USGS science for a changing world

Landsat Update Volume 5 Issue 3, 2011

Landsat Images on Display at the Library of Congress

The most recent USGS Earth as Art exhibit, the third in the series of award-winning Landsat satellite images, will be on display at the Library of Congress beginning May 31, 2011.
The images will be on display for one year.
http://www.usgs.gov/newsroom/article.asp?ID=2808

Landsat Document Donation

We need your help!
For 40 years, the Landsat program has been influential in imaging the earth. These data are assets to science, education, and industry communities across the globe. Efforts are underway to collect historical documents relating to the Landsat project. If you or your company has documents, news clippings, or letters concerning Landsat, we want them. These documents are integral to keeping data quality; and may allow us to make strides in developing improvements towards a unified global archive.

Wind, Fire, and Water

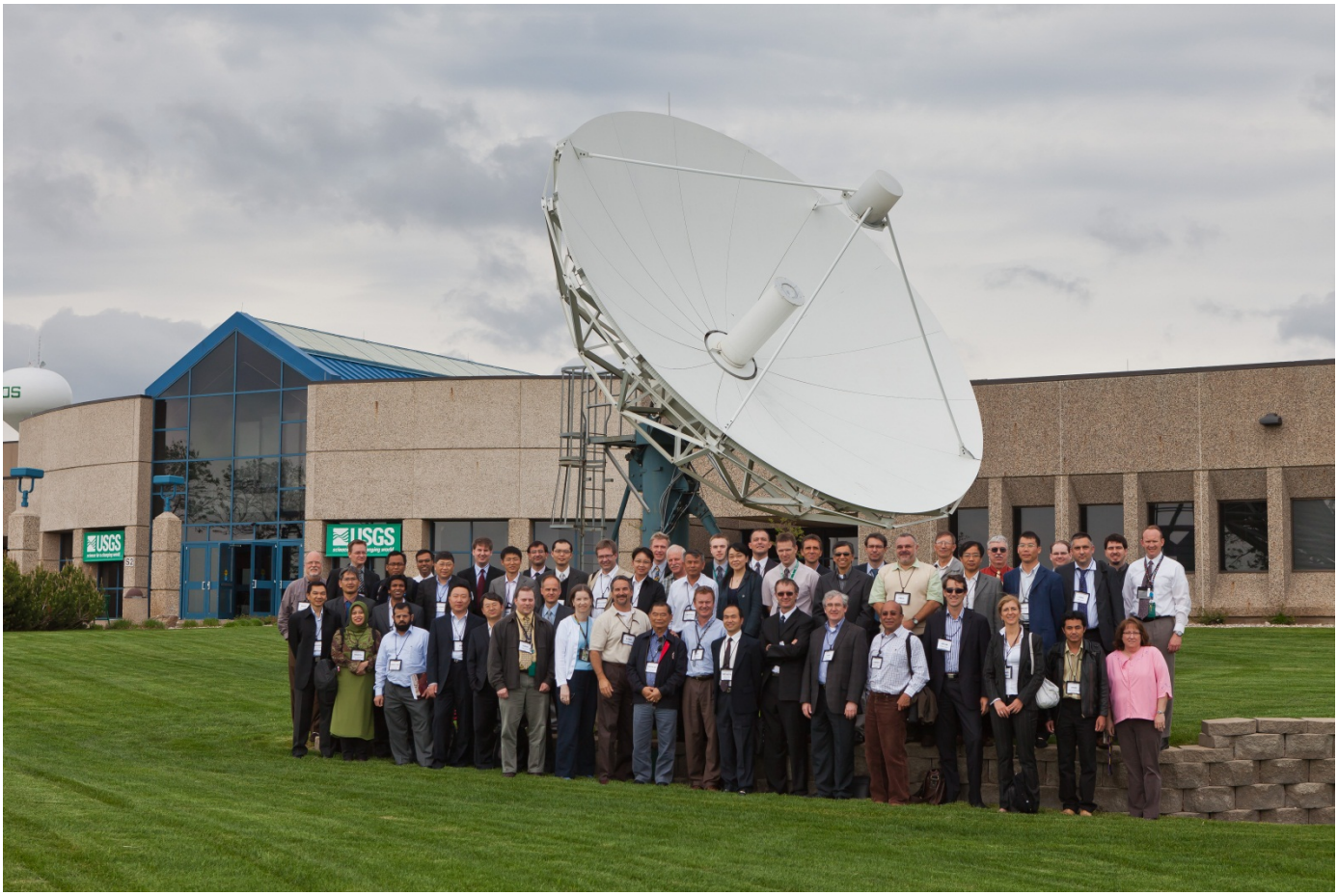
The Landsat Image Gallery displays images collected through the month of June, 2011, that depicts-landscape changes through tornados, fires, and floods.
http://landsat.usgs.gov/gallery.php

Jun. 8, 2011 • On June 1, 2011, a supercell thunderstorm developed over western Massachusetts. Landsat 5 satellite captured this natural-color image on June 5, 2011

Jun. 9, 2011 • The second largest fire in Arizona history, the Wallow Fire is graphically depicted by this Landsat image, taken June 7, which shows burning in the mountains of eastern Arizona near the border with New Mexico.

Jun. 11, 2011 • In a Landsat 5 satellite image captured June 11, 2011, flooding is still evident both east and west of the Mississippi River near Vicksburg, Miss.

Landsat Technical Working Group Meeting Held



The Landsat Technical Working Group (LTWG#20) meeting was held in Sioux Falls, SD, USA, May 23-27, 2011. Participants from 17 countries, including members of the USGS and NASA Landsat and Landsat Data Continuity Mission (LDCM) Projects, represented 23 U.S. and international ground stations and discussed a wide range of technical topics. Special guest, Anne Castle, U.S. Department of the Interior (DOI) Assistant Secretary for Water and Science, welcomed the attendees and

provided perspective on the key role played in current and future international land imaging cooperation.

Landsat Project presentations included Landsat 5 and Landsat 7 mission statuses, Global Land Survey status, the Landsat Global Archive Consolidation initiative, operational Data Validation & Exchange (DV&E) status, and Calibration/Validation. The Landsat Project also hosted a technical workshop on Landsat 1-5 Multi-Spectral Scanner (MSS) Data Processing current progress and future plans. LDCM presentations included Project and Ground System status including plans and timelines for LDCM Ground System processing software availability, the LDCM Space-to-International Cooperator (IC) interface, and DV&E and Ground Station Certification. A Landsat Science Team update was also presented, providing information on several key application and research projects. NASA also provided attendees with an overview of the overall LDCM mission status. Concurrent with the typical LTWG agenda, the USGS also hosted a 3-day Ground System Technical Workshop for its International Cooperator attendees. The workshop covered both Landsat and LDCM (Landsat 8) ground system technical information such as requirements, interfaces, design, and implementation details.

Each International Cooperator briefed the group on the status of their ground systems including electronic data delivery capabilities and challenges, presented their future satellite mission(s), provided an overview of their data distribution model(s), and discussed current status of their Landsat Global Archive Consolidation activities.

International Cooperators and U.S. attendees included representatives from the following countries and organizations:

- Argentina (CONAE)
- Australia (GA-NEO)
- Australia (DCCEE)
- Brazil (INPE, AMS Kepler)
- Canada (CCRS, MDA)
- China (CEODE)
- Ecuador (CLIRSEN)
- Europe (ESA)
- Germany (DLR)
- Indonesia (LAPAN)
- Japan (RESTEC)
- Mexico (CONABIO)
- Russia (ScanEx)
- Saudi Arabia (KACST)
- South Africa (SANSA, PinkMatter)
- Sweden (SSC)
- Thailand (GISTDA)
  United States (DOI, USGS, NASA, Aerospace, Honeywell, Lockheed Martin, SeaSpace, SGT, Virtuoso)

Upcoming Meetings

ESRI International User Conference
July 11-15, 2011
San Diego, California
http://www.esri.com/events/user-conference/index.html

William T. Pecora Memorial Remote Sensing Symposium – Pecora 18
November 14-17, 2011
Herndon, Virginia
http://www.asprs.org/Pecora18

Tips and Tricks –What is the Processing Level of a Landsat scene?

The processing levels of Landsat scenes [Level 1G-systematic (L1G) or Level 1T-terrain (L1T) can be viewed in the metadata of a particular scene, or by searching the Data Type Level field within the Additional Criteria tab on EarthExplorer (http://earthexplorer.usgs.gov).

EROS Authors in Recent Publications

Cao, C.X., Uprety, S., Xiong, J., Ungar, S., Wu, A., Jing, P., Smith, D., **Chander, G.**, and Fox, N., 2010, Establishing the Antarctic Dome C community reference standard site towards consistent measurements from Earth observation satellites: Canadian Journal of Remote Sensing, v. 36, no. 5, p. 498-513. (Also available online at http://dx.doi.org/10.5589/m10-075.)

Vogelmann, J.E., Kost, J.R., Tolk, B.L., Howard, S.M., Short, K., **Chen, X**., Huang, C., **Pabst, K., and Rollins, M.G., 2011,** Monitoring landscape change for LANDFIRE using multi-temporal satellite imagery and ancillary data: IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, v. 4, no. 2, p. 252-264. (Also available online at http://dx.doi.org/10.1109/JSTARS.2010.2044478.)

Landsat Image of Interest – Shrinking Lake Meredith, Texas

Lake Meredith is an artificial reservoir formed by the Sanford Dam on the Canadian River in the panhandle of Texas. The lake was originally created as a major source of water for area communities and for developing recreational opportunities. Due to continuous drought, water levels have declined significantly in the past few years, leading to the record low in 2011.

These Landsat 5 satellite images, acquired in 1990 and 2011, clearly illustrate the declining water levels. The lake is represented by the black feature near the center of the image. The light tones at the lower end of the lake indicate dry lands and former shores. The bright green indicates healthy vegetation along the river beds. The nearby industrial area (a petroleum plant and a carbon processing plant) show as a dark tone in the image, and the community of Borger, Texas, can be seen in the right central portion of the image as a light blue tone. Irrigated fields show in the upper center of the image.

Landsat satellite images are useful in monitoring change on the Earth's surface. These images provide Texas officials with data to monitor the size of the lake over an extended period of time. Those data are useful for studying the effects of the drying and are helpful for planning future water usage.

Landsat Images of Interest can be downloaded from the Landsat Image Gallery - http://landsat.usgs.gov/gallery.php.