

SUPPORTING STATEMENT

The Ocean Enterprise: A study of US business activity in ocean measurement, observation, and forecasting

OMB CONTROL NO. 0648-xxxx

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.

The units of analysis for this project are individual businesses who fit a pre-specified criteria. The preliminary stage of this project involves identifying the universe of employers who meet this criteria: (1) providers of observing system infrastructure; and/or (2) intermediaries who use ocean, coastal and Great Lakes observational and model information as an input to the creation of value added information products tailored it for specific end-use. Stage 1 of this project was the identification of organizations who likely provide services for IOOS or use IOOS data streams. This process involved compiling lists of organizations from industry associations, and then removing those businesses who would not qualify based on visual inspection against inclusion criteria (e.g., the business was foreign based or a non-profit educational institution). Therefore, it is likely that almost all organizations on the contact list will be qualified to take part in the survey.

However, the first question of the included survey provides further screening (and is included in the estimated burden). It lists a number of functions that would qualify them for the survey. If they do not perform any of the listed four broad functions, they are thanked for their time and the survey ends. It is estimated that 1,000 organizations will be identified to be included in the survey. As we are working with such a numerically limited universe of employers, the entire universe of identified organizations will be targeted for the survey (not a sample), with an expected response rate of 30%. This means that 300 organizations are ultimately expected to complete the survey.

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.

The survey itself will be web-based. Invitations to participate in the survey will be sent to the universe of organizations in a series of 4 waves over 1 month, with each wave 1 week after the last. This allows for targeting adjustment given differential response rate from any strata of organizations. The emails will contain links to the survey website, as well as an opt-out option. If an organization indicates they are not interested in participating they will not be contacted

further. Every attempt will be made to ensure that the final database of respondents is representative of the universe of organizations by the following stratification parameters: size of organization (number of employees), function (provider or intermediary), and geographic region (e.g., southwest, gulf, northeast). Proportional comparisons will be conducted to gauge the representativeness of the incoming surveys, and adjustments made for subsequent waves of the survey. For example, if the data is over-represented with firms performing a certain function, or in a region, it is possible that similar organizations will not be contacted in subsequent waves.

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.

Pre-survey information campaigns utilizing trade publications and electronic media will be conducted to familiarize potential participants with the upcoming survey. After the initial email, reminder emails will be sent to non-responding organizations, up to a maximum of 4 emails, one week apart. Respondents will be removed from the list for subsequent reminder email invitations, as will organizations that have opted out of participation. The web survey has been designed to be as simple as possible, and with a limited number of questions. It will be clearly outlined in the information in the invitation emails that the respondent may skip any questions they do not choose to answer, and that the survey should take only 25 minutes to complete. The survey will be conducted on behalf of NOAA, an organization with which this universe of respondents is familiar with and, in many cases, has a working relationship. It will be clearly stated in the informational email that the data collected during the survey will be kept in strictest confidence, and the results only reported at the aggregate level.

Although every effort will be made to obtain as many responses as possible, response rates of 75% or more are rare in web-surveys, with rates in the 30% to 40% range more typical except in the case of internal, mandated situations. Therefore, it will be important that the resulting sample is representative of the overall universe of organizations as specified in B.1. Furthermore, as all analyses will be descriptive in nature (e.g., no statistical tests or hypothesis testing), the issue of power and response rate becomes less important given a sufficient number of responses), (although it is acknowledged that the confidence intervals will be wider for smaller sample sizes. Additionally, if a specific strata (e.g. region) is not deemed to have sufficient responses (e.g. >20) or to not be proportionally representative of the universe, then analysis will not be conducted at that level of stratification in order to avoid inaccurate representation of true values.

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.

The survey instrument was piloted with three (3) companies that would be eligible to complete the survey. This process was completed during the last two weeks of February, 2015. The survey was generally very favorably accepted. Representatives from these companies provided valuable feedback and comments that have been incorporated into the survey.

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.

Statistical consulting regarding the survey design, data collection, and data analysis will be provided by Steven Tally, Ph.D. of the ERISS Corporation. Dr. Tally has extensive experience with statistical methods and research design. Dr. Tally can be contacted at: 858-442-4058, steven.tally@eriss.com.