

# THE 29<sup>TH</sup> ANNUAL

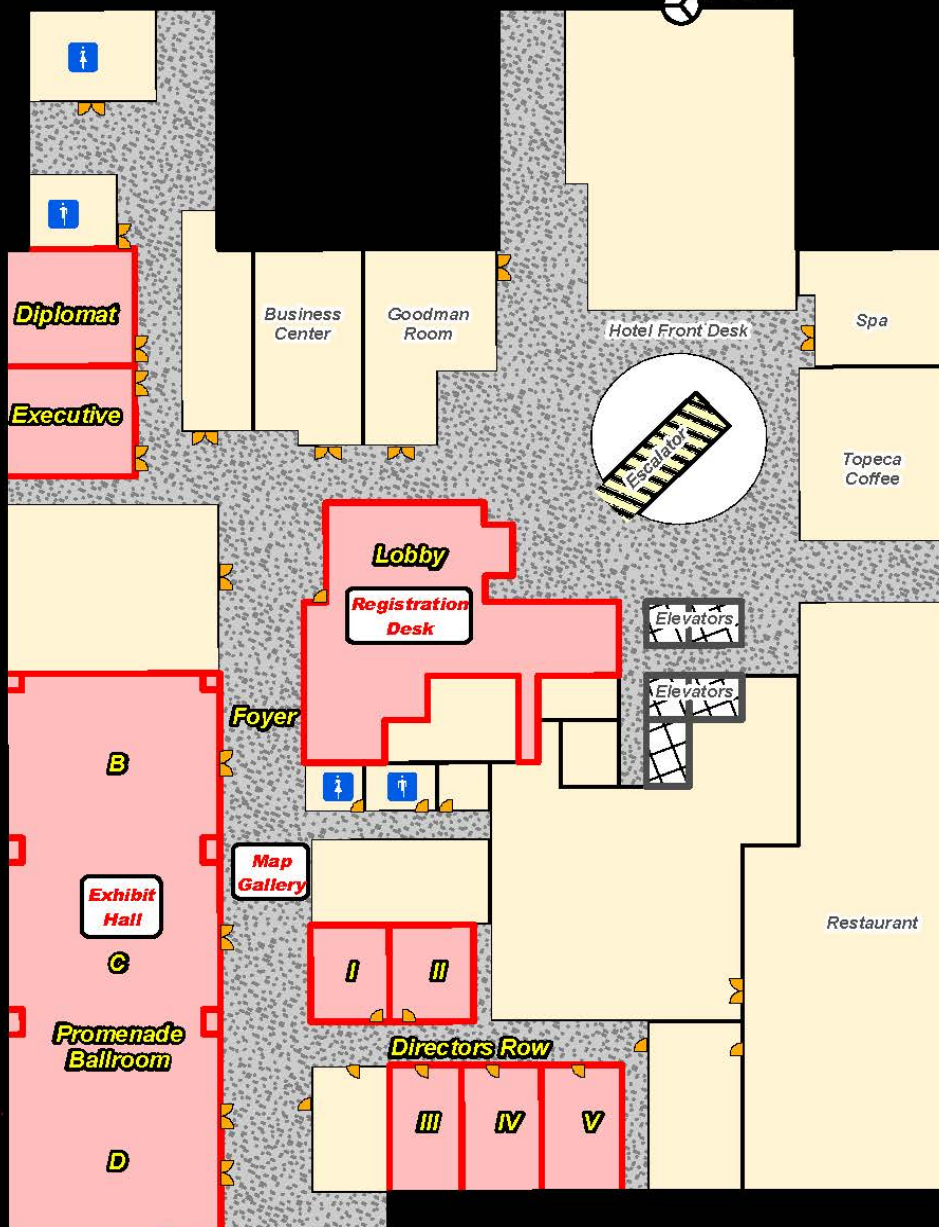


# Hyatt Regency Hotel

The Hyatt Regency Hotel 2nd Floor  
100 East Second Street  
Tulsa, OK 74103



E 2nd St Entry  
1st Floor



E 3rd St

 SCAUG Conference Space

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## SCAUG OFFICERS

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Esri, San Antonio, Texas



# PRESIDENTIAL WELCOME

It is my pleasure to welcome you to the wonderful City of Tulsa and my home state of Oklahoma for the 29th Annual Regional SCAUG Conference. Thank you for entrusting us with your time and professional development this week. While you are here in Green Country living on Tulsa Time, we hope you feel as welcome as you truly are in our great state. If you are one of the many Okie's at this conference, I personally ask each of you to reach out to all our guests and show them what the Oklahoma Standard is. It's not a phrase that we coined for ourselves, but rather a nature that others observed in who we are and how we live. Make sure to show our guests what that means.

Each and every year the Regional SCAUG Board strives to bring back what you like and expect in a Regional SCAUG Conference while continually adding new opportunities, formats, and diversities. We to provide enough diversity in content, complexity, and opportunity this year to allow you to not only learn, but also enjoy all we have to offer you. Whether you want to focus on User Presentations, ESRI Tech Sessions, Exhibitor Discussions, or just put some serious ESRI HOLL hours in we encourage you to glean as much from this time we have together as possible.

In today's fast paced, social media, instant gratification, YouTube a quick answer atmosphere it is all too easy to spend your entire conference taking notes, photos of slides, and checking emails to prove how dedicated an employee you are. I need not mention the social media posting, selfie, texting, and internet browsing that most certainly won't occur because you are such a dedicated conference attendee. But amidst all that... I genuinely ask you to free up your hand from all the electronics for a moment and partake of what SCAUG is founded upon. Take the time you have dedicated to attending a conference of peers and build those professional networks. Invest your most valuable resource of time into SCAUG's most valuable resource of Users. Make the most of your time around your peers while you are here. There will be time enough to contact them later in some digital way, but this week make an effort to shake the hands of those in front of you right now. By the end of our time together I truly hope you can go back home feeling excited about our leading profession, empowered by your new knowledge, and enabled by your personal network you now have in your professional repertoire.

Charles Brady III  
2019 Regional SCAUG President

## TUG WELCOME

Wow! Tulsa, OK sure is a long way from my home dirt down south. That's a lot of roads and rivers to cross for a short legged sojourner such as I am. Don't think I have EVER been this far north before for a Regional SCAUG conference. Wasn't really sure if I needed to pack a toboggan or not. You never know what the weather in Oklahoma will be like I am told. I have been planning for this trip for so long and now it is finally here! I am so excited to finally get to peek up here into Tulsa, OK and see what's going on in a brand new Regional SCAUG conference city. Another one in my "Been There, Done That" book! I hope several of you got a chance to get one of my 2018 ESRI UC pin showing Tulsa 2019 that was handed out last year in sunny San Diego. The little feller on those was quite handsome if I do say so myself.

Have you seen where SCAUG has been in the last year? Have you heard of this fellow named Ron in North Texas? He has been crazy busy with meetings every time I poke my little head up. Packing venues and taking names I hear. The Alamo Area GIS in San Antonio & OKSCAUG in Oklahoma are both planning for their annual fall conferences that just keep growing. All across the region I am hearing about what SCAUG officers and members at various conferences from Texas, to Mississippi, and all around the Louisiana area are doing. It sure is nice not to have to go far to see a friendly SCAUG face and hear of another event where SCAUG is at. So proud of my SCAUG family members that do all that hard work throughout the year. I can't wait to see where we get to go next!

I am really blessed bigger than the critter I am to have been with SCAUG for so long and to see all that our wonderful region has to offer. From coasts to deserts and swamps to woods I can't imagine a better place to call my home territory. All this diversity makes what we do with maps so interesting, but what I really enjoy the most is all the people. I have seen the technology change from a huge heavy monitor with cords everywhere to a smart phone with no cords. (Which I have to say is an improvement because this little phone fits me SO MUCH BETTER!) But, amidst the changing world in the profession that is always tech heavy the thing that remains the same is the folks of SCAUG. I love seeing all the faces that I may only see once or twice a year as well as ones that I will see for the first time. Hopefully those new faces will become ones I start seeing at these wonderful events many more times for years to come. You may not see me around a lot, but rest assured I appreciate every one of you that is an ambassador for SCAUG everyday just like I am. It doesn't take much to be a SCAUG ambassador every day. Just look at me, I'm pretty diminutive and most times quiet, but make no mistake I'll hold the SCAUG banner as high as I can. When you see me around throughout the year I hope I make you smile because, you sure do make me smile by simply being here this year.

TUG, SCAUG Arcadillo



# TRAINING CLASSES & WORKSHOPS

Monday, April 22nd		
TIME	EVENT	PLACE
12:00pm – 7:00pm	Registration	2 <sup>nd</sup> Floor Main Lobby
1:00pm to 5:00pm	Esri Workshop - ArcGIS Pro Tips & Tricks	Directors Row V
1:00pm to 5:00pm	Esri Workshop - Insights for ArcGIS: An Introduction	Directors Row IV
6:00pm to 9:00pm	SCAUG Meet & Greet	Ballroom

Thursday, April 25th		
TIME	EVENT	PLACE
7:00am to 9:00am	Registration	2 <sup>nd</sup> Floor Main Lobby
8:00am to 5:00pm	Editing in ArcGIS Pro	Directors Row II
8:00am to 5:00pm	GISP Test Prep	Directors Row I

Friday, April 26th		
TIME	EVENT	PLACE
8:00am to 5:00pm	Editing in ArcGIS Pro	Directors Row II
8:00am to 5:00pm	GISP Test Prep	Directors Row I

CONFERENCE GUIDE  
QR CODE



# **OPENING SESSION AGENDA**

**Tuesday, April 23<sup>rd</sup>**

**Ballroom**

**Breakfast: 7:30am – 9:00am**

**Welcome to Tulsa: 9:00am – 9:30am**

**Intermission: 9:30am -9:45am**

**Business Meeting: 9:45am – 11:00am**

**Welcome**

**Conference Committee Introduction**

**Conference Agenda**

**Contributor Recognitions**

**Founders & Thumbs Up Award Winners**

**Regional Scholarship Winners**

**2019 SCAUG Officers**

**Close of Business Meeting**

**Meeting Adjourn: 11:00am**

**Group Picture: 11:00am – 11:30am TBA**

## CONTRIBUTORS RECOGNITION

Thank you to the following organizations for their generous donations and support.



### TeachMeGIS.COM

Thank You for Providing  
Training & Laptops

### State of Oklahoma Tourism and Recreation Department

Thank You for Providing  
Conference Bags



### DataMark

Thank You for Providing  
Lanyards.

**CONFERENCE PHOTO  
SUBMITTAL QR CODE**



## AWARD & SCHOLARSHIP WINNERS



### Founder's Award

Chris Mask  
Visual Lease Services

### Thumbs Up Award

Bill Hodge, GISP  
GISCI



### SCAUG \$1500 Regional Scholarship Graduate

Shadi Maleki  
Texas State University

### SCAUG \$1500 Regional Scholarship Under Graduate

Gena Barnwell  
Northeastern State University



Katherine Yut  
University of Oklahoma

## PLENARY SPEAKER



### Surfing the GIS Waves to Success



**Adam Carnow**

Like other technologies, GIS continues to evolve in a series of waves. We cannot ignore or fight these waves. We have got to learn how to harness them to power our organizations

forward. This presentation will review proven, best practice strategies and real world examples on how you can surf these GIS waves to success. These best practices include:

- Focus on the Big Picture
- It's all about the business!
- Focus on Analytics and drive towards realizing Value
- Implement a Change Management Program
- Innovate
- Keep it simple
- Measure, document and publicize your impact
- Cultivate executive sponsorship
- Deploy Actionable Open Data
- Use of GIS provides benefits, so expand its use.

**9:15am**  
**Wednesday**  
**in the**  
**Ballroom**

Adam Carnow is a thought leader and technology evangelist helping organizations get the most out of their GIS investment and make a difference in their communities. He motivates customers to maximize their return on investment in the ArcGIS location platform. He works closely with the Esri teams and Partners to assure customer success. He helps these organizations use the ArcGIS platform to transform from mapmakers into solution providers, through the application of location intelligence, to deliver spatial insight. He strives to assist customers in creating and reaching their vision, and gaining professional recognition for their efforts, like awards, presentations, articles and videos.

Mr. Carnow has over 25 years of experience as a GIS practitioner in the public and private sectors, as well as academia. He holds a BA in Geography and a MA in Urban and Regional Planning from the University of Florida and has achieved certification as an Urban Planner (AICP) and GIS Professional (GISP).

## EXHIBITOR EVENT SPONSORSHIPS

### Opening Breakfast – Platinum



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### Exhibitor Reception – Gold



### Coffee Breaks – Silver





## SAVE THE DATE

**Texas GeoRodeo**  
**Austin, Texas**  
**May 16, 2019**



**Esri International User Conference**  
**San Diego, California**  
**July 8 -12, 2019**

**Esri UC SCAUG Mixer July 9, 2019**  
**San Diego Convention Center Room**  
**28C & Upper Level Plaza Terrace**

**OKSCAUG Conference**  
**Moore Norman Technology Center**  
**Oklahoma City, Oklahoma**  
**September 17, 2019**



**Mississippi Geospatial Conference**  
**Univ. of Southern Mississippi**  
**October 3 – 4, 2019**

**Texas GIS Forum**  
**Austin, Texas**  
**October 21 – 25, 2019**



**30<sup>th</sup> Annual SCAUG Conference**  
**City of Grapevine, Texas**  
**March 30 – April 3, 2020**

## **SOCIAL EVENTS**

**Monday, April 22<sup>nd</sup>**

**SCAUG Meet & Greet**

**6 – 9 PM**

**Ballroom 2<sup>nd</sup> Floor**

**Eat, drink, chat with friends and listen to music. A great time to catch up with the old and meet the new. Each attendee receives 2 drink tickets, at registration, to be used at the Meet & Greet.**

**Tuesday, April 23<sup>rd</sup>**

**Exhibitor Reception**

**5 – 7 PM**

**Exhibitor Hall**

**The official opening of the Exhibitor Hall welcomes everyone to meet exhibitors in a fun social atmosphere. Hear about their solutions and acquire those exhibitor door prize tickets. And of course pick up your conference pint glass. Each attendee receives 2 drink tickets, at registration, to be used at the Exhibitor Reception.**

**Tuesday, April 23<sup>rd</sup>**

**Esri After Hours Meetup**

**7 – 9 PM**

**MixCo Tulsa, 3rd & Denver**

**Wednesday, April 24<sup>th</sup>**

**New Edge Social**

**6 – 8 PM**

**El Guapo's, 332 E. 1st St.**



**At Esri®, we do more than talk about smart communities.  
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## GENERAL SCHEDULE TUESDAY, APRIL 23<sup>rd</sup>

TIME	EVENT	PLACE
7:00am - 5:00pm	Registration	2nd Floor Main Lobby
7:30am - 9:00am	Opening Breakfast	Ballroom
9:00am to 9:30am	Welcome to Tulsa	Ballroom
9:30am to 9:45am	Intermission	
9:45am to 11:00am	SCAUG Business	Ballroom
11:00am to 11:30am	Conference Group Picture	TBA
11:30am - 1:00pm	Lunch on Your Own	
1:00pm - 5:00pm	Hands On Learning Lab (HOLL)	Directors Row V
1:00pm - 5:00pm	Map Gallery Setup	Ballroom Foyer
1:15pm - 2:15pm	User & Exhibitor Session	Directors Row I - IV
2:00pm - 5:00pm	Exhibitor Setup	Ballroom
2:15pm - 2:30pm	Break	Change Rooms
2:30pm - 3:30pm	Esri Enterprise & Tech Session	Directors Row I - IV
3:30pm - 3:45pm	Break	Change Rooms
3:45pm - 4:45pm	User & Exhibitor Sessions	Directors Row I - IV
5:00 to 7:00pm	Exhibitor Social	Ballroom
7:00pm - 9:00pm	Esri After Hours Meetup	MixCo Tulsa, 3 <sup>rd</sup> & Denver

# GENERAL SCHEDULE WEDNESDAY, APRIL 24<sup>th</sup>

TIME	EVENT	PLACE
7:00am - 8:00am	Exhibitor Setup	Ballroom
7:30am - 5:00pm	Registration	2nd Floor Main Lobby
8:00am - 9:15am	Exhibitor Visit/Breakfast	Ballroom
8:00am - 1:30pm	Map Gallery Voting	Ballroom Foyer
8:00am - 5:00pm	Hands-On Learning Lab (HOLL)	Directors Row V
8:00am - 6:00pm	Exhibitor Hall	Ballroom
9:15am - 10:15am	Plenary Speaker Adam Carnow	Ballroom
10:15am - 10:30am	Break	Change Rooms
10:30am - 11:30am	User & Exhibitor Session Track I	Directors Row I - IV
11:30am - 12:45pm	Exhibitor Lunch	Ballroom
1:00pm - 2:00pm	Esri Enterprise & Tech Session Track II	Directors Row I - IV
2:00pm - 3:00pm	Map Gallery Awards & Exhibitor Visit	Ballroom
3:00pm - 4:00pm	User & Exhibitor Session Track III	Directors Row I - IV
4:00pm - 6:00pm	Exhibitor Visit & Exhibitor Ticket Raffle	Ballroom
6:00pm - 8:00pm	New Edge Social	El Guapo's 332 E. 1st St.



## TRAINING SCHEDULE THURSDAY APRIL 25<sup>th</sup> & FRIDAY APRIL 26<sup>th</sup>

TIME	EVENT	PLACE
Thursday & Friday Training – See Conference Guide Page 5		



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## HANDS-ON LEARNING LAB

The Hands-on Learning Lab (HOLL) is a training resource provided and developed by Esri Training Services. The Lab is an excellent way to introduce ArcGIS users to a variety of Esri software solutions and training opportunities while learning to use Esri software. The best part is that it is FREE with conference registration!!!

Sign up for lessons during HOLL hours of 1:00pm to 5:00pm on Tuesday, April 23<sup>rd</sup> and 8:00am to 5:00pm on Wednesday, April 24<sup>th</sup>, Directors Row V.

The HOLL consists of a group of laptops, with headphones, where students can work through lessons at their own pace. A lesson consists of a recorded presentation followed by a hands-on exercise. Each lesson typically takes 45 to 60 minutes to complete. Students can generally come and go as they please. An Education Services instructor will be on hand to assist users with questions.

These lesson choices are updated matching the Esri software release schedule in order to provide up-to-date content:

Getting Started With GIS	Learning the Fundamentals of ArcMap
Getting Started with ArcGIS Pro	Storing Data in the Geodatabase
Constructing Points from Address Data	Importing CAD Data
Spatial Reference and Data Alignment	Editing GIS Data
Maintaining Land Records Using Parcel Fabric	Modeling Transportation Networks
Performing Image Classification	Finding the Best Location
Examining Patterns in Your Data	Displaying Data in 3D
Creating Maps for Presentation	Sharing GIS Content Using ArcGIS Online
Generating Custom Web Application	Telling Your Story with Story Maps
Performing Analysis with Model Builder	Using Tasks in ArcGIS Pro
Automating Workflows Using Python	Using Business Analyst Web
Discovering Patterns Using Insights for ArcGIS	Monitoring Activity Using Operations Dashboard

# SESSION SCHEDULE

## TUESDAY, APRIL 23<sup>rd</sup>

Session Track I 1:15pm - 2:15pm	Session Track II 2:30pm - 3:30pm	Session Track III 3:45pm - 4:45pm
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Directors Row I		
Michael Couch - Meshek & Associates, LLC GIS for the Non-GIS Professional: Empowering Public Outreach	Esri - Web App Builder for ArcGIS: An Introduction Pam Kersh	Troy Bumgardner - GISCI GISP Certification
Troy Bumgardner - GITA GITA - The Future is Bright		Claire DeVaughan - US Geological Survey What's new in 2019 with the USGS National Geospatial Program?

Directors Row II		
John Ford - Nearmap Current high resolution aerial imagery and 3D in local government	Esri - Survey 123 for ArcGIS Kathleen Clancy	David Littlejohn & Kim Jenson - Meshek & Associates LLC GIS for Hazard Mitigation Planning
I-Kuai Hung, Daniel Unger, David Kulhavy, and Yanli Zhang - Stephen F. Austin State University Positional Precision Analysis of Orthomosaics Derived from Drone Captured Aerial Imagery		Matthew Her - City of Broken Arrow Utilizing GIS for Parks and Recreation



# SESSION SCHEDULE

## TUESDAY, APRIL 23<sup>rd</sup>

<b>Session Track I</b> <b>1:15pm - 2:15pm</b>	<b>Session Track II</b> <b>2:30pm - 3:30pm</b>	<b>Session Track III</b> <b>3:45pm - 4:45pm</b>
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<b>Directors Row III</b>		
John May, GISP, CSM - Ligero Club Implementing Triggers to Streamline data collection and mapping	Esri - Administering ArcGIS Enterprise Brig Bowles	Aliza Etkind - Denton County Managing Change and Setting Governance Goals in a Growing County
Dr. Kevin Gustavson & Craig Schaefer - City of Tulsa The PCI+ Python Model: Selecting Road Projects that Optimize Pavement Condition Plus Other Civic Priorities		Chanyalew Girmay - City of McKinney Make Spatial Data Work for You: Increasing Public Engagement Through Open Data and Dashboards

<b>Directors Row IV</b>		
Bradley Chatman - Cityworks Going Mobile with Cityworks	Esri - What's New Jacob Blind	Kevin R Dyke - Oklahoma State University New approaches to old maps: Initiatives underway at Oklahoma State University Library's Maps and Spatial Data
Jason Kleps - Meshek & Associates LLC Condition Assessment of Storm Sewer Systems: A Case Study		Madeline Dillner - Oklahoma Corporation Commission Brownfield Program, The Oklahoma Historical Aerial Digitization Project: Twelve Years In



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# **USER SESSION ABSTRACTS**

## **TUESDAY, APRIL 23<sup>rd</sup>**

**Session Track I – 1:15pm to 2:15pm**

### **Directors Row I – Two 30 minute presentations**

**GIS for the Non-GIS Professional: Empowering Public Outreach**

**Michael Couch - Meshek & Associates, LLC**

As GIS technology becomes more sophisticated and data sources continue to increase in number and depth, the challenge for the modern GIS professional is less about whether something can be mapped than how it can best be mapped so that others can use the information. For the GIS professional, the public is often as much a stakeholder as any member of their organization. But how can a GIS output reach them in a world with a 2-second load-time attention span? Case studies in public outreach mapping for hazard mitigation planning in Tulsa and capital improvement planning in Broken Arrow will be discussed.

**GITA - The Future is Bright**

**Troy Bumgardner – GITA**

The Geospatial Information and Technology Association is the premier professional association for enriching the broader geospatial community. Our mission is to educate, connect and advocate.

Our objectives are: 1) To provide our members high quality, industry-specific educational opportunities and networking engagements, 2) Advance the usage and understanding of geospatial technologies; and 3) Increase our involvement within and beyond the infrastructure and utilities markets.

This presentation will educate attendees on the advantages of being a GITA member, as well as introduce or update them on the current state of the organization. What types of memberships do we offer? Who is our current board of directors? How much does it cost? Where are we located? When are our events?

Come see how being a member of GITA can benefit you, your career, and your organization.

# USER SESSION ABSTRACTS

## TUESDAY, APRIL 23<sup>rd</sup>

Session Track I – 1:15pm to 2:15pm

### Directors Row II – Two 30 minute presentations

Current high resolution aerial imagery and 3D in local government

John Ford - Nearmap

The aerial imagery market is evolving and there has never been a bigger demand for current, high resolution imagery to support local government internal applications as well as machine learning to detect change in structures or impervious surfaces. Nearmap delivers current, high resolution orthos, obliques, 3D Mesh and Digital Surface models across 430 urban areas in the US as a cloud service or on premises. John will be showing recent captures in OK and talking about how our products are being used across the state to drive innovation and reduce costs. He will also be talking about Nearmap works with government entities to select the right mix of products and work jointly on building a business case to drive the most value for your organization. We take the risk out of acquiring imagery by spreading the cost across all our subscribers and delivering imagery as soon as you start a subscription.

Positional Precision Analysis of Orthomosaics Derived from Drone Captured Aerial Imagery

I-Kuai Hung, Daniel Unger, David Kulhavy, and Yanli Zhang - Stephen F. Austin State University

We flew a DJI Phantom drone once a month over a seven-month period over Oak Grove Cemetery in Nacogdoches, Texas, resulting in seven orthomosaics of the same spatial location. We identified 30 ground reference points (GFP) based on permanent features in the cemetery and recorded the geographic coordinates of each GFP on each of the seven orthomosaics. Analyzing the cluster of each GFP containing seven coincident positions depicts the precision of location of the orthomosaics produced from drone captured aerial imagery. Our analysis of positional precision is an attempt to answer the fundamental question, "Are we obtaining the same geographic coordinates for the same feature found on every aerial image captured by a drone over time?" The results showed that the positional precision of an orthomosaic produced from drone acquired imagery was higher at the center of the mosaic compared to the edge areas. In addition, the positional precision was lower along the direction of the drone flight.

# USER SESSION ABSTRACTS

## TUESDAY, APRIL 23<sup>rd</sup>

Session Track I – 1:15pm to 2:15pm

### Directors Row III – Two 30 minute presentations

Implementing Triggers to Streamline data collection and mapping

John May, GISP, CSM - Ligerio Club

Cloud based platforms coupled with ArcGIS Collector offer easy to use tools enabling interaction with spatial and non-spatial data. Complex data can present challenges when attributes need to be retrieved from other feature classes or related tables. These challenges can be addressed with triggers that leverage native STGeometry functions. Imagine a feature class whose attributes included items such as county name, FIPS code, drainage basin, etc. Traditionally these would be derived from a combination of geoprocessing functions and manual data entry. A simpler approach would be to implement a trigger using the STGeometry functions available in your Enterprise database and automate geoprocessing and attribute collection without impacting the user experience. A similar approach can be used to symbolize data on your web maps with information stored in related tables. Automating data with triggers will result in improved work flows, enhanced application usability, and reduced data errors.

The PCI+ Python Model: Selecting Road Projects that Optimize Pavement Condition Plus Other Civic Priorities

Dr. Kevin Gustavson & Craig Schaefer - City of Tulsa

The City of Tulsa has developed a Python model using ArcPy to optimize the selection of road rehabilitation projects. A consultant provides a patchwork of suggested road improvements that would maintain a desired citywide Pavement Condition Index (PCI) value. The model transforms these disparate selections into workable PCI equivalent arterial corridors and major intersection projects. The model also compiles data about other city priorities (i.e., replacing problem pipes, improving disability access) and assigns points for added benefits, normalized to road length. Scores are curved to equalize points in each civic category so that administrators can adjust the weights for a final score. Roads are considered in descending score order and are selected if they meet the PCI criteria without exceeding the budget for the council district/s in which they reside. The result is a largely automated process that selects street segments to maximize city objectives while meeting the target PCI.



# USER SESSION ABSTRACTS

## TUESDAY, APRIL 23<sup>rd</sup>

Session Track I – 1:15pm to 2:15pm

### Directors Row IV – Two 30 minute presentations

#### Going Mobile with Cityworks

Bradley Chatman - Cityworks

With a variety of apps and integrations available, taking Cityworks into the field has never been easier. Customize your experience with the Respond and Style apps, or go disconnected with Mobile for iOS/Android.

#### Condition Assessment of Storm Sewer Systems: A Case Study

Jason Kleps - Meshek & Associates LLC

Communities need to know the location and condition of their storm sewer assets to maintain an optimal system. This is especially important for communities with decades-old infrastructure. City engineers and planners need a tool to guide them in their capital improvement planning and help rationalize the allocation of limited resources.

For over three years, Meshek & Associates has been engaged in a project to inventory and assess the City of Tulsa's storm water system.

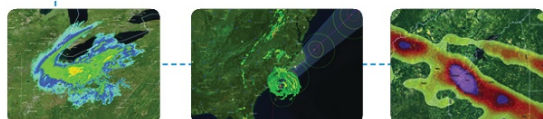
This presentation will discuss how condition assessment can give a community the information it needs to intelligently manage its assets along with a real-world example of such a project.



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GeoSpatial Data Providers

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### Services

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On-site GIS software training

MrSID Processing

Image Processing

### Products

Aerial Photography

Satellite imagery

LiDAR

Contours

TerraGo software

DTM/DEM

ESRI software

GeoExpress software

# **ESRI TECHNICAL SESSION ABSTRACTS**

## **TUESDAY, APRIL 23<sup>rd</sup>**

**Session Track II – 2:30pm to 3:30pm**

### **Directors Row I**

#### **Web AppBuilder for ArcGIS: An Introduction**

**Pam Kersh**

Web AppBuilder for ArcGIS is a pure HTML5/JavaScript-based application that allows you to create your own intuitive, fast, and beautiful web apps without writing a single line of code. The app uses new ArcGIS platform features and modern browser technology to provide both flexible and powerful capabilities for data visualization. In addition, developers can create custom tools and app themes through the extensibility framework.

### **Directors Row II**

#### **Survey 123 for ArcGIS**

**Kathleen Clancy**

Survey123 for ArcGIS is a simple and intuitive form centric data gathering solution for creating, sharing, and analyzing surveys in three easy steps. Learn how to use Survey123 to easily author smart forms, deploy those forms to either the web or mobile devices for collection, and view and analyze the results in Survey123 and other components of the ArcGIS platform.



# **ESRI TECHNICAL SESSION ABSTRACTS**

## **TUESDAY, APRIL 23<sup>rd</sup>**

**Session Track II – 2:30pm to 3:30pm**

### **Directors Row III**

**Administering ArcGIS Enterprise**

**Brig Bowles**

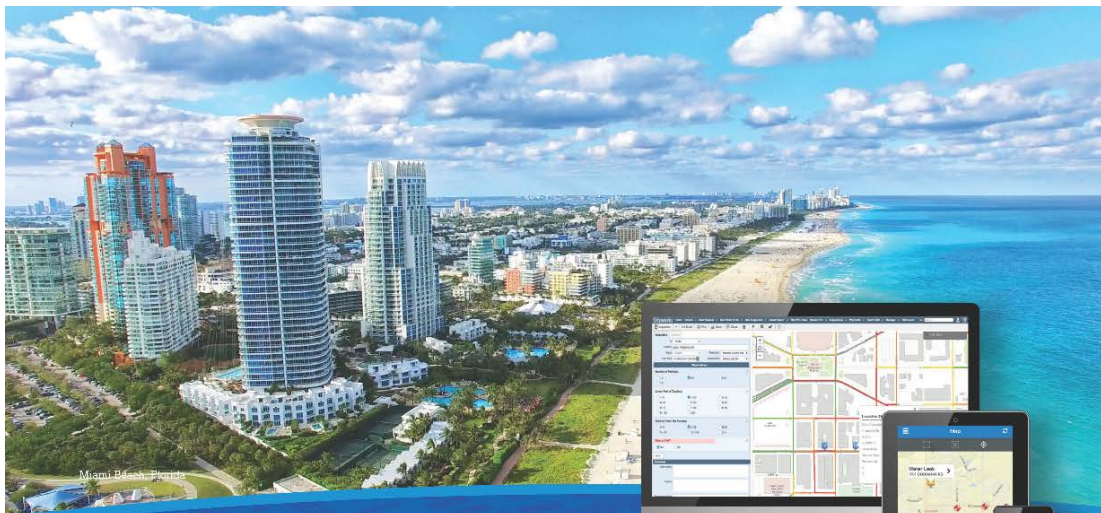
Explore which security features you need and how to monitor the health of your enterprise deployment. Learn how to implement custom apps and perform key tasks in the sharing API and portal administrator directory as well as factors for working in disconnected environments.

### **Directors Row IV**

**What's New**

**Jacob Blind**

The ArcGIS Enterprise platform continues to evolve and expand in all directions, from advanced analytics to innovative web maps and apps. This tech session will showcase the latest features in ArcGIS and give a preview of what's to come. There will be something for everyone—users, publishers, administrators, and managers. Join us to see new enhancements in action and get ideas on how you can leverage new features in your organization.



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# **USER SESSION ABSTRACTS**

## **TUESDAY, APRIL 23<sup>rd</sup>**

**Session Track III – 3:45pm to 4:45pm**

### **Directors Row I – Two 30 minute presentations**

#### **GISP Certification**

**Troy Bumgardner - GISCI**

The GIS Certification Institute (GISCI) presentation will provide an update to the GISP application/re-certification process and discuss some of the exam parameters. This event will be of interest to potential as well as re-certifying GISPs. (Geographic Information Systems Professionals)

#### **What's new in 2019 with the USGS National Geospatial Program?**

**Claire DeVaughan - US Geological Survey**

This presentation will provide a variety of updates on activities of the USGS National Geospatial Program (NGP). Topics will include innovative applications such as: USGS LidarExplorer, 3DEP Point Cloud as Amazon Public Dataset (a.k.a. point cloud via the cloud), NHD Markup Application, US Topo GeoTIFFs, and YouTube tutorials on using The National Map products and services.



# **USER SESSION ABSTRACTS**

## **TUESDAY, APRIL 23<sup>rd</sup>**

**Session Track III – 3:45pm to 4:45pm**

### **Directors Row II – Two 30 minute presentations**

#### **GIS for Hazard Mitigation Planning**

**David Littlejohn - Meshek & Associates LLC**

Floods and Tornadoes and Earthquakes, Oh my! Hazard Mitigation is any sustained action taken to reduce or eliminate long-term risk to people and property from natural and human-made hazards and their effects. A Hazard Mitigation Plan identifies impacts from hazards, the vulnerability of community assets, and the capabilities to mitigate those impacts. Meshek & Associates, LLC collaborates with communities to analyze and communicate hazard risk while developing hazard mitigation plans. This presentation will showcase how we use Microsoft building footprints, ESRI demographics, Story Maps, and other GIS resources in the planning process. We will also find out what hazards are your biggest concern.

#### **Utilizing GIS for Parks and Recreation**

**Matthew Her - City of Broken Arrow**

The City of Broken Arrow Parks & Recreation Department is transitioning toward fully implementing an asset management system through GIS. Geographic Technologies Group (GTG), Green City GIS laid the foundation of the Broken Arrow Parks and Recreation GIS system on an ArcGIS platform. Using the Broken Arrow Parks and Recreation data, park maintenance staff were trained by GTG on how to inventory future and evolving assets into the ArcGIS Collector application. In addition, GTG generated an interactive parks locator and story map to help the public learn more about the Parks in the Broken Arrow community. We will dive into the process of how the Parks and Recreation Department initiated this application and what to look forward to in the future.

# **USER SESSION ABSTRACTS**

## **TUESDAY, APRIL 23<sup>rd</sup>**

**Session Track III – 3:45pm to 4:45pm**

### **Directors Row III – Two 30 minute presentations**

**Managing Change and Setting Governance Goals in a Growing County**

**Aliza Etkind - Denton County**

DCGIS is in the process of developing and implementing a governance model to facilitate service needs. The dependence on GIS services has increased within the last decade. GIS solutions and applications are now more specialized, providing opportunities for more specific audiences. Presently, end users use GIS datasets for day-to-day tasks and operational pictures are driven by GIS data. Increased dependence has required an increase in accuracy and timeliness of revisions. This has also required increased knowledge in end user laws, rules and regulations to ensure GIS data is compliant and useful. Currently, DCGIS has no specific governance model or policies in place for data requests or updates. Communication gaps exist in many GIS workflows. Communicating needs with end users and stakeholders will allow DCGIS to develop and implement proper policies, increase governance across the county, and standardize GIS data and workflows.

**Make Spatial Data Work for You: Increasing Public Engagement Through Open Data and Dashboards**

**Chanyalew Girmay - City of McKinney**

Access to reliable and up-to-date information is critical to decision making. The City of McKinney GIS Department is sharing real-time geospatial information with members of the organization and the public by leveraging Esri's Open Data and Dashboard solutions. The city's Open Data site, "Explore McKinney", was launched in November 2017 and provides convenient access to the city's spatial data with the goals of increasing citizen engagement and government transparency. "Explore McKinney" is the hub for the city's web apps, spatial datasets, and printable PDF maps. Additionally, the GIS Department is deploying a fire hydrant inspection and maintenance dashboard, replacing the old paper-based approach. This GIS based solution uses Collector for ArcGIS and the Operations Dashboard for ArcGIS to streamline the inspection process and monitor and display the current status of inspections.



# **USER SESSION ABSTRACTS**

## **TUESDAY, APRIL 23<sup>rd</sup>**

**Session Track III – 3:45pm to 4:45pm**

### **Directors Row IV – Two 30 minute presentations**

**New approaches to old maps: Initiatives underway at Oklahoma State University Library's Maps and Spatial Data**

**Kevin R Dyke - Oklahoma State University**

Paper maps contain a vast amount of spatial data. Most of this data is unavailable in any other form. In this session I will demonstrate a number of projects underway in Maps and Spatial Data at Oklahoma State University's Edmon Low Library. All of these efforts seek to spotlight and preserve Oklahoma's cartographic heritage. These projects include a spatial search interface for finding maps, a web-based tool for aerial photograph comparison, the 3-D reconstruction of a no longer extant campus building, and, thanks to the generous support of the McCasland Foundation, the addition of hundreds of new maps to the Oklahoma Digital Maps Collection, bringing the total number of maps available online to the brink of 10,000. Through all of the projects, I hope to make all of these old maps feel new again.

**The Oklahoma Historical Aerial Digitization Project: Twelve Years In**

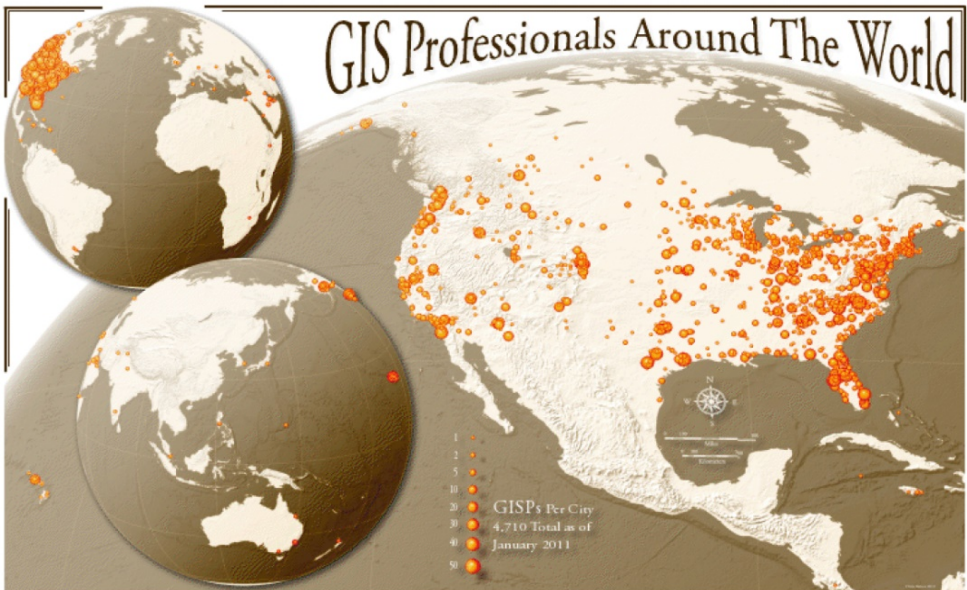
**Madeline Dilner - Oklahoma Corporation Commission Brownfield Program**

Since 2007, the Oklahoma Corporation Commission has been collecting and scanning hard-copy historical aerial photos for in-office use. Now, in the final iteration of the project, people can use the Oklahoma Aerial Photo Viewer web app to both view and download all the photos that the OCC has collected and georeferenced since 2007, online, for free. This presentation will cover an overview of the Oklahoma Historical Aerial Digitization Project history, process, and products, and end with a demonstration of the new Oklahoma Aerial Photo Viewer.



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# SESSION SCHEDULE

## WEDNESDAY, APRIL 24<sup>th</sup>

<b>Session Track I</b> <b>10:30am - 11:30am</b>	<b>Session Track II</b> <b>1:00pm - 2:00pm</b>	<b>Session Track III</b> <b>3:00pm - 4:00pm</b>
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<b>Directors Row I</b>		
Michael Knapp - City of Dallas Stumbling through Lidar	Esri - ArcGIS Enterprise: Getting Started with Sites Brig Bowles	Corey Gillum, GISP & Faith Adams - The Chickasaw Nation Creating Historic Datasets to Enhance Modern Mapping
Tim Bohn - Surdex Elevate your LiDAR plan		

<b>Directors Row II</b>		
Betsi Chatham - City of Grapevine Critical Response to Schools: Fostering GIS in Public Safety	Esri - Whats New In ArcGIS Dashboard Kathleen Clancy	Jordan Carmona - City of McKinney - Integrating Google Sheets to an Esri SDE Feature Class
Lt. Ronald Vaughn - Dallas Fire Rescue Water Rescue and GIS		

<b>Directors Row III</b>		
Yanli Zhang, Daniel Unger, I-Kuai Hung, David Kulhavy - Stephen F. Austin State University Precision analysis of orthomosaic map photogrammetrically derived from UAS images	Esri - ArcGIS Solutions for Public Safety Pam Kersh	Tonya G. Fallis - City of McKinney Walking Through History: Leveraging the Full Potential of the Story Map Tour
John May - ESciences Build an easy to use QA/QC tool with ArcGIS Collector		



## SESSION SCHEDULE

### WEDNESDAY, APRIL 24<sup>th</sup>

Session Track I 10:30am - 11:30am	Session Track II 1:00pm - 2:00pm	Session Track III 3:00pm - 4:00pm
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Directors Row IV		
Esri – GIS for Leaders: Seven Elements of a Successful Enterprise GIS Adam Carnow	Sheila McGinty, PhD – Williams Pipeline and Changing Data Needs	Jason Dean - U.S. Census Bureau The Tract (PSAP) and New Construction Programs and You
	James Walker & Robert Oleson Mapping the External Lighting and Illumination of Campuses	



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# **USER SESSION ABSTRACTS**

## **WEDNESDAY, APRIL 24<sup>th</sup>**

**Session Track I – 10:30am to 11:30am**

### **Directors Row I – Two 30-minute presentations**

#### **Stumbling through Lidar**

**Michael Knapp - City of Dallas**

The City of Dallas participated in the 2017 Lidar Group of the North Central Texas Council of Governments. We will introduce the audience to the Lidar data received from the contractor and outline the structure of the .LAS files and the tools and methods used to convert the data to a contour map. Emphasis will be given on the pitfalls of Lidar processing for the novice.

(This presentation was given at the North Texas Chapter SCAUG meeting held at Desoto, Texas on February 21, 2019)

#### **Elevate your LiDAR plan**

**Tim Bohn - Surdex**

Use of aerial LiDAR has been critical given the amount of flooding and erosion concerns facing the southern US in the aftermath of several hurricanes and higher than normal rainfall, just one of the many uses of accurate elevation data. By participating in the 3D Elevation Program (3DEP) with the US Geological Survey, you can submit a grant and receive federal funds to help pay for the project. Broad Agency Announcements (BAA) successfully funded 185,000 square miles of new LiDAR in 2018 alone. This presentation will discuss how to pursue this unique opportunity.

# **USER SESSION ABSTRACTS**

## **WEDNESDAY, APRIL 24<sup>th</sup>**

**Session Track I – 10:30am to 11:30am**

### **Directors Row II – Two 30-minute presentations**

#### **Critical Response to Schools: Fostering GIS in Public Safety**

**Betsi Chatham - City of Grapevine**

In the summer of 2018, the City of Grapevine Police Department began preparedness discussions in response to the unfortunate incidents occurring in some of our nation's schools. An integral part of those discussions was how to enter a school, contain assailants, and protect the lives of students and teachers. The idea of gathering as much spatial information about school campuses sparked a relationship between the Special Weapons and Tactics (SWAT) and GIS. A simple yet strategic database was developed to enable exterior and interior data to be collected through Esri's Collector for ArcGIS. A Common Operating Picture was easily obtained through a standardized data viewer and hard copy maps for SWAT personnel, Incident Command, and Dispatch.

#### **Water Rescue and GIS**

**Lt. Ronald Vaughn - Dallas Fire Rescue**

Public Safety agencies that respond to Emergencies on bodies of water need to know the best locations to launch their boats and know where hidden dangers are underwater. There are several jurisdictions around the country that respond to drownings and body recoveries. These incidents are intense and stressful. They are high profile incidents with news media coverage. Depending on local protocols these events can involve several agencies.

In this presentation I will discuss how Dallas Fire Rescue is leveraging the power of GIS to assist our Boat Rescue Team with Water Rescue and Recovery.

# **USER SESSION ABSTRACTS**

## **WEDNESDAY, APRIL 24<sup>th</sup>**

**Session Track I – 10:30am to 11:30am**

### **Directors Row III – Two 30 minute presentations**

**Precision analysis of orthomosaic map photogrammetrically derived from UAS images**

**Yanli Zhang, Daniel Unger, I-Kuai Hung, David Kulhavy- Stephen F. Austin State University**

**High spatial resolution orthomosaic map can be derived from UAS images. Surveyed ground control points (GCP) can improve the photogrammetry analysis procedure. However, due to the high cost of land surveying, the establishment of GCP are not very common in practice. This research had 30 flight missions of the study site and try to estimate the precision of the orthomosaic maps. Possible impact factors are identified. Based photogrammetry analysis, a 3D model was also derived and printed for the study site.**

**Build an easy to use QA/QC tool with ArcGIS Collector**

**John May - ESciences**

**Distributed GIS environments can have many different groups collecting GIS data for the system. Whether it is a team of dedicated in-house staff, external contractors, or a combination of both, the information collected most often is pushed into the same database. If it is important to your organization to review data before making it public you can do an end run on versioning and replication by implementing a few easy tricks in your database and using ArcGIS Collector as a data QA/QC tool. The QA/QC tool will allow you to review data and determine if it should become visible in the production data environment or be edited before becoming available. This approach delivers an easy to use tool that streamlines data management and automates the data review process.**

# ESRI TECHNICAL SESSION ABSTRACT

WEDNESDAY, APRIL 23<sup>rd</sup>

Session Track I – 10:30am to 11:30am

**Directors Row IV – One 60 minute presentation**

**GIS for Leaders: Seven Elements of a Successful Enterprise GIS**

**Adam Carnow**

It takes more than technology for an enterprise GIS to be successful. It requires business and IT management skills. This session will review the seven elements of a successful enterprise GIS and provide strategies how GIS Managers can implement them. The seven elements are:

- Vision and Leadership
- Understand how GIS can contribute to your organization's success
- Develop and maintain a GIS Strategic Plan
- Implement effective governance
- Implement evolutionary approaches (change management)
- Deploy engaging apps
- Recruit, develop and maintain good staff



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# ESRI TECHNICAL SESSION ABSTRACTS

## WEDNESDAY, APRIL 24<sup>th</sup>

Session Track II – 1:00pm to 2:00pm

### Directors Row I

#### ArcGIS Enterprise: Getting Started with Sites

Brig Bowles

Do you want to leverage your GIS data and apps in custom web pages or drive your users to content that is relevant to them? ArcGIS Enterprise Sites allows you to do just that. Members can now go directly to custom-tailored pages that support easy discovery of maps, apps, and other content shared to an ArcGIS Enterprise portal. Learn an overview of Sites options, share design tips and tricks, and see the steps to build intuitive web pages that reflect your organization's branding and support users of all experience levels.

### Directors Row II

#### What's New in ArcGIS Dashboard

Kathleen Clancy

At its core, Operations Dashboard for ArcGIS is built around decision-makers, enabling them to make informed decisions and keep track of their day-to-day operations without dedicating precious time and resources. With the release of ArcGIS Enterprise 10.6, Operations Dashboard for ArcGIS has evolved into a purely web-based experience where dashboards are both authored and consumed from within a browser. This increases customization capabilities and improves usability with improved mapping and layout. Take a dive into managing, creating, configuring, and customizing new web-based dashboards using an array of Esri-provided visualizations and tools. See real-life examples of how Operations Dashboard is being used to help solve real problems and emergencies.

# ESRI TECHNICAL SESSION ABSTRACT

## WEDNESDAY, APRIL 24<sup>th</sup>

Session Track II – 1:00pm to 2:00pm

### Directors Row III

#### ArcGIS Solutions for Public Safety

Pam Kersh

Esri provides emergency managers with a complete solution for addressing the most common operational challenges. Learn how our emergency management solution supports every phase of operations. It also secures information exchanges within your agency and between your partners. ArcGIS Solutions for Public Safety offers a set of integrated tools to help you maintain situational awareness, understand potential impacts, conduct damage assessment, present operational briefings, and manage public information. ArcGIS supports mission-critical decisions by helping you access real-time and actionable information that can save lives and protect property.



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# **USER SESSION ABSTRACTS**

## **WEDNESDAY, APRIL 24<sup>th</sup>**

**Session Track II – 1:00pm to 2:00pm**

### **Directors Row IV – Two 30 minute presentations**

#### **Pipeline and Changing Data Needs**

**Sheila McGinty, PhD – Williams**

The pipeline industry faces changing GIS data needs as the regulatory environment changes. This presentation will discuss past and future changes that affect how GIS data is stored, specifically related to Class determination on gas pipelines. The changes in GIS data can be a direct result of new regulations or the result of software changes required to meet regulations. GIS data changes include the topology, attributes, and accuracy of the event. Some examples of data changes to be explored include line connectivity, linear referencing, the potential impact radius (PIR) calculation, data accuracy within the attribute table, and location accuracy. A conservative approach to safely meeting the regulatory requirements will be discussed.

#### **Mapping the External Lighting and Illumination of Campuses**

**James Walker & Robert Oleson**

Garland ISD uses GIS for several purposes including Transportation, Demographics and Campus and Facility mapping. Last year the GISD Security department asked if GIS could be used to help with studying night time campus illumination and inventorying outdoor light fixtures in order to better facilitate periodic lighting inspections. This resulted in two related but parallel GIS projects. First we added the lighting fixture data to our existing facilities database so that maps could be produced and so that each fixture could be better identified when Security needed to put in work orders. Second we developed a workflow to collect and process night time illumination readings taken with a gps enabled cell phone. This data was then be processed to create a raster layer showing night time campus illumination levels. Our presentation will outline the existing GISD facilities GIS data environment, and then go through the details of our Lighting and Illumination projects.



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# **USER SESSION ABSTRACTS**

## **WEDNESDAY, APRIL 24<sup>th</sup>**

**Session Track III – 3:00pm to 4:00pm**

### **Directors Row I – One 60 minute presentation**

**Creating Historic Datasets to Enhance Modern Mapping**

**Corey Gillum, GISP & Faith Adams - The Chickasaw Nation**

Historic maps and aerial imagery have an important role in modern GIS. General Land Office (GLO) surveyors created the earliest detailed maps of the present day Chickasaw Nation from 1871 to 1899. Many federal agencies and private industries have captured aerial and satellite imagery of the Chickasaw Nation from the mid-1900s to present day. The Chickasaw Nation Department of GeoSpatial Information utilizes historic maps and imagery to enhance its GIS capabilities.

### **Directors Row II – One 60 minute presentation**

**Integrating Google Sheets to an Esri SDE Feature Class**

**Jordan Carmona - City of McKinney**

Wrangling data from non-database sources can be time-consuming, frustrating, and untenable if done manually. The City of McKinney Engineering Department's use of Google Sheets allows multi-user collaboration but at the price of a less-than-common data end-product. This presentation demonstrates the automated integration of our capital improvements project information attributes from a Google Sheet environment using Pandas, NumPy, and ArcPy into the City's versioned SDE environment. This presentation will also cover working within JupyterLab and the iterative development process.

# **USER SESSION ABSTRACTS**

## **WEDNESDAY, APRIL 24<sup>th</sup>**

**Session Track III – 3:00pm to 4:00pm**

### **Directors Row III – One 60 minute presentation**

**Walking Through History: Leveraging the Full Potential of the Story Map Tour**

**Tonya G. Fallis - City of McKinney**

The City of McKinney heavily promotes its Historic and Cultural Districts, considered by many to be the gem of the city, to attract new businesses, residents, and visitors. Using Esri's Story Map Tour, the GIS Department has worked closely with the city's Historic Preservation Officer and Visitor's Bureau to create virtual tours for the public. The responsive design of the Story Map Tour provides an attractive, intuitive, and functional user interface. This hour-long user presentation will demonstrate how to leverage the Story Map Tour template to streamline the creation of multiple apps from a single map service using Builder Mode. We will explore how to expand your app's capabilities by linking to external websites and how to customize the standard app using HTML. We will also discuss advantages and limitations of the COTS approach in providing consistent, attractive, and functional web apps to the public.

### **Directors Row IV – One 60 minute presentation**

**The Tract (PSAP) and New Construction Programs and You**

**Jason Dean - U.S. Census Bureau**

Understanding current Census Bureau geographic programs by introducing high level concepts and specific elements and their functionality within the decennial Census and the communities and stakeholders we serve.

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## MAP GALLERY ABSTRACTS

### **Spatiotemporal and morphological analysis of urban expansion: An approach using spatial metrics**

**Gustavo Ovando Montejo, Amy Frazier, Peter Kedron, Oklahoma State University**

Urban expansion is a change in the physical landscape as well as the constant shift of environmental, social, economic, and political structure of a region. The most overwhelming characteristics of urbanization is the transformation of natural and agricultural lands into human-made impervious surfaces such as rooftops, roads, sidewalks, and parking lots. Geospatial methods exist capable of identifying the main types of urban expansion, yet they are unable to assess the morphology qualities of the expansion. Research has established that morphology plays a pivotal role in shaping and altering habitats, ecosystems, water quality, surface temperatures, energy consumption, and pollution. We propose a geospatial method based spatial metrics and expansion techniques, capable of simultaneously assessing the type of urban expansion as well the overall morphology qualities of newly developed urban patches. The method is tested in Mexico City where urban expansion is large and complex.

### **Smith County Taxing Jurisdictions with 2018 6" Orthoimagery**

### **Violent Crime in Relation to Blighted Properties in The City of Tulsa**

**Matthew W. Parsell, City of Tulsa, OK**

Urban data pioneers is an initiative started by the Mayor's Office in an effort to look at specific problems throughout The City of Tulsa that might otherwise go overlooked. The relationship between blight and violent crime was one of the problems on the agenda. More specifically, was blight a result of violent crime or was violent crime more prevalent because of blight? This map depicts a small portion of what was covered throughout the extent of the project. Using ArcGIS we were able to overlay blight locations with several years of violent crime heat maps. Ultimately, we discovered that The City of Tulsa did not have a robust enough inventory of blighted properties to determine if there is a strong correlation between blight and violent crime. These findings lead us to look for unique methods of collecting blighted property information in an effort to expand The City of Tulsa's blighted property inventory.



## MAP GALLERY ABSTRACTS

### What Isn't Your Map Telling You?

**Michael Couch, Meshek & Associates LLC**

If the beauty of GIS is the ability to convey information easily through maps, why would a map ever not tell you something it could? Are there cases where a map could tell you about your risks, but it shouldn't? Are there cases where a map could or should tell you something about your risks and doesn't? This poster examines these questions in the context of flood risk and broader public policy debates about flood risk, flood damages, and flood insurance.

**John White, Smith County Appraisal District**

This is a map showing the Taxing Jurisdictions for Smith County Texas with 2018 6 inch Orthoimagery captured in January of 2018 by Surdex through the TNRIS STRATMAP Program partnered with the Smith County GIS Consortium. Image is a MrSID mosaic. Jurisdictions include Emergency Service Districts, Municipal Boundaries, and School Districts. This was part of a larger STRATMAP Project that collected an area including 13 Counties within the North East Texas area.



**Patsy Ingram  
President**

pingram@unitedgeotech.com

**David Zuniga  
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## MAP GALLERY ABSTRACTS

### **The Oklahoma Aerial Photo Viewer**

**Madeline Dillner, Oklahoma Corporation Commission Brownfield Program**

In the final iteration of the Oklahoma Historical Aerial Digitization Project, finding the photos you need is easier than ever. In addition to county-year layers that display footprints (linked to a downloadable photo hosted on an FTP site) of each individual georeferenced photo, tiled mosaic datasets are available for quick and easy viewing. These updates have made Oklahoma's aerial project on par with the best aerial projects in the nation.

### **Parks Locator - City of Broken Arrow**

**Matthew Her, City of Broken Arrow, OK**

In today's society, people are working hard everyday to either support their family or themselves. But one thing to always remember is to make sure your happy. Leisure activities are important in our daily lives because it brings us a positive flow of energy. These activities help refresh the mind and the way we live. Therefore, the quality of life in Parks & Recreation can make an impact in a community. The Broken Arrow interactive Parks Locator will help the community locate a park near their home. From a touch of a button on a smart phone, the public can easily view the park amenities and services within the Broken Arrow community. This map poster will showcase all park assets and amenities in Broken Arrow.

### **1958 Historical Air Photos, Two Ways**

**Aliza Etkind, Denton County, TX**

Denton County is in possession of a mostly complete set of historical aerial images from 1958. It has been the mission of Denton County GIS (DCGIS) to mosaic these images. Several years ago, DCGIS set out to scan, georeference, and mosaic the images by hand. It was an arduous process and it took over three years to achieve a finished product. The result was a complete, but lower resolution image with lots of color variation. In 2018, DCGIS purchased the license for a historical air photo processing software. This project took less than six months and dramatically improved the results of the final mosaic. While the two projects certainly had different results, both can produce a usable, useful project. This poster shows a side-by-side comparison of the images as well as brief outlines of both procedures.

## MAP GALLERY ABSTRACTS

### **Twice the Voters!**

**Bret Fenster, Collin County, TX**

Collin County experienced an unprecedented turnout for the 2018 mid-term elections. Traditionally, about 30-35% of the registered voters vote during the mid-terms and about 60-65% vote during presidential elections. This past mid-term tracked like a presidential election with a 61% turnout. When we look back at elections past, there are no visible trends. To quote our Elections Administrator, Bruce Sherbet, "Every election is special." The election dynamics in Collin County are changing. Once deeply republican, the county has received an influx of new residents from coastal headquarters (i.e. Toyota) that have altered the democratic makeup of some precincts. These prosperous, educated and traditionally democratic voters have begun to outnumber the rich, educated and republican voters in certain areas. We show this new development with a map series which depicts the democratic and republican turnout for a few notable races.

### **Integrating Environmental CAD Drawings to a GIS**

**Lisa Maslanka, Oklahoma Department of Transportation**

The GIS Branch at the Oklahoma Department of Transportation saves time and money by working inclusively with the Environmental Programs Division to help with GIS related projects. One high in demand project involves converting design-level CAD drawings of environmental projects into shapefiles with ArcGIS ArcMap. The Environmental Specialists at ODOT use the pre-construction outline CAD drawings to help identify habitat impacts of Federally Threatened and Endangered Species in Oklahoma. The goal is to avoid as much habitat destruction and disturbance for these species that play an important role in their ecosystem.

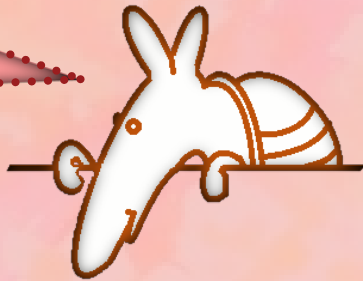
## MAP GALLERY ABSTRACTS

### Collecting Asset Inventory Using a GIS

**Devin Hargus, Oklahoma Department of Transportation**

The Oklahoma Department of Transportation is working on collecting all of its assets throughout the state and transcribing them into a GIS. This is done using a street view program to find and view assets such as signs, pavement markings, guard rails, guard rail end treatments, light poles and traffic signals. This data is then recorded into a geodatabase table in ESRI's ArcMap software, along with route and mileage identification for placement on the LRS. Once finished, this asset inventory will streamline the procurement of asset locations, create opportunities for quick and efficient asset repair and replacement across the state, all while saving the state and taxpayers a substantial amount of money in time

**TUG says:**  
**Don't forget to vote for**  
**your favorite maps in**  
**the Map Gallery on**  
**Wednesday, April 24<sup>th</sup>**  
**before 1:30 pm!**



and resources.

### 2019 Polulated Growth In Denton County

**Julie Phillips, Denton County GIS, TX**

Economic Transformation through the years to visualize the reality of Urbanization and development of the Cities in our County. Population Estimates for the Fastest Growing Counties in Texas, sources based on U.S. Census Bureau, Population Division. Comparing the population growth from 2000 to the Census Estimate 2017 margins for Denton County providing the estimate totals growth differences in 2000 to 2017 with an substantial increase margin. As of December 2010, about 82% of the population of the United States lived within the boundaries of urbanizes areas. This map will give you an estimated visual of the growth development for Denton County that ranks the 9th of the Fastest growing County in Texas.

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# MAP BALLOT

57



# MAP BALLOT

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Tear Out and Turn In No Later Than 1:30pm  
Wednesday, April 24<sup>th</sup> at Registration



## SUBCHAPTERS



**Alamo Area GIS User Group – AAGIS**



**East Texas GIS & GPS User Group – ETUG**



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Ed Turner - [edt@surdex.com](mailto:edt@surdex.com)

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Photo by Timothy Hursley



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## GOLD



Since 1996, Cityworks® has been helping organizations maintain smart, safe, and resilient communities by streamlining the care of public infrastructure, permitting, and property. Built exclusively on Esri® ArcGIS® technology, Cityworks' Web GIS-centric platform combines the authoritative asset inventory in a geodatabase with business process applications for managing workflow, scheduling resources, and prioritizing activities. Time-tested and proven, Cityworks is Empowering GIS® at more than 600 organizations around the world, saving time and money while improving operational efficiencies.



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Meshek & Associates was founded in 1988 with one goal in mind: to serve local communities. We are uniquely qualified to inventory, engineer, plan, and design municipal infrastructure projects to the highest standards.

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## SILVER



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Aerial Services, Inc. is a veteran-owned small business corporation delivering quality geospatial solutions with speed, accuracy, and innovation to public and private sectors. With over 50 years of experience we have the knowledge and capability to complete your project. Aerial Services' personnel, equipment, software, and experience are unsurpassed.



TNRIS' mission is to serve as the state clearinghouse for quality geographic information through coordinated collection, management, and dissemination of geographic data.



TNRIS accomplishes this mission by working closely with state, regional, local, and federal government agencies as well as by promoting the use of geographic information technology through education courses, quarterly networking, and an annual GIS conference known as the Texas GIS Forum.



DATAMARK®, the Public Safety GIS team of Michael Baker, consists of a skilled group of subject matter experts in Public Safety and GIS whose mission is to build trusted relationships by providing the necessary education, fact-finding, and solutions to ease the transition to and development of workflows for NG9-11. DATAMARK is the go-to authority on GIS data for NG9-1-1. Its data-forward, full-service but configurable NG9-1-1 solutions provide the highest levels of Public Safety GIS data completeness and accuracy that empower informed decision making. Michael Baker International is a national leader in advanced technology solutions supporting clients in local, state, and national government.





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The GIS Certification Institute (GISCI) is a tax-exempt not-for-profit organization that provides the geographic information systems (GIS) community with an internationally-recognized, complete certification program. GISCI offers participants from the first early years on the job until retirement, a method of developing value for professionals and employers in the GIS profession. There are currently over 8000 active GISPs located throughout the world. The current GISP Certification process consists of a Portfolio Application that describes an applicant's background in Ethics, Education, Experience, and Contributions to the Profession as well as the GISCI Geospatial Core Technical Knowledge Exam added in 2015.

Selected GISPs performed groundbreaking work in the process of creating the Exam informed by both the Geospatial Technical Competency Model (GTCM) approved by the Department of Labor in 2010 and the GIS&T Body of Knowledge developed by UCGIS.



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RazorTek is listed on the Texas DIR contract (DIR-TSO-3471) to provide GIS products and services to the state of Texas.

If more information is required for RazorTek capabilities please contact us by email ([danr@razor-tek.com](mailto:danr@razor-tek.com)) or call us at 901-922--5448 or visit our website [www.razor-tek.com](http://www.razor-tek.com)



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- Aerial Film Scanning
- CAD
- Contour Generation
- Digital Aerial Triangulation
- Digital Elevation Models (DEM)
- Digital Terrain Models (DTM)
- Digital Orthophotography (TIFF)
- Geographic Information Services (ESRI)
- Image Compression (MrSID, JPEG2000, ECW)
- Drone Image Processing
- LiDAR DTM and Contour Integration
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2. Advance the usage and understanding of geospatial technologies; and
3. Increase our involvement within and beyond the infrastructure and utilities markets.





## GISP CHECKLIST

Description	Classification	Credit	Re-Cert Credit	Credits Earned
<b>2½ Day Regional SCAUG Conference in Tulsa, OK (20 hour)</b>				
Attendee (0.1 x # of days attended)	EDU	0.25	3.33	
Presenter (1 point per instance)	CON	1	3	
Poster Presenter (1 point per instance)	CON	1	3	
Poster Award Winner	CON	2	6	
<b>1/2 Day Training (4 hour)</b> <i>(Training Certificate required for documentation credit.)</i>				
ArcGIS Pro Tips & Tricks	EDU	0.1	0.67	
Insights for ArcGIS: An Introduction	EDU	0.1	0.67	
1/2 Day Training Instructor : _____	EDU	3	9	
<b>2 Day Training (16 hour)</b> <i>(Training Certificate required for documentation credit.)</i>				
Editing in ArcGIS Pro	EDU	0.4	2.67	
GISP Test Prep Class	EDU	0.4	2.67	
2 Day Training Instructor : _____	EDU	3	9	
<b>TOTAL GISP CREDITS EARNED</b>				

# 2019 Exhibit Hall Layout

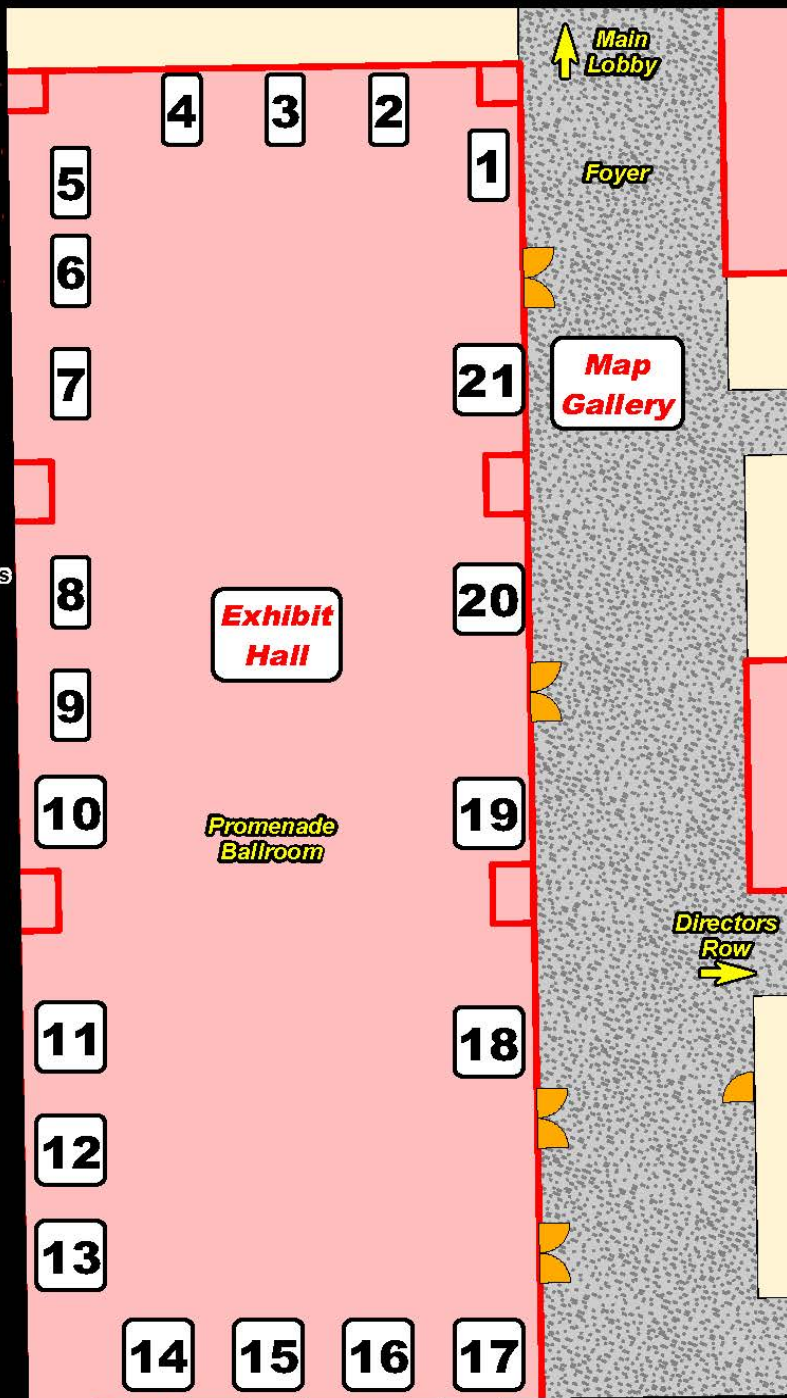
The Hyatt Regency Hotel 2nd Floor  
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  - 9. HERE Technologies
  - 10. UGT
  - 11. TeachMeGIS
  - 12. Surdex
  - 13-14. Esri
  - 15. Latitude Geographics
  - 16. Eagleview
  - 17. GISCI/GITA
  - 18. HP
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  - 20. Meshek & Assoc.
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