

Status: Landsat & USGS Geography

Landsat Science Team Meeting
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Current Topics of Note

- **LDCM Progress / TIRS**
 - LDCM Ground System Strategy Modification
 - EROS Contracts Re-compete
 - NASA OCO / TIRS Decision Process
- **EROS in Transition**
 - EROS Director
 - Web-enabled Landsat Archive
 - New Approaches for EROS Data Operations
- **Geography Science Strategy**
 - Linkage to USGS Science Strategy
 - Harnessing the National Map
 - Ecologic Carbon Sequestration
- **Landsat Report to the Appropriations Committees**



LDCM Progress / TIRS

- **LDCM Ground System Strategy Modification**
 - Ground System PDR moved to being just prior to LDCM System PDR
 - Benefit from existing Landsat web-enabled infrastructure
 - Better suits available funding
- **EROS Contracts Re-compete**
 - Notice to vendors posted February 27
 - RFP Release anticipated by late Summer 2009
 - Contract Award scheduled for April 2010
- **NASA OCO / TIRS Decision Process**
 - TIRS achieved successful PDR
 - NASA examining 3 options for OCO accommodation, including 2 OCO / TIRS combinations
 - USGS Position: No OCO / TIRS Combination is acceptable
 - Working to stop NASA pursuing these 2 options

EROS in Transition

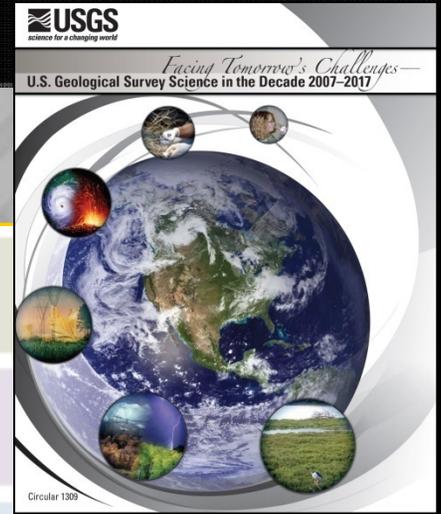
- **USGS pursuing DOI approval for EROS Director SES**
 - Will result in a National Search
 - Recognized leader in space and Earth science needed
- **Web-enabled Landsat Archive**
 - Remarkable achievement denotes the significance of Landsat
 - Bolsters the argument for National Land Imaging
- **New Approaches for EROS Data Operations**
 - Need to examine post-Landsat 8 Era Operations
 - Role of the National Archive
 - Right-sized Infrastructure for Extensible Data Operations
 - Coordinated Global Land Measures and Constellation Science
 - Multinational Contingency Data Operations

Geography Science Strategy

- **Linkage to USGS Science Strategy**
 - Examining relationship of Geography to USGS Science
 - Beyond Imagery and Cartographic representation
 - Multi-dimensional spatial coordination of physical science, demography, and socio-economics
 - Variables, processes, models, and questions of merit
 - Climate & Global Change, Land Management, Ecosystem Services
- **Harnessing the National Map**
 - Restoring USGS map production services
 - Focus on layers needed for modern GIS
 - Vehicle for USGS science integration and delivery
- **Ecologic Carbon Sequestration**
 - Partnership between USGS Geography and Biology Disciplines
 - Energy Independence and Security Act of 2007
 - Emerging Cap-and-Trade and Copenhagen processes
 - Obama Administration focus on Energy and Climate



USGS Science Strategy



Understanding Ecosystems and Predicting Ecosystem Change:
Ensuring the Nation's Economic and Environmental Future



Climate Variability and Change:
Clarifying the Record and Assessing Consequences



Energy and Minerals for America's Future:
Providing a Scientific Foundation for Resource Security, Environmental Health,
Economic Vitality, and Land Management



A National Hazards, Risk, and Resilience Assessment Program:
Ensuring the Long-Term Health and Wealth of the Nation



The Role of Environment and Wildlife in Human Health:
A System that Identifies Environmental Risk to Public Health in America



A Water Census of the United States:
Quantifying, Forecasting, and Securing Freshwater for America's Future

Landsat Report to the Appropriations Committees

- **“NASA is further directed to develop, in cooperation with the Office of Science and Technology Policy (OSTP) and the U.S. Geological Survey (USGS), a plan for a follow-on mission to LDCM consistent with the recommendations of the National Science and Technology Council's report, *A Plan for a U.S. National Land Imaging Program*. This plan is due to the House and Senate Committees on Appropriations no later than August 31, 2009.”**
- **Draft in preparation**
- **Defines Landsat Continuity Component Parts: Data, Operations, Management, Measurement, Mission, Technology, and Policy Continuity**
- **Consistent with OSTP NLI Recommendations**
- **Anticipate support from DOI, OMB/OSTP, and Congress**
- **USGS will also need to address “jurisdictional questions” about source of Congressional Appropriations**



Landsat 9 Requirements (from current draft of Congressional Report)

The technical design of a follow-on mission to LDCM should meet the following guidelines:

- Ensure the highest level of mission continuity possible given the fact that Landsat-8, should it survive launch, is likely to be the only Landsat satellite on orbit for a number of years.
- Optimize the satellite development schedule to achieve the shortest possible time between Landsat-8 and Landsat-9 launches, given the possibility of losing Landsat-8 at the time of launch.
- At minimum, meet the same system and subsystem reliability characteristics as Landsat-8.
- If possible, advance the satellite system's technical performance requirements to achieve greater temporal frequency of coverage of the Earth's surface and greater levels of spatial resolution.
- Consider adopting spectral bands to make Landsat compatible with the European Sentinel-2 satellite, a potential sister companion to future Landsat satellites.
- If possible, provide accommodations for testing and demonstrating future-generation land imaging instrument technologies for consideration for adoption aboard future NLI operational satellite systems.
- Provide for on-going upgrade to the EROS archive and ground data processing systems necessary to receive, archive, process, and distribute satellite and aerial data from sources that complement and enhance United States scientific and operational purposes.