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.

- **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

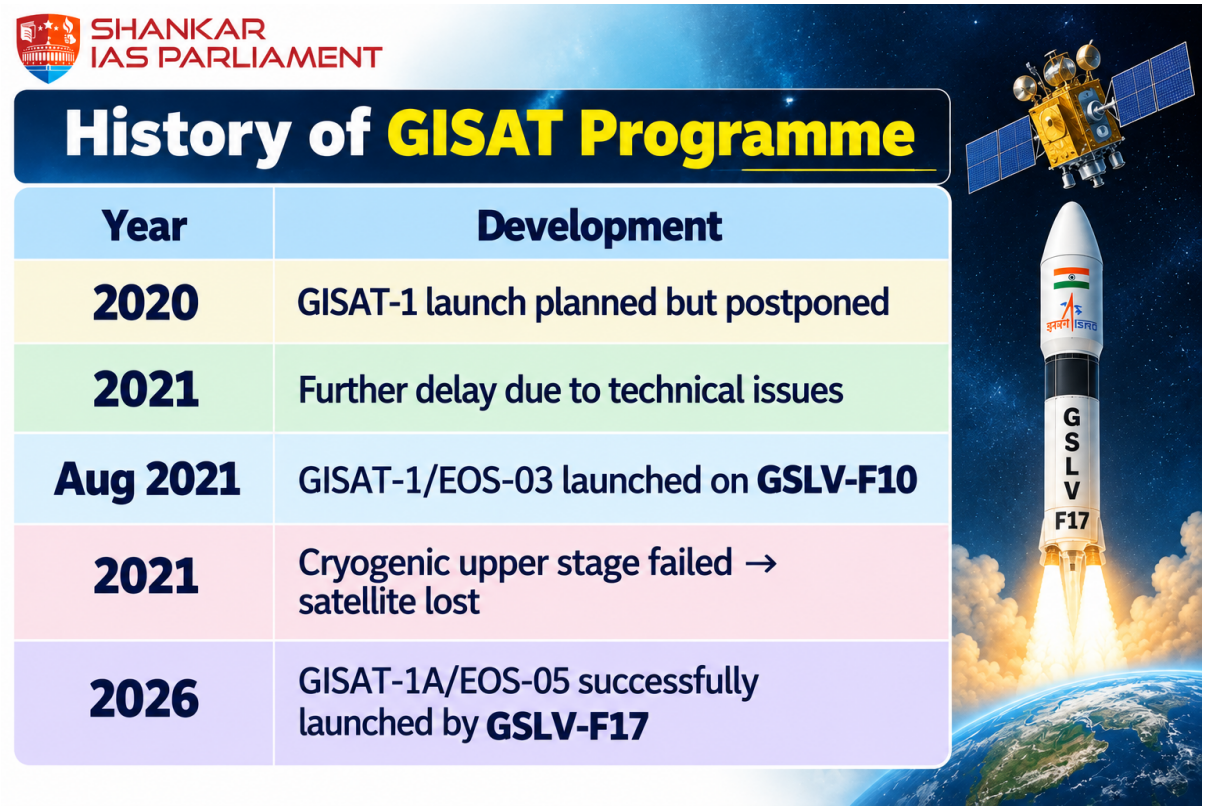
- High-resolution images
- Periodic passes

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



Reference

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