

# NATIONAL WORKSHOP ON

# LEVERAGING TIME SERIES TECHNIQUES FOR WATER RESOURCES AND CLIMATE SOLUTIONS







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## KSCSTE – CENTRE FOR WATER RESOURCES DEVELOPMENT AND MANAGEMENT (CWRDM), KOZHIKODE, KERALA



# **Workshop Overview**

This workshop translates cutting-edge time series analytics into actionable insights for effective water and climate resilience planning. Participants will develop skills to address critical environmental challenges including drought and flood forecasting, rainfall and evapotranspiration analysis using R software. The curriculum provides a blend of theoretical foundation and hands-on training, ensuring participants gain conceptual understanding and practical implementation skills in handling hydrological data. The following are the key topics that will be covered in the workshop.

**R Programming for Time Series** : Introduction to R fundamentals and key packages for time series analysis and visualization.

**Time Series Theory and Structure** : Building climate indices, and analyzing trend, seasonality, and variability.

**Statistical Modeling Techniques** : Preprocessing, decomposition, and modeling using univariate and multivariate statistical approaches.

**Machine Learning for Time Series** : Applying ML algorithms such as ANN, LSTM, and XGBoost etc for pattern recognition and forecasting.

**Forecasting Strategies** :Designing short- and long-term forecasting pipelines using real-world time series datasets.

# **About CWRDM**

CWRDM is a premier R&D institution in the 'Water sector' established by the Government of Kerala under its Science and Technology Policy in February 1978. Later, the Centre was amalgamated with the Kerala State Council for Science, Technology and Environment (KSCSTE) in its Silver Jubilee Year-2003. CWRDM has substantially contributed to the scientific hydrologic studies and water management in the region. Starting with the establishment of data management system for the region, CWRDM has tackled different problems pertaining to watershed development, wetland management, water management for agriculture, forest and urban hydrology, estuarine management, groundwater development, water quality management, irrigation and drainage issues.

## **Registration Information**

FEE STRUCTURE	
STUDENTS	Rs. 4,000
WORKING PROFESSIONALS/ACADEMICIANS	Rs. 6,000

#### Bank Account Name : KSCSTE - CWRDM IFSC: IDIB000K008

Account Number : 0557269300 Bank & Branch : Indian Bank, Kallai Road

The registration fee includes workshop materials, access to datasets, software resources, lunch and refreshments during the 5-day program. Participants should bring laptops for the workshop. Participants will receive certificates upon successful completion of the workshop. Target participants include industry professionals, faculties, scientists and students.

### **IMPORTANT DATES**

- 18-08-2025 : Last date of Application
- 20-08-2025 : Notification of acceptance

#### **ORGANIZING TEAM**

#### **Chief Patron**

Dr. Manoj P Samuel Executive Director, CWRDM

#### Head of Organizing Research Group

Dr. K.Ch.V Naga Kumar Scientist, CWRDM

#### **Event Co-ordinators**

Dr. Naveena K Scientist B naveenak@cwrdm.org +91-9448276572

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