

SUPPORTING STATEMENT
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
Generic Clearance For NOAA Social, Behavioral, and Economic Science Studies for
Weather, Water, and Climate
OMB Control No. 0648-XXXX

Abstract

This is a request for a new generic information collection. The National Oceanic and Atmospheric Administration (NOAA) products and services “support economic vitality and affect more than one-third of America’s gross domestic product.” The National Weather Service (NWS) is a critical component of this service and operates under the mission to “provide weather, water and climate data, forecasts, warnings, and impact-based decision support services for the protection of life and property and enhancement of the national economy.” Leveraging and integrating Social, Behavioral, and Economic Sciences (SBES) methodologies and knowledge is crucial to meeting our mission. Similarly, the Oceanic and Atmospheric Research (OAR) NOAA line office conducts SBES research and development directly relevant to and in support of the NWS mission.

If we are to effectively support public and partner decision making, build actionable tools and information, and evaluate our performance, then it’s imperative that the NWS/OAR collect key SBES data and fully engage with our audiences. Additionally, the NWS/OAR has articulated a priority to enhance services for historically underinvested and underserved communities and improve service equity across the board. These communities typically experience higher rates of poverty, homelessness, disabilities, and language barriers, which increase their vulnerability to hazard impacts.

The generic clearance is an important planning and engagement tool for NWS/OAR. The procedures expected to be used include but are not limited to social network analysis, open, semi-structured and structured interviews, focus groups, surveys, and participant observation.

JUSTIFICATION

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.

The NWS products and services “support economic vitality and affect more than one-third of America’s gross domestic product.” The NWS is a critical component of this service and operates under the mission to “provide weather, water and climate data, forecasts, warnings, and impact-based decision support services for the protection of life and property and enhancement

of the national economy.”

Leveraging and integrating SBES methodologies and knowledge is crucial to meeting our mission. In a report from the Social Science Working Group, NOAA’s Science Advisory Board found that the agency’s ability to “meet its mandates and mission is diminished by the underrepresentation and underutilization of social science” (NOAA Science Advisory Board, 2009¹). The NWS has also been called upon by Congress in the Weather Research and Forecasting Innovation Act of 2017 to “improve the understanding of how the public receives, interprets, and responds to warnings and forecasts of high impact weather events that endanger life and property.” A National Academies of Sciences, Engineering, and Medicine 2018 study, “Integrating Social and Behavioral Sciences Within the Weather Enterprise” emphasized that it is “essential to bring to bear expertise in the social and behavioral sciences . . . to understand how people’s knowledge, experiences, perceptions, and attitudes shape their responses to weather risks and to understand how human cognitive and social dynamics affect the forecast process itself.”

If we are to effectively support public and partner decision making, build actionable tools and information, and evaluate our performance, then it’s imperative that the NWS/OAR collect key SBES data and fully engage with our audiences. Additionally, the NWS has articulated a priority to enhance services for historically underinvested and underserved communities and improve service equity across the board. These communities typically experience higher rates of poverty, homelessness, disabilities, and language barriers, which increase their vulnerability to hazard impacts.

This request for a new generic clearance would allow the NWS/OAR to meet the following goals in a more nimble and comprehensive manner:

1. Increase understanding of how the public, core partners, and stakeholders value, use, and disseminate NWS information, products, and services before, during, and after weather and/or water events.
2. Increase understanding of the decision-making processes and workflow of NWS users before, during, and after weather and/or water events.
3. Assess how a weather and/or water event was messaged across the weather enterprise, including aspects of collaboration, intra and inter-organizational communication, and other key elements of system-level event analysis.
4. Gather feedback on an addition, change, or termination to our existing body of NWS products and services.

The generic clearance is an important planning and engagement tool for NWS/OAR. The procedures expected to be used include, but are not limited to, social network analysis, open, semi-structured and structured interviews, focus groups, surveys, and ethnographies to include participant observations.

¹ NOAA Science Advisory Board Social Science Working Group. 2009. Integrating social science into NOAA planning, evaluation and decision making: A review of implementation to date and recommendations for improving effectiveness. Retrieved from https://sab.noaa.gov/wp-content/uploads/2021/08/SAB_SSWG_FINAL_Report-to_NOAA_04_16_09.pdf.

This generic clearance request will go through the regular two Federal Register posting periods and OMB review and approval, subsequent to which, NWS/OAR asks that OMB review and clear specific proposed generic information collection activities within a two-week period with no Federal Register Notice period required under the generic clearance.

The methods proposed for use are as follows:

Social Network Analysis: This method investigates the connections and relationships among people or groups within a social network. It will help the NWS enable better communication and inspire more efficient collaboration with its public and partners.

Semi-structured and Structured Interviews: These may be conducted with individuals either in person or virtually. Structured interviews use a consistent set of questions pre-determined ahead of time and would be used by the NWS/OAR to gather in depth, systematic information about people's perceptions and experiences with the agency's products and services. The purposes of the semi-structured interviews are to 1) better understand stakeholder perspectives to prepare for a broader, structured set of interviews, 2) allow for more flexible two-way communication with the stakeholder, and 3) ensure more diverse voices are heard. Semi-structured interviews may be particularly useful when engaging with new audiences, socially vulnerable, and historically underserved communities, in which the NWS/OAR may not know the right questions to ask yet. They allow respondents time to become more comfortable, especially those that may not have engaged with the NWS/OAR before.

Surveys: This method involves web-based or email surveys where a set of questions is sent out to a target sample. The survey may contain a variety of question types including multiple-choice, dichotomous, matrix, Likert Scale, mapping exercises, and a limited number of open-ended questions. The NWS/OAR would typically use this method for gathering feedback on their products and services, better understanding user perceptions and knowledge, conducting survey-based experiments on aspects of messaging, and assessing a weather and/or water event. Sampling techniques will be chosen based on the type of inquiry and available resources. In all cases, the NWS/OAR would make every effort to ensure the sample is representative of the target population. The reasoning of the sampling technique would be clearly laid out in the Supporting Statement B of the individual submissions.

Ethnographies to include Participant Observation: This method involves studying people in their natural environment to understand their way of life/work. It involves the researcher immersing themselves in the day-to-day activities of the participants. Any ethnographic research that may include participant observation methods used by the NWS/OAR would be overt, as participants would be aware the researcher is observing. This method would be particularly useful in helping the NWS/OAR better understand work flows and the decision processes of end users and how they're integrating NWS/OAR products, services, and information.

Focus groups. This method involves group sessions guided by a moderator. The moderator follows a topical outline containing questions or topics focused on a particular issue, rather than adhering to a standardized questionnaire. Focus groups are useful for raising and exploring issues that are nuanced and conditional on factors not easily anticipated. The method also allows topics

to emerge organically among participants, which lets the researcher know the relative importance of the topics being discussed.

Testbed Studies: This method involves creating a naturalistic decision environment in which new/developing forecast tools are demonstrated and users provide feedback on their design and utility. Specific data collection methods leveraged within a testbed environment can include all of the items listed above, and often, participants provide feedback through multiple of these methods. __

Procedures for Clearance

Before any activity is undertaken, the NWS/OAR will provide OMB with a generic information collection request that includes a supporting statement describing the data collection to be conducted and its intended purpose. If relevant, a copy of instruments or debriefing materials will be included. Depending on the specific activity, this may be a printed questionnaire, a set of prototype items, or an interview script. The NWS/OAR requests that OMB raise comments on substantive issues within 10 working days of receipt. The NWS/OAR also requests that OMB allows up to five data collections under review at one time under this generic clearance.

Data collection is authorized under the Weather Research and Forecasting Innovation Act of 2017 in which Congress established Social Behavioral and Economic Sciences (SBES) policies for weather forecasting. Studies under this generic clearance would also address the NOAA FY22-26 Strategic Plan. In particular, it addresses Goal 1 - Build A Climate Ready Nation Strategic Objective 1.1 Improve Continuous Engagement With Partners and Goal 2 - Make Equity Central to NOAA's Mission, Strategic Objective 2.2 Support Underserved and Vulnerable Communities. Additionally, studies would address the NWS 2023 - 2033 Strategic Plan. Specifically, Goal 3 - Transform our Agency to meet current and future needs of society and Sub-goal 3.8 - Understand and apply the best social, behavioral, and economic sciences to clearly communicate information with communities.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

The information collected under this program will be used by staff from the NWS/OAR to create more effective products, services, and information, better understand and serve its public and partners, and build stronger relationships with its end users. None of the data collected under this clearance will be published for its own sake. The results may also be prepared for presentations at professional meetings or publications on the NWS/OAR websites.

Information quality is an integral part of the pre-dissemination review by the NWS/OAR, which abides by the [Scientific Integrity Policy \(NAO 202-735D-3\)](#). This NAO is accompanied and supported by the "[Scientific Integrity Procedural Handbook](#)", which explains NOAA's procedures for responding to allegations of scientific misconduct. Information quality is also integral to the information collections conducted by the NWS and is incorporated into the clearance process required by the Paperwork Reduction Act (PRA).

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g. permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burden.

To the extent possible the NWS/OAR will use automated data collection techniques, such as automated methods for survey data collection or machine learning for qualitative data coding. This clearance offers the NWS/OAR the opportunity to try innovative technologies that would reduce burden and increase the use of information technology.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Question 2

Information collection and analysis under this clearance will not duplicate any other work being conducted by the NWS/OAR or other federal and non-federal agencies that may collaborate in this work. Additionally, to the extent possible, the NWS/OAR will make use of existing information, including reviewing results of previous research to build upon past efforts.

5. If the collection of information impacts small businesses or other small entities, describe any methods used to minimize burden.

The NWS is building out a growing and robust SBES scientist staff to more effectively address and support the Congressional mandates, as well as NOAA Strategic Plans. Improved collaboration and a shared SBES vision now allows the NWS/OAR to streamline and organize data collection efforts under this generic clearance to minimize duplication, reduce burden on its public and partners, and reduce the number of active control numbers. Every effort will be made to design relatively small-scale data collection efforts as often as possible to minimize the amount of burden. Additionally, the NWS/OAR will employ pre-testing of instruments with federal employees and/or nine or less non-federal individuals to ensure questions are relevant and understandable before large-scale data collection. They will also use only the sample size necessary to gain thematic saturation and/or statistical significance to ensure the minimum number of respondents are contacted.

6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

Without the ability to efficiently collect data and perform applied SBES research, the NWS will not be able to effectively improve their service to society. Better understanding of NWS users, meaningfully engaging with core partners, and evaluating NWS efforts are crucial processes in meeting the mission of protecting lives, property, and enhancing the national economy. These data collection efforts offer a line of communication between the NWS and its users and serve as an important opportunity to build trust and strengthen relationships with them. This is particularly important in the journey to better understanding and serving historically underserved

and socially vulnerable populations.

7. Explain any special circumstances that would cause an information collection to be conducted in a manner inconsistent with OMB guidelines.

This collection will be conducted in a manner consistent with OMB guidelines.

8. If applicable, provide a copy and identify the date and page number of publications in the Federal Register of the agency's notice, required by 5 CFR 1320.8 (d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to these comments. Specifically address comments received on cost and hour burden.

A Federal Register Notice was published on August 30, 2024, (89 FR 70603) seeking public comment. We received one comment on August 30, 2024, from Jean Public. Due to lack of relevance, no action was taken in response to the comment. A copy of the comment received is included in this submission.

Consultation with staff from Federal weather, water and climate research laboratories may occur as part of joint research efforts. These consultations may include discussions concerning the clarity of questions and instructions, the appropriateness of research methods, and other aspects of respondent burden. It may also include coordination of research conducted within joint research facilities, such as NOAA testbeds, which are managed collaboratively by NWS, NOAA Research, and federal laboratories. Collaborative work performed in testbeds frequently includes NOAA employees from across the agency, NOAA affiliates from NOAA cooperative institutes, and researchers from partner federal agencies, including but not limited to the FAA, NASA, FEMA, and NIH, and these researchers are therefore covered under this generic clearance. Additional efforts to consult with potential respondents to obtain their views on the availability of data, clarity of instructions, interpretation of questions for validation purposes, etc., may be undertaken as part of the research that is conducted under this clearance.

9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.

Respondents will typically not be compensated as part of these data collection efforts. In some cases, the NWS/OAR may contract with an outside vendor to collect data, and the contractor may request the use of compensation for difficult recruitments. The NWS/OAR would ensure that proper justification is included in the Supporting Statements of the individual submissions.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy. If the collection requires a systems of records notice (SORN) or privacy impact assessment (PIA), those should be cited and described here.

All respondents who participate in research under this clearance will be informed that their participation is voluntary and that all of the information they provide may be used only for

research purposes and may not be disclosed, or used, in identifiable form for any other purpose except as required by law (6 U.S.C. §151). For in person and virtual focus groups and interviews, this information will be conveyed verbally by the interviewer. For Internet-based data collections, this information will be displayed prominently, and in a format that allows the respondent to print it out. The NWS/OAR will always display the Public Burden Statement and the OMB number and expiration date. No participant direct identifiers will be maintained as part of research under this generic clearance.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior or attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

Questions that are included in the NWS/OAR data collections are not of a sensitive nature and should not pose a problem to respondents.

12. Provide estimates of the hour burden of the collection of information.

We estimate that the number of people involved in our work will be at most 6,000 per year. We estimate the annual burden hours will be approximately 0.5 hours per person or an annualized 3,000 hours overall. The total estimated respondent burden is 9,000 hours for the 3-year period beginning on the date of OMB approval in 20XX:

| Time Period | Respondents | Responses | Respondent burden (hours) |
|--------------------|--------------------|------------------|----------------------------------|
| 2025 – 2026 | 6,000 | 6,000 | 3,000 |
| 2026 – 2027 | 6,000 | 6,000 | 3,000 |
| 2027 – 2028 | 6,000 | 6,000 | 3,000 |
| Total | 18,000 | 18,000 | 9,000 |

A variety of forms will be used in conducting the research under this clearance, and the exact number of different forms, length of each form, and number of subjects/respondents per form are unknown at this time. Similarly, the exact respondents are unknown but are likely to include members of the public, emergency managers, broadcast meteorologists, state/local/tribal decision makers, and non-profit organizations.

We estimate that the average number of generic information collections that OMB may expect to receive under this clearance to be less than 10 submissions each year. The estimates used in this section will be updated at the end of the three-year period.

13. Provide an estimate for the total annual cost burden to respondents or record keepers resulting from the collection of information. (Do not include the cost of any hour burden already reflected on the burden worksheet).

There is no cost to respondents for participating in the research being conducted under this clearance, except for their time to complete the requested activity.

14. Provide estimates of annualized cost to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information.

There is no way to anticipate the actual number of participants, duration, and/or mode of data collection to be conducted under this clearance. Thus, it is impossible to estimate in advance the cost to the Federal Government. Costs will be covered by divisions conducting the research from their data collection budgets. We will include information about costs in the individual submissions.

15. Explain the reasons for any program changes or adjustments reported in ROCIS.

This is a new request for a generic clearance.

16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.

Due to the nature of this clearance, there is no definite or tentative time schedule for individual testing activities at this point. We expect work to continue more or less continuously throughout the duration of the clearance.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.

The agency plans to display the expiration date for OMB approval of the information collection on all instruments.

18. Explain each exception to the certification statement identified in "Certification for Paperwork Reduction Act Submissions."

The agency certifies compliance with [5 CFR 1320.9](#) and the related provisions of [5 CFR 1320.8\(b\)\(3\)](#).