GITA Phoenix Conference

Phoenix Convention Center

Phoenix, Arizona

March 5-6, 2018

www.gitasw.org

Program

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The GITA Phoenix Conference

Welcome to Phoenix! We sincerely hope you will enjoy the conference and be able to find time in your personal schedule to experience beautiful Phoenix and the surrounding countryside.

We believe we have assembled a diverse and cutting-edge program delivered by individuals who are Subject Matter Experts on the topics they are presenting. Our 23 presenters hold four PhDs; nine Masters, six GISPs, and five other professional designations. In addition, throughout the program you will find individuals who through their "front-line" experience have come to know their topic with a depth of understanding no degree will ever relate. In other words, we believe attendees of GITA Phoenix are in for a truly unique conference summed up as: Amazing Program, Fabulous Speakers and Awesome Networking.

Conference History. For the past three years the Geospatial Information & Technology Association (GITA) has been providing geospatial focused presentations to the nation's premier underground damage prevention conference, the CGA 811 Excavation Safety Conference & Expo. Beginning in spring 2017, discussions began about the potential for expanding that effort to include a GITA developed traditional GIS conference at the beginning of the CGA 811 Excavation Safety Conference & Expo. Driving these discussions was the realization by both parties that there was ever-increasing interest in geospatial technology use in the underground infrastructure community, and much of the geospatial business establishment was missing out on the opportunity to become engaged with companies, government agencies, and individuals hungry for GIS products. As a result, in October 2017, GITA and the owner of the CGA 811 Excavation Safety Conference & Expo – Infrastructure Resources – reached an agreement to produce back-to-back conferences and share an exhibit hall as a way to introduce the respective communities to one another. The GITA Phoenix Conference will run March 5-6, 2018, while the CGA 811 Excavation Safety Conference & Expo will run March 6-8, 2018. In keeping with the Association's long-term growth plan, GITA Phoenix is the fifth of six GITA sponsored North America conferences to come online. Our other North America events include: GITA Pacific Northwest Chapter Annual Conference in Seattle, WA; Upper Midwest Geospatial Conference in La Crosse, WI; EnerGIS in Pittsburgh, PA; and Pipeline Week in Houston, TX. GITA anticipates standing up a conference in the U.S. Southeast sometime during 2019.

A topic breakout for categories of educational content is available as the last information page of this document, or by visiting: https://gitasw.org/breakout-of-categories-of-learning/.

02/07/18

Vendor and Sponsorship Opportunities

GITA Vendors. Any GITA vendor wishing to purchase exhibit hall space should review the information provided on the GITA Phoenix Conference website at www.gitasw.org/exhibit/. Infrastructure Resources is managing exhibit hall sales for both the GITA Phoenix Conference and CGA 811 Excavation Safety Conference & Expo, but there is important GITA related information on that page which should be reviewed before contacting Infrastructure Resources.

GITA Phoenix Sponsorships. Sponsorships for GITA Phoenix and CGA 811 Excavation Safety Conference & Expo are sold separately. Detailed information about GITA s**ponsorship opportunities** are available online at: www.gitasw.org/sponsor/. Infrastructure Resources is selling sponsorship opportunities for the CGA 811 Excavation Safety Conference & Expo through its event website which can be found at: www.CGAconference.com/sponsorships/.

Payment of GITA Phoenix Sponsorship Fees: To hold down costs, sponsorship payments are made online using a credit card. Use the link found under the appropriate tab at www.gitasw.org/exhibit/. Questions about special circumstances requiring other forms of payments should be directed to: Steve Swazee, admin@gita.org, 844 - 447 – 4482, (844 - GIS - GITA), Geospatial Information & Technology Association (GITA), 1360 University Ave. West, Suite 455 St. Paul, MN 55104-4086. Payment is due in full before the associated sponsorship will be assigned.
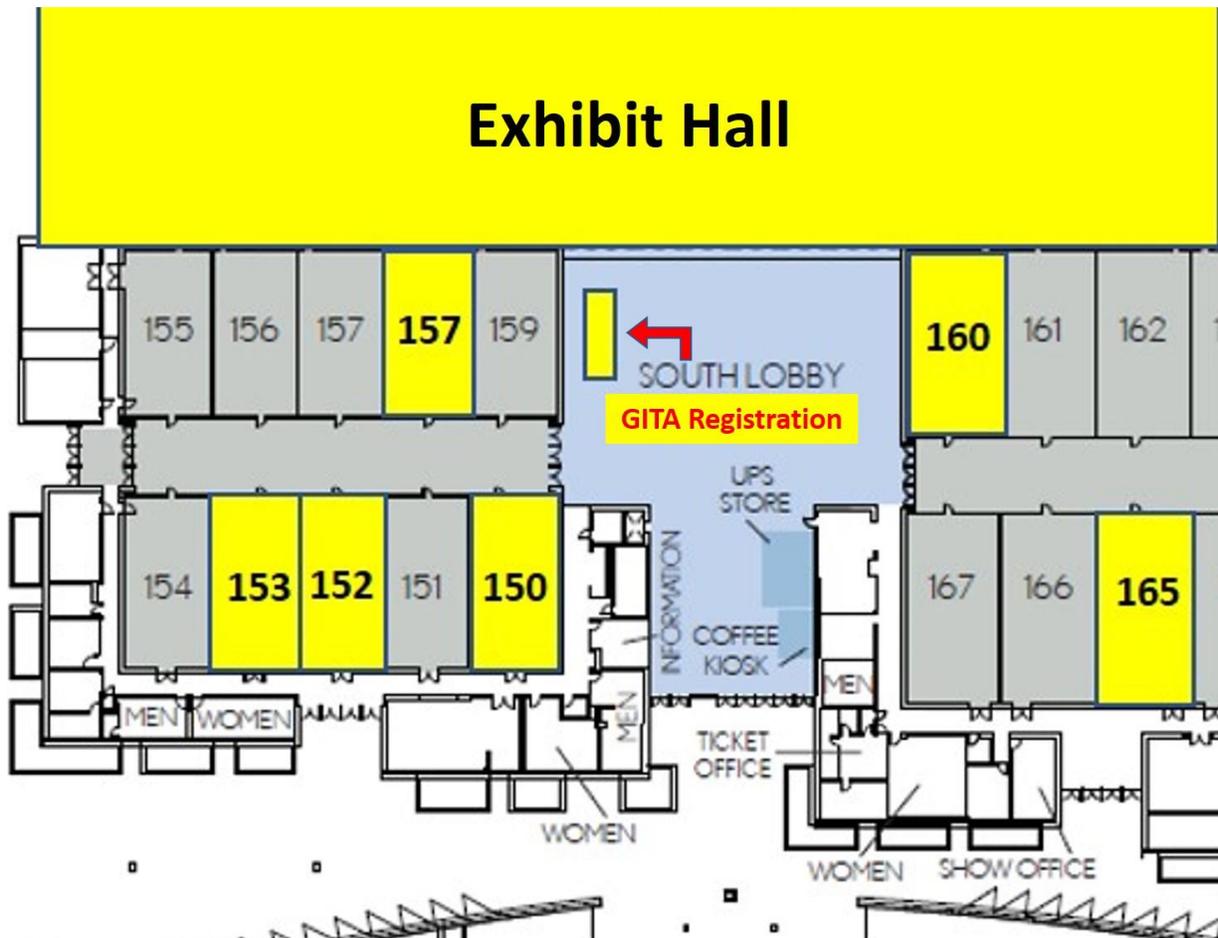
Conference Location - Phoenix Convention Center South Building

Overview
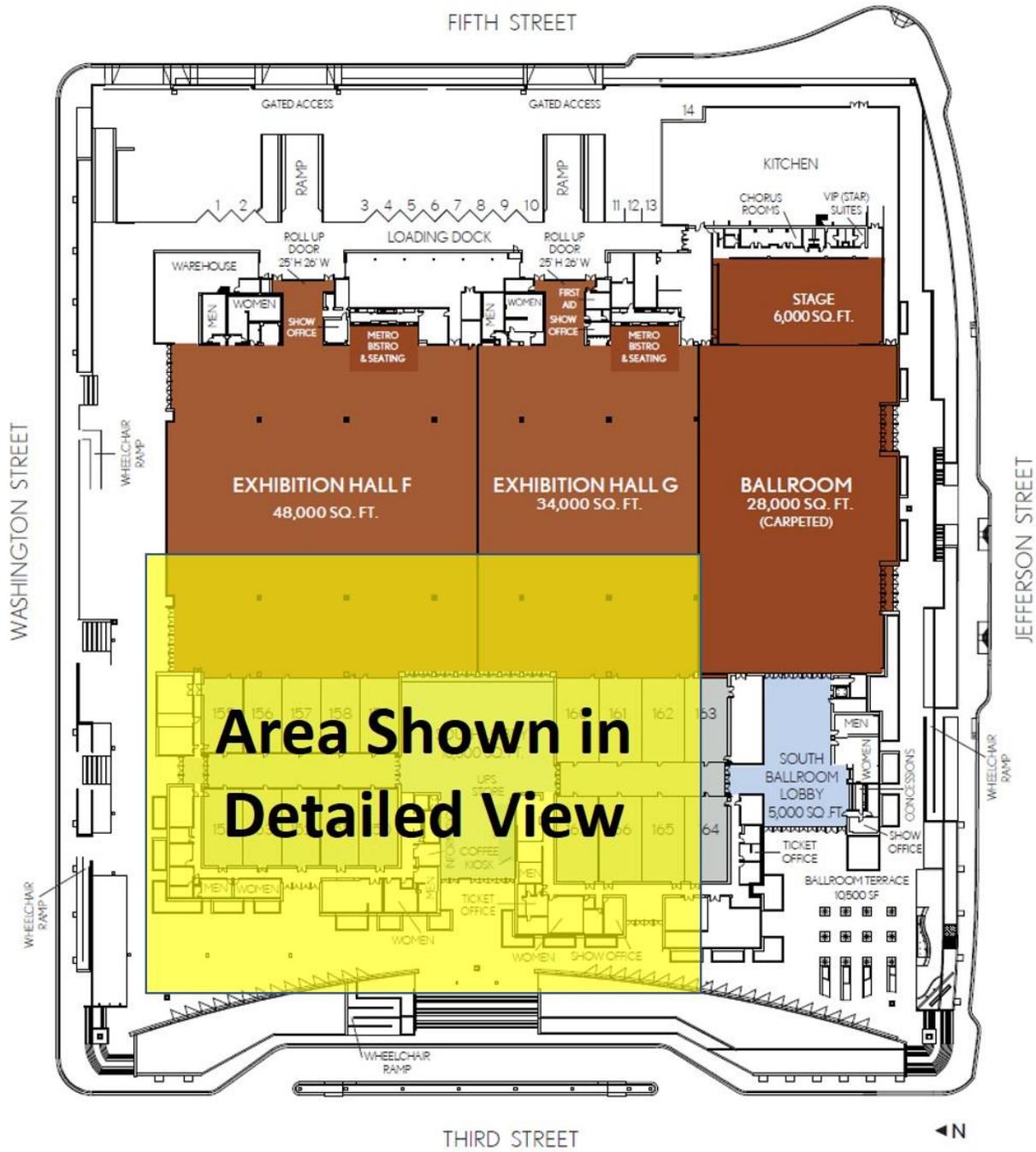
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Detailed View

Notes:

- **GITA Registration Desk Hours:**
  - Monday, March 5: 7 AM - 5 PM
  - Tuesday, March 6: 7 AM – 1 PM

- **Color codes for GITA Phoenix Conference events**

Light Green – GITA Phoenix Conference workshops also open to the public at no cost as a public service
Light Yellow – Workshops, keynotes and sessions of the GITA Phoenix Conference
Light Blue – Educational sessions available to both GITA Phoenix Conference and CGA 811 Excavation Safety Conference & Expo attendees

Monday, March 5: Workshops

8:00-9:00 AM - Room 150

Lightning Overview of the Best Geospatial Open Source
Topic Area: Open Source Product Review

Bob Basques
Technical Director - SharedGeo
St. Paul, Minnesota

This presentation provides a lightning overview of the breadth of quality open source applications which are available for the full range of geospatial use cases, including storage, publishing, viewing, analysis and manipulation of data. The presentation is based upon documentation from OSGeo-Live, which is a self-contained DVD or USB thumb drive and Virtual Machine, based on Lubuntu. It includes over 50 of the best geospatial, open source applications, pre-configured with data, project overviews and quick-starts, translated into multiple languages. **Each workshop attendee will receive the USB thumb drive version which will allow the workshop participant to experiment with all 50 programs without needing to actually load them on a computer.** Simply pop the USB thumb drive into a USB port and follow the menu selections to take any of the programs for a test drive.

9:00-Noon - Room 150

The U.S. National Grid (USNG)
Topic Area: Emergency Response Mapping

Randy Knippel
GIS Manager - Dakota County, Minnesota
Apple Valley, Minnesota

This workshop will provide comprehensive training. It will start with an overview and background of the USNG, including practical examples for search and rescue, resource deployment, and more. This will be followed by training on how to use the USNG, with "training the trainer" content to equip attendees with skills, resources, and ideas to carry what they learn home to their organizations and jurisdictions. Finally, details of how to use ArcGIS to construct USNG maps and integrate it into GIS applications will be covered. A variety of tools and techniques will be discussed.

8:00 AM-Noon - Room 152

Making Better Maps
Topic Area: How to Improve ArcGIS Maps

Jennifer Harrison, MSc, GISP
President - Teach Me GIS
Houston, Texas

There is a big difference between making a map and making a good map. A good map tells a story, without complication and without the need for the author to interpret the story. In ArcGIS, there are techniques that allow you to get all the right information on the map without complicating the message, such as choosing symbols and labels wisely, using definition queries, selection queries and graphic filters, and putting the right map elements on the page. This talk covers tips and tricks on making those choices, as well as understanding visual hierarchy – how to draw attention to certain details and away from others to tell the right story with your map.

8:00-10:00 AM - Room 160

Leveraging Amazon Web Services
Topic Area: Cloud Computing

Mark Korver, MCP
Geospatial Lead - Specialist Team - Amazon Web Services
Seattle, Washington

The network is the computer, especially when your data is already in the Cloud. This workshop will show how, without concern for the details of servers and storage, you can use just a few lines of code to run big geospatial batch jobs with help from the open source tool, Geospatial Data Abstraction Library (GDAL), and serverless compute and storage, Amazon Lambda and S3. To participate you will need an AWS account, and know at a minimum, how to create an S3 bucket and upload data to it. Most of the workshop will take place using an SSH session to a Linux machine. New to Linux? No need to worry, you can copy/paste commands from the workshop doc.

10:00 AM-Noon - Room 160

How Can ETL (Extract, Transform and Load) Power Data Sharing Initiatives
Topic Area: Data Transformation & Sharing

Allison Hughes
Geospatial ETL Consultant - Consortech
Brossard, Quebec

Data sharing initiatives have grown over the past decade and organizations have made the decision to create centralized, transparent ''Self-Serve'' data portals catered to the needs of partners or the public.

ETL processes and the use of FME facilitate the creation of automated workflows for data management, transformation and sharing via web services that enable easy data download services.

In this 2-hour workshop, you'll see how to implement self-serve data download solutions; breaking them down into the main elements such as the interface, the data processing and the delivery. We'll address the important questions that help shape the design and functioning of the data download solution.

12:00-1:00 PM - Independent Lunch & Networking

Notes Page

~ Keynote ~
1:00-2:15 PM - Room 150

Geospatial - A Key Technology Transforming the Construction Industry
Topic Area: Disruptive Technologies

Geoff Zeiss, PhD
Principal - Between the Poles
Ottawa, Ontario

Urbanization is motivating changes in how we build and maintain buildings and infrastructure. Digitization is essential to improve stagnant construction productivity. Two of McKinsey's five key technologies enabling improved construction productivity are spatial; geospatial including reality capture and spatial analytics and building information modeling (BIM), used in the AEC industry for designing and constructing buildings and infrastructure. The major challenge the AEC and geospatial industries must jointly address to avoid the CAD/GIS quagmire of the last 20 years is enabling open interoperability between BIM and geospatial infrastructure and building models.

Concurrent Sessions

2:30-3:00 PM - Room 150

Design Meets GIS
Topic Area: Utility Design Process

Dennis Beck, MSE, PE
President and CEO - Spatial Business Systems, Inc.
Lakewood, Colorado

Both CAD and GIS are critical to supporting design, and are becoming more and more important with the increased need for better designs and more efficient workflows. This is particularly notable for utility organizations that need to support areas ranging from planning, operations and asset management.

This presentation looks at the utility design process and the integration points between GIS and CAD. Use cases that support different design workflows will be examined. The presentation will also look at how utility design is changing based the demand for designing dynamic networks, as required to support distributed energy resources, microgrids and sensor-based data sources.

2:30-3:00 PM - Room 152

Defensible Space Around Poles - from Soup to Nuts
Topic Area: Emergency Response Mapping

Joshua Schwartz, MS, GISP
GIS Utility Analyst - City of Fort Collins, Colorado
Fort Collins, Colorado

Guided by the Wildland Urban Interface Code, Arizona Public Service (APS) has undertaken an effort to clear defensible space around utility poles which house electrical equipment. APS has leveraged GIS and GIS technology in every step of the project – from prioritizing the lines to be inspected to planning the work and communicating the work to the contractors and finally through the audit process. A system that was once all paper based is now 100% electronic.

3:00-3:30 PM - Room 150

Automation of GIS Data Integration at Region of Niagara
Topic Area: Utility Data Integration

Allison Hughes
Geospatial ETL Consultant - Consortech
Brossard, Quebec

The Region of Niagara, Ontario needed to automate their current labor-intensive data integration process to maintain an up-to-date single model of water/wastewater infrastructure across all the municipalities.

By leveraging FME, tools were developed allowing for the integration of GIS data from different formats, with different attribute schemas and data quality. Reports are produced detailing attribute, geometry and topology errors, which are used to improve the data quality over time. A modular approach was used in the solution design, so that the system can easily adapt in the future to more data formats, validations and outputs.

3:00-3:30 PM - Room 152

Mapping 9-1-1 Calls 24x7 with a Web Based Map
Topic Area: 9-1-1 Technology

Dave Eaton
Maricopa Region 9-1-1
Phoenix, Arizona

Mapped Automatic Location Information (ALI) is an integral part of any 911 call center and is costly to upgrade through vendor options. Maricopa Region 911 has developed mapped ALI client for use across 25 PSAPs at no cost to the PSAPs themselves. This presentation will detail how this was accomplished and how it can be replicated for other PSAPS.

3:30-4:00 PM - Refreshment & Networking Break

4:00-5:00 PM - Room 150

Building EPCOR Water Canada's Situational Awareness Map
Topic Area: Real-Time Visualization

Natalie Fisher, MS, GISP
Manager, GIS - EPCOR Water Services Inc.
Edmonton, Alberta

Situation Awareness ensures that we have all the information we need to work safely, improve operational efficiencies, reduce cost and ensure a positive customer experience. The Situational Awareness Map is available to everyone in EPCOR Water Canada from anywhere at any time, and it provides us with key information on the state of Edmonton's Water Distribution and Transmission System.

4:00-5:00 PM - Room 152

Real-Time Weather Alerts for Routing
Topic Area: Real-Time Data Management

Brendan Farrell, PhD
CEO - Giraffe Geo
Seattle, Washington

There are many sources for weather data and alerts, yet few of these allow one to programmatically obtain data along a driving route. We will present how we obtain weather data from several standard sources and enter it to a PostGIS database. This database enables automated queries for data along a route. Similarly, the database allows for automated notifications if any weather hazards, such as a flood warning, are within a specified distance of a set of assets. We are working with several partners to implement this solution prior to the summer fire, flood and hurricane season.

5:30-7:30 PM - GITA Southwest Social

Tuesday, March 6: Concurrent Sessions

8:00-9:00 AM - Room 153

A Scalable Approach to 3D Pipeline Visualization Using Cesium and AR
Topic Area: 3D Infrastructure Visualization

Piero Toffanin
Software Engineer - VirtualGIS
Duluth, Minnesota

The increased availability and lower costs of acquisition for 3D geospatial data has been pushing a wide range of industries toward the adoption of 3D GIS. 3D visualization offers some compelling benefits for the pipeline industry and many other industries with the engineering, design, planning and management of existing infrastructural systems. In 2D maps important vertical information is often missing, or is misinterpreted by field workers and office professionals alike. 3D maps overcome these limitations and allow for a more intuitive experience, as well as providing additional information that can be used for more detailed analysis. Learn how Cesium and 3D Tiles make 3D maps possible.

8:00-9:00 AM - Room 157

Compass: Navigating Your Geospatial Data with Open Source Software
Topic Area: Open Source Web Mapping

Bob Basques
GIS Technician - City of St. Paul
St. Paul, Minnesota

COMPASS is the City of Saint Paul, MN geographic information discovery tool used by numerous departments of the city. Built on the popular GeoMoose open source software project, this web browser based tool has been in use for over fifteen years and is home to more than 300 different geospatial datasets. In addition to connecting multiple platforms and live connections to 19 different databases, it has been integrated with non-traditional GIS systems such as billing and asset management.

9:00-9:30 AM - Room 153

How Range Resources Automates Emergency Response Planning
Topic Area: Emergency Response Mapping

Josh Reinard
GIS Technician - Range Resources
Canonsburg, Pennsylvania

The GIS team at Range Resources devised a plan to utilize tools already in house to generate an easy to use online resource for end users to access and generate the plans on demand. The plan leverages the use of ArcGIS and FME to generate base information required for the plans, and the data is served out to end users through Range's web based mapping platform built on ArcGIS Server and Geocortex. We streamlined how all the information and data was collected and maintained and utilized several common software assets including our widely used web-based mapping platform to build a tool that Environmental Compliance specialists can generate all the necessary documents with a few mouse clicks.

9:00-9:30 AM - Room 157

Integrating Python, Maximo, and GIS to Automate Environmental Review
Topic Area: Environmental Data Management

Jason Ramsey, MAS-GIS, GISP
Sr. GIS Analyst - Arizona Public Service Company
Phoenix, Arizona

APS identified the need for a more comprehensive method to environmentally review daily Transmission and Distribution work orders. Because of the volume of work orders, most work orders were not being screened. APS utilizes Maximo as the work order management system. Through python scripting APS is able to extract asset information from a Maximo report, query Transmission and Distribution GIS layers for asset location and perform spatial analysis to determine if a work order has potential cultural, biological, or water-related environmental concerns. Because of the automation it now takes an environmental specialist about one-hour to perform a review on any flagged daily work orders.

Refreshment & Networking Break: 9:30-10:00 AM

10:00-11:00 AM - Room 153

Emerging Technologies in GIS: Mixed-Reality and Holographic GIS
Topic Area: 3D Infrastructure Visualization

Alec Pestov, MBA
CEO - Meemim Inc. & vGIS
Toronto, Ontario

Increasingly advanced holographic technologies present new opportunities for municipalities, utility companies and pipeline operators. This presentation reviews the latest in holographic visualizations and the opportunities it presents to leverage current GIS systems investments and prepare for future enhancements. Additionally, it looks at the disparate technologies that can contribute to the unified utilities management solution. The resulting system combines object holograms with object-specific data information to help field technicians understand the infrastructure they need to service while on-site, hands-free and connected to their peers and colleagues.

10:00-11:00 AM - Room 157

Update on the Geospatial Data Act 2017 and Similar Efforts in Various States
Topic Area: Emerging Geospatial Law

Mark Limbruner, GISP
President - GITA
Denver, Colorado

The Geospatial Data Act of 2017 (GDA)*, was considered one of the most controversial and debated efforts to affect the geospatial industry in years. Inclusion of language initially joining the GDA to the Brooks Act would have far reaching and profound effect on geospatial practitioners, as well as entrepreneurial GIS / GPS consultants. This presentation will review the positives and negatives of the GDA and similar efforts being proposed at the state level.

11:00-11:30 AM - Room 153

International Educator Honoree Presentation
[Using GIS for defining Socio-Economic-Status (SES) of Population in Respect to Geographic Access to Healthcare Facilities at Jeddah City](#)
Topic Area: Urban Planning

Abdulkader Murad, PhD
Professor - [King Abdulaziz University](#)
Jeddah, Saudi Arabia

The Purpose of this paper is to identify areas outside certain drive-time distances from these important healthcare facilities in Jeddah city. The paper includes the following health care planning issues:

1. Identifying areas different drive-time distances from critical care hospital and primary care physician,
2. Identifying socio-economic-status-SES of people living within different drive-time distance from selected healthcare facilities in Jeddah,
3. Comparing SES of people living within different drive-time distance from selected healthcare facilities in Jeddah, and
4. Identifying locations for potential healthcare facilities for optimum use.

11:00-11:30 AM - Room 157

Student Scholarship Winner Presentation
[Mapping Subtidal Eelgrass Beds using Unmanned Aerial Systems (UAS)](#)
Topic Area: UAS, UAV, Drone

Scott Nesbit
Student - [University Wisconsin - Eau Claire](#) / [NOAA](#)
Eau Claire, Wisconsin

[Eelgrass](#) is submerged aquatic vegetation which improve water quality, provide habitat to marine species, prevent costal erosion, and sequester carbon. Eelgrass meadows change over time, both increasing and decreasing. The decline of eelgrass is attributed to nutrient runoff, structures, boat mooring, shellfish farming, and rising ocean temperatures. Monitoring eelgrass meadows is critical for the conservation and restoration as valuable habitats. UAS are quickly emerging as an effective method for aerial data collection. Research results provide agencies the ability to monitor the distribution and abundance of eelgrass with a higher temporal frequency, while being cost and time efficient.

11:30 AM-12:30 PM - Independent Lunch & Networking

Attendees of CGA 811 Excavation Safety Conference & Expo may attend any of the GITA Phoenix events after lunch, Tuesday, March 6, at no additional charge. To attend events on Monday, and Tuesday prior to lunch, registration for the GITA Phoenix Conference is required.

Similarly, ***attendees of the GITA Phoenix Conference*** may attend CGA 811 Excavation Safety Conference & Expo summits on the afternoon of Tuesday, March 6, and six additional events on March 7-8 at no additional charge (see page 21). Attendees who would like to participate in additional CGA 811 Excavation Safety Conference & Expo educational sessions and events, visit CGAconference.com or the registration counter onsite.

Figure below shows available training opportunities, afternoon of Tuesday, March 6.

	Events Available to Both GITA Phoenix & CGA 811 Attendees		**CGA 811 Events Also Available to GITA Phoenix Attendees**
12:30 – 1:45 PM	**~ Keynote ~** Just How Accurate is Your Drone?		Electric Safety Summit
2:00 – 2:50 PM	Mapping Underground Infrastructure: Accelerating International Initiatives	Implementing As-Built & Leak Survey Data Collection & Maintenance Systems	Pipeline Safety & Awareness Summit
3:00 – 3:50 PM	A GIS Based Work Flow to Optimize the Approach for Buried Hazard Mapping Projects	US National Grid: The Emerging National Geolocation Standard	Ends at 3:30

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~ Keynote ~
12:30-1:45 PM - Room 165

Just How Accurate is Your Drone?
Topic Area: UAS, UAV, Drone

Mike Tully, MBA, MS, CP, GISP
President & CEO - Aerial Services, Inc
Cedar Falls, Iowa

Understanding the fundamentals of remote sensing, GIS, and photogrammetry remain important for new practitioners of drones. But just as importantly, practicing remote sensing and GIS professionals need to be able to understand the hype from reality in the "age of the drones". Just how accurate is my drone? What accuracy specifications are realistic for my GIS project? Which manufacturer claims of positional accuracy are bogus? This and much more explored in a fun and interesting way.

Concurrent Sessions

2:00-2:50 PM - Room 150

Mapping Underground Infrastructure: Accelerating International Initiatives
Topic Area: Underground Mapping Initiatives

Geoff Zeiss, PhD
Principal - Between the Poles
Ottawa, Ontario

Interest in mapping below ground including geology and utility and transportation infrastructure is accelerating. Highway construction projects can run into severe overruns when the underlying geology is unknown or poorly known. In the U.S. the biggest source of highway construction project delays are unknown or inaccurately located underground utility infrastructure. Paradoxically a lot of information about underground infrastructure is captured. A major problem is that it is rarely shared. This presentation explores the development and improvement of standards around the globe for sharing location information and what to expect going forward.

2:00-2:50 PM - Room 152

Implementing As-Built & Leak Survey Data Collection & Maintenance Systems
Topic Area: Underground Data Management

Theresa Chavez, CSM
Director of Sales & Marketing - CartoPac International
Fort Collins, Colorado

With impending government regulations, is has become incumbent that gas utilities begin to convert their legacy work processes into the digital realm. This includes the use of high accuracy GPS units, barcode scanning & decoding in the field & field hardened mobile devices all in an environment that can be hostile at times. Using a wide variety of actual experiences, CartoPac will demonstrate best practices and implementation experiences learned during the process of designing & deploying distributed systems that connect many field users to complex enterprise databases & existing work processes. The goal of these projects is to ensure that the data collected is trusted, verifiable & complete.

3:00-3:50 PM - Room 150

A GIS Based Work Flow to Optimize the Approach for Buried Hazard Mapping Projects
Topic Area: Underground Data Management

Thomas Jordan, PhD, PG
Key Environmental, Inc.
Mark Limbruner, GISP
GIS Manager - Southern Marcellus Shale Division
Range Resources
Pittsburgh Metro, Pennsylvania

This presentation will discuss the work flow and common data sources of background information that can be used to streamline the buried hazard mapping project decision process, focus the project planning effort, and optimize the results from the field effort. Case history summaries will be used to support the concepts presented. The discussion will also examine ways to supplement client supplied spatial data with information available from local, state, and national GIS repositories**.**

3:00-3:50 PM - Room 152

US National Grid: The Emerging National Geolocation Standard
Topic Area: Emergency Response Mapping

Stephen Swazee, CAPT, USNR (Ret.)
Chair - Emergency Preparedness Committee, Minnesota Geospatial Advisory Council
St. Paul, Minnesota

In 2015, FEMA officially endorsed US National Grid (USNG) as the national standard for communicating location during an emergency response. This presentation will explore why the nation needs a national geolocation standard, why the USNG was selected, and the educational and technical resources available to help you implement USNG in your software, products and operations. Examples of real-world uses of USNG will also be considered.

Summits/Forum: Wednesday, March 7 and Thursday, March 8

In addition to full access to the Exhibit Hall Tuesday March 6 through Thursday March 8, *six more CGA 811 Excavation Safety Conference & Expo events are available to GITA Phoenix Conference* attendees at no additional charge. Each is a great opportunity to learn and network.

Date	Time	Event
March 7	10:00 – 11:00 AM	Water & Sewer Infrastructure Protection Summit
March 7	12:30 – 1:30 PM	Fiber Optic Asset Protection Summit
March 7	1:45 – 2:45 PM	New Locate & Damage Prevention Technology Forum
March 7	4:00 – 5:15 PM	Excavator's Perspective Summit
March 8	8:00 – 9:00 AM	Underground Safety Summit: The Value of a Locate
March 8	9:30 – 11:00 AM	Arizona Damage Prevention Stakeholder Summit

Attendees who would like to participate in additional CGA 811 Excavation Safety Conference & Expo educational sessions and events visit CGAconference.com or the registration counter onsite.

Topic Breakouts for Categories of Educational Content:

Workshops - 12 Hours

• Cloud Computing	2 hours
• Data Transformation & Sharing	2 hours
• Emergency Response Mapping	3 hours
• How to Improve ArcGIS Maps	4 hours
• Open Source Product Review	1 hour

Keynotes - 2.5 hours

• Disruptive Technologies	1.25 hours
• UAS, UAV, Drone	1.25 hours

Concurrent Sessions - 14 Hours

• 3D Infrastructure Visualization	2.0 hours
• 9-1-1 Technology	.5 hour
• Environmental Data Management	.5 hour
• Emergency Response Mapping	2.0 hours
• Emerging Geospatial Law	1.0 hour
• Open Source Web Mapping	1.0 hour
• Real-Time Data Management	1.0 hour
• Real-Time Visualization	1.0 hour
• UAS, UAV, Drone (see keynote also)	.5 hours
• Underground Utility Data Management	2.0 hours
• Underground Utility Mapping Initiatives	1.0 hour
• Urban Planning	.5 hour
• Utility Data Integration	.5 hour
• Utility Design Process	.5 hour

Summits/Forums - 9.5 Hours

• Electric Safety Summit (3/6)	1.25 hours
• Pipeline Safety & Awareness Summit (3/6)	1.5 hours
• Water & Sewer Infrastructure Protection Summit (3/7)	1.0 hour
• Fiber Optic Asset Protection Summit (3/7)	1.0 hour
• New Locate & Damage Prevention Technology Forum (3/7)	1.0 hour
• Excavator's Perspective Summit (3/7)	1.25 hours
• Underground Safety Summit: The Value of a Locate (3/8)	1.0 hour
• Arizona Damage Prevention Stakeholder Summit (3/8)	1.5 hours

Social Events - 4.0 Hours

• Southwest Social	2.0 hours
• Exhibitor Reception	2.0 hours

Exhibit Hall Time - 13 hours

Networking Opportunities – 3.5 hours

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