Indian Institute of Tropical Meteorology (IITM)

PRESS RELEASE (13.10.2025)

Inauguration of Mission Mausam- Urban Testbed Facility, Chennai

Key Highlights:

- Inauguration of Mission Mausam- Urban Testbed Facility at Satyabhama Institute of Science and Technology, Chennai
- Featuring 100 AWS stations, multiple radars, aerosol observatory, vertical profiling systems, and sea-breeze/land-breeze monitoring.
- Equipped with state-of-the-art instruments to collect data on a continuous basis during all weather conditions.
- MoU has been signed between IITM and SIST
- IITM is leading the establishment of Urban Testbeds in different major cities across the country.

Sathyabama Institute of Science and Technology (SIST), Chennai; 13th October 2025: Mission Mausam was launched in September 2024 by the Hon'ble Prime Minister of India as a major scientific initiative of MoES with a futuristic vision. The mission aims enhancing disaster preparedness through the modernization of observational infrastructure, improving monsoon prediction, and nowcasting and early warning of severe weather. The Mission focuses also on strengthening climate services to support key sectors such as agriculture, water resources, disaster management, aviation, and energy, thereby making India a ***"Weather-Ready and Climate-Smart Nation."***

Urban areas are facing a multitude of challenges due to severe weather, where more citizens are exposed and different service sectors are impacted. Mission Mausam aims to address these challenges and plans by integrating observations, numerical models, Artificial Intelligence/ Machine Learning (AI/ML), and integrating studies and social sciences through a collaborative ecosystem. All of these initiatives require detailed observational strategies and setups to gather detailed information, so that the Earth-atmospheric system and interactions can be documented.

As part of this Mission, elaborate meteorological observing systems are proposed to establish and call "Urban meso-networks and testbeds" comprising surface observations with AWS, volumetric observations with radars, profilers to monitor the winds, temperature, relative humidity, aerosol, clouds, and precipitation. These data sets will provide adequate observational infrastructure to document dynamics, thermodynamics and physio-chemical conditions contributing to severe weather and also to provide nowcasting solutions. Considering the population density in Urban areas, there is a need for improving the nowcasts and forecasts for all weather conditions and catering the needs of stakeholders.

Indian Institute of Tropical Meteorology (IITM), Pune, is taking the lead to establish Urban Testbeds in different major cities across the country, equipped with state-of-the-art instruments to collect data on a continuous basis during all weather conditions. Such Testbeds are expected to form a source of dependable meteorological data for weather services, disaster management, etc. One such Urban Testbed is being established at Chennai, with observational facilities being developed across the city to continuously monitor the variability of various meteorological parameters within the Urban environment. Additional sites within and around Chennai are under consideration to establish a **comprehensive urban observational network**.

One of the Urban Testbed Facilities is deployed at Sathyabama Institute of Science and Technology (SIST) (Deemed to be University) and inaugurated by Dr. M. Ravichandran, Hon'ble Secretary, Ministry of Earth Sciences (MoES), Govt of India on 13 October 2025, in the presence of Dr A. Suryachandra Rao, Director, IITM, Pune, Dr. Mariazeena Johnson, Chancellor, SIST, Dr. Thara Prabhakara, Project Director, IITM and Directors/Heads of MOES Institutions.

The Urban testbed in Chennai will have 100 AWS stations covering the urban areas and the suburban transition zones, three additional X-band radar, including a phased array radar for continuous monitoring of the convection and rain bands approaching the city, an aerosol observatory in the core urban area with in situ measurement of aerosol physical, chemical (cloud forming) properties, vertical profiling of clouds, aerosol, and precipitation at selected locations, wind profiling to capture the dynamical aspects of the sea breeze, land breeze, and thermodynamic profiling at selected locations using instruments such as radiometers, wind profilers, lidars, sodars etc. The Team has identified multiple sites, and the collaborative agreements are in the process.

Sathyabama Institute of Science and Technology (SIST) has been forefront in collaborating with IITM on the first facility being established for the Urban Testbed in Chennai. The entire observational data from multiple sensors after the quality control will feed into various services planned by the India Meteorological Department for Urban services. These data will be instrumental in advancing the urban nowcasting and forecasting tools, especially in the kilometre-scale models.

On this occasion, IITM and SIST entered into an agreement to collaborate in research and academic activities in the field of weather and climate sciences, with a focus on the objectives of Mission Mausam. A Memorandum of Understanding (MOU) has been signed by Dr A. Suryachandra Rao, Director, IITM and Dr Mariazeena Johnson, Chancellor, SIST, in the presence of Hon'ble Secretary, Ministry of Earth Sciences (MOES), Govt. of India.

For more information about the Mission Mausam- Urban Testbed Facility, Chennai, contact:

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Glimpses from "Inauguration of Mission Mausam- Urban Testbed Facility, SIST, Chennai"

Signing of MoU between Indian Institute of Tropical Meteorology (IITM) and Sathyabama Institute of Science and Technology(SIST) in the presence of Hon'ble Secretary, MOES,Govt of India

SATHYABAMA
Institute of Science and Technology
(DEEMED TO BE UNIVERSITY)
CATEGORY - 1 UNIVERSITY BY UGC
A++
NAAC
Established
at
SATHYA
Dr. M. RAVICHANDRAN
Hon. Secretary, MoES
Dr. Suryachandra A. Rao
Director - IITM, Pune
THYABAMA

पृथ्वी विज्ञान मंत्रालय
Ministry of Earth Sciences
भारत सरकार
Govt. of India
मिशन मौसम
शहरी परीक्षण स्थल सुविधा – चेन्नई
सत्यभामा
चेन्नई
में स्थापित
भारतीय उष्णदेशीय मौसम विज्ञान संस्थान, पुणे
द्वारा
Mission Mausam
Urban Testbed Facility - Chennai
Established
at
SATHYABAMA
Institute of Science and Technology
Chennai
by
Indian Institute of Tropical Meteorology, Pune

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