KSCSTE - CWRDM
ISO 9001:2015

KSCSTE

Training Course On

HYDROLOGIC MODELLING UNDER CHANGING CLIMATE AND LAND USE USING SOIL AND WATER ASSESSMENT TOOL (SWAT)

16th to 19th October 2024

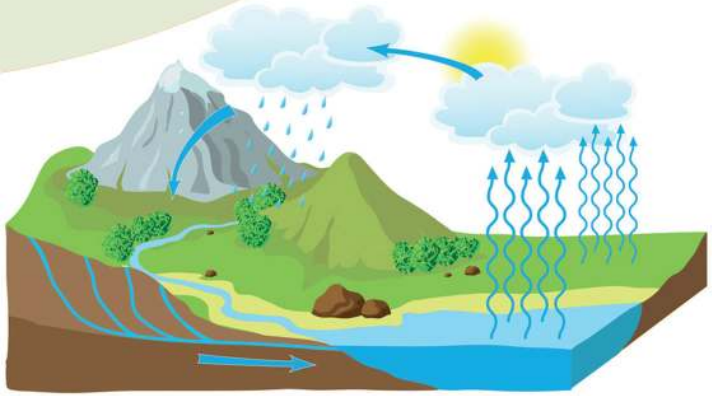
Organized by

KSCSTE-CENTRE FOR WATER RESOURCES DEVELOPMENT AND MANAGEMENT

Kunnamangalam, Kozhikode - 673 571, Kerala, India

(An institution of Kerala State Council for Science, Technology and Environment, Govt of Kerala)

(An ISO 9001:2015 Certified Institution)



INTRODUCTION

Hydrologic modelling is crucial for understanding water movement, distribution, and quality in watersheds, especially in light of climate change and land use alterations. Hydrologic models like Soil and Water Assessment Tool (SWAT) help simulate complex interactions and provide insights for future water management strategies.

SWAT, is a physically-based model that simulates land use, management practices, and climate variability on water, sediment, and nutrient cycles at the watershed scale. It is ideal for climate change studies and land use planning due to its ability to integrate spatially distributed data and assess future scenarios. The versatility of SWAT to both gauged and ungauged watersheds gives it an advantage in large-scale applications.

This training course provides hands-on experience in using the SWAT model for hydrologic simulations, focusing on calibration and the application of future climate projections and land use scenarios, preparing participants to assess the implications of changing climatic conditions and land use patterns on water availability, runoff, and water quality.

COURSE CONTENT

This training course combines expert-led lectures with practical, hands-on sessions, offering a comprehensive learning experience in a physical mode. Guided by Scientists and Professors with extensive expertise, the course will cover the following key topics:

- ► Challenges in Water Resources Management
- ► Fundamentals of Hydrological Modelling
- ► SWAT Model Setup, Calibration, and Validation
- ► Sensitivity Analysis
- ► Visualization and Interpretation of SWAT Outputs
- ► Land Use/Land Cover (LULC) Map Preparation and Projection
- ► Climate System and Modelling
- ► Future Predictions under LULC and Climate Scenarios

This course is designed to be highly interactive, encouraging participants from both academia and field organizations to share real-world challenges and insights. Through collaborative discussions, participants will engage in practical problem solving and gain valuable experience in addressing contemporary water resource issues.

ABOUT THE HOST INSTITUTE

The KSCSTE - Centre for Water Resources Development and Management (CWRDM) is a leading research institution, established by the Government of Kerala in 1978 under the Kerala State Council for Science, Technology and Environment (KSCSTE), dedicated to advancing scientific studies in water resources management and hydrology. Located 13 km east of Kozhikode (Calicut) City, CWRDM is staffed by a multidisciplinary team of scientists specializing in water resources engineering, hydrology, environmental sciences, agricultural engineering, hydrogeology, geophysics, biological sciences, and social sciences, supported by skilled technical and administrative staff.

The research at CWRDM focuses on a range of critical water-related areas, including drainage basin and watershed studies, integrated river basin management, surface water and groundwater resource estimation, climate change impacts, urban and forest hydrology, water quality management, water supply and sanitation, crop water management, environmental impact assessment, estuarine and coastal dynamics, irrigation, and drainage systems. These studies are conducted by various research groups, leveraging advanced tools and technologies. The Centre houses state-of-the-art facilities such as a Radio Isotope Hydrology Lab, a NABL-accredited Water Quality Lab, a Water Heritage Museum, and a Climate Change Learning Lab. With access to advanced instruments and software for isotope hydrology, remote sensing, sedimentation studies, hydrolocal modelling, and hydrochemistry, CWRDM plays a pivotal role in addressing water resource challenges in Kerala and beyond.

WHO CAN PARTICIPATE?

This course is designed for students and professionals from government, non-government, and private organizations who are actively engaged in the fields of Water Resources Engineering, Soil and Water Conservation Engineering, Irrigation Engineering, or related disciplines. Postgraduate students and research scholars are highly encouraged to attend.

- **Research Scholars: Rs. 2000/- + GST**
- **Working Professionals/Academicians: Rs. 5000/- +GST**

The registration fee includes course materials, working lunch, and tea for all sessions. ***No TA/DA will be provided, and Participants are expected to cover any additional costs themselves.*** Accommodation at the institute's hostel is available on a payment basis for those who need it. ***Participants will receive a certificate upon successful completion*** of the course. Attendees are required to bring their own laptops for hands-on exercises during the training.

Please note that the course is ***limited to 20 participants.*** Selection will be based on educational qualifications, experience, and relevance to the course topics. Interested individuals should submit their completed registration form by ***6th October 2024*** through the provided registration link. Final selection will be conducted by CWRDM, Kozhikode.

VENUE

The training course will be held at CWRDM, Kozhikode. Kerala, India - 673571, from 16th October to 19th October 2024.

IMPORTANT DATES

Last Date for Registration: 6th October 2024
Intimation of Selection : 8th October 2024

REGISTRATION LINK & QR CODE

https://forms.gle/FNdHsSRbuN6aDMAy5

All correspondence related to the course should be made with the course coordinators

PATRON

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CONVENOR

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