

The eoPortal Newsletter

November 2025

NOAA POES Retires after 47 Years in Orbit

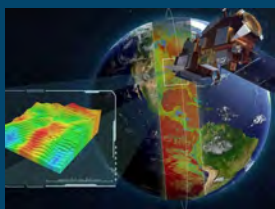
After 47 years of continuous operation, NOAA's Polar-orbiting Operational Environmental Satellite (POES) Series retired on August 19, 2025. The first spacecraft in the series of meteorological satellites, TIROS-M (ITOS-1), launched on January 23, 1970, at 11:31 UTC from the Vandenberg Air Force Base, California, aboard a Thor Delta N6 rocket, beginning the world's longest uninterrupted polar meteorological data record. Over its lifetime, POES carried a suite of flagship instruments, including the Advanced Very High Resolution Radiometer (AVHRR), the High Resolution Infrared Radiation Sounder (HIRS), the Advanced Microwave Sounding Unit (AMSU), the Microwave Humidity Sounder (MHS), and the Solar Backscatter Ultraviolet Radiometer (SBUV/2).

These instruments provided continuous observations of clouds, surface temperature, humidity, ozone, and atmospheric structure, supporting weather forecasts, climate monitoring, and environmental research. The POES legacy now transitions to its successor, the Joint Polar Satellite System (JPSS), ensuring a seamless flow of vital polar-orbiting data into the future.

[Read more](#) or [access AVHRR data](#) through ESA's Third Party Missions.



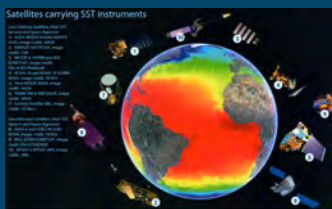
NOAA-8 (May 1983 - October 1985) Image credit: NOAA



Joint Polar Satellite System (JPSS)

JPSS satellites carry the VIIRS imager, CrIS sounder, and ATMS instrument, providing detailed observations of clouds, temperature, and humidity. From polar orbit, they deliver frequent global data for weather, climate, and environmental use.

[Read more](#)



Sea Surface Temperature (SST)

SST is measured from space by infrared and microwave radiometers such as AVHRR and AMSU onboard POES. Data from these sensors provide consistent global data for weather forecasting, ocean monitoring, and climate research.

[Read more](#)



MetOp Second Generation

The MetOp-SG series carries advanced atmospheric sounders, radiometers, and spectrometers such as METImage, successor to AVHRR-3, to provide high-resolution measurements of temperature, humidity, and trace gases.

[Read more](#)

Launch Highlights

The **Project Kuiper KF-02** mission launched at 12:35 UTC on August 11, 2025 from Launch Complex 40 at the Cape Canaveral Space Force Station in Florida, aboard a SpaceX Falcon 9 rocket. The mission deployed 24 satellites for Amazon's broadband constellation into low Earth orbit.

[Read more](#)



Image credit: USA Network Today



MetOp-SG-A1, the first satellite in the MetOp Second Generation Series, was launched on August 13, 2025, at 00:37 UTC from the Guiana Space Centre in Kourou, French Guiana, aboard an Ariane 6 rocket. The mission carries the **Copernicus Sentinel-5A** instrument onboard.

[Read more](#)

Image credit: Arianespace

Italy's NAOS (National Advanced Optical System) mission launched on August 26, 2025, at 18:53 UTC, from Space Launch Complex 4E at the Vandenberg Space Force Base in California aboard a SpaceX Falcon 9. Secondary payloads included:

- [Planet Pelican](#) (Pelican-3 and -4)
- [Pixxel](#) - (Firefly 4, 5, and 6)
- [Over The Rainbow 2](#) (OTR-2)
- [Capella](#) 16



Image credit: SpaceX



Image credit: NASA

On September 24, 2025 at 11:30 UTC, three science missions launched aboard a SpaceX Falcon 9 rocket from Launch Complex 39A of NASA's Kennedy Space Center in Florida, each designed to advance our understanding of solar activity and its effects on Earth:

- [Interstellar Mapping and Acceleration Probe \(IMAP\)](#)
- [SWFO-L1](#)
- [Carruthers Geocorona Observatory](#)

The **FenYun-3H (FY-3H)** meteorological satellite successfully launched aboard a Long March 4C carrier rocket, from the Jiuquan Satellite Launch Center in Gansu, China, on September 26, 2025, at 19:28 UTC. FY-3H will take over the operations of the FY-3D mission, which has been in service for almost eight years.

[Read more](#)



Image credit: CMA

Recent Highlights



Macau Scientific Satellite

EO Mission - Geomagnetic Earth Science

The Macau Scientific Satellite (MSS) programme is a geomagnetic Earth science mission developed by the Macau University of Science and Technology (MUST) and the China National Space Administration (CNSA).

[Read more](#)



Clarity (Albedo Space)

EO Mission - Land and Disaster Monitoring

Clarity is a commercial SmallSat constellation by Albedo Space, providing high-resolution imagery from very low Earth orbit to support monitoring of forest fires, wildlife, agriculture, industry, and greenhouse gas emissions.

[Read more](#)



Copernicus Programme

EO Programme

Copernicus is the European Union's Earth observation programme, featuring the Sentinel and contributing missions, developed in partnership with ESA, EC, EUMETSAT, ECMWF, and EU Member States.

[Read more](#)



SatLeo Labs Constellation

EO Mission - Thermal Imaging

SatLeo Labs is an Indian commercial company developing a microsatellite constellation to capture temperature variations across mid and long wave infrared bands, complemented by visible imagery.

[Read more](#)



KaleidEO Constellation

EO Mission - Land and Disaster Monitoring

KaleidEO is developing a microsatellite constellation to provide high-resolution multispectral imagery with onboard edge computing in support of agriculture, finance, infrastructure, and disaster response.

[Read more](#)



Over The Rainbow (OTR)

EO Mission - Environmental and Disaster Monitoring

OTR is a hyperspectral EO mission developed by Australian startup Esper Satellite Imagery to gather global chemical composition data for monitoring mineral exploration, agriculture, the environment, and disasters.

[Read more](#)



HERMES (High Energy Rapid Modular Ensemble of Satellites)

Non-EO Mission - Technology Demonstration

HERMES is a European CubeSat constellation led by INAF to study X- and gamma-ray emissions from high-energy astrophysical events.

[Read more](#)



Hydrosat / Vanzyl

EO Mission - Thermal Monitoring

Hydrosat is a commercial SmallSat constellation providing daily, high-resolution land and water surface temperature data to support precision agriculture, drought monitoring, climate research, and security.

[Read more](#)



SWIRSAT (LatConnect60)

EO Mission - Carbon Emission Monitoring

SWIRSAT is a planned EO constellation from the Australian commercial company LatConnect60, designed to reduce carbon emission data costs and deliver high spatial resolution climate base maps.

[Read more](#)

First Light Captured

Over the past quarter, several EO satellite missions have released their first images, offering a glimpse of the insights they will deliver with unprecedented detail, scale, and latency. These initial images demonstrate each satellite's unique capabilities in monitoring the Earth's surface, atmosphere, and environment.

