SUPPORTING STATEMENT
U.S. Department of Commerce
National Oceanic & Atmospheric Administration
Using Quick Response Surveys to Build a Public Perception and Response Database
OMB Control No. 0648-0805

Abstract

This is a request for revision and extension of an approved information collection. The previously approved collection is called Phase I and the revision and extension are called Phase II.

The Phase II collection is also sponsored by the NOAA National Weather Service (NWS) Office of Science and Technology Integration (OSTI). The collection is permitted under 15 USC Ch. 111, Weather Research and Forecasting Innovation, that directs NOAA to focus on improving its understanding of how the public receives, interprets, and responds to warnings and forecasts of high impact weather events that endanger life and property. The purpose of the collection is to improve how the NWS communicates risks posed by hazardous weather or water events to the public that are most likely to result in action to mitigate the risk. Information from this collection will help the agency meet its 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."

Phase II will continue the work using an online survey system for collecting data on the publics' perception and response to four different hazards: tornados, thunderstorm winds over 70 miles per hour (mph), flash floods, and winter weather. The online surveys provide event-based reports on hazardous weather events for National Weather Service Forecast Offices, and are building blocks for a multi-year, cross-sectional organized collection of human perception and response data. The survey system enables individual National Weather Service Weather Forecast Offices (WFOs) to disseminate Quick Response Surveys (QRS) soon after a hazardous event occurs to collect perishable data on the publics' perceptions and response to the event. WFOs distribute the QRS using web links on NWS social media and core partners' social media or email lists. Surveys ask the public questions on timing, location, weather information sources, motivations and influences for taking protective action to gain insights into how NWS warning communications interact with these factors to result in protective action behaviors.

The collection is being revised to remove the longitudinal Weather and Society Surveys. The agency no longer collects information using the longitudinal Weather and Society Surveys.

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 collection is permitted under 15 USC Ch. 111, Weather Research and Forecasting Information, that

directs NOAA to focus on improving its understanding of how the public receives, interprets, and responds to warnings and forecasts of high impact weather events that endanger life and property. It will also address the Weather Research and Forecasting Innovation Act (WRFIA) of 2017. WRFIA (Sec. 102) directs NOAA to focus on improving its understanding of how the public receives, interprets, and responds to warnings and forecasts of high impact weather events that endanger life and property. The legislation also specified that the purpose of the NOAA watch/warning system is to inform action to prevent loss of life and property (Sec. 406), and that any changes to the system must preserve the benefits of the current system and be guided by the research-based findings.

NOAA currently lacks data that articulates and explains how members of the public receive, interpret, and respond to NOAA information and forecasts during high impact weather events, such as severe, winter, and tropical weather hazards. Thus, NOAA cannot determine if its messages are widely disseminated, understood, and acted upon. Furthermore, NOAA lacks the multi-year data needed to demonstrate if progress or improvements have been made in these areas; therefore, NOAA cannot evaluate performance and satisfy the requirements of the WRFIA.

Documents Cited:

https://www.congress.gov/bill/115th-congress/house-bill/353/text[1]

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.

Data collected from Phase I of the QRS thus far were used by the NWS and other entities at NOAA for several purposes. OSTI is using the data from the flood survey as an input to develop a model for understanding motorist behavior. The surveys provide observational information on decisions people made when they encounter flooded roads, which helps train the model. Results of the QRS were presented as part of the Flash Flood and Intense Rainfall Experiment (FFaIR), an annual experiment that is part of the Hydrometeorological Testbed and brings together NWS forecasters, researchers, and developers to test new tools and techniques for predicting extreme rainfall and flash flooding in a pseudo-operational environment.

WFO Fort Worth along with the NOAA National Severe Storms Laboratory (NSSL) and the National Corporation for Atmospheric Research (NCAR) used the flood survey data to validate a new Flash Flood Severity Index (FFSI). This project collected detailed hydrometeorological, impacts, road weather, and societal response data for six flash flood events. Ground and aerial assessments were collected to gather a more complete picture of the coverage and severity of the flash flood using Uncrewed Aircraft Systems (UAS), high resolution satellite imagery, local emergency manager reports, and NWS flash flood products. The societal impacts of the flash flood were assessed through post event surveys of the public and analysis of road traffic patterns. All data has been mapped in time and in space to explore correlations and disconnects among public perceptions, impacts, and weather products to assess and refine the FFSI.

[1] https://www.congress.gov/bill/115th-congress/house-bill/353/text

Several other WFOs have also used the data. Data from the tornado survey were used by WFO Nashville to understand preparedness and sheltering behaviors which are key predictors of optimal behavior. The WFO is using that information as they develop watches and warnings. WFOs Portland and Phoenix are using lessons from winter weather and flash flood surveys during meetings with public safety partners. More WFOs are opting into data collection as they learn about the data and their value for informing operations and effective local messaging. For example, NWS Eastern Region is expanding the number of offices participating in the survey collection following a presentation to the Science Operations Officers (SOOs).

The QRS method continues to show promise as a strategy to collect this kind of data. Fourteen WFOs were involved in Phase I of the project. The goal is to add another 36 offices in Phase II. Given the need to use government resources more effectively and efficiently and the need for hazard-specific, region-specific and event-specific data collection, NWS will continue evaluating the strengths and weaknesses of using well-constructed, less costly convenience samples. One of the goals is to continue exploring to what extent convenience samples can be used for making statements about the public and for understanding how different factors contribute to perception and behavior. The NWS understands the potential limitations of convenience sampling compared to probability-based sampling and will make sure that all users are aware of these limitations by explicitly stating the following on all data, tools, and reports: *All (or some) of these data come from non-probability samples that are not necessarily representative of the entire U.S. population. Use caution when making inferences and drawing conclusions.*

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.

The collection will make use of electronic online platforms to collect data in keeping with the Government Paperwork Elimination Act. By using an electronic survey format, the burden on the NWS and the general public taking the survey is reduced.

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**

No duplicate effort exists, nor can previous information collected be used to address the purpose of this collection. Other collection efforts such as the NWS Customer Satisfaction Survey (CSS), is a rigorous quarterly survey that provides satisfaction metrics for NWS products and services on a national level. However, the CSS has a national focus, and does not address public perception and response to severe weather events directly at a forecast office level, nor to specific weather events. Thus, unique to this information collection effort is the “bottom-up” approach to data collection, surveying actual response to severe weather events at a forecast office level, as well as this project’s potential transition into operations and publicly available repository.

5. If the collection of information impacts small businesses or other small entities, describe any

methods used to minimize burden.

Data will only be collected from a public sample. No small business or other small entities will be impacted.

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.

If these data are not collected, NOAA will continue to be hampered in its efforts to evaluate whether its product and services are disseminated, understood, and acted upon. It will also prevent the agency from evaluating the data's value over multiple years to meet its 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.

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

This information collection will be conducted in a manner consistent with OMB guidelines, including race, ethnicity, and sex questions. To reduce respondent burden and minimize the risk of survey fatigue or dropout, we have included the minimum required categories for race and ethnicity as shown in Figure 2 of the Updated Required Statistical Directive No. 15.

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 published on March 31, 2025 (90 FR 14247) solicited public comments. No comments were received.

Details of the survey have been commented on and discussed during the last two annual meetings of the American Meteorological Society (AMS), which brings together 6,000 scientists, educators, students, and other professionals from across government agencies, academics, and private industry. Feedback has also been received during the past three years from approximately 150 scientists that attend and participate in FFaIR. The Phase II survey instruments were updated based on the conversations during these interactions.

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

No incentives will be provided for participation.

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.

No personal identifiable information will be collected in this study.

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.

No information collected will not be of sensitive nature.

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

Information Collection	Type of Respondent (e.g., Occupational Title)	# of Respondents /year (a)	Annual # of Responses / Respondent (b)	Total # of Annual Responses (c) = (a) x (b)	Burden Hrs / Response (d)	Total Annual Burden Hrs (e) = (c) x (d)	Hourly Wage Rate (for Type of Respondent) (f)	Total Annual Wage Burden Costs (g) = (e) x (f)
QRS – Tornado and Severe Thunderstorm winds 70 MPH+ combined	General Public	12,123	1	12,123	10 min	2,021	$32.66	$66,006
QRS – Flash Flood	General Public	4,378	1	4,378	10 min	730	$32.66	$23,842
QRS – Winter Weather	General Public	17,174	1	17,174	10 min	2,862	$32.66	$93,473
Totals		**33,675**		**33,675**		**5,613**		**$183,321**

00-0000 code used for the general population given the variety of potential occupations among the respondents (Source: https://data.bls.gov/oes/#/industry/000000)

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 are no capital costs or operating and maintenance costs associated with this information collection.

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.

Cost Descriptions	Grade/Step	Loaded Labor Cost (Hourly)	Effort (Hours)	Fringe (if Applicable)	Cost to Government [a]
Federal Oversight					
Survey deployments	GS-14/GS-15	$111	32		$3,552
Progress and Final Presentations	GS-14/GS-15	$111	100		$11,100
Total Federal Oversight Cost					**$14,652**
Total Contract Cost					$129,372
Total Cost To Government					**$144,024**

The General Schedules for the Rest of U.S. locality[2] was used to determine the base salary. Step 5 of pay grades 14 and 15 was used to determine the average salary ($153,573) for the positions. A multiplier of 1.5 was used to calculate the loaded salary ($230,360). The loaded salary was divided by 2,080 hours to determine the hourly loaded wage rate.

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

Information Collection	Respondents		Responses		Burden Hours		Reason for change or adjustment
	Current Renewal / Revision	Previous Renewal / Revision	Current Renewal / Revision	Previous Renewal / Revision	Current Renewal / Revision	Previous Renewal / Revision	
Longitudinal Wx Surveys (Severe, Winter & Tropical)	0	4650	0	4650	0	1860	This set of surveys is no longer collected.
Quick Response Surveys (Flash Flood, Winter Wx, Tornado)	33675	33000	33675	33000	5613	5280	The number of respondents has increased as NOAA hopes to expand usage of these surveys to additional Weather Forecast Offices.
Total for Collection	**33675**	**37650**	**33675**	**37650**	**5613**	**7140**	

[2] https://www.opm.gov/policy-data-oversight/pay-leave/salaries-wages/salary-tables/pdf/2025/RUS.pdf

Difference	-3975	-3975	-1527	

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.

Phase II of the project will last 3 years, until 2028. Results of Phase II Quick Response Surveys are planned to be published externally. Research results, including methods, and survey topic results, will be shared externally through professional conferences, as well as through peer reviewed journals upon completion. The following activities are planned:

Year 1 Tasks

- Expansion of survey to 30 total forecast offices
- Development of operating procedures with NWS offices to disseminate surveys
- Dissemination and evaluation of post event reports to forecast offices
- Evaluate use of data in Agent-based Modelling
- Conduct and Analyze Random Sample Experiments
- Develop concept for transition to operations

Year 2 Tasks

- Expansion of Survey to 40 total offices
- Research to Operations planning
- Data collection and analysis
- Database Management

Year 3

- Expansion of Survey to additional 50 offices
- Research to operations.
- Data collection and analysis
- Database Management
- Survey dissemination.

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 expiration date will be displayed on all collection 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).