

**SUPPORTING STATEMENT
3D Nation Elevation Requirements and Benefits Study 2018**

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 used. Provide data on the number of entities (e.g., establishments, State and local governmental units, households, or persons) in the universe and the corresponding sample 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 sample for this collection will largely consist of day-to-day professional users of elevation data (topographic, bathymetric) and activities/industries that rely on elevation data. The survey data will be collected electronically through an online questionnaire.

Respondent Universe

The respondent population for the online survey will be selected from a pre-defined list of federal, state, local, and tribal governmental agencies, academia, industry and non-governmental entities known to use elevation data. NOAA and USGS geospatial liaisons will work with their state, local, and tribal counterparts to provide a list of individuals using elevation data. For purposes of this study, up to 1000 people will be chosen to complete the online survey (see Table 1 below). Each respondent will be contacted via email (or other means as needed) and given the instructions for completing the survey.

We anticipate a response rate of at least 80% for the online survey (yielding 800 actual respondents).

Table 1. Organizations in respondent universe for Survey and Interviews

Surveys			
Organization	Number of Organizations	Average Expected Survey respondents per Organization	Total Respondents
Federal agencies	60	5	300
U.S. States	50	8	400
U.S. Territories	5	2	10
Tribal Governments	10	2	20
Academia	25	3	75
Private Sector/Industry	75	1	75
Not-Governmental	60	2	120
Total			1000

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 respondent sample will be comprised of a known population of elevation data users based upon a confirmed list (n=1000). Representatives from federal, state, local, and tribal government organizations, academia, industry and non-governmental entities will be contacted and asked to participate in this study. The sample will not be stratified because the population is known by NOAA and USGS as contacts and through working relationships.

Study participants are being identified as follows:

- Each Federal agency has a Point of Contact (POC) that was nominated by their agency as someone with broad understanding of agency programs and their use(s) of elevation data. The POCs are identifying participants within their agency to respond to the questionnaire and participate in the validation process. They are also recommending participants from non-governmental and private organizations. The Federal POCs will also review the agency’s initial responses to the questionnaire and sign off on the final validated agency study input.

- Each state has a State Champion that was selected in consultation with regional experts as someone with broad knowledge of elevation activities within their state. Similar to the Federal POCs, the State Champions are identifying study participants within their state to respond to the questionnaire and participate in the validation process. The State Champions will also review the state's initial responses to the questionnaire and sign off on the final validated statewide study input.
- The 3D Nation Elevation Requirements and Benefits Study has identified tribal needs as an important stakeholder group for improving our understanding 3D elevation data requirements for the nation. State Champions are best positioned to help identify tribes that are active in the elevation data community and have the background needed to assess their tribe's elevation data needs. Additionally, the 3D Nation Study will have a representative from the Bureau of Indian Affairs responding to the study. We will also ask BIA to recommend tribal associations and groups that might respond from the collective perspective, such as the National Congress of American Indians and the National Tribal Land Association.

The data collected during the online survey study will be coded directly into an on-premises computerized database using Checkbox Survey software. Data analysis will consist of descriptive summary statistics – sum, maximum, minimum, mean, median. Descriptive statistics will be used to describe current uses within the programs of the organizations represented within the sample. Because NOAA and USGS are interested in determining ways to improve the availability of elevation data, it is important to gather baseline information concerning current requirements and to determine any information gaps or unmet needs.

The monetary benefits being collected in this study will be attributable to a given Mission Critical Activity and the geographic Area of Interest and requirements for 3D elevation data needed to accomplish the activity. It should be noted that study participants are free to answer any of the benefits questions as “Unknown” or “Unable to provide.” The benefits questions also include a place to describe the benefits in narrative form as well as how the value was derived. During the validation process, organization stakeholders will be asked to verify that the benefits they provided are reasonable.

In the follow-on analyses of the questionnaire results, the benefits dollars will be apportioned spatially across the Mission Critical Activity Area of interest (e.g. dollars per square mile) and compared to costs per square mile for data collection. If a study participant identifies requirements that will not be met by a program scenario that is being evaluated, the benefits dollars will be reduced to account for the program not meeting all of the requirements for an activity. For example, if a participant identified \$1 million in benefits for having Quality Level 2

data updated annually and the program scenario is for Quality Level 2 data delivered every five years, then the benefits would be assumed to be reduced proportionally.

In the study report(s), data aggregation will be done by groupings that are defined in the study questionnaire, such as by Business Use (e.g. Water Supply and Quality), organization type (e.g. Federal, State, etc.), geographic area type (e.g. inland, nearshore, offshore), or data type (e.g.

topography, bathymetry). No extrapolation will be made from one type of study participant to a larger group. One organization type's responses (e.g., state, county, Tribe, agency, etc.) will not be assumed to apply to any other similar organization type.

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.

Several steps will be taken to maximize response rate and ensure an accurate and reliable sample. We predict that the response rate of at least 80% will be met due to the highly technical nature of the respondents, support of the NOAA and USGS geospatial liaisons, and contractor follow-up.

We are using this web-based survey as a strategy to decrease costs, increase the speed of data collection, increase response rates by providing additional modes for response, and decrease the amount of non-response error. The Tailored Design Method for mail and internet surveys will be followed to help ensure a high response rate and representative sample. As a part of this process we will:

1. request participation in advance.
2. use the questionnaire introduction to share:
 - the purpose of the survey
 - the reason for participation
 - the terms of anonymity and how the results will be used.
3. allow enough time to complete the survey. With Checkbox Survey, we will be able to allow the respondent to begin the survey and return at a later time if needed.
4. provide clear survey instructions for each section, explaining how to navigate through and submit the survey.
5. provide a survey that is easy to follow with clear and direct questions/instructions:
6. send reminders during the survey period for those that have not completed the survey.

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.

NOAA and USGS asked nine federal agency colleagues to complete the questionnaire, in order to troubleshoot issues in advance of broader dissemination. Their feedback was extremely helpful to improve the survey instrument.

As detailed in Section A8 of this statement, the questions for this collection were subject to extensive internal NOAA and USGS review, as well as reviews by external partners, including the 3DEP Working Group, the Interagency Working Group on Ocean and Coastal Mapping,

representatives from associations such as the American Society for Photogrammetry and Remote Sensing, the National States Geographic Information Council and the Association of American State Geologists. The review and pre-testing of the questionnaire were performed to gather comments concerning the overall structure, sequence and clarity of questions. Individuals were also asked to estimate the time burden of the survey. Comments and suggestions provided by reviewers and pre-test participants were evaluated and used to revise the survey instrument where appropriate. Comments that improved clarity and comprehension of content were also incorporated.

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.

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