CEOS MIM Database Quarterly Report
January 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 report is a summary of key mission activities from the past quarter (Oct-Dec, 2022), and the coming two quarters (Jan-Jun, 2023). Upcoming launches are summarised on the reverse, with some key mission facts.

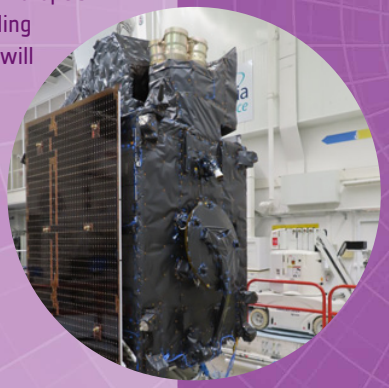
Launches & News

JPSS-2 The second satellite in the Joint Polar Satellite System (JPSS) series, JPSS-2 launched on November 10, 2022 from Vandenberg Space Force Base. The satellite was officially renamed NOAA-21 on November 16, and will work together with its sister satellites, Suomi NPP and NOAA-20, to provide weather and climate measurements for numerical weather prediction.

JPSS-2 launch (Credit: NASA)

OceanSat-3 The Indian Space Research Organisation's (ISRO) OceanSat-3 launched aboard a PSLV rocket on 26 November. Oceansat-3 carries an ocean colour monitor, a scatterometer and a sea surface temperature monitor. In addition to these sensors, the satellite carries the second Advanced Data Collection System 4 (Argos-4) payload from CNES (French Space Agency).

MTG-I1 On 13 December 2022, the first of EUMETSAT and ESA's Meteosat Third Generation satellites launched from Europe's Spaceport in Kourou, French Guiana. The first satellite is an imager, MTG-I1, designed for a wide range of uses, including improving aviation forecasting, early flood warnings, and monitoring fires and fog. The series of four imager missions will be complemented by two sounding missions, with MTG-S1 set for launch in 2024.



MTG-I1 Pre-launch (Credit: ESA)

SWOT The Surface Water Ocean Topography (SWOT) mission launched on December 16, 2022. SWOT is a revolutionary mission for the field of ocean topography, with operations led by NASA and the French Space Agency (CNES), alongside the Canadian Space Agency (CSA) and the UK Space Agency (UKSA). The mission aims to catalogue and monitor changes in all landbound bodies of water such as lakes, rivers, reservoirs, and wetlands. Following on-orbit checks, a comprehensive review of the data will be conducted, with data expected to become publicly available on a free-and-open basis in early 2024.

CNES, NASA, CSA and UKSA colleagues with a SWOT model at the recent CEOS Plenary in Biarritz, France

Upcoming Launches

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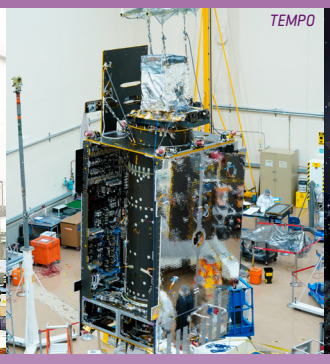
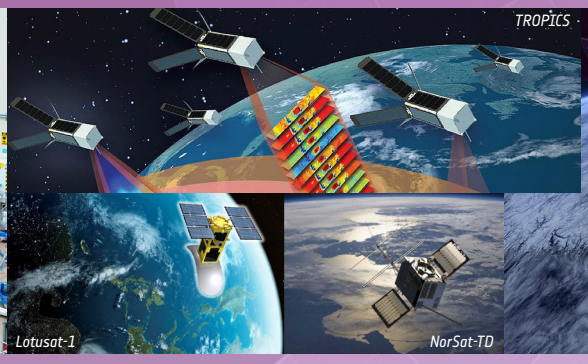
Mission	Agencies	Planned Launch	Purpose
TEMPO	NASA	January 2023	Will be hosted on Intelsat 40e in geostationary orbit, to provide hourly measurements of air pollution over North America.
Kondor-FKA N1	ROSKOSMOS	January 2023	Hosts a SAR instrument for disaster monitoring, sea surface monitoring and environmental management.
HY-1E, -3A, -3B	NSOAS / CAST	Q1 2023	HY (Haiyang = Ocean) satellites are used for marine remote sensing, including ocean colour and coastal zone surveys.
THEOS-2 & -2A	GISTDA	February & March 2023	A two-satellite constellation carrying high resolution imagers. THEOS-2A will also have the ability to capture video.
NORSAT-TD	NOSA / NSO / ASI / CNES	February 2023	Carries multiple advanced or experimental payloads, primarily for communications and traffic monitoring.
LOTUSat-1	VAST	March 2023	Features a Synthetic Aperture Radar (SAR) instrument for natural hazard prevention.
Ionosphera-M N1 & N2	ROSKOSMOS / ROSHYDROMET	March 2023	First and second satellites of the five planned for the Ionozond constellation for hydrometeorology, heliogeophysics, climatology
Sentinel-1C	ESA / COM	May 2023	Provides continuity of C-band SAR data for operational activities, and will form a two-satellite constellation with Sentinel-1A.
TROPICS	NASA	June 2023	Constellation of cubesats to study tropical storms. Pathfinder launched in June 2021, with two more launches planned for the remaining four satellites.

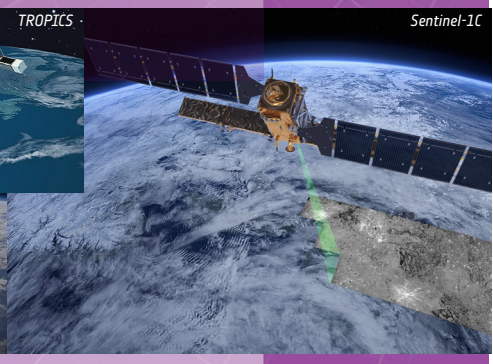

THEOS-2


TEMPO


TROPICS

Lotusat-1

NorSat-TD


Sentinel-1C

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