

## Locations and Accommodations:

\*rate subject to cut-off dates and apply only the day before and the days of the seminar, with check-out on the last day of the seminar.

**TAMPA, FL /  
MARCH 10-11, 2005**  
Hyatt Regency Tampa  
211 N. Tampa Street  
Tampa, FL 33602  
800-233-1234  
ASCE Hotel Rate:  
\$139 Single/Double\*

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ASCE offers more than 500 online courses on a wide variety of technical, management, and regulatory topics. These courses are available through ASCE's distance learning partnerships. For a complete listing of these courses or to register, please go to:

[www.asce.org/conted/distancelearning/](http://www.asce.org/conted/distancelearning/)

ASCE members receive discounts of 15% or more on most online courses.

## REGISTRATION INFORMATION:

**ENROLLMENT:** Registration fee must be paid in advance. To register on the web go to: <http://www.asce.org/conted/seminars/> and click on technical division and then click on seminar title. Credit card, check, and purchase orders payments can now be accepted using this link. You can also mail, fax or phone in your registration. 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 8:00am.

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

**TEAM DISCOUNTS:** Three or more people from the same company attending the same seminar location and date 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 Enterprise. Go to [www.enterprise.com](http://www.enterprise.com) or call 1-800-736-8222 to make reservation. 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 expenses such as airfare, hotels, cancellation /transfer fees or any other expenses except for seminar registration fees. If ASCE cancels a seminar due to insufficient enrollment, your registration fee will be refunded.

**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](http://www.asce.org) to join ASCE and save on future continuing education opportunities. Enter 45CEUCAT in the promotion code section of the membership application.



1801 Alexander Bell Drive  
Reston, Virginia, 20191-4400

## GIS Applications in Water, Wastewater and Stormwater Systems

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### Locations: Please check one

- Tampa, FL / March 10-11, 2005

### Fees: Please check one

- Members \$955
- Non-Members \$1,155

### ASCE Distance Learning Program:

GIS Engineers, Surveyors and Municipal Managers

- \$276 Ind / \$799 Org\*

\*Ind./Org. Price. If purchased at the individual price, the course may be used solely by the individual for educational purposes. It may not be duplicated, sold, or rented to others.

(add \$7.50 for shipping first item, \$2.00 each additional item)\*  
\*additional cost outside the USA and for overnight delivery.

Please route to a colleague who will benefit by attending

### 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](mailto:conted@asce.org)

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# GIS Applications in Water, Wastewater and Stormwater Systems

Tampa, FL / March 10-11, 2005

"This was a great seminar with good information. The literature offers good resource information for GIS data & programs."

-Gary A. Lee, P.E., L.S., J-U-B Engineers, Inc., Borse, ID

"The instructor had a great depth of knowledge and was very comfortable with the material he presented."

-Emmanuel U. Nzewi, Civil & Environmental Engineering, Greensboro, NC

"This was the perfect seminar for me as a manager looking for a good overview of GIS Applications in water & wastewater."

-Paul Bruno, City of Henderson, Henderson, NV

"An excellent guide to the state-of-the-art technology in GIS and an ideal seminar for managers who make decisions for water, wastewater, and stormwater systems and utilities."

-Fredrick Rose, Branch Chief, Stormwater Planning Division, Fairfax County, Virginia.

"It was great to hear Dr. Shamsi's 4M approach. He touched on several of the difficulties we have been struggling with and shared 'real world' pertinent solutions. Very impressive."

-Wendy Ann Wert, Associate Engineer, Flow Science Inc., Pasadena, CA

"Excellent seminar for those new to GIS. Introduces you to many software options available to you as well as some useful GIS applications. The instructor was knowledgeable, very approachable and interested in your comments/questions."

-Kathleen Chmaj, GIS Specialist, Stearn & Wheler, LLC, Amherst, NY

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

# GIS Applications in Water, Wastewater and Stormwater Systems

## Purpose and Background

A Geographic Information System (GIS) is an information system for managing the data referenced by geographic coordinates. GIS consists of hardware, software, data, and personnel to effectively capture, store, update, manipulate, analyze, and display geographically referenced information.

More than 80 percent of all the information used by water, wastewater, and stormwater utilities is geographically referenced. While GIS applications for water, wastewater, and stormwater systems are not new, getting beyond the basic inventory and mapping functions is often challenging. Unless a utility GIS is taken to the operational level, it's just a pretty map. That is why GIS emphasis is now shifting from computerized mapping to enterprise-wide mission critical applications. GIS applications improve the quality of life and make things easier to do, which improves productivity and reduces cost. GIS applications have the potential to prepare our water, wastewater, and stormwater systems for the operational challenges of the twenty-first century. The time has come for all the professionals involved in the planning, design, construction, inspection, maintenance, and operation of water, wastewater, and stormwater systems to benefit from one of the most promising and exciting technologies of the decade in their profession – the use of GIS.

This seminar will focus on the four Ms that are of particular importance to water, wastewater, and stormwater system managers: Mapping, Monitoring, Modeling, and Maintenance. This course will not train you in use of a particular GIS software. However, with the help of new methods, case studies, and software demonstrations, this seminar will show you how to use GIS to develop these "4M" applications. You will be convinced that with GIS the possibilities to map, monitor, model, and maintain your water, wastewater, and stormwater systems are almost endless.

## Seminar Benefits

- Learn the new acronym: GIS = Get Intelligent Solutions
- Gain knowledge of how to use GIS in planning, design, mapping, modeling, monitoring, inspection, maintenance, and operation of your water, wastewater, and stormwater system
- Learn about GIS software and its suitability to your GIS applications
- Learn how to integrate your water, wastewater, and stormwater system hydrologic and hydraulic (H&H) models with GIS
- Discover GIS applications in inspection and maintenance
- Learn how to conduct work order management in GIS
- Learn about the availability of free GIS data on the Internet
- Learn how to use GPS to collect GIS data
- Receive Dr. Shamsi's new book "GIS Tools for Water, Wastewater, and Stormwater Systems"; a 300-page course book

## Seminar Instructor

"SAM" U. SHAMSI, PH.D., P.E., DEE. Dr. Shamsi is the Director of GIS and Information Management Technologies with ATS-Chester Engineers, Pittsburgh, Pennsylvania and an adjunct assistant professor at the University of Pittsburgh, where he teaches GIS and Hydrology. Dr. Shamsi is an ASCE continuing education instructor and an ESRI authorized ArcView® GIS instructor since 1998. He has taught GIS courses to more than 500 professionals throughout the country. Dr. Shamsi earned his Ph.D. in Civil Engineering from the University of Pittsburgh in 1988. He has 20 years of experience in teaching, research, and engineering consulting. His accomplishments include over 30 lectures and 70 publications in the areas of H&H modeling and GIS applications. Dr. Shamsi is the author of a new ASCE Press book "GIS Tools for Water, Wastewater, and Stormwater Systems." Dr. Shamsi is a licensed Professional Engineer in Pennsylvania, Ohio, and West Virginia and a member of ASCE, WEF, and AWWA.



## Who Should Attend

This course is ideally suited for civil and environmental engineering project engineers and project managers involved in the management of water, sewer, and stormwater systems. Other professionals, such as consultants, system analysts, GIS technicians, planners, university researchers and professors, city managers, water and sewer utility personnel, and government employees involved in GIS and water related work will also benefit from this course.



### Geographic Information Systems for Engineers, Surveyors, and Municipal Managers

The first half of this video course looks at the terminology and definitions of a GIS, the process of designing a new system and how the information is captured from both existing records and new filed spatial data. This video

course contains a short overview of the most popular software and hardware. The second half of the course deals with the planning, design, implementation and uses of a GIS. 6 hours of video. 0.6 CEUs

## SAMPLE LIST OF PAST ATTENDEES:

US Air Force	Tennessee Valley Authority, TN
US Army Corps of Engineers	City and County of San Francisco, CA
US Bureau of Reclamation	City of San Jose, CA
US Department of Agriculture	City of Milwaukee, WI
Department of Navy Public Works	City of Spokane, WA
Arizona Department of Environmental Quality	Rice University
Florida Department of Environmental Protection	Louisiana Tech University
Pennsylvania Department of Environmental Protection	California State University
Charlotte County Utilities, FL	Camp Dresser and McKee, Inc.
LA County Sanitation District, CA	CH2M Hill, Inc.
Las Vegas Valley Water District, NV	HDR Engineering
Norwalk County Public Works, NY	Metcalf & Eddy, Inc.
San Antonio Water System, TX	Montgomery Watson, Inc.
	USFilter, Inc.

# SUMMARY OUTLINE

## DAY 1:

- ❖ **Introduction**
  - Schedule
  - Learning objectives
  - GIS fundamentals
- ❖ **GIS Software**
  - Mapping software
  - Application software
  - Software vendors and cost
- ❖ **GIS Data**
  - Assets vs. applications data
  - Water system data
  - Wastewater system data
  - Stormwater system data
  - Public domain data on the Internet
  - Commercial data
- ❖ **Needs Assessment**
  - Application needs
  - System design
  - Database design
  - Base map
  - Hardware and software
- ❖ **GIS Based Mapping**
  - Case study
  - Pilot project
  - ArcView® GIS demo of a mapping project
- ❖ **GIS Based Mapping Applications**
  - Water main break isolation
  - TV inspection
  - Flood plain mapping
  - 3-D visualization demo

## DAY 2:

- ❖ **GIS and Modeling Integration**
  - Interchange method
  - Interface method
  - Integration method
  - GIS and modeling integration demos
- ❖ **Water Distribution**
  - System Modeling
  - Network skeletonization
  - Estimating node demands
  - EPANET integration demo
- ❖ **AM/FM/GIS**
  - AM/FM compared to CAD and GIS
  - AM/FM/GIS Software
  - Asset Management
  - Work order management
  - Maintenance management
  - AM/FM/GIS Demos
- ❖ **GIS in Hydrology**
  - Digital Elevation Models (DEMs)
  - Delineating streams and watersheds
  - Estimating runoff curve numbers
  - Spatial Analyst® and Hydro Extension Demo
- ❖ **GIS in Planning**
  - Remote sensing applications
  - Stormwater management
  - Master planning
  - Sampling site selection
  - Planning application demos
- ❖ **GIS/GPS Integration**
  - GPS data
  - GPS equipment
  - Field data collection
  - Using GPS to collect GIS attributes



## In-House Presentations Let us come to you.

This seminar can be:

- Presented at your organization
  - Scheduled at your convenience
  - Tailored to the needs of your staff
- An on-site program can reduce the per person cost by more than 25% and your total training cost by 50%.

Call ASCE Continuing Education at: 1-800-548-2723