GIS IN THE ROCKIES

Premier Geospatial Conference of the Rocky Mountain West 2017

Sessions at a Glance

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PLSC

Society: PLSC
Track Chair: Pam Fromhertz

- **Fundamentals of Coordinate Systems** (John Hunter)
- **Grid vs. Ground for the GIS Professional** (Joey Stone)
- **Using a Standard Version of ArcMap with External VRS Receivers to Get Sub-centimeter Accuracy** (Zachary Green)
- **Gravity – Not Just a Law. It is the Basis of NGS's New Vertical Datum with a 1-Meter Change** (Pam Fromhertz)
- **Geoid Slope Validation Survey 2017** (Brian Shaw)

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ASPRS: Big Data

Society: ASPRS – Rocky Mountain Region
Track Chair: Jason Isherwood

Organizations from across industries are undertaking more projects supported by big data. As technology evolves, "big data" is becoming an ever present challenge. These projects represent some of the most exciting things happening in GIScience today. This track will highlight emerging workflows that allow GIS professionals to analyze large datasets that support decision making and project goals.

- **The Digital Teaching Atlas of Colorado** (Steve Jennings)
- **Going 3D with a High-Resolution Oblique Imagery Photomesh** (Jim Kelly)
- **Practical Considerations and Uses of USGS 3DEP Lidar Data Products** (John Kosovich and Lori Phillips)
- **A Geospatial Picture of 1959 Albuquerque, New Mexico. Constructing a Historical Digital Aerial Photography GIS Resource** (Robert Dzur)
- **Using NASA's AppEEARS to Slice and Dice Big Earth Data** (Aaron Friesz)
- **Evaluating Habitat Quality in East Africa Through Satellite Imagery** (Paul Milhouser)
- **A Consortium Approach to Aerial Imagery, LiDAR and Data Collection** (Jim Kelly)

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RMURISA

GIS: A Medium for Local and Regional Development

Society: Rocky Mountain URISA
Track Chair: Vince Rosales

A forum to share your success in using GIS for local and regional development in communicating concepts, plans and ideas to enhance prosperity, promote well-being and improve living standards.

- **Using DEMs to Create a Local Projection for Easier Data Transferability** (Teresa Smithson)
- **Retaining Organizational Knowledge Through the Use of Geospatial Solutions – How to Increase Retiring Employee Participation Using a Map** (Qwyla Foutch)
- **USGS Operational Implementation of LiDAR Data Quality Measure Software** (Barry Miller)
- **Application of Geographically Weighted Regression in Crime Analysis** (Yu Zhou)

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GISCO: Collaboration Across Boundaries

Society: GIS Colorado
Track Chair: Dave Gura

This track will present proposed and/or completed GIS projects that have fostered a collaborative working relationship between government departments and between government agencies. This can include anything from communication and workflows to software or applications.

- **Integrating GIS Integrations** (Stephen Mitchell)
- **Colorado's Water Plan: Critical Action Blueprint** (Phyllis Thomas)
- **Rethinking the Data Pipeline for Better Integration and Collaboration** (Justin Lewis)
- **Let's Talk Cartography!** (Stephanie Oliver)
- **Markup Application for Hydrography Datasets** (Cynthia Ritmiller)

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GIS in Business

Track Chair: Manoj Williams

Business Intelligence, Project Management and Asset Management

- **How a Major Oil and Gas Company Uses Predictive Analytics** (Scott DiGiacinto and Antoine Emond)
- **Geographic Distribution of STEM Degree Return on Investment** (Jackie Silber)
- **GIS + OM: 8 Steps You Need to Increase Productivity** (Jared Kasten and Andy Richter)
- **Enterprise GIS for the Management and Analysis of Traffic Data** (Durmus Cesur)

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GIS Conservation

Track Chair: Alison Gallensky

Conservation encompasses the preservation, protection, and restoration of natural and cultural resources. GIS mapping and analysis has a long history in this field, helping to identify areas with high biodiversity and/or cultural significance, identifying threats, supporting conservation decisions, and making complex issues easier to understand. GIS is used by government, corporate, and non-profit organizations, here in Colorado, nationwide and around the world to protect our history and our planet for ourselves and generations to come.

- **Techniques for Analyzing the Impact of Oil and Gas Leasing on Key Natural Resources** (Alison Gallensky)
- **Streamlining the Development of a State-wide Water GIS: Methods & Tools** (Peter Gill and Jodee Pring)
- **GIS Builds Nationwide Tribal Climate Resilience** (Margaret Herzog)
- **Using Python and Selenium to Make Geographical Sense of BLM's LR2000** (Connor Bailey)
- **Assessing Green Infrastructure in the South Platte River Watershed** (Jeremy Cantor and Keith Wood)
- **Connecting the Dots: Correlating Corrosion and Resistivity Data and Analyzing At-Risk Areas** (Dawn Brady)
- **Hydro Linked Data and Network Linked Data Index for NHDPlus** (Michael Tinker and Kevin McNinch)

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GIS in Emergency Management

Track Chair: Scott Trapolino

- **Underground Infrastructure: The Last Frontier of Remote Sensing** (Geoff Zeiss)
- **Situational Awareness: Building an Operations Dashboard for Emergency Management** (Andrew Blunck)
- **Food Security Insight: Understanding the Real Impacts of Weather Variability on Local and Regional Food Supplies** (Brian Soliday)
- **Stepping into the Map: Utilizing Augmented Reality in One Call Support** (Brady Hustad)
- **Placing Refugee Camps: Finding Suitable Locations in Turkey for Syrian Refugees to Minimize** (Nouman Hussain)

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GIS Education

Track Chair: Manoj Williams

How and when does one begin their GIS journey? What training, education, or lifelong learning works best in this ever-changing field? What about internships, the job of your dreams, or retirement? This track will discuss how GIS professionals can keep their skills up-to-date and how we can all contribute back to the long-term societal impact of spatial learning at the elementary, post-secondary, and university levels.

- **Academic Agriculture Insight: Using Big Data to Educate Students and Inform Climate and Agricultural Research** (Jacklyn Ward)
- **The Life Phases of a GIS Professional** (Esther Worker)
- **Bringing Historical Maps and Atlases to Life in Online Apps** (Aileen Buckley and Greg Allord)
- **The ”Catch 22” of Seeking a Job but Needing Experience: Internship Programs Help Bridge the Gap** (Elizabeth Tulanowski, Jennifer Muha and Sophia Linn)

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GIS in Development

Track Chair: Guthrie Alexander

This track will offer the opportunity to see several projects and developments highlighting the advantages and challenges using open source and developing technologies in diverse contexts and applications.

- **USGS POD Implementation in USGS Cloud to Support US Topo Production** (William Marken)
- **Python Scripting for Flood Mapping Large Scale Automated Engineering** (Daniel Molnar)
- **Putting the Pieces Together: How Denver Public Schools Uses FOSS4G for the Enterprise** (Matthew Baker)
- **Extending ArcGIS Pro and ArcGIS Online Story Maps with 'R' and HTML** (Max Marno)
- **FOSS4G at University of Colorado Denver** (Rachel Stevenson, Deborah Thomas and Rafael Moreno)
- **GPU Based LiDAR Parallel Processing** (Laura Atkinson)
- **Tracking Z: Limitations of the World We Live In** (Brady Hustad)
- **Expanding the Geospatial Boundaries of Python: GeoPandas vs. ArcPy API** (Jessica Jones)

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GIS in Government

Track Chair: Muthu Sampath

- **VisibilityFilter: An Attribute for Road Network Data to Server Multi-scale Cartography** (Elaine Guidero)
- **Current and Future USGS Elevation Services** (Karen Adkins)
- **Geographic Programs Supporting the 2020 Census** (Duane Hanstein)
- **Data Driven Prioritization Analysis** (Andrea Santoro and Chris Martin)
- **CDOT Asset Data Collection System** (Roberto Avila)
- **Utilizing ESRI Tools as an Interim Solution to Asset Management** (John Nolte)
- **Visualizing Development Code in Eden: 3D Massing in ArcGIS Pro for Odgen Valley Utah** (Kristy Bruce)
- **National Hydrography Dataset Scale Representation Using the VisibilityFilter Attribute** (Ariel Doumbouya and Ryan Teter)
- **Arapahoe County Goes "Retro". Turning Dead End Sign Asset Data into a Successful (Retro-reflectivity Compliant) Sign Asset Inventory and Sustainable Asset Management Program** (Ryan Huffman)
- **Market-Military Melding: Location Intelligence (LI) and Geo-Intelligence (GEOINT) Collaboration** (Bryant Ralston)

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Scholarship Presentations

- **Spatial Analysis of Hydrology and Vegetation in the Costa Rican Paramo** (Shannon Jones)
- **Developing a Flood Risk Information System for Colorado: A Mixed Methods Approach** (Madeline Kelley)
- **Land-use/Land-cover Change in SE Asia** (Kirk Saylor)
- **Hydrometeorologic and Physiographic Characteristics Associated with Susceptibility to Flooding in the Mountainous Colorado Front Range** (Natalie Trivino)
- **Studying Exploratory Variables Affecting Rural School Districts in Colorado** (Alysa Ochoa)

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Vendor Showcase

Track Chair: Kim Denney

The Vendor Showcase is an opportunity for businesses to demonstrate new and existing products related to geospatial technologies and information science. Attend to learn about current or emerging technologies and techniques that could help make the job easier. This is your chance to ask questions, provide suggestions and general user feedback.

- **Getting Started with Building Web Mapping Apps** (Andy Gup)
- **Bringing Freedom to Mobile Mapping – New Laser Mapping Techniques with Android and GNSS** (Kassie Carley and Derrick Reish)
- **Asset Management: Designing and Building Custom Workflows** (Thomas Toronto)
- **ArcGIS Online: Getting Started with Open Data and Initiatives in the ArcGIS Hub** (David Vaillancourt)
- **Mapillary and Transportation: How Computer Vision and Street-level Imagery Can Improve Your City** (Christopher Beddow)
- **Harnessing the Power of a Hybrid GIS Ecosystem** (Anthony Calamito)
- **Extracting 3D Features from LiDAR Data in Global Mapper** (David McKittrick)
- **Cityworks Web GIS-Centric ™ Apps for Public Asset Management** (Brett Ruoti)
- **Using esri Feature Services, Server and Portal for Mobile Utility Field Applications** (Jeff Eisman)
- **Connected Infrastructure for Effective Management** (Joe Francica)

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Poster Session

Track Chair: Peggy Streicher

The Poster Session is a great way to visually present current or past projects and/or cartographic productions without having to sign up for a full presentation in a designated room. Poster topics range all across the board on subject matter and are a great visual tool to present projects and maps.

* *Abstract will also be presented as a talk in technical session.*

- **NHDPlus High Resolution** (Karen Adkins)
- **How to Use Mapillary** (Christopher Beddow)
- **Spatio-Temporal Analysis of Nutrient Concentrations Along the South Platte River Using Time Weighted Regression** (Daniel Clark)
- **Increasing Accessibility and Usability of Land Remote Sensing Data** (Aaron Friesz)
- **New Clubs on the Block: Using GIS to Evaluate Regulatory Policies for Cannabis Clubs in the City and County of Denver** (Grant Garstka)
- **USGS Mineral Resources Program Field Data Collection with Mobile Apps** (Maggie Goldman)
- **Give Us Metadata or Give Us Death! Streamlining data collection and distribution of Wyoming's geospatial water data** (Rosemary Hatch)
- **Political Affiliation in Jefferson County, Colorado** (Stephen Mitchell)
- **Natural Gas Processing Plants (UCAs), Western United States** (Joel Murray)
- **Can Landsat TM Spectral Diversity be Used as a Predictor of Landscape Scale Plant Diversity?** (Keith Olson)
- **Cathedral Spires Climbing Map** (Bradley Potter)
- **Dynamic Web Mapping for Gleaning Initiatives – Durango, Colorado** (James Raines)
- **Watershed** (Tammi Renninger)
- **A Spatiotemporal Analysis of Recovery Ratio for the Missionary Ridge Fire Area** (Christopher Ridener)
- **A Proposal for Visualizing Possible Implications of Oil and Gas Extraction Encroachment to Protected Public Lands in the Southwest Permian Basin Region from 2005-2015** (Samuel Ross)
- **Geoid Slope Validation Survey 2017** (Brian Shaw)
- **Bighorn Sheep Habitat Suitability Analyses in Glacier National Park Using Raster Overlay Techniques** (Lynn Socha)
- **Flight Path** (Robert Thayer)

- **Jeffco Outdoors Regional Map Series** (Robert Thayer)
- **North Table Mountain Park** (Robert Thayer)
- **Utility 3D Modeling Using Terrestrial Scanner Methods** (Tim Thomas)
- **Conservation from a Multidisciplinary Perspective** (Andrew Valdez)
- **Computation Trails Spatial Join Toolset** (Christopher White)