

**Extra-tropical Surge and Inundation Social Science Research Project
October 21, 2014**

**A. Supplemental Questions for DOC/NOAA Customer Survey Clearance
(OMB Control Number 0648-0342)**

- 1. Explain who will be conducting this survey. What program office will be conducting the survey? What services does this program provide? Who are the customers? How are these services provided to the customer?**

NOAA's National Weather Service (NWS) predicts tropical and extra-tropical (ET) storm movement and impacts; issues warnings, watches, and other information products; and interacts with a variety of audiences (e.g., the media, local officials, emergency managers, and the public) regularly when a tropical storm or ET storm is threatening the coast.

In spite of accurate storm forecasting, many coastal residents do not take protective action during tropical and ET storms. NWS has focused a good deal of attention, from both a modeling and communication perspective, on storm surge associated with tropical cyclones in an effort to raise individuals' awareness of the dangers of such events and to prompt people to take the appropriate protective actions. However, ET storms also present equally grave dangers to communities on the Eastern and Pacific coasts.

The NWS is looking to issue a new product, a storm surge watch/warning, to communicate life-threatening storm surges. The goal is for this new product to be introduced for tropical systems in 2015 and for ET systems in 2017. The NWS wants to ensure smooth implementation of this new product and is therefore seeking approval to collect information on how ET storm surge dangers are currently communicated to communities (both in text and graphics); to understand where potential misunderstandings or confusion now occur—or could occur if a storm surge watch/warning product was to be implemented starting in 2017; and to discern any other barriers and conflicts that NWS should be aware of from both an operational and communications perspective prior to implementation of the storm surge watch/warning for ET events. The primary customers of this new product are broadcast meteorologists, emergency managers, and groups that make decisions that affect public safety (e.g., school boards, transportation managers, fire and rescue, tribal authorities).

To accomplish this, NWS seeks to conduct in-person research via a small discussion group with Native Alaskan village leaders from communities that are particularly vulnerable to ET surge. Many of these communities are situated in areas where Presidential Disaster Declarations have been made following the severe storms of 2011-2013. NWS has an opportunity to meet with tribal leaders at the 24th Annual Providers Conference in Anchorage, which is being sponsored by the Bureau of Indian Affairs (BIA), on December 4, 2014. NWS will work with BIA to organize the focus group and will work with Native Alaskan Village liaisons to facilitate the discussion group. The conference brings tribal/community leaders from remote Alaskan villages to the city and offers a rare opportunity to engage with these leaders; an in-person meeting is necessary to build a trusting relationship with these individuals.

Additionally, NWS will conduct telephone interviews with 11 emergency managers, 11 broadcast meteorologists, and 11 federal NWS employees (one from each of the following Weather Forecast Offices): Oregon: [Medford](#) or [Portland](#); 2) Washington: [Seattle/Tacoma](#); 3) Alaska: [Anchorage](#); 4) North Carolina: [Newport/Morehead City](#) or [Wilmington](#); 5) New York: [New York City](#), 6) Maine:

Caribou or Portland; 7) Hawaii: [Honolulu](#); 8) Maryland: [Baltimore/Washington](#); 9) Massachusetts: [Boston](#)/Taunton; 10) New Jersey: [Philadelphia/Mt Holly](#); and 11) Virginia: [Wakefield](#). These are areas that are susceptible to ET storm surge.

2. Explain how this survey was developed. With whom did you consult regarding content during the development of this survey? Statistics? What suggestions did you get about improving the survey?

NWS contracted with Eastern Research Group, Inc. (ERG) on the development of the interview guide and discussion group questions. ERG has significant experience assessing technical assistance provided by federal agencies through detailed interviews, focus groups, and surveys that focus on customer satisfaction and outcome attainment. To develop the interview and discussion questions, ERG worked with Dr. Betty Morrow, a well-known and respected social scientist, who has conducted many risk communication and risk behavior studies related to the public's response to hazardous weather warnings and barriers to taking the appropriate protective actions. For the discussion questions for Native Alaskan Village representatives, ERG worked with Dr. Ann Fienup-Riordan, a cultural anthropologist known for her work with Yup'ik Eskimo peoples of western Alaska, particularly on Nelson Island and the Yukon-Kuskokwim Delta. ERG also worked closely with NWS forecasters in affected regions to develop the questions.

Questions for the WFOs focus on operational and implementation concerns, since adding a new product to their forecasting will require changes in procedures, as well as communication concerns. Forecasters will need to talk about coastal flooding from ET surge in new ways and terms, which could cause misunderstandings and confusion among partners and the public.

Questions for emergency managers focus on how they currently warn for coastal flooding from ET surge and whether the introduction of a new product could cause confusion or conflicts that could impede operational decision-making.

Questions for broadcast meteorologists focus on how they currently communicate the dangers of ET surge and whether they have encountered any public or partner confusion in talking about these events, as well as what potential issues could arise for them, from both an operational and communications aspect, with the implementation of a new NWS product.

Finally, questions for the Native Alaskan Villages focus on how and when tribal authorities currently receive coastal flooding warnings and whether the introduction of NWS new product will cause any potential new confusion or concerns. Questions for tribal authorities will also probe for how Villages currently prepare and respond to these events and what the NWS could do to enhance these efforts.

These questions are designed to help NWS understand what kind of messaging and marketing will be needed to implement the new product, as well as what kinds of training or partner coordination will be necessary.

Suggestions for improving the interview guide and discussion group questions included using terminology familiar to participants (i.e., "coastal flooding" or "tides" instead of storm surge) and beginning the interviews and discussion group with a conversation about recent events to engage participants.

- 3. Explain how the survey will be conducted. How will the customers be sampled (if fewer than all customers will be surveyed)? What percentage of customers asked to take the survey will respond? What actions are planned to increase the response rate? (Web-based surveys are not an acceptable method of sampling a broad population. Web-based surveys must be limited to services provided by Web.)**

Interviews with WFOs, Emergency Managers, and Broadcast Meteorologists

NWS will have ERG first interview the Warning Coordination Meteorologist (WCM) at each WFO (see list under Question 1). WCMs conduct outreach for the WFO and have extensive networks in their community. NWS will have ERG schedule and conduct an interview with each WCM. In addition, NWS will ask each WFO WCM to recommend a local broadcast meteorologist and emergency manager to interview in each location. NWS will have ERG schedule and conduct these interviews. In scheduling each interview, we will introduce ourselves, explain our affiliation, describe what information we are seeking, and how long the interview will take:

My name is XX. I am with Eastern Research Group (ERG), and I am calling to schedule an interview with you on behalf of the National Weather Service. I am hoping to schedule an interview with you to ask you some questions about a new hazardous weather warning product that the National Weather Service is looking to issue, starting in 2017, for extra-tropical storms with potential life-threatening surge. The interview would be 40 to 60 minutes long. Do you have any availability over the next couple of weeks to schedule this interview? We will not release your name or information that could identify you as part of this interview process or in our subsequent reports to the National Weather Service.

ERG will generate detailed notes from the interviews.

Discussion Group with Native Alaskan Village Leaders

NWS will work with BIA to establish a discussion group of up to 20 village/tribal leaders from communities most impacted by ET storms, such as those on the Bering Sea and Arctic Ocean. NWS and BIA will invite participants prior the meeting based upon conference registrations and recommendations by the BIA and Alaska Native Regional Corporations.

- 4. Describe how the results of this survey will be analyzed and used. If the customer population is sampled, what statistical techniques will be used to generalize the results to the entire customer population? Is this survey intended to measure a GPRA performance measure? (If so, please include an excerpt from the appropriate document.)**

NWS will use the data resulting from this data collection to assess regional vulnerability and understanding of storm surge associated with ET storm surge on the Eastern and Western U.S. coasts and to discern any barriers to implementing a new storm surge warning for life-threatening storm surge events. NWS will have ERG perform thematic analyses on the detailed interview and discussion group notes to identify key findings, barriers, and challenges to implementing a storm surge warning in 2017, along with recommendations for developing messages and outreach strategies for overcoming these issues.

The data do not directly contribute to a GPRA measure.

NWS is not using any statistical methods to select participants from the population and will select all population members in the discussion group and interviews.

B. Collections of Information Employing Statistical Methods

- 1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection method to be used. Data on the number of entities (e.g. establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample are to be provided in tabular form. The tabulation must also include expected response rates for the collection as a whole. If the collection has been conducted before, provide the actual response rate achieved.**

Interviews with WFOs, Broadcast Meteorologists, and Emergency Managers

The potential respondent universe includes 33 individuals (i.e., one WFO/NWS employee, one emergency manager, and one broadcast meteorologist per WFO region—11 total regions); the 11WFO employees will be federal government officials, the 11 emergency managers will be state/local government officials, and the 11 broadcast meteorologists will be with the private sector. No statistical methods are being used in the participant selection.

Discussion Group with Native Alaskan Village Leaders

The potential respondent universe includes 20 tribal government representatives of Native Alaskan Villages in areas vulnerable to ET storm surge. No statistical methods are being used in the participant selection.

- 2. Describe the procedures for the collection, including: the statistical methodology for stratification and sample selection; the estimation procedure; the degree of accuracy needed for the purpose described in the justification; any unusual problems requiring specialized sampling procedures; and any use of periodic (less frequent than annual) data collection cycles to reduce burden.**

Interviews with WFOs, Broadcast Meteorologists, and Emergency Managers

Statistical Method for Stratification and Sample Selection

NWS is not using statistical methods for collecting these data.

Estimation Procedure and Accuracy

NWS does not need to extrapolate the results to the population and will therefore not need to estimate population parameters from the collected data. This also means that the accuracy of the estimates is not meaningful to calculate

Unusual Problems Requiring Specialized Sampling Procedures

None are required.

Periodic Data Collection Cycles

This request is for a one-time data collection.

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- 3. Describe the methods used to maximize response rates and to deal with nonresponse. The accuracy and reliability of the information collected must be shown to be adequate for the intended uses. For collections based on sampling, a special justification must be provided if they will not yield "reliable" data that can be generalized to the universe studied.**

Interviews with WFOs, Broadcast Meteorologists, and Emergency Managers

NWS will contact all of interviewees to introduce the project, ERG's role in the project, and request that an interview be scheduled. ERG will follow up with potential interviewees to determine the most convenient time for the interview and answer any questions the interviewees may have about the interview. NWS expects that all invitees (100 percent) will schedule an interview with ERG, since the NWS WFOs will have a preliminary conversation with each individual to ensure their participation prior to ERG scheduling an interview.

Discussion Group with Native Alaskan Village Leaders

NWS will work with BIA and the 13 Alaska Native Regional Corporations established by Congress to determine which Native Alaskan Villages are most vulnerable to ET surge—and which representatives of these villages will be attending the conference. BIA will introduce the project to the tribal representatives of these villages prior to the conference and explain ERG's role in the project. NWS and BIA will invite those individuals to the discussion group session and will follow up with the invitees—both prior to the conference and again at the conference registration. NWS expects that at least three-quarters of the registrants (75 percent) will participate in the focus group since BIA will correspond with invitees before (and at) the workshop to secure their participation; however, it is possible that some invitees will not be able to travel from remote locations to Anchorage in December and miss the conference altogether.

- 4. Describe any tests of procedures or methods to be undertaken. Tests are encouraged as effective means to refine collections, but if ten or more test respondents are involved OMB must give prior approval.**

NWS consulted with Eastern Research Group, Inc. (ERG) on the development of the interview guide and discussion group questions. ERG has significant experience assessing technical assistance provided by federal agencies through detailed interviews, focus groups, stakeholder engagement, and surveys that focus on customer satisfaction with services. The interview guide and question development process was informed through interviews with NWS staff and experts in the field of risk communication and anthropology.

5. **Provide the name and telephone number of individuals consulted on the statistical aspects of the design, and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.**

NWS has contracted with Eastern Research Group, Inc (ERG) of Lexington, MA to design the interview guide and discussion questions and implement the data collections. ERG's project manager for this work is Linda Girardi (703-841-0501; linda.girardi@erg.com).