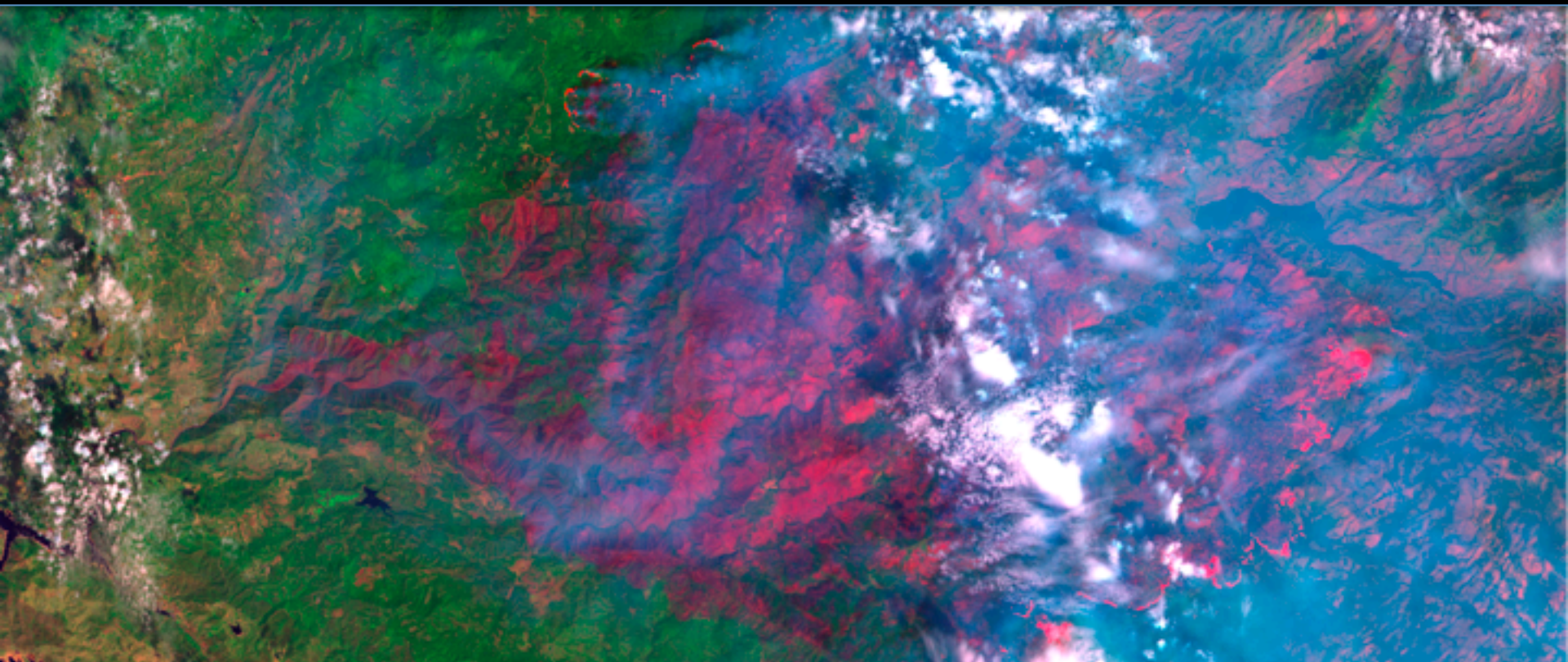




SUSTAINABLE LAND IMAGING ARCHITECTURE STUDY INDUSTRY & PARTNER DAY



Study Implementation Plan

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Land Imaging in FY 2014 President's Budget for NASA

*In FY14 NASA will initiate the definition of a sustained, space-based, global land imaging capability for the nation, ensuring continuity following LDCM. Near-term activities led by NASA, in cooperation with USGS, will focus on **studies** to define the scope, measurement approaches, cost, and risk of a viable long-term land imaging system that will achieve national objectives. Evaluations and design activities will include consideration of stand-alone new instruments and satellites, as well as potential international partnerships. It is expected that NASA will support the overall system design, flight system implementation, and launch of future missions, while USGS will continue to fund ground system development, post-launch operations, and data processing, archiving, and distribution.*

- President's FY 2014 Budget release

NASA – USGS Collaboration

Study Phase

- NASA will lead the overall system architecture study, utilizing its space systems engineering expertise
- USGS will support all aspects of the study; USGS will represent the consolidated needs and desires of the Landsat user communities and provide expert analyses of the data processing and data dissemination aspects of the system

Implementation Phase

- NASA will be responsible for the overall system design, as well as the implementation, launch, and commissioning of the system's space-borne elements
- USGS will provide unique expertise and guidance in the design of the operations, ground network, data processing (including integration of measurements from multiple sources), and data dissemination components of the complete system
- USGS will be responsible for operating the space-borne assets after commissioning, as well as the downlink, ground processing, archiving, and distribution of the system's information and data products
- The USGS will maintain the national archive of Landsat data, distribute data to users, and administer, on behalf of the U.S. Government, data acquisition by non-USG ground stations.

Study Objectives

- Define a system for delivering sustained global land-imaging multispectral and thermal infrared information for an approximately 20-year period starting in 2018
- Provide options which consider various weightings of near-term capability, continuity/gap risk mitigation, technology infusion over the system's lifetime, and cost
- Consider refined capabilities requested by the user communities
- Include consideration of new measurement approaches, as well as potential international and private sector partnerships
- Provide complete system architecture recommendations to the Executive Office of the President by August 15, 2014

Cost Factors

- Programmatic stability recognizes that system cost is a critical parameter in the overall design
- The NASA budget includes development, launch, and commissioning of the space-borne assets
- The USGS budget includes mission operations, ground systems, and data archiving and distribution
- Trade-offs between the space and ground elements must factor in the budget constraints of each Agency

Architecture Study Approach

- NASA and USGS are establishing the Land Imaging Architecture Study Team (AST) within the NASA Earth Systematic Missions Program Office
 - Will include representatives from NASA Centers, USGS, JPL, Aerospace, others
 - Will be informed by the RFI responses
 - Will conduct independent analyses and architecture feasibility studies
- NASA is releasing an RFI today (9/18/13) with inputs due in 30 days
 - Responses will be used as an input to the study
- The AST will present initial findings to NASA and USGS
- NASA and USGS will hold a Community Workshop to communicate architecture options and to elicit feedback
- The AST will refine architecture options and present them to NASA and USGS for final review and evaluation
- The study activity will result in recommendations and an implementation plan for a Sustainable Land Imaging System (combined space and ground system) to be provided to the Executive Office of the President by August 15, 2014

Community Engagement

NASA and USGS will communicate the progress of the study with the community at established, planned events:

October 2013	Landsat Science Team Meeting
December 2013	USGS/NASA User's Workshop (target)
February 2014	American Meteorological Society (AMS) Meeting
April 2014	American Society for Photogrammetry and Remote Sensing (ASPRS)/Joint Agency Commercial Imagery Evaluation (JACIE) Meeting
April 2014	NASA/USGS Community Workshop (target)

Request for Information

- On behalf of the joint agency Architecture Study Team, NASA is seeking information on system concepts and innovative approaches for the Sustainable Land Imaging Architecture study, including a range of solutions:
 - Large and small dedicated spacecraft
 - Formation flying
 - Hosted instruments
 - Integration of other land imaging data sets
 - International collaborations
 - Private sector partnerships
- We are also seeking information on, and will give careful consideration to, current and future planned ground system capabilities in light of those provided by the established USGS Earth Resources Observation and Science (EROS) Center.
- RFI responses should recognize that lowering the system's overall cost to the nation is an important goal, and that implementing an affordable system is an essential programmatic requirement for the U.S. Government.
- NASA is especially looking for complete system architecture solutions addressing all of the observational and data parameters, as specified in the provided Landsat 8 Reference Parameters. NASA also welcomes concepts that may address portions of those parameters and their performance capabilities.
- NASA is also interested in ideas for flexible system designs that efficiently enable technology infusion and evolution of measurement approaches over the lifetime of the system.

RFI Responses (1 of 2)

Organization information: Organization name and address, point-of-contact name, E-mail address, phone number.

Abstract: Provide a brief summary of the system concept or participatory engagement approach.

System concept: Describe the system concept and functions, how it addresses the objectives and requirements in this RFI, and its maturity (Technology Readiness Level) both at present and projected with a maturation plan at the time of implementation (if for a future capability).

Development approach: Outline the approach and timeline for developing and testing the system concept.

Performance Capability: An addendum to this RFI at <http://espd.gsfc.nasa.gov/landimagingstudy/> provides a synopsis of LDCM science mission level specifications as potential reference parameters for RFI responses. In this regard, RFI responses should compare the capabilities and characteristics of future land imaging system concepts to those reference parameters.

Calibration: Describe the methods used or planned for providing calibrated data (i.e., how is data quality maintained), and validating that the data meet specifications.

Technology Evolution or Infusion: Describe the aspects of the system concept that will evolve over the lifetime of the program and how that technology will be infused in the described mission architecture.

System Cost Estimate: Provide an estimate of the cost to build, implement, and operate the system concept with accompanying assumptions and rationale (for reference purposes only).

RFI Responses (2 of 2)

- The RFI will be released today at 4:30 p.m. (EDT)
<http://espd.gsfc.nasa.gov/landimagingstudy/>
- Responses are due by 5 p.m. (EDT) on October 18, 2013
Responses should be addressed to
David B. Jarrett
HQ-LandImaging-RFI@mail.nasa.gov
Subject Line: RFI for Land Imaging Study
- Responses should be in PDF format with a 20-page limit and not greater than 8 MB in size.
- Only material suitable for full and open distribution shall be submitted. No proprietary, export controlled, classified, or sensitive material should be provided.
- The RFI is for planning and information purposes only and is not to be construed as a commitment by the Government to enter into a contractual agreement, nor will the Government pay for information solicited.

FY 14 Schedule

1st Quarter FY 14

- Receive RFI Inputs
- Perform initial system and specialty trade studies
- Conduct User's Workshop

2nd Quarter FY 14

- Triage multiple system architecture approaches
- Conduct Community Workshop to solicit community feedback

3rd Quarter FY 14

- Refine final system architectures
- Produce final report and implementation plan