

**SUPPORTING STATEMENT Part A**  
**U.S. Department of Commerce**  
**National Oceanic & Atmospheric Administration**  
**3D Nation Elevation Requirements and Benefits Study**  
**OMB Control No. 0648-0762**

**SUPPORTING STATEMENT PART A -**

**Abstract**

This is a request for extension of an approved information collection.

NOAA and the U.S. Geological Survey (USGS) are working to improve the technology systems, data, and services that provide information about 3D elevation data and related applications within the United States. By continuing to learn about business uses and associated benefits that would be realized from improved elevation data, the agencies can more effectively prioritize and direct investments that will best serve user needs. The 3D Nation Elevation Data Requirements and Benefits Study (“3D Nation Study”) is part of the continuing effort to develop and refine future program alternatives that would provide enhanced 3D data to meet many Federal, State, and other national business needs. The 3D Nation Study seeks to understand needs for 3D elevation data in terms of mission-critical activities, geographic extents of data needs, accuracy requirements, frequency needed, and anticipated benefits of having the required data.

In 2022, NOAA and the USGS completed the first 3D Nation Study assessing requirements and benefits of topographic (terrestrial elevation) and bathymetric (water depth) data in inland, nearshore, and offshore geographies. The 3D Nation Study consisted of a standardized questionnaire covering a wide range of business uses that depend on elevation data to inform policy, regulation, scientific research, and management decisions. Input was gathered from a variety of government entities (e.g., Federal, State, local, Tribal) as well as not-for-profit, academic, and private/commercial users of elevation data. Collected responses were aggregated at the agency, organization, state and national levels. Responses associated with individuals were not distributed. Responses were one-time and voluntary. In-person interviews to clarify questionnaire results were arranged on a case-by-case basis.

NOAA and USGS plan to revisit national elevation data needs to assess changes to the 3D Nation Study baseline in or after 2026, which is why NOAA and USGS are seeking to extend this ICR. The survey tool for the future 3D Nation Study collection will likely include a subset of questions from the original questionnaire because the 2022 3D Nation Study provides a sufficient foundation to minimize questions in a number of study areas. Prior to conducting the next round of surveys, NOAA will submit a request for questionnaire revision to OMB based on analysis of the baseline survey.

**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.**

NOAA Office of Coast Survey and USGS’s National Geospatial Program (NGP) began a partnership in 2016 to conduct the 3D Nation Elevation Requirements and Benefits Study (OMB CN 0648-0762). This

study is designed to gather information from users of elevation data (both topography and bathymetry) about their requirements for the data they need to conduct their business, and the benefits they will derive if all of their requirements could be met by readily available elevation data. An important aspect of this study is the collection of coastal and ocean requirements for elevation data, and the merging of this information with terrestrial elevation requirements.

The goal of this study is not to gather customer satisfaction information about already available 3D elevation data, but to periodically assess various organizations' business uses and the associated benefits that would be realized from improved 3D elevation data. The results of this ongoing study help federal mapping agencies to develop and refine future program alternatives for better 3D elevation data to meet many federal, state, and other national business needs. Clarity on what users need will continue to help inform program management options and decisions.

Authorizing statutes supporting the 3D Nation Elevation Requirements and Benefits Study include the Ocean and Coastal Mapping Integration Act (33 USC 3501), which tells federal mapping agencies to better coordinate their activities and the Coast and Geodetic Survey Act (33 USC 883a et seq), which authorizes NOAA to collect elevation data for nautical charts and safe navigation. The Geospatial Data Act (43 USC 2801 et seq), though signed into law more recently than the initial 3D Nation Study, reinforces a study goal on standards with the requirement for all federal agencies to establish and use data standards in acquisition and archive of geospatial data.

This study builds on the National Enhanced Elevation Assessment (NEEA) white paper finalized in 2012 (NEEA overview at <https://pubs.usgs.gov/fs/2012/3088/>), which assessed terrestrial elevation data needs via a similar survey in 2010 (OMB Control No. 1028-0099). The original NEEA, and its original survey methodology, serve as a model to follow for proven utility in effective program management, as its results initially guided management of the 3D Elevation Program (3DEP) since 2012. Revisiting stakeholder requirements periodically, as we are doing now with the 3D Nation Study, allows 3DEP to make necessary course corrections to meet stakeholder needs. With the addition of ocean and coastal requirements and benefits, the 3D Nation Study enables federal ocean and coastal mapping agencies to coalesce around similar informed strategies to improve service delivery to a broader set of stakeholders.

**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.**

NOAA, USGS, and partner mapping agencies on the 3D Elevation Program (<https://www.usgs.gov/core-science-systems/ngp/3dep>) along with the Interagency Working Group on Ocean and Coastal Mapping (<https://iocm.noaa.gov/about/iwg-ocm.html>) are working to improve the technology systems, data, and services that provide information about 3D elevation data and related applications within the United States. This 3D Nation questionnaire helps federal agencies evaluate future program alternatives that would provide enhanced 3D data to meet many Federal, State, and other national business needs. By learning more about business uses and associated benefits that would be realized from improved 3D data, the agencies are able to prioritize and direct investments to best serve user needs going forward.

NOAA and USGS are currently analyzing respondent data from the first 3D Nation Study. The report and appendices of questionnaire and other report-related sections are available at the 3D Nation Study site (<https://3dnation.iocm.noaa.gov/>) and via NOAA's Integrated Ocean and Coastal Mapping Program page (<https://iocm.noaa.gov/planning/3DNationStudy.html>). The findings are being used to update a

baseline of national business needs and associated benefits for 3D data and associated technologies. This baseline enhances the responsiveness of NOAA, USGS, and partner agency programs to stakeholder needs. It is intended to inform the design of directed future programs that balance requirements, benefits, and costs at a national scale.

Post-survey analyses are in work to project out the costs for data acquisition, processing, QA/QC, life-cycle data management, data distribution, as well as benefits over the geographies and the number of years needed to deliver the program scenario being evaluated. The ROI analyses are being used to identify geographies where more-frequent or less-frequent updates would yield higher or lower ROIs for those areas so decision-makers can identify where more-frequent updates are warranted. The ROI analyses also highlight different geographies in which different data accuracies might yield higher ROIs.

Collected responses are aggregated at the agency and national levels in subsequent reports and assessments following Information Quality Guidelines for quality, integrity, utility and objectivity. Responses associated with individuals are not distributed, but the information collected is used to support information on the study that is shared via Internet. The information is collected using a standardized online template, which will be modified for the next iteration of the study in 2026 or after. Responses are one-time and voluntary.

The primary tool to gather information is a voluntary online questionnaire sent to a carefully curated list of elevation data users. The questionnaire covers a wide range of business uses that depend on 3D elevation data to inform policy, regulation, scientific research, and management decisions. Voluntary in-person interviews to clarify questionnaire results may also be arranged. The direct results of the information collection are not made available to the public. Aggregated analyses and reports are made available to the public via Internet sites listed above. The online survey instrument used in 2018 can be accessed here: [https://iocm.noaa.gov/reports/3dnationstudy/Appendix\\_A\\_Questionnaire.pdf](https://iocm.noaa.gov/reports/3dnationstudy/Appendix_A_Questionnaire.pdf).

For purposes of this questionnaire, 3D elevation data refers to topographic data (precise three-dimensional measurements on land) and bathymetric data (precise three-dimensional measurements in the water). Questions are asked about how elevation data relates to specific Mission Critical Activities (activities that are indispensable for mission accomplishment and/or essential for effective/efficient operations in accomplishing the core mission of the organization). The questionnaire also explores where stakeholders need elevation data (geographic extent), the standards, accuracy and update frequencies required, and assessments of how organizations would benefit from better elevation data.

The sections of the questionnaire used in 2018 included:

- Respondent Information – name, contact information, organization type, etc. (all users asked to respond)
- Mission Critical Activity, Business Use, Program Name (all respond)
- Elevation Data Requirements and Benefits (subsections only required if a user indicates a need for that type of data)
  - Inland topography
  - Inland bathymetry
  - Nearshore bathymetry/topobathymetry
  - Offshore bathymetry

- Information Access Methods and Final Comments (all respond)

The online tool directs respondents to only the sections of the survey applicable to them. Frequently Asked Questions and Benefits Examples are hyperlinked from relevant questions for ease of access, and are also visible in total. The next iteration of the study will build on the baseline of information gathered already, so respondents will not have as many questions to answer.

NOAA Coast Survey and USGS NGP retain control over the information and safeguard it from improper access, modification, and destruction, consistent with NOAA standards for confidentiality, privacy, and electronic information. See response to Question 10 of this Supporting Statement for more information on confidentiality and privacy. The information collection is designed to yield data that meet all applicable information quality guidelines. Prior to dissemination, the information will be subjected to quality control measures and a pre-dissemination review pursuant to Section 515 of Public Law 106-554.

The practical utility of this updated information collection has been well demonstrated by how integral the original NEEA was/is to effective USGS 3D Elevation program management. NOAA and USGS anticipate similar benefits to both terrestrial and ocean/coastal federal mapping programs with continued 3D Nation Study instances. The first 3D Nation study culminated in a final report in late 2022 along the lines of the original NEEA study (available at [https://iocm.noaa.gov/reports/3dnationstudy/3D\\_Nation\\_Study\\_Final\\_Report.pdf](https://iocm.noaa.gov/reports/3dnationstudy/3D_Nation_Study_Final_Report.pdf)). These analyses are better informing federal agency mapping coordination and planning to meet more stakeholder needs with available mapping dollars, increased efficiencies and avoidance of redundant collections.

The questionnaire includes questions about the technical requirements for 3D elevation data as well as questions about the benefits of 3D elevation data to participant organizations. The technical requirements may best be answered by an elevation data user who has experience working with the data. The monetary benefits may best be answered by a stakeholder or person who makes management or business decisions. If applicable, the questionnaire may be jointly completed by an elevation data user and stakeholder in order to capture both perspectives for a Mission Critical Activity.

We have also established a simple check-in process whereby each organization responding to the questionnaire may validate its responses if they choose to do so, allowing higher level managers and stakeholders to validate benefits information provided by their organization's respondents.

**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 ease of response, the 3D Nation questionnaire is conducted via an online survey tool located on NOAA's Office of Coast Survey site for access, data collection and recording. The online tool directs respondents to only the sections of the survey applicable to them to reduce burden. Frequently Asked Questions and Benefits Examples are hyperlinked from relevant questions for ease of access, and also visible in total. Alternatives (e.g., accessible electronic PDF, printable PDF, paper survey mailed to respondents, verbal) can be provided to any respondents who seek to provide input via other methods.

If voluntary in-person interviews are conducted to clarify questionnaire results, the interviewers use laptops to directly enter the answers being provided. This helps the contractor and NOAA/USGS keep all acquired information in a single database.

**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**

Based upon a scan of federal mapping agency and partner activities, we do not believe there is currently any national effort to collect elevation requirements except the 3D Nation Study (OMB Control No. 0648-0762). There is a related study on terrestrial hydrography (surface water) with which the 3D Nation Study managers coordinated to avoid duplication; this study employed similar methodology to collect current and future user requirements and the associated benefits for improved terrestrial hydrography. This study was conducted in 2014-2016 and the final report is available from USGS here: <https://www.usgs.gov/national-hydrography/hydrography-requirements-and-benefits-study>. Even more importantly, the 3D Nation Study is the only national study that incorporates ocean/coastal mapping into an assessment of 3D elevation data needs.

In April 2017, the state of Florida undertook a study of state elevation data needs for its own purposes; organizers of that study requested NOAA/USGS input on the questions to ask of Florida state agency representatives. Lessons learned from both the original NEEA and the Florida study helped to improve the approach that NOAA/USGS took for the 3D Nation Study.

A process is also included within the study design to validate the survey information collected through interviews or workshops. These are conducted with willing Federal agency, state, and non-governmental or private organization participants. This validation process is intended to identify questionnaire responses that may describe the same or similar Mission Critical Activities in order to consolidate responses that may be duplicative.

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

The questionnaire is not anticipated to have a significant impact on small entities such as small businesses, organizations, or government bodies. The short duration of the survey will likely not impose a significant economic impact on a respondent.

**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.**

If the collection is not conducted, NOAA/USGS and federal mapping partners will not have current data upon which to base elevation mapping program management decisions. We will only be able to rely on older study results, which may be obsolete in terms of stakeholder needs and improvements in data acquisition technologies and techniques. NOAA, USGS and partner mapping agencies are working to improve the technology systems, data, and services that provide information about 3D elevation data and related applications within the United States. By learning more about business uses and associated benefits that would be realized from improved 3D data, the agencies will be more informed and able to prioritize and direct investments that will best serve user needs in the future.

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

- This collection will be conducted in a manner consistent with 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.**

Public comment for this extension request was published in the Federal Register on March 5, 2024 (89 FR 15842); no comments were received.

NOAA did not consult with external parties to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported since we expect to revise this collection in the near future. At that time, NOAA will again engage with external stakeholders regarding availability of information and burden.

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

No payments or gifts for respondents are part of this study.

**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.**

There is no assurance of confidentiality provided. However, the information is stored on the NOAA Coast Survey Nautical Charting system, which has an approved Privacy Impact Assessment (NOAA6501, with valid Authority to Operate). Results will be downloaded to Coast Survey resources. The applicable System of Records Notice is Commerce/NOAA-11, Contact Information for Members of the Public Requesting or Providing Information Related to NOAA's Mission (82 FR 3721, amended notice published January 12, 2017).

**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.**

Sensitive questions are not part of the study.

**12. Provide estimates of the hour burden of the collection of information.**

Because this will be an attentive and knowledgeable sample, some of whom responded to the first

questionnaire and therefore may not respond to this one figuring their data is already included, we conservatively anticipate a minimum response rate of approximately 60% for the online survey (yielding 600 actual respondents of the invited 1000).

We have performed user testing of the questionnaire as coded within the survey software and have found that the time spent to answer the questions and review the Frequently Asked Questions as needed within the questionnaire was approximately 60-90 minutes without taking time out to consult others within the organization. We estimate that the average respondent may take between 30 and 90 minutes to consult within their organization as needed.

During the 2018 survey, we learned that more survey participants than expected wanted to respond to multiple geographies (e.g. both terrestrial and nearshore, or terrestrial and inland bathymetry). To facilitate these responses in less time, we will modify the survey construction to enable responses that include multiple geographies for a Mission Critical Activity, rather than requiring the respondent to complete input on one geography before going to the next. The questions will not change, just how the respondent sees them on the screen. Therefore, we believe that 2-3 hours per respondent should be sufficient to complete the questionnaire and consult within an organization for input.

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)
3D Questionnaire	Physical Scientist	600	1.64*	984	3	2952	\$57.24**	\$168,972
<b>Totals</b>				<b>984</b>		<b>2952</b>		<b>\$168,972</b>

\* This figure represents the average of total mission critical uses/respondent. Some respondents submit more than one mission critical activity per geography.

\*\* The Hourly Wage Rate for Physical Scientist was obtained from the BLS 2023 Occupational Employment and Wage Estimates.



**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 costs incurred by respondents.

**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.**

Going forward, the costs incurred by the Federal government include a contract to update and administer the questionnaire, conduct analyses and deliver reports over an 18-month period, at an estimated \$1M total, \$750K in year 1, \$250K in year 2. There are no additional costs beyond the contract cost and normal labor costs for staff managing the contract and overseeing the study. Anticipated staff tasks include 3D Nation study project management, outreach (emails/calls/briefs/webinars) to potential respondents to encourage voluntary input, and a subset of follow-up interviews using regional agency representatives to clarify questionnaire responses.

Cost Descriptions	Grade/Step	Loaded Salary /Cost	% of Effort	Fringe (if Applicable)	Total Cost to Government
Federal Oversight	NOAA V/III USGS 13/10	165K 102K	15% 15%		\$24,750 \$15,300
Other Federal Positions					
Contractor Cost		1M	100%		\$333,333 annualized (1,000,000 / 3)
Travel					0
Other Costs:					
<b>TOTAL</b>					<b>\$373,383</b>

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

There are no changes to this information collection. The number of respondents was updated based on the most recent data.

**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 general, when the preparations for the next iteration of the 3D Nation study begin, the process for the study from collection to publication is as follows:

- The updated questionnaire is emailed to invited respondents.
- Once all of the 3D Nation Study data are collected, consolidated and verified, and concurrence received from the Federal and state agency points of contact, analysis of the data begins.
- Follow-on analyses will project out the costs for data acquisition, processing, QA/QC, life-cycle data management, data distribution, as well as benefits over the geographies and the number of years needed to deliver the program scenario being evaluated.
- These analyses identify geographies where more-frequent or less-frequent updates would yield higher or lower ROIs for those areas so decision-makers can identify where more-frequent updates are warranted. The ROI analysis will also highlight different geographies in which different data accuracies might yield higher ROIs.
- Initial tabulations and analyses shared with respondents via seminars and update briefs include maps and graphics of all Mission Critical Activities reported by geographic area of interest, pie charts of quality level and frequency requirements for each of the four data types (topographic, inland bathymetry, nearshore and offshore bathymetry), and benefits reported by business use.
- The 3D Nation Elevation Requirements and Benefits Study final report will fully document the study. This would include an overview of the study goals and project scope; documentation of the study process; a summary of the data that was gathered during the study, to include the full details of the consolidated and validated stakeholder input (with no attribution to individual respondents); the results of the analysis of the gathered data; and recommendations and conclusions.
- The results will be available through NOAA and USGS webpages.

**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.**

We are not seeking approval to hide the expiration date.

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