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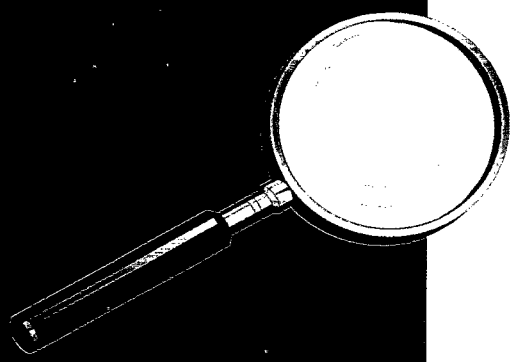


EPA

Environmental Problem Solving with Geographic Information Systems:

A National Conference

September 22 - 24, 1999 • Cincinnati, Ohio

Preliminary Agenda

Tuesday Evening, September 21 **(5:00 PM - 8:00 PM)**
Preregistration/Reception

Wednesday, September 22
Registration
Plenary Session (8:00 AM - 12:00 PM)
Welcome and Opening Remarks
Sue Schock, US EPA, Cincinnati, OH
Keynote Address
Michael Goodchild, PhD, Keynote Speaker
Environmental Visioning with Geographic Information Systems
Sudhir R. Kshirsagar, PhD, Global Quality Corp.

Concurrent Paper Presentation Sessions (1:00 PM - 5:00 PM)

Diffuse Source

- Development of a National Watershed Boundaries Data Set
- Using GIS as a Tool for Evaluating Non-Point Source Phosphorus Runoff in the Lake Okeechobee Basin
- Assessing the Long-Term Impact of Land Use Change On Runoff and Non-Point Source Pollution Using a GIS-NPS Model
- An ArcView-Based System for Managing Environmental Information at Naval Air Station Dallas
- Developing Watershed Policy Alternatives for Non-Point Source Pollution with the Aid of a GIS
- Putting Geospatial Information into the Hands of the Real Natural Resource Mangers: Lessons from the NEMO Project in Educating Local Land Use Decision Makers
- A Web-Based GIS Model for Assessing the Long-Term Hydrologic Impacts of Land Use Change (L-THIA GIS WWW): Motivation and Development
- Nonpoint Pollutant Loading Application for ArcView GIS

Assessment Remediation

- The Impact of Spatial Aggregation on Environmental Modeling: a GIS Approach
- Mapping Vulnerability of Soils to Nitrate Leaching at Different Scales, Using Different Models
- The National Hydrography Data Set -- Status and Applications
- Use of a GIS Application in Risk-Based Decision Making
- GIS and GPS in Environmental Remediation Oversight at Federal Facilities in Ohio
- The GIS Connection to Residential Yard Soil Remediation
- Using a Geographic Information System to Determine a Surficial Confining Unit Thickness and Identify the Location of Sand Lenses in Southwestern Louisiana
- Characterizing the Hydrogeology of Acid Mine Discharges from the Kempten Mine Complex, West Virginia and Maryland

Conference Background and Objectives

The U.S. Environmental Protection Agency (EPA), Office of Research and Development's (ORD), National Risk Management Research Laboratory (NRMRL) is sponsoring a national conference on the application of geographic information systems (GIS) to environmental problem solving. This conference will provide a forum for the exchange of information on the use of GIS as a tool in environmental problem solving.

Solving environmental problems has become more complex with consideration of cross-media pollutant transport and watershed-based decision-making. The application of GIS to environmental problem solving has increased greatly the manipulation and analysis of relational and spatial data, providing environmental decision makers with a powerful tool for the analysis of multi-media environmental data over increasingly broad areas (watersheds, states, regions).

The objectives of the conference are to:

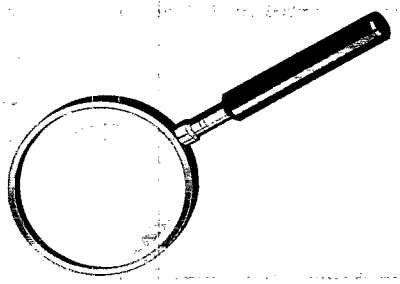
- Identify the spectrum of GIS applications to environmental problem solving, including the areas of watershed and groundwater protection, nonpoint source water pollution assessment and control, cross-media contamination and management, and human risk and exposure; and
- Define the process to be followed in applying GIS to environmental situations by presenting a wide range of applications describing actual experiences and lessons learned and facilitating effective technology transfer.

This conference seeks to examine each component of this framework with papers that address the following:

- Problem identification and definition;
- Data requirements (coverage, scale), availability, documentation, reliability, and acquisition;
- Approaches considered and selected for solving the problem;
- Unique challenges and pitfalls encountered; and
- Interpretation of results, including level of confidence achieved based on data quality and approach taken.

Who Should Attend

Program and Project Managers
Environmental Engineers and Scientists
Environmental Consultants
University Researchers
Technology Developers
Municipal Managers and Planners



Cooperators

Conservation Technology Information Center
West Lafayette, Indiana

Joint Center for Geographic Information Systems and Spatial Analysis, and the Department of Geography
University of Cincinnati
Cincinnati, Ohio

Environmental Problem Solving with Geographic Information Systems Conference Registration

Conference Registration Due Date:
August 31, 1999
(There is no registration fee for this conference.)

Please fax, mail or e-mail this form to:
Lisa Enderle
SAIC, Ste. 300
2222 Gallows Road
Dunn Loring, VA 22027
fax: 703-698-6101
e-mail: lisa.e.enderle@cpmx.saic.com

or you may register online at: http://www.epa.gov/ttbnrmrl/

If you have any additional questions, please call (412) 741-5462

First Name:

Last Name:

Title:

Organization:

Address:

City/State/Zip Code:

Telephone:

Fax:

E-Mail:

Session Selection

For our planning purposes only, please select the sessions you are interested in attending.

Wednesday, September 22: AFTERNOON
(Select one)

( ) *Diffuse Source*

( ) *Assessment Remediation*

Thursday, September 23: AFTERNOON
(Select one)

( ) *Applications*

( ) *Risk/Exposure Assessment*

Thursday, September 23: MORNING
(Select one)

( ) *Ecology/ Restoration*

( ) *Urban/ Brownfields/ Community*

Friday, September 24: MORNING
(Select one)

( ) *Watersheds*

( ) *Models/ Systems*

Hotel Information

Hotel Registration Due Date: August 31, 1999

Please make hotel reservations by August 31 to receive the conference rate. Rooms at the Regal Cincinnati Hotel may not be available at the conference rate after this date.

Regal Cincinnati Hotel
150 West Fifth Street
Cincinnati, OH 45202

Conference Rate (Govt Rate): $68.78 + tax

For reservations, call: 513-352-2100 *(When making reservations, please refer to the U.S. EPA GIS Conference to receive the special rate.)*

Thursday, September 23

Concurrent Paper Presentation Sessions (8:00 AM - 12:00 PM)

Ecology/Restoration

- Maryland's "Green Infrastructure" - A Landscape Assessment Approach for a Regional Conservation Network
- The Application of GIS in the Development of Regional Restoration Goals for Wetland Resources in the Greater Los Angeles Drainage Area
- Analysis of Wetland Landscape Patterns in Galveston Bay, Texas
- Quantifying Risk in Watershed Assessment Using GIS & Stochastic Field-Scale Modeling
- Reporting on the Development of an Environmental GIS Application -- Wetlands Restoration in the Central Valley of California
- Maryland Bay Grass Restoration Targeting System
- Habitat Filters, GIS, and Riverine Fish Assemblages: Sifting Through the Relationships Between Fishes and Their Habitat
- Targeting the Knowledge Assembly Process of the Flora of North America (FNA): Biological Resource Problem Solving Using GIS

Urban/Brownfields/Community

- New York City Brownfields Initiative - GIS
- Using GIS to Rank Environmentally Sensitive Land in Orange County, Florida
- Use of GIS for the Investigation and Classification of Land Being Redeveloped Under the Ohio Voluntary Action Program
- Private Water Wells and State Regulation in Greene County, Missouri
- Merging Transportation and Environmental Planning Using GIS
- Using GIS to Delineate Areas of Potential Development at the Bunker Hill Superfund Site, Idaho
- Building a Brownfield Sitebank With Internet Map Server Technology
- Management and Reuse of Contaminated Soil -- The SoilTrak Method

Concurrent Paper Presentation Sessions (1:00 PM - 5:00 PM)

Applications

- Modeling Combined Sewer Overflow (CSO) Impact: The Use of a Regional GIS in Facilities Planning
- Integrating High Resolution Radar Imagery with GIS and GPS to Aid Land Use Planning and Site Remediation in a Degraded Urban Estuary
- A Planning Strategy for Siting Animal Confinement Facilities: The Integrated Use of GIS and Digital Image Simulation Technologies
- The Use of GIS in the Management of Household Sewage Disposal Systems to Improve and Monitor Water Quality in Hamilton County, Ohio

Risk/Exposure Assessment

- Modeling Personal Exposures to Disinfection Byproducts in a Water Distribution Network
- Public Participation GIS Applications for Environmental Justice Research and Community Sustainability
- Using GIS to Improve Spatial Analysis in Environmental Justice Research
- GIS Approaches for Refining Estimates of Aquatic Exposure from Pesticides
- Environmental Justice in Kentucky: Examining the Relationships Between Low-Income and Minority Communities and the Location of Landfills, and Treatment, Storage and Disposal Facilities

Applications (continued)

- Applicability of GIS Tools in Environmental Conflict Mapping: A Case Study in Hungary
- A Shared and Integrated GIS for Supporting South Carolina's Environmental Regulation and Decision Making
- Lake Superior Decision Support Systems: GIS Databases and Decision Support Systems for Land Use Planning
- Evaluating Soil Erosion Parameter Estimates from Different Data Sources

Risk/Exposure Assessment (continued)

- Application of GIS to Address Environmental Justice: Needs and Issues
- Spatial Methodologies, GIS, and Environmental Problem Solving in the Twin Cities
- Perceptions and Reality: Local Health Department Pollution Prevention Applications in Environmental Justice and Drinking Water Protection

Friday, September 24

Concurrent Paper Presentation Sessions (8:00 AM - 12:00 PM)

Watersheds

- The Use of GIS for Assessing Watershed System Assimilative Capacity in Support of Risk Based Ecosystem Management/ Restoration Practices
- The Evaluation of Landscape-level Variables: Using a GIS to Determine Spatial Associations Between Chemical, Physical and Biological Response Variables Among Watersheds Impacted by Mining
- Society and Nature: In Search of Sustainable Relations
- Determining the Accuracy of Geographic Coordinates for NPDES Permittees in the State of Ohio
- Implementation of GIS in Watershed Management in Rural India
- GIS Watershed Delineation Tools
- Knowledge-Based Decision Support for Watershed Assessment and Monitoring
- A Watershed-Based Approach to Source Water Assessment and Protection Utilizing GIS-Based Inventories: A Case Study in South Carolina

Models/Systems

- Application of GIS for Probabilistic Leak Detection at Hazardous Waste Containment Systems
- No More 3-Ring Binders!
- Strategic Planning for GIS
- Enhancing the Spatial Comparison of Multiple Environmental Databases Using the Prototype NY/NJ Harbor Environmental Data Management System
- Application of DEM and Land Cover Data in Estimating Atmospheric Deposition to the Northeast and Mid-Atlantic Regions: Model Development and Applications
- Pollution Exposure Index Model (1997), U.S. Forest Service
- A GIS-Based Approach to Predicting Wetland Drainage & Wildlife Habitat Loss in the Prairie Pothole Region of South-Central Canada
- A High-Resolution Hydrometeorological Data System for Environmental Modeling and Monitoring