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NGAC Landsat Advisory Group (LAG) Subcommittee Report

NGAC Meeting
October 12, 2023

Frank Avila, LAG Chair
Vasit Sagan, LAG Member

LAG Mission

Provide advice *to the Federal Government, through the Department of the Interior National Geospatial Advisory Committee,*
on the requirements, objectives and actions of the Landsat Program
as they apply to continued delivery of societal benefits for the Nation and the global Earth observation community

The LAG was established in 2012 as a subcommittee of the NGAC.

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LAG Membership – October 2023

Name	Organization
Frank Avila (Chair)*	National Geospatial-Intelligence Agency (NGA)
Vasit Sagan (Vice Chair)*	St. Louis University
Mariel Borowitz	Georgia Institute of Technology
Holli Howard*	Google Maps
Keith Masback	Plum Run LLC
Anne Miglarese	Radiant Earth Foundation
Devaki Raj*	CrowdAI
Federal Contacts: Tim Newman and Tim Stryker	

***NGAC Members**

Published LAG Reports

Water's Edge of National Land Imaging Program Scope – September 2022
Landsat in the Cloud – May 2022
Revisiting the Land Remote Sensing Policy Act of 1992 – April 2021
Formulating a Big Data Science Challenge for Land Imaging Time-Series Data – April 2021
Landsat Data: Community Standard for Data Calibration – October 2020
Evaluation of a Range of Landsat Data Cost Sharing Models – June 2019
Landsat Future Mission Recommendations – April 2018
Landsat Data Cube Feasibility for Forecasting – April 2018
Analysis of Non-Federal Landsat User Requirements – June 2016
Sentinel Data Use Policies – December 2015
The Value Proposition for Landsat Applications – December 2014
Cloud Computing: Potential New Approaches to Data Management and Distribution – December 2013
Comments on NRC Report: Landsat and Beyond: Sustaining and Enhancing the Nation's Land Imaging Program – December 2013
Product Improvement – Advice USGS on Potential Means of Modifying the Current Products to Make Them More Useful to Commercial Information Providers and Value-added Analysts – December 2013
Statement on Landsat Data Use and Charges – September 2012
The Value Proposition for Ten Landsat Applications – September 2012

Documents can be accessed at www.fgdc.gov/ngac/key-documents

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LAG Task 1

2023 LAG Task 1 Paper: NLI Future Data Products

- Understand the beneficial impact of continuous improvement to existing Landsat data, evidenced by Collection 2 and Level 2 and Level 3 products, for Landsat users
- Continue discussions with EROS on the history and anticipated preparation for access and distribution options, especially use of Cloud Services (images, pixels, time series, analysis ready data, …)
- Examine what data, “product levels”, and services may be enabled by the enhanced spatial and temporal resolution of the 26-band “superspectral” Landsat Next constellation
- Prepare recommendations on what the National Land Imaging Program should offer to users in the 2030 timeframe. (content, format, delivery approach, level of processing, access to algorithms, predictive and/or analytical support

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LAG Task 2

2023 LAG Task 2 Paper: Interagency Operational Efficiencies

2030 Challenge

Historically, the three main Federal civil agencies responsible for collection of Space-based and Earth Observations for science and operational uses--NASA, NOAA, and USGS--have largely worked independently to develop and operate their individual systems for collecting, archiving, processing, and distributing data, as well as for conducting satellite flight operations.

While development of the space segments generally follows the NASA model, the operation, ground reception, processing, archiving and distribution functions and satellite flight operations are primarily performed independently by each agency.

With data collection expected to grow by more than an order of magnitude by 2030, it is timely to examine efficacy of moving to a multiagency Earth observation space system architecture potentially realize operational efficiencies and cost savings.

The USGS, NASA and NOAA may be able to consolidate similar functional infrastructure and services where technically feasible, to arrive at a robust, shared architecture and service suite that reduces cost for collection, archiving, processing and dissemination of respective agency products.

This federation could also improve search and discovery functionality across Federal civil holdings, improve interoperability of Federal civil products and services, enhance the ability to process and exploit data in a cloud environment, and facilitate concurrent access to Federal, commercial, and foreign Earth observation holdings.

The three agencies and other interested organizations should work together to develop this shared architecture concept, define relevant synergies and use cases, and explore options that efficiently meet stakeholder and user needs into the future.

2023 LAG Task 2 Paper: Interagency Operational Efficiencies

LAG Task 2 Papers:

- **Task 2/Part 1** – This paper will be a brief document that provides an overview and endorses the interagency operational efficiencies concept. Anne Miglarese will lead the development of this paper. Target completion date for the Task 2/Part 1 paper – December 2023 NGAC meeting.

- **Task 2/Part 2** – This paper will be a more detailed review of the interagency operational efficiencies concept with additional recommendations. Vasit Sagan will lead the development of this paper (which will be initiated following completion of the Part 1 paper)

Timeline

Task 1	Date
Complete Task 1 paper	Dec 2023 or Spring 2024 NGAC Meeting

Task 2	Date
Complete Task 2, Part 1 Paper	Dec 2023 NGAC Meeting
Complete Task 2, Part 2 Paper	Spring 2024 NGAC Meeting