Sentinel-6B Satellite

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Sentinel-6B, a new ocean-monitoring satellite, has been successfully launched from Vandenberg Space Force Base to enhance globalSea level Monitoring

What it is?

- Sentinel-6B is an advanced ocean-altimetry satellite designed to measure global sea-surface height, waves, winds andClimate driven Changesin ocean dynamics with high precision.

Launched By:A joint mission of NASA, NOAA, European Space Agency (ESA), Eumetsat, the European Commission, with support from CNES.

- Lunched aboard aSpaceX Falcon-9

Aim:

- To provide continuous, high-accuracy measurements of sea-level rise, ocean temperature patterns, and sea-state data to improve climate modelling, storm forecasting, and coastal resilience planning.

Key Features:

- **Radar Altimeter:**Measures sea-surface height by timing radar pulses to millimetre accuracy.
- **Advanced Microwave Radiometer:**Correctsatmospheric water vapour errors for more precise altimetry.
- **6 science instruments**enabling sea-level measurement accuracy to ~1 inch across 90% of global oceans.
- Orbits Earth at**2 km/s**, completing one revolution every**112 minutes**.
- Continuation of the Topex-Poseidon ? Jason-1/2/3 ? Sentinel-6 Michael Freilich legacy record since early 1990s.

Significance:

- Provides the world’s gold-standard reference dataset for sea-surface height—critical for trackingSea Level Rise
- Enhances weather and storm forecasting, especially cyclones, floods and wave prediction.
- Supports maritime safety, submarine cable/pipeline protection, and climate adaptation planning.