



Landsat Update

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USGS EROS Welcomes New Director

Landsat 5 Suspension of Operations Extended

Landsat Metadata Changes

Upcoming Meetings

Tips and Tricks – EarthExplorer Bulk Download

EROS Authors in Recent Publications

Landsat Image of Interest – Urban Growth, Montgomery, Alabama

USGS EROS Welcomes New Director

From the USGS Newsroom: <http://www.usgs.gov/newsroom/>



The U.S. Geological Survey (USGS) Earth Resources Observation and Science (EROS) Center, Sioux Falls, SD, announces the selection of Dr. Frank P. Kelly to serve as the Center Director and USGS Space Policy Advisor.

"Our EROS Center is home to the LANDSAT program, which annually distributes millions of satellite images of Earth's changing landscape to users worldwide for a myriad of purposes ranging from agricultural and water management to disaster response to scientific and national security uses," explained USGS Director Marcia McNutt. "To have attracted a leader with Dr. Kelly's experience and credentials assures us that this important aspect of the USGS mission is in good hands."

Dr. Kelly comes to the USGS EROS Center from Anchorage, AK, where he served as the National Oceanic and Atmospheric Administration National Weather Service (NWS) Regional Director. Prior to being stationed in Anchorage, Dr. Kelly served in several senior leadership positions at NWS Headquarters in Silver Spring, MD, including a key role in the implementation and activation of the national deployment of inter-agency capability to transmit time-sensitive information of all hazards, including weather, hydrologic, environmental and homeland security threats.

He started his professional career in the U.S. Air Force, where he served in several capacities, including Satellite Acquisition Manager for Defense Meteorological Satellite Program. After retiring from the Air Force, he worked in the private sector as Senior Staff Scientist and later as Vice-President at Atmospheric and Environmental Research, Inc.

Dr. Kelly holds both a master's and Ph.D. from Colorado State University in Atmospheric Science (with focus on satellite meteorology, statistics, and environmental forecasting applications), and a bachelor's degree from Montana State University in Earth Science.

Directions Magazine interviewed Dr. Kelly about his new role at EROS. The podcast can be found at <http://www.directionsmag.com/podcasts/podcast-interview-with-dr.-frank-kelly-director-usgs-eros-data-center/226875>

Landsat 5 Suspension of Operations Extended

From the USGS Newsroom: <http://www.usgs.gov/newsroom/>

Landsat 5 Earth imaging operations have been suspended for an additional 90 days while the [U.S. Geological Survey](#) Flight Operations Team (FOT) continues to investigate options for the resumption of imaging.

Landsat 5 imaging was [halted in November 2011](#) when an electronic component vital to transmission of the satellite's Thematic Mapper (TM) data began showing signs of imminent failure. Following an unsuccessful attempt to recover the backup electronic component, the FOT is exploring potential changes to operational procedures for the primary component.

"The challenge of attempting to recover operations of malfunctioning, 3-decade-old components in an unmanned satellite orbiting more than 400 miles above Earth is daunting to say the least," said USGS Director Marcia McNutt. "Regardless of whether any additional data is collected, Landsat 5 has already exceeded all expectations for longevity."

Should no significant improvement in transmitting TM data be realized, a very limited amount of transmission life would remain. In that case, TM imaging will be prioritized to collect growing season imagery over the Northern Hemisphere.

Meanwhile, the USGS is researching the prospect of recovering the secondary imaging instrument on Landsat 5, the Multispectral Scanner (MSS), which was turned off many

years ago. The MSS instrument collects imagery in four spectral bands at 79-meter resolution and uses a different data transmission scheme than the TM instrument. MSS data would provide some data continuity in the event TM data could no longer be transmitted. However, the current condition of the instrument is unknown and the reception and ground processing capabilities for its data would have to be reconstituted.

As it approaches the 28th anniversary of its launch, Landsat 5 is in a safe state while the USGS is doing everything it can to restore imaging operations. Should neither the restoration of TM data transmissions nor the revival of the MSS instrument succeed, the USGS will proceed to decommission the satellite. The FOT is now developing the procedures required to turn off all systems and safely lower the orbit of Landsat 5, should this step prove necessary.

The USGS-operated Landsat 7 remains in orbit collecting global imagery. Since its launch in 1999 with a 5-year design life, Landsat 7 has experienced an instrument anomaly which reduces the amount of data collected per image. Landsat 8, currently called the Landsat Data Continuity Mission, is now scheduled to be launched in January 2013.

For further details and the latest information about the status of Landsat 5, visit the USGS [Landsat Missions website](#).

The Landsat Program is a series of Earth observing satellite missions jointly managed by the U.S. Geological Survey and [NASA](#). Landsat satellites have been consistently gathering data about our planet since 1972. They continue to improve and expand this unparalleled record of Earth's changing landscapes for the benefit of all.

Landsat Metadata Changes

To prepare for Landsat Data Continuity Mission (LDCM), all Landsat metadata will be undergoing changes. Some of these changes will include the removal of some fields, addition of pertinent fields, as well as some restructuring. This update is necessary to handle the new LDCM enhancements, while maintaining a standardized set of information across the entire 40-year archive. More details on this update are expected in the coming months.

Upcoming Meetings

ASPRS Conference
March 19-23, 2012
Sacramento, CA
<http://www.asprs.org/Conferences/Sacramento-2012/>

IGARSS 2012
July 22-27, 2012
Munich, Germany
<http://www.igarss2012.org/>

ESRI International Users Conference
July 23-27, 2012
San Diego, CA, Convention Center
www.esri.com/UC

Tips and Tricks – EarthExplorer Bulk Download

The EarthExplorer Bulk Download Application (BDA) has been created to expedite downloading many data products.

From EarthExplorer (<http://earthexplorer.usgs.gov>), items can be added to a bulk order by clicking the gold icon beside each item in the Data Set results listing.

Using GloVis (<http://glovis.usgs.gov>), you first add the desired scenes to the Scene List, then Submit. When the EarthExplorer Order/Download page appears, click the gold icon for each scene in the Downloads section of the page.

After you have selected all scenes for Bulk Download, click (Manage Bulk Download Orders) and the dialog box that appears. You will be directed to the EarthExplorer interface, where you can click on the Item Basket is located in the upper right menu bar, review the items and click Submit Order.

You will receive an order confirmation email, and also an email notification when the data are ready to download.

The Bulk Download Application will be required in order to download the data successfully. Installation details and other information on the Bulk Download Application can be found at <http://earthexplorer.usgs.gov/bulk/help>.

EROS Authors in Recent Publications

Houska, T.R., and Johnson, P.A., 2012, GloVis: U.S. Geological Survey General Information Product, 137, 2 p., available only online at <http://pubs.er.usgs.gov/publication/gip137>.

Auch, R.F., Sayler, K.L., Napton, D.E., Taylor, J.L., and Brooks, M.S., 2011, Ecoregional differences in late-20th-century land-use and land-cover change in the U.S. northern Great Plains: Great Plains Research, v. 21, no. 2, p. 231-243.

*No digital access at this time.

Drummond, M.A., Auch, R.F., Karstensen, K.A., Sayler, K.L., Taylor, J.L., and Loveland, T.R., in press, Land change variability and human–environment dynamics in the United States Great Plains: Land Use Policy. (Also available online at <http://dx.doi.org/10.1016/j.landusepol.2011.11.007>.)

Landsat Image of Interest – Urban Growth of the Montgomery, Alabama, Area

Montgomery, the capital of Alabama, is located along the Alabama River in the south central portion of the state.

In the past 30 years the population has grown from just under 125,000 to over 200,000. The growth has been based on increased tourism and commercial and industrial development. For example, Hyundai automobile manufacturing has located in Montgomery and is now a major employer.

These Landsat images show the area of Montgomery and nearby Prattville (northern urban area across the river) in 1986 and again in 2011. The change in land use from forested and croplands to urban and industrial areas can be seen by comparing the two images.

In recent years city officials implemented an ecosystem analysis project using Landsat data to assess the tree cover changes through the years. The changing land use has been a major factor in altering regional air quality, crop production, and lumber production.



Landsat 5
September 21, 1986



Landsat 5
September 10, 2011



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