



Landsat Update

Volume 6 Issue 2, 2012

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Landsat 7 Maneuvers to Avoid Space Debris

More than half a million pieces of space junk are in orbit floating in and around operational missions. In coordination with NASA, the USGS keeps constant vigil to avoid space debris that might collide with the Landsat 5 and 7 satellites.

On April 17, 2012, Landsat 7 maneuvered out of the path of a piece of debris that was on a collision course with the spacecraft. This move will affect the location of the data imaged. As a result, the geographic coverage of collected imagery will drift to the west until the easternmost portion of the scene will be missing as compared to previous acquisitions.

On May 15, 2012, the USGS Flight Operations Team executed a maneuver that, over several weeks, will bring Landsat 7 back into the correct orbit.

Landsat 5 Thematic Mapper Ceases Routine Acquisitions

After a silent winter, the USGS turned on the Landsat 5 Thematic Mapper (TM) in late April to determine the state of the electronics problem that suspended operations in November 2011. Unfortunately, several alternate methods of acquisitions did not alleviate the problem, which severely limits any further acquisitions with the TM. Currently, the USGS plans to acquire only a handful of images over the next few weeks and examine future options. Landsat 5 has a long and storied career, and the data collected are invaluable to the study of our Earth.

The Multispectral Scanner (MSS) instrument on Landsat 5 has been reactivated and MSS data are being collected over the United States. The MSS data are being archived, but processing and distribution of the data will not be possible until the USGS develops the necessary product generation capabilities.

Landsat Global Archive Consolidation (LGAC)

The USGS Landsat Global Archive Consolidation (LGAC) effort is currently working to consolidate the Landsat archives of all stations worldwide to make all Landsat scenes available to all users. This effort to systematically acquire, reconcile, and ingest all recoverable foreign data is estimated to last a number of years. As data are successfully ingested, the Landsat scenes will become immediately available for download. More details can be found on

http://landsat.usgs.gov/Landsat_Global_Archive_Consolidation.php.

Landsat Project Statistics

A new page on the Landsat website displays statistics of the scene most recently downloaded, how Landsat data are being used, and the number of scene downloads worldwide for both WRS 2 (ETM+ and TM) and WRS 1 (MSS). Also displayed is a chart showing how data downloads have increased over the years, as well as when each million scenes were downloaded.

http://landsat.usgs.gov/Landsat_Project_Statistics.php.

Tips and Tricks – LDCM Sample Data Available

Landsat Data Continuity Mission (LDCM) sample data are available for download from http://landsat.usgs.gov/LDCM_DataProduct.php. LDCM sample data are derived from source ancillary Landsat 7 data and processed to LDCM data product specifications. Samples are available in UTM and Polar Stereographic (for Antarctic scenes) projections.

USGS EROS Hosts GOFC-GOLD Workshop

The USGS Earth Resources Observation and Science (EROS) Center hosted the 3rd Global Observation of Forest and Land Cover Dynamics (GOFC-GOLD) workshop on April 30 to May 11, 2012. GOFC-GOLD is a coordinated international effort that provides global researchers in developing countries with land cover and fire observation data. The workshop offered these researchers intensive application of data toward forest and land cover use and disseminates earth observation data in regions where current methods are ineffective. The workshop is also a way to exchange ideas on validation, management of archives, and distribution.

Eight attendees from Argentina, Congo, Democratic Republic of Congo, Ghana, Lao People's Democratic Republic, Mexico, Mozambique, and Vietnam accessed the USGS archive search engines to discover and download Landsat and other data usable for their areas of interest.

Upcoming Meetings

IGARSS 2012

July 22-27, 2012

Munich, Germany

<http://www.igarss12.org/>

ESRI International Users Conference

July 23-27, 2012

San Diego, California

<http://www.esri.com/events/user-conference/index.html>

ESA 97th Annual Meeting

August 5-10, 2012

Portland, Oregon

<http://www.esa.org/portland/>

EROS Authors in Recent Publications

Xian, G., Homer, C.G., Bunde, B., Danielson, P., Dewitz, J.A., Fry, J.A., and Pu, R., in press, Quantifying urban land cover change between 2001 and 2006 in the Gulf of Mexico region: Geocarto International, p. 1-19.

Also available online at <http://dx.doi.org/10.1080/10106049.2011.652675>

Goward, S.N., Chander, G., Pagnutti, M., Marx, A., Ryan, R., Thomas, N., and Tetrault, R., 2012, Complementarity of ResourceSat-1 AWiFS and Landsat TM/ETM+ sensors: Remote Sensing of Environment, v. 123, p. 41-56.

Also available online at <http://dx.doi.org/10.1016/j.rse.2012.03.002>

Landsat Image of Interest – Joplin, Missouri – One Year Later

On May 22, 2011, the city of Joplin, Missouri, was devastated by a catastrophic EF5 multiple vortex tornado. Estimated wind speed peaked at 225 to 250 miles per hour. The tornado caused estimated damages of \$2.8 billion, killed 161 people, and injured nearly 1,000 more. Nearly 7,000 homes were destroyed, and many more were damaged. This storm ranks as one of Missouri's and America's deadliest tornados and is the costliest single tornado in U.S. history. The cost to rebuild Joplin could reach \$3 billion.

These Landsat images show the area of Joplin, Missouri, on May 7, 2011, on June 8, 2011 after the tornado touched down, and again recently on May 9, 2012. The June 2011 image shows the track taken by the tornado through the city. One year later, the path can still be seen, but work continues to restore the damaged community, with more than 760,000 hours of service being dedicated to rebuilding the city. A Day of Unity memorial walk is planned on May 22, 2012, to observe the first anniversary of the deadly twister.

The nearly 40-year archive of Landsat imagery proves useful to create a story of the land changes over time. Imagery is useful for emergency coordinators and city leaders to make informed decisions for the futures of their communities.

USGS
science for a changing world

NASA

Landsat 7
May 7, 2011

Landsat 7
June 8, 2011

Joplin, Missouri - One Year Later

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Landsat 7
May 7, 2011

Landsat 7
June 8, 2011

Landsat 7
May 9, 2012

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

This and more **Landsat Images of Interest** can be found at <http://landsat.usgs.gov/gallery.php>.