

Landsat Data Policy – *Status and Future Plans*

presented by

Bruce K. Quirk
National Coordinator, Land Remote Sensing
U.S. Geological Survey

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Department of the Interior
U.S. Geological Survey



Bolivia Deforestation

These images show the progression of deforestation in Bolivia from 1975 to 2003. This area lies northeast of Santa Cruz de la Sierra, Bolivia, in an area of tropical dry forest. Since the mid-1980s, the resettlement of people from the Altiplano (the Andean high plains) and a large agricultural development effort (the Tierras Baja project) has led to this area's deforestation.

What is Landsat?

- Landsat is a multispectral land remote sensing program dating back to 1972
- Landsats 1-4 are no longer operating and Landsat 6 failed to reach orbit
- Landsats 5 & 7 are presently operating and well beyond their design lives
- Landsat Data Continuity Mission (LDCM) is in development and will launch in December 2012 – it becomes Landsat 8
- Planning for Landsat 9 is just starting – it will launch in December 2017
- USGS has over 2.4 million Landsat images that are the only global, radiometrically accurate record of land cover available over the last 38+ years

Many diverse uses of Landsat data include:

- Agriculture
- Mapping
- Fire/Disaster Management
- Carbon Inventory/Credits
- Land Use Planning
- Deforestation
- Global Change
- Flood management
- National Security
- Ecosystem Monitoring
- Land Use/Land Cover
- Famine Early Warning
- Drought Monitoring
- Insurance Risk Management
- International Treaty Management

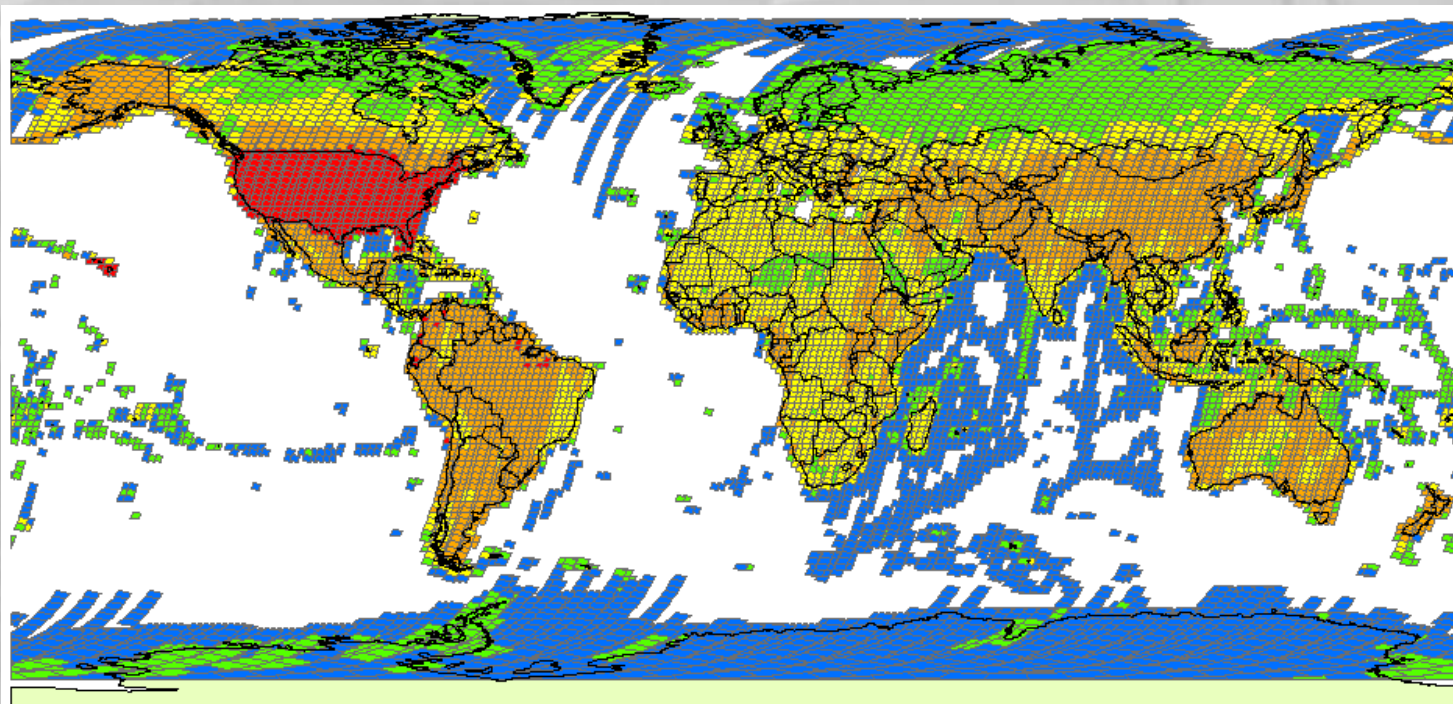
Landsat Data Distribution Policy

Extends principles of the Landsat 7 Data Policy to data collected from Landsats 1 through 5, 7 and the Landsat Data Continuity Mission (LDCM) with the following goals:

- Ensure that all data products are available to any user at no more than the cost of fulfilling user requests (COFUR);
- Ensure timely and dependable delivery of data products to the full spectrum of civilian, national security, commercial, and foreign users, with no delays imposed between data reception, processing, and distribution;
- Provide non-discriminatory, unrestricted access to the Landsat Archive and disseminates, in Internet-accessible or web-enabled digital formats, selected standard data products;
- Comply with recognized Federal Geographic Data Committee standards, formats, and metadata descriptions to ensure these products can be used by a broad range of users;
- Promote the open and unrestricted exchange and redistribution of Landsat data products or place no restrictions on users of Landsat data products obtained from the USGS or on users who create and sell or otherwise distribute products derived from Landsat products originally distributed by the USGS; and
- Policy established in January 2008, based on Office of Management and Budget circular A-130, (Management of Federal Information Resources).

Data Access Methods

- Global Visualization (GloVis)
 - <http://glovis.usgs.gov/>
- Earth Explorer
 - <http://earthexplorer.usgs.gov/>



Full Marketable ETM+ Scenes Archived in U.S. Archive
Through 31 August 2008

Marketable Scenes: 857,823

Scenes with 30% Cloud Cover or Less: 487,194

1 - 20 21 - 56 57 - 96 97 - 159 160 - 206

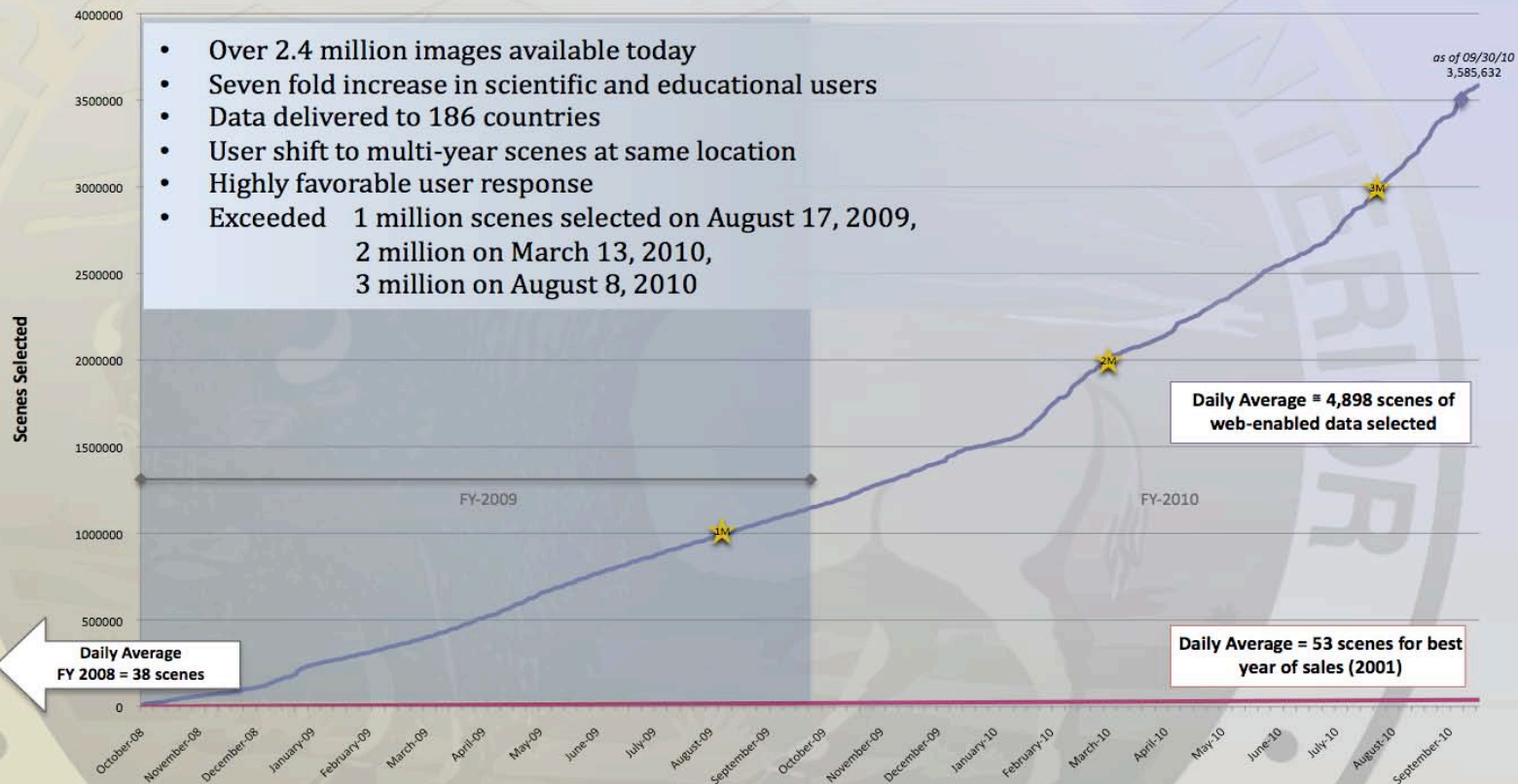


U.S. Landsat Archive

Worldwide Distribution of Landsat Data

Landsat Web-Enabled Imagery

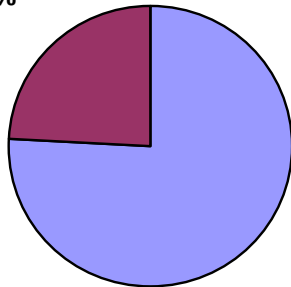
Total Landsat Scenes Selected By Users Since October 1, 2008



Web-enabled Customer Demographics

Downloads by Country

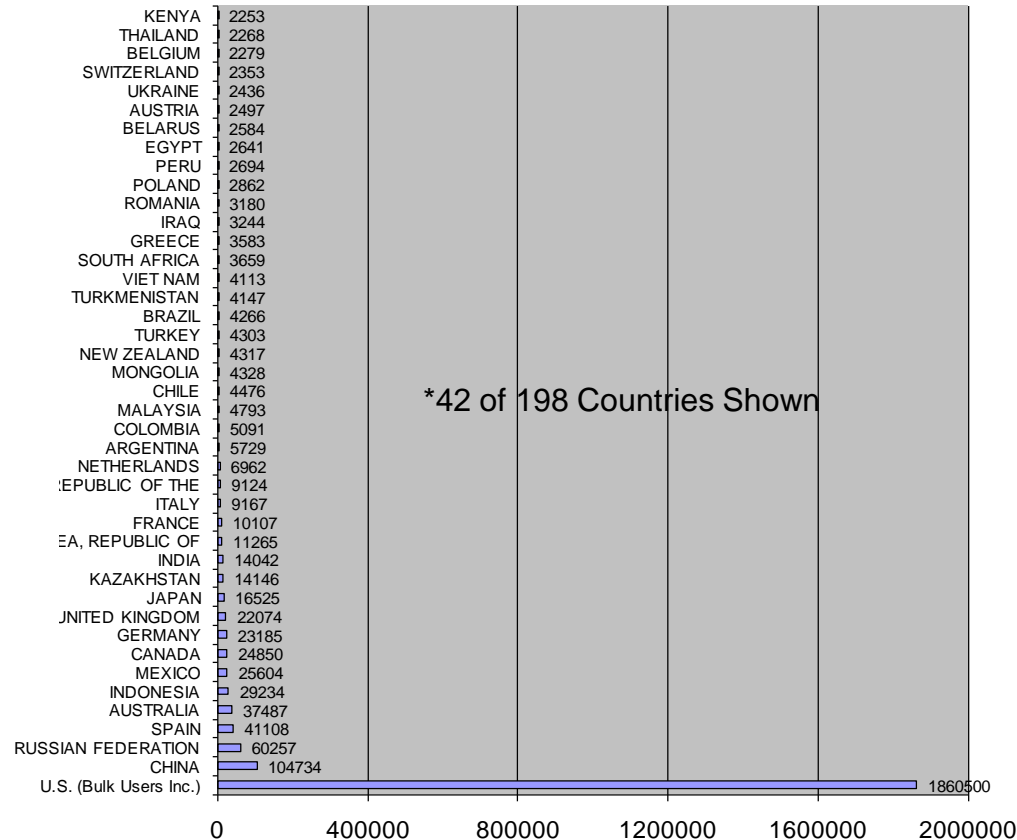
Other
24%



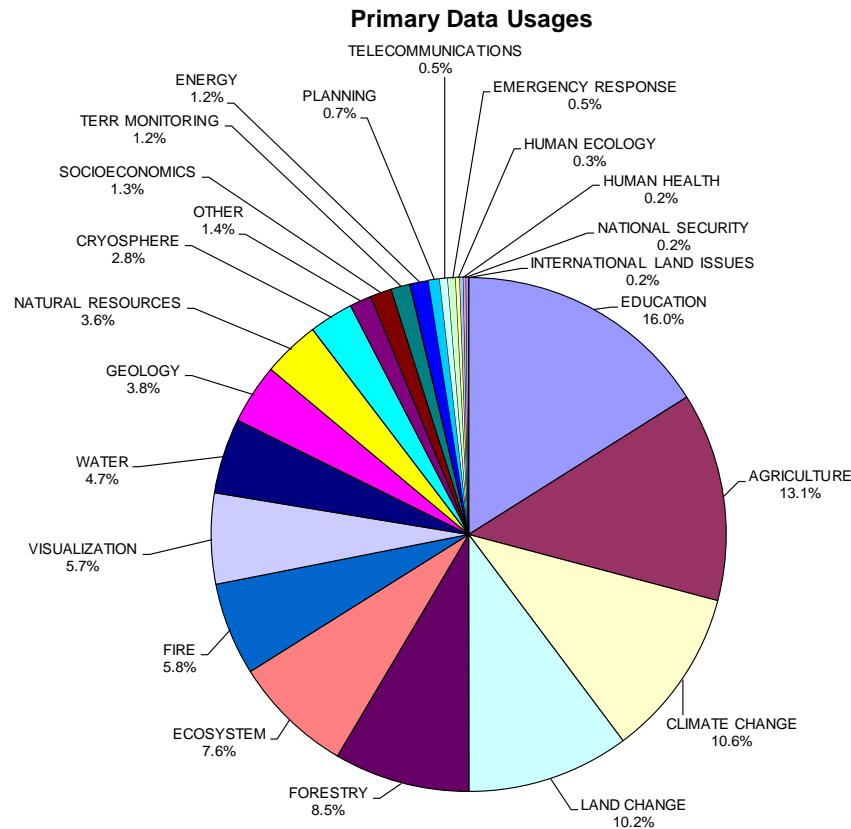
**U.S. (Bulk
Users Inc.)
76%**

* Stats 10/1/09 through 9/30/10

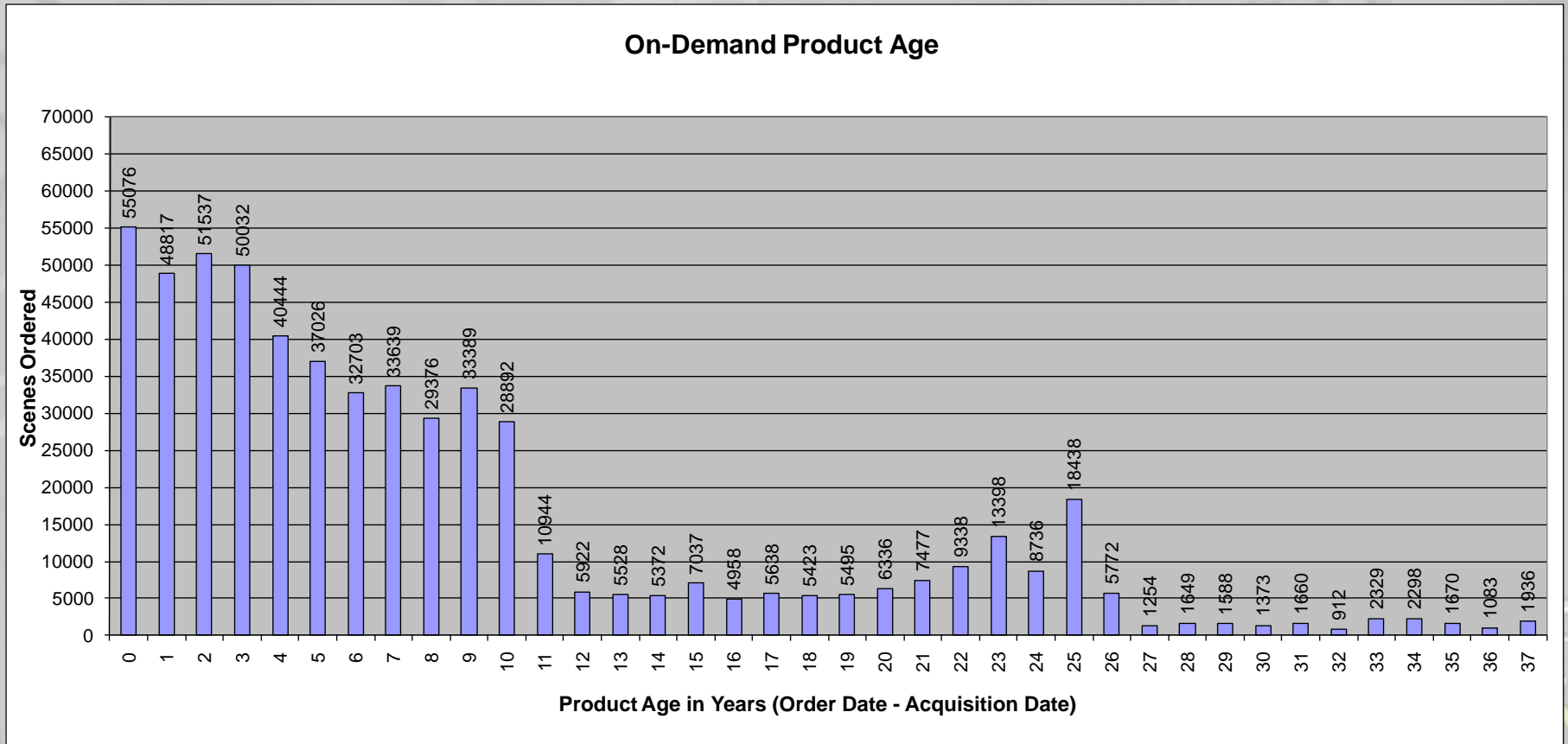
**Standard L1T Downloads by Country
(Countries with >1000 Scenes Downloaded)**



Primary Uses of Landsat Data



Age of Landsat Data Distributed to Users



* Stats 10/1/09 through 09/30/10

Summary

- Continuation of Landsat global mapping program
- Contributes to the > 38 year global archive of well-calibrated data
- Internet access to millions of Landsat scenes available at no charge without licensing restrictions
- Shift from orthorectified scenes to Essential Climate Variables
- New U.S. space policy moving towards operational Landsat program



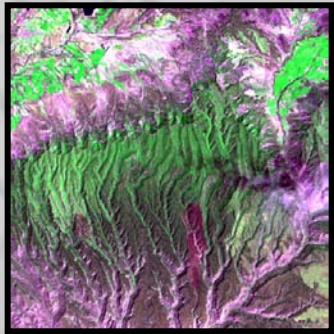
Landsat 7: Lena Delta

Image taken 7/27/2000 The Lena River, some 2,800 miles (4,400 km) long, is one of the largest rivers in the world. The Lena Delta Reserve is the most extensive protected wilderness area in Russia. It is an important refuge and breeding grounds for many species of Siberian wildlife.



Value of the Archive

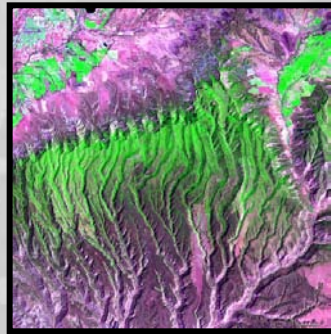
Mesa Verde National Park Fire Atlas



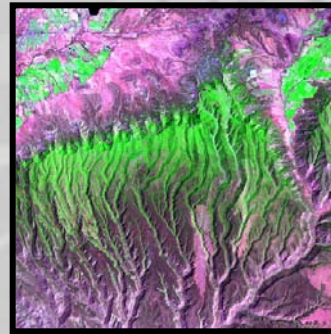
1973



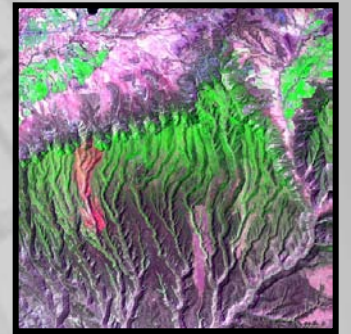
1978



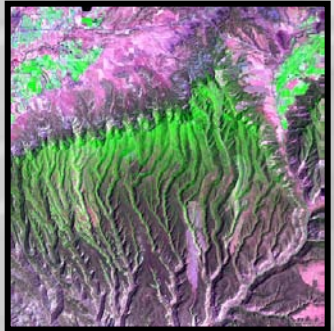
1984



1989



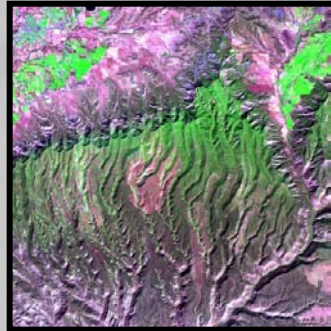
1990



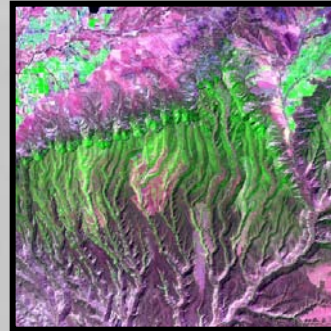
1996



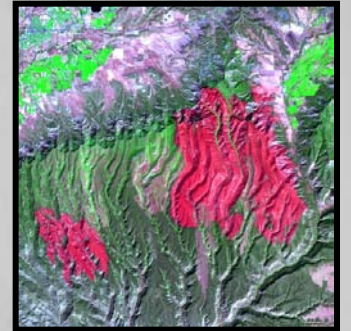
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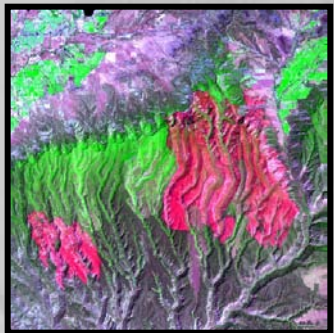
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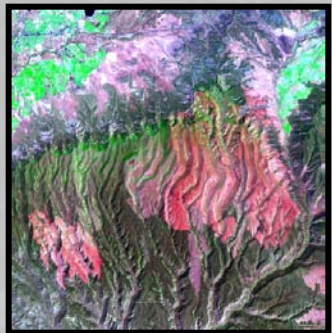
2000



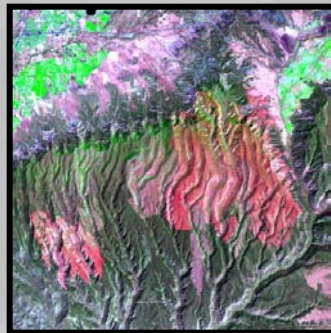
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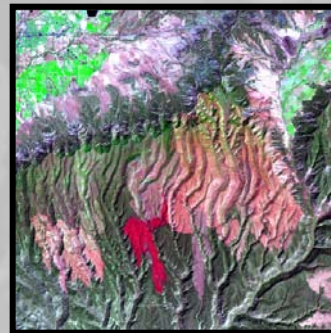
2001



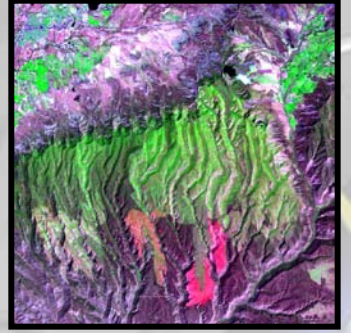
2002



2002



2002



2004

Landsat Remote Sensing of Global Change

Role in Global Change Research

- Impacts of land use and land cover change
 - Carbon cycle dynamics
 - Changes in ecosystem services, e.g., deforestation
 - Carbon inventory
 - Carbon credit verification
- Monitoring climate-driven land dynamics
 - Changes in snow and ice extent, e.g., glaciers
 - Changes in fire frequency and severity
 - Drought cycles
- Climate studies
 - Human dimensions of global change
 - Land-atmosphere interactions
 - Land use modifications of weather and climate
- Essential Climate Variables (ECVs) - Terrestrial
 - River discharge, Water use, Ground water, Lake levels, Snow cover, Glaciers and ice caps, Permafrost and seasonally-frozen ground, Albedo, Land cover (including vegetation type), Fraction of absorbed photosynthetically active radiation (fPAR), Leaf area index (LAI), Biomass, Fire disturbance, Soil moisture.

