

CEOS MIM Database Quarterly Report

April 2023

@EOHandbook

The Earth Observation Handbook, prepared by the European Space Agency (ESA) in support of the Committee on Earth Observation Satellites (CEOS), presents the main capabilities of satellite Earth observations, their applications, and a comprehensive overview of present and planned civil space agency Earth observation satellite missions and their instruments. The database which serves as the foundation for the missions, instruments, and measurements information at the heart of the Handbook content is updated annually and is always available online at:

<http://database.eohandbook.com>

This page provides a summary of key mission activities from the past quarter (January to March, 2023), and the coming two quarters (April to September, 2023).

Latest News

ROSKOSMOS (Russian Federal Space Agency) and ROSHYDROMET's (Russian Federal Service for Hydrometeorology and Environmental Monitoring) **Elektro-L N4** satellite launched on February 5 into geostationary orbit. The satellite is the next in Russia's series of geostationary meteorological satellites, and is positioned at 165° East, over Eastern Asia and the Pacific. The spacecraft carries the Module for Geophysical Measurements (**GGAK-E**), which aims to monitor and forecast solar activity, radiation and magnetic fields around Earth, and the multispectral scanning imager-radiometer (**MSU-GS**) which measures multiple parameters for operational meteorology.

JAXA's **ALOS-3** mission was launched on March 7 onboard the first flight of the H3 rocket, which sadly ended in failure. While the rocket performed nominally for the first five minutes after launch, the second stage of H3 failed to ignite and a destruct command was sent by JAXA. **ALOS-3** carried an optical imaging payload, and was planned as a replacement for **ALOS** (Advanced Land Observing Satellite), which went out of service in 2011.

Following four years of successful data collection, NASA's **GEDI** (Global Ecosystem Dynamics Investigation) instrument was moved from its viewpoint on the ISS into storage. The instrument is expected to stay in storage for 13-18 months, before continuing the observation of the world's forests from 2024. GEDI was powered down at 01:58 UTC on March 17.

NASA's **TEMPO** (Tropospheric Emissions: Monitoring of Pollution) instrument launched on April 7, as a payload onboard Intelsat 40E, a commercial communications satellite in geostationary orbit. **TEMPO** is the first space-based instrument to measure air quality over North America hourly during the daytime and at spatial regions of several square miles.

On April 15, Norway's NORSAT Technology Demonstration (**NORSAT-TD**) launched onboard SpaceX's Transporter 7 mission. A collaboration between NOSA, NSO, ASI and CNES, **NORSAT-TD** carries multiple advanced or experimental payloads including an iodine propulsion system, a satellite tracking and navigation payload, a laser data downlink system, and an AIS receiver.



Elektro-L N4
(Credit: NPO Lavochkin)



GEDI being moved on the ISS (Credit: UMD)

Upcoming Launches

Mission	Agencies	Launch	Purpose
Kondor-FKA N1	ROSKOSMOS	May 2023	Hosts a SAR instrument for disaster monitoring, sea surface monitoring and environmental management.
TROPICS	NASA	June 2023	Constellation of 5 cubesats to study tropical storms. Pathfinder launched in June 2021, with two more launches planned for the remaining four satellites.
Obzor-R N1	ROSKOSMOS	June 2023	Carries a high resolution X-band SAR instrument, for disaster, sea surface, and environmental monitoring.
PREFIRE	NASA	August 2023	Will document, for the first time, variability in spectral fluxes from 5-45µm on hourly to seasonal timescales.
THEOS-2 & -2A	GISTDA	September 2023	A two-satellite constellation carrying high resolution imagers. THEOS-2A will also have the ability for video capture.
KOMPSAT-7	KARI / KAI	September 2023	Follow-up model of KOMPSAT-3A to provide high-resolution satellite images to satisfy South Korea's governmental and institutional needs.
INSAT-3DS	ISRO	September 2023	Planned as a spare for India's geostationary meteorological satellite series, carrying both imaging and sounding instruments.



TEMPO launch
(Credit: UPI)