

Locations/Accommodations:

*Rate subject to cut-off dates and are only applicable the day before and the days in which the seminar is taking place.

Baltimore, MD/ May 22-23, 2003

Radisson Hotel Cross Keys
100 Village Square
Baltimore, MD 21210
800-333-3333

ASCE Hotel Rate:
\$119 Single/Double*

Kansas City, MO/ August 14-15, 2003

Hyatt Regency Crown Center
2345 McGee Street
Kansas City, MO 64108
800-233-1234

ASCE Hotel Rate:
\$99 Single/Double*

Seattle, WA/ June 26-27, 2003

Holiday Inn Seattle Center
211 Dexter Avenue North
Seattle, WA 98109
206-728-8123

ASCE Hotel Rate:
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Registration Information

ENROLLMENT: Phone, fax or mail your registration. Registration fee must be paid in advance. We accept credit cards, checks, and purchase orders (paperwork required). Make check payable to "ASCE Continuing Education." See registration form for additional information.

ON-SITE ENROLLMENT: If your schedule does not permit you to register in advance, you may register on-site. Although this does not guarantee that you will receive all course materials that day, they will be mailed to you 2-3 weeks after the seminar. PLEASE be sure to contact ASCE at 1-800-548-2723 no later than the day before the seminar to confirm that the seminar is going forward as planned.

CONFIRMATION LETTER: Registrations received at least two weeks prior to the seminar will be confirmed in writing. You should receive confirmation within 10 business days of your registration; if not confirmed, please call.

TIME: 8:30am - 4:30pm. Registration begins at 7:30am.

CERTIFICATES: Earn 1.4 Continuing Education Units (CEUs).
(1 Continuing Education Units = 1 Professional Development Hour)

TEAM DISCOUNTS: Three people from the same company attending the same seminar location and date can receive a 10% discount off each enrollment fee when registering at the same time. Larger discounts will be negotiated for larger groups.

RENTAL CARS: ASCE has negotiated special rates with Hertz, the official car rental company for ASCE Continuing Education. A brochure with instructions will be enclosed with confirmation letter.

INSTRUCTOR SUBSTITUTION: ASCE reserves the right to substitute an equally qualified instructor should unforeseen circumstances require.

CANCELLATIONS/REFUND POLICY: If you need to cancel your registration, please contact us as early as possible. Cancellations must be made in writing on your company letterhead with attendee's name, and the name and date of the seminar and faxed to 703-295-6144. There will be a charge of \$95 for cancellations within 10 business days of the seminar and no refunds for cancellations within 5 business days of the seminar. You can transfer the registration to another date or seminar, but this must be done before the 5-day deadline in order to receive full credit for monies paid. No transfers or refunds will be issued within 5 business days of the seminar. There will be no credits issued after the seminar has begun. Your registration may be transferred to another individual anytime, up to the first day of the seminar. If a non-member is replacing a member's registration, the non-member is responsible for the price difference. ASCE is not responsible for non-refundable airfare and or cancellation/ transfer fees.

HOTEL ACCOMMODATIONS: Please make your reservations early. ASCE negotiates discounted rates that are subject to cut off dates. Accommodations are not included in your registration fee.

DISCOUNTED AIRFARES: Use United Airlines and save money on airfares when traveling to ASCE Seminars. Call United Airlines Meeting Reservations Center at 1-800-521-4041, 7 Days a week from 7:00 am to 12:00 midnight eastern time. Refer to ID #557AG. If you wish to use a travel agency, you must tell your agent to book your reservation under the above ID# to receive your discount.

DRESS: Casual business attire is appropriate.

MEMBERSHIP: Go to www.asce.org to join ASCE and save on future continuing education opportunities. Enter 01CEUCAT in the promotion code section of the membership application.

ASCE
American Society of Civil Engineers

1801 Alexander Bell Drive
Reston, Virginia, 20191-4400

Hydrologic Modeling Using HEC-HMS

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Locations: Please check one

- Baltimore, MD / May 22-23, 2003
 Seattle, WA / June 26-27, 2003
 Kansas City, MO / August 14-15, 2003

Fees: Please check one

- Members \$965
 Non-Members \$1,145

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How to reach us:

Mail: ASCE Continuing Education
P.O. Box 79536, Baltimore,
Maryland 21279-0536

Phone: 1-800-548-2723
703-295-6300 (international)

Fax: 703-295-6144

Email: conted@asce.org

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American Society of Civil Engineers



Hydrologic Modeling Using HEC-HMS

Baltimore, MD / May 22-23, 2003

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"This course provided me a wealth of information and the instructors taught the course in a very understandable fashion. I have never used any HEC applications before; however, I am confident that I will be able to apply what I learned in practice."

-Daniel Hanson, Civil Engineer, Ulteig Engineers, Fargo, ND

"Excellent workshop, a must for anyone modeling watersheds with HEC-HMS."

-Mark Guess, Engineering Manager, L.I. Smith & Associates, Inc., Paris, TN

"This course allows me to work with this model with confidence. The instructors and content presented made it clear I have several hydrologic modeling options to use and understand. This seminar was very worthwhile to attend."

-Roger Kottowski, Project Manager, Commonwealth Engineers, Inc., Indianapolis, IN

"This class is perfect for a developing engineer needing guidance on the basic principals of hydrologic issues. Learning to use HEC-HMS is important, but this class develops an understanding of principals behind the models."

-Jack Lashenik, Civil Engineer, American Consulting, Indianapolis, IN

This is an ASCE
Continuing Education
Course, NOT JUNK MAIL.
If you don't need CEU's,
pass this on to someone
who does.



1.4 CEUs

Hydrologic Modeling Using HEC-HMS

Purpose and Background

The design of most hydraulic structures (e.g., culverts, open channels, reservoirs, etc.) require either a peak discharge or an inflow hydrograph. Hydraulic assessments (e.g., flood elevations, sediment transport, contaminant transport, etc.) are also generally preceded by hydrologic studies. How do engineers perform these hydrologic studies? Until recently, desk top methods or "batch-type" computer programs (requiring either a data file or the use of a preprocessing shell program) were commonly used. Take heart – HEC-HMS has arrived!!!

The U.S. Army Corps of Engineers' Hydrologic Engineering Center (HEC) is well known for its hydrologic and hydraulic software. HEC-1 has been one of the primary hydrologic models used by American engineers for over two decades. HEC-HMS (hydrologic modeling system) is part of the "new generation" software recently released by HEC that will supersede HEC-1. The thought and effort that went into this new Windows version program promise to make it as popular as their river analysis system model (HEC-RAS).

HEC-HMS takes full advantage of the multi-tasking, Windows environment. It includes a graphical-user interface, data storage and management features, integrated hydrologic analysis components, and graphical and tabular reporting facilities. Inputting your watershed is akin to building something with Legos (or tinkertoys for us old guys). Icons representing sub-basins are grabbed from a palette, placed in the workspace and interconnected with stream, reservoir, and junction icons. By double clicking on these icons, you open up data input boxes (which request information like lengths, areas, infiltration parameters, etc.). Finally, you input the rainfall characteristics and launch the model. It's so intuitive, even your boss will finally understand what you do!!

HEC-HMS provides a variety of options for simulating the rainfall-runoff process:

- Precipitation can be modeled using either actual gauged events or hypothetical (frequency based) storms.
- Rainfall losses are represented empirically (SCS) or with physically based algorithms (Green and Ampt).
- Runoff is generated from unit hydrograph transforms or the physically based kinematic wave method.
- Stream routing options include the Muskingum, Modified-Puls, Muskingum-Cunge, and kinematic wave methods.
- Reservoir routing, base flow, and diversions can also be modeled.

Workshop Goals:

This "hands-on" computer workshop will introduce you to HEC-HMS and teach you how to use it with confidence. This is accomplished in a cooperative learning environment. Short lectures will be supplemented with example problems (on the computer) and question and answer sessions.

After attending this two day workshop and seminar, you will feel comfortable enough with HEC-HMS to begin using it immediately.

- Input requirements and output interpretation will come naturally.
- The manuals and on-line help will not seem overwhelming.
- You will know how to find the proper procedures for handling unusual situations.



For a complete listing of Continuing Education seminars, visit ASCE's website at www.asce.org/conted/

...or call ASCE's FaxBack at 703-295-6444, or call us at 1-800-548-2723 to request a catalog.



Special Features:

Workshop participants will receive a CD containing the HEC-HMS user's manual and software.

Who Should Attend?

If your work requires hydrologic modeling, for applications such as watershed studies, stormwater management projects, flood elevation determinations, and sediment or contaminant transport analyses, this workshop is for you. If you are interested in transitioning from HEC-1 to the new HEC-HMS program, you will also benefit from attending. The seminar includes lectures and class exercises on hydrologic algorithms, as well as practical hands-on applications using HEC-HMS.

Level of Instruction: This seminar is intended for people with some hydrologic background and a need for instruction in the techniques and applications of hydrologic modeling. No background in HEC-1 is required, because the algorithms used in the hands-on exercises are thoroughly explained. The seminar will give you confidence in applying HEC-HMS or other hydrologic models to water related projects.

Seminar Instructors:

ROBERT J. HOUGHTALEN, P.E., is a Professor of Civil Engineering at Rose-Hulman Institute of Technology in Terre Haute, Indiana. Dr. Houghtalen specializes in the areas of hydrology, hydraulics, modeling, and water resources management and has taught seminars on HEC-RAS, ILLUDAS, and SWMM. Apart from his academic work, he has worked for the U.S. Army Corps of Engineers, Wright Water Engineers, Inc. (Denver), and the Federal Emergency Management Agency. He and Mr. Normann are co-authors of the FHWA culvert design manual, (HDS #5). He has also co-authored two textbooks entitled Hydraulic Engineering Systems and Urban Stormwater Hydrology.



SCOTT J. KENNER, P.E., is an Associate Professor of Civil and Environmental engineering at South Dakota School of Mines and Technology specializing in hydrologic modeling and watershed assessment. He has over 25 years of consulting experience. Project applications include urban stormwater master planning, flood-plain analysis and delineation, and watershed assessment for total maximum daily loads using various hydrologic models including HEC-HMS, HEC-RAS, SWMM and HSPF. He has taught seminars on SWMM, water quality data analysis and teaches a semester course on HEC-HMS and HEC-RAS.



SIAVASH E. BEIK, P.E., CFM, is the head of the Water Resources Department at the Indianapolis Office of Christopher B. Burke Engineering, Ltd. He has over 25 years of professional experience in water resources planning and management, hydrology and hydraulics, and project management. He has developed and managed several complex stormwater master plans, flood protection projects, and flood insurance studies involving intensive modeling with HEC-RAS, HEC-HMS, UNET, and ICPR. He has been the principal editor, author, or co-author of a number of technical guidebooks, including the Indiana Drainage Handbook, Indiana Dam Safety Inspection Manual, and Hydrologic/Hydraulics Modeling Guidelines.



SUMMARY OUTLINE

Hydrologic Modeling Using HEC-HMS

DAY 1

- Hydrologic Modeling Overview
- HEC-HMS Capabilities
- Basin Delineation*
- Precipitation Methodology*
- Rainfall Abstractions (Losses)*
- Runoff Transformations*

DAY 2

- Stream Routing*
- Reservoir Routing*
- Model Execution*
- Analysis Of Results*
- Dam Break* and Special Topics

ASCE offers more than 200 online courses on a wide variety of technical, management, and regulatory topics. These courses are available through ASCE's distance learning partnerships with SmartPros Engineering and RedVector.com. For a complete listing of these courses or to register, please go to www.asce.org/conted/distancelearning/ and click on the links to the SmartPros and RedVector.com web sites. ASCE members receive discounts of 15% or more on all online courses.

* Hands-on example problems covered for each of these topics.

ASCE SELF STUDY PRODUCT:

Storm Water Drainage System Design

Methods for calculating storm water runoff are discussed. The Rational Method is used for the class examples. The basics of storm water pipe design are covered. Rules of thumb needed to properly design storm water pipe are presented. The Manning equation is presented for determining the Q vs diameter relationship for the full flow condition and partial flow diagrams are utilized for conditions of flow other than full.

3 hours of video / 0.3 CEUs / \$139.00/\$349.00*



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