

GIS Day™ UWO November 18th, 2009 Presentation/Demonstration Agenda



Workshop #1A: Getting to know ArcGIS – Beginner Users

Workshop #1B: Working with GIS data – Advanced Users

Times: 8:00 a.m.–9:00 a.m. Beginner Users Workshop 1A
9:10 a.m.–10:10 a.m. Advanced Users Workshop 1B
3:30 p.m.–4:30 p.m. Beginner Users Workshop 1A

Location: GIS Lab (Halsey 304)

Workshop is intended for students, professors, high school teachers and other professionals who want to know what ArcGIS is and what it can do for them.

- Basic map making skills, how to get around in ArcGIS.
- Overview of Open Source Options.
- Basic Analysis and what you can do with ArcGIS.

Presenters: Adam Dorn, City of Fond du Lac &
Andy Maracini, Superior GIS Solutions LLC

Workshop #2: GIS Resources – Data Sources, Data Types, & Projections

Times: 9:10 a.m.–10:10 a.m.
10:20 a.m.–11:20 a.m.
1:50 p.m.–2:50 p.m.

Location: Cartography Lab (Halsey 306)

Workshop is mainly for GIS & Cartography students along with professors who want to know more about the best resources for where to find GIS data on the Web and overviews on the different data types and coordinate systems.

- GIS websites that offer good GIS data for downloads.
- What GIS types exist, viewing data, and file conversions.
- Types of GIS software that professionals today are using.
- Overview of projections common to the area.

Presenters: Jay Yearwood, City of Appleton &
Trish Nau, East Central Wisconsin Regional Planning Commission

(Over Please)



Workshop #3: Hands on Utility GIS

Times: 11:30 a.m.–12:30 p.m.
12:40 p.m.– 1:40 p.m.

Location: Cartography Lab (Halsey 306)

Workshop is intended for students, professors, high school teachers and other professionals who would like more information on how GIS is used in Utility Companies.

- How GIS is used for mapping gas and electric facilities, marketing, system planning, emergency response, asset management, etc.
- Hands on approach in using true life utility data.

Presenters: Scott Hand & Nicole Mixa, Integrys Energy Group

OPEN HOUSE & Map Gallery

Times: 10:00 a.m.–6:00 p.m.
Location: Room 305 Halsey Science Hall

- Questions and Answers with GIS Professionals.
- Demos* and Videos on uses of GIS.
- Government and private firms - GIS website links.
- Maps and Posters used by GIS professionals for meetings and presentations.
- **Come see what GIS is all about!**

Presenters: Members of the Fox Valley GIS User Group

*Demos: Dr. Coulibaly, UWO – ArcExplorer

Dr. Hudak, UWO – Utilizing GIS in Geology

Dave Levine, Winnebago County – Overview of the County's website

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Workshop Abstracts



Please Note: Deadline for workshops signup is TUESDAY, OCTOBER 27th! These are on a First Come First Serve basis. Please send your R.S.V.P. with your name, organization or affiliation, and your position/title along with the workshop number(s), to jmctovar@gmail.com to reserve your spot.

Workshop #1A Getting to know GIS – Beginner Users

This workshop will show open source GIS options and allow attendees to get basic hands-on experience using the popular commercial software ArcGIS. This is a perfect opportunity to get a better understanding of how GIS works and what software is available.

There are many open-source GIS programs available today that are stable, powerful, and easy to use. We will introduce Quantum-GIS, GRASS, and PostgreSQL. These programs offer an alternative or complement to commercial off the shelf (COTS) solutions. The GRASS (Geographic Resources Analysis Support System) application has a long history in academia and the federal government. More recent applications like Quantum GIS are rapidly attracting the attention of users around the world for its; functionality, ease of use, and of course, no license fees!

Commercial GIS software is also widely available from a variety of companies. ArcGIS from ESRI is a popular product. We will demonstrate the basic functions of this program using data from a local municipality. Attendees will learn how to move around in the map, interact with map features and make a map layout.

Open Source Introduction

- What is open-source GIS?
- Advantages/Disadvantages
- Types of Software
- Recommended Software
- Downloading/Installation

Demo of Quantum GIS

- Data Viewing
- Map Production

Using ArcGIS Basics

- Moving around the map
- Identifying feature data
- Map Layout



Workshop #1B Working with GIS data – Advanced Users

This hands-on workshop will pick up where *Workshop #1A - Getting to know GIS* left off. ArcGIS will again be used for this workshop. We will be demonstrating and allow attendees to perform a select number of techniques used to display and analyze GIS data. These powerful tools are one of the most important parts of GIS and allow people to answer real world questions. They can be used to assist with simple questions such as which properties need to be notified of a zoning change. To complex questions like which areas of a city are not served by fire hydrants.

- Queries
- Labeling
- Thematic Mapping
- Spatial Analysis Tools



Workshop #2: GIS Resources – Data Sources, Data Types, & Projections

This workshop will give students an overview of some of the best resources of where to find data on the web. The goal of this workshop is to familiarize users with geospatial environmental data sources (which are primarily state or federally-based), how to access the data, the different data types that are out there and the different projections students may run into.

The workshop will also focus on common projections used within the state and tips on how to determine an unknown coordinate system for your data.

Common website sources that will be covered:

- Census – Tiger Data
- The National Map – Geospatial One-Stop
- FEMA
- Wisconsin DNR
- WISDOT
- Local County / City websites and LIO's (Land Information Officers)
- Aerial Photography sources

Most Common Data Types:

- ESRI Shapefiles .shp
- Personal and File Geodatabases (ESRI) .mdb & .gdb
- ArcINFO coverages and .e00 export files
- CAD (Autodesk) .dwg
- Microstation .dgn

Common State of Wisconsin Projections:

- Wisconsin Coordinate Reference System (WISCRS), a redesign of the former Wisconsin County Coordinate System.
- Geographic (Lat/Lon)
- WTM
- State Plane
- UTM



Workshop #3: Hands on Utility GIS

The use of GIS is an integral part of daily operations for today's utilities. Many utilities have a near real-time model of their electric, gas, water, sewer, or telecom infrastructure. Here are a few areas where GIS is used:

- System Analysis and Planning – Used by engineers to determine where upgrades to the gas or electric system needs to take place.
- System Design – Used by designers to design system upgrades and meet customer requests for service.
- Locating – Field employees use a mobile GIS application to help in the location of underground facilities.
- Outage Management – Many of today's electric utilities use a GIS application to determine outage locations based on customer calls or automated meter reads. As this data is fed into the software, traces are performed to determine the most logical device in the field that failed. Crews are then dispatched to that location.
- Automated Vehicle Location (AVL) – AVL uses GPS technology to track each truck or piece of equipment needed in an outage or emergency situation. Dispatchers can route the closest crew based on their location to the incident.
- Inspections and Maintenance – Numerous inspection and maintenance programs are generated using GIS data to track attribute data about a particular facility or device.
- Vegetation Management - Utility foresters use GIS to maintain trimming cycles in areas where vegetation needs to be cleared to maintain proper clearances from poles, wires, gas transmission lines, etc.
- Accounting – For some utilities, the GIS is the system of record that tracks their capital units of property. Once capital units of property are mapped within the GIS, some of the attribute data is then feed into other asset management systems within the utility.

The utility workshop will give you a flavor of how Wisconsin Public Service (WPS – subsidiary of Integrys Energy) uses many of these GIS applications in its daily operations. We will also provide a hands-on demo of the FAAR Mobile GIS application. FAAR is a GIS viewer application that allows our field employees to access GIS data remotely.