

SUSTAINABLE LAND IMAGING ARCHITECTURE STUDY

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ABSTRACT:

The FY 2014 President's budget for NASA called for "...the definition of a sustained, space-based, global land imaging capability for the nation, ensuring continuity following LDCM." This resulted in chartering the NASA/USGS Sustainable Land Imaging Architecture Study Team (AST) to conduct a comprehensive study and develop a set of complete, sustainable system architecture alternatives and recommendations, to be provided to the Executive Office of the President by August 15, 2014. Overall, the AST was asked to define a system for delivering sustained global land-imaging multispectral and thermal infrared information for an approximately 20-year period starting in 2018 under the constraints of a fixed budget profile.

The architecture study tenets included program sustainability, continuity, and reliability. While the basic system requirement is the continuation of global Landsat-like data and information having the quality of Landsat-8 products, the AST considered refined capabilities requested by the user community. Additionally, the AST also considered a range of implementation strategies that may spur innovation and increase efficiencies. Exploration of the land imaging trade space was exhaustive and was narrowed through a series of three design phases where candidate architectures were assessed based on their technical performance, reliability, cost, schedule and risk. The AST generated a comprehensive final report, which contains the architecture options and AST recommendations for a sustained land imaging program for the nation.