Earth System Science Organisation (ESSO)

Indian Institute of Tropical Meteorology

Ministry of Earth Sciences, Govt. of India

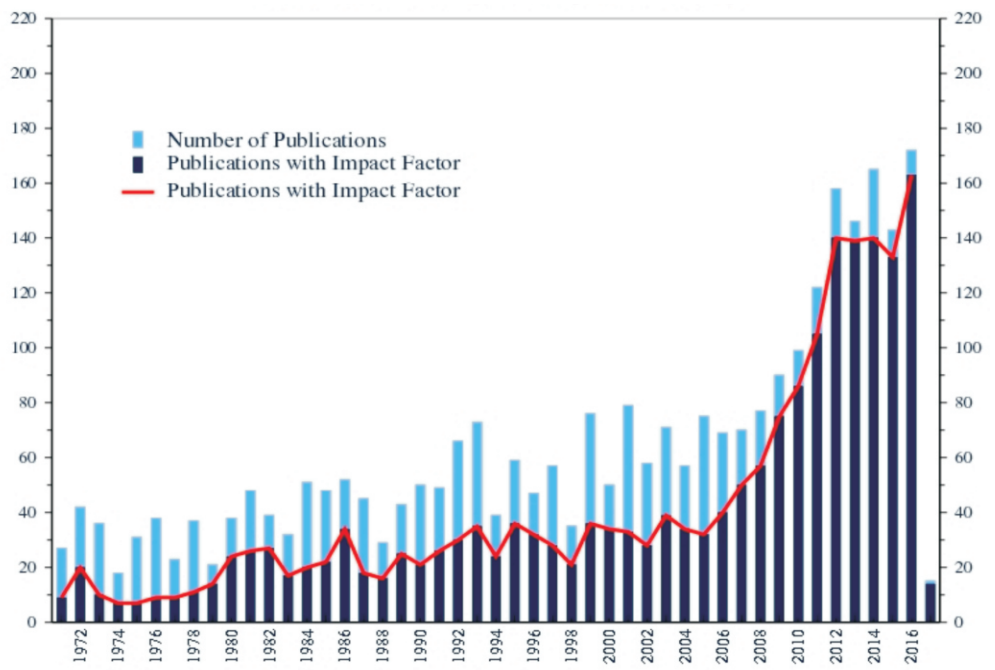
- Monsoon Prediction
- Monsoon Variability
- Cloud Microphysics & Dynamics
- Cloud-Aerosol Interaction
- Cloud Seeding (Artificial Rain)
- Atmospheric Chemistry
- Air Quality Index & Forecast
- Climate Change Research
- Monsoon Mission
- Seasonal and Extended Range Prediction
- Palaeoclimate
- Thunderstorm Dynamics
- Fluxnet and GHG Studies
- HRD in Earth System Sciences & Climate
- State-of-the-art Scientific Infrastructure

Aspiring for Better Prediction of Weather and Climate

Major Research Projects

- Centre for Climate Change Research (CCCR)
- Short Term Climate Variability and Prediction (SCTP)
- Monsoon Mission
- Physics and Dynamics of Tropical Clouds
- National Facility for Airborne Research (NFAR)
- Metropolitan Air Quality and Weather Services
- Centre for Advanced Training
- High Performance Computing System

Growth of IITM Publications



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Concept & Design: Abhay S.D. Rajput

IITM/Flyer/Feb 2017/1

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Vision

"To Make IITM a World Centre of Excellence in Basic Research on the Ocean-Atmosphere Climate System required for improvement of Weather and Climate Forecasts"

Missions

- To develop highly skilled and capable manpower in Earth System Sciences and Climate.
- Basic research in Monsoon Variability and Predictability
- Development of a System for Seasonal and Extended Range Prediction of Indian Monsoon.
- Centre for Climate Change Research (CCCR).
- Physics and Dynamics of Tropical Clouds.

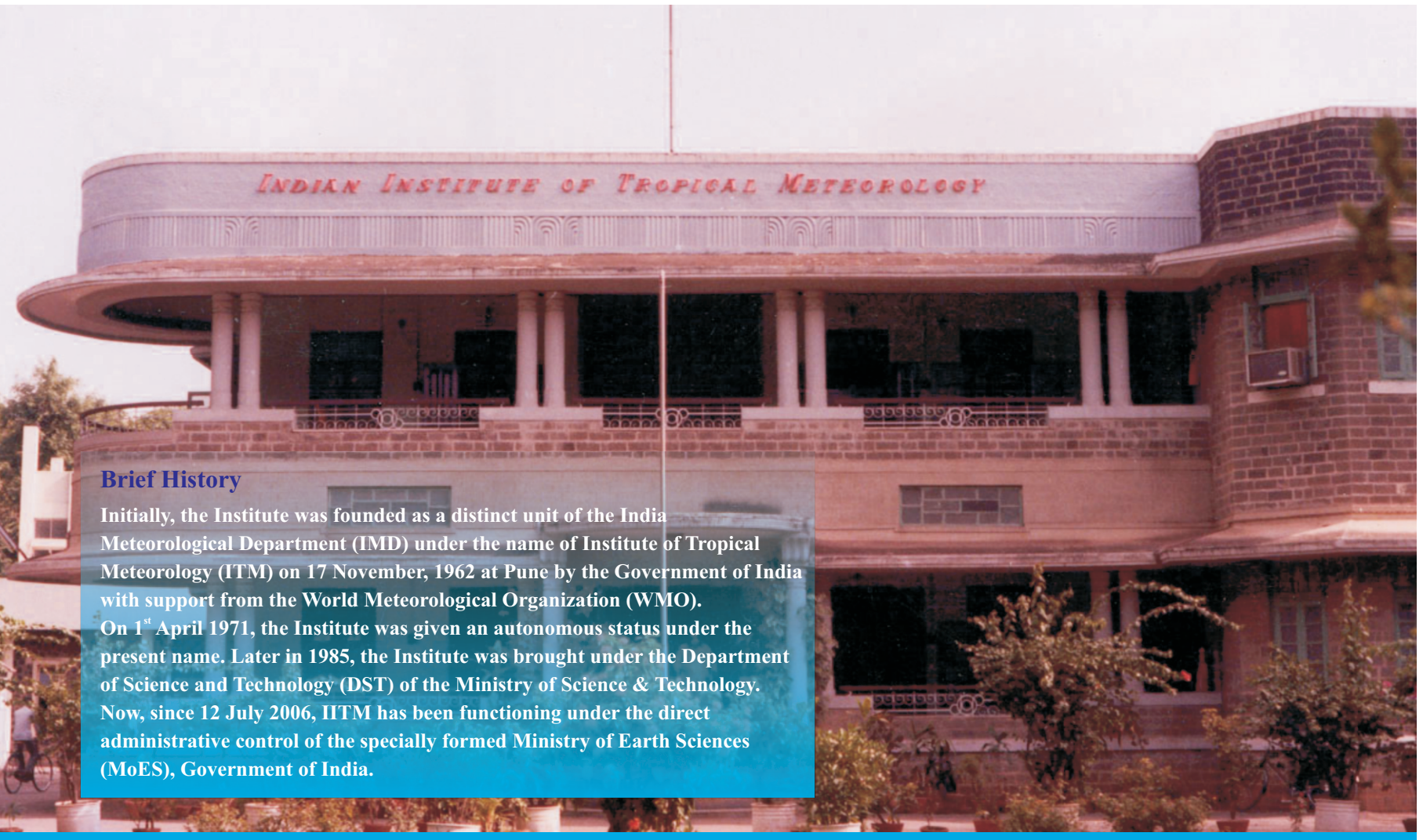
About IITM

IITM is recognized as a national centre for basic and applied research in Meteorology and Atmospheric Sciences. The Institute is having state-of-the-art and world-class infrastructure and facilities and is working dedicatedly on the above subjects with emphasis on Tropical Meteorology and Monsoon Studies.

IITM, as a vibrant and dynamic research institute, is committed to the better understanding of land-atmosphere-ocean system and to the development of improved skills in monsoon predictions. The Institute is constantly evolving to meet the new challenges and changing national and international demands. Institute's scientific expertise has potential applications in country's agriculture, economics, health, water resources, transportation, communications, etc.

Broad areas of Research and Development

Tropical Meteorology and Atmospheric Sciences including Climatology, Palaeoclimatology, Dendroclimatology, Hydrometeorology, Monsoon Studies, Weather Modifications, Climate Predictions and Weather Forecasting, Climate Change, Boundary Layer, Global Atmosphere and Ocean Modelling, Satellite Meteorology, Atmospheric Chemistry, Atmospheric Electricity, Cloud Physics, Aerology, Instrumentation for Observational Techniques, Theoretical Studies, land-Ocean-atmosphere Processes and interactions, Satellite and Radar Meteorology, etc.



Brief History

Initially, the Institute was founded as a distinct unit of the India Meteorological Department (IMD) under the name of Institute of Tropical Meteorology (ITM) on 17 November, 1962 at Pune by the Government of India with support from the World Meteorological Organization (WMO).
On 1st April 1971, the Institute was given an autonomous status under the present name. Later in 1985, the Institute was brought under the Department of Science and Technology (DST) of the Ministry of Science & Technology.
Now, since 12 July 2006, IITM has been functioning under the direct administrative control of the specially formed Ministry of Earth Sciences (MoES), Government of India.

Excellent Infrastructure and Facilities

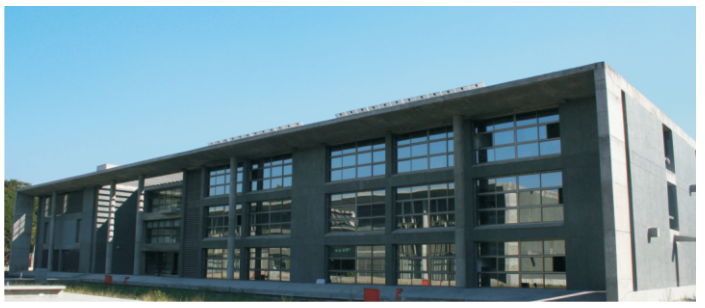
IITM has excellent infrastructure and facilities for advanced research in Atmospheric Sciences and Climate. The advanced labs and instruments include: High Performance Computers (HPCs) with high processing capacity, mobile multi-parameter Doppler Radars, GPS Radiosonde, X-Band and Ka-Band Radars, Mobile LIDAR Wind Profiler, Hyper-spectral Microwave Radiometer, Sky Radiometer, Dual Polarisation Micro Pulse LIDAR, Stable Isotope Mass Spectrometer, Urban Air Pollution Measurement Network and Forecasting System, Thunderstorm Forecasting System, Dendroclimatology Lab with advanced Densitometry for tree rings, Laser Remote Sensing & Aerosol lab, High-end Multimedia Training Facility, Fluid Dynamics Lab, etc. A well-equipped High Altitude Observatory for aerosol-cloud interaction studies at Mahabaleshwar, Maharashtra is established.

◀ Ka-Band Radar

790 TF HPC Aaditya ▶

SAFAR
Air Quality Management System ▶

▼ The Green Building of CCCR



▼ Mobile X-Band Radar

◀ High-end Multimedia Training Facility

Aircraft for Cloud Seeding Experiment ▶

Meghdoot Complex ▶

▼ High Altitude Cloud Physics Laboratory, Mahabaleshwar

▼ IITM Main Gate