eoPortal

The eoPortal Newsletter

February 2026

Sentinel-6B Launched!

Image credit: ESA

The Copernicus Sentinel-6B mission was launched on November 17, 2025, aboard a SpaceX Falcon 9 rocket from Vandenberg Space Force Base (SLC-4E) in California, USA, lifting off at 05:21 UTC. Sentinel-6B is the second satellite in the Copernicus Sentinel-6 programme, built by Airbus Defence and Space with contributions from ESA, EUMETSAT, NASA, NOAA, CNES, and the European Commission.

Sentinel-6B carries a state-of-the-art radar altimeter and supporting instruments designed to measure sea surface height with extraordinary precision, extending a global ocean height record that began in the early 1990s. The spacecraft will fly in tandem with its predecessor, Sentinel-6 Michael Freilich, for around one year to facilitate cross-calibration and a smooth transition between the two satellites.

Operating from low Earth orbit at 1,336 km above Earth's surface, Sentinel-6B will survey 95% of the world's oceans, providing critical information for ocean and weather forecasting, coastal safety, and marine navigation. Its measurements will help scientists to monitor sea-level rise and ocean dynamics, key indicators of Earth's changing climate, as well as support practical applications such as storm prediction and shipping operations.

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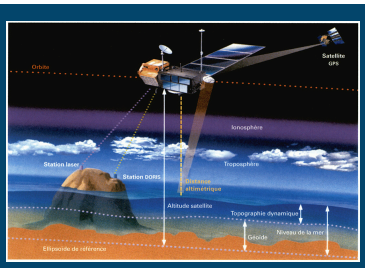
TOPEX/Poseidon

TOPEX/Poseidon was a pioneering oceanography mission that combined radar altimetry with precise orbit tracking to measure sea surface heights worldwide. Operating from 1992 - 2006, the technology laid the foundation for all subsequent satellite altimetry missions.

Read more



Ocean Surface Topography

Ocean surface topography measures sea surface height variations caused by currents, tides, temperature changes and winds using satellite radar altimeters. These data reveal ocean circulation patterns, support climate studies, and improve weather and sea-level forecasts worldwide.

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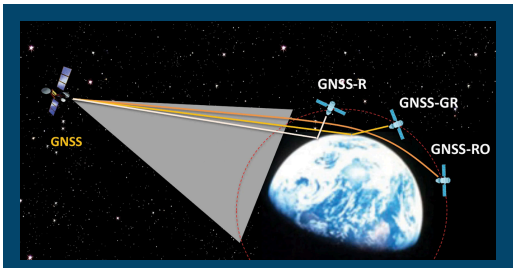

GNSS Radio Occultation

GNSS radio occultation measures atmospheric profiles by tracking the bending of GNSS signals as they pass through the atmosphere. This technique provides global temperature, pressure, and humidity data, supporting weather forecasts and climate research.

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Launch Highlights

Image credit: Copernicus

The fourth mission of Europe's new Ariane 6 launcher successfully placed the **Copernicus Sentinel-1D** satellite into orbit on November 4, 2025 at 21:02 UTC, lifting off from Europe's Spaceport in Kourou, French Guiana. This launch completes the first generation of Sentinel-1 satellites.

Read more

SpaceX's **Transporter 15 Rideshare Mission** launched from Vandenberg Space Force Base's Space Launch Complex 4E (SLC-4E) on November 28, 2025, at 14:44 UTC. It carried several payloads, including:

- Planet Pelican - two satellites
- Planet Flock - 36 satellites
- GHGSat - two satellites
- ICEYE - five satellites
- HydroGNSS - two satellites
- Spire Global - three satellites
- Umbra-SAR - one satellite

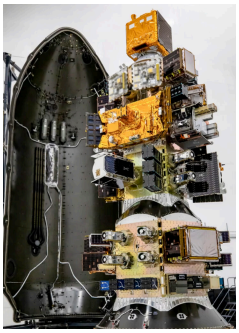

Image credit: SpaceX

- Lacuna Constellation - four satellites
- BRO - two satellites
- Veery Constellation - one satellite
- NewSat - three satellites
- ION-SCV - two satellites
- SPARCS - one satellite

Image credit: ESA

ESA's **Galileo 33** and **Galileo 34** were launched on December 17, 2025 at 05:01 UTC aboard an Ariane 6 rocket from Europe's Spaceport in Kourou, French Guiana, marking the 14th operational launch for Galileo and the first time aboard Ariane 6.

Read more

China's **Fengyun-4C (FY-4C)** meteorological satellite was launched on December 26, 2025 at 16:07 UTC aboard a Long March-3B/E rocket from the Xichang Satellite Launch Center in Sichuan Province, China. Fengyun-4C will replace Fengyun-4A as part of the country's second-generation Fengyun weather satellite series.

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Image credit: CASC

Image credit: SpaceX

SpaceX launched the third **COSMO-SkyMed Second Generation (CSG-3)** mission for the Italian Space Agency (ASI) and Italian Ministry of Defence. The Falcon 9 rocket lifted off on January 3, 2026, at 02:09 UTC from SLC-4E at Vandenberg Space Force Base.

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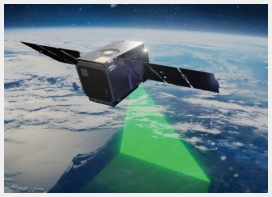
GISTDA's **Thailand Earth observation Satellite - 2A (THEOS-2A)** was launched on January 12, 2026 at 04:48 UTC aboard ISRO's PSLV-C62 from Satish Dhawan Space Centre in Sriharikota, India. A malfunction occurred in the rocket's third stage, causing an attitude control anomaly and preventing THEOS-2A from reaching orbit.

Read more

Image credit: ISRO

Recent Highlights

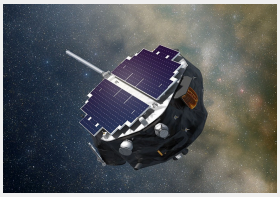


PolSIR

EO Mission - Multispectral Radiometry

Part of the NASA Earth Venture program, PolSIR carries microwave radiometers to study diurnal ice cloud patterns.

Read more

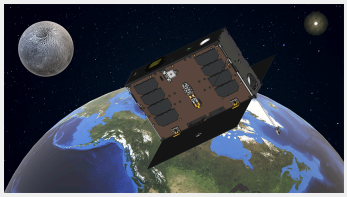


IMAP

Non-EO Mission - Heliospheric Physics

The Interstellar Mapping and Acceleration Probe (IMAP) is a NASA heliospheric mission studying energetic particle acceleration and solar wind interactions from the Sun-Earth Lagrange Point L1.

Read more

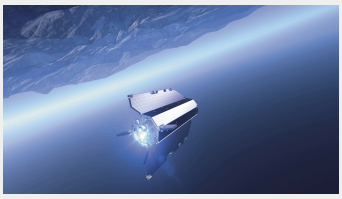


UVSQ-Sat NG

EO Mission - Radiation Budget

UVSQ-Sat NG is a university CubeSat mission that studies Earth's radiation budget and greenhouse gas concentrations with a spectrometer and Earth radiation sensors.

Read more



DQ-1/-2

EO Mission - High-resolution Imaging

Daqi-1/-2 (DQ-1/-2) are high-resolution satellites operated by CNSA to collect atmospheric data for aerosol and carbon dioxide monitoring.

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SEMOViS

EO Mission - High-resolution Imaging

SEMOViS, part of ESA's InCubed programme, carries a very-high-resolution optical payload that combines VIS and SWIR imaging to deliver detailed Earth observation data for commercial applications.

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PACE

EO Mission - Ocean and Climate Monitoring

NASA's Plankton, Aerosol, Cloud, and ocean Ecosystem (PACE) mission carries a hyperspectral sensor to improve our understanding of marine ecosystems, air quality, and climate change.

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XPoSat

Non-EO Mission - X-ray Astronomy

XPoSat is an astronomical mission developed by ISRO to study X-ray emission mechanisms of black holes, neutron stars, active galactic nuclei, and pulsar wind nebulae.

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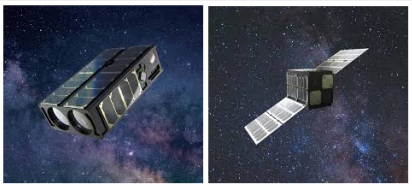

Hyperfield

EO Mission - Environmental Monitoring

Developed by Kuva Space, Hyperfield is a hyperspectral satellite constellation that uses high-resolution imaging to support agricultural and environmental monitoring.

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Altair (Orbitworks)

EO Mission - High-resolution Imaging

Altair is a planned constellation of ten multi-sensor EO satellites supporting national and commercial applications for national security, disasters, and agriculture.

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Types of Earth Orbits and Their Applications

Satellite missions operate in a variety of different orbit types, each selected to fulfil specific mission requirements. Low Earth orbit (LEO) satellites circle close to Earth at altitudes between 160 km and 2,000 km, ideal for high-resolution Earth observation. Many optical EO satellites operate in Sun-synchronous orbit (SSO), matching the Earth's rotation with the Sun to pass over the same spot on the Earth each day and collect data with consistent lighting conditions. Medium Earth orbit (MEO), typically spanning from 2,000 km up to geostationary orbit, often hosts global navigation satellite constellations such as GPS and Galileo, each comprising dozens of satellites that provide worldwide positioning, navigation, and timing services. At 35,786 km, satellites in geosynchronous orbit match the Earth's rotation, appearing 'fixed' over the Earth's surface – ideal for communication and weather monitoring satellites. Special orbits like highly elliptical orbits (HEO) provide satellites with extended coverage over high-latitude regions, while those orbiting at Lagrange points are suited for stable solar, deep space, and space environment observations.

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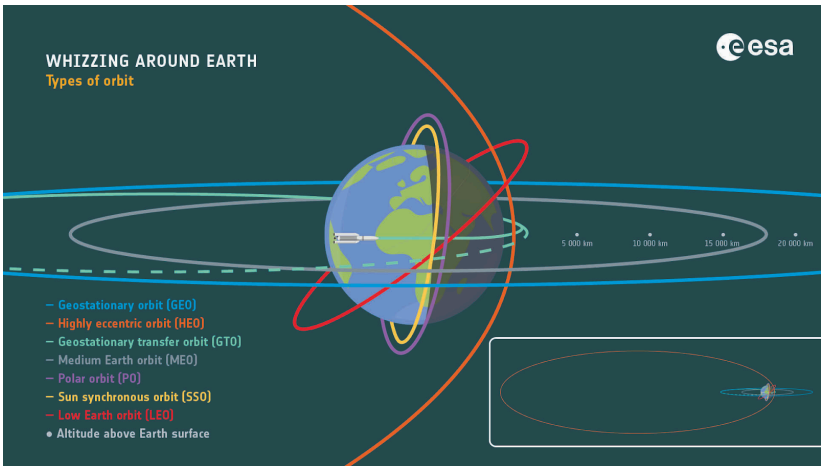
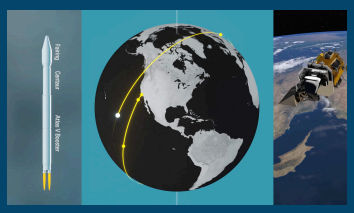


Image credit: ESA

Sun-Synchronous Orbit (SSO)



From SSO, Sentinel-3 maintains stable viewing angles for colour, temperature and altimetry products to provide long term operational marine and land monitoring services.

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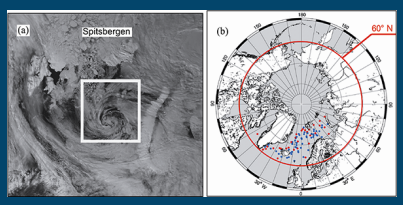
Highly Elliptical Orbit (HEO)



Arktika-M's orbit provides extended views over polar regions, offering critical weather and sea ice data to improve Arctic climate studies and support navigation safety in remote areas.

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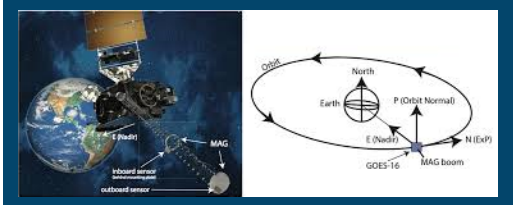
Geostationary Orbit (GEO)



GOES-R satellites orbit above the equator, delivering continuous weather updates to detect storms and severe weather, aiding timely warnings and disaster preparedness across the Americas.

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