

National Enhanced Elevation Questionnaire

Annotation: This section will provide general instructions for navigating through the questionnaire. The respondents will have the option of completing the questionnaire in one sitting or saving the completed sections and returning at another time to complete and submit the final responses.

This section will also explain the availability of tutorials and their content. Because some of the terms used in this questionnaire will be new to many of the respondents we are providing a supplemental link that will contain definitions of terms and accepted industry responses to a list of currently known Frequently Asked Questions (FAQs). The respondents will be directed to the FAQ by highlighted text in the questionnaire. Once they have finished with the text they will be redirected back to the original question. A second tutorial pertains to example benefits of digital elevation data, and methods for estimating cost benefits.

National Enhanced Elevation Study

PAPERWORK REDUCTION ACT STATEMENT: A Federal agency may not conduct or sponsor, and a person is not required to respond to a collection of information unless it displays a currently valid OMB control number. We estimate that it should take about 1 hour to complete this survey. This includes the time for reviewing instructions and completing the form. Please direct any comments regarding this collection to Phadrea Ponds, USGS Information Collection Officer, U.S. Geological Survey, 2150-C, Center Avenue, Fort Collins, CO 80525. **Control Number: 1028-XXXX Expiration Date: XX/XX/XXXX**

PRIVACY ACT STATEMENT: You are not required to provide your personal contact information in order to submit your survey. However, if you do not provide contact information, we may be unable to contact you for additional information to verify your responses. If you do provide contact information, this information will only be used to initiate follow-up communications with you and will be deleted from our files immediately afterwards. The records for this collection will be maintained in the appropriate Privacy Act System of Records identified as Computer Registration System. (INTERIOR/USGS-20) published at 74 FR 23430 (May 19, 2009).

The responses to the questions are in two formats – open-ended and single (or multiple) response. Responses to the open-ended questions will be entered in a text box below the question. All single (or multiple) response questions will be entered by using drop-down boxes where you will choose the best response (s) for your agency and data uses.

Preparing for the Survey

It is recommended that you first review two tutorials:

1. [Frequently Asked Questions \(FAQ\)](#) pertaining to digital elevation data terms used throughout the questionnaire, with illustrations. Whether all the terms in the FAQs are familiar to you or there are several new ones, it is important for everyone to be thinking about the same definitions when answering the questions. This document can be accessed [here](#).

2. [Examples of Benefits](#) in three categories: (1) Operational Improvements, (2) Customer Service Improvements, and (3) other Public, Social or Political Benefits. This site also demonstrates methods for estimating financial benefits. Respondents will be asked to assess these benefits for their business uses, quantifying in dollar amounts wherever possible. This document can be accessed [here](#).

Part 1: Your contact information

Annotation: In this section of the survey we will ask the respondents to provide contact information. This information will only be used should clarification be needed for responses to specific questions. We will also ask for user group information which will be used to analyze the results by user group.

Contact Information

We would like your contact information should follow-up be necessary. Your organization identification will allow us to aggregate information received with other responses.

*** 1. Please enter your contact information.**

Your First Name	<input type="text"/>
Your Last Name	<input type="text"/>
Your Agency, State, or Organization	<input type="text"/>
Your Job Title	<input type="text"/>
Your Telephone Number. Enter text as xxx-xxx-xxxx (ext.)	<input type="text"/>
Your Email Address	<input type="text"/>

Organization

*** 1. Which type of organization do you represent?**

- Federal government
- State government
- U.S. Territorial government
- Tribal government
- Not for Profit
- Private or Commercial

Federal Organization

*** 1. What is the name of the Federal agency that you represent?**

- | | |
|---|---|
| <input type="radio"/> Department of Energy (DOE) | <input type="radio"/> DOI - Bureau of Land Management (BLM) |
| <input type="radio"/> Department of Health and Human Services (HHS) | <input type="radio"/> DOI - Bureau of Ocean Energy Management, Regulation and Enforcement (BOE) |
| <input type="radio"/> Department of Housing and Urban Development (HUD) | <input type="radio"/> DOI - Bureau of Reclamation |
| <input type="radio"/> Department of State (DOS) | <input type="radio"/> DOI - National Park Service (NPS) |
| <input type="radio"/> DHS - Directorate for National Protection and Programs (DNPP) | <input type="radio"/> DOI - Office of Surface Mining (OSM) |
| <input type="radio"/> DHS - Domestic Nuclear Detection Office (DNDO) | <input type="radio"/> DOI - U.S. Fish and Wildlife Service (USFWS) |
| <input type="radio"/> DHS - Federal Emergency Management Agency (FEMA) | <input type="radio"/> DOI - United States Geological Survey (USGS) |
| <input type="radio"/> DHS - Office of Intelligence and Analysis (OIA) | <input type="radio"/> DOT - Federal Aviation Administration (FAA) |
| <input type="radio"/> DHS - Office of Operations Coordination (OOC) | <input type="radio"/> DOT - Federal Highway Administration (FHWA) |
| <input type="radio"/> DHS - Transportation Security Administration (TSA) | <input type="radio"/> DOT - Federal Railway Administration (FRA) |
| <input type="radio"/> DHS - United States Coast Guard (USCG) | <input type="radio"/> Environmental Protection Agency (EPA) |
| <input type="radio"/> DHS - United States Customs and Border Protection (USCBP) | <input type="radio"/> Federal Bureau of Investigation (FBI) |
| <input type="radio"/> DHS - United States Secret Service (USSS) | <input type="radio"/> Federal Communications Commission (FCC) |
| <input type="radio"/> DOC - National Oceanic and Atmospheric Administration (NOAA) | <input type="radio"/> Federal Energy Regulatory Commission (FERC) |
| <input type="radio"/> DOC - National Telecommunications and Information Administration (NTIA) | <input type="radio"/> National Aeronautics and Space Administration (NASA) |
| <input type="radio"/> DOC - U.S. Census Bureau (USCB) | <input type="radio"/> Tennessee Valley Authority (TVA) |
| <input type="radio"/> DOD - National Geospatial-Intelligence Agency (NGA) | <input type="radio"/> USDA - Farm Service Agency (FSA) |
| <input type="radio"/> DOD - U.S. Army Corps of Engineers (USACE) | <input type="radio"/> USDA - Natural Resources Conservation Service (NRCS) |
| <input type="radio"/> DOI - Bureau of Indian Affairs (BIA) | <input type="radio"/> USDA - U.S. Forest Service (USFS) |
| <input type="radio"/> Other Federal Organization (Please Specify) | |

Part 2: Your organization

*** 2. What is the name of the sub-agency, division, department and/or branch that you represent?**

State Organization

* 1. What is the name of your State (or Washington, D.C.)?

- | | | |
|-----------------------------------|--------------------------------------|---------------------------------------|
| <input type="radio"/> Alabama | <input type="radio"/> Louisiana | <input type="radio"/> Ohio |
| <input type="radio"/> Alaska | <input type="radio"/> Maine | <input type="radio"/> Oklahoma |
| <input type="radio"/> Arizona | <input type="radio"/> Maryland | <input type="radio"/> Oregon |
| <input type="radio"/> Arkansas | <input type="radio"/> Massachusetts | <input type="radio"/> Pennsylvania |
| <input type="radio"/> California | <input type="radio"/> Michigan | <input type="radio"/> Rhode Island |
| <input type="radio"/> Colorado | <input type="radio"/> Minnesota | <input type="radio"/> South Carolina |
| <input type="radio"/> Connecticut | <input type="radio"/> Mississippi | <input type="radio"/> South Dakota |
| <input type="radio"/> Delaware | <input type="radio"/> Missouri | <input type="radio"/> Tennessee |
| <input type="radio"/> Florida | <input type="radio"/> Montana | <input type="radio"/> Texas |
| <input type="radio"/> Georgia | <input type="radio"/> Nebraska | <input type="radio"/> Utah |
| <input type="radio"/> Hawaii | <input type="radio"/> Nevada | <input type="radio"/> Vermont |
| <input type="radio"/> Idaho | <input type="radio"/> New Hampshire | <input type="radio"/> Virginia |
| <input type="radio"/> Illinois | <input type="radio"/> New Jersey | <input type="radio"/> Washington |
| <input type="radio"/> Indiana | <input type="radio"/> New Mexico | <input type="radio"/> Washington D.C. |
| <input type="radio"/> Iowa | <input type="radio"/> New York | <input type="radio"/> West Virginia |
| <input type="radio"/> Kansas | <input type="radio"/> North Carolina | <input type="radio"/> Wisconsin |
| <input type="radio"/> Kentucky | <input type="radio"/> North Dakota | <input type="radio"/> Wyoming |

* 2. What is the name of your county, regional, or local government agency if you are not stating elevation data requirements that pertain statewide? Enter text below. If N/A, go to the next question.

US Territory Organization

* 1. What is the name of your U.S. Territory?

- American Samoa
- Guam
- Northern Mariana Islands
- Puerto Rico
- Virgin Islands

Tribal Organization

* 1. What is your Tribal name?

Not-For-Profit Organization

* 1. What is the name of your not-for-profit organization?

Private/ Commercial Organization

* 1. What is the name of your private or commercial organization?

Part 3: Business Use and Functional Activity Requirements for Enhanced Elevation Data

Annotation: In this section of the survey, the respondents will identify their “mission critical” elevation data requirements, by geographic areas, for their Business Uses and Functional Activities. For the purpose of this survey, “mission critical” is defined as: indispensable for mission accomplishment and/or essential for effective/efficient operations in accomplishing the core mission of the organization.

This information is needed to identify “mission critical” requirements for enhanced elevation data at specified quality levels for user-defined geographic areas, to support user-defined Functional Activities for the pre-defined Business Use that most closely approximates the core mission of the organization stating the requirement.

Identification of Business Use and Functional Activity

Annotation: At this point the respondents will initially enter their primary Business Use and Functional Activity. The loop at the end of the survey will return here for entry of secondary and/or tertiary Business Uses and Functional Activities with different Quality Level and/or geographic area requirements. If there are no secondary or primary activities the respondents will move directly to the following section of the survey.

Business Use and Functional Activity

In this part of the questionnaire, we would like to learn about your Business Uses and Functional Activities, supporting your Business Uses that require enhanced elevation data. Your first pass through this questionnaire will document your primary Business Use and Functional Activity. You will be allowed to repeat the questionnaire for secondary and tertiary Business Uses and/or Functional Activities, if applicable.

Functional Activity: an activity or process that uses some form of digital elevation data. Including elevation derivatives and point cloud, to accomplish a Business Use. Example: Farm pond design is an example of Functional Activities for the Natural Resources Conservation Business Use.

Business Use: the ultimate use of services or products from Functional Activities to accomplish a

*** 1. What is the Business Use that will be supported by the Functional Activity that you will describe below?
Select one Business Use only below. Functional Activity examples can be viewed by hovering your mouse over a choice.**

- BU#01 Natural resources conservation
- BU#02 Water supply and quality
- BU#03 River and stream resource management
- BU#04 Coastal zone management
- BU#05 Forest resources management
- BU#06 Rangeland management
- BU#07 Wildlife and habitat management
- BU#08 Agriculture and precision farming
- BU#09 Geologic resource assessment & hazards mitigation
- BU#10 Resource mining
- BU#11 Renewable energy resources
- BU#12 Oil and gas resources
- BU#13 Cultural resources preservation and management
- BU#14 Flood risk management
- BU#15 Sea level rise and subsidence
- BU#16 Wildfire management, planning & response
- BU#17 Homeland security, law enforcement and disaster response
- BU#18 Land navigation and safety
- BU#19 Marine navigation and safety
- BU#20 Aviation navigation and safety
- BU#21 Infrastructure and construction management
- BU#22 Urban and regional planning
- BU#23 Health and human services
- BU#24 Real estate, banking, mortgage, insurance
- BU#25 Education K-12 and beyond
- BU#26 Recreation
- BU#27 Telecommunications

*** 2. Using the examples above, provide a descriptive name of your Functional Activity, e.g. farm pond design is a functional activity in support of the Natural Resources Conservation business use. We prefer a higher level Functional Activity, e.g., flood risk mapping, rather than a lower level Functional Activity, e.g., hydrologic and hydraulic modeling (used in flood risk mapping).**

The table below is an example of the Functional Activities that the respondents will view when they hover the mouse over each Business Use listed above.

The following example Functional Activities can be viewed when hovering the mouse over each Business Use listed above.

Business Uses	Examples of Functional Activities
<input type="checkbox"/> BU#01 Natural resources conservation	Soils and wetland conservation; erosion control; rainfall penetration. Modeling of biological and ecological systems.
<input type="checkbox"/> BU#02 Water supply and quality	Watershed assessment for protected water supplies. Runoff into streams, sedimentation analysis. Non-point source pollution modeling.
<input type="checkbox"/> BU#03 River and stream resource management	Stream channel analysis and mapping. Stream bank erosion analysis.
<input type="checkbox"/> BU#04 Coastal zone management	Analysis of coastal erosion and inundation. Hurricane storm surge and wind damage modeling and assessment.
<input type="checkbox"/> BU#05 Forest resources management	Forest health assessment. Determination of standing inventory of forest resources. Analysis of carbon stocks for trade. Harvest systems planning.
<input type="checkbox"/> BU#06 Rangeland management	Assessment of rangeland health. Mapping for soil erosion potential due to grazing.
<input type="checkbox"/> BU#07 Wildlife and habitat management	Determination of wildlife habitat conditions based on forest stand profile and vegetation structure.
<input type="checkbox"/> BU#08 Agriculture and precision farming	Farm pond design. Irrigation system design. Detailed site analysis to support precision farming. Analysis of farm sedimentation and runoff.
<input type="checkbox"/> BU#09 Geologic resource assessment & hazards mitigation	Geologic mapping and analysis. Seismic fault analysis. Landslide hazard mapping and assessment.
<input type="checkbox"/> BU#10 Resource mining	Open mine volume computations. Stockpile analysis. Environmental impact assessment and site restoration.
<input type="checkbox"/> BU#11 Renewable energy resources	Assessment of roof tops for solar energy potential. Analysis of wind energy potential and planning of turbine placement on wind farms. Low head power potential for hydropower.
<input type="checkbox"/> BU#12 Oil and gas resources	Site selection for wells and facilities. Construction planning. Pipeline routing. Environmental impact assessment and mitigation.
<input type="checkbox"/> BU#13 Cultural resources preservation and management	Discovery and analysis of Native American and other historical cultural sites. Site protection and preservation planning.
<input type="checkbox"/> BU#14 Flood risk management	Flood risk modeling and mapping of riverine and coastal areas. Dam/dike/levee safety analysis.
<input type="checkbox"/> BU#15 Sea level rise and subsidence	Modeling the effects of sea level rise or subsidence.
<input type="checkbox"/> BU#16 Wildfire management, planning & response	Determination of forest fuel and fire susceptibility. Fire behavior modeling to support wildfire suppression activities. Wildland/urban interface building identification. Post fire analysis to determine landslide prone areas.
<input type="checkbox"/> BU#17 Homeland security, law enforcement and disaster response	Line of sight analysis in urban areas. Flood risk analysis resulting from acts of terrorism. Landslide risk assessment in urban areas.
<input type="checkbox"/> BU#18 Land navigation and safety	Route selection for new roads. Slope analysis for smart cars. GPS navigation visualization.
<input type="checkbox"/> BU#19 Marine navigation and safety	Nautical charting. Bathymetric measurements of near-shore submerged coastal topography.
<input type="checkbox"/> BU#20 Aviation navigation and safety	Determination of in-flight hazards and path obstructions. Aeronautical charting. Runway construction and repair.
<input type="checkbox"/> BU#21 Infrastructure and construction management	Water, sewer and powerline planning and analysis. Stormwater modeling. Cut and fill analysis for earth-moving. Building site analysis. Road infrastructure; dams, reservoirs and levees.
<input type="checkbox"/> BU#22 Urban and regional planning	Park design and planning. Zoning. Building footprint mapping. Regional transportation planning. Virtual city creation.
<input type="checkbox"/> BU#23 Health and human services	Malarial epidemiology based on standing water and terrain conditions.
<input type="checkbox"/> BU#24 Real estate, banking, mortgage, insurance	Risk assessment for flood insurance. Building permit compliance.
<input type="checkbox"/> BU#25 Education K-12 and beyond	Development of 3-D visualizations to help students understand the Earth they live on.
<input type="checkbox"/> BU#26 Recreation	Trail and vista site planning. Orienteering. Golf course planning. Ski slope modeling/analysis. Recreational lake design. Hiking maps and guides.
<input type="checkbox"/> BU#27 Telecommunications	Telecommunication tower site selection. Design of radio and radar systems. Interference analysis. Path profiles.

Identification of Quality Level Requirements

Annotation: Knowing mission critical requirements by Quality Level is central to the purpose of this survey. This information will be used by the USGS to determine elevation data density, DEM post spacing, nominal pulse spacing and vertical accuracy needed to satisfy Functional Activities and Business Uses. The frequency of elevation data updates needed to satisfy requirements is important to know because of the need to plan for maintenance of any elevation dataset that becomes obsolete with age.

Enhanced Elevation Data Requirements

* 1. For the Functional Activity that you selected, do you require topographic data (i.e., land areas)?

- Yes - I have a requirement for topographic data. (You will also have an opportunity to identify bathymetric data requirements if you check this box.)
- No

Enhanced Elevation Data Requirements by Quality Level

In this section, you will identify your mission critical Quality Level (QL) requirements for Enhanced Elevation Data. Your choice of Quality Level is central to the purpose of this questionnaire. Mission Critical is defined as "indispensable for mission accomplishment and/or essential for effective/efficient operations in accomplishing the core mission of the organization." Therefore, please do not specify a Quality Level that is "nice to have" but focus instead on what you must have to support your Functional Activity.

Please choose one Quality Level from the following five options that you need to support the Functional Activity identified in the previous question. The table below should be read and understood before making a selection. If you need assistance in understanding the Quality Level terminology, refer to FAQ #8, #9, and #10 in the document located [here](#).

Elevation Quality Levels (QL)	Elevation Source	Horizontal Resolution Terms			Vertical Accuracy Terms	
		Point Density	Nominal Pulse Spacing (NPS)	DEM Post Spacing	Vertical RMSEz * in open terrain	Equivalent Contour Accuracy
QL 1	LiDAR	8 pts/m ²	0.35 m	1/27 arc-sec ~1 meter	9.25 cm	1-ft
QL 2	LiDAR	2 pts/m ²	0.7 m	1/27 arc-sec ~1 meter	9.25 cm	1-ft
QL 3	LiDAR	1 – 0.25 pts/m ²	1 – 2 m	1/9 arc-sec ~3 meters>	≤18.5 cm	2-ft
QL 4	Imagery	1 – 0.04 pts/m ²	1 – 5 m	1/3 arc-sec ~10 meters>	46.3 cm – 139 cm	5 – 15 ft
QL 5	IFSAR	0.04 pts/m ²	5 m	1/3 arc-sec ~10 meters	92.7 cm – 185 cm	10 – 20 ft

* 1. For the Functional Activity that you selected, what is the Quality Level of elevation data needed to satisfy your mission critical requirements?

QL 1 Elevation Data from LiDAR QL 2 Elevation Data from LiDAR QL 3 Elevation Data from LiDAR QL 4 Elevation Data from Imagery QL 5 Elevation Data from IFSAR

For my Functional Activity identified above, my minimal required Quality Level is:

Identification of Geographic Area Requirements

Annotation: Because digital geospatial data uses shapefiles or geodatabases to define polygons for geographic areas of interest, we need to better understand geographic area requirements for elevation data at the Quality Levels specified. The following question allows users to submit their own shapefiles or geodatabases for geographic areas for which their elevation Quality Level requirements pertain. For inexperienced users, we also provide alternative means for explaining geographic area requirements.

Geographic Area Requirements

In this section, please identify your geographic area requirements for the elevation data Quality Level specified in the previous section.

* 1. My geographic area requirements are:

- Nationwide
- Statewide or multiple states
- Countywide or multiple counties by State
- Watersheds
- Federally owned land
- Federal Agency administrative regions
- My requirements are unique to my agency; I will provide my own shapefile or geodatabase.

NOTE: The response to this question will lead directly to the appropriate follow-on examples below.

Geographic Area Requirements – Nationwide

NOTE: At this point, if the respondent selects 48 conterminous states, for example they will be directed to the list of state below. Once they choose the state they will be directed to choose the counties within state for which elevation data is required.

NOTE: At this point, if the respondent selects Alabama, for example they will then be directed to the next screen where they will be able to choose the counties within Alabama for which elevation data is required. The screen shot below depicts an expanded list of counties in Alabama. This list would be

similar for all other states in the sample; however, for the purpose of this demonstration we are using

Geographic Area Requirements - Statewide

*** 1. Select one or more states below for which you have requirements for elevation data.**

- | | | |
|--------------------------------------|---|--|
| <input type="checkbox"/> Alabama | <input type="checkbox"/> Louisiana | <input type="checkbox"/> Ohio |
| <input type="checkbox"/> Alaska | <input type="checkbox"/> Maine | <input type="checkbox"/> Oklahoma |
| <input type="checkbox"/> Arizona | <input type="checkbox"/> Maryland | <input type="checkbox"/> Oregon |
| <input type="checkbox"/> Arkansas | <input type="checkbox"/> Massachusetts | <input type="checkbox"/> Pennsylvania |
| <input type="checkbox"/> California | <input type="checkbox"/> Michigan | <input type="checkbox"/> Rhode Island |
| <input type="checkbox"/> Colorado | <input type="checkbox"/> Minnesota | <input type="checkbox"/> South Carolina |
| <input type="checkbox"/> Connecticut | <input type="checkbox"/> Mississippi | <input type="checkbox"/> South Dakota |
| <input type="checkbox"/> Delaware | <input type="checkbox"/> Missouri | <input type="checkbox"/> Tennessee |
| <input type="checkbox"/> Florida | <input type="checkbox"/> Montana | <input type="checkbox"/> Texas |
| <input type="checkbox"/> Georgia | <input type="checkbox"/> Nebraska | <input type="checkbox"/> Utah |
| <input type="checkbox"/> Hawaii | <input type="checkbox"/> Nevada | <input type="checkbox"/> Vermont |
| <input type="checkbox"/> Idaho | <input type="checkbox"/> New Hampshire | <input type="checkbox"/> Virginia |
| <input type="checkbox"/> Illinois | <input type="checkbox"/> New Jersey | <input type="checkbox"/> Washington |
| <input type="checkbox"/> Indiana | <input type="checkbox"/> New Mexico | <input type="checkbox"/> Washington D.C. |
| <input type="checkbox"/> Iowa | <input type="checkbox"/> New York | <input type="checkbox"/> West Virginia |
| <input type="checkbox"/> Kansas | <input type="checkbox"/> North Carolina | <input type="checkbox"/> Wisconsin |
| <input type="checkbox"/> Kentucky | <input type="checkbox"/> North Dakota | <input type="checkbox"/> Wyoming |

Alabama as an example.

NOTE: At this point, if the respondent selects Alabama, for example they will then be directed to the next screen where they will be able to choose the counties within Alabama for which elevation data is required. The screen shot below depicts an expanded list of counties in Alabama. This list would be

Geographic Area Requirements - Alabama

*** 1. Which counties within Alabama do you need elevation data for?**

- | | | |
|---------------------------------------|-------------------------------------|-------------------------------------|
| <input type="checkbox"/> All Counties | <input type="checkbox"/> Dale | <input type="checkbox"/> Marengo |
| <input type="checkbox"/> Autauga | <input type="checkbox"/> Dallas | <input type="checkbox"/> Marion |
| <input type="checkbox"/> Baldwin | <input type="checkbox"/> De Kalb | <input type="checkbox"/> Marshall |
| <input type="checkbox"/> Barbour | <input type="checkbox"/> Elmore | <input type="checkbox"/> Mobile |
| <input type="checkbox"/> Bibb | <input type="checkbox"/> Escambia | <input type="checkbox"/> Monroe |
| <input type="checkbox"/> Blount | <input type="checkbox"/> Etowah | <input type="checkbox"/> Montgomery |
| <input type="checkbox"/> Bullock | <input type="checkbox"/> Fayette | <input type="checkbox"/> Morgan |
| <input type="checkbox"/> Butler | <input type="checkbox"/> Franklin | <input type="checkbox"/> Perry |
| <input type="checkbox"/> Calhoun | <input type="checkbox"/> Geneva | <input type="checkbox"/> Pickens |
| <input type="checkbox"/> Chambers | <input type="checkbox"/> Greene | <input type="checkbox"/> Pike |
| <input type="checkbox"/> Cherokee | <input type="checkbox"/> Hale | <input type="checkbox"/> Randolph |
| <input type="checkbox"/> Chilton | <input type="checkbox"/> Henry | <input type="checkbox"/> Russell |
| <input type="checkbox"/> Choctaw | <input type="checkbox"/> Houston | <input type="checkbox"/> St. Clair |
| <input type="checkbox"/> Clarke | <input type="checkbox"/> Jackson | <input type="checkbox"/> Shelby |
| <input type="checkbox"/> Clay | <input type="checkbox"/> Jefferson | <input type="checkbox"/> Sumter |
| <input type="checkbox"/> Cleburne | <input type="checkbox"/> Lamar | <input type="checkbox"/> Talladega |
| <input type="checkbox"/> Coffee | <input type="checkbox"/> Lauderdale | <input type="checkbox"/> Tallapoosa |
| <input type="checkbox"/> Colbert | <input type="checkbox"/> Lawrence | <input type="checkbox"/> Tuscaloosa |
| <input type="checkbox"/> Conecuh | <input type="checkbox"/> Lee | <input type="checkbox"/> Walker |
| <input type="checkbox"/> Coosa | <input type="checkbox"/> Limestone | <input type="checkbox"/> Washington |
| <input type="checkbox"/> Covington | <input type="checkbox"/> Lowndes | <input type="checkbox"/> Wilcox |
| <input type="checkbox"/> Crenshaw | <input type="checkbox"/> Macon | <input type="checkbox"/> Winston |
| <input type="checkbox"/> Cullman | <input type="checkbox"/> Madison | |

similar for all other states in the sample; however, for the purpose of this demonstration we are using Alabama as an example.

NOTE: A user may now select counties within another state. The survey will continue to follow a looping pattern until the respondent selects "NO" to this question. Once the respondent selects "NO" the looping pattern will be broken and the respondent will be automatically directed to the question below.

FA2: Geographic Data Requirements - Additional States

* 1. Do you require elevation data for additional states?

Yes

No

Geographic Area Requirements – Watersheds

Geographic Area Requirements - Watersheds

* 1. Please check the major watershed basins for which you require elevation data. This will lead you to individual HUC-4, HUC-6 and HUC-8 codes for your specified hydrologic units.

01 New England

08 Lower Mississippi

15 Lower Colorado

02 Mid Atlantic

09 Souris-Red-Rainy

16 Great Basin

03 South Atlantic-Gulf

10 Missouri

17 Pacific Northwest

04 Great Lakes

11 Arkansas-White-Red

18 California

05 Ohio

12 Texas - Gulf

19 Alaska

06 Tennessee

13 Rio Grande

20 Hawaii

07 Upper Mississippi

14 Upper Colorado

21 Caribbean

Note: If the respondent checks New England, for example, they will be taken to a list of hydrologic units for this watershed basin (shown in the list on the next page).

The respondents will be allowed to choose more than one watershed location per geographical area. If additional major watershed basins are selected, the respondents will follow a looping pattern similar to the one described above for the state and county locations. Once the looping pattern is complete the respondents will be automatically directed to the questions in the next section.

For the purpose of this demonstration, the expanded list of hydrologic units in all other major watershed basins has been removed to shorten this version of the questionnaire.

FA2: Geographic Area Requirements - New England Watershed

* 1. Please select the watersheds for which you require elevation data.

- | | | |
|---|---|--|
| <input type="checkbox"/> 0101 St. John | <input type="checkbox"/> 01050002 Maine Coastal | <input type="checkbox"/> 01080203 Deerfield |
| <input type="checkbox"/> 010100 St. John | <input type="checkbox"/> 01050003 St. George-Sheepsco | <input type="checkbox"/> 01080204 Chicopee |
| <input type="checkbox"/> 01010001 Upper St. John | <input type="checkbox"/> 0106 Saco | <input type="checkbox"/> 01080205 Lower Connecticut |
| <input type="checkbox"/> 01010002 Allagash | <input type="checkbox"/> 010600 Saco | <input type="checkbox"/> 01080206 Westfield |
| <input type="checkbox"/> 01010003 Fish | <input type="checkbox"/> 01060001 Presumpscot | <input type="checkbox"/> 01080207 Farmington |
| <input type="checkbox"/> 01010004 Aroostook | <input type="checkbox"/> 01060002 Saco | <input type="checkbox"/> 0109 Massachusetts-Rhode Island Coastal |
| <input type="checkbox"/> 01010005 Meduxnekeag | <input type="checkbox"/> 01060003 Piscataqua-Salmon Falls | <input type="checkbox"/> 010900 Massachusetts-Rhode Island Coastal |
| <input type="checkbox"/> 0102 Penobscot | <input type="checkbox"/> 0107 Merrimack | <input type="checkbox"/> 01090001 Charles |
| <input type="checkbox"/> 010200 Penobscot | <input type="checkbox"/> 010700 Merrimack | <input type="checkbox"/> 01090002 Cape Cod |
| <input type="checkbox"/> 01020001 West Branch Penobscot | <input type="checkbox"/> 01070001 Pemigewasset | <input type="checkbox"/> 01090003 Blackstone |
| <input type="checkbox"/> 01020002 East Branch Penobscot | <input type="checkbox"/> 01070002 Merrimack | <input type="checkbox"/> 01090004 Narragansett |
| <input type="checkbox"/> 01020003 Mattawamkeag | <input type="checkbox"/> 01070003 Contoocook | <input type="checkbox"/> 01090005 Pawcatuck-Wood |
| <input type="checkbox"/> 01020004 Piscataquis | <input type="checkbox"/> 01070004 Nashua | <input type="checkbox"/> 0110 Connecticut Coastal |
| <input type="checkbox"/> 01020005 Lower Penobscot | <input type="checkbox"/> 01070005 Concord | <input type="checkbox"/> 011000 Connecticut Coastal |
| <input type="checkbox"/> 0103 Kennebec | <input type="checkbox"/> 0108 Connecticut | <input type="checkbox"/> 01100001 Quinebaug |
| <input type="checkbox"/> 010300 Kennebec | <input type="checkbox"/> 010801 Upper Connecticut | <input type="checkbox"/> 01100002 Shetucket |
| <input type="checkbox"/> 01030001 Upper Kennebec | <input type="checkbox"/> 01080101 Upper Connecticut | <input type="checkbox"/> 01100003 Thames |
| <input type="checkbox"/> 01030002 Dead | <input type="checkbox"/> 01080102 Passumpsic | <input type="checkbox"/> 01100004 Quinnipiac |
| <input type="checkbox"/> 01030003 Lower Kennebec | <input type="checkbox"/> 01080103 Waits | <input type="checkbox"/> 01100005 Housatonic |
| <input type="checkbox"/> 0104 Androscoggin | <input type="checkbox"/> 01080104 Upper Connecticut-Mascoma | <input type="checkbox"/> 01100006 Saugatuck |
| <input type="checkbox"/> 010400 Androscoggin | <input type="checkbox"/> 01080105 White | <input type="checkbox"/> 01100007 Long Island Sound |
| <input type="checkbox"/> 01040001 Upper Androscoggin | <input type="checkbox"/> 01080106 Black-Ottawquechee | <input type="checkbox"/> 0111 St. Francois |
| <input type="checkbox"/> 01040002 Lower Androscoggin | <input type="checkbox"/> 01080107 West | <input type="checkbox"/> 011100 St. Francois |
| <input type="checkbox"/> 0105 Maine Coastal | <input type="checkbox"/> 010802 Lower Connecticut | <input type="checkbox"/> 01110000 St. Francois |
| <input type="checkbox"/> 010500 Maine Coastal | <input type="checkbox"/> 01080201 Middle Connecticut | |
| <input type="checkbox"/> 01050001 St. Croix | | |

NOTE: The respondent may now select an additional watershed. The survey will continue to follow a looping pattern until the respondent selects “NO” to this question. Once the respondent selects “NO” the looping pattern will be broken and the respondent will be automatically directed to the section.

FA2: Geographic Data Requirements - Additional Watersheds

* 1. Do you require elevation data for additional watersheds?

- Yes
- No

Geographic Area Requirements – Federal Lands

FA2: Geographic Area Requirements - Federal Lands

*** 1. Do you require elevation data for federal lands nationwide, or within your federal agency's specified region?**

All

Region (Please Enter Name of Region Below)

*** 2. Please select the types of federal land that you require elevation data.**

Air Force Lands

Army Corps of Engineers Lands

Army Lands

Bureau of Land Management (BLM) Forest Reserves

Bureau of Land Management (BLM) National Conservation Areas

Bureau of Land Management (BLM) National Monuments

Bureau of Land Management (BLM) National Recreation Areas

Bureau of Land Management (BLM) National Wild and Scenic Rivers

Bureau of Land Management (BLM) Wilderness Areas

Bureau of Land Management (BLM) Wilderness Study Areas

Bureau of Reclamation (BOR) Lands

Central Intelligence Agency (CIA) Lands

Department of Agriculture (USDA) Agricultural Research Service Lands

Department of Energy (DOE) Lands

Department of Justice (DOJ) Bureau of Prisons Lands

Department of Transportation (DOT) Metropolitan Washington Airports Authority Lands

Fish and Wildlife Service (FWS) National Fish Hatcheries

Fish and Wildlife Service (FWS) National Game Preserves

Fish and Wildlife Service (FWS) National Wildlife Refuges

Fish and Wildlife Service (FWS) Waterfowl Production Areas

Fish and Wildlife Service (FWS) Wilderness Areas

Fish and Wildlife Service (FWS) Wilderness Study Areas

- Fish and Wildlife Service (FWS) Wildlife Management Areas
- General Services Administration (GSA) Lands
- Marine Corps Lands
- National Aeronautics and Space Administration (NASA) Lands
- National Park Service (NPS) National Battlefield Parks
- National Park Service (NPS) National Battlefields
- National Park Service (NPS) National Capital Parks
- National Park Service (NPS) National Historic Landmark Districts
- National Park Service (NPS) National Historic Parks
- National Park Service (NPS) National Historic Sites
- National Park Service (NPS) National Lakeshores
- National Park Service (NPS) National Mall
- National Park Service (NPS) National Memorials
- National Park Service (NPS) National Military Parks
- National Park Service (NPS) National Monuments
- National Park Service (NPS) National Parks
- National Park Service (NPS) National Parkways
- National Park Service (NPS) National Preserves
- National Park Service (NPS) National Recreation Areas
- National Park Service (NPS) National Reserves
- National Park Service (NPS) National Rivers
- National Park Service (NPS) National Scenic Rivers
- National Park Service (NPS) National Seashores
- National Park Service (NPS) National Wild and Scenic Rivers
- National Park Service (NPS) Wilderness Areas
- National Park Service (NPS) Wilderness Study Areas
- Navy Lands
- Tennessee Valley Authority (TVA) Lands
- U.S. Coast Guard Lands
- U.S. Forest Service National Forests

- U.S. Forest Service National Grasslands
- U.S. Forest Service National Monuments
- U.S. Forest Service National Recreation Areas
- U.S. Forest Service National Scenic Areas
- U.S. Forest Service Purchase Unit Blocks
- U.S. Forest Service Wilderness Areas
- U.S. Forest Service Wilderness Study Areas

Geographic Area Requirements – Federal Agency Region

FA2: Geographic Data Requirements- Federal Agency Region

1. Please enter the name of the region / district of your agency for which you require enhanced elevation data.

Geographic Area Requirements – Unique

FA2: Geographic Area Requirements - Submit File

1. Please submit your other geographic area requirements by posting a zipped shapefile(s) or geodatabase to the project SharePoint site at <https://projects.dewberry.com/USGSENEPStudy/SurveyHelp/Upload> and provide a unique filename, below, that includes your name and organization, or abbreviations thereof. Please submit data in a Geographic Coordinate System (Decimal Degree units) using the North American Datum of 1983. Please enter the filename below.

Part 4: Benefits of Enhanced Elevation Data

Annotation: The following questions will be used to collect information concerning the programmatic benefits for elevation data in three major benefit categories: (1) operational benefits, (2) customer service benefits, and (3) other public, social and/or political benefits. The distinction is made between current and future benefits at the specified Quality Level because cost-benefit analysis must distinguish between benefits currently being realized from existing elevation data and future benefits to be derived from enhanced elevation data.

FA2: Benefits of Elevation Data at Specified Quality Level

1. A program is a major component of your organization that has a well defined mission and goals and which is supported by one or more Functional Activities. What is the name of the program supported by your specified Functional Activity (Limit 160 characters)?

* 2. What is the approximate total annual program budget supported by this Functional Activity? The program budget includes all annual operating expenses to include staff, equipment, travel, materials, overhead, etc. Enter dollar value without dollar sign (\$).

* 3. What existing operational benefits, relative to your program budget, are you realizing from elevation data at the Quality Level you selected? If you have no data or no benefits at your Quality Level, check none.

	Major	Moderate	Minor	None	Don't know
Time/cost savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved mission compliance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 4. Briefly describe the existing operational benefits from the prior question (Limit 100 words).

* 5. What new operational benefits, relative to your program budget, would you expect from elevation data at the Quality Level you selected, if it were available for your entire area of interest?

	Major	Moderate	Minor	None	Don't know
Time/cost savings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved mission compliance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 6. Briefly describe the new operational benefits from the prior question (Limit 100 words).

* 7. Relative to the identified programmatic budget, what new annual dollar benefit do you expect to receive from enhanced elevation data at the Quality Level specified for your Functional Activity? Enter dollar value without dollar sign (\$).

- Don't Know
- Entered Dollar Amount Below

Benefits in Dollars:

* 8. What existing customer service benefits, relative to your program budget, are you realizing from elevation data at the Quality Level you selected? If you have no data or no benefits at your Quality Level, check none.

	Major	Moderate	Minor	None	Don't know
Improved performance of products/services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved timeliness of products/services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved customer experience w/products/services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 9. Briefly describe the existing customer service benefits from the prior question (Limit 100 words).

* 10. What new customer service benefits, relative to your program budget, would you expect from elevation data at the Quality Level you selected, if it were available for your entire area of interest?

	Major	Moderate	Minor	None	Don't know
Improved performance of products/services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved timeliness of products/services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Improved customer experience w/products/services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 11. Briefly describe the new customer service benefits from the prior question (Limit 100 words).

* 12. What existing public, social and/or political benefits, relative to your program budget, are you realizing from elevation data at the Quality Level you selected? If you have no data or no benefits at your Quality Level, check none.

	Major	Moderate	Minor	None	Don't know
Social benefits (incl. education, public safety)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic/political benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 13. Briefly describe the existing public, social and/or political benefits from the prior question (Limit 100 words).

* 14. What new public, social and/or political benefits, relative to your program budget, would you expect from elevation data at the Quality Level you selected, if it were available for your entire area of interest?

	Major	Moderate	Minor	None	Don't know
Social benefits (incl. education, public safety)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Strategic/political benefits	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 15. Briefly describe the new public, social and/or political benefits from the prior question (Limit 100 words).

FA2: Other Topics

1. Please provide any comments that you wish to make for this functional activity that were not covered in the questions asked above (Limit 300 words).

2. Do you have a secondary or tertiary Functional Activity that requires enhanced elevation data, perhaps for a different Quality Level or different geographic area?

Yes

No

If "Yes," the respondent is returned to a secondary or tertiary Business Use or to the same Business Use having a different Functional Activity with different Quality Level and/or geographic area requirements.

If "No," the respondent is notified that the survey is complete.

National Enhanced Elevation Study

Thank You

You have now completed the survey. Thank you for your participation.