed September 15, 2015)
- National Geospatial-Intelligence Agency Portal to Geospatial Products and Services
(<https://www1.nga.mil/ProductsServices/Pages/PublicProducts.aspx>)

Frequently Asked Questions About Datums

Refer to the following frequently asked questions (FAQs) about using and documenting horizontal and vertical datums in USGS publication series information products. Additional FAQs about datums are available at http://www.ngs.noaa.gov/web/surveys/NA2011/NA2011_FAQ.shtml.

- **Is the use of NAD 83 and NAVD 88 required?** No, NAD 83 and NAVD 88 are the recommended horizontal and vertical datums, and every effort should be made to collect and publish new data using these datums. However, data collected using other horizontal and vertical datums are acceptable.
- **When is the statement of a datum required in the text body?** If data collection location, bench marks, or height above a given elevation is referred to in the text body, the datum is required. General physical descriptions of an area, which include elevation, do not require a datum.
- **Does "sea level" serve as a substitute for a specified vertical datum?** No, sea level is used only for references to very general elevations. For example, "The base of the model approximates the bottom of the high conductivity unconsolidated sediments (about 800 ft. above sea level)." If the specific vertical datum is NAVD 88, areas outside North America can reference the sea level vertical datum or another local vertical datum. If the specific vertical datum is NGVD 29, areas outside the conterminous United States and Alaska can reference the sea level vertical datum.
- **Can the term "mean sea level" be used?** Yes, for specific local, coastal datums "mean sea level" can be used but it must be defined in the specific datum statement on the conversion factors page.
- **When should elevations or locations be converted to a different datum for the purpose of the report?** If data presented in a report are meant to be compared but were collected using several datums, it is recommended that a uniform datum be presented. For example, native NGVD 29 or NAD 27 data would be transformed to match data more recently collected using NAVD 88 or NAD 83, and the original datum should be documented in the report. (The archival data should remain in the native datum because transformations are approximations and not reversible.)
- **At what stage of product development does datum documentation**

need to be incorporated? Effective February 24, 2016, any manuscript intended for release in a USGS publication series is required to include datum documentation when submitted for Bureau approval.

- **What is new about the datum documentation policy?** Specification of the datums for horizontal and vertical Earth coordinates is now required in all instances.
- **Should the term altitude or elevation be used?** Both terms may refer to height above sea level but elevation may also mean uplift in a geologic sense. To avoid ambiguity, use "altitude" in geologic reports to indicate height above sea level and use "elevation" to mean uplift. However, because the term elevation is widely used by engineers and topographers to mean altitude, USGS reports directed to such readers may follow that usage. Consistency is essential; do not use altitude and elevation interchangeably within a report, and do not use elevation for uplift if you also use it to mean altitude (refer to "Suggestions to Authors of the Reports of the United States Geological Survey," 7th edition, <http://internal.usgs.gov/publishing/sta/>).

[U.S. Geological Survey Intranet](#)

URL: <http://internal.usgs.gov/fsp/toolbox/datums.html>

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Fundamental Science Practices

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Activities

FSPAC Subcommittees

FSPAC subcommittees are formed on an ad hoc basis to examine focused FSP-related issues or topics. These subcommittees may comprise FSPAC members only or a combination of FSPAC members and other USGS employees who are selected for the expertise or contribution they bring to the specific issue or topic to be addressed.

Work Process

The FSPAC subcommittees (including charge, member names, date formed and terminated) listed below are categorized as "active" and "former." Active subcommittees are those that are in the process of addressing topics or for which other work is still needed. Former subcommittees are those that have been terminated because an outcome has been reached, the work has concluded, or the need for them no longer exists.

Each subcommittee will focus on providing draft recommendations for resolving the specific issue(s) or topic(s) they are charged with addressing. Subcommittee members will ensure the confidentiality of their work and not share drafts or incomplete documents outside the FSPAC without the FSPAC co-Chairs concurrence. Sharing of minimal, general information about the issue or topic is acceptable. Nonmembers may be invited to work with the subcommittees as needed with the concurrence of a subcommittee lead.

The subcommittee lead or co-lead (if assigned) or an FSPAC member on the subcommittee will facilitate (1) reporting the status of the subcommittee's work, (2) forwarding the draft recommendations to the FSPAC for review, (3) guiding the FSPAC discussions of recommendations, and (4) with consent of the entire FSPAC, coordinate finalizing the recommendations.

The FSPAC co-Chairs will submit final recommendations to the USGS Executive Leadership Team (ELT) for review, approval, or final decision and will formally brief the ELT as needed.

For FSP related issues and concerns or for additional information on FSPAC activities, send an email to gs_fspac@usgs.gov.

Active Subcommittees

Administrative Reports and Reports of Project Progress Subcommittee

Charge: Develop guidance to clarify the requirements, use, and purpose of the USGS Administrative Report series. Develop guidance for appropriate methods of reporting project progress (or the commonly called "Progress Report") to cooperators and partners. (Date Formed: 6/17/16; Date Terminated: To Be Determined.)

Members:

- Cindi Barton (Lead)
 - Kevin Breen
 - Ruth Harris
 - Steve Longworth
 - Carolyn Reid
 - Rip Shively
-

Advocacy and Recommendations in Information Products Subcommittee

Charge: Propose clarification on the requirements regarding advocacy and recommendation statements included in USGS Information product. (Date Formed: 6/18/10; Date Terminated: To Be Determined.)

Members:

- Walter Barnhardt
 - Cindi Barton
 - Jim Crock
 - Larry Tieszen
 - John Williams
 - Andrea Woodward
-

Data Release Subcommittee

Charge: In accordance with interim Survey Manual (SM) Instructional Memorandum (IM) policy IM OSQI 2015-03, SM chapter 502.5, the February 22, 2013, Office of Science and Technology Policy memorandum on "Increasing Access to the Results of Federally Funded Scientific Research," and the Office of Management and Budget m-13-13 Open Data memorandum, the subcommittee will recommend clarification of these policies and develop related guidance for provisional (preliminary) and approved scientific data release. Data release in this context includes reinforcing requirements for review and approval, creation of metadata, storage and access of data in machine readable form on a USGS maintained server, and assignment of a data digital object identifier or DOI.

The subcommittee's recommendations will cover two task areas:

1. Develop guidance for releasing provisional data in emergency and non-emergency situations, including identifying the criteria under which the emergency status will be invoked, and when non-emergency data can be released. **Note:** The timeline for this task of the subcommittee (which is requested by the USGS Director) is 2-4 months.
2. Determining which data may be included as part of scholarly publications (for example, USGS series publications and outside (i.e., journal article) publications) and which data must be released separately from their associated publication.

Specific work of the subcommittee includes suggesting modifications to the IM and SM policy, creating data release process/procedural documents (such as workflow or decision tree diagrams with written instructions and related FAQs), and addressing what concurrence (for example from Executive Leadership Team members, Science Center Directors, Bureau

Approving Officials) is needed for the release of provisional data.
(Date Formed: 6/19/15; Date Terminated: To Be Determined.)

Members:

- Keith Kirk (lead)
- Susan Benjamin
- Jonathan Godt
- Bob Holmes
- Vivian Hutchinson
- Harry Jenter
- Fran Lightsom
- Tom Murray
- John Nelson
- Barbara Ralston
- Carolyn Reid
- Linda Rogers
- Justin Rubinstein

Advisory:

- Holly Weyers (Task 1)
-

Data Preservation Subcommittee

Charge: As noted in the article, "Data sharing: Empty archives," in the journal Nature, "All too many observations lie isolated and forgotten on personal hard drives and CDs, trapped by technical, legal and cultural barriers"

(<http://www.nature.com/news/2009/090909/full/461160a.html>).

The Data Preservation Subcommittee will provide recommendations to help identify and resolve USGS science data stewardship, preservation, and documentation issues. The Subcommittee will also assist in the formulation of best practices and potential future FSP policy related to ensuring that USGS science data assets are preserved, available, and usable. In addition, the Subcommittee will provide recommendations regarding procedures and other guidance materials for inclusion on a new USGS Data Management Web site to be developed through the Community for Data Integration. A Trusted Data Repository Data Working Group and a Data at Risk Working Group are assigned under the Subcommittee. (Date Formed: 7/16/2012; Date Terminated: To Be Determined).

Members:

- John Faundeen (co-lead)
- Keith Kirk (co-lead)
- Sky Bristol
- Earl Greene
- Vivian Hutchison
- James Kreft
- Dane Ohe
- Carolyn Reid
- Steve Tessler
- Dennis Walworth

Advisory:

- Christina Bartlett

Trusted Digital Repository Working Group (formed February 2017)

Members:

- John Faundeen (co-lead)

- Clara Brown (co-lead)
- Tara Bell
- David Boldt
- Sofia Dabrowski
- Lance Everette
- Kelly Haberstroh
- Natalie Latysh
- Keith Richmond
- Rex Sanders
- Ben Wheeler

Data at Risk Working Group (formed February 2017)

Members:

- John Faundeen (co-lead)
- Anthony Everette (co-lead)
- David Govoni
- Lisa Zolly
- Ralph Storey
- Rose Cunningham
- Sofia Dabrowski
- Stephanie Galvan
- Susan Kemp
- Tara Bell
- VeeAnn Atnipp Cross

Education and Outreach Subcommittee

Charge: Develop a suite of educational and outreach materials (such as a Web pages, frequently asked questions, Fact Sheets or other USGS series publications, slide presentations, downloadable files) that provides information and guidance on FSP (what, why, and how) to USGS employees, partners, stakeholders and the general public as appropriate. Maintain internal and public FSP Web sites including updating and developing new content as needed. (Date Formed: 04/17/09; Termination Date: To Be Determined.)

Members:

- Cindi Barton (lead)
- Sandy Cooper
- Keith Kirk
- Rama Kotra
- Steve Longworth
- Carolyn Reid

FSP Survey Manual Policy Subcommittee

Charge: Initiate or coordinate the updating of existing FSP and FSP related Survey Manual (SM) policy directives (SM chapters, instructional memorandum, or handbooks as appropriate) or the establishing of new FSP policy chapters to formalize FSPAC recommendations and (or) policy modifications adopted by the USGS ELT. (Date Formed: 03/19/10; Date Terminated: To Be Determined.)

Members:

- Carolyn Reid (lead)
- Cara Campbell
- Sandy Cooper
- Keith Kirk

- Rama Kotra

Scientific Publishing Topics Subcommittee

Charge: The Scientific Publishing Topics Subcommittee is a working group of the Fundamental Science Practices Advisory Committee (FSPAC) charged to identify and provide recommendations on publishing issues that affect the successful implementation of Fundamental Science Practices (FSP). Topics the subcommittee may address include: USGS publishing policy, product quality, impact of USGS procedures and policy on scientific publication, impact of the changing publishing landscape on FSP procedures and policy, and related topics. The subcommittee may engage with parties inside the USGS as well as outside as needed in the course of identifying issues and recommending solutions that support the robustness of Bureau's FSP and publishing. The subcommittee will report its findings and recommendations to the FSPAC. The subcommittee reserves the right to appoint a subcommittee lead(s) as needed. (Date Formed: 10/02/12; Date Terminated: To Be Determined.)

Members:

- Dianna Hogan
- Leslie Jones
- Rama Kotra
- Carolyn Reid
- Rip Shively

Software Release Subcommittee

Charge: Software are a vital asset in conveying knowledge, promoting reproducibility, and contributing to the advancement of USGS science. An increasing number of USGS researchers are producing high quality, publishable scientific software as part of their work. These products are sometimes released via public code repositories (e.g., GitHub), but, sometimes they are not made available or are only shared informally among peers. Continuing work begun by the Data Management Policy Team (an ad hoc team formed by Core Science Systems and Office of Science Quality and Integrity senior management), the Software Release Subcommittee will finalize the draft FPS policy chapter to promote broader release of USGS software. The Subcommittee will also analyze software release practices in the Bureau, examine state of the art methods for software release, and provide recommendations for the development of guidance materials and best practices in support of the policy chapter. Members of this Subcommittee include a small group of research scientists and software developers in the Water, Natural Hazards, Ecosystems, and Core Science Systems Mission Areas that have been examining this topic in consultation with the DOI Solicitor's Office on legal and liability ramifications with regard to sharing and releasing USGS software. (Date Formed: 8/19/14; Date Terminated: To Be Determined).

Members:

- Sky Bristol (co-lead)
- Laura DiCicco(co-lead)
- Craig Conzelmann
- Aaron Dandy
- Cian Dawson
- Ken Dreyer

- Brian Fox
- Michelle Guy
- Tim Kern
- James Kreft
- Michael O'Donnell
- Jordan Read
- Carolyn Reid
- Rich Signell
- Ivan Suftin
- Colin Talbert
- Steve Tessler
- Luke Winslow

Training Subcommittee

Charge: Develop training materials and provide training on relevant FSP policy and procedures to USGS scientists, particularly new USGS scientists to help ensure compliance with FSP. The Office of Science Quality and Integrity (OSQI) and the FSPAC will work together to update and redesign existing FSP training modules and develop new training material. The training material will be developed in the form of PowerPoint presentations, and delivered as WebEx seminars conducted by the subcommittee members and select others as needed. The presentations will be delivered to scientists as WebEx seminars by the committee members and select others and may be included as part of DOI learn or can stand alone and delivered through the existing FSP training web site. (Date Formed: 01/17/14; Date Terminated: To Be Determined.)

Members:

- Keith Kirk (lead)
- Cindi Barton
- Sky Bristol
- Kevin Breen
- Rama Kotra
- Cassandra Ladino
- Carolyn Reid
- Bruce Taggart
- Steve Tessler

Former Subcommittees

Peer Review Excellence Award Subcommittee

Charge: *Develop criteria and process for a USGS peer review excellence awards program. (Date Formed: 05/01/09; Date Terminated: 09/29/14.)*

Members: *Janet Slate (lead), Soupy Dalyander, Rama Kotra, Greg McLaskey, Joel Sankey, Rip Shively*

Outcome: *The subcommittee submitted a report of its final recommendations to FSPAC to follow up with implementing the process.*

Journal Editors Subcommittee

Charge: *The USGS Journal Editors Subcommittee is a working group of the FSPAC charged to assist with the monitoring and evaluation of the implementation of the recently modified peer*

review policy for journal publications and provide feedback from the perspective of journal operations and policies, both internally and externally to USGS. The majority of members on this subcommittee currently or have previously served as editor for an outside journal. The subcommittee may engage with authors, BAOs, journals, and others as needed to carry out the charge. The subcommittee will report its findings and recommendations to the FSPAC. (Date Formed: 11/18/11; Date Terminated: 09/26/13.)

Members: Tom Suchanek (co-lead), Rama Kotra (co-lead), Ruth Harris, David Hewitt, Ron Kirby, Beth Middleton, Donald Rosenberry, Robert Thieler, Clifford Voss

Outcome: The subcommittee submitted a report of its findings to FSPAC June 19, 2013. The FSPAC was satisfied that the subcommittee carried out an important task addressing its charge to help the USGS evaluate, from the perspective of journals and journal editors, how our agency review and approval system is working after the institution of a policy change in July 2011. After receipt and review of the report, the FSPAC concluded that the work of the subcommittee was complete. The Bureau Approving Officials in the Office of Science Quality and Integrity have made some necessary adjustments to accommodate the change in policy and will continue to monitor the effectiveness of our review and approval processes related to peer-reviewed journal submissions.

Peer Review Process for Outside Publications Subcommittee

Charge: Research current USGS and external peer review practices and propose options (including pros and cons) appropriate for revising the present USGS peer review process for documents that are submitted for publication such as in scientific professional journals and other outside outlets. (Date Formed: 4/17/09; Date Terminated: 12/20/13)

Members: Tom Suchanek (lead), Lenny Konikow, Bill Orem, Jonathan Stock

Outcome: Final decision on issue detailed in the July 8, 2011 Director's memorandum, subject: [U.S. Geological Survey \(USGS\) Fundamental Science Practices \(FSP\)-Modifications to Policy on the Peer-Review Process for Submissions to Peer Reviewed Journals](#). Revised policy is included in the December 16, 2011 update of [Survey Manual chapter 502.3](#).

Poster Session/Presentations Materials and Abstracts Subcommittee

Charge: Develop recommendations to clarify approval for posters used in poster sessions and presentation materials that are publicly disseminated. Develop recommendations for peer review of abstracts based on whether or not the abstracts are placeholders for meeting or conference presentations or are extended abstracts containing new interpretive material. (Date Formed: 04/17/09; Date Terminated: 03/19/10.)

Members: Cindi Barton (lead), Terry D'Erchia, Keith Kirk, Carolyn Reid

Outcome: Final decision on issue detailed in the December 10, 2009 memorandum, subject: [Modifications to the FSP policy on review and approval of abstracts, presentations, and poster sessions](#). Revised policy is also posted on the intranet FSP FAQ page under the heading Specific Products and included in the December 13, 2011 update of [Survey Manual chapter 205.18](#).

[U.S. Geological Survey Intranet](#)

URL: http://internal.usgs.gov/fsp/fspac/FSPACsubcommittees_activities.html

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