

SUPPORTING STATEMENT

U.S. Department of Commerce

National Oceanic & Atmospheric Administration

Improving Knowledge about NWS Forecaster Core Partner Needs for Reducing Vulnerability to Compound Threats in Landfalling Tropical Cyclones Amid Covid-19

OMB Control No. 0648-XXXX

SUPPORTING STATEMENT PART A

Abstract

In alignment with the Weather Forecasting and Innovation Act of 2017 (Pub. L. 115-25), this is a request for a new collection of information that cannot be merged with other existing collections.

The data collection is sponsored by DOC/NOAA/National Weather Service (NWS)/Office of Science and Technology Integration (OSTI). Compound hazards, like tornadoes and flash floods (called TORFFs), are a significant issue for risk communication and are common in landfalling tropical cyclones. Currently, NOAA lacks data and data collection instruments that articulate and explain how emergency managers and broadcast meteorologists receive, interpret, and respond to NWS prediction information about these compound hazards before and during landfalling tropical cyclones, like Hurricane Ida. Furthermore, NOAA lacks adequate knowledge about how these risks are best communicated during pandemics such as COVID-19, when it is important for those who are most vulnerable to adjudicate their risks of exposure to both severe weather and COVID-19. Such knowledge about compound weather hazards would be particularly useful for NWS forecasters who communicate risk information to their colleagues in emergency management and broadcast meteorology (hereafter “partners”), especially when information about sheltering practices, evacuation, and vulnerability can be complicated by exposure to public health threats and bilingual needs.

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.**

Without this type of information about how partners grapple with the communication of compound hazards amid the pandemic, NOAA, and specifically the NWS, cannot determine if it has met its mission of saving lives and property, propose societal impact performance metrics, nor demonstrate if progress or improvements have been made, as outlined in the Weather Research and Forecasting Innovation Act of 2017. This effort aims to advance the goal to collaborate across sectors on “research necessary to enhance the integration of social science knowledge into weather forecast and warning processes, including to improve the communication of threat information necessary to enable improved severe weather planning and decision making on the part of individuals and communities (Public Law 115-25)”. This work addresses NOAA’s 5-year Research and Development Vision Areas (2020-2026) Section 1.4 (FACETs). This effort also advances the NWS Strategic Plan (2019-2022) “Transformative Impact-Based Decision Support Services (IDSS) and Research to Operations and Operations to Research (R2O/O2R)” with specific attention to Goal 1, sections 1.1, 1.2, 1.5, 1.13 and Goal 3, sections 3.6 and 3.8. Furthermore, data collected with NWS partners furthers the NWS Weather Ready Nation (WRN) Roadmap (2013) Sections 1.1.10, and 1.2.2.

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.

Semi-structured interviews will be conducted with partners in local areas impacted by recent hurricanes with embedded TORFF hazards, such as Hurricane Ida and its remnants. Semi-structured interview data will be collected on a one-off basis and will be conducted either virtually or in-person (COVID-19 restriction dependent). Specific questions in the interview guide determine how partners attend to, prioritize, and communicate information related to compound wind and water threats before and during landfalling tropical cyclones or hurricanes.

The interviews will be conducted by researchers at Texas Tech University's Risk and Equity in Disasters (RED) Lab and at Texas A&M. They have begun to develop data collection instruments that will allow them to gather risk information. These instruments are being created in collaboration with experts in emergency management and broadcast meteorology through the Board on Emergency Management and the Board on Professional Development within the American Meteorological Society. This helps assure the appropriateness of questions relative to different decision spaces, job roles, and communication processes.

Respondents for both data collection instruments will include adults (age 18+) who reside in the United States, recruited through emails sent to partners in areas impacted by TORFFs embedded in landfalling tropical cyclones and hurricanes. Emergency managers are defined as those who are employed or are official volunteers at federal, state, county, or local levels. Broadcast meteorologists are defined as professionals who work for specific companies that provide weather information at national, regional, or market levels. Interview data will be collected from each population.

Contact information for respondents is publicly available and will be obtained both by internet searches and, when needed, with the assistance of local NWS Weather Forecast Office staff to identify appropriate emergency management and broadcast media markets. Emails and phone calls will be used to directly recruit participants and coordinate interviews via Zoom or other video platform; interviews may also be conducted in person, depending on local COVID restrictions. NWS staff may assist in facilitating email introductions to their partners for interview requests. Our collaborators with the American Meteorological Society and the National Weather Association will also help us identify ways to recruit participants (e.g. social media and message boards). Respondents will be asked questions about their risk assessment of threats based on predictive information (e.g. NWS forecasts and warnings for severe, tropical, and precipitation hazards) and their conceptualizations of vulnerability in the context of the pandemic.

This data collection serves many purposes, including building knowledge of how partners attend to, make sense of, and communicate compound hazards, as well as challenges they face in identifying vulnerable populations to severe weather in the context of COVID-19. These data will be reported in aggregate when possible and findings will be used by the NWS training centers in Norman, OK, and Kansas City, MO, to inform their practices for Impact-Based Decision Support Services (IDSS) and to improve the information and services it provides to members of the Weather Enterprise. Importantly, data collected will help assist NWS in developing new forecaster training modules, situational awareness information, and best practices for Impact-Based Decision Support with partners. This is a necessary step in improving risk communication among expert groups, which, in turn, benefits vulnerable populations who ultimately must act quickly and safely to adjudicate which risks pose the greatest threat to them as the threats evolve. Data collected from both populations will also be used for the practical utility of the government through semi-annual reports to NOAA to evaluate proposed metrics of success for completing the grant relative to progress to data. Conference presentations about findings will be made to the American Meteorological Society, National Weather Association, and related emergency manager conferences; webinars of best practices and situational awareness

opportunities to partner or NWS offices; and insights about the challenges of communicating and preparing the public for compound hazards reported to peer reviewed publications in professional journals.

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.

For semi-structured interviews, interviews may be conducted in person, depending on local COVID restrictions. To minimize the burden to participants, we will also offer to conduct interviews via Zoom or other preferred digital platform. These interviews will be recorded and transcribed in compliance with Institutional Review Board protocols at the institutions where the researchers are employed (e.g. TTU). Interviews will be scheduled per the convenience of recruits. Participants have the option to allow or disallow recordings. Participants will be contacted directly through emails and phone calls using information that is publicly available.

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

To our knowledge, data about how emergency managers and broadcast meteorologists communicate compound TORFF hazards during landfalling tropical cyclones does not exist. This new hazard, first identified as a problem in 2013, has received little attention by social scientists and interdisciplinary teams. This collection is unique not only in its topic and population but also in its tracking of risk communication challenges by those impacted at landfall from hurricanes and tropical cyclones, as well as hurricane remnants. While information about hurricane impacts may be gathered by internal NWS service assessments, as was the case for Hurricane Ida, this data is not public. Nor do these assessments track the lifecycle of impacts (e.g. remnants) of these storms but focus instead on landfall.

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

The collection of this information will not impact small businesses or other small entities.

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.

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

All the information will be collected according to 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.

The 60-day Federal Register Notice that solicited public comment on this request was published on July, 19, 2022 (Document Number 2022-15360). No comments were received.

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

Researchers will not provide any payment or gift to respondents. Their participation is voluntary and at their discretion.

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.

People's names, titles, email addresses, and video footage from interviews, all of which qualifies as PII are collected. To maintain privacy for participants, we are taking three steps: 1) Creation of a key with de-identified labels for each participant, e.g. A2BM1. This key will be stored separately from our actual data, which is housed on our university's OneDrive cloud in a secure folder. 2) Transcripts will be de-identified, including names, specific locations, and other identifying information. These transcripts are our data. 3) Video footage is only kept for internal reference and is not used as data itself; it is stored in a secure folder in our OneDrive platform. Our data will only report deidentified quotes and will strive to report the majority of data in aggregate. Audio and video data will only be kept until publication of data and thereafter will be deleted. Transcripts will be stored indefinitely on the researcher's computers, though keys will be destroyed after publication.

This information is authorized for collection pursuant to system of record notice [NOAA-11](#), Contact Information for Members of the Public Requesting or Providing Information Related to NOAA's Mission. A current privacy impact assessment is on file for [NOAA8203](#).

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.

Only contact information and video footage, which qualify as PII, will be collected. In part, this is necessary given the method of data collection (e.g. recording zoom videos), though information collected is immediately deidentified.

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)
Semi-structured interviews	Emergency Management Directors	15	1	15	1	15	40.77	611.55
Semi-structured interviews	Atmospheric and Space Scientists (Broadcast Meteorologists)	20	1	20	1	20	46.58	931.60
Totals				35		35		1543.15

*Emergency Management Directors mean hourly wages based on Occupation Code 11-9161 @ \$40.77/hour.

Atmospheric and Space Scientist (Broadcast Meteorologists) mean hourly wages based on Occupation Code 19-2021 @ \$46.58/hour.

<https://www.bls.gov/bls/blswage.htm> (<https://www.bls.gov/oes/current/oes119161.htm>)

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/start-up or ongoing operation/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 Salary /Cost	% of Effort	Fringe (if Applicable)	Total Cost to Government
Federal Oversight	GS-1301-14	150,777	1%		1,570.77
Other Federal Positions					
Contractor Cost					
Travel					
Other Costs:					
TOTAL					1,570.77

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

This is a new information collection.

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.

In two years time, results will be published following collection and analysis of data. Results will be distributed internally to NOAA and National Weather Service Weather Forecast Offices and externally to broadcast meteorologists and emergency managers through conference presentations.

Below is a time schedule for the entire project:

Milestones/Outcomes	8/21- 2/22	2/22-6/22	7/22-12/22	1/23-6/23	6/23-8/23
1. Hire postdoc & undergraduates	X				
2. Design semi-structured interview instrument & sampling strategy	X				
3. IRB approvals	X				

4. Develop database of emails for broadcast meteorologists and emergency managers		X			
5. Pilot interview with broadcast meteorologist and emergency manager		X			
6. Submit research abstract to OMB to begin 60-day open comment period.			X		
7. Submit research abstract to OMB to begin 30-day open comment period. OMB approvals			X		
8. Data collection integrating steps 1-5.			X		
9. Continued data collection and analysis of data collected in Y1.			X	X	
10. Discussion of R2O with collaborators in emergency management and broadcast meteorology				X	
11. Publication, conference presentations (AMS, NWA)				X	X

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\(b\)\(3\)](#).