The Users, Uses, and Value of Landsat and Other Moderate-Resolution in the United States—Executive Report

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USGS Open-File Report 2011-1031
http://pubs.usgs.gov/of/2011/1031

U.S. Department of the Interior
U.S. Geological Survey

Landsat Imagery: A Unique Resource

Landsat satellites provide high-quality, multi-spectral imagery of the surface of the Earth. These moderate-resolution, remotely sensed images are not just pictures, but contain many layers of data collected at different points along the visible and invisible light spectrum. These data can be manipulated to reveal what the Earth's surface looks like, including what types of vegetation are present or how a natural disaster has impacted an area (Fig. 1).
Currently, there are two Landsat satellites producing imagery: Landsat 5 and Landsat 7. The next satellite, Landsat Data Continuity Mission (LDCM), is scheduled to launch at the end of 2012. While many other satellites provide imagery, Landsat images are unique in three ways:

1. They provide complete global coverage.
2. They are now available for free.
3. Landsat's image archive reaches back more than 35 years (Fig. 2).

No other satellite imagery has that combination of attributes, which makes Landsat imagery of particular value to the global community. Understanding the value of the imagery provided by Landsat satellites is essential as future land-imaging initiatives move forward.

The Landsat Study

In a project initiated by the U.S. Geological Survey's Land Remote Sensing Program and in conjunction with researchers at the USGS Western Geographic Science Center, the USGS Fort Collins Science Center's Policy Analysis and Science Assistance Branch (PASA) is conducting a national multi-stage study to investigate the users, uses, and benefits of Landsat imagery. The goals of this study are to (1) identify and classify Landsat imagery users, (2) better understand the specific uses of the imagery as well as the extent to which it is used, and (3) determine the value of Landsat imagery to the users. The study is being implemented in three stages:

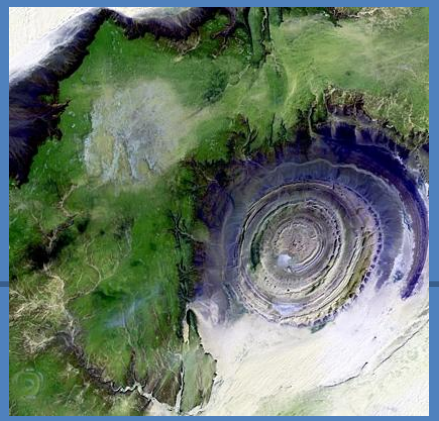
1. Survey of moderate-resolution imagery users in the United States
2. Survey of Landsat users around the world
3. Case studies of the value of Landsat imagery

Landsat Imagery: A Unique Resource

- Landsat Imagery: A Unique Resource (Home)
- Users, Uses, and Value of Landsat Imagery Survey Report (PDF)
- Additional Landsat Survey Results
- Surveying Methodology
- Valuing a Nonmarket Good Like Landsat (CVM)
- Press Release

USGS/NASA Resources

- USGS Land Remote Sensing Program
- Landsat Missions
- NASA Landsat
- EROS [products/data page]



Survey of Landsat Users: Additional Data

A selection of the results from the survey of Landsat users carried out by social scientists at the USGS Fort Collins Science Center's Policy Analysis and Science Assistance Branch is available in the executive report (link to report). Due to space constraints, the data was primarily presented by sector in the report. However, there are numerous ways the data can be examined which might be of interest; this page provides links to data which has been broken down into different categories, such as application areas. As with the results in the report, these data are not generalizable to the population of Landsat users as a whole.

Statistics

Where data are compared, chi-square (χ^2) and t-test analyses are reported if they are significant ($p < 0.001$) and have at least a small effect size. For chi-square analyses, the effect sizes are phi (Φ) or Cramer's V and for t-tests, the effect size is Cohen's d. A small effect size for phi and Cramer's V is equal to or greater than 0.1, while a small effect size for Cohen's d is equal to or greater than 0.2 (Cohen, 1988, p. 25 and 79). Again, the results presented here are not generalizable to the population of Landsat users and are included to illustrate differences within this sample of users.

Additional Data

To see figures of additional data, click on one of the topics below.

Users of Other Types of Satellite Imagery
Application Areas
Dependency on Landsat
Level of Landsat Use
Knowledge of Satellites/Sensors Used

References

Cohen, Jacob, 1988, Statistical power and analysis for the behavioral sciences (2nd ed.), Hillsdale, N.J., Lawrence Erlbaum Associates, Inc.

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