

# **CENTRE FOR ATMOSPHERIC SCIENCES**

## **M.TECH ATMOSPHERIC-OCEANIC SCIENCE AND TECHNOLOGY PLACEMENT BROCHURE 2018-19**



### **CONTACT INFORMATION:-**

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## ABOUT US

The Centre for Atmospheric Sciences (CAS) was setup in the year 1979 at the Indian Institute of Technology Delhi. Subsequently, Ministry of Education, Government of India funded the Centre under the Sixth Five Year Plan. The Centre was also co-sponsored by the Indian Meteorological Department(IMD).

The Centre for Atmospheric Sciences is a centre of excellence promoting interdisciplinary research in air-sea interaction, numerical modelling of atmosphere and ocean, monsoon studies, climate variability, and air pollution to understand its physical and social consequences. During the last thirty five years, the Centre has grown in response to the national needs as well as rapid advances in atmospheric and oceanic sciences. The centre contributes to India and the world through its excellence in scientific and technical education and research. It also serves as a valuable resource for industry and society. Its main mission is to create new knowledge by generating cutting-edge research and to uphold academic growth by offering state-of-the-art post-graduate and doctoral programs.



Prof. Manju Mohan  
Head, Centre for Atmospheric Sciences  
Indian Institute of Technology Delhi

## **MAJOR COURSES**

- Data Analysis Methods (*MATLAB, EXCEL*)
- Advanced Data Analysis for Weather and Climate (*PYTHON & GRADS*)
- Mathematical and Computational Methods (*FORTRAN, C*)
- Numerical Modelling of the Atmosphere and Ocean(*WRF*)
- Dynamics/Physics of Atmosphere
- Science of Climate Change
- Atmospheric Chemistry and Air Pollution.

## **ELECTIVES**

- Dispersion of Air Pollutants
- Mesoscale Meteorology
- Remote Sensing of The Atmosphere and Ocean
- Renewable Energy Meteorology
- Earth system modelling
- Climate Variability

## **COMPUTER LANGUAGES**

- PYTHON
- MATLAB
- FORTRAN

## **MODELS USED**

- WRF
- SBDART
- CESM

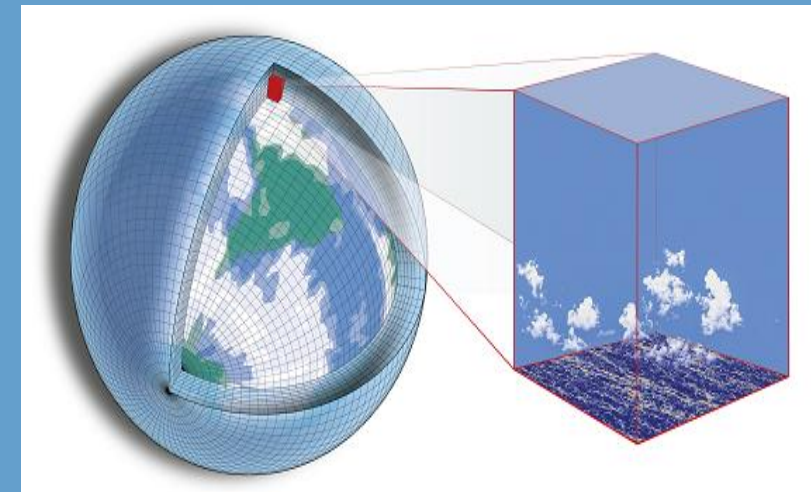
# MAJOR AREAS OF RESEARCH IN AT THE CENTRE



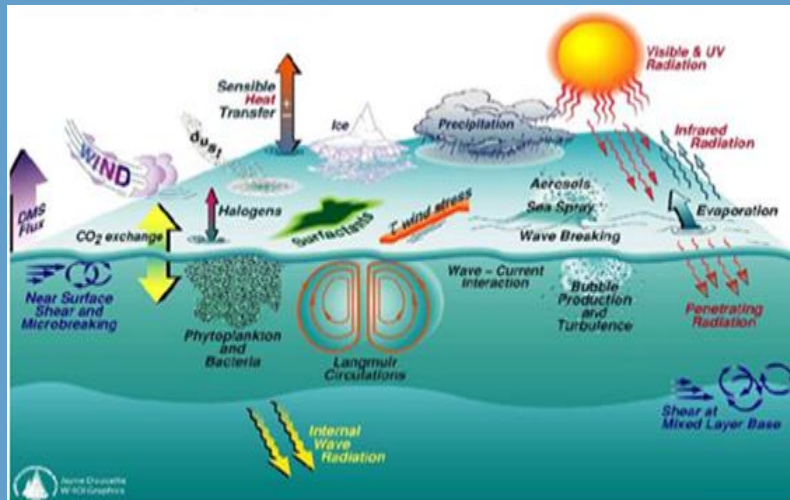
**DATA ANALYSIS**



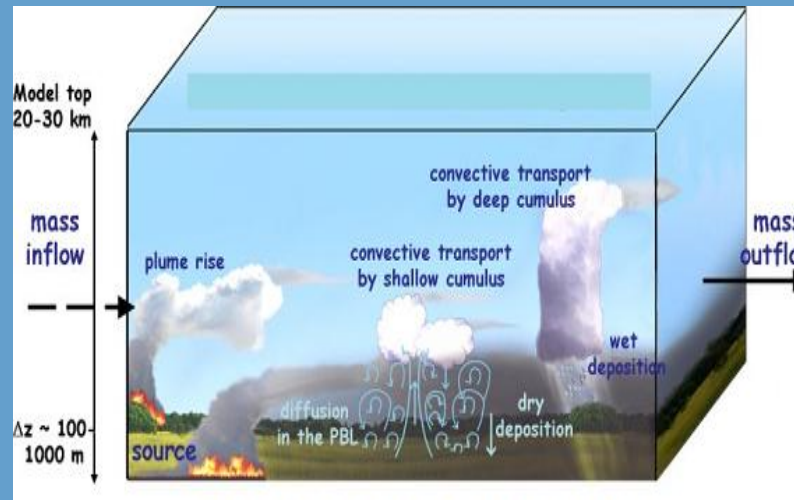
**RENEWABLE ENERGY MATEOROLOGY**



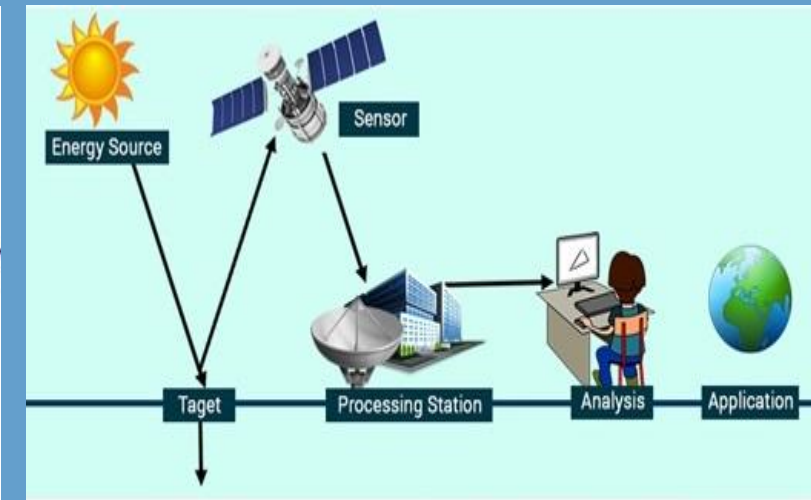
**CLIMATE MODELLING**



**WEATHER AND OCEAN MODELLING**



**AIR QUALITY MODELLING**



**REMOTE SENSING**

# ONGOING M.TECH PROJECTS

- **EVALUATION OF NEW MISR (on-board NASA Terra Satellite) 4.4 km AEROSOL PRODUCT.**
  - 16+ years of Data to examine aerosol characteristics at urban scale for climate and air quality applications in India using Python/MATLAB.
- **SOLAR POWER RESOURCE ASSESMENT OVER INDIA**
  - Identification of potential sites for Solar Power harvesting using 14+ years of historical data using Python/MATLAB
- **OFFSHORE WIND FARM DESIGN**
  - Wind resource assessment and farm layout design over Palk-Strait region

# ONGOING M.TECH PROJECTS

- **ANALYSIS OF RAINFALL OVER INDIA IN 1.5 degree Celsius and 2 degree Celsius FUTURE CLIMATES**
  - Under the Paris Agreement, countries around the world have agreed to limit temperature change to under 2 degree Celsius. The question we will answer in this project is what rainfall changes we can expect at these elevated temperatures.
  - Work involves Python coding and statistics to analyse hundreds of simulations and observations of rainfall.
- **MODELLING ACCIDENTAL RELEASE OF TOXIC MATERIALS FROM INDUSTRIES.**
  - Examining various accidental scenarios due to catastrophic release of hazardous chemicals industries.
- **THE IMPACT OF LARGE DEVELOPMENTS ON URBAN HEAT ISLAND BASED ON LAND-USE AND ANTHROPOGENIC HEAT MODELS**

# ONGOING M.TECH PROJECTS

- A STUDY ON THE INFLUENCE OF DRY AIR INTRUSION FROM THE MIDDLE EAST ON INDIAN SUMMER MONSOON.
  - Meteorological reanalysis of observational datasets(from MERRA (NASA ) and IMD) to understand dry air intrusion from the middle east on Indian Summer Monsoon using Python/WRF model.
- IMPACT OF A REVISED CONVECTION SCHEME ON SIMULATIONS OF INDIAN MONSOON
- VARIABILITY OF THE SURFACE AND SUB-SURFACE PARAMETERS OVER DIFFERENT LOCATIONS IN THE INDIAN OCEAN USING MOORED BUOY OBSERVATIONS.

# PLACEMENT PROCEDURE

Interested companies contact professor-in-charge or placement officer, Training and Placement Cell for a Job Notification Form (JNF) at [placement@admin.iitd.ac.in](mailto:placement@admin.iitd.ac.in).

JNF requires the companies to fill in mandatory details of the job profile-role offered, pay package, place of posting, eligible departments.

Once the filled-in-JNF with all the required details is received, companies are assigned username/password to access their online account on T&P website.

After the application deadline for the students, the resumes are visible to the company. The company submits shortlist on its online account before a deadline.

The JNF has to be frozen on the T&P website by the company till a deadline, after which the students shall be able to view all the details, and the eligible students may apply.

Companies are also assigned space on the server on which they may upload any presentation, videos, data or information they want the student to see.

Shortlisted students get notified. The placement office allots the dates for the campus interviews.

After the completion of the selection procedure on campus, company is required to announce the final list of the students on the same day itself.

If a student is selected, the job is registered against him/her and he/she would not be allowed to appear for more interviews as per placement policy.



# CONTACT US

## PROFESSOR IN-CHARGE

**Prof. I.N.Karr**

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## FACULTY COORDINATOR

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## INDUSTRIAL LIASION OFFICER

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IIT Delhi

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## M.TECH STUDENT

### COORDINATOR

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## HEAD OF THE DEPARTMENT

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