



## **Landsat Update**

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### **New Landsat 5 Thematic Mapper Acquisition Scheduler**

### **Landsat 7 Turns Eleven**

### **Landsat YouTube – A Space Age Water Gauge, Landsat Flyby**

### **Dr. Jeff Masek Named NASA Landsat Project Scientist**

### **Meetings & Conferences – Landsat Technical Working Group Meeting**

### **EROS Authors in Recent Publications**

### **Landsat Images of Interest – Flooding in Tennessee**

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### **New Landsat 5 Thematic Mapper Acquisition Scheduler**

A new Landsat 5 Thematic Mapper (TM) acquisition scheduler was released on May 6, 2010. Similar to that employed by Landsat 7 operations, the new scheduler incorporates daily global cloud forecasts along with seasonal cloud climatology to increase the relative likelihood of acquiring usable imagery. This system has the goal of extending the Landsat 5 Mission while targeting scene opportunities most likely to yield high quality imagery for the global archive.

### **Landsat 7 Turns Eleven**

On Apr. 15, 1999, Landsat 7 was launched into orbit. Considered the most accurately calibrated Earth-observing satellite, Landsat 7 measurements are extremely accurate when compared to the same measurements made on the ground. Excellent data quality, consistent global archiving scheme, and free data are hallmarks of its impressive tenure.

The Landsat 7 mission had few issues until May 2003 when a hardware component failure left wedge-shaped spaces of missing data on either side of its images. Despite these problems and the resulting data loss of 22 percent of each image, Landsat 7 data is still highly useful for many scientific applications.

## **Landsat YouTube:**

### **A Space Age Water Gauge**

Water specialists Rick Allen, Bill Kramber and Tony Morse have created an innovative satellite-based method that maps agricultural water consumption. The team uses Landsat thermal band data to measure the amount of water evaporating from the soil and transpiring from plants leaves. Evapotranspiring water absorbs energy, so farm fields consuming more water appear cooler in the thermal band. The Landsat observations provide an objective way for water managers to assess on a field-by-field basis how much water agricultural growers are using. Landsat is a joint program of NASA and the US Geological Survey.

<http://www.worldvideonews.net/nasa-usgs-landsat-a-space-age-water-gauge/>

### **A Landsat Flyby**

The Landsat program is the longest continuous global record of the Earth's surface, and continues to deliver both visually stunning and scientifically valuable images of our planet. This short video highlights Landsat's many benefits to society. For more information: [landsat.gsfc.nasa.gov](http://landsat.gsfc.nasa.gov)

<http://www.worldvideonews.net/nasa-a-landsat-flyby/>

## **Dr. Jeff Masek Named NASA Landsat Project Scientist**

Jeff Masek has been named the NASA Landsat Project Scientist replacing Darrel Williams who recently retired from NASA. Masek had been serving as Deputy Project Scientist for the Landsat Data Continuity Mission (LDCM) since 2002. Masek is a Research Scientist in the Biospheric Sciences Branch at NASA Goddard Space Flight Center whose research interests include mapping land-cover change in temperate environments, application of advanced computing to remote sensing, and satellite remote sensing techniques.

[http://landsat.gsfc.nasa.gov/news/news-archive/news\\_0255.html](http://landsat.gsfc.nasa.gov/news/news-archive/news_0255.html)

## Meetings & Conferences

### Landsat Technical Working Group Meeting

The 2010 Landsat Technical Working Group (LTWG-19) meeting was held in Phuket, Thailand, on March 22–26, 2010. The meeting was jointly organized by the USGS and NASA and was hosted by the Thailand Geo-Informatics and Space Technology Development Agency (GISTDA).

Participants from 9 countries, including members of the USGS Landsat and Landsat Data Continuity Mission (LDCM) Projects, represented 14 international ground stations and discussed a wide range of technical topics.



### Upcoming Meetings

#### ESRI International User Conference

July 12-16, 2010 - San Diego, California

## **EROS Authors in Recent Publications**

**Angal, A., Xiong, X., Choi, T.-Y., Chander, G., and Wu, A.,** 2010, Using the Sonoran and Libyan Desert test sites to monitor the temporal stability of reflective solar bands for Landsat 7 Enhanced Thematic Mapper Plus and Terra moderate resolution imaging spectroradiometer sensors: *Journal of Applied Remote Sensing*, v. 4, no. 1, p. 043525-12.  
<http://dx.doi.org/10.1117/1.3424910>

**Xian, G., and Homer, C.G.,** in press, Updating the 2001 National Land Cover Database impervious surface products to 2006 using Landsat imagery change detection methods: *Remote Sensing of Environment*.  
<http://dx.doi.org/10.1016/j.rse.2010.02.018>

**Hansen, M.C., Stehman, S.V., and Potapov, P.V.,** 2010, Quantification of global gross forest cover loss: *Proceedings of the National Academy of Sciences*.  
<http://dx.doi.org/10.1073/pnas.0912668107>

**Lu, Z., Zhang, J., Zhang, Y., and Dzurisin, D.,** 2010, Monitoring and characterizing natural hazards with satellite InSAR imagery: *Annals of GIS*, v. 16, no. 1, p. 55-66.  
<http://prod.informaworld.com/10.1080/19475681003700914>

**Zhang, J., Xu, Y., Yao, F., Wang, P., Guo, W., Li, L., and Yang, L.,** 2010, Advances in estimation methods of vegetation water content based on optical remote sensing techniques: *Science China Technological Sciences*, p. 1-9.  
<http://www.springerlink.com/content/r777367u5565612h/>

## Landsat Image of Interest

These Landsat 5 images show how record-breaking rainfall from severe storms on May 1 and 2, 2010, affected the Mississippi River along the state borders of Tennessee, Kentucky, Arkansas, and Missouri.

The water has receded from the populated areas of Memphis, which is just south of the image, but some families are still living in shelters due to health hazards that resulted from the flooding.



Landsat 5  
April 21, 2010

Landsat 5  
May 7, 2010

### Tennessee Flooding

These Landsat 5 images show how record-breaking rainfall from severe storms on May 1 and 2, 2010, affected the Mississippi River along the state borders of Tennessee, Kentucky, Arkansas, and Missouri.

The water has receded from the populated areas of Memphis, which is just south of the image, but some families are still living in shelters due to health hazards that resulted from the flooding.

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