

Two Days Training Program

on

Hydrological Modelling using SWAT including Parametric Uncertainty and Sensitivity Analysis

February 08-09, 2019

Under

Indian National Committee on Climate Change
(INCCC) Research Project
Ministry of Water Resources, River Development &
Ganga Rejuvenation (MoWR,RD&GR),
Government of India

Coordinators

Dr. P L Patel (Principal Investigator)
Dr. P V Timbadiya (Co-Principal Investigator)

Call for participation



Organized by

Centre of Excellence on
“Water Resources and Flood Management”,
Civil Engineering Department
Sardar Vallabhbhai National Institute of
Technology, Surat-395007.

About the project on ‘Impact of Climate Change on Water Resources of Tapi basin’

The INCCC sponsored project on ‘Impact of Climate Change on Water Resources of Tapi basin’ was allocated to SVNIT Surat as the lead institute along with MNIT Jaipur and MANIT Bhopal as partner institutes on March 19, 2018. The project primarily aims at developing a robust database of Tapi basin related to various hydrological, meteorological, physiographical, agricultural and demographical information. The project also focusses on trend detection in hydroclimatic variables at finer spatial scales and simulating the hydrological response of watersheds using hydrologic and hydraulic modelling approaches for historic as well as future conditions. The project emphasizes on optimization of reservoir operation for Ukai reservoir with reference to irrigation, hydropower and flood control. Thus, this project will provide exhaustive analysis of impact of climate change on present and future water resources and climate extremes such as floods and droughts across the Tapi basin.

About the Institute

The institute was initially established as Sardar Vallabhbhai Regional College of Engineering & Technology in 1961, and was upgraded to National Institute of Technology (SVNIT) in 2002. The SVNIT, at present, is one of the prestigious engineering institutions of the country, and has contributed many outstanding engineers in India and abroad. At present, the Institute runs six Undergraduate, and seventeen Postgraduate programmes, three MSc integrated programmes and Ph.D. programmes in all disciplines of Engineering and Applied Sciences. Special attention is being given in developing the culture of interdisciplinary and collaborative research. The institute has an excellent placement record with a number of top-ranking companies visiting the campus every year.

About the Department

The Department of Civil Engineering came into existence in the year 1961. The department has 27 faculty members with specialization in various themes of Civil Engineering. The department has been running one UG program in Civil Engineering, four PG programs (Water Resources Engineering, Environmental Engineering, Urban Planning,

and Transportation Engineering & Planning) and the research programs leading to Ph.D. degree in different areas of specializations.

About Centre of Excellence (CoE)

The Water Resources Engineering section of the department had full-fledged facilities for UG/PG and PhD programs under the leadership of eight dedicated faculty members. The section has taken lead to establish Centre of Excellence (CoE) on ‘Water Resources and Flood Management funded from World Bank under TEQIP-II and TEQIP-III. The CoE aims to develop excellent computational and experimental facilities in the area of Hydraulics and Water Resources; develop Early Warning System for flooding in Surat city; and organize short term training programmes, workshops and conferences on thematic areas to the academicians and practitioners in the field.

About Computational Hydraulics Laboratory (CHL)

The Water Resources Engineering section of the department had full-fledged Computational Hydraulic Laboratory with following professional software (academic version):

- 1) Bentley Storm CAD V8i
- 2) Bentley Sewer GEMs V8i
- 3) Bentley Water GEMs V8i
- 4) MIKE 11/MIKE 11 GIS/MIKE 11 FF/MIKE 21 FM
- 5) MIKE FLOOD, MIKE SHE, MIKE URBAN
- 6) River CAD Professional (HEC-RAS)
- 7) HEC-2, HEC-HMS Professional
- 8) Arc GIS 10.6
- 9) ERDAS IMAGINE 10
- 10) STATISTICA 10
- 11) MATLAB 2014a

About Surat

The Surat city, situated on the bank of Tapi river, is highly ranked industrial city of the country with a network of flyovers and clean wide roads. It is well known worldwide for textiles, Zari and Diamond industries. Several large-scale industries and establishment are located in the city. The city is situated on the main western railway route between Vadodara and Mumbai. The institute is located at Ichchhanath on Surat-Dumas road at a distance of about 10 km from the Surat railway station.

Training Program Objectives

The objective of the training program is to impart training to the researchers involved in hydrological modelling including uncertainty and sensitivity analysis of model parameters.

Course Contents

The training program would cover the following specific topics:

- **Overview of the SWAT model and its applications**
- **Data requirements, input parameters and required formats for input into the SWAT model**
- **Model development, calibration and validation of SWAT parameters**
- **Assessment of parametric uncertainty and sensitivity analysis**
- **Hands-on practice: Development of a SWAT model for selected case studies**

Registration of Participants

The training program is open exclusively for Ph.D. and M. Tech. 2nd year students of Water Resources Engineering section, Department of Civil Engineering, SVNIT Surat, along with project staff of the partnering institutes.

The number of participants for the programme is **limited to 35**. The preference will be given to Ph.D. students and remaining spots will be filled up by PG students (based on merit, if no. of participants exceed the proposed number). There is **no course fee** for the training program.

Instructors

- **Dr. Aditya Tyagi**, Senior Principal Technologist, CH2M Hill, USA
- **Prof. Pranab K. Mohapatra**, Professor, IIT Gandhinagar, India
- **Prof. Manish Kumar Goyal**, Associate Professor, IIT Indore, India
- **Dr. Vishal Singh**, Scientist-C, NIH Roorkee, India

Important Dates

The completed filled-in registration form must be sent as an e-mail attachment to coewrfm@gmail.com on or before **February 05, 2019**. The selected applicants will be informed through e-mail by **February 06, 2019**. The registration is compulsory for participation in the training program.

Prerequisites

The participants are expected to have good computer skills and basic knowledge of GIS.

Venue

Computational Hydraulics Laboratory
Centre of Excellence (CoE) on 'Water Resources & Flood Management'
Department of Civil Engineering, SVNIT Surat.

Contact

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Student Coordinators

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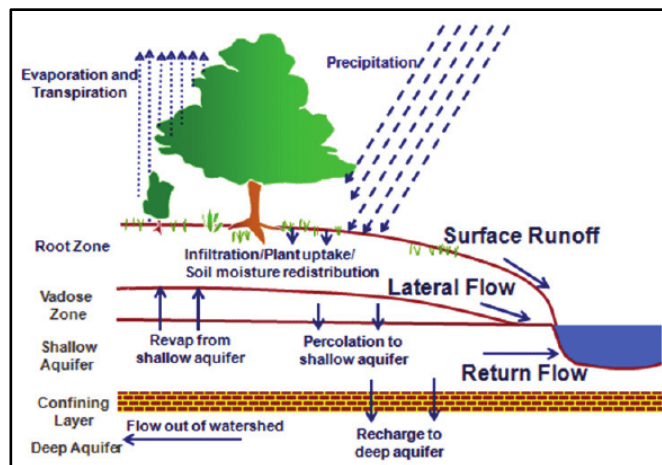
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Registration Form

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on

**Hydrological Modelling using SWAT including
Parametric Uncertainty and Sensitivity Analysis**

February 08-09, 2019

Name: _____

Gender (M/F): _____ Age: _____

Designation: _____

Department: _____

Organization: _____

Qualification: _____

Address for correspondence: _____

Mobile: _____

Email: _____

Date: _____

Place: _____

Signature of Participant