

Agenda

Presented by E. Christian Naidu, PE

Introduction, History, and Development of US Army Corps HEC-HMS Software

- Brief history
- Applications of HEC-HMS
- Computational categories

Basic Hydrologic Concepts

- The hydrologic cycle and HEC-HMS
- User interface
- Input, output

Loss Rates

- Loss computation assumptions and methods
- Accounting for urbanization
- Selecting a loss method and estimating parameters

Unit Hydrographs and Rainfall/Runoff Transformation

- Assumptions of the unit hydrograph
- Derivation and application of the unit hydrograph
- Selecting a unit hydrograph method and estimating parameters

Precipitation

- Storm distributions
- Hypothetical vs. historical storms
- Sources of precipitation data

Hydrograph Routing

- Purpose, importance, and effects of hydrograph routing
- Routing methods
- Diversions and returns

Reservoirs

- Purpose, importance, and effects of reservoir routing
- Types of reservoirs and detention
- Reservoir routing input and output

Using Diversions

- Applications for flow diversions

Using HEC-HMS in Design

- Design example walkthrough

Introduction to HEC-HMS Modeling

Live, Interactive Webinar - Mon., December 14, 2020

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Learning Objectives

You'll be able to:

Describe the hydrologic cycle and the processes that can be simulated in the HEC-HMS program.

Consider the impacts of water loss due to evapotranspiration, infiltration, interception and urbanization.

Examine the derivation and application of the unit hydrograph, and discuss hydrograph routing.

Explore different types of precipitation events and review sources of precipitation data.

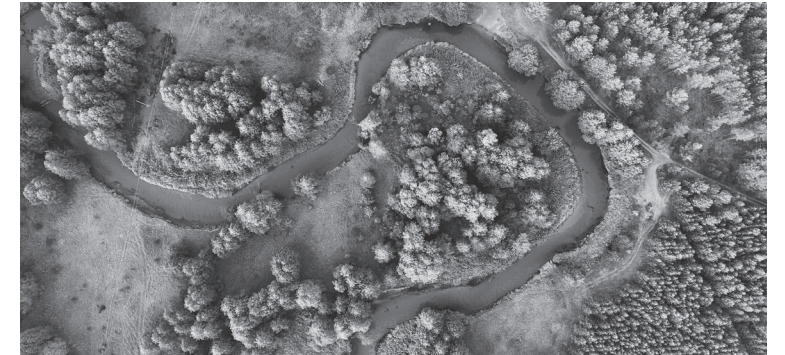
Evaluate the function and importance of reservoirs, and discuss reservoir routing input and output.



HalfMoon Education Online Learning

Introduction to HEC-HMS Modeling

Live, Interactive Webinar - Monday, December 14, 2020



Understand the history and development of US Army Corps HEC-HMS software

Identify basic hydrologic concepts

Examine loss rates due to evapotranspiration, infiltration and interception

Learn about unit hydrographs and rainfall/runoff transformation

Learn about hydrograph routing and reservoir routing

Explore calibration and optimization of HEC-HMS software

Continuing Education Credits

Professional Engineers
6.0 PDHs

Floodplain Managers
6.0 CECS



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Faculty

Chris Naidu, PE *Water Resources Civil Engineer, Senior Project Manager at RESPEC*

Mr. Naidu has more than 10 years of experience in drainage and flood control projects throughout New Mexico. His experience includes preparation of drainage management plans (DMP), hydrologic analysis, hydraulic analysis of flood control structures, sediment transport, and scour analysis for unlined arroyos and bridge structures. Using modeling/analysis software, Mr. Naidu produces high quality hydrologic and hydraulic models. He has a proven record of preparing easy-to-understand reports and corresponding maps and figures. He has prepared hydrographs and analyzed storm drains, weirs, pump stations, and detention/surge ponds. Additional skills include preparation of plan specifications, bidding and construction plans, cost estimates, and bidding services. He is familiar with Arc Geographic Information System (ArcGIS); Hydrologic Engineering Center (HEC) Hydrologic Modeling System, HEC Geospatial Hydrologic Modeling Extension (geoHMSO), HEC River Analysis System, US Environmental Protection Agency Storm Water Management Model (EPA SWMM), StormCad, and CulvertMaster.

Webinar Information

Log into Webinar 8:00 - 8:30 am CST	Break 11:30 am - 12:30 pm CST
Morning Session 8:30 - 11:30 am CST	Afternoon Session 12:30 - 4:00 pm CST

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- Tues., December 8, 2020 | 9:00 am - 4:30 pm CST

How to Select and Manage Turfgrass for a More Environmentally Sustainable Surface

- Tues., Dec. 8, 2020 | 11:00 am - 2:15 pm CST

Residential Energy Code for Building Professionals

- Thurs., Dec. 10, 2020 | 10:00 am - 1:30 pm CST

How To Identify Soil Types

- Thurs., Dec. 10, 2020 | 2:30 - 4:30 pm CST

International Building Code Changes 2015-2021

- Fri., Dec. 11, 2020 | 10:00 am - 1:30 pm CST

The Two Hour Tree Overview for Design/Construction Professionals

- Fri., Dec. 11, 2020 | 11:00 am - 12:00 pm CST

How to Design Multi-Family Projects using Engineered Wood Products

- Wed., Dec. 16, 2020 | 10:00 am - 12:00 pm CST

How to Comply with Changes to the National Fire Alarm and Signaling Code (NFPA 72)

- Wed., Dec. 16, 2020 | 1:00 - 3:00 pm CST

How to Successfully Design and Construct a Retaining Wall

- Thurs., Dec. 17, 2020 | 10:00 am - 12:00 pm CST

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- Thurs., Dec. 17, 2020 | 12:30 - 3:30 pm CST

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The Association of State Floodplain Managers has approved this course for 6.0 CECs for floodplain managers.

Completion certificates will be awarded to participants who complete this event, respond to prompts, and earn a passing score (80%) on the quiz that follows the presentation (multiple attempts allowed).

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