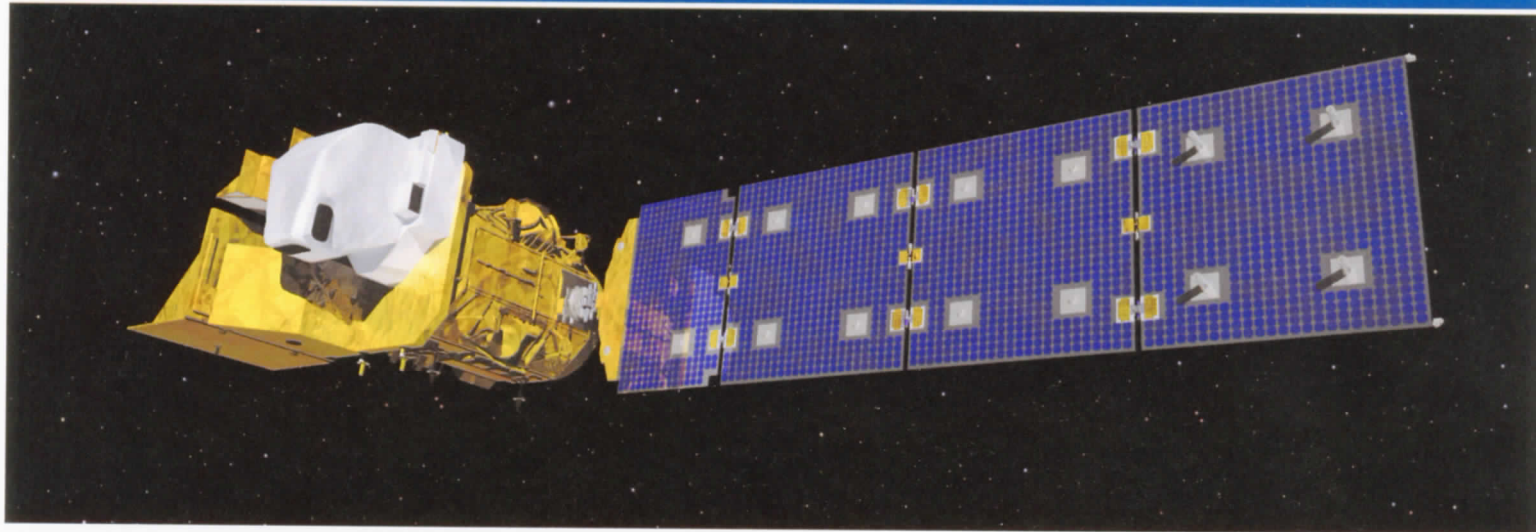


Landsat 9

Continuing the Landsat Mission

FACT SHEET



Mission Description

Landsat 9 is a joint mission formulated, implemented, and operated by the National Aeronautics and Space Administration (NASA) and the United States Geological Survey (USGS) that builds upon previous Landsat missions. Landsat 9 will extend the global collection and distribution of data by the Landsat program beyond 50 years. This data constitutes the longest continuous record of the Earth's surface as seen from space, a unique and valuable resource for applications including agriculture, land use mapping, forestry, and water resource management.

Spacecraft

Orbital ATK is responsible for the design and manufacture of the Landsat 9 spacecraft bus, the integration of the customer-furnished payload instruments, and full observatory testing, including environmental and EMI/EMC. Landsat 9 is a simple, robust design based on Orbital ATK's flight-proven LEOStar-3 standard bus that extensively leverages Landsat 8 heritage to meet the performance and schedule challenges. This ensures that Landsat 9 will continue Orbital ATK's successful contributions to the Landsat program, including Landsat 4, Landsat 5, and Landsat 8.

FACTS AT A GLANCE

- Landsat 9 provides data continuity following Landsat 7 and 8.
- 705 km Low Earth Orbit mission.
- Simple, easily integrated design based on Orbital ATK's flight-proven LEOStar™-3 standard modular spacecraft architecture that reduces assembly and test cycle times.
- Moving mechanisms were eliminated to improve reliability, simplify operations, and ensure service to the international cooperators.
- Landsat data products are available for free to the general public from the USGS, enabling a broad scope of scientific research and land management applications. Go to: <http://landsat.usgs.gov/index.php>.

Customer:

NASA Goddard Space Flight Center

Specifications

Spacecraft

Mass:	2,864 kg (6314 lb.)
Solar Arrays:	Triple-junction GaAs cells, 3640 W EOL
Orbit:	705 km circular @ 98.2°
Stabilization:	3-axis, zero momentum bias, nadir pointing
Pointing:	10 arcsec control, 5 arcsec knowledge
Data Storage:	4.0 Terabit (EOL)
Data Downlink:	X-band, 384 Mbps (over two channels)
Propulsion:	384 kg (846 lb.) of blowdown monopropellant hydrazine with eight (8) 22N and four (4) 5N thrusters
Design Life:	5.25 years, 15 years fuel

Launch

Launch Vehicle:	TBD
Launch Site:	Vandenberg Air Force Base, California
Date:	December 2020 (Planned)

Instruments

Operational Land Imager 2 (OLI-2)

The OLI-2 collects land-surface data in the visible and near-infrared spectra.

Thermal Infrared Sensor 2 (TIRS-2)

TIRS-2 coincidentally collects data for two longwave (thermal) spectral bands not imaged by the OLI-2.

Landsat 9: Continuing the Landsat Legacy

Because of Landsat's long history and unparalleled data record, data continuity with prior Landsat missions is paramount. NASA chose Orbital ATK as their Landsat 9 spacecraft partner in consideration of the strengths of the Leostar-3 spacecraft design.

The Landsat 9 mission is charged with collecting data sufficiently consistent with data from earlier Landsat satellites to allow comparisons for regional and global change detection. The Landsat 9 instrument suite is similar to Landsat 8, except that Landsat 9 delivers 14-bit pixel information from OLI-2, and the TIRS-2 instrument is enhanced for improved performance and reliability.

Mission Partners

Orbital ATK

Spacecraft design, Observatory integration and test, launch support, and mission operations support

NASA Goddard Space Flight Center

Project management, mission integration, TIRS-2 instrument, OLI-2 instrument management

United States Geological Survey

Data processing and archiving, ground systems management, mission operations

Ball Aerospace

Development of the OLI-2 instrument



Landsat 8 image of Paluweh volcano ash plume, Indonesia



Landsat 8 image of Princess Charlotte Bay, Australia