



2010 MAGIP Technical Session Abstracts

Hands-On Workshop



Adjusting Data to the GCDB

Presenter(s): RJ Zimmer

The BLM's Geographic Coordinate Database (GCDB) is the proper representation of the Public Lands Survey System (PLSS) to use as a mapping framework for the many cadastral layers that have a PLSS basis. In this workshop we will describe some tools and methods you can use to automate the steps to integrate legacy GIS data sets to the GCDB, and how to re-adjust GIS layers that are already on the GCDB, when the GCDB is updated or improved.



ArcPad10 for Mobile GIS

Presenter(s): Jackson Beighle and Alison Walker

This half day workshop will focus on taking GIS from the office to the field using new technologies from Trimble and ESRI. The workshop will highlight ArcPad software and using the ArcPad Data Manager Extension to manage the flow of GIS data to and from the field. We will incorporate Trimble GPScorrect and GPS Analyst software for those who intend to post process the data from ArcPad. Participants will learn about personal geodatabase domains and how they benefit the ArcPad field user. The workshop will feature new technologies from leading manufacturers such as Laser Technologies, Juniper Systems and Ricoh. Participants will gain valuable hands on experience during the field sessions.

ArcPy & Raster Processing in ArcGIS 10

Presenter(s): John Lucotch & Matt Nordhagen

With the many improvements made to ArcGIS 10, the most significant changes and improvements were made to how users interact and process imagery and how the new Python site package (ArcPy) is tightly integrated into the workflow of the ArcGIS Suite.

This presentation will provide insight into the new raster additions and improvements as well as new raster processing methods. The presentation will then discuss the new ArcPY site package and Python 2.6. The final part of this presentation will demonstrate the integration of raster processing and ArcPy.

The overall goal of this workshop is to introduce these changes in both raster processing and ArcPy, provide demonstrations on these topics, and to answer any questions.



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Basemaps: Creating, Using, & Participating

Presenter(s): Michael Fashoway & Erin Geraghty

Over the past few years the use of basemaps, or the background map data that gives reference to the actual data you are working with, has proliferated, as well as the number of basemap options available. This session will give attendees an introduction to basemaps including how to consume them and an overview of creating them. The session will also cover how the Base Map Service Center is participating in the ESRI Community Maps Program and how others in the state can participate.



Find Data You Need: The Montana GIS Portal

Presenter(s): Diane Papineau

Montanans need one place where they can search for GIS data about the state. The Montana GIS Portal is that place. In this session, we will explore the Montana GIS Portal website and learn about searching techniques for finding the data you need. We will also briefly discuss publishing the data you create to the Montana GIS Portal.

IFSR Data for Water Related Applications in Montana

Presenter(s): Jim Robinson & Ted Evans

Intermap and the Montana Department of Natural Resources and Conservation, Water Resources Division have been testing and evaluating the utility of Intermap's Digital Terrain Model NextMap data for a number of water related applications in the state. This presentation will review Intermap's data as well as provide details on the results of the testing. The testing took place in near the confluence of the Tongue and Yellowstone Rivers in eastern Montana and largely focused on evaluating the data's potential for updating the National Hydrologic Data. Another part of the test evaluated how well the IFSAR data could be integrated with existing Lidar to compliment that data beyond the boundary of its coverage. Comparisons of Intermap's NextMap with other commonly available elevation data sets and their ability to accurately represent flowlines will be shown. Comparisons will include SPOT, SRTM, Lidar and NextMap

Jim Robinson from Montana DNR will present comments on this project from the DNRC perspective and describe possible future uses he sees for this type of data in the state.

Ted Evans from Intermap will describe the characteristics of the data and demonstrate some of the results of the testing including comparisons of cost and performance. He will also describe the web delivery of this data which has recently been implemented by Intermap.



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Lost in the Vector: Finding Help / Finding Data

Presenter(s): MAGIP Mentoring Subcommittee

GIS tasks can be challenging—do you know where to find assistance when you need it, whether you are new to GIS or an experienced GIS professional? In this session, we will explore different avenues to get assistance ("D.I.Y." or fee-based). We will also discuss different approaches to finding spatial data (beyond the Montana GIS Portal) as well as assessing that data for your particular use. Hunting for spatial data is a great way to network—use this session as an opportunity to build relationships with colleagues from across the state. Sponsored by the MAGIP Professional Development Committee (Mentoring subcommittee).

MAGIP Best Practices & Standards: Unique Identifiers

Presenter(s): Michael Fashoway

This session will cover the MAGIP Persistent Identifier Best Practice. Attendees will learn about the best practice, how and when to use persistent identifiers and tips and tricks for maintaining them. This session is intended for GIS users that create, integrate, and/or share GIS datasets.

Montana View Emergency Response Database for Major Disasters

Presenter(s): Lance Clampitt, Christine Sommers-Austin, Rick Lawrence

MontanaView is a consortium of universities, nonprofit organizations and government agencies working within Montana to advance the availability and timely distribution of remotely sensed data. Satellite and airborne remote sensing has become an increasingly important asset for emergency response to major disasters, often providing the first accurate assessment of damage and providing first and subsequent responders with invaluable information. However, organizations responsible for emergency response often cannot afford to maintain staff experienced in processing remotely sensed imagery and much of this data is delivered in a raw or native format and is not readily useable by the responders it is intended for. To solve these issues and facilitate the timely delivery, processing and use of space based imagery MontanaView has sponsored and built the *Emergency Response Database Application*. This presentation will describe the project, its intent and how you can support emergency response by becoming a contact in the database for sharing your area of expertise in times of emergency. You can participate in the project by visiting: <http://emergencyresponse.montana.edu>.



Stop Living in Two Dimensions: An Introduction to 3D GIS

Presenter(s): Kyle Balke

Three dimensional models and 3D GIS have the ability to enhance an individual's understanding of a plan or project by imitating the natural human experience. Significant improvements in computer hardware, software, data, and the internet during the last 20 years have acted as a catalyst for the rapid evolution of 3D visualization software. Mr. Balke will discuss and demonstrate the use of a variety of 3D applications including ArcGIS 3D Analyst, ArcGlobe, Google SketchUp, Google Earth, and CommunityViz. Come learn how to implement your own 3D GIS project including several tips, tricks, and best practices to make your experience more enjoyable.



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Using Remote Sensing to Map Invasive Trees

Presenter(s): Tom Potter

One meter, orthorectified NAIP imagery can provide a wealth of information about the natural landscape. The challenge is in finding ways to use this imagery for more than a pretty background. Russian olive (*Elaeagnus angustifolia L.*) was planted throughout the west beginning in the early 1900's, primarily in windbreaks and shelterbelts. It is particularly well adapted to semiarid and saline environments. It quickly escaped cultivation and spread, primarily into moist riparian environments, crowding out native vegetation. Feature Analyst 5.0, an extension for ESRI ArcMap, was used to extract Russian olive polygon features from NAIP imagery based on color, shape, and an iterative learning process. USDA-NRCS has been mapping Russian olive infestations along the Yellowstone River corridor, and working with partners to find ways to control, contain, and revegetate.

What's New at ArcGIS 10

Presenter(s): Bryant Ralston & Scott Moore

These two back-to-back sessions will provide a conceptual and “demo style” overview of some of the major areas of new and enhanced functionality available only with ArcGIS 10. The categories of GIS functionality to be covered – Time, Geodatabase Attachments, Table enhancements, Imagery, 3D GIS, and Editing – are not only available to ArcGIS desktops but are accessible throughout the entire ArcGIS “system” including desktop, server, mobile, and embedded deployment environments. There will be enough time for some specific questions, short and focused GIS professional discussions, and contextualizing these within your own ArcGIS implementations.

What is ArcGIS.com and How Do I Use it?

Presenter(s): Bryant Ralston & Scott Moore

This session will introduce and demonstrate ArcGIS.com, a web-based gateway into the ArcGIS system already being utilized in Montana. It is a built-in part of ArcGIS whether you’re using ArcGIS Desktop, a mobile device, a browser, or developing applications using an ArcGIS Web Mapping API. It enables GIS users to find, share, organize, and use maps, applications, and other resources as well utilize ArcGIS Explorer Online, a new browser-based version of ArcGIS Explorer.