

GISAT-1A / EOS-05

Prelims: Current events of national and international importance | Space Technology

Why in News?

ISRO achieved its first successful launch of 2026 by placing GISAT-1A (EOS-05) into orbit aboard GSLV-F17 from Sriharikota, marking a comeback after the PSLV-C62 failure in January 2026.

GISAT = Geo Imaging Satellite

- GISAT is an Earth observation satellite.
- It operates from a geosynchronous orbit at an altitude of approximately 36,000 kilometres.
- It is designed for continuous, wide-area observation of India and adjacent regions.
- It is India's first dedicated imaging satellite operating from geosynchronous orbit.

Technical Highlights

 Satellite mass	2,367 kilograms
 Launch vehicle	GSLV-F17
 Launch site	Sriharikota
 Mission	19th GSLV mission
 Sriharikota launch	107th
 Target	Sub-geosynchronous transfer orbit (Sub-GTO) instead of a conventional geosynchronous transfer orbit (GTO).



Towards a Stronger and Safer India 

GSLV F17

SDSC SHAR SRIHARIKOTA

- **Key Features**
- Low Earth Orbit (LEO) satellites provide high spatial resolution but only periodic coverage.

- In contrast, GISAT-1A enables continuous and repeated observation over a large area.
- **Applications**
- **Disaster Management**
 - Cyclone detection, tracking, and monitoring.
 - Flood detection and real-time monitoring.
 - Forest fire and smoke detection, tracking, and monitoring.
 - Cloud system observation and analytical assessment.
 - Support for emergency response and evacuation planning.
- **Agriculture and Environmental Applications**
 - Crop health and agricultural resource monitoring.
 - Assessment of drought progression and severity.
 - Snow cover and glacier extent monitoring.
 - Monitoring of water bodies and environmental change detection and analysis.
- **Strategic and Security Applications**
 - Wide-area monitoring of regions along the western and northern borders.
 - Maritime and coastal surveillance operations.
 - Provision of enhanced situational awareness for decision-making.

EOS-05: INDIA'S FRESH EYES IN SKY

India's first dedicated imaging satellite from geostationary orbit

EOS-05 (GISAT-1A)

2,367

kg

Satellite mass

~36,000

km

Above Earth

What makes this different?

LEO satellites

- High-resolution images
- Periodic passes

EOS-05 in GEO

- Keeps watching the same region
- Repeat images without waiting for an overhead pass



WHAT CAN IT TRACK?

Cyclones | Floods
| Forest fires |
Agriculture | Drought



History of **GISAT** Programme

Year	Development
2020	GISAT-1 launch planned but postponed
2021	Further delay due to technical issues
Aug 2021	GISAT-1/EOS-03 launched on GSLV-F10
2021	Cryogenic upper stage failed → satellite lost
2026	GISAT-1A/EOS-05 successfully launched by GSLV-F17



Reference

[TOI | GISAT-1A / EOS-05](#)

