

M-Tech in Climate Change
Department Of Climate Change
Indian Institute of Technology Hyderabad

PLACEMENT BROCHURE

2026-27



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad



**OFFICE OF
CAREER SERVICES**

Indian Institute of Technology Hyderabad

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About IIT-H

Indian Institute of Technology Hyderabad (IITH) is a premier institute of science and technology established in 2008. IITH has been consistently ranked among the top 10 engineering institutes in India according to NIRF. IITH offers undergraduate programs in classical engineering disciplines, applied sciences, design, and interdisciplinary areas.

The very foundation of IIT Hyderabad is based on research and innovation. IITH encourages and supports innovation and entrepreneurship at every stage.

IITH enjoys a very special relationship with Japanese universities and industries that goes beyond academic and research collaborations. IITH creates a holistic ecosystem for education that enables students and faculty to translate their dreams into realities.

Vision

IITH will be the cradle for inventions and innovations. It will advance knowledge and scholarship to students in science, technology and liberal arts, and equip them to handle the challenges of the nation and the world in the 21st century.

Mission

IITH will be the cradle for inventions and innovations. It will advance knowledge and scholarship to students in science, technology and liberal arts, and equip them to handle the challenges of the nation and the world in the 21st century.



ABOUT THE CLIMATE CHANGE DEPARTMENT

The Department of Climate Change at IIT Hyderabad is an interdisciplinary program dedicated to addressing global climate challenges through advanced education, research, and sustainable innovation. The curriculum integrates climate science, atmospheric systems, computational analytics, sustainability studies, climate policy, and clean energy technologies to prepare students for industry and research careers.

Students gain expertise in climate analytics, climate modelling, hydrometeorological forecasting, geospatial technologies, artificial intelligence, machine learning, and sustainability assessment. The program provides hands-on exposure to tools and technologies such as Remote Sensing & GIS, advanced computing, environmental data analytics, and high-performance climate simulations.

With strong emphasis on experiential learning and industry interaction, students develop skills in climate risk assessment, ESG and sustainability analytics, renewable energy systems, environmental data science, and climate governance, preparing them for careers in climate-tech, sustainability consulting, renewable energy, research, and policy sectors.



MESSAGE FROM OUR HEAD OF DEPARTMENT



Dr. Asif Qureshi

Head of Department,
Department of Climate Change

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Our graduates harbor multidisciplinary portfolios that are highly beneficial when it comes to solving the environmental and climate challenges of our times. Through various courses, term projects and thesis projects, they are trained in climate sciences and climate solutions, and are capable of employing mathematical, experimental and theoretical tools to help you solve challenging situations and ensure smooth organizational operations. Our students have been placed in companies internationally and nationally.

”

MESSAGE FROM OUR ADVISORS



Dr. Anamitra Saha

Faculty Incharge,
Department of Climate Change

Industries today are under growing pressure to manage climate-related financial risks, navigate evolving regulations, and build long-term resilience. Our M.Tech program in Climate Change is designed to train students to work meaningfully within that landscape. The program bridges climate science, data and modeling, engineering, and policy.

Our program is multidisciplinary, because effective climate professionals rarely fit into a single discipline. Our graduates are positioned to contribute across a range of fields, such as clean energy, environmental management, sustainability consulting, risk assessment, policy planning, data science, and machine learning/AI. We invite industries to engage with our students, who have developed both technical depth and applied problem-solving skills over the course of the program.



Dr. Chetankumar Jalihal

Faculty Placement Coordinator,
Department of Climate Change

Our multidisciplinary curriculum has equipped our students to address environmental and sustainability challenges. They are trained in climate science, adaptation and mitigation strategies, environmental policy, data analysis, and sustainable development practices.

Through hands-on sessions and industry lectures the students have exposure to practical aspects of industry. We invite recruiters to interact with our graduates who are prepared to contribute meaningfully to build a sustainable future

CLIMATE CHANGE CURRICULUM

Duration : 2 Years (4 Semesters)

Course Structure:

1st year – Core and Elective Courses (25 credits)

2nd year – Project / thesis (24 credits)

Climate Science, Modeling and Forecasting

- Climate dynamics and weather forecasting.
- Climate modeling and data analysis.
- Climate risk and resilience applications.

Climate Change Mitigation, Adaptation

- Climate mitigation and adaptation strategies
- Carbon management and ESG frameworks.
- Climate policy and sustainability applications.

Atmospheric Data Science and Machine Learning

- Data analytics, statistical modeling, and machine learning.
- Time-series analysis, predictive modeling, and visualization.
- Climate informatics and data-driven decision-making.

Research Methodology and Scientific Communication

- Research methodology and analytical thinking.
- Technical writing and scientific communication.
- Research, consulting, and policy applications.

Geospatial Technologies and Remote Sensing

- GIS, Remote Sensing, and spatial analysis.
- Satellite image processing and geospatial mapping.
- Environmental monitoring and urban planning.

Environmental Analytics and Climate Risk Assessment

- Climate risks, vulnerabilities, and adaptation strategies.
- Risk assessment and resilience evaluation.
- Climate-risk, sustainability, and policy applications.

Advanced Computing

- Scientific programming and computational methods.
- Climate simulations and large-scale data processing.
- Scientific computing, machine learning, and climate technology.

Sustainable Development and Circular Economy

- Sustainable resource and circular economy principles.
- Renewable energy and waste management.
- Sustainability and green development applications.

CORE SKILLS

Climate Analytics & Prediction

- Climate & Atmospheric Modeling
- Weather & Climate Forecasting
- Hydrometeorological Analysis
- IPCC Report Reading & Climate Assessment
- Regional Climate Variability Analysis



Data Science & Computational Skills

- Python Programming
- Machine Learning & Deep Learning
- Statistical Analysis
- Database Management
- Climate Data Processing & Analysis



Geospatial Intelligence & Earth Observation

- GIS & Spatial Data Analysis
- Google Earth Engine (GEE)
- Climate Risk & Disaster Assessment
- Geospatial Data Visualization
- Climate Change Impact Mapping



Sustainability, ESG and Climate Risk

- ESG Analytics & Corporate Reporting
- Life Cycle Assessment (LCA)
- GHG Accounting & Carbon Footprinting
- Carbon Markets & Carbon Credits
- Net-Zero Strategy & Transition Planning



WHY RECRUIT US?



INTERDISCIPLINARY PROFESSIONALS FOR EMERGING CHALLENGES

Trained at the intersection of climate science, engineering, data analytics, and policy, our graduates bring a systems-level thinking approach to complex problems. They are equipped to address climate risk assessment, ESG reporting, environmental management, and sustainable development — making them valuable across diverse sectors.



ALIGNED WITH SUSTAINABILITY AND FUTURE-READY TECHNOLOGIES

Our curriculum is built around tomorrow's most critical business priorities — Net-Zero transitions, carbon accounting, green finance, TCFD compliance, and AI-based sustainability solutions — equipping graduates to help organizations stay ahead of regulatory demands while accelerating long-term sustainability commitments.



DATA-DRIVEN PROBLEM SOLVERS

Our students leverage Machine Learning, Deep Learning, and advanced computational techniques to tackle real-world climate challenges. From extreme weather prediction and agricultural planning to urban heat modelling and decision-support systems, they transform complex datasets into actionable insights — enabling smarter, faster, and more reliable business decisions.



INDUSTRY-READY GRADUATES WITH CLIMATE AND GEOSPATIAL EXPERTISE

Our students are trained in climate science, geospatial analytics, and sustainable development, with expertise in Python, ArcGIS, QGIS, Machine Learning, and urban planning. They are well-prepared to support data-driven solutions in climate resilience, environmental management, and sustainable urban development.



VERSATILE TALENT FOR MULTIPLE INDUSTRIES

Our graduates move seamlessly into roles across Climate-Tech, renewable energy, ESG consulting, smart cities, sustainable finance, and environmental management. With industry exposure through live projects, research, and internships, they bring immediate, cross-sector value — making them a strategic hiring choice for any forward-looking organization.

BEYOND THE CURRICULUM

At the Department of Climate Change , learning extends far beyond the classroom through a wide range of student-driven activities that foster leadership, teamwork, and professional growth.

CLIMATE CHANGE DAY

One of the department's flagship initiatives is the annual Climate Change Day , a vibrant event organized entirely by students with the guidance and support of faculty members. The event serves as a platform for students to engage with experts from academia, industry, and research organizations working in climate science, sustainability, and environmental management.

Climate Change Day celebration features a variety of technical and cultural events from paper presentations, quizzes, poster exhibitions to energetic two-day sports meet with enthusiastic participation from students across different batches. These activities provide opportunities for students to showcase their talents beyond academics while strengthening interpersonal, innovation and leadership skills.



CLIMATE CAFE'

Climate Café – an informal space where we discuss topics and updates related to climate change over a cup of coffee. Climate Café is open to all students and faculties, and it is held once every two weeks. Each session will have 1-2 hosts (our Baristas for that session), they will serve the topic and moderate the discussion.



INDUSTRY LECTURES

Industry lectures connect students with experts, offering valuable industry insights and opportunities for projects, internships, research, and career development.

Lectures include:

- "Aviation weather intelligence",
- "Geospatial intelligence & climate risk assessment",
- "Carbon markets".

PROJECTS

Students undertake interdisciplinary projects at the intersection of climate science, AI, sustainability, and policy, addressing real-world climate challenges.



A Spatio-Temporal Deep Learning Framework for Cloudburst Forecasting

- Developing deep learning models (CNN, U-Net, GAN, and LSTM) for short-term cloudburst forecasting in the Indian Himalayan Region.
- Utilizing ERA5 reanalysis and INSAT satellite data to capture spatio-temporal atmospheric patterns associated with extreme rainfall events.
- Identifying key atmospheric precursors such as CAPE, wind shear, vorticity, and OLR to support early warning systems and disaster risk reduction.



Domain:

AI/ML | Remote Sensing | Disaster Risk Reduction



Quantitatively measuring the gaps in planning, governance and implementation systems and their impacts on climate change actions.

- Assessing the role of planning and governance in the effective implementation of climate action and sustainability initiatives.
- Analyzing governance and implementation gaps that influence the success of climate mitigation and adaptation strategies.
- Quantifying the impacts of policy and implementation challenges on climate resilience, development outcomes, and community well-being.



Domain:

Planning and climate impacts

PROJECTS



Deep Learning-Based Subseasonal Climate Forecasting

- Developing Deep Learning models to improve the accuracy of ECMWF S2S climate forecasts.
- Using atmospheric variables such as temperature, humidity, wind, and geopotential height for climate prediction.
- Evaluating multiple AI/ML models for applications in climate forecasting and decision support.



Domain:

AI/ML | Weather and Climate Forecasting



Scalable Computational Infrastructure for Advanced Predictive Modeling

- Developed a high-performance computing framework for large-scale simulations and AI applications.
- Optimized workflows using C and OpenMP to enable efficient parallel processing.
- Improved multi-core CPU utilization, reducing execution time and enhancing scalability.



Domain:

High-Performance Computing (HPC) | Computational Physics



Machine Learning-Based Discovery of Thermotolerant Carbon-Fixing Microorganisms

- Developed Machine Learning models to predict the optimal growth temperature (OGT) of carbon-fixing microorganisms.
- Identified thermotolerant microbial candidates for carbon sequestration and climate-change mitigation.
- Analyzed genomic patterns associated with environmental adaptation and climate resilience.



Domain:

Climate Change | carbon Fixation

PREVIOUS YEAR STATISTICS



STUDENTS
REGISTERED



International
Offers



TOTAL STUDENTS
PLACED

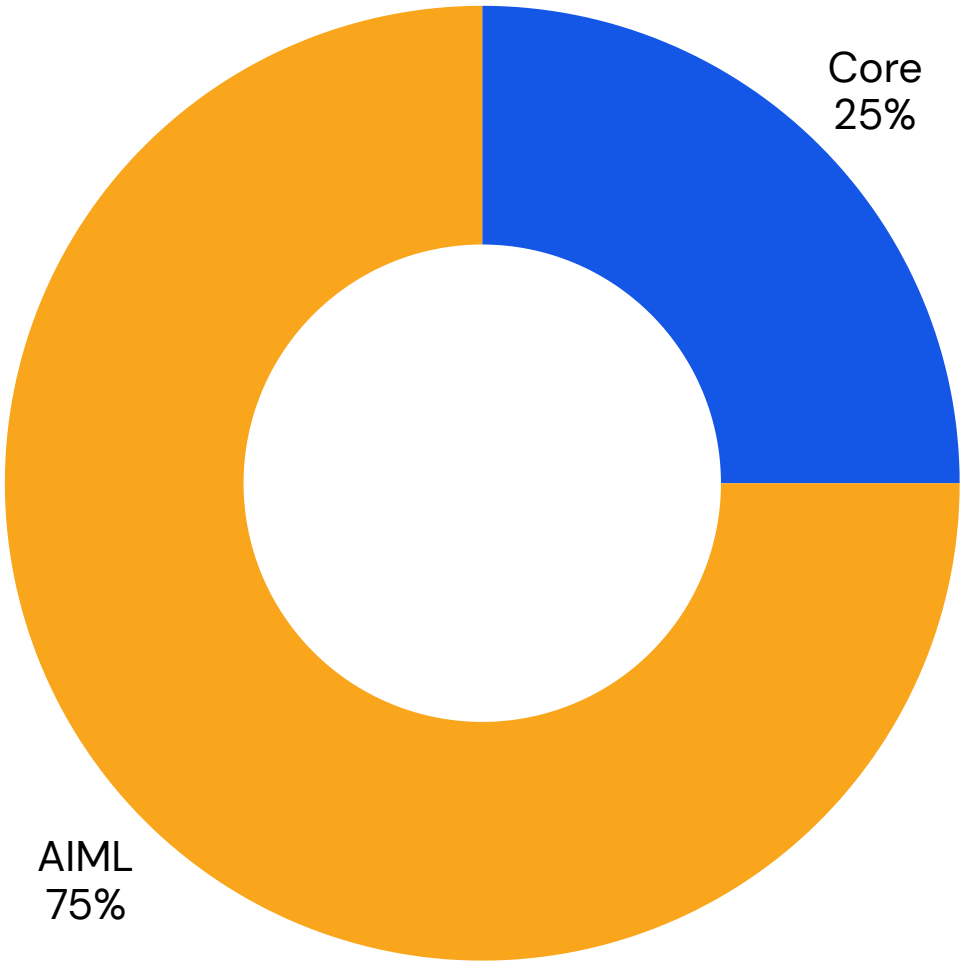


Average Package
in INR

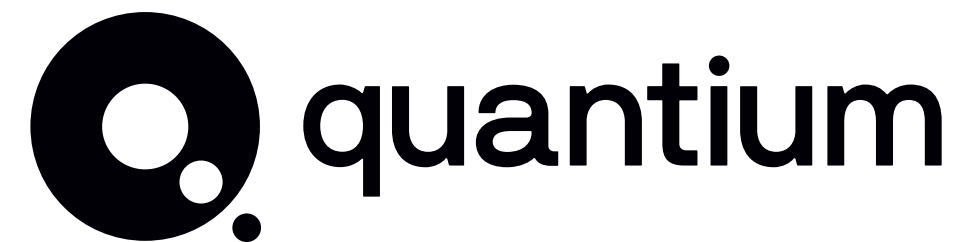


Highest Package
in INR

PLACED DOMAINS



PAST RECRUITERS



CONTACT US



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OFFICE OF CAREER SERVICES (OCS)

The Office of Career Services (OCS) at IIT Hyderabad is committed to empowering students to make informed and strategic career decisions aligned with their strengths and aspirations. By fostering strong collaborations with industry leaders and leveraging a robust alumni network, OCS facilitates a broad spectrum of career opportunities.

Through well-structured guidance initiatives and a streamlined recruitment process, OCS effectively bridges the gap between academic preparation and professional expectations, ensuring that students are equipped to excel in roles that best suit their career goals.



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