

Agenda

Presented by Venkatesh Merwade, Ph.D.

Introduction to HEC-HMS and Applications

- Brief overview of the model and its interface
- Watershed studies
- Stormwater management
- Regional flood models

Hydrologic Principles

- Hydrologic cycle
- Rainfall-runoff modeling
- Loss methods—SCS method
- Transform methods—SCS dimensionless hydrograph
- Routing—Muskingum routing

Creating a Simple HEC-HMS Project

- Lumped model creation with a single sub-basin
- Understanding different files
- Project, basin, meteorologic model and control specifications

Data Requirements for Creating a Watershed Model

- Digital elevation model (DEM)
- Land use and soil
- Rainfall and streamflow

Watershed Delineation Using Digital Elevation Model (DEM)

- D8 method for flow direction

Small Watershed Modeling Demonstration

- GIS pre-processing
- Data input
- Results interpretation

HEC-HMS Model Calibration

- Calibration approaches
- Trouble shooting

New Capabilities in HEC-HMS

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Introduction to HEC-HMS Modeling

Live, Interactive Webinar - Friday, May 3, 2024

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Learning Objectives

You'll be able to:

Discuss the use of HEC-HMS software for watershed studies, stormwater management and flood modeling.

Review and apply hydrologic principles.

Learn how to create a simple project in HEC-HMS.

Identify data required to create watershed models.

Participate in a small watershed modeling demonstration.

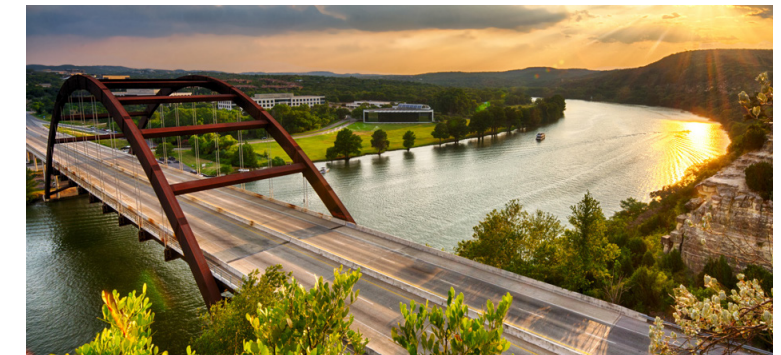
Explore new capabilities in HEC-HMS.



HalfMoon Education Live Webinars

Introduction to HEC-HMS Modeling

Live, Interactive Webinar - Friday, May 3, 2024



Discuss the development of, and applications for, ACOE's HEC-HMS modeling software

Get tips on creating a watershed model

Review hydrologic principles that are key to modeling

Participate in a small watershed modeling demonstration

Learn about creating a simple HEC-HMS project

Get tips on calibrating HEC-HMS models

Continuing Education Credits

Professional Engineers

6.5 PDHs

Floodplain Managers

6.5 ASFPM CECs

Landscape Architects

6.5 HSW CE Hours

6.5 LA CES HSW PDHs



Webinar Information

Log into Webinar 8:30 - 9:00 am CDT	Break 12:45 - 1:15 pm CDT
Morning Session 9:00 am - 12:45 pm CDT	Afternoon Session 1:15 - 4:30 pm CDT

Tuition
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Faculty

Venkatesh Merwade, PhD *Purdue University*
Dr. Merwade is a professor in the Lyles School of Civil Engineering at Purdue University, where he has been since 2006. From 2004 to 2006, he worked as worked as post-doctoral fellow at the Center for Research in Water Resources at the University of Texas at Austin. Dr. Merwade received his bachelor of engineering degree in Environmental Engineering from Shivaji University, India, in 1997; his M.S.c. degree in Engineering Hydrology from the National University of Ireland, Galway, Ireland in 2000, and his Ph.D. degree in Civil Engineering from the University of Texas at Austin in 2004. From 1997 to 1999, he worked as project engineer at Montgomery Watson (now part of Stantec) in Mumbai, India. His research and teaching interests include surface water hydrology with specific focus on flood modeling and mapping. Much of his work has been on improving the simulation of hydrologic processes for flood prediction by using geographic information systems (GIS), data driven techniques and advances in cyberinfrastructure. Dr. Merwade has authored more than 80 peer-reviewed journal articles and conference proceedings in the area of river channels, watershed hydrology and flood modeling. Some of his awards include the Outstanding Achievement Award (2018) from the Indiana Water Resources Association for work related to flood prediction and mapping for Indiana streams, Excellence in GIS Award (2017) from Indiana Geographic Information Council for Soil-Based Floodplain Maps for Indiana, and the Quentin Martin Best Practice Paper (2011) from the *ASCE Journal of Water Resources Planning and Management*. Dr. Merwade disseminates his educational material as online tutorials, modules and YouTube videos, which have been used/viewed by hundreds of thousands of students, faculty and working professionals around the world who want to learn about hydrology, GIS applications, and hydrologic modeling.

Credit Information

This webinar is open to the public and is designed to qualify for 6.5 PDHs for professional engineers and 6.5 HSW continuing education hours for landscape architects in all states that allow this learning method. Please refer to specific state rules to determine eligibility.

The Landscape Architecture Continuing Education System has approved this course for 6.5 HSW PDHs. Only full participation is reportable to the LA CES.

This webinar has been approved by the Association of State Floodplain Managers for 6.5 CECs for floodplain managers.

Attendance will be monitored, and attendance certificates will be available after the webinar for those who attend the entire course and score a minimum 80% on the quiz that follows the course (multiple attempts allowed).

On-Demand Credits
The preceding credit information only applies to the live presentation. This course in an on-demand format may not be eligible for the same credits as the live presentation; please consult your licensing board(s) to ensure that a structured, asynchronous learning format is appropriate. The following pre-approvals may be available for the on-demand format upon request:
6.5 HSW PDHs (LA CES).

Additional Learning

- Open Channels: Hydraulics, Design and Construction**
- Monday, March 25, 2024 | 9:00 am - 4:30 pm CDT
 - Environmental Economics for Land and Development Professionals**
- Wednesday, March 27, 2024 | 9:00 am - 4:00 pm CDT
 - FAA P107 Drone License Exam Preparation**
- Tuesday, April 2, 2024 | 12:00 - 4:20 pm CDT
 - Basics of Reinforced Concrete**
- Wednesday, April 3, 2024 | 1:30 - 4:45 pm CDT
 - Commercial and High-End Residential Deck Design and Construction**
- Wednesday, April 3, 2024 | 9:00 am - 4:00 pm CDT
 - Walls, Water, and What To Do When They Interact**
- Wednesday, April 3, 2024 | 10:00 am - 2:30 pm CDT
 - How to Identify Soil Types**
- Wednesday, April 10, 2024 | 10:00 am - 12:00 pm CDT
 - Cut Slope and Fill Slope Design, Construction and Repair**
- Friday, April 5, 2024 | 9:00 am - 4:00 pm CDT
 - Engineered Lumber Design and Construction**
- Wednesday, April 10, 2024 | 9:00 am - 5:00 pm CDT
 - National Electrical Code 2023**
- Wednesday, April 10, 2024 | 8:30 am - 5:00 pm CDT
 - Erosion and Sediment Control**
- Thursday, April 11, 2024 | 9:00 am - 1:15 pm CDT
- Friday, April 12, 2024 | 9:00 am - 1:15 pm CDT
 - Wetland Mitigation Law and Procedure**
- Thursday, April 11, 2024 | 8:30 am - 4:00 pm CDT
 - Focus on Sustainable Lumber**
- Monday, April 15, 2024 | 10:00 am - 12:15 pm CDT
 - USDA National Organic Program: Rules and Compliance**
- Monday, April 15, 2024 | 9:00 am - 4:00 pm CDT
 - Aerial Mapping for Land Surveyors and Civil Engineers**
- Tuesday, April 16, 2024 | 9:00 am - 4:30 pm CDT
 - Lateral Earth Pressure for Seismic Design**
- Tuesday, April 16, 2024 | 11:00 am - 1:10 pm CDT
 - Pruniversity: The Short Course on Pruning and Training Trees**
- Tuesday, April 16, 2024 | 9:00 am - 4:30 pm CDT
 - Basics of Riparian Surveying**
- Thursday, April 18, 2024 | 12:00 - 4:00 pm CDT
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