



GeoTech Minnesota 2005 Workshop for Educators
Saturday, November 19th, 2005
9 a.m. to 4 p.m.
Como Park Senior High School
740 Rose Avenue West
St. Paul, Minnesota

Program

Sponsored By

MN Department of Education
MN Alliance for Geographic Education (MAGE)
Environmental Systems Research Institute (ESRI)
MN GIS/LIS Consortium
MN Governor's Council on Geographic Information
MN Land Management Information Center (LMIC)
United States Geological Survey (USGS)

Special Thanks

- Host: Como Park Senior High School, St. Paul, Minnesota. Site Coordinator: Jeanne Kranz.
- Technical Assistance: Mike Ryan and Pheng Yang.
- Planning Committee: Noel Carlson (MAGE), Jane Conlin (MAGE), Sara Damon (MAGE), Jan Hertel (MAGE), Jeanne Kranz (MAGE), Angela Lee (ESRI), Mary Mohr-Scinocca (MAGE), Ken Pekarek (GIS 4 Schools), Jim Ramstrom (LMIC), Mark Thomas (MnSCU), Sally Wakefield (1000 Friends of Minnesota), and Jessica Winkelaar (MAGE).
- Keynote Speaker: Jay Meehl.
- Special Announcement: Jim Ramstrom and Bob Horton.
- Presenters: Mark Benishek, Jerry Benson, Sara Damon, Aaron Doering, Jill Ehlen, Jan Hertel, Mary Hosier, John Janzen, Michelle Leba, Angela Lee, Lee Meilleur, Mary Mohr-Scinocca, Birgit Muehlenhaus, Charlie Parson, Ken Pekarek, Chris Pouliot, Jim Ramstrom, George Veletsianos, Sally Wakefield, Paul Weinberger and Jessica Winkelaar.
- Exhibitors: City of Minneapolis BIS-GIS Business Services, Dakota County GIS, Environmental Systems Research Institute (ESRI), Firewise Minnesota, Metropolitan Council, Minnesota Department of Natural Resources (DNR), Minnesota Environmental Atlas, Ramsey County GIS, United States Geological Survey (USGS), University of Minnesota GIS Student Organization (GISSO).
- Support and Promotion: Marlys Butcher, Laura Kigin, David Lanegran and Jim Mecklenburg.
- Logo: Heidi Habeck
- Door prizes: ESRI, GIS/LIS Consortium and Target.

Announcements

- Food and beverages will be served in the Cafeteria and Commons.
- Register for Door Prizes by dropping your business card or nametag in the boxes provided outside of the Auditorium as you enter the Closing Session.
- Please complete an Evaluation and drop it in the boxes provided outside of the Auditorium as you enter the Closing Session.
- Please return your plastic nametag holder for reuse. Boxes will be provided outside of the Auditorium as you enter the Closing Session.
- Continuing Education Unit (CEU) certificates, issued by Macalester College, will be available at the end of the day in the Foyer.

Keynote Speaker: Jay Meehl

Keynote Address: "Supporting Emergency Response and Humanitarian Relief Efforts with GIS".

Jay Meehl, St. Mary's University and GISCorps volunteer, will explore why geotechnology is essential for the coordination of humanitarian work, disaster response, rescue operations and recovery efforts. He will include a first-hand account of how GIS was used during tsunami relief operations in Sumatra, Indonesia.

Biography: Jay Meehl has over 10 years of GIS experience ranging from city and county government to graduate level instruction. Most recently he was employed as an adjunct instructor at St. Mary's University of Minnesota in Winona while finishing his Master's in Geographic Information Science with a focus on Emergency and Humanitarian Relief Systems. In November of last year he applied to the GISCorps, an URISA sponsored organization that matches GIS volunteers with international humanitarian projects.

In March of 2005 Jay was asked to join four other volunteers to assist in the tsunami relief efforts in Indonesia. Jay was stationed in both Sumatra and Jakarta. After the volunteer assignment ended, he was asked to return to assist the United Nations Joint Logistics Centre office in Banda Aceh, Indonesia. Jay has also volunteered in Cameroon, assisting the Limbe Botanical and Zoological Gardens GIS Unit with mapping of illegal logging roads for a Global Forest Watch project. Most recently, he has volunteered for the American Refugee Committee, proving shelter maps for hurricane relief work in six parishes in Louisiana.

Jay's first degree from Winona State University was in education (BS Social Science: Composite) and he taught Social Studies for a brief period. He has always enjoyed teaching and throughout his professional career with GIS has continued building his educational skills. He is an ESRI Authorized Instructor for both ArcView and ArcGIS software and has taught courses for cities and government agencies in Colorado, Wyoming, Maine and Minnesota.

Special Announcement: Jim Ramstrom and Bob Horton

New Tools to Teach Geography

Starting November 2005, the Minnesota Historical Society is initiating a project to give geography teachers broader access to the geospatial resources necessary to meet Minnesota Academic Standards. Funded by the Institute of Museum and Library Services, the project will integrate existing online digital resources with the state's rich geographic databases into a web-based, geospatial application.

Working with the Land Management Information Center (LMIC), the two-year effort will provide teachers in grades 4-12 with visual databases, GIS tools, online curriculum and training workshops. The project will transfer relevant data sets and GIS capabilities from the existing Minnesota Environmental Atlas to a new web-based application.

Digital resources such as the Minnesota Historical Society's visual photograph database, historical place names descriptions and the state's original survey plats will be integrated into a comprehensive tool for exploring Minnesota's history and geography. Online lessons will illustrate how people have interacted with their physical, natural and cultural environment to shape our state.

For more information, contact:

Jim Ramstrom, Land Management Information Center
jim.ramstrom@state.mn.us
651-201-2490

Robert Horton, Minnesota Historical Society
robert.horton@mnhs.org
651-215-5866

Welcome to the GeoTech Minnesota 2005 Workshop for Educators

<u>Event</u>	<u>Location</u>	<u>Time</u>
Registration/Coffee/Rolls	Foyer	8:00 to 9:00 AM
Welcome / Announcements	Auditorium	9:00 AM
Keynote Address	Auditorium	9:15 to 10:00 AM
Break and Exhibits	Commons/Cafeteria	10:00 to 10:15 AM
Concurrent Session A	See below	10:15 to 11:15 AM
Concurrent Session B	See below	11:30 AM to 12:30 PM
Lunch	Cafeteria	12:30 to 1:15 PM
Concurrent Session C	See below	1:15 to 2:15 PM
Concurrent Session D	See below	2:30 to 3:30 PM
Break	Commons/Cafeteria	3:30 to 3:45 PM
Closing and Door Prizes	Auditorium	3:45 to 4:00 PM

	Session A 10:15 to 11:15	Session B 11:30 to 12:30	Session C 1:15 to 2:15	Session D 2:30 to 3:30
Room #145	Food for Thought		Coordinate Systems	Basics of Good Cartography
Room #242 (Library)	Geography Action!	Geocaching	Journey North 2 HOUR SESSION	Journey North 2 HOUR SESSION
Room #173	Introduction to ArcView GIS/Middle School Math Project	Teaching with <u>Mapping Our World: GIS Lessons for Educators</u>	GPS and GIS 2 HOUR SESSION	GPS and GIS 2 HOUR SESSION
Room #142	Bringing GPS Technology to the Classroom	Google Earth and NASA Worldwind	Utilizing a Multi-Scaffolding Environment for GIS Learning	EarthKam
Room #143	Teach Spatial Thinking with Geotechnologies	GIS at the Minnesota Legislature	Real World GIS: Case Studies from the City of Minneapolis	GIS in Middle School Social Studies
Room #146		Firewise in the Classroom	Firewise in the Classroom REPEAT SESSION	
Room #144	Using the MN Environmental Atlas	Using the MN Environmental Atlas REPEAT SESSION	Finding GIS Data on the Internet	Go North! 2006

Session Descriptions

Session A: 10:15 to 11:15 AM

Room #145 - Food for Thought - An Introduction to the GIS Concept of Layering
Mary Mohr-Scinocca, Westwood Middle School, Spring Lake Park
Presentation

Learn about "Food for Thought", a free standards-based curriculum from the Minnesota Department of Agriculture and a low-tech introduction to layering and drawing conclusions. An excellent way to introduce the concept of GIS without a computer.

Room #242 - Geography Action! Migration - The Human Journey
Michelle Leba, Washington Technology Magnet Middle School, St. Paul
Computer Lab

Learn about National Geographic's Geography Action! Program, an annual conservation and awareness program designed to engage students, educators and communities in taking action to protect Earth and its people. Participants will receive lessons plans and teaching ideas and see useful Internet resources such as the National Geographic Map Machine.

Room #173 - Introduction to ArcView GIS/ Minnesota Math Project
Jill Ehlen, Centennial Middle School, Lino Lakes
Computer Lab

See a middle school math lesson that integrates Minnesota geography using maps showing populations of major cities in our state along with highways, rivers, lakes and railroads. This lesson integrates geography with math by finding the mean, median and mode population of Minnesota's 25 largest cities.

Room #142 - Bringing GPS Technology to the Classroom
Chris Pouliot, Minnesota Department of Natural Resources (DNR)
Presentation

Learn about various models of GPS receivers and their capabilities, how GPS can be integrated into GIS, how to locate free GIS data and see sample GPS exercises.

Room #143 - Teach Spatial Thinking with Geotechnologies
Sara Damon, Stillwater Area High School
Presentation

Learn what spatial thinking is, how spatial data is becoming more accessible, and how your students can use geotechnologies (GIS, GPS and Remote Sensing) to ask and answer engaging spatial questions.

Room #144 - Using the Minnesota Environmental Atlas
Jim Ramstrom, Land Management Information Center (LMIC)
Computer Lab

The Minnesota Environmental Atlas is a user-friendly, data-rich GIS software tool available free to teachers. Included are more than 250 layers of Minnesota data including digitized aerial photos and topographic maps. Tutorials, examples and interactive exercises will be presented. Attendees will receive a free copy of the Atlas.

Session B: 11:30 AM to 12:30 PM

Room #242 - Geocaching: It's Where It's At
Jessica Winkelaar, MN Alliance for Geographic Education (MAGE)
Field Activity

Learn how a Global Positioning System (GPS) works, how to operate a handheld GPS receiver and go outside to do some high-tech treasure hunting!

Room #173 - Teaching Geography with Mapping Our World: GIS Lessons for Educators
Angela Lee, ESRI and Birgit Muehlenhaus, Macalester College
Computer Lab

In this hands-on session you will explore step-by-step exercises with ArcView GIS software, investigating such topics as population patterns, political geography and human-environment interaction.

Room # 142 - Google Earth and NASA Worldwind
Jan Hertel, Hastings Middle School
Computer Lab

Google Earth puts a planet's worth of imagery right on your desktop. View exotic locales like Maui and Paris as well as local restaurants, hospitals, schools and more. NASA's Worldwind lets you experience Earth terrain in visually rich 3D, zooming from satellite altitude to any place on Earth. What's the same and what's different? How do you get these programs? Come explore the excitement of bringing satellite imagery and more to your classroom.

Room #143 - GIS at the Minnesota Legislature
Lee Meilleur, Geographic Information Services
Presentation

An overview of how GIS is used at the Minnesota Legislature. Topics will include redistricting, elections, demographics, analysis for bills, and use of the GIS Office website.

Room #146 - Firewise in the Classroom
Ken Pekarek, GIS 4 Schools
Computer Lab

This hands-on session will introduce GIS technology as used in the Firewise Communities school project. Learn more about Firewise, see lessons that meet national and state Academic Standards in Geography and Science and find out how you can reserve the Firewise Mobile Laptop Lab for use with your students.

Room #144 - Using the Minnesota Environmental Atlas - REPEAT SESSION
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Session C: 1:15 to 2:15 PM

Room #145 - Coordinate Systems
Charlie Parson, Bemidji State University
Presentation

Learn how to combine spatial data from various sources. This session will describe and illustrate coordinate systems commonly used in Minnesota.

Room #242 - Journey North: Tracking Seasonal Change in Your Classroom - 2-HOUR SESSION
Mary Hosier, Journey North
Computer Lab

Seasonal change is all around us. Journey North is a free, Internet-based program that explores the interrelated aspects of seasonal change.

Room #173 - GPS and GIS: Fun Geotechnologies for Data Collection and Mapping - 2-HOUR SESSION
Angela Lee, ESRI and Birgit Muehlenhaus, Macalester College
Field Activity and Computer Lab

GPS and GIS enhance field-based activities and can be incorporated into geography or science classrooms. In this 2-hour hands-on workshop you will learn how to collect GPS waypoints and integrate GPS data into ArcView GIS for mapping and analysis.

Room #142 - Utilizing a Multi-Scaffolding Environment for GIS Learning - A No-Fail Approach
Aaron Doering and George Veletsianos, University of Minnesota
Presentation

Learn to solve authentic GIS problems with your students utilizing a multi-scaffolding environment (MSE). Scaffolds include simulated videos, screen-capture videos, collaboration zones and intelligent agents.

Room #143 - Real World GIS: Case Studies from the City of Minneapolis
Mark Benishek, John Janzen and Paul Weinberger
City of Minneapolis BIS-GIS Business Services
Presentation

City of Minneapolis GIS staff will present several projects that provide real world GIS application examples to share with your students. These examples will demonstrate the use of GIS for spatial analysis in Public Safety, Census and Demographic data and Planning.

Room #146 - Firewise in the Classroom - REPEAT SESSION
Ken Pekarek, GIS 4 Schools
Computer Lab

This hands-on session will introduce GIS technology as used in the Firewise Communities school project. Learn more about Firewise, see lessons that meet national and state Academic Standards in Geography and Science and find out how you can reserve the Firewise Mobile Laptop Lab for use with your students.

Room #144 - Finding GIS Data on the Internet
Sally Wakefield, 1000 Friends of Minnesota
Computer Lab

Learn about Internet GIS data sources, data formats, how to download data and how to bring data into GIS.

Session D: 2:30 to 3:30 PM

Room #145 - Basics of Good Cartography

Charlie Parson, Bemidji State University

Presentation

Learn to present spatial data and GIS maps in ways that promote clear communication by taking advantage of established methods of producing maps.

Room #242 - Journey North: Tracking Seasonal Change in Your Classroom - 2-HOUR SESSION

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Room #142 - EarthKam

Jan Hertel, Hastings Middle School

Computer Lab

Find out how your students can request their own remotely sensed image taken from the International Space Station. Interpretation, projects, extensions and resources will be included.

Room #143 - GIS in Middle School Social Studies

Jerry Benson, Luverne Middle/High School

Presentation

Find out how Luverne 6th and 7th graders learned to use the Internet, geotechnologies and PowerPoint in creating a Community Atlas and completing a wildfire risk assessment.

Room #144 - Go North! 2006: Connect Students with the Real-World through Adventure Learning

Aaron Doering, University of Minnesota

Presentation

Go North! 2006: Arctic National Wildlife Refuge is a free K-12 adventure-learning program. Learn about integrating GIS and adventure to increase student academic motivation!