

Survey Path 4: Users of High- and Low-Resolution Imagery

This path is for users who have never used any type of moderate-resolution imagery. Questions about current or past use of moderate-resolution imagery are not included for this reason so the path is much shorter than both Paths 1 and 2 and about the same length as Path 3. The focus of this path is determining why users have not used moderate-resolution imagery and their plans to use it in the future.

Introduction

Thank you for participating in this study of moderate-resolution satellite imagery. Your input will help the USGS understand how moderate-resolution imagery is being used. Your responses will also clarify current and potential applications of this imagery.

This survey will take approximately 15 to 35 minutes to complete, depending upon the type of moderate-resolution imagery you use. You can pause at any time; simply close the window and your answers will be saved. To resume and complete the survey, you will need to click on the link to the survey in the email you received. At that point, you can answer any remaining questions and/or edit any of your previous responses. At the end of the survey, click on the “Submit” button to finish the survey. All responses will be kept confidential and will not be linked to your email address.

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Section I

The primary purpose of this section is to find out the types of satellite imagery the respondents are currently using and how they are using the images they are acquiring. The responses to Questions 1 and 2 will be used to determine the subsequent survey path each respondent will follow.

Please tell us about the type of satellite imagery you use, and how and why you use it.

Questions 1-3 will help the USGS to characterize the community of moderate-resolution imagery users by ascertaining if respondents are currently using moderate-resolution imagery and, if they are not currently using moderate-resolution imagery, what type of imagery they are using. This information is necessary to determine subsequent questions each respondent will be asked.

Q1

For the purposes of this study, moderate-resolution imagery is that which:

- covers relatively large geographic areas (>60 km²),
- has a spatial resolution between 5 and 120 m,
- is characterized by repetitive coverage, and
- includes measurements from several portions of the electromagnetic spectrum.

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Moderate-resolution imagery is collected by Landsat, SPOT, ASTER, Resourcesat, CBERS, and other missions. To see examples of products based on moderate-resolution imagery, [click here](#).

Examples of products based on moderate-resolution-imagery include:

- National Land Cover Database
- LandFire and Gap Analysis Project vegetation maps
- Wildfire burn severity maps produced by the USGS
- Coastal Zone Analysis Program land cover change products
- USDA National Agricultural Statistical Service crop type maps
- FireLine from Insurance Services Office (ISO)
- Google Earth (moderate-resolution mixed with higher resolution imagery)

Based on the definition below, have you ever used, processed, or supplied moderate-resolution imagery in your work? *Please check only one.*

- Yes → Respondent will be automatically directed to **survey paths 1,2, or 3 for users of moderate-resolution imagery**
- No
- Don't know → *END of survey*

Q2

Have you ever used satellite imagery of any kind in your work? *Please check only one.*

- Yes
- No → *END of survey*
- Don't know → *END of survey*

Q3

What type of imagery have you used? *Please check all that apply.*

- High-resolution (Less than 5 meters, for example, IKONOS, QuickBird, WorldView)
- Low-resolution (Greater than 120 meters, for example, MODIS, AVHRR, MERIS, SPOT VEGETATION)

Question 4 explores why users of high- and low-resolution imagery are not using moderate-resolution imagery. This is critical information for the USGS for the future development of satellites and current and future provision of satellite imagery.

Q4

Why have you not used moderate-resolution imagery in your work? *Please check all that apply.*

- My work has not required moderate-resolution imagery.
- Moderate-resolution imagery has not been easily accessible.
- Moderate-resolution imagery has not been readily available.
- The cost of moderate-resolution imagery has been too high.
- Data quality has been insufficient for my needs.
- Licensing or distribution restrictions have been problematic.

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- The spatial resolution has not met my needs.
- The available spectral bands have not met my needs.
- The temporal resolution/frequency of coverage has not met my needs.
- Other (please specify) _____

Questions 5-8 explore the possibility of high- and low-resolution users using moderate-resolution imagery in the future. Finding out how the data will be used in the future is important to the USGS for future satellite mission planning.

Q5

Do you foresee using moderate-resolution imagery in the future? *Please check only one.*

- Yes → Q7
- No
- Don't know → END of the survey

Q6

If the barriers you noted above were gone, then would you use moderate-resolution imagery in the future? *Please check only one.*

- Yes → END
- No → END
- Don't know → END

Q7

Why will you begin using moderate-resolution imagery in the future? *Please check all that apply.*

- My work will require moderate-resolution imagery.
- Moderate-resolution imagery will be more easily accessible.
- Moderate-resolution imagery will be more readily available.
- The cost of moderate-resolution imagery will decrease.
- Data quality will be sufficient for my needs.
- Licensing or distribution restrictions will not be problematic.
- The spatial resolution will meet my needs.
- The available spectral bands will meet my needs.
- The temporal resolution/frequency of coverage will meet my needs.
- Other (please specify) _____

Q8

For which applications do you foresee using moderate-resolution imagery? *Please check all that apply.*

- Agricultural forecasting
- Agricultural management/production/conservation
- Biodiversity conservation
- Climate science/change
- Coastal science/monitoring/management

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- Ecological/ecosystem monitoring
- Fish and wildlife science/management
- Fire science/management
- Forest science/management
- Geology/glaciology
- Land use/land cover change
- Oil and gas/mineral exploration/extraction
- Range/grassland science/management
- Recreation management
- Water resources (for example, watershed management, water rights, hydrology)
- Rural planning and development (for example, zoning, economic development, land use)
- Urban planning and development (for example, zoning, economic development, land use)
- Urbanization (for example, growth, sprawl)
- Engineering/construction/surveying
- Assessments and taxation
- Real estate/property management
- Software development
- Telecommunications
- Transportation
- Utilities
- Anthropology/archaeology/cultural resource management
- Education: K-12
- Education: university/college
- Technical training (for example, workshops, short courses)
- Emergency/disaster management
- Hazard insurance (for example, crop, flood, fire)
- Humanitarian aid
- Public health
- Defense/national security
- Environmental regulation
- Law enforcement
- Other area (please specify) _____

Questions 9-12 will help the USGS to ascertain the potential benefits of moderate-resolution imagery to society. These questions are open-ended to elicit the greatest variety of responses. Understanding the qualitative benefits of Landsat imagery will provide insight into its overall benefits. The USGS and other decision makers are interested in knowing about the current uses of Landsat and how the imagery is being incorporated in decision making and policy changes. USGS program officers need a comprehensive explanation of the societal benefits of satellite imagery, beyond the measurable and quantifiable economic benefits. We have chosen the following questions to target that goal. Responses from these questions will be analyzed and categorized in terms of content themes. In order to encourage brief responses and to minimize burden, the respondents will

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have a limited amount of space to answer these questions.

Q9

Please give a brief description, including objectives, of **ONE** of your future projects that will use moderate-resolution imagery within one of the applications you selected above. *(Open-ended - limit 1500 characters)*

Q10

How do you think the results from this project might be used in decision-making? *(Open-ended - limit 1500 characters)*

Q11

How do you think the general public might benefit from this project? *(Open-ended - limit 1500 characters)*

Q12

What do you think the environmental benefits might be from this project? *(Open-ended - limit 1500 characters)*

Question 13 allows the respondents to describe the uniqueness of moderate-resolution imagery as compared to other imagery and the niche that this imagery fills.

Q13

Why will the use of moderate-resolution imagery, as opposed to other types of imagery, be important in this project? *(Open-ended - limit 1500 characters)*

Demographics

Questions 14-23 are demographics questions. We need this information to provide a detailed picture of the moderate-resolution imagery user community, as well as satellite imagery users who are not currently part of the community. Additionally, in the case that another survey is conducted on this topic in the next few years, this information will be necessary to determine how the user community has changed. We would like establish a set of baseline data that can be used to characterize any changes in the user demographics.

Please tell us a little bit about yourself. Your answers to these questions will help further characterize users of moderate-resolution imagery. Answers are **IN NO WAY** linked to any individual taking this survey.

Q14

In what sector do you work? *Please check all that apply.*

- Academic institution (for example, university, college)
- Federal government
- State government
- Local government (for example, county, municipal)
- Private business
- Non-profit organization
- Tribe or nation
- Other (please specify) _____

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Q15

Are you...?

- Male
- Female

Q16

In what year were you born?

Questions 17 and 18 will provide information on underrepresented users of satellite imagery. Decision makers would like to know the extent to which use has expanded to traditionally underrepresented groups.

Q17

What ethnicity do you consider yourself? *Please check only one.*

- Hispanic or Latino
- Not Hispanic or Latino

Q18

Please choose the racial category or categories with which you most closely identify yourself. *Please check all that apply.*

- American Indian or Alaska Native
- White
- Black or African American
- Asian
- Native Hawaiian or Other Pacific Islander

Question 19 provides a continuous set of answer choices for education level (as opposed to discrete categories that are more typically used). Continuous data is necessary for the types of analyses (such as multiple regression) that will be performed on the results.

Q19

What is your highest year of formal schooling? *Please circle only one number.*

7	8	9	10	11	12	13	14	15	16	17	18	19	20+
(jr. high or middle)			(high school)			(college or technical school)				(graduate or professional school)			

Questions 20 and 21 will allow the USGS to determine the extent to which respondents are professionally trained and involved in the user community. Again, the user community may be changing to include people who have different professional backgrounds and baseline data needs to be established to determine if such changes are occurring.

Q20

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What type(s) of education or training (for example, university degrees, technical certificates) have you received related to remote sensing or GIS? (*Open-ended - limit 500 characters*)

Q21

To which of the following remote sensing/GIS-related organizations do you belong? *Please check all that apply.*

- I am not a member of any remote sensing/GIS-related organizations.
- American Association for Geodetic Surveying
- American Congress of Surveying and Mapping (ACSM)
- American Society of Photogrammetry and Remote Sensing (ASPRS)
- Association of American Geographers (AAG)
- Cartography and Geographic Information Society (CAGIS)
- Consortium for International Earth Science Information Network (CIESIN)
- Geographic and Land Information Society (GLIS)
- National Society of Professional Surveyors (NSPS)
- National States Geographic Information Council (NSGIC)
- University Consortium for Geographic Information Science (UCGIS)
- Urban and Regional Information System Agencies (URISA)
- Other (please specify) _____

Question 22 is included to determine more about the user community. As was mentioned above, changes in the user community are likely to occur in the future and these changes will be reflected in demographic statistics such as income.

Q22

What was your approximate household income from all sources (before taxes) last year? *Please check only one.*

- Less than \$10,000
- \$10,000-\$14,999
- \$15,000-\$24,999
- \$25,000-\$34,999
- \$35,000-\$49,999
- \$50,000-\$74,999
- \$75,000-\$99,999
- \$100,000-\$149,999
- \$150,000 and above

Question 23 is included to separate U.S.-based users from internationally-based users. While the opinions of international users are also important to the USGS, the current effort is focused on U.S.-based users because information about U.S. users is more relevant for the purposes of this information collection than information about users outside the borders of the U.S.

Q23

Are you, personally, based in or outside the United States? *Please check only one.*

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- I am located in the United States.
- I am located outside of the United States.

Question 24 allows respondents to express any additional thoughts or concerns about the issues raised in the survey. The responses will be analyzed to determine any unforeseen issues or problems with moderate-resolution imagery that the USGS may choose to address.

Q24

Thank you for completing the survey. If you have any additional thoughts or concerns about the issues raised in the survey, please enter your remarks in the space below. (*Open-ended - limit 1500 characters*)