EPA/600/X-23/181 | July 2023 | https://www.epa.gov/research

United States Environmental Protection Agency

Policy Guidelines and Checklist for EPA Participatory Science Projects

Office of Research and Development

Table of Contents

Preface

This document was prepared to help EPA staff and managers understand key requirements and design considerations for EPA participatory science projects. EPA staff are encouraged to use the content of this document as they design, fund, and manage EPA participatory science projects, whether in a program, office, or region. This document identifies existing policies that may be relevant to participatory science activities within EPA, although each policy identified in the guidelines may not be applicable to every project or activity. This document contains internal hyperlinks and is intended only for EPA users. This document will be updated as EPA gains additional experience in using participatory science in our programs.

Introduction and Overview

Central to participatory science is the involvement of the public in scientific research, often in collaboration with professional scientists and scientific institutions. EPA envisions a future where the public is increasingly engaged and empowered to help advance scientific knowledge that informs environmental protection actions on local, regional, and national scales. EPA is involved in a wide range of participatory science projects, from conducting our own projects and activities, to providing support for other organizations' projects, to providing tools and general information that can be used widely in conducting participatory science. As EPA conducts and supports all types of participatory science in its programs, it is vital that the design and management of participatory science activities by the Agency adhere to federal and EPA requirements. Participatory science is the Agency's all-embracing term that is inclusive of diverse community engagement models, academic disciplines, project scope and/or methodology used in which members of the public have a participatory role. Note that the term citizen science is used in statutes and regulations referred to throughout this document.

The policy guidelines and checklist were prepared in response to an Office of the Inspector General (OIG) audit of EPA citizen science that recommended a more comprehensive and EPA-wide citizen science strategy that aligns with strategic objectives for public participation. The OIG also recommended that EPA move from an *ad hoc* approach to citizen science to one that is guided by an overall vision. In June 2022, EPA released its *Vision and Principles for Participatory Science* that aims for a future where the public is valued and empowered to help advance scientific knowledge that informs environmental protection actions, and where participatory science data are abundant, accessible, and useful for environmental decision-making. This vision builds on the rapid growth in scope and volume of participatory science projects across the country and world. The federal citizen science website provides information about participatory science across the federal government. EPA's participatory science website is another useful resource to learn about Agency activities.

EPA's Office of Research and Development's (ORD) Office of the Science Advisor, Policy, and Engagement (OSAPE) has the lead for participatory science across the Agency. Contact OSAPE's Innovation Team for further clarification and questions.

Checklist of Requirements for EPA Participatory Science Projects

This checklist was developed to help EPA staff and managers identify which requirements may be applicable to an EPA participatory science project based on its characteristics. These requirements were identified based on standard practices across federal agencies and specific experience with EPA-funded projects. This checklist features 16 possible requirements that an EPA participatory science project may need to consider. These 16 requirements are bundled into 13 possible elements of a project (left column). Although any given project may not contain all of these elements, all projects will feature the mandatory elements at the top of the checklist.

How to use the checklist: Prior to planning or designing a project, review the list of attributes and use the check box to keep track of which parts of the project may require additional consideration. Learn more about each potential requirement by clicking the hyperlinks.

ALL EPA participatory science projects will...	**Review this section:**
✓ conduct, communicate, supervise, or use the results of participatory science	EPA's Scientific Integrity Policy *to learn how to adhere to professional values and practices*
✓ create records	Federal Records Act and FOIA *to learn about the collection, dissemination, and management of records*
✓ collect, produce, or use environmental information	Data Quality Systems and EPA Public Access Policy *to understand data quality requirements*
If your project will...	**Then review this section:**
☐ use participatory science in EPA scientific work	EPA's Citizen Science Statutory Authority
☐ rely on the public to conduct research and/or collect data	Working with Communities *to learn strategies on how to carry out a successful participatory science project*
☐ use volunteers	Antideficiency Act and Volunteer Services *to learn when it is permissible to accept voluntary services*
☐ pose identical or substantially similar questions to 10 or more people	Paperwork Reduction Act – Information Collection Request (Generic Clearance for Citizen Science and Crowdsourcing) *to learn requirements for surveying or interviewing large groups of people*
☐ involve non-EPA partner organizations	Formal Agreements *to learn how to appropriately document the relationship*
☐ collect information about people	Human Subject Research *to learn how to safely involve people in your project*
☐ collect personally identifiable information	Human Subject Research and Privacy Considerations *to learn how to safeguard and maintain this information*
☐ develop a mobile application or public website	Terms of Service and Creating New Apps *to make the best choice on which types of applications and products to use*
☐ use social media or develop EPA communication products	EPA Communication Requirements and Terms of Service *to learn about promoting a broad public understanding of the project while using the appropriate products and services*
☐ disseminate communication material or facts/data to the public	EPA Communication Requirements and Information Quality Guidelines *to ensure the quality of information that EPA disseminates*

EPA's Citizen Science Statutory Authority

Statutory authorities for EPA's use of participatory science – including the creation of EPA projects and EPA funding of projects in other organizations – range from recent legislation specifically focused on participatory science to statutes that form the basis for EPA's work to protect public health and the environment. Below are the legal authorities that allow EPA to use participatory science methods in Agency scientific endeavors. As a reminder, major aspects of the broad term "participatory science" were previously called citizen science and/or crowdsourcing at EPA and are referred to as such throughout statutes in this document.

Crowdsourcing and Citizen Science Act, 15 U.S.C. § 3724 ("Citizen Science Act") authorizes federal science agencies to use crowdsourcing and citizen science to conduct projects designed to advance the mission of the respective federal science agencies. Section (d) of the Citizen Science Act contains the legal requirements for citizen science and crowdsourcing projects. Important legal requirements included in the Act are:

- The head of each federal science agency engaged in a crowdsourcing or citizen science project under the Citizen Science Act shall make public and promote such projects to encourage broad participation.
- Each Federal science agency shall determine the appropriate level of consent, registration, or acknowledgment of the terms of use that are required on a per-project basis.
- In seeking consent, conducting registration, or developing terms of use for a project under the Citizen Science Act, a Federal science agency shall disclose the privacy, intellectual property, data ownership, compensation, service, program, and other terms of use to the participant in a clear and reasonable manner. A Federal agency may obtain consent electronically or in written form from participants.
- A Federal science agency shall, where appropriate and to the extent practicable, make data collected through a crowdsourcing or citizen science project available to the public, in a machine-readable format, unless prohibited by law.
- As part of the consent process, the Federal science agency shall notify all participants
    - (A) of the expected uses of the data compiled through the project,
    - (B) if the Federal science agency will retain ownership of such data,
    - (C) if and how the data and results from the project would be made available for public or third-party use, and
    - (D) if participants are authorized to publish such data.
- Each participant in a crowdsourcing or citizen science project under this section shall agree
    - (A) to assume any and all risks associated with such participation, and
    - (B) to waive all claims against the Federal Government and its related entities, except for claims based on willful misconduct, for any injury, death, damage, or loss of property, revenue, or profits (whether direct, indirect, or consequential) arising from participation in the project.

Clean Air Act § 103, 42 U.S.C. § 7403 authorizes research into techniques for monitoring and controlling air pollution and environmental health effects research, ecosystem research, pollution prevention and emissions control, and the National Institute of Environmental Health Science (NIEHS) studies.

Clean Water Act § 104, 33 U.S.C. § 1254 authorizes EPA to encourage, cooperate with, and render technical services to appropriate private organizations and individuals, including the general public, to promote the coordination and acceleration of demonstrations, studies, and training relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution.

Solid Waste Disposal Act § 8001, 42 U.S.C. § 6981 authorizes EPA to encourage, cooperate with, and render technical services to individuals as well as public and private sector entities to promote the coordination and acceleration of demonstrations, studies, training, and public education programs relating to solid and hazardous waste.

Marine Protection, Research, and Sanctuaries Act § 203, 33 U.S.C. § 1443 authorizes EPA to encourage, cooperate with, and render assistance to public and private sector entities, including individuals, to promote the coordination of demonstrations, studies, and training to develop alternate disposal methods and to minimize dumping of materials into the ocean that may unreasonably degrade or endanger human health, welfare, or the marine environment and economic potential.

Safe Drinking Water Act § 1442, 42 U.S.C. § 300j-1 authorizes EPA to conduct research, studies, and demonstrations relating to the causes, diagnosis, treatment, control, and prevention of risks to human health related to drinking water supply, and to share information and make recommendations based on this research and investigation.

The National Environmental Education Act § 4, 20 U.S.C. § 5503 authorizes EPA to develop and support programs to increase environmental literacy.

Comprehensive Environmental Response, Compensation and Liability Act § 104(k)(6), 42 U.S.C. § 9604(k)(6) authorizes EPA to provide training and technical assistance to individuals and organizations, to facilitate the inventory, assessment, preparation, and remediation of brownfields sites, including associated community involvement.

Working with Communities

A well-executed participatory science project has the potential to yield numerous benefits for diverse stakeholders. However, it requires careful planning to ensure that collaborative goals are achieved. Conducting a successful project begins with a commitment to developing a cooperative, mutually beneficial relationship with the community.

The Details

There are diverse strategies to working with volunteer scientists that balance several factors including context and construct of community participation, degree of participation, and quality of participation. EPA project leads should identify an initial scope of the project, thinking through the ways in which project stakeholders can engage the data collection and use efforts. For example, if a project was developed using co-created principles, it would be predicated on the recognition that community members are best suited to identify their needs. In this model, EPA scientists work alongside communities to manage and implement scientific projects that address community concerns and strive to build a strong foundation of trust and understanding between communities and institutions.

What does this mean for you?

To mitigate some of the problems and issues that can emerge with participatory science projects, EPA project leads should respectfully negotiate, inform, and clarify issues that may arise from the onset of the relationship and provide a full disclosure upfront. Furthermore, people engaging in participatory science are offering one of their most precious resources, time. It is important to think through tools to make the experience efficient, effective, and engaging. Additionally, project coordinators should consider how inclusive, equitable practices can be employed to create access to these opportunities. Strategies to promote successful participatory science research include:

- Early, Frequent, and Effective Communication – For participatory science projects, it's important for all parties to clearly communicate their goals and expectations. Important topics to discuss at the onset, during, and after the conclusion of a project include:
  - Ground rules
  - Scope of the research project (as well as what will not be in scope)
  - Intellectual property concerns
  - Community rights
  - Expectations for all stakeholders, including any expectations that EPA may or may not be able to take action on, tentative timelines and schedules, anticipated results, etc.
  - Roles and responsibilities for all stakeholders
  - Education and training opportunities
- Share Decision-making – All participants take part in the planning, review, and approval of community and participatory science research.
- Share Benefits – Share the rewards derived from the research in such a way that reflects the needs and contributions of each member of the project.
- Share Tools and Resources – EPA has several tools and resources available for community use, including the quality assurance toolkit, equipment loan programs and funding opportunities. More information can be found on the EPA's Participatory Science website.
- Accessible-Skill Building Opportunities – To accommodate volunteer availability, EPA staff should host meetings and trainings online or at different times/days in the community. If in-

person engagement is a requirement, consider choosing a centralized location that is accessible by public transportation to minimize the travel burden. Building flexibility into your Quality Assurance Project Plan's skill-building requirements is also recommended.

- Data ethics – It is important to build ethical, trustworthy data practices when collaborating with volunteer scientists. At the project outset, it is crucial to establish guidelines and expectations around several processes, including (but not limited to) data use, data openness, data privacy, how credit is assigned, and how findings or use of data is communicated back to the participants. EPA does not currently have established data ethics standards when partnering with communities.
- Minimizing Financial Burden – It can be costly to engage in participatory science. From volunteer time to data collection equipment and the ongoing maintenance required, the cost can amount to thousands of dollars annually for volunteers. Consider developing equipment loan and maintenance programs to minimize the financial impact. *Non-governmental partners* may consider options to provide resources such as access to meals, childcare, or transportation subsidies for volunteer events in order to help increase diverse access to programs. However, it's important to note that EPA cannot compensate any volunteers.
- Promote Diversity – Recognize that communities can be diverse, and mechanisms should be identified to ensure that participant involvement is as representative as possible.
- Respect and Empathy – Acknowledge the time, effort, and knowledge of the community and participants partaking in the research partnership.
- Informed Consent – Obtain consent at all stages of the research project. Participants must be fully informed of the nature and specific purpose of the project, what data are being collected, how that data will be used after their participation, and all risks and assumed risks, including personal risk, precautionary measures, and privacy concerns associated with the project.

References and Links

Quality Assurance Toolkit (EPA Internet). Retrieved January 19, 2023, from https://www.epa.gov/participatory-science/quality-assurance-toolkit

Antideficiency Act and Volunteer Services

Participatory science projects supported or conducted by EPA may engage volunteers who contribute information that is useful for EPA programs. This is generally not a concern, but it is important to understand the legal framework for the voluntary nature of participatory science projects. The Antideficiency Act, 31 U.S.C. § 1342 prohibits agencies from accepting "voluntary services" except when otherwise authorized by law. The "voluntary services prohibition" is designed to guard against situations where individuals might offer services to the government that are ostensibly free, but then demand payment later.

However, the Antideficiency Act does not necessarily prohibit agencies from accepting so-called "gratuitous services," which are unpaid services that are offered to the government with a written compensation waiver noting that the services are offered with no expectation of payment and waiving all future pay claims against the government. Additionally, where a statute expressly provides that an agency may accept voluntary services, no compensation waiver is necessary.

The Details

The Crowdsourcing and Citizen Science Act (15 U.S.C. § 3724) authorizes federal science agencies to accept voluntary services from project participants without the need for a compensation waiver, notwithstanding the Antideficiency Act. Such services must be performed voluntarily as a part of a crowdsourcing, community science, or participatory science project, not financially compensated, and not used to displace any employee of the Federal Government. Note that this authority is "subject to regulations issued by the Director of the Office of Personnel Management in coordination with the Director of the Office of Science and Technology Policy."

What does this mean for you?

The Crowdsourcing and Citizen Science Act allows the agency to accept goods and service without the need for compensation provided they are part of a crowdsourcing, community science, or participatory science project. As such, agency goods and services can be used for participatory science provided they support EPAs mission and do not displace any agency employees.

In general, EPA participatory science projects are not constrained by the requirements of the Antideficiency Act as they are authorized under the Crowdsourcing and Citizen Science Act**.** However, if a project is *not* being performed under that authority, a compensation waiver is required. EPA HR Bulletin 19-003B and accompanying EPA Form 3100-14 should be used.

References and Links

US Environmental Protection Agency (2019). HR Bulletin: Office of Human Resources. Retrieved from https://intranet.epa.gov/ohr/policy/staffing/Acceptance%20and%20Use%20of%20Unpaid%20Services%20(Non-Student%20Volunteers).pdf

US Environmental Protection Agency. Volunteer Service Program Participation Agreement, EPA Form 3100-14. Retrieved from https://intranet.epa.gov/ohr/policy/staffing/Volunteer%20Program%20Participant%20Agreement%20EPA%20Form%203100-14.pdf

Paperwork Reduction Act – Information Collection Request and EPA's Generic Clearance for Citizen Science and Crowdsourcing

EPA participatory science projects and activities can be used to gather a wide variety of information from the public, including pollution measurements, observations, and photographs. The Paperwork Reduction Act (PRA) was enacted to minimize the paperwork burden on members of the public. Participatory science projects that collect similar information from 10 or more people may require Office of Management and Budget (OMB) approval. Even small, simple, and voluntary information collections, such as a focus group or website surveys, may trigger the need for OMB approval.

The Details

The PRA imposes procedural requirements that agencies, or others on behalf of agencies, must follow to collect information from the public. The PRA generally requires that every federal agency must obtain approval from OMB before using identical or substantially similar questions to collect information from 10 or more persons. The law requires a federal agency to develop a formal information collection request (ICR), publish its plans to collect information in the Federal Register, consider public comments, publish a second Federal Register notice announcing submittal of the ICR to OMB, and submit the ICR to OMB for approval. The PRA not only applies to requests for information, but also when the government creates recordkeeping or third-party disclosure requirements. It's also important to note that voluntary collections are not automatically exempt from the PRA.

OMB regulations define "information" as "any statement or estimate of fact or opinion, regardless of form or format, whether in numerical, graphic, or narrative form, and whether oral or maintained on paper, electronic or other media."

What does this mean for you?

Most EPA participatory science projects will need an information collection request approved by OMB. In 2021, EPA received OMB approval for a three-year renewal of EPA's Generic Clearance for Citizen Science and Crowdsourcing, also known as a generic ICR. The three-year period runs until January 2024 and provides a streamlined process for review and approval of a qualified ICR, including a simplified supporting statement, no public notice and comment requirements, and quick turnaround at OMB. Thus, EPA projects that use of participatory science or crowdsourcing approaches to collect information may be fast-tracked for approval and launch quickly.

Activities that qualify for EPA's generic citizen science ICR can be standalone projects, or components of larger projects. Examples of EPA projects that have qualified for the generic citizen science ICR include monitoring of harmful algal blooms, measuring coastal acidification, and reporting observations related to wildfire smoke. The generic ICR lists the following design principles that a project must adhere to:

- Participants have a meaningful role in the research project and can act as contributors or collaborators.
- Projects have a genuine scientific question or goal.
- Projects are low burden for participants.
- Projects include active management of data and data quality, including a data quality assurance plan and ongoing evaluation of data quality and data management.
- Projects are opt-in and participants have full control over the extent that they participate.

- The data gathered and/or analyzed are shared with participants and generally made publicly available, unless there are security or privacy concerns that prevent this. Being aware of special considerations related to personal privacy information or Tribal Ecological Knowledge/Indigenous Knowledge is advised.
- Participants receive feedback on how their contribution adds to the project, e.g., how their data will be used and what the research findings are.
- Project leads will evaluate scientific output, data quality, and the impact on participants.
- The generic ICR is designed for projects that contribute to research and science.

The generic citizen science ICR has some restrictions, including limitations on its use for health-related studies, such as the collection of health symptoms, information on illnesses, and human biological samples.

More information and instructions on how to submit a package using the generic ICR for a participatory science project can be found on EPA's Generic ICR for Citizen Science and Crowdsourcing page.

Projects that fall outside the scope of the generic citizen science ICR may be eligible for the Generic Customer Service ICR. The customer service ICR provides expedited OMB clearance for low-burden customer satisfaction surveys and has been used for conferences, EPA websites, community outreach/ education programs, and focus groups.

If your project does not qualify for either of these, you may need to consider a regular ICR, which requires Federal Register notice publication and supporting documentation and can take approximately nine to twelve months to complete.

The Innovation Team in ORD can help you understand if an ICR is required for a specific participatory science project.

References and Links

44 U.S.C. § 3501 *et seq* - Paperwork Reduction Act (PRA). Retrieved January 25, 2023, from https://digital.gov/resources/paperwork-reduction-act-44-u-s-c-3501-et-seq/

44 U. S C. § 35 - Paperwork Reduction Act of 1995. Retrieved January 25, 2023, from https://www.govinfo.gov/content/pkg/BILLS-104s244enr/pdf/BILLS-104s244enr.pdf

Clearance for Citizen Science and Crowdsourcing Intranet Site (EPA Internet). Retrieved February 5, 2020, from https://work.epa.gov/innovation/epas-generic-icr-participatory-science-and-crowdsourcing

ICR Center: Generic Fast Track Customer Service Satisfaction Survey ICR (EPA Internet). Retrieved July 13, 2023, from https://work.epa.gov/icr/customer-service-generic-icr

ICR Center: New ICR – New ICR (EPA Internet). Retrieved December 18, 2019, from https://www.epa.gov/icr

ICR Handbook: EPA's Guide to Writing information Collection Requests under the Paperwork Reduction Act of 1995. Retrieved April 25, 2019, from https://www.regulations.gov/document/EPA-HQ-OPPT-2018-0321-0067

Office of Management and Budget. Federal Collection of Information. Retrieved December 18, 2019, from https://www.whitehouse.gov/omb/information-regulatory-affairs/federal-collection-information/

Office of Management and Budget (2019). Memorandum for the heads of Executive Departments and Agencies, and Independent Regulatory Agencies 2010. Retrieved December 18, 2019, from https://www.whitehouse.gov/sites/whitehouse.gov/files/omb/assets/inforeg/PRAPrimer_04072010.pdf

Acronyms

ICR - Information Collection Request
OMB - Office of Management and Budget
PRA - Paperwork Reduction Act

Data Quality Systems

When developing participatory science projects, it is essential to think through the diverse ways in which the data may be used and ensure that the quality of data collected matches the criteria of the intended data use. These data decisions will inform the methodology, data verification practices, and minimum metadata requirements. To help facilitate the development of participatory science projects that collect credible, reproducible, verifiable data, it is important to engage a study design process and develop a Quality Assurance Project Plan (QAPP).

A QAPP is a formal document describing the necessary quality assurance (QA) and quality control (QC) requirements and other technical activities that will be used to produce credible data. QA is the broad plan used to maintain quality in a program, which guides the decisions around parameters, methodology, training requirements, and metadata standards. QC focuses on the mechanisms to minimize errors and make data more accurate and precise. QC helps program managers identify and mitigate problems quickly. Maintaining quality assurance practices in participatory science projects strengthens the quality of data collected, which in turn evaluates data use possibilities.

It is a best practice for participatory science projects to think through full program design at the outset to inform data use, QAPP, and data management decisions. Good upfront planning will help later when project data are produced, stored, and shared.

The Details

EPA's Quality Program manages the quality of environmental information collection, generation, and use. The Quality Program is more than just a Quality Management Plan and a QAPP; it is the QA processes that include, but are not limited to, planning, training, documentation, assessment, review, and improvement and the QC activities that go along with each QA process. The Quality Management Plan and QAPP outline these processes for an organization and their projects. The primary goal of the Quality Program is to ensure that the environmental information is of sufficient quantity and quality to support its intended use. The EPA Quality Program also provides the framework for planning, implementing, documenting, and assessing work performed by the Agency and for carrying out required QA and QC activities.

QA requirements apply to all EPA projects funded through an assistance agreement (AA) that involve environmentally-related data operations, including environmental data collection, production, or use. An AA is a legal instrument that allows EPA to transfer funds for a public purpose in the form of a grant or cooperative agreement. AA recipients must develop a written Quality Program, usually a QAPP, commensurate with the degree of confidence needed for the environmentally related data operations. The AA recipient submits the written Quality Program for EPA review. Upon EPA's written approval, the AA recipient implements the EPA-approved Quality Program.

QA documentation is required by federal regulations 2 CFR §1500.11 for grants and 48 CFR §46.202 for contracts.

What does this mean for you?

All participatory science projects that are funded or managed by EPA are *required* to complete a QAPP and Data Management Plan or equivalent document that is approved by EPA and meets other funding-related terms and conditions. EPA has developed or adapted several quality management tools to assist in implementing its quality system.

It is a best practice for participatory science projects to think through full program design at the outset to inform data use, QAPP, and data management decisions. Good upfront planning will help later in the project when data are produced, stored, and shared.

EPA developed the Handbook for Citizen Science Quality Assurance and Documentation, a valuable resource to help external organizations design and manage effective participatory science projects. This QA Handbook can be used by EPA staff when providing technical assistance to external organizations that are starting or growing a participatory science project, and where transparency in the scientific methods for collecting the data are central to the outcome of the project. The Handbook has two companion documents that include examples and templates for QAPP development.

A Scientific Data Management Plan (SDMP) is required for all research funded by EPA and should address public access for all covered, EPA-funded, scientific research. SDMPs describe all collected or created research data and metadata, as well as plans for providing long-term preservation of and access to the research data, as appropriate.

Additional Resources

- EPA National Quality Program Contacts
- EPA Quality Assurance Team
- EPA Enterprise Quality Management Division Information & Contact Us

References and Links

2 CFR § 1500.11 - Quality Assurance. Retrieved January 25, 2023, from https://www.govinfo.gov/app/details/CFR-2016-title2-vol1/CFR-2016-title2-vol1-sec1500-11

48 CFR §46.202 - Types of contract quality requirements. Retrieved January 25, 2023, from https://www.govinfo.gov/app/details/CFR-2004-title48-vol1/CFR-2004-title48-vol1-sec46-202

US Environmental Protection Agency. How EPA Manages the Quality of its Environmental Data. Retrieved December 18, 2019, from http://www.epa.gov/quality

US Environmental Protection Agency. Quality Assurance Handbook and Guidance Documents for Citizen Science Projects. Retrieved December 18, 2019, from epa.gov/citizen-science/handbook-quality-assurance

US Environmental Protection Agency. EPA's Quality Program. Retrieved January 23, 2023, from https://www.epa.gov/quality/about-epas-quality-program

US Environmental Protection Agency. EPA Scientific Data Management Plans (SDMP). Retrieved January 23, 2023, from https://work.epa.gov/pamd/epa-scientific-data-management-plans-sdmp

Acronyms

AA - Assistance Agreements
QAPP - Quality Assurance Project Plan
QA - Quality Assurance
QC - Quality Control
SDMP - Scientific Data Management Plan

EPA Public Access Policy on Datasets and Publications

Participatory science projects that are funded by EPA and result in peer-reviewed scientific research publications may be required to provide public access to those publications and the underlying datasets.

The Details

Public access to peer-reviewed, scientific research publications and research data is a major component of realizing EPA's mission and embodying the principle of transparency. EPA has a longstanding commitment to make the results of EPA-funded research available to the public. EPA issued its first Plan to Increase Access to Results of EPA-Funded Scientific Research in November 2016. This plan ensures that the public has access to the results of federally-funded, peer-reviewed scientific research publications and research data. EPA's Plan is in the process of being updated to reflect new federal public access provisions. The updated plan will be implemented beginning in 2025.

The Plan does not apply to scientific research not funded by EPA that may be cited in EPA assessments, rulemakings, or peer-reviewed publications, and only applies to scientific research data collected after its implementation in 2013. Scientific research data are the digitally-recorded, factual material commonly accepted in the scientific community as necessary to validate research findings.

What does this mean for you?

EPA requires that all funded investigators (intramural and extramural) ensure that any publications resulting from EPA-funded research are publicly accessible on PubMed Central (currently no later than 12 months after the date of publication; upon implementation of new public access provisions, this 12 month embargo period will be removed).

EPA researchers are required to establish a Scientific Data Management Plan (SDMP) addressing public access for all applicable, EPA-funded, scientific research. SDMPs describe all collected or created research data and metadata, as well as plans for providing long-term preservation of and access to the research data as appropriate.

Additional Resources

- EPA's Public Access Webpage
- EPA Order 1000.17B: Policy for Increasing Access to Results of EPA-Funded Extramural Scientific Research

References and Links

Office of Science and Technology Policy (OSTP) (2013). Memorandum, "Increasing Access to the Results of Federally Funded Scientific Research." Retrieved January 25, 2023, from https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/ostp_public_access_memo_2013.pdf

Office of Science and Technology Policy (OSTP) (2022). Memorandum, "Ensuring Free, Immediate, and Equitable Access to Federally Funded Research". Retrieved January 25, 2023, from https://www.whitehouse.gov/wp-content/uploads/2022/08/08-2022-OSTP-Public-Access-Memo.pdf

Note that this new memorandum has an implementation requirement effective 12/31/2025, which would revise some of the requirements mentioned in this section.

US Environmental Protection Agency. Non-EPA Researcher Requirements Policy for Increasing Access to Results of EPA-Funded Extramural Scientific Research. Retrieved December 19, 2019, from https://www.epa.gov/research/non-epa-researcher-requirements

US Environmental Protection Agency (2016). Plan to Increase Access to Results of EPA-funded Scientific Research (Volume 1.1). Retrieved January 25, 2023, from https://www.epa.gov/sites/default/files/2016-12/documents/epascientificresearchtransperancyplan.pdf

US Environmental Protection Agency. EPA Scientific Data Management Plans (SDMP). Retrieved January 23, 2023, from https://work.epa.gov/pamd/epa-scientific-data-management-plans-sdmp

Acronyms

OSTP - Office of Science and Technology Policy

SDMP - Scientific Data Management Plan

Information Quality Guidelines

Participatory science projects generate information for the public, and it is important to safeguard the collection of high quality, useful data by volunteer scientists. The purpose of the Information Quality Guidelines (Guidelines) is to ensure and maximize the "quality, objectivity, utility, and integrity of information," including statistical information disseminated to the public as outlined in OMB's guidance. In response to the Guidelines and OMB guidance, each agency has developed its own information quality guidelines. Although the Guidelines do not explicitly address participatory science information, the requirements would apply when these data are disseminated to the public by EPA or if used by EPA to inform or implement participatory science information in various environmental statutes.

The Details

EPA's Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency (EPA IQGs) contain EPA's policy and procedural guidance for ensuring and maximizing the quality of information that EPA disseminates. EPA IQGs also outline administrative mechanisms for EPA review of information products and describe mechanisms to enable affected persons to seek and obtain corrections from EPA regarding disseminated information that they believe does not comply with EPA IQGs.

Section (d)(6) of the Crowdsourcing and Citizen Science Act provides that federal agencies "shall, where appropriate and to the extent practicable, make data collected through a crowdsourcing or citizen science project under the Act available to the public, in a machine-readable format, unless prohibited by law." EPA IQGs apply to "information" EPA disseminates to the public. "Information" generally includes any communication or representation of knowledge such as facts or data, in any medium or form. Preliminary information EPA disseminates to the public is also considered "information" for the purposes of the EPA IQGs. Information generally includes material that EPA disseminates from a Web page. However, not all Web content is considered "information" under the EPA IQGs (e.g., certain information from outside sources that is not adopted, endorsed, or used by EPA to support an Agency decision or position). For purposes of the EPA IQGs, EPA disseminates information to the public when EPA initiates or sponsors the distribution of information to the public.

Agency-sponsored distribution includes instances where EPA reviews and comments on information distributed by an outside party in a manner that indicates EPA is endorsing it, directs the outside party to disseminate it on EPA's behalf, or otherwise adopts or endorses it.

If an item is not considered "information," the EPA IQGs do not apply. Examples of items that are not considered information include internet hyperlinks and other references to information distributed by others, and opinions where EPA's presentation makes it clear that what is being offered is someone's opinion rather than fact or EPA's views.

What does this mean for you?

There are many tools that the Agency uses, such as the Quality System, review by senior management, peer review process, and communications product review process to ensure the quality of information.

Data generated through participatory science activities tied to contracts, grants and cooperative agreements, or as part of a statute or regulation shall be subject to EPA's Quality System and, as such, will meet the requirements of the Guidelines. Data either voluntarily submitted outside of a public comment period with the intent to influence a decision or that EPA obtains for use in developing a

policy, regulatory, or other decision would be subject to the Guidelines and the quality would need to be evaluated for use on a case-by-case basis.

References and Links

H.R.6414 – Crowdsourcing and Citizen Science Act of 2016. Retrieved January 25, 2023, from https://www.congress.gov/bill/114th-congress/house-bill/6414/text

Office of Management and Budget. (2004). *The Information Quality Act: OMB's Guidance and Initial Implementation*. (Order Code 32535). Retrieved from https://fas.org/sgp/crs/RL32532.pdf

US Environmental Protection Agency. (2002). *Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility and Integrity of Information Disseminated by the Environmental Protection Agency.* Retrieved from https://www.epa.gov/sites/production/files/2018-11/documents/epa-info-quality-guidelines_1.pdf

US Environmental Protection Agency. EPA's Quality Program. Retrieved January 23, 2023, from https://www.epa.gov/quality/about-epas-quality-program

Acronyms

EPA IQGs - Information Quality Guidelines
OMB - Office of Management and Budget

EPA Peer Review Policy

Peer review is the documented critical analysis of a scientific or technical product by qualified experts who are independent from the development of the product. Peer review is an important strategy for assessing the quality of scientific or technical research findings and is intended to uncover any problems or unresolved issues in a draft work product. Feedback from expert reviewers is used to revise the draft product so that the final work product is scientifically and technically sound. Peer review ensures that data, analytical methods, approaches, and conclusions represent best available science and enhance the credibility and acceptance of a scientific or technical product.

The quality and integrity of the science that underlies Agency decisions and the scientific and technical products developed or used by the Agency is vitally important, which is why peer review is encouraged and expected.

There are different scenarios where participatory science projects may benefit from peer review, such as: a new approach for collecting data; the potential use of data from a project to influence agency actions or decision-making; or the desire to create a publication or an agency report from the project.

The Details

EPA has a long history of requiring peer review for scientific and technical products that support Agency decisions. EPA's Peer Review Policy, first issued in 1993 and updated in 2006, applies to all EPA scientific and technical products, including those derived from participatory science research. The EPA Peer Review Handbook provides guidance related to implementing the policy, explains major decision points in the peer review process, and includes examples and tools that support the peer review process.

EPA encourages appropriate peer review practices for any organization that produces and uses scientific and technical data and information, including for participatory science projects. EPA practices can be used as a model for non-EPA organizations when developing a scientific or technical product. However, the EPA policy applies only to EPA-generated scientific and technical work products and scientific and technical information that is intended to inform or support Agency decisions.

What does this mean for you?

The EPA Peer Review Handbook explains the Agency process for conducting a peer review, and provides guidance on the requirements for different types of scientific and technical products. Your Peer Review Coordinator can provide specific details for peer review for your participatory science project. Peer review is an important part of the scientific process, and decisions about whether and when to conduct peer review as part of a participatory science project should ideally be considered during the planning phase of a project. It is important to propose a peer review process early on, and point the group to EPA's Peer Review Handbook. Your Peer Review Coordinator can help you determine the most appropriate peer review process based on the project's objectives.

Additional Resources

- For more information, contact your Peer Review Coordinator in your office or the Peer Review Team in ORD's Office of the Science Advisor, Policy and Engagement.
- EPA's Peer Review Advisory Group

References and Links

US Environmental Protection Agency. Peer Review and Peer Involvement at the U.S. Environmental Protection Agency. Retrieved January 25, 2023, from https://www.epa.gov/osa/memorandum-peer-review-and-peer-involvement-epa

US Environmental Protection Agency. Peer Review Handbook 4th Edition (2015). Retrieved January 25, 2023, from https://www.epa.gov/osa/peer-review-handbook-4th-edition-2015

Formal Agreements

Formal agreements are vital to any participatory science project, documenting the relationship between EPA and other entities by describing roles and responsibilities and ensuring mutual accountability. Formal agreements play an important role in establishing a general framework of cooperation for the life of the project.

The Details

A formal agreement may be necessary if you need to formally recognize the cooperation, collaboration, and/or exchange of services between EPA and an external entity. There are different kinds of formal agreements that EPA may use with external organizations, including but not limited to:

- Memorandum of Understanding (MOU) – A MOU is a term used to describe unfunded agreements between EPA and other entities that establish a non-binding general framework of cooperation, including planning for collaboration. Although the general agreement is non-binding, MOUs may contain binding clauses, such as clauses regarding intellectual property rights and proprietary information, depending on the nature of the collaboration to be undertaken.
- Material Transfer Agreements (MTA) – A MTA allows EPA to exchange tangible research materials with an external party such as biological materials, chemical compounds, and some types of software. There is little collaboration beyond the exchange of materials.
- Grants – Grants are used to transfer money, property, services, or anything else of value to an outside group for a project of mutual interest where substantial EPA involvement is not anticipated. EPA has many kinds of grant programs, including research funding opportunities, small business innovation research, environmental justice, and environmental education.
- Equipment Loans – Equipment may be loaned out by EPA to a participatory science project. The paperwork required for this is a Personal Property Loan Agreement (EPA 1780), which includes basic terms and conditions of the loan and any program specific requirements.

For purposes of this guidance, non-EPA organizations include but are not limited to:

- Cooperative agreement holders and grantees.
- States, Tribes, localities, intergovernmental organizations.
- Educational institutions, hospitals, volunteer organizations, non-profits.

What does this mean for you?

Each program and regional office has its own formal agreement guidance on policies and procedures that provide important information on conflict-of-interest considerations, how to coordinate review and approval, and delegation authority. Your extramural management specialist, as well as other extramural services staff in your program or regional office, can assist with drafting formal agreements. Often, formal agreements will need to be coordinated with OGC for review and approval. Once a formal agreement is approved, your extramural services staff will coordinate with the partner organization(s) to obtain countersignature(s). Note that formal agreements involving Indian Tribes may raise special issues due to the unique legal status of federally-recognized Indian Tribes, and may need to be coordinated with EPA's Indian Law Office staff.

Additional Resources

- OGC checklist for review of MOUs and similar instruments

Acronyms

MOU - Memorandum of Understanding
MTA - Material Transfer Agreements
OGC - Office of the General Counsel

EPA Scientific Integrity Policy

Scientific integrity is the adherence to professional values and practices when conducting, communicating, supervising, and using science. Scientific integrity is important for transparent, objective, and robust science and provides insulation from bias, fabrication, falsification, plagiarism, interference, censorship, and inadequate procedural and information security. It is important that participatory science uphold scientific integrity policies and practices, as appropriate, to ensure the rigor and independence of findings and results.

The Details

Issued in 2012, EPA's Scientific Integrity Policy applies to EPA employees and is a part of EPA's agreements with contractors and grantees. The policy builds upon existing Agency and government-wide guidance and policies, including those governing peer review, information quality and quality assurance, and research misconduct. Together these policies and guidance ensure that the Agency produces scientific products of the highest quality, rigor, and objectivity for use in decision-making.

All participatory science projects funded by EPA must comply with the Policy, and it is the responsibility of every EPA employee, contractor, assistance agreement (e.g., grant or cooperative agreement) recipient, and volunteer to uphold the culture of scientific integrity. Specifically, all contracts and assistance agreements supporting PS projects funded by EPA must comply with the Policy as required by the Environmental Protection Agency Acquisition Regulation (EPAAR); Scientific Integrity for contracts and EPA's General Terms and Conditions. The EPAAR contracts clause is included in solicitations and contracts when the contractor may be required to perform, communicate, or supervise scientific activities or use scientific information to perform advisory and assistance services. Recipients of all EPA assistance agreements must comply with EPA's General Terms and Conditions, including a scientific integrity term and condition that requires adherence to EPA's Scientific Integrity Policy when conducting, supervising, and communicating science and when using or applying the results of science. In accordance with EPAAR and EPA's General Terms and Conditions, contractors and recipients of assistance agreements must commit to conducting science objectively, presenting results fairly and accurately, and avoiding conflicts of interest.

What does this mean for you?

Scientific integrity at EPA is the responsibility of every employee, contractor, grantee, volunteer, and collaborator who conducts, utilizes, supervises, manages, communicates, or influences scientific activities. EPA employees, including scientists, managers, and political appointees can adhere to EPA's scientific integrity policy by ensuring that their work is of the highest quality; representing their own work fairly and accurately; appropriately characterizing the contributions of others; avoiding conflict of interest and ensuring impartiality; understanding programmatic statutes; welcoming differing opinions; and accepting the responsibility to report any breach of the policy. Staff are encouraged to identify situations early that could lead to Policy violations. For assistance or to report an allegation of a loss of scientific integrity, contact the Scientific Integrity Official (SIO), a Deputy Scientific Integrity Official (DSIO), or the Office of Inspector General.

Additional Resources

- Scientific Integrity Committee
- EPA's Scientific Integrity Program
- Approaches for Expressing and Resolving Differing Scientific Opinions

- Authorship Best Practices

References and Links

US Environmental Protection Agency. EPA's Scientific Integrity Policy. Retrieved January 25, 2023, from https://www.epa.gov/scientific-integrity/epas-scientific-integrity-policy

US Environmental Protection Agency. EPA General Terms and Conditions Effective (2021). Retrieved January 25, 2023, from https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-october-1-2021-or-later

US Environmental Protection Agency. Environmental Protection Agency Acquisition Regulation (EPAAR). Retrieved on January 25, 2023, from https://www.acquisition.gov/epaar

Acronyms

DSIOs - Deputy Scientific Integrity Officials
EPAAR - Environmental Protection Agency Acquisition Regulation
SIO - Scientific Integrity Official

Human Subjects Research

Participatory science projects that involve the systematic collection of data, biospecimens, or information from living individuals through intervention, interaction, or the use of identifiable private information to develop or add to generalizable knowledge are considered human subject research (HSR). The HSR program includes steps that must be taken by investigators and EPA to protect the rights and welfare of the participants.

EPA supports intramural and extramural research involving human subjects. Examples of EPA projects involving HSR include fish consumption or household practices surveys, analyses of human biological specimens, controlled exposure studies, and other observational epidemiology studies. Participatory science projects may involve these types of research methodologies.

The Details

HSR regulations (40 CFR Part 26) ensure that the rights and welfare of human subjects are protected. The Crowdsourcing and Citizen Science Act states that any crowdsourcing or participatory science project that includes research involving human subjects shall be subject to regulations for the protection of human subjects. EPA-specific regulations prohibit intentional exposure research and limit observational research on children, pregnant women, or nursing women.

Individuals must be living, and the information must be *about* a person, not just *from* an individual. In addition, the project must obtain research data through intervention or interaction or collect identifiable private information or biospecimens. Intervention includes both the physical procedures for gathering data and the manipulation of the subject or the subject's environment performed for research purposes, whereas interaction includes communication or interpersonal contact between the investigator and the subject.

Definitions for both "research" and "human subject" are found in 40 CFR § 26.102 – a project must include both to be considered HSR.

What does this mean for you?

For HSR, the principal investigator must submit all necessary documents to an Institutional Review Board (IRB) and make all appropriate modifications as required by the IRB to secure approval. IRBs are responsible for protecting the rights and welfare of human subjects in research by providing independent review and oversight per 40 CFR 26. HSR professionals may determine the planned HSR is exempt from the regulations and does not require further review beyond this determination (unless additional changes are made). IRBs may review HSR via expedited review procedures or at a fully convened meeting. EPA does not have its own IRB. The Agency contracts with the University of North Carolina to provide IRB oversight for its intramural scientists. EPA's extramurally-funded researchers would typically submit for approval to their home institution's IRB, or if their institution does not have their own IRB, they may use an independent IRB.

Before any work involving human subjects can begin, EPA's Human Subjects Research Review Official (HSRRO) must approve all HSR conducted or supported by EPA. The HSRRO will review studies after the IRB has approved them. Depending on the office and the type of research, management approval may be required before review by the HSRRO.

Many EPA program offices, regions, and research centers have an HSRRO-approved Human Subjects Officer (HSO) who reviews projects before the HSRRO. HSOs should be involved from the very beginning of the study, starting with research concept meetings, and continuing throughout the research. There are HSOs with authorization from the HSRRO to determine if a project is, or is not, HSR and they may choose to consult with the HSRRO in making such a determination. In the absence of an HSO, projects must be submitted directly to the HSRRO.

The Human Subjects Research Application Portal (HSRAP) is EPA's online submission system that supports and documents the necessary approvals. Some projects require multiple levels of review and approval prior to the HSRRO. The individual creating the submission uploads the required documents. Once the submission is complete, it will automatically route through the pre-determined list of reviewers, ending with the HSRRO.

The HSRRO determines compliance with EPA Order 1000.17A on Policy and Procedures of Human Research Subjects in EPA Conducted or Supported Research and reviews all EPA conducted or supported research studies involving human subjects covered by 40 CFR Part 26. Reviews include consideration of risk and benefit, informed consent, privacy and confidentiality, data monitoring, and other protections, such as those described in the Belmont Report. The outcome of HSRRO review will be in writing. Ordinarily, the HSRRO's decision can be expected in 30 days or fewer.

Additional Resources

- For more information, contact your organization's HREC Member.
- See EPA's internet and intranet sites for additional information.

References and Links

40 CFR part 26. Protection of Human Subjects. Retrieved December 18, 2019, from https://ecfr.io/cgibin/retrieveECFR?gp=&SID=0d977cadb55a40781e7e8cc8a3a85e84&mc=true&n=pt40.1.26&r=PART&ty=HTML

Crowdsourcing and Citizen Science Act §15 USC § 3724. Retrieved January 25, 2023, from https://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title15-section3724)&num=0&edition=prelim

Human Health Services (2015). Protected Health Information. Retrieved December 18, 2019, from https://www.hhs.gov/hipaa/for-professionals/privacy/special-topics/de-identification/index.html#protected

Human Subjects Research Application Portal (HSRAP) Online submission system that supports and document the necessary approvals. Retrieved December 18, 2019, from https://work.epa.gov/human-subject-research/human-subjects-research-application-portal-hsrap

Program in Human Research Ethics Oversight (PHREO) – EPA@Work. Retrieved December 18, 2019, from https://work.epa.gov/human-subject-research

US Environmental Protection Agency Order 1000.17A. Policy and Procedures on Protection of Human Subjects in EPA conducted or Supported Research. (2016). Retrieved December 18, 2019, from https://www.epa.gov/sites/production/files/2016-06/documents/2016_policy_order_revision_6-10-16.pdf

US Environmental Protection Agency. (2018, January 18). Program in Human Research Ethics Oversight Policy and Standard Operating Procedures Manual. Retrieved December 18, 2019, from https://work.epa.gov/sites/default/files/2023-07/final_hsr_sop_manual%20508.pdf

Acronyms

HSO - Human Subjects Officer
HSR - Human Subjects Research
HSRAP - Human Subjects Research Application Portal
HSRRO - Human Subjects Research Review Official
IRB - Institutional Review Board

Privacy Considerations

New technologies make it increasingly easy for community scientists to collect open access data (data that can be freely accessed, shared, and analyzed) and share that data with the Agency. When collecting and storing this data, the Agency should be aware that the resulting datasets may contain personally identifiable information (PII), such as location information, photos of participants, individuals' names, or health information. Even data that appears to be anonymized on its face may be considered PII if that data may identify individuals when reviewed in conjunction with other data. So, EPA should always conduct a careful analysis of any community data it receives to determine if the data contains PII. Pursuant to EPA's Privacy Policy, EPA should properly safeguard PII in its possession, which includes employing proper security and access controls to prevent unauthorized disclosures. For example, if a project collects information from various sources about individuals in areas affected by disasters, the dataset may include PII and so the Agency should ensure that all data about individuals is properly stored and protected.

Further, when the Agency collects and stores data about individuals, the Agency should consider whether it has created a Privacy Act system of records. A Privacy Act system of records is "a group of any records [about an individual] under the control of any agency from which information is retrieved by the name of the individual or by some identifying number, symbol, or other identifying particular assigned to the individual." 5 U.S.C. § 552a(a)(5). The Agency is required to publish a System of Records Notice (SORN) in the Federal Register for every Privacy Act system of records it maintains. Please see below for tools to help you determine if you've created a Privacy Act system of records. If you have additional questions, please consult with the National Privacy Program or your regional counsel.

The Details

The Privacy Act of 1974 (5 U.S.C. 552a) governs the collection, maintenance, use, and dissemination of information about individuals that is maintained in a Privacy Act system of records by federal agencies. Among other requirements, the Act requires that federal agencies (a) limit the collection of information about individuals to that which is relevant and necessary to accomplish an agency purpose, (b) establish appropriate safeguards to ensure the security and confidentiality of information, and (c) where no exemptions exist, allow individuals to request to access and/or amend their records. Further, no agency shall disclose any Privacy Act record without the prior written consent of the individual to whom the record pertains (unless the disclosure is within one of 12 enumerated exceptions).

The E-Government Act of 2002 requires agencies to conduct privacy impact assessments (PIAs) before developing new information technology, or making substantial changes to existing information technology, that involves the collection, maintenance, or dissemination of information in an identifiable form. A PIA is an analysis of how that information is handled and demonstrates that privacy protections have been incorporated throughout the life cycle of a system. PIAs help to determine the risks and effects of a particular system and evaluate its protections to mitigate potential privacy risks.

What does this mean for you?

If a participatory science project will be collecting PII using an information technology system, it must begin with a Privacy Threshold Analysis (PTA). A PTA is a questionnaire used to determine if the information being collected is PII. Work with your program or regional information security officer to conduct a PTA.

If the PTA determines that the system will collect any type of PII, then a PIA must be conducted to evaluate the privacy risks to the individuals. The PIA form can be found at https://work.epa.gov/privacy/privacy-impact-assessments. The program or regional office should develop the PIA immediately after the PTA finding and work closely with the Liaison Privacy Official and the Privacy Act Officer to review the PTA and PIA.

Conducting a PIA will help the Agency determine if a Privacy Act system of records has been created, and thus whether the publication of a System of Records Notice (SORN) is necessary. Agencies are required to publish a SORN in the Federal Register when establishing a new Privacy Act system of records or when making significant changes to an existing system of records. This can be done at the same time as the notices required under the Paperwork Reduction Act so that the comment periods run concurrently. The program or regional office will work with the Liaison Privacy Official to prepare a SORN. Detailed procedures can be found in Procedures for Preparing and Publishing Privacy Act Systems of Records Notices.

If an agency asks individuals to supply information that will become part of a Privacy Act system of records, the Privacy Act requires that the agency provide a Privacy Act Statement on the form used to collect the information or on a separate form that can be retained by the individual. Generally, the statement must inform the individual of the authority that authorizes the information collection, the principal purpose for which the Agency will use the information, the relevant SORN that covers the system where the information will be stored, the applicable "routine uses" included in the SORN, whether providing the requested information is mandatory or voluntary, and the consequences of not providing the information. The detailed procedures for preparing a Privacy Act statement can be found in Procedures for Preparing Privacy Act Statements.

Additional Resources

- The primary point of contact for PTAs, PIAs, and SORNs are the Liaison Privacy Officials (LPOs) in the relevant program or regional office.
- EPA's Implementation of the Privacy Act
- National Privacy Program (NPP)

References and links

5 USC 552a. Privacy Act of 1974. Retrieved from http://archives.gov/about/laws/privacy-act-1974.html

44 U.S.C. 3501 et seq E-Government Act of 2002. Retrieved January 25, 2023, from https://www.govinfo.gov/content/pkg/PLAW-107publ347/pdf/PLAW-107publ347.pdf

44 U. S C. § 35 - Paperwork Reduction Act of 1995. Retrieved January 25, 2023, from https://www.govinfo.gov/content/pkg/BILLS-104s244enr/pdf/BILLS-104s244enr.pdf

US Office of Management and Budget, Circular A-108. Federal Agency Responsibilities for Review, Reporting, and Publication under the Privacy Act. Retrieved January 25, 2023, from https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A108/omb_circular_a-108.pdf

US Office of Management and Budget, Circular A-130. Managing Information as a Strategic Resource. Retrieved January 25, 2023, from https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A130/a130revised.pdf

US Office of Management and Budget, M-03-22, OMB Guidance for Implementing the Privacy Provisions of the E-Government Act of 2002. Retrieved January 25, 2023, from https://www.justice.gov/opcl/page/file/1131721/download

US Environmental Protection Agency. EPA's Implementation of the Privacy Act. Retrieved December 18, 2019, from https://www.epa.gov/privacy

US Environmental Protection Agency. EPA's Privacy Act Laws, Policies and Resources. Retrieved December 18, 2019, from https://www.epa.gov/privacy/privacy-act-laws-policies-and-resources#tab-1

US Environmental Protection Agency. Privacy Impact Assessment Form. Retrieved December 18, 2019, from https://www.epa.gov/system/files/documents/2022-05/Privacy%20Impact%20Assessment.pdf

US Environmental Protection Agency Information Policy. (2018). Privacy Policy. Retrieved from https://www.epa.gov/sites/production/files/2017-01/documents/privacy_policy_2151_1.pdf

US Environmental Protection Agency: Information Procedures. (2010). Procedures for Preparing Privacy Act Statements. Retrieved from https://www.epa.gov/sites/production/files/2013-11/documents/cio2151-p-05.1.pdf

US Environmental Protection Agency: Information Procedures. (2010). Procedures for Preparing and Publishing Privacy Act Systems of Records Notices. Retrieved from https://www.epa.gov/irmpoli8/procedures-preparing-and-publishing-privacy-act-systems-records-notices

US Environmental Protection Agency: Information Procedures. (2010). Procedures for Preparing Privacy Impact Assessments. Retrieved from https://www.epa.gov/sites/production/files/2013-11/documents/cio2151-p-04.1.pdf

Acronyms

LPO - Liaison Privacy Officials
PIA - Privacy Impact Assessments
PII - Personally Identifiable Information
PTA - Privacy Threshold Analysis
SORN - System of Records Notice

Terms of Service

The widespread use of smartphones and other mobile devices has created new opportunities for participatory scientists. Mobile applications (apps) and social media sites are providing new ways to gather and process data and can be useful in participatory science projects. Before EPA can use an externally produced app or social media site for such projects, the Agency must first review the mobile app's or social media site's terms of service (TOS). Federal law prohibits federal agencies from agreeing to certain provisions commonly found in standard TOS, including but not limited to indemnification provisions, choice of law provisions that apply to state or international law, and binding arbitration provisions. As part of the Agency's review, EPA may negotiate with mobile app or social media companies to modify or amend problematic TOS provisions.

The Details

For a federal agency to use a mobile app or social media site, the agency must be able to agree to the corresponding TOS without violating federal law. For example, standard terms provided by app companies often seek to bind end users to open-ended indemnification provisions, by which the end user agrees to insure the app owner against losses sustained from third-party lawsuits. Such terms may also require the agency user to pay legal costs that the app owner incurs under such circumstances. However, a federal agency cannot agree to this type of open-ended indemnification provision without violating the Antideficiency Act. Federal agencies generally may not accept contractual terms that include such open-ended indemnification provisions.

A federal agency should also not agree to any TOS that attempts to bind the agency to any laws other than federal law and federal courts. EPA is not authorized to agree to arbitration agreements, pursuant to the Administrative Dispute Resolution Act of 1996.

What does this mean for you?

When EPA staff fund or support a project that develops a native mobile app or uses an existing mobile app or social media product on agency-issued devices, EPA may be required to agree to a TOS agreement with the app owner. Note that using a mobile app that has already been approved for use on Agency-issued devices can make unnecessary the review of such TOS and save time.

EPA staff or managers should not negotiate mobile app or social media site TOS agreements on behalf of EPA. Each new EPA project that uses a mobile app must seek approval from EPA's Mobile Application Approval Committee (MAAC). MAAC representatives, including attorneys from the Office of General Counsel, are responsible for negotiating changes to mobile app TOS and will contact EPA staff if additional information is needed during this process. For more information on the MAAC and the process for approving mobile apps owned by external entities, please see Mobile Application Approval Process | Mobile Devices | One EPA Workplace.

EPA has established TOS with many existing platforms. Your Web Council Representative can help determine if existing TOS can be used for any social media tool or app for a participatory science project. If it is determined that a TOS agreement needs to be negotiated, please note that this process can be time-consuming or, ultimately, unsuccessful if the app owner is unwilling to accept necessary TOS modifications. Regardless of whether EPA has signed an agreement, please follow the established Web governance process and discuss all concepts with your Web Council representatives. If you want to

use a social media site or technology, they will work with you and the Office of Public Affairs (OPA) to help you use the tools well and avoid any pitfalls.

The General Services Administration (GSA) has taken the lead to work out many agreements with third party sites. GSA is not signing on behalf of all agencies; rather, they are working on agreements they believe should work for all agencies. Each agency then must sign their agreement with the third-party site.

Additional Resources

- List of tools that have federal-compatible terms of service agreements

References and Links

H.R.4194 - Administrative Dispute Resolution Act of 1996. Retrieved January 25, 2023, from https://www.congress.gov/bill/104th-congress/house-bill/4194

Digital.gov. Federal-Compatible Terms of Service Agreements: A guide to the agreements negotiated between the federal government and vendors who offer digital tools and services. Retrieved December 18, 2019, from https://digital.gov/resources/federal-compatible-terms-of-service-agreements/

US Department of Justice. (2012, March 27). Anti-Deficiency Act Implications of Consent by Government Employees to Online Terms of Service Agreements Containing Open-Ended Indemnification Clauses.
Retrieved December 18, 2019 from https://www.justice.gov/file/20596/download

US Environmental Protection Agency. Terms of Service Agreements. Retrieved December 18, 2019, from https://www.epa.gov/webguide/terms-service-agreements

Acronyms

GSA - General Services Administration
MAAC - EPA's Mobile Application Approval Committee
OPA - Office of Public Affairs
TOS - Terms of Service

Creating New Mobile Apps

The widespread use of smartphones has created new opportunities in the field of participatory science. Mobile applications can form important parts of the infrastructure of a participatory science project, thereby increasing communication and interaction between participants. For participatory science, the use of mobile apps means that participants can contribute observations in real time. The ability to report immediately not only increases the quality of the provided data but also improves the connection of the observer with the subject and their environment.

The Details

A mobile application, or app, is any native (downloadable) or web-based application designed specifically to be accessed and utilized on a handheld mobile device, such as a cell phone, smart phone, tablet, or portable digital assistant. Mobile Web apps are distinct from mobile Web pages that only provide content. Mobile Web apps use server-side or client-side processing (e.g., Javascript) to provide a level of interactivity akin to many downloadable native apps.

EPA's Mobile Access Review Committee (MARC) is a committee that evaluates and approves mobile app concepts created internally or by EPA contractors. The MARC also reviews such concepts to ensure they meet EPA's requirements based on the latest technology and best practices. Members include the National Content and National Infrastructure Managers of the Web Council, as well as representatives from the Office of Web Communications (OWC), the Office of Environmental Information (OEI), the OEI lead region, a rotating program office, and the Office of General Counsel (OGC). The Committee works with subject matter experts as needed.

What does this mean for you?

Users can create either a Web-based or native application for participatory science projects. Generally, developing a Web-based app is the easiest way to build a Web presence since they are instantly accessible via a Web browser, whereas native apps have to be downloaded and installed from the app store and require more work to maintain. Native apps may also update frequently via their provider (Apple, Google, etc.), which can incur costs and user accessibility concerns. However, since native apps are downloaded directly onto smartphones, they are often accessible without an internet connection, which can increase user participation whereas Web-based apps require a dependable internet connection to load the browser.

MARC review is required if EPA intends to develop a native app for the public. The submission process for native mobile app concepts is detailed in the System Life Cycle Management (SLCM) Procedure. Review this procedure carefully prior to submitting a concept to MARC. Work closely with your web content coordinator and Senior Information Official to complete all required steps and submit the Mobile Application Evaluation Form and signature sheet to MARC for review and consideration. Development should not begin until MARC approves the mobile application concept. Expect about two weeks for MARC to evaluate the mobile app concept.

MARC review is also required if the project intends to create a mobile Web app or website for the public. The submission process for mobile Web apps and websites is similar to that for native mobile apps and is detailed in the SLCM Procedure. Use the High Level Mobile Applications Approval Flowchart to determine appropriate level of review. Web pages that are automatically optimized for mobile browsers by a WebCMS do not require MARC review.

Mobile apps for internal use only do not require MARC review, but the sponsoring office should contact MARC to register the app or website during the development and completion stage. Registering the app with MARC ensures that the originating office can capitalize on best practices from MARC, as well as create best practice opportunities for other offices in the Agency.

Some programs have additional review processes for app approval at the office level. Check with your office for any additional review actions.

References and Links

US Environmental Protection Agency. Mobile Access Review Committee (EPA Internet). Retrieved December 18, 2019, from https://work.epa.gov/it-architecture/mobile-application-review-committee

US Environmental Protection Agency. Mobile Web and Native Apps. Retrieved January 25, 2023, from https://work.epa.gov/it-architecture/mobile-web-and-native-apps

US Environmental Protection Agency. Policy, Procedures and Guidance for System Life Cycle Management (SLCM). Retrieved January 25, 2023, from https://www.epa.gov/irmpoli8/policy-procedures-and-guidance-system-life-cycle-management-slcm

Acronyms

MARC - EPA's Mobile Access Review Committee
OEI - Office of Environmental Information
OGC - Office of General Counsel
OW – Office of Water
OWC - Office of Web Communications
SLCM - System Life Cycle Management

EPA Communication Requirements

Effectively communicating participatory science outcomes and contributions to project participants, as well as the public, is critical to the success of every project. Communicating how data are used to project participants helps underscore the impact of their efforts. Communicating results of projects promotes a broad public understanding of and increased participation in science, and builds national support for participatory science to be used in environmental decision-making. EPA has communication strategies and contacts for both internal and external audiences to promote participatory science projects.

The Details

OPA's Product Review Tracking System (PROTRAC) is used by EPA to track non-technical product development, including new and redesigned Web pages, videos, and print products, such as brochures and reports. PROTRAC is used to track the concept proposal, development, review, and approval of EPA content prepared for the public. The review process can take up to several weeks, so make sure to include it in your production schedule. For more information on PROTRAC and product review guides, refer to the PROTRAC SharePoint site.

EPA staff involved in participatory science projects that result in the development or posting of the following internal or external products should work with their respective communication offices: news releases, news briefs, desk statements, Q&As, external non-technical fact sheets, external technical fact sheets, technical briefs, communications plans or strategies, talking points, blog posts, social media, video (YouTube), podcasts, brochures, or non-technical reports.

Please refer to the "Working with Communities" section for resources on data ethics. These practices cover a wide range of topics including how to engage participants in data understanding, reporting outcomes, as well as crediting volunteer scientists for their contributions to the project.

What does this mean for you?

Only communications directors and public affairs directors can submit projects and content into PROTRAC. If you need to submit content into the system, discuss it with your program or regional communications director or public affairs director to get approval to move forward.

For information on the review process for communication materials that include videos, print materials, story maps, databases, and other application Web content and use of the EPA seal and logo, novelty, and promotional items, see Development and Review of EPA Communications Products.

For information on posting to external communication channels that include internet, Twitter, Facebook, other social media platforms, media, and YouTube see Office of Web Communications page or ORD's External Communications Channels page.

Depending on your office, additional communications review processes may apply, such as the Scientific & Technical Information Clearance System (STICS) process for ORD. Check with your office for any additional communications review requirements.

References and Links

US Environmental Protection Agency. EPA Communications Stylebook. Retrieved January 25, 2023, from https://www.apstylebook.com/epa/

US Environmental Protection Agency. Communicating Your Science: Tips and Examples. Retrieved January 30, 2024, from https://work.epa.gov/communications/communicating-your-science-tips-examples

US Environmental Protection Agency. Policy and Procedure for Using Social Media at EPA. Retrieved December 19, 2019, from https://www.epa.gov/irmpoli8/policy-and-procedures-using-social-media-epa

US Environmental Protection Agency. Resources for Web Policies and Procedures. Retrieved December 19, 2019, from https://www.epa.gov/web-policies-and-procedures/resources-web-policies-and-procedures#social

US Environmental Protection Agency. Services Provided by the Office of Web Communications. Retrieved December 19, 2019, from https://www.epa.gov/webguide/services-provided-office-web-communications

Acronyms

OPA - Office of Public Affairs

PROTRAC - Product Review Tracking System

STICS - Scientific & Technical Information Clearance System

Federal Records Act and Freedom of Information Act

Both the Federal Records Act and the Freedom of Information Act (FOIA) have rules that can affect the management of federal records, which may include federal citizen science and crowdsourcing records.

The Federal Records Act requires that each federal agency make and preserve records that (1) document the organization, functions, policies, decisions, procedures, and essential transactions of the agency and (2) furnish the information necessary to protect the legal and financial rights of the government and of persons directly affected by the agency's activities. FOIA requires that each federal agency respond to requests for copies of federal records, either by releasing the records to the public or by explaining why the information is exempt from release. Under FOIA, some types of information can be exempted from a public release, including personally identifiable information.

The Details

The Federal Records Act, and its related regulations, require each federal agency to establish an ongoing program for record management and to cooperate with the National Archives and Records Administration (NARA). The Act and its related regulations define federal records, mandate the creation and preservation of those records necessary to document federal activities, establish government ownership of records, and provide the exclusive legal procedures for the disposition of records.

FOIA is a federal law that ensures public access to information and records created by the United States government. FOIA requires executive branch government agencies to produce records upon request, except to the extent that portions of the records are exempted from public disclosure.

What does this mean for you?

All EPA employees are responsible for creating and managing the records necessary to document the Agency's official activities and actions, including those generated by EPA contractors and grantees, in accordance with EPA's Records Management Policy.

For more information about responding to FOIA requests, please see EPA's Freedom of Information Act Procedures.

References and Links

National Archives and Records Administration (NARA). Retrieved January 25, 2023, from https://www.archives.gov/

US Department of Education. Federal Records Act. Retrieved January 25, 2023, from https://www2.ed.gov/policy/gen/leg/fra.html

US Department of Justice. Freedom of Information Act. Retrieved on January 25, 2023, from https://www.foia.gov/

Acronyms

FOIA - Freedom of Information Act

NARA - National Archives and Records Administration

Glossary

Administrative Dispute Resolution Act of 1996 - amends the Administrative Dispute Resolution Act (ADRA) and other Federal law about alternative means of dispute resolution (ADR) in the administrative process.

Anti-deficiency Act - prohibits federal agencies from obligating or expending federal funds in advance or in excess of an appropriation, and from accepting voluntary services.

Belmont Report – a statement of basic ethical principles and guidelines that assist in resolving the ethical problems that surround the conduct of research with human subjects.

Crowdsourcing and Citizen Science Act – authorizes federal science agencies to use crowdsourcing and citizen science methods to advance and accelerate scientific research, literacy, and diplomacy, and for other purposes.

E-Government Act of 2002 - requires agencies to conduct privacy impact assessments (PIAs) before developing new information technology, or making substantial changes to existing information technology, that involves the collection, maintenance, or dissemination of information in an identifiable form.

EPA Grants Policy Resources - includes details on guidance, laws, and regulations surrounding EPA's grant and policy resources that may affect how recipients manage and administer EPA assistance agreements.

EPA Handbook for Citizen Science Quality Assurance and Documentation – a useful resource to help external organizations design and manage effective participatory science projects.

EPA Order 1000.17A on Policy and Procedures of Human Research Subjects in EPA Conducted or Supported Research - establishes EPA procedures and responsibilities for implementing the requirements set forth in Title 40 Code of Federal Regulations (CFR) Part 26 that applies to all research involving human subjects conducted or supported by EPA.

EPA Order 1000.17B: Policy for Increasing Access to Results of EPA-Funded Extramural Scientific Research - describes requirements for agency offices that manage research through extramural agreements (i.e., grants, interagency agreements, contracts, etc) to ensure that recipients/contractors make EPA-funded extramural scientific publications or associated manuscripts accessible to the public at no charge.

EPA Peer Review Handbook - provides guidance related to implementing the policy, explains major decision points in the peer review process, and includes examples and tools that support the peer review process.

EPA Vision and Principles for Participatory Science – EPA vision for achieving a future where the public is valued and empowered to help advance scientific knowledge that informs environmental protection actions, and where participatory science data are abundant, accessible, and useful for environmental decision making.

EPA's Generic Clearance for Citizen Science and Crowdsourcing – provides information and guidance on EPA's generic information collection request (ICR) process for participatory science projects.

EPA's Peer Review Policy - applies to all EPA scientific and technical products, including those derived from participatory science research.

EPA's Privacy Policy - establishes EPA requirements for safeguarding personally identifiable information (PII) and Privacy Act information in accordance with the Privacy Act of 1974, the E-Government Act of 2002, the Federal Information Security Management Act (FISMA), and policy and guidance issued by the Office of Management and Budget (OMB).

EPA's Quality Program - manages the quality of environmental information collection, generation, and use.

EPA's Records Management Policy – addresses all records made or received by EPA personnel under federal law and provides a framework with specific guidelines detailing how records should be managed at EPA.

EPA's Scientific Integrity Policy - provides a framework intended to ensure scientific integrity throughout the EPA and recognizes the distinction between scientific information, analyses, and results and the policy decisions made based on that scientific information.

EPA's Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency (EPA IQGs) - contains EPA's policy and procedural guidance for ensuring and maximizing the quality of information that EPA disseminates

Federal Records Act - establishes the framework for records management programs in Federal Agencies.

Freedom of Information Act (FOIA) - includes rules that may affect the collection, dissemination, and destruction management of federal records, which may include federal citizen science and crowdsourcing records.

Generic Customer Service ICR - provides expedited OMB clearance for low-burden customer satisfaction surveys and has been used for conferences, EPA websites, community outreach/education programs, and focus groups.

Human Subjects Research Application Portal (HSRAP) - EPA's online submission system that supports and documents the necessary approvals.

Increasing Access to the Results of Federally Funded Scientific Research - White House Office of Science and Technology Policy (OSTP) memorandum stating that federal entities who spend more than $100 million per year on research and development must develop and submit a plan to OSTP to increase public access to peer-reviewed, scientific research publications and research data resulting from agency-funded scientific research.

National Archives and Records Administration (NARA) - each federal agency must establish an ongoing program for record management and cooperate with NARA.

Office of the Inspector General (OIG) Audit of EPA Citizen Science - includes recommendations from the OIG on how to build a more comprehensive and EPA-wide citizen science strategy that aligns with strategic objectives for public participation.

OGC Checklist for MOU Review - intended to assist attorneys in the Office of General Counsel (OGC) and Offices of Regional Counsel (ORC) in the review of agreements such as Memoranda of Understanding (MOU), Memoranda of Agreement (MOA), and other agreements that are primarily aspirational in nature. The checklist provides guidance for preparing MOUs with outside entities for participatory science projects.

Paperwork Reduction Act - enacted to minimize the paperwork burden on members of the public.

Plan to Increase Access to Results of EPA-Funded Scientific Research - describes steps the Agency will take to further increase access to results of EPA-funded scientific research, consistent with objectives of the OSTP Memo.

Presidential and Federal Records Act Amendments of 2014 – Amends the Presidential Records Act to require that any new publicly available presidential record must: (1) provide written notice of such determination to the former President during whose term of office the record was created, to the incumbent President, and to the public; and (2) make such records are public within 60 days.

Privacy Act of 1974 (5 U.S.C. 552a) - governs the collection, maintenance, use, and dissemination of information about individuals that is maintained in a Privacy Act system of records by federal agencies.

Privacy Threshold Analysis - a questionnaire used to determine if the information being collected is personally identifiable information (PII).

Procedures for Preparing Privacy Act Statements – includes detailed procedures for preparing a Privacy Act statement.

Scientific Data Management Plan (SDMP) - describe all collected or created research data and metadata, as well as plans for providing long-term preservation of and access to the research data as appropriate. Are required for all research funded by EPA.

Section 508 of the Rehabilitation Act - requires federal agencies to develop, procure, maintain, and use information and communications technology (ICT) that is accessible to people with disabilities - regardless of whether or not they work for the federal government.

Scientific & Technical Information Clearance System (STICS) for ORD – is the Office of Research and Development's (ORDs) electronic clearance system for external products.

System Life Cycle Management (SLCM) Procedure – includes the submission process for native mobile app concepts

Information Collection Request (ICR) Handbook - EPA's Handbook to Writing information Collection Requests under the Paperwork Reduction Act of 1995.

Information Quality Guidelines - final guidelines that implement section 515 of the Treasury and General Government Appropriations Act for Fiscal Year 2001

&EPA
United States
Environmental Protection
Agency

PRESORTED STANDARD
POSTAGE & FEES PAID
EPA
PERMIT NO. G-35

Office of Research and Development (8101R)
Washington, DC 20460

Official Business
Penalty for Private Use
$300

Recycled/Recyclable Printed on paper that contain_sa minimum of
50% postconsumer fiber content processed chlorine free