Met Office | EUMETSAT

Working together

Weather and climate monitoring from space
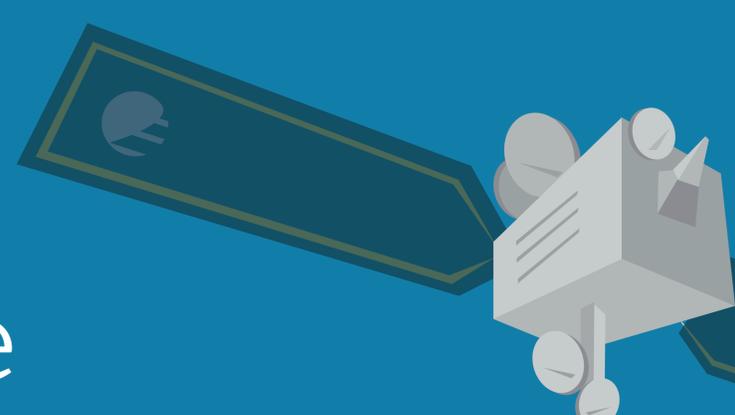
Satellites have been used for weather observations since 1959 and more recently to monitor our climate.

Did you know?

Satellites can be used to:

Monitor space weather

Spot forest fires and track volcanic ash

Track tropical storms and tornadoes

Monitor coral reefs

Measure temperature of oceans

Measure sea-level rise
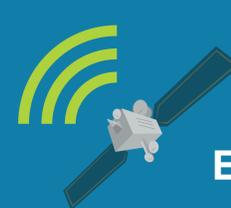
EUMETSAT operates Europe's weather satellites

This includes the geostationary Meteosat -8, - 9, -10 and -11 satellites and the Metop polar-orbiting satellites.

Keeping an eye on the oceans, EUMETSAT also operates the Copernicus Sentinel-3 satellite and delivers the marine data, and distributes data from the Jason-2 and Jason-3 ocean-monitoring satellites.

Types of satellite

Metop - Finer scale, global data

Orbit: Polar-orbiting Metops circle the globe from pole to pole

Altitude: 817 km

Role: Detailed global data for weather forecasting up to ten days, and climate and environmental monitoring.

Copernicus Sentinel-3 - Ocean and land monitoring

Orbit: Near polar

Altitude: 815 km

Role: Monitors sea and land surface temperature & colour, sea surface height, ice and the atmosphere.

Meteosat - Fixed view from 36,000 km

Orbit: Geostationary Meteosats travel at the same speed as the rotation of the Earth providing a fixed view over Europe and Africa. One satellite is also located on weather watch over the Indian Ocean.

Role: Vital for real time monitoring of severe weather, such as storms and fog etc, as it develops.
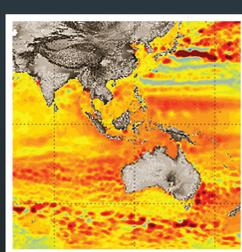
Jason-3 - Ocean-monitoring satellite

Orbit: Near polar

Altitude: 830 km

Role: Measures sea surface height, wave height and wind speed. Important for monitoring global mean sea level rise.
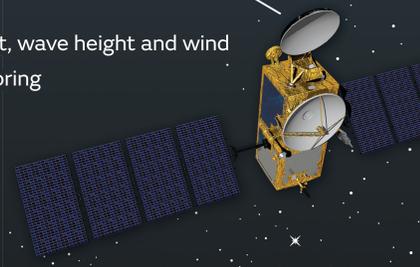
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