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?

A NOAA Educational Partnership Program (EPP) Undergraduate Scholarship Program (USP) student intern, Mikayla Jones, will be conducting this survey under the guidance of the National Weather Service's (NWS) Office of Science and Technology Integration (STI) staff. The student will be under the direct supervision of Nicole Kurkowski, (NWS STI Marine Program Manager), with assistance from Wayne Presnell (NWS/AFS/Marine, Tropical, and Tsunami Services Branch), Deborah Jones (NWS/AFS/Marine, Tropical, and Tsunami Services Branch), and Danielle Nagele (Center for Operational Oceanographic Products and Services (CO-OPS)).

The survey will allow NWS and NOS to better assess the public's understanding of NOAA's rip current messaging with the goal of reducing the loss of life and injuries resulting from dangerous rip currents. Key customers are the general public, lifeguards, and forecasters. The target audience for this survey will be the public beachgoing community. They will be surveyed via a short list of questions.

Rip current messaging is a cross-Line Office NOAA effort. For over ten years, NWS has been providing rip current awareness via multiple mechanisms including Rip Current Awareness Week, public service announcements, social media posts, national rip current brochures, fact sheets, outreach items, the rip current website, and the Break the Grip of the Rip® campaign. Coastal Weather Forecast Offices (WFOs) also provide rip current forecasts to the public. NOS has recently developed a probabilistic rip current forecast model which is currently being prototyped by the NWS and potentially will be transitioned to NWS operations to improve upon the aforementioned forecasts.

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

After eleven years, an assessment or re-valuation of the Break The Grip Of The Rip® initiative's effectiveness in meeting its goal in raising the awareness of the hazards of rip currents among the beachgoing public was deemed necessary by the National Rip Current Messaging Team. Additionally, NOS has recently developed a probabilistic rip current forecast model which is currently being prototyped by the NWS. Public understanding and behavior need to be assessed in order to provide effective messaging surrounding the threat levels presented in this forecast. Both the forecast model and messaging campaign were recently discussed in depth at the Coastal Hazard Resilience Workshop in Suffolk, VA. Stakeholders (Forecasters, emergency managers, researchers, life guards) participated in focus groups, informal breakout sessions, and presentations regarding the above topics.

The content of the survey thus stems from the need to better understand beach goer behavior and knowledge. This will inform efforts to re-evaluate Break The Grip Of The Rip® campaign as well as proper messaging around the forecast model. The design of the survey was developed by Danielle

Nagele, Risk Communication Specialist in consultation with Nicole Kurkowski, Wayne Presnell, and Deborah Jones.

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.)**

   The survey will be conducted in-person on two mid-Atlantic beaches. Nicole Kurkowski, Wayne Presnell and Mikayla Jones will perform in-person interviews for 2 days, 5 hours each day. The particular population we're interested in sampling is a typical beachgoer on a summer day in the mid-Atlantic. Participants will be selected randomly from the public present that day at the beach. Because these will be in-person interviews on a crowded beach, we expect response rates to be high (at least 80%). We hope to increase response rates by offering small incentives such as beach balls and whistles with NOAA logos.

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.)**

   The results of the survey will be analyzed qualitatively to search for themes and categories in open-ended questions and quantitatively to run basic statistics (means, frequencies). If sample sizes allow (at least 30 valid responses), we will also perform a basic logistic regression to determine the statistical significance of our results. It's important to note that this survey will serve as a pilot study for understanding decisions, needs, and behaviors of mid-Atlantic beaches. This study alone will not be used to make major changes to products and services; instead it will be used to inform future studies and efforts.

This survey is not meant to measure a GPRA performance measure.

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.**

   Participants will be selected randomly from two chosen beaches. Unfortunately, we are unable to also randomly sample within the ocean. To address this issue, we will position ourselves near entrance points of the beaches and survey every 5th person to enter. There is a concern that this may slightly decrease response rate since people will be carrying their belongings and looking for a seat.

In order to alleviate this, we are willing to walk with them to their chosen location and/or offer to carry items as a 'good will gesture'.

Since we are only interested in those who at least occasionally enter the water while at a beach, we have added a background question inquiring whether they or their family typically go into the water while at the beach. We will exclude those who answer this question with 'no' (never). If they answer 'yes' (either frequently or occasionally), we will continue with the interview. This allows us to exclude those who never go in the water *and* provides us with a control variable regarding how much they go in the water.

The beaches will be chosen based on their location (mid-Atlantic) and the expected number of visitors (most crowded to have the best potential response rate).

Participant	Number	Expected Response Rate
Beach goer	50	80%

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.

Because this is a pilot study and the results from this alone will not be used to make major changes to products or services, we are not concerned with stratification at this time. Also, a 90% confidence level is an adequate degree of accuracy for this study. As noted above, if our sample size allows we will test for statistical significance.

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.

To maximize response rate, we will provide incentives in the form of NOAA logo beach balls and whistles. We will also be targeting known crowded mid-Atlantic beaches on peak beach days (weekends, July 4th, pleasant weather days). We are planning to have a range of 4-5 possible days that we are willing and able to go out and conduct the survey. We will target the day of 'nicest' atmospheric conditions (sunny, warm…) to maximize the number of people available to us and thus our response rate. In addition, our survey will remain short (~ 5 minutes) and we will be clear at the start that results will benefit beach goers by eventually increasing beach safety.

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.

As noted in supplementary question 2 above, the National Rip Current Messaging Team is currently interested in re-evaluating the Break The Grip Of The Rip® campaign. Additionally, a new probabilistic rip current forecast model is currently being prototyped by the NWS. To begin to address both these topics, a Workshop with stakeholders (Forecasters, emergency managers, researchers, life guards) was recently held. Content for the survey questions was derived from the Workshop results and discussions, as well as known needs of the National Rip Current Messaging Team.

We will not be doing any formal tests on the current survey, but we did informally test its timing and flow through mock interviews with colleagues.

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.

As a risk communication specialist for NOS and having a strong background in statistics, mathematics, and survey design (2 degrees in meteorology and 1 degree in a social science), Danielle Nagele (301.713.2981 x122) assisted Nicole Kurkowski, Wayne Presnell, and Deborah Jones in creation and analysis of this survey.

A NOAA Educational Partnership Program (EPP) Undergraduate Scholarship Program (USP) student intern, Mikayla Jones (301.427.9104), will be conducting the interviews under the guidance of Nicole Kurkowski (STI Marine Program Manager; 301.427.9104).