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Megha-Tropiques-1 (MT1) satellite

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Why is in news? ISRO to undertake controlled re-entry of satellite tomorrow

The Indian Space Research Organisation (ISRO) will be undertaking a **challenging experiment of a controlled re-entry** of the decommissioned Megha-Tropiques-1 (MT1) satellite.

The ISRO has said that as a responsible space agency committed to safe and sustainable operations in the outer space, it was gearing up for this challenging experiment.

Megha-Tropiques is an **Indo-French Joint Satellite Mission** for **studying the water cycle and energy exchanges in the tropics**.

It was launched in 2011 using the **PSLV-C18 launch vehicle**, for tropical weather and climate studies, which was providing data services, supporting regional and global climate models **till 2021**.

The main objective of this mission is to understand the **life cycle of convective systems** that influence the tropical weather and climate and their role in associated energy and moisture budget of the atmosphere in tropical regions.

Megha-Tropiques provides scientific data on the contribution of the water cycle to the tropical atmosphere, with information on condensed water in clouds, water vapour in the atmosphere, precipitation, and evaporation.

With its circular orbit inclined 20 degree to the equator, the Megha-Tropiques is a **unique satellite for climate research** that should also aid scientists seeking to refine prediction models.

Megha-Tropiques carries the following **four payloads**:

Microwave Analysis and Detection of Rain and Atmospheric Structures (MADRAS), an Imaging Radiometer developed jointly by CNES (French Government Space Agency) and ISRO

Sounder for Probing Vertical Profiles of Humidity (SAPHIR), from CNES

Scanner for Radiation Budget (ScaRaB), from CNES

Radio Occultation Sensor for Vertical Profiling of Temperature and Humidity (ROSA), procured from Italy

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