Engineering Staff College of India

Autonomous Organ of The Institution of Engineers (India)

Old Bombay Road, Gachi Bowli, Hyderabad – 500 032. Telangana, India

Centre for Climate Change Division

Continuing Professional Development Programme

Integrated Water Management Solutions for Climate-Stressed Regions Using AI

28 - 30 July 2026

Interactive Sessions | Digital Learning | Assessments | 24/7 Experts Online/Offline Support

Introduction

Climate change is placing unprecedented stress on water resources through increased frequency of floods, droughts, extreme rainfall events, groundwater depletion, and water quality deterioration. Artificial Intelligence (AI), combined with GIS, Remote Sensing, IoT, and advanced hydrological models, offers innovative solutions for improving water security and climate resilience. This three-day programme provides participants with a comprehensive understanding of integrated AI-driven water management approaches for sustainable planning, monitoring, forecasting, and decision-making in climate-stressed regions.

Objectives

The programme aims to:

- Understand climate change impacts on water resources.
- Explore AI applications in hydrology and water management.
- Learn AI-based flood and drought forecasting techniques.
- Develop skills in smart water monitoring and decision support systems.
- Understand the integration of GIS, Remote Sensing, IoT, and AI for water management.
- Explore case studies and best practices from India and abroad.

Course Coverage

This training program will broadly cover the following key areas:

Fundamentals of Climate-Stressed Water Systems and AI Applications: Water Challenges in a Changing Climate, principles of Integrated Water Resources Management (IWRM), Introduction to Artificial Intelligence in Water Resources, GIS, Remote Sensing, and Big Data Analytics.

AI-Driven Monitoring, Forecasting, and Climate Resilience: Smart Water Monitoring Systems, AI-Based Flood Forecasting and Early Warning Systems, Drought Assessment and Water Scarcity Management, Groundwater Management Using AI.

Advanced Applications, Decision Support Systems, and Future Directions: AI for Water Quality and Pollution Management, Smart Urban Water Management, Decision Support Systems and Digital Twins, Case Studies and Emerging Trends.

Methodology

Methodology of the programme includes classroom Sessions with Lectures/discussions, with audio visual aid; bench - marked video shows, Chalk & Talk sessions, group discussions, case studies, debates, sharing of experiences, etc. All the sessions will be interactive, demanding active participation from all the participants.

Target Participants

This programme is designed for Water Resources Engineers, Hydrologists, Hydrogeologists, Civil Engineers, Environmental Engineers, Urban Planners, Climate Change Professionals, GIS and

Remote Sensing Specialists, Utility and Infrastructure Managers, Government Officials, Policymakers, Researchers, Academicians, and Disaster Management Professionals who are involved in water resources planning, climate adaptation, urban resilience, flood and drought management, groundwater development, environmental sustainability, and smart infrastructure systems. The programme will also benefit professionals seeking to leverage Artificial Intelligence (AI), Geographic Information Systems (GIS), Remote Sensing, Internet of Things (IoT), and data analytics for integrated and climate-resilient water resource management.

Programme Dates, Timings & Code

Dates: 28 - 30 July 2026, Timings: 10 AM Onwards. & Code: 8074

Course Director

Dr. K. Chandrakala Sr. Faculty, Centre for Climate Change **Dr. Aadhi Naresh,** Faculty, CCC
Engineering Staff College of India,
Phone: Direct 040 6630 4164/4137, Fax: 040 - 6630 4163,
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Faculty/Speaker Details

Apart from the core internal faculty, experienced professionals/faculties/sector experts will be delivering the lively lecture with practical knowledge & case study.

Course Fee

- **Course Fee (Residential):** – **Rs. 18,500/-** (Rupees Eighteen Thousand Five Hundred only) per participant. Fee includes course material, course kit, twin-sharing/single AC accommodation as per availability, breakfast, lunch, dinner, tea / coffee and snacks during the actual days of training programme. ESCI provides complimentary accommodation and boarding to the participants one day before commencement (Check-in 1200 h) and one day after conclusion (Check-out 1200 h) of the programme duration. Overstay charges will be applicable as per ESCI rules (subject to availability of accommodation)
- **Non-Residential Fee: 10% discount** on course fee is allowed for non-residential participants
- **Group Incentive: 10% discount** for five or more participants, if sponsored by the same Organization

GST @18% is to be paid extra over and above the training fee. **PAN Card No.** AAATT3439Q. **GST No:36AAATT3439Q1ZV, HS No.: 999293** (under commercial training or coaching services – clause 65(105) (ZZC)of Finance act – 1994).

Programme fee is to be paid in in favour of "**THE INSTITUTION OF ENGINEERS (INDIA) – ENGINEERING STAFF COLLEGE OF INDIA**" in the form of demand draft payable at Hyderabad. Alternatively, the payment may be made by **Electronic Fund Transfer (EFT)** to ESCI – **SB A/c No. 10007111201 with The SBI**, PBB, Rajbhavan Road Branch, Khairatabad, Hyderabad-500004 by **NEFT/ RTGS. IFSC Code No. SBIN 0004159 – MICR No.500002075. PAN Card No AAATT3439Q; GSTIN No. 36AAATT3439Q1ZV**. While using EFT method of payment, please ensure to communicate us your company name, Contact details, our invoice reference and programme title.

Registration

Online registration shall be available on ESCI **web portal**: www.escihyd.org

To register manually please send your nominations giving details of name, designation, contact address, email address, mobile no, telephone and fax number of the participant along with the details of mode of payment of fee, addressed to: **Course Directors**.

Each participant will receive a Certificate of Participation upon program completion.