

The National Hydrography Dataset and Stewardship for Colorado

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The National Hydrography Dataset (NHD) contains digital data about the country's water features. Created mostly by federal agencies, it lacks the detail and accuracy that many entities need. The USGS currently maintains the NHD as part of the National Map. It recognizes and encourages the participation of other agencies in the NHD maintenance process. However, allowing the community to independently edit and resubmit these data is inefficient. Therefore, the USGS has set up a Stewardship Program that distributes responsibility of NHD maintenance to a state or region. The Colorado Water Resources GIS Community has been interested in the creation of a Stewardship program for some time. As a result, Colorado conducted a pilot study to determine the level of effort involved in stewarding Colorado's portion of the NHD. Currently, the Colorado Division of Water Resources (CDWR) is about to embark on a two year program to hopefully solidify the stewardship of this dataset in Colorado.

Regional 911 Dispatch Center Embraces GIS & GPS Technology and Collaborative Data Sharing to Improve Emergency Response Times

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MetCom (Metropolitan Area Communications Center) is a 911 Center that dispatches for multiple fire departments in the South Metro Denver area, serving hundreds of thousands of residents. The center has utilized GIS and GPS technology to its fullest, using real-time GPS locations on all fire and medical apparatus and dynamic GIS-based routing to automatically dispatch the closest emergency units to an incident, significantly improving response times. None of this would be remotely possible without the collaborative data sharing of multiple cities, counties, and special tax jurisdictions in order to build and maintain the robust GIS dataset used to support this technology. However, it was an extremely expensive and labor intensive endeavor to integrate data from so many sources to build the initial base data (street centerlines, parcels, address points, hydrants, etc) and requires a constant and time consuming effort to maintain it as well. In the future, a regional data sharing consortium could remove many of these initial start-up costs and obstacles for other 911 centers, and perhaps allow a shared stake in data maintenance efforts which could improve accuracy while minimizing redundancy of work.

GIS Collaboration for the North Central All Hazards Region in Colorado

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The Northern Colorado All Hazards Region (NCR) GIS Data Repository has been in planning and under construction for almost three years. It was born out of the needs of area first responders to have access to a continuous map source, as well as the needs of NCR member counties to have a mechanism for quickly and easily sharing data in times of need. Armed with a homeland security grant, NCR in conjunction with members

from its constituent counties and an outside vendor developed a system capable of meeting those needs. The GIS data repository is based on web-based extract, transform & load (ETL) technology from Safe Software. A custom interface to the engine allows member counties to easily log in and upload or download GIS data as needed. An online ArcGIS Server-based mapping application is also available for first responders to view the GIS layers. This presentation will review the technology behind the data repository, the steps taken to develop it, as well as some of the hurdles and future challenges that lie ahead.

Limited Funding, Not Enough Staff Time & 56 Comp Plans – Building a Geospatial Regional Zoning Layer for the First Time

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The Denver Regional Council of Governments (DRCOG) has a business need to develop and maintain an enterprise GIS comprised of up-to-date regional zoning and future land use information. The basis for developing this information consisted of our local government's comprehensive plans. The purpose of compiling the data includes forecasting future land use needs in the Denver, Colorado metropolitan area, verifying our model and analysis of special projects – TOD for example. Currently, there is no regional base map of zoning districts or of future land use that DRCOG's land use planners can utilize. I'll highlight the project; focusing on who's involved, success and challenges, and what the future holds.

Denver Democratic National Convention 2008 LiDAR Project

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In preparation for the Democratic National Convention (DNC) in Denver this August, the National Geospatial Intelligence Agency (NGA) had the requirement to acquire high resolution LiDAR to support the threat mitigation issues associated with a National Security Event. As a federal geospatial partner with the USGS, the USGS was asked to contact the Local Municipalities through the NSDI Partnership office to look for collaborative partners. With the brunt of the cost being paid for by NGA, this provided a very inexpensive opportunity for the Denver GIS community to acquire very accurate surface and elevation information for their diverse GIS needs.

A solicitation was sent out to the Denver GIS community that led to an initial response of over 16 partners. Our first response included Public Utility Companies, Water Districts, Local Municipalities, the National Guard, and the Army Corp of Engineers. The project eventually ended up with 11 additional partners and a project area of 950 square miles.

The results of this project provided current 2 foot contours that can be used to update the FEMA flood maps supporting the Flood Insurance Program, and provide accurate Geospatial information for planning and confronting the growth issues in the Denver metropolitan area. The raw LiDAR data provided the partners the data necessary to extract all the surface model information that can be derived by the partners through additional processing. NGA providing the foundation funding for this project has provided a significant GIS asset to the entire Denver metropolitan area.

Denver Regional Aerial Photography Project (DRAPP) and Consortium

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The Denver Regional Aerial Photography Project (DRAPP) is a multi-jurisdictional partnership coordinated by the Denver Regional Council of Governments (DRCOG). Every two years since 2002, the DRAPP partners have come together to acquire high-quality digital orthophotography for the entire Denver metropolitan region (roughly 5000 sq miles). Through an open and collaborative process, the members of this consortium have successfully leveraged their collective buying power to obtain aerial photography at a fraction of its market rate. This presentation provides an overview of the project and discusses its unique strengths and weaknesses.

Colorado Governor's Office of Information Technology, Geospatial Information Advisory Council and Stewardship

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The State of Colorado convened a Geospatial Information Advisory Council (GIAC) recently as a volunteer body. The State's Chief Information Officer (CIO) has begun an IT and GIS consolidation process at the state to improve the efficiency of information technologies and the provision of IT services. This will also allow the state to function in the role as an integrator of and hub for data across the state. The CIO has officially acknowledged the GIAC as an advisory body to provide input to the state GIS coordination activities. One of the first significant efforts of the council will be defining geospatial data governance roles and mechanisms. This presentation describes the GIS consolidation context, the roles of the GIAC and the incipient data governance project.

Building and Maintaining Regional GIS Data Sets - The Next Great Challenge to the GIS User Community - Still...

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With advances in GIS technologies, mapping technologies and The Internet, the limitation to what can be done with GIS is most often the data available. Granted there are some sectors of the GIS user community, most notably private utility companies and many city or county efforts, that maintain up-to-date, highly refined data sets which leverage these state-of-the-art GIS tools, but the data problem still plagues many efforts and seems to be very common in "regional" efforts. Such regional efforts include multi-county efforts, state-wide and inter-state efforts, national efforts, and global efforts. The regional GIS dataset problem and examples from the Denver Metro area will be discussed.