

**19TH ANNUAL  
OKSCAUG CONFERENCE**

**make the** **LEAP**  
  
**OKSCAUG 2016**

**TUESDAY  
SEPTEMBER 20, 2016**

# The OKSCAUG Steering Committee

## Welcomes you to the

# 19th Annual OKSCAUG Conference!

This year's conference theme is Make the Leap, a nod to the Leap Year, but also acknowledging the leaps we make every day in our professional careers. Whether it is diving into GIS for the first time, or switching from ArcIMS to ArcGIS Online or ArcMap to ArcGIS Pro, GIS and mapping technologies continuously evolve. And so do we.

Make the Leap also has special meaning this year as the Steering Committee challenged ourselves to develop new programs, improve existing activities, and grow the annual OKSCAUG conference. In 2016 we reintroduced quarterly newsletters and introduced lunch and learns, and plan on hosting a December User Group meeting in western Oklahoma. At the conference this leap brings new content such as the Pre-Conference Social in Bricktown, Esri's HOLL and more technical sessions, additional user presentations, and special exhibitor training sessions.

The purpose of OKSCAUG is to provide resources and venues to stay current and aware of the growing GIS world. Today, hundreds of GIS professionals gather to share GIS experiences, build a professional network, and conquer technical challenges. Let's go Make the Leap together.

*—2016 OKSCAUG Steering Committee*

*Download  
2016 OKSCAUG  
Conference Guide*

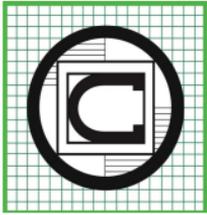


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# 2016 OKSCAUG Steering Committee



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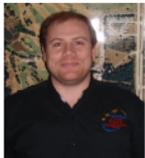
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**James Allen**

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Monday Sept. 19th Beginning @ 6:30pm

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# 2016 Conference Schedule



		<u>Room</u>
<b>7:30 – 2:00</b>	Registration	
<b>7:30 – 8:30</b>	Breakfast/Exhibitor Visit	Rotunda
<b>8:30 – 9:30</b>	Welcome & Keynote Address	Main Hall

## **Keynote Speaker: Lee Johnston, Jr - ESRI**

<b>9:30 – 3:30</b>	Esri Hands on Learning Lab	210
<b>9:30 - 12:00</b>	Pictometry Software Training Lab	201
<b>9:30 – 10:15</b>	<i>Morning Break</i>	Exhibit Hall

## **User Presentations**

<b>10:15 - 10:45</b>		<u>Room</u>
A Functional Field Calculator		109
Survey123 Field Data Collect Project OHP Bomb Squad Call Log		110
Promoting GIS in Small Municipalities		111
Droning in Opportunity		112
Oil Price and the Oil and Gas Industry		205
Oklahoma Emergency Management/ GIS		206
Placemaking in GIS		207

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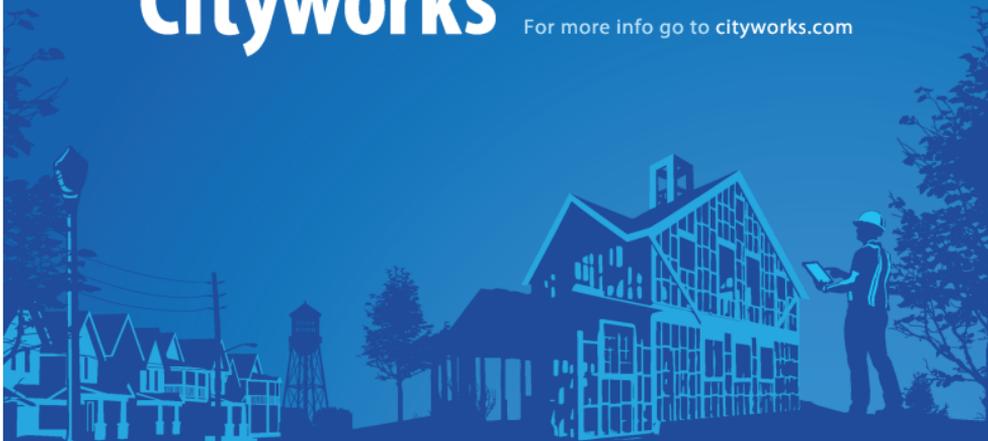
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# 2016 Conference Schedule



## User Presentations

### **10:50 – 11:20**

	<b><u>Room</u></b>
Using Python to Automatically Resize Fonts in Label Expressions	109
Workplace Situational Awareness Project	110
Whose Line it is Anyway? OWRB Water Infrastructure Mapping Pilot Project	111
Drones and GIS	112
The Oklahoma Historical Aerial Digitization Project	205
From Fighting Fires to Mapping Emergencies	206
How Should Our Region Grow: Land Use Scenarios Analysis of Central Oklahoma	207

### **11:25 – 11:55**

	<b><u>Room</u></b>
Cartographic Principles and Design	109
Collector for ArcGIS, Survey 123, and Distribution Automation	110
Oklahoma Statewide Parcel Data Available Through OKMAPS	111
8 Critical Skills you Need to be a Successful GIS Professional	112
ArcGIS Use in ODOT's Cultural Resources Program	205
Using Python Programming to Integrate Emodis and NLCD Products to Update OK-Fire Fuel Model Map	206
The Midwest City Original Mile Story Map	207



# 2016 Conference Schedule



<b>12:00 - 1:00</b>	<i>Lunch - Poster Competition</i>	Main Hall
<b>1:00 - 1:30</b>	App Contest Lightning Talk	Main Hall
<b>1:30 - 4:40</b>	Western Data Software Training Lab	201

## **Afternoon Exhibitor Showcase**

<b>1:30 - 2:15</b>		<b><u>Room</u></b>
Mobile LiDAR in the Civil Industry and 3d Design Using Autodesk Infraworks - CEC		109
Developing ArcGIS Web Mapping Applications - CEDRA		110
New Trimble TDC 100 and the Cloud - WDS		111
Going Beyond the Box with Cityworks - Cityworks		112
<b>1:30-1:50</b>		<b><u>Room</u></b>
Ultra High Resolution (UHR) Imagery with a Sub-One-Inch Resolution - Pictometry		205
Asset Visualization and Engineering Support Tools for the Enterprise - Hexagon		206
It Starts with Weather - WDT		207
<b>1:55 - 2:15</b>		<b><u>Room</u></b>
Unique ID Issues – A Thing of the Past!!! - NewEdge		205
Down the Lazy River: Hydrologic Modeling of LiDAR data - Sanborn		206
UAS Mapping: Making the case for Ground Control Points - Vertical Aspect		207

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FROM DATA COLLECTION TO INFRASTRUCTURE DEVELOPMENT, CEC IS COMMITTED TO BEING ON THE FOREFRONT OF TECHNOLOGY WE ARE CONTINUALLY EVOLVING OUR CAPABILITIES AND PROVIDE THE RESOURCES FOR PURPOSEFUL PLANNING AND DESIGN



# 2016 Conference Schedule



## Esri Technical Sessions

<b>2:20 – 3:05</b>	<b><u>Room</u></b>
Drone to Map	109
3D Mapping in ArcGIS	110
Thunder Up	111
Socialize your GIS with AGOL Templates	112

**3:05 - 3:50**      *Afternoon Break*      Exhibit Hall

## Esri Technical Sessions

<b>3:50 – 4:35</b>	<b><u>Room</u></b>
Survey 123	109
Understanding and Accessing Esri Global Demographic and Lifestyle Data	110
Deploying the ArcGIS Platform in Water Resources, Water Utilities, and Storm/Sanitary Sewer	111
Story Maps	112

**4:40 – 5:00**      *Closing Remarks/Door Prizes*      Main Hall

# Keynote Address

8:30 a.m.

## *Lee Johnston, Jr - ESRI*



Lee Johnston, Jr is the Business Development Manager for Local Government at Esri, specifically responsible for the Western US based out of the Broomfield Esri office. The Local Government team at Esri is responsible for developing and expanding the use of GIS at Cities, Counties and regional COG/MPO's. Lee has 15 years of business development experience, including training/education and wireless telecomm/ mobility solutions. Lee has a BA in Political Science from Cal Poly – San Luis Obispo and an MBA from the University of Colorado.

### Maximizing the Value and Impact of WebGIS

Technology is rapidly changing. Leveraging existing GIS resources to support county or enterprise initiatives can maximize the value of a GIS investment. In addition, as mobile strategies and the need for collaboration amongst teams becomes more pervasive, WebGIS is rapidly driving GIS to a new group of users.



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# **ESRI Hands on Learning Lab**

**Don't forget to visit the ESRI Hands on Learning Lab (HOLL)  
Room 210**

Monday, September 19: 9:00 am to 4:00 pm

Tuesday, September 20: 9:30 am to 3:00 pm

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 INCLUDED with conference registration!!!

The lesson topic choices are updated on a schedule matching the Esri software release schedule in order to provide new and up-to-date content.

All topics and descriptions for the ESRI HOLL can be found here:

[http://www.scaug.org/resources/OKLAHOMA/OK\\_2016/HandsOn\\_Lesson\\_Descriptions.pdf](http://www.scaug.org/resources/OKLAHOMA/OK_2016/HandsOn_Lesson_Descriptions.pdf)

## **OKSCAUG App Contest**

This year we are making a leap to showcase the new technology in the GIS field. The OKSCAUG Board in conjunction with Esri is pleased to announce the OKSCAUG App Contest! Attendees submitted their apps on line and were judged by the number of views received prior to Thursday, September 15. From 1:00 pm - 1:30 pm the top 3 App winners will be giving a 5 minute lightning round showcase to highlight their winning app. The attendees of the conference will then vote following the lightening round showcase to select the final OKSCAUG App contest winner. The winner will be announced at the closing session of the conference.

To Vote for your Favorite App visit the following page:

<https://scaug.maps.arcgis.com/home/index.html>

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Meshek GIS services range from the basic to the advanced. Services include converting existing paper maps, CAD data, or tabular reports into an integrated GIS; performing sub-meter GPS surveys of infrastructure and environment; and, the design and deployment of advanced web-based GIS services and applications. Our knowledge, experience, and vision will ensure all of your GIS projects meet their true potential.

As a homegrown Oklahoma company, Meshek has developed a proven track record for successful GIS project design and implementation throughout our great state. Meshek is the preferred local choice for all your GIS needs.

# User Presentations

## 10:15-10:45 a.m.

### Room 109

#### **A FUNCTIONAL FIELD CALCULATOR**

*Carrie Landgraf, GISP – Garver*

In the land of Township-Range-Section, or Section-Township-Range depending on the industry, organizations have different requirements for data submittals. And then the data you have to work with stores something completely different in the attribute table. I have been working with GIS software for over 16 years, and I still stumble sometimes trying to manipulate the data to make it work for my needs. In this presentation, I will share skills that I have learned with the Field Calculator, including replace and split functions. Do you also need an easy way to calculate a date field? Well, I can help with that too!



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**Announcing**  
**South Central Arc User Group (SCAUG) 2017 Regional Conference**  
**in association with the Louisiana Remote Sensing and**  
**Geographic Information Systems (LaRSGIS) Workshop**  
**March 27-31, 2017**  
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Presentations are solicited on topics related to geospatial applications, technology, science, and research including RS, GIS, Spatial Analysis, UAV, Geoinformatics, and Web Mapping. The joint SCAUG 2017 Regional Conference and LaRSGIS Workshop will be a unique venue to share your knowledge and experience with RS/GIS.

*Ya'll come down and laissez les bon temps rouler.*

# User Presentations

**10:15-10:45 a.m.**

## Room 110

### **SURVEY123 FIELD DATA COLLECT PROJECT OHP BOMB SQUAD CALL**

**LOG**—*Christopher L. Rogers, Oklahoma Department of Public Safety*

When calls for critical services come they come quickly for the Oklahoma Bomb Squad and time is of the essence. When arriving on-scene to a potential bomb threat it is not the time to decide how you will best collect the critical data that can result in life saving measures or total disaster. Thus, when the OHP Bomb Squad receive calls, they needed a way to quickly and efficiently record the event details, track which technicians and/or K9's worked the call, and capture pictures or other electronic media regarding the event.

With Survey123 we were able to quickly design and deploy an “OHP Bomb Squad Call Log” to enable the technicians on scene to collect the critical information regarding the potential threat and to quantify and certify training and/or real world activities.

Survey123 for ArcGIS is a simple and intuitive form-centric data gathering solution that makes creating, sharing, and analyzing surveys possible in just four easy steps; Ask Questions, Collect Answers, Analyze Data, and Make Critical Decisions based on valuable data. This presentation will show attendees how to:

- (1) Quickly design powerful surveys and publish them into ArcGIS;
- (2) Demonstrate logic capabilities through Formulas, Constraints, Calculations, and Relevant Expressions;
- (3) Develop and configure Maps and Apps with Web App Builder;
- (4) Enable Workforce with the Survey123 to manage Service Calls and Assignments;
- (5) Use Operations Dashboard to create a Common Operating Picture (COP) for Emergency Managers

# User Presentations

**10:15-10:45 a.m.**

Esri provides a multitude of tools to develop and deploy rich spatial and temporal information solutions. Survey123 provides the tools needed to create mobile deployable surveys that speed up the data collection process by using predefined questions that combine logic and provide easy-to-fill answers, embedded audio and images, and offer multiple language support. Survey123 for ArcGIS supports the XLSForm specification and is easily integrated with other Esri products and/or solutions such as Web App Builder, Workforce, Operations Dashboard, and/or StoryMaps.

## **Room 111**

### **PROMOTING GIS IN SMALL MUNICIPALITIES**

*Kolbe Andrzejewski, City of Murphy; Garrett Skrehart, City of Corinth*

Municipalities with populations around 20,000 face unique GIS-related challenges in comparison to municipalities with populations larger than 100,000. In most cases a small town GIS does not have the plethora of capabilities normally associated with a large city, such as a GIS department and ArcServer. This allows a small city GIS analyst to become well-versed in many aspects of a GIS, which is usually reserved for a whole department. A one man GIS shop is responsible for a range of different tasks from organizing the GIS to field data collection as well as creating maps and maintaining their web maps. This role has its share of challenges and opportunities for creative solutions, which this presentation will illustrate and promote the use of GIS in small municipalities.

The cities of Corinth and Murphy, Texas border the DFW Metroplex, host around 20,000 each, and together are under ten square miles. Small municipalities are challenged in many regards from providing GIS data to their workforce to collecting and organizing geospatial information. Many tools are available to solve these challenges, for instance, the Local

# User Presentations

**10:15-10:45 a.m.**

Government Information Model, the Collector App, and ArcGIS Online Organization. A GIS is a powerful system full of numerous capabilities that can prove to be a solution for many small municipalities where many challenges are inherently geospatial.

## **Room 112**

### **DRONING IN OPPORTUNITY**

*Mike Komp, The Samuel Roberts Noble Foundation*

What's all this hype about drones? The Noble Foundation is embracing this technology to serve agriculture in the Southern Great Plains. We'll share the successes and challenges we experienced working with this rapidly changing technology over the last year.

## **Room 205**

### **OIL PRICE AND THE OIL & GAS INDUSTRY: A VICTIM OF ITS OWN SUCCESS—*Scott Highby, Continental Resources, Inc.***

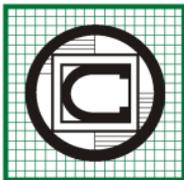
This presentation looks at the various scales of geopolitics that affect oil/gas prices. We hope to answer questions such as: When local gas prices drop below \$2.00 a gallon, why do thousands lose their job? What countries are to blame? How is the oil and gas industry a victim of its own success? We will look at the various geopolitical forces around the globe that affect the price of oil, as well as events here at home. We will talk about the horizontal revolution and the improvements in drilling methods, as well as the lifting of the oil export ban here and in Iran. We will also talk about the geopolitical players around the globe including Saudi Arabia, Russian, Iran, Iraq, OPEC, as well as the players here in the Americas including Brazil, Argentina, Venezuela and North America.

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# User Presentations

## 10:15-10:45 a.m.

### Room 206

#### **OKLAHOMA EMERGENCY MANAGEMENT /GIS**

*Christy Batterson, City of Edmond and Kathy H. Spivey, City of Midwest City*

During an emergency event, the more timely and accurate information is made available to those responsible for managing and responding to the emergency, the better the chances of saving lives and minimizing property damage. Maps are often relied on during and after emergency events for making decisions regarding tactical and post-disaster operations and damage assessment and cleanup. To that end, emergency management from the state level down have recognized and voiced a need for a live or semi-live mapping system that can be used by multiple agencies in areas throughout the State of Oklahoma to coordinate emergency response efforts in a standardized way that can be used across jurisdictional boundaries, regardless of the GIS capabilities of any specific area in the state. This presentation will present a high-level overview of a project to organize and develop a standardized, deployable mapping resource that can be called up during an emergency to aid emergency management and operations by providing a shared GIS view of the “whole picture” of an event taking place and the operations that occur after such an event.



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# User Presentations

**10:15-10:45 a.m.**

## Room 207

### **PLACEMAKING IN GIS**

*Taylor Hatchett, Ashley Hicks, and Connor Cox, Greater Oklahoma City Chamber*

The Chamber is directly involved in economic development efforts to attract new businesses and quality jobs to the Greater Oklahoma City region. This presentation will cover how GIS is used in the process of placemaking to form the Innovation District in Downtown Oklahoma City. In addition, several sources will be highlighted that the Chamber is utilizing for the project including: Oklahoma County Assessor, ACOG, OKCEDIS, the City of Oklahoma City, and the OU Institute for Quality Communities.

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**BATON ROUGE + MARCH 27-31, 2017**

# User Presentations

**10:50-11:20 a.m.**

## Room 109

### **USING PYTHON TO AUTOMAGICALLY RESIZE FONTS IN LABEL EXPRESSIONS**

*Clay Barrett, OSU Cartography Services*

There are many ways to label features within ArcMap. Manual adjustments, the Maplex Label Engine, and label expressions are all good tools, depending on the scale of work being done. For this presentation I work through an example of using Python label expression to dynamically rescale text within highway symbols in order to efficiently and consistently achieve balanced text placement. Reuse of this script means a little Python can save a lot of time and repetitive clicking.

## Room 110

### **WORKPLACE SITUATIONAL AWARENESS PROJECT**

*Christopher L. Rogers, Oklahoma Department of Public Safety*

When emergency service calls come they come quickly for the Oklahoma Highway Patrol and Communications Officers and time is of the essence. When a call for service is received on a severe motor vehicle collision or a potential impaired driver, situational awareness of available emergency and law enforcement resources is crucial.

That's where Esri's Workforce solution comes in! With Workforce Communications Officers are able to receive near real-time situational awareness information regarding the resources available to respond to critical service calls.

When a call for service is placed by a citizen, Communication Officers have a way to quickly and efficiently know where their available resources are. By knowing where critical resources are located, they are able to dispatch the closest or best suited resource to the service call location

# User Presentations

**10:50-11:20 a.m.**

tremendously improving response time enhancing life-saving opportunities during the “Golden Hour”.

Workforce for ArcGIS creates a Common Operating Picture (COP) between dispatchers and deployed resources to quickly and efficiently get the right resource to the right location during those critical “Golden Hours”. Workforce provides a web app for Project Owners to create and configure Workforce projects, define assignment types and user roles. For Dispatchers, Workforce allows them to create assignments and send them to mobile workers via their mobile devices, while also situational awareness of available resources. Mobile workers can see their assignments and work through their To Do list on their mobile devices, complete assignments and immediately report status and assignment completions back to dispatch. Integration with other Esri applications improves organizational efficiency, and operations personnel are provided updates in real-time through a Common Operating Picture or View.

## Room 111

### **WHOSE LINE IS IT ANYWAY? – OWRB WATER INFRASTRUCTURE MAPPING PILOT PROJECT**

*Scott Roberson and Tracy Scopel, GISP, Oklahoma Water Resources Board*

In 2015 the Oklahoma Water Resources Board launched a pilot project to map water, wastewater, stormwater, and water reuse infrastructure utilized by seven to 10 small cities and rural water systems. The OWRB worked with OU’s Center for Spatial Analysis to develop a secure map viewer to enable these systems to access their own data across multiple operating systems and devices. This project provides critical information for local planning, maintenance, and emergency response, and also allows the OWRB to augment and update pipeline information in publicly available water systems GIS data and map viewers. In addition to the

# User Presentations

**10:50-11:20 a.m.**

systems mapped by the OWRB, five communities whose water infrastructure was mapped by Councils of Government (COGs) will use the secure map viewer to access their data, and the pipeline features will be incorporated into the OWRB's pipeline dataset.

This presentation will describe the project's purpose and goals, types of GIS data collected, mapping process and secure map viewer; lessons learned; criteria for systems who are interested in participating in the mapping or using the secure viewer; and plans to expand the project through 2016 and beyond.

## **Room 112**

### **DRONES AND GIS**

*Meredith Reeder, Excalibur Technologies*

An overview of drone technology complimenting GIS technology. A look at what drones can add to your GIS program. The laws affecting drones and their use. Things to consider in various when selecting a drone or drone company.



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# User Presentations

**10:50-11:20 a.m.**

## **Room 205**

### **THE OKLAHOMA HISTORICAL AERIAL DIGITIZATION PROJECT**

*Madeline Dillner, Oklahoma Corporation Commission*

At OKSCAUG 2013, the Oklahoma Corporation Commission introduced the Oklahoma Historical Aerial Digitization Project. We talked about the rise of historical aerial photography during the Great Depression and Dust Bowl era. We showed you the 2013 inventory of aerial photographs, and discussed how the OCC gathers, georectifies, and uses the photos in pollution abatement cases.

Now, it has been three years, and this project has come a long way. All of the OCC-gathered photographs are available online, to the public, for free, thanks to the Oklahoma Conservation Commission and Office of Geographic Information.

This presentation will cover several new features of the project, including a searchable inventory of historical aerial photograph locations around the state. It will also show you how to access all of the photographs online. And, it will discuss the overall project goal of crowdsourcing these photos' georectification.

## **Room 206**

### **FROM FIGHTING FIRES TO MAPPING EMERGENCIES: MY JOURNEY FROM THE FIRE HOUSE TO GIS**

*Ronald Vaughn Sr., Dallas Fire Rescue*

I will discuss my journey from being a station officer in the busiest station not only in the city but also in the country, to GIS. I will talk about and show some of the projects we are currently working on in Dallas Fire and Rescue. I will show how GIS was used in the active shooter incident here in Dallas.

# User Presentations

**10:50-11:20 a.m.**

## Room 207

### **HOW SHOULD OUR REGION GROW: LAND USE SCENARIOS ANALYSIS OF CENTRAL OKLAHOMA**

*John Sharp and Jennifer Sebesta, Association of Central Oklahoma Governments*

Association of Central Oklahoma Governments staff will discuss the land use scenarios analysis undertaken as part of the Encompass 2040 Metropolitan Transportation Plan (the regional, long-range transportation plan for Central Oklahoma). The goal of the analysis was to illustrate the significant impact land use policies have on the transportation system, while investigating potential alternative development patterns that could address some of the issues facing the region in the future. The presentation will include an overview of scenario planning, a discussion of the data and tools utilized in this analysis, and how the results were incorporated into the larger transportation planning process.



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# User Presentations

**11:25-11:55 a.m.**

## **Room 109**

### **CARTOGRAPHIC PRINCIPLES AND DESIGN: WHY IT MATTERS TO A GIS USER.**

*Michael P. Larson, Oklahoma State University Cartography Services*

A map can be loosely defined as a graphic representation of a portion of the world's surface and is a powerful communications tool. Because of this, maps are frequently the end product of a GIS. Quite often though, the GIS user has little of no formal training in producing a sound cartographic work. This presentation will examine a number of the major cartographic design principles and concepts and then will discuss some of the most frequent stumbling blocks and pitfalls encountered in map production.

## **Room 110**

### **COLLECTOR FOR ARCGIS, SURVEY123, AND DISTRIBUTION AUTOMATION: HOW THEY ALL WORK TOGETHER**

*April Chipman, Central Electric Cooperative*

Central Electric Cooperative has been using Collector for ArcGIS to gather damage information after storms for the past year. Central is now expanding the digital field collection opportunities into distribution automation aspects of the utility, as well as utilizing Survey123 to create new data in the field. Crews in the field can create or update data while administrators in the office can track progress or make quick decisions based upon the overall picture.

# User Presentations

**11:25-11:55 a.m.**

## **Room 111**

### **OKLAHOMA STATEWIDE PARCEL DATA AVAILABLE THROUGH OKMAPS**

*Shellie Willoughby, GISP, OK Office of Geographic Information and Chris Mask, Visual Lease Services*

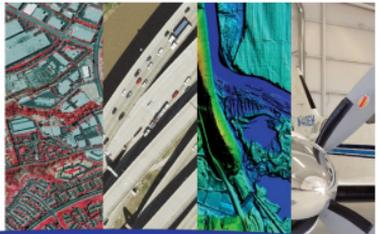
OKMAPS is a collaborative effort of many state and local agencies to provide geospatial data to the public through an online mapping application. The Office of Geographic Information maintains and updates the OKMAPS project with grants through the OK Department of Homeland Security. Now through a collaboration with Visual Lease Services OKMAPS has a statewide parcel dataset available to the public. This presentation will highlight the new dataset along with some of the functionality of OKMAPS. <http://okmaps.org/ogi/search.aspx>

## **Room 112**

### **8 CRITICAL SKILLS YOU NEED TO BE A SUCCESSFUL GIS**

**PROFESSIONAL**—*Chris Akin, GISP, Dunaway Associates, L.P.*

You've gone to school, taken some GIS training classes, logged countless hours creating shiny new maps, and maybe even been promoted or changed jobs a time or two. I'm right there with you. That's been my path as well. And over the last 15 years of being involved in the GIS industry, I've come to realize that there are certain skills that can really make you successful in your GIS career. So I present to you the top 8 skills you need to be a successful GIS professional in today's world. **Based on an article I wrote here:** <https://www.linkedin.com/pulse/8-critical-skills-you-need-successful-gis-chris-akin-gisp>



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# User Presentations

**11:25-11:55 a.m.**

## **Room 205**

### **ARCGIS USE IN ODOT'S CULTURAL RESOURCES PROGRAM**

*Kristina Wyckoff, ODOT Cultural Resources Program*

The Oklahoma Department of Transportation Cultural Resources Program (ODOT CRP) reviews highway projects receiving federal aid to ensure compliance with federal and state environmental laws. As part of the project planning process ODOT CRP identifies and evaluates potential historic properties (primarily bridges, buildings, and archaeological sites) to assess their eligibility for listing in the National Register of Historic Places (NRHP). This presentation will discuss how staff at ODOT CRP have incorporated ArcGIS Desktop, and more recently ESRI's mobile Collector app, to plan, survey, and illustrate project information; as well as to maintain databases of current and past project areas, of archaeological sites recorded in ODOT's right-of-way, and of documented historic bridges. Additionally, this presentation will discuss ODOT CRP's work to make historic bridge data available for public consumption, including early efforts to create a story map illustrating these resources.

## **Room 206**

### **USING PYTHON PROGRAMMING TO INTEGRATE EMODIS AND NLCD PRODUCTS TO UPDATE OK-FIRE FUEL MODEL MAP**

*Jing Wang, Department of Geography, Oklahoma State University*

Satellite remote sensing is widely used to monitor environment phenomena, given the advantages of large area coverage, consistent recurrence and capability to detect spectrum invisible to human eyes. For wildfire management, the substantial amount data from various sensors can tremendously benefit decision makings yet raise challenges for the data processing. As part of the OK-FIRE program, this research utilizes python programming to analyze and integrate raster collections from Moderate Resolution Imaging Spectroradiometer (MODIS) and National

# User Presentations

**11:25-11:55 a.m.**

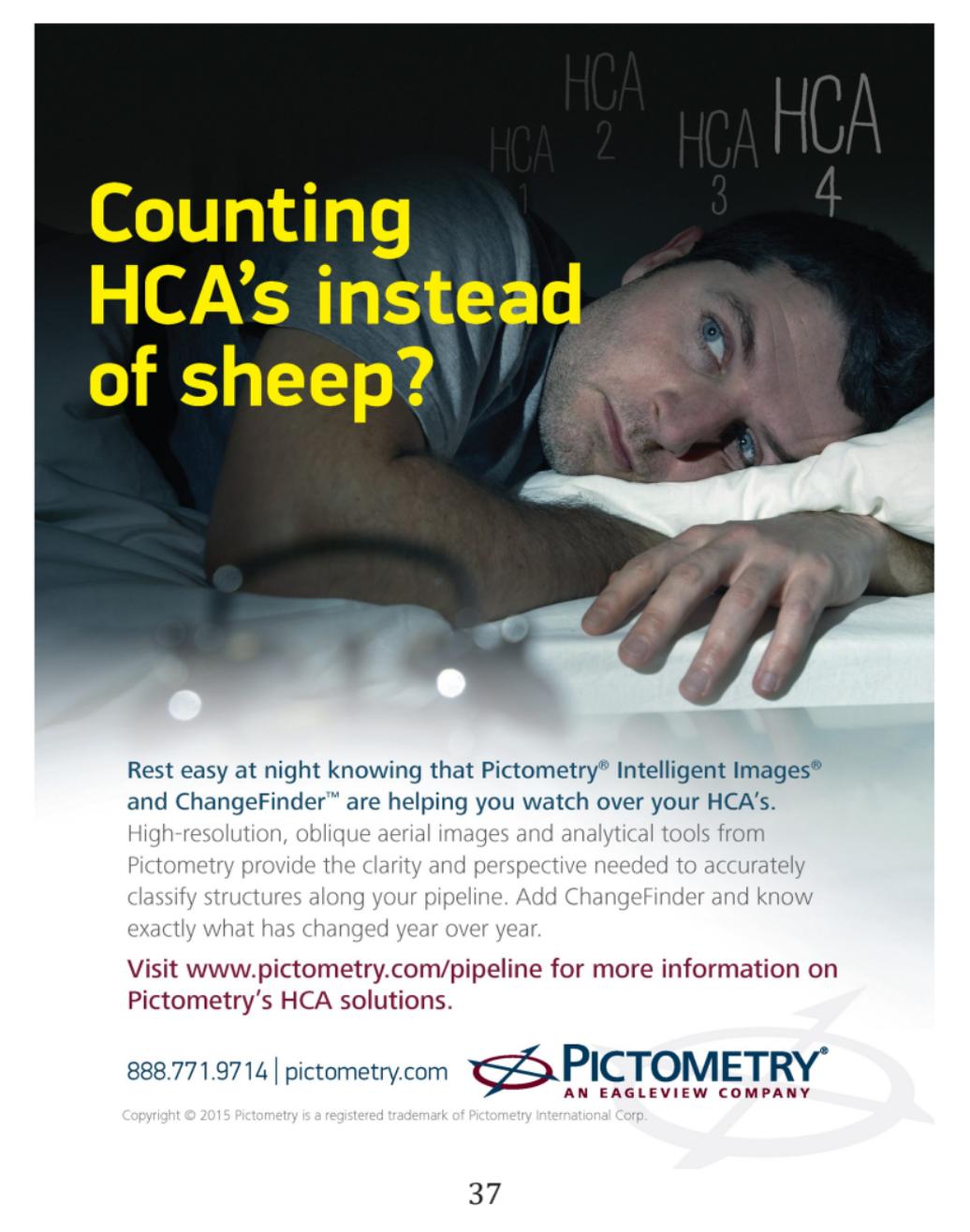
Land Cover Database (NLCD). The resulted maps of historical vegetation index and fuel models will facilitate better understanding of the vegetation pattern and its impact on fire risk assessment in Oklahoma.

## Room 207

### **THE MIDWEST CITY ORIGINAL MILE STORY MAP**

*Kathy H. Spivey, City of Midwest City*

The City of Midwest City is undertaking a multi-phase, multi-year revitalization plan of the Original Mile in the City. This one-mile square neighborhood was once nationally heralded as “America’s Model City”, but retains much of the original 1940s character and look. As the north gateway to Tinker AFB and the eastern boundary of the Oklahoma City metroplex on I-40, the City made a decision to focus much of its recent economic development (in the form of Town Center) and future revitalization in this area. To promote the historical and revitalization focus on the Original Mile, a story map was created to share with citizens, visitors, prospective developers and businesses, and the public in general, a map-based multi-media story of the history of the Original mile from inception to present day and to provide a glimpse at the vision the City has for this area. This presentation will cover how the Story Map was planned and constructed and provide a demo of the Story Map itself.



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# **Exhibitor Showcase**

**1:30 – 2:15 p.m.**

## **Room 109**

### **MOBILE LIDAR IN THE CIVIL INDUSTRY AND 3D DESIGN USING AUTODESK INFRAWORKS**

*Bartley Estes and Rusty Steel, CEC*

This presentation will introduce mobile LiDAR and its applications in infrastructure design. Topics to be covered include: a brief introduction to LiDAR and 3D laser scanning technology, exploiting LiDAR data to create precise existing models, mobile LiDAR applications for engineering and blending LiDAR data with proposed design. Industry innovations such as unmanned aerial systems (UAS) will also be discussed.

We will also demonstrate preliminary design software that helps improve your project outcomes. Combine and connect data to better create, view, analyze, share, and manage information to make decisions in context. We will virtually and conceptually design a project within its existing environment.

## **Room 110**

### **DEVELOPING ARCGIS WEB MAPPING APPLICATIONS**

*Nick Tonias, P.E. and Ian Peebles, GISP, CEDRA and City of Edmond*

The use of web based mapping applications by municipalities has greatly increased over the last few years. The ability to have multiple users accessing the municipality's GIS without acquiring multiple ArcGIS desktop licenses is extremely beneficial. Additionally, the ability to deploy these applications on mobile devices also provides tremendous benefit.

In the ArcGIS world, the question becomes what is the best web based deployment environment. Specifically, should existing web applications



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# **Exhibitor Showcase**

**1:30 – 2:15 p.m.**

that can be reconfigured be used, such as those available at ArcGIS Online, or should custom applications tailored for specific needs be developed. If a custom application is to be developed what development environment should be used, ArcGIS Online in conjunction with the Web AppBuilder or ArcGIS Server in conjunction with the JavaScript API.

This presentation discusses how a web based mapping application can be developed, including the Pros and Cons of the various development environments, and deployed. Case studies discussing how the City of Edmond has developed and deployed web based mapping applications will be presented. The City of Edmond has more than 5 years of experience in developing web based mapping applications and 26 live web based applications. Examples of the City's applications to be presented include: Wastewater Line Maintenance, Emergency Management, Urban Forestry and Art in Public Places.

## **Room 111**

### **NEW TRIMBLE TDC 100 AND THE CLOUD**

*Cody Cantrell – Western Data Systems, Inc.*

Trimble has released the TDC 100 smart phone running Android. The TDC 100 will support the Trimble TerrFlex work flow and other third party apps. Much of the way we currently collect data for GIS is quickly changing and Trimble is ready to keep pace with the new TDC 100. The TDC100 is designed with professional data collection in mind. A fully ruggedized portable handheld (IP-67) featuring a sunlight readable display, high-resolution camera and with user swappable batteries. This unit is ready for all day data collection in any environment or weather conditions.

Running Android 5.1 (lollypop), and featuring full support for the Google Play Store (Google Mobile Services Certified) the TDC100 gives you access

# Exhibitor Showcase

## 1:30 – 2:15 p.m.

to all types of Apps right at your fingertips. Supporting both Trimble TerraFlex and ESRI's Collector solutions. The TDC100 is available in both a WiFi only platform or with 4G LTE technology. The TDC100 features a GPS + Glonass receiver that is capable of 2-5 meter accuracy. If higher accuracy is needed the TDC100 can be paired with the Trimble R1 or Trimble R2 GNSS Receivers for Submeter, Decimeter and Centimeter accuracy.

### Room 112

#### **GOING BEYOND THE BOX WITH CITYWORKS**

*Aaron Krag, GISP - Cityworks*

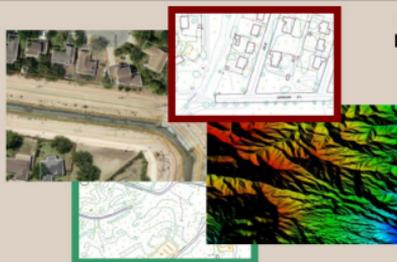
Cityworks is an industry leader in the GIS-centric public asset management space. Whether you are a Cityworks customer, a potential customer or even if you have never seen the software before, stop on by this session and take a quick look at some of the different ways that the ESRI and Cityworks platforms integrate or function together right out of the box. We will take a look at using ArcGIS Collector, pulling real time data from Cityworks into AGOL and the Web App Builder and some analytics to name a few.



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# Exhibitor Showcase

**1:30-1:50 p.m.**

## Room 205

### **ULTRA HIGH RESOLUTION (UHR) IMAGERY WITH A SUB-ONE-INCH RESOLUTION**—*Jonathan Ballard*

Pictometry will be giving a demonstration of Ultra High Resolution (UHR) Imagery with a sub-one-inch resolution that was captured last flight season in Fresno, CA. UHR can be used by GIS professionals for identifying very specific locations such as fire hydrants, irrigation structures, signs and access points, chemical plant layouts, intersections and front doors. There are many other uses for property assessors, public safety and infrastructure professionals.

## Room 206

### **ASSET VISUALIZATION AND ENGINEERING SUPPORT TOOLS FOR THE ENTERPRISE**—*Jay Adams, Hexagon Safety & Infrastructure and Retired Transportation Manager for Oklahoma DOT*

In the Transportation World (Roads, Railroads, and Transit) there are ever increasing amounts of data available to the enterprise for analysis functions such as planning, asset management, safety & traffic management, and bridge & pavement management. Two new applications that support these critical functions are Image Viewer and Straight Line Diagrams (SLD).

Image Viewer is an enterprise web application for analyzing photo logs and associated inventory data that can be used by any stakeholder for transportation data. Image Viewer can function as a standalone application or has been architected to be easily integrated with other applications such as decision support portals. It's developed in HTML5 and offers a public API for system integration.

Transportation Agencies are able to call the Image Viewer Application by

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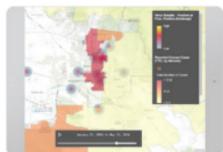
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# **Exhibitor Showcase**

**1:30-1:50 p.m.**

simply passing the required parameters in a browser URL Address bar.

Another valuable application that allows more information to be disseminated to decision makers are SLD's. SLD's provide a robust tool to allow engineers and analysts to view information such as pavement conditions, signal information and traffic counts in a two-dimensional visual depiction with all its related data. It's based on the data from an underlying Linear Referencing System (LRS) and is browser-based so it can be used by anyone throughout the enterprise or in other applications.

Image Viewer and SLD provides quick visual analysis through maps, charts, diagrams and images and is based on the same flexible architecture that can be integrated with other applications or function in a standalone capacity. This presentation will address typical business drivers, development methodology and functionality of both of these solutions.

## **Room 207**

### **IT STARTS WITH WEATHER**

*Matt Gaffner, Weather Decision Technologies*

Weather is responsible for a staggering amount of lost revenue, costs, and critical decisions each year. This presentation will explore the impacts weather has on various industries and the ROI associated with integrating weather data into maps/apps on the ESRI platform. ESRI's platform empowers GIS developers and analysts to easily consume data published as map services, so there's no reason that your business continuity and situational awareness maps and applications can't include high-end, reliable weather data.

# Exhibitor Showcase

**1:55-2:15 p.m.**

## **Room 205**

### **UNIQUE ID ISSUES – A THING OF THE PAST!!!**

*Kevin Koon, GISP, NewEdge Services, LLC*

NewEdge Services, LLC has developed an ID tool that allows users to customize unique ID's within their geodatabases to meet client specific needs. Designed to work seamlessly with your GIS database, the NewEdge Unique ID Tool generates custom unique ID's for GIS features. Features include: batch ID generation, automatic generate of new ID's for both new or spilt features, globally unique ID's across the database, easy modification. The tool is Cityworks and E911 compatible as well. During the showcase, we will explain and discuss multiple deployment options available.

## **Room 206**

### **DOWN THE LAZY RIVER: HYDROLOGIC MODELING OF LIDAR DATA**

*Kryisia Chris Sapeta, CP, PMP, SP, GISP, The Sanborn Map Company*

Water flows downhill, and our water models should reflect that. LiDAR is a superior technology for water modeling, but it needs to be enhanced with breaklines in order to ensure proper delineation of the terrain. This presentation will give a brief overview of the latest USGS LiDAR Base Specification, Version 1.2. It will also discuss how the LiDAR water model is generated, including initial acquisition, point cloud classification, development of a 'Bare Earth' Digital Elevation Model (DEM), hydro-flattening and hydro-enforcement.

Then we can be assured we are flowing downhill and not have to paddle upstream!

# Exhibitor Showcase

1:55-2:15 p.m.

## Room 207

### **UAS MAPPING: MAKING THE CASE FOR GROUND CONTROL POINTS**

*Mark R. Paulson, RPLS, Vertical Aspect, LLC*

Vertical Aspect specializes in helping train professionals and organizations in developing their own in-house UAS mapping capability. In order to achieve survey grade accuracy, absolute accuracy is needed on a UAS Mapping project, which requires either the use of Ground Control Points or an RTK (Real Time Kinematics) capable aircraft. This presentation will compare an identical project processed using RTK, GCPs and no GCPs. Our presentation will discuss proper positioning and number of GCPs, attributes of good GCP targets, the difference between a CGP and a check point and different types of equipment capable of measuring Ground Control Points. It will then cover the insertion of GCPs into a project using Pix4D.

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# Esri Technical Sessions

**2:20 – 3:05 p.m.**

## **Room 109**

### **DRONE TO MAP**

*Elvis Takow*

Drone2Map for ArcGIS is a desktop app that turns raw still imagery from drones into orthomosaics, 3D meshes, tile images and more, by leveraging the power of the ArcGIS platform. With the recent accessibility of drone hardware, anyone can create 2D and 3D maps of hard to access features and areas. The focus of this session will be on demonstrating how Drone2Map can be used to bring high quality drone imagery to users in a fraction of the time without the need to integrate disparate IT systems.

## **Room 110**

### **3D MAPPING IN ARCGIS**

*Zena Pelletier*

Our World is 3D - Visualize, analyze, and communicate by enriching your data and ideas with the context of the world around us. ArcGIS provides many solutions for working with 3D data from editing, visualizing, and sharing. This session will highlight several 3D data workflows in some of the 3D capable ArcGIS solutions such as City Engine, ArcGIS Pro, and ArcScene.

# **Esri Technical Sessions**

**2:20 – 3:05 p.m.**

## **Room 111**

### **THUNDER UP! MAPPING RUSSELL WESTBROOK'S SHOTS WITH PYTHON AND ARCGIS**

*Gregory Brunner*

Russell Westbrook made 656 of 1444 shots during the 2015-2016 NBA regular season. Where on the court did he make his shots? Where did he miss? In this presentation I will demonstrate how to use Python to access player shots from the NBA.com stats API and how to use ArcGIS to map the shot locations. I will show several examples of visualizations and analysis that are possible with ArcGIS using configurable apps in ArcGIS Online, Esri Maps for Adobe Creative Cloud, and the ArcGIS API for JavaScript 4.0.

## **Room 112**

### **SOCIALIZE YOUR GIS WITH AGOL TEMPLATES**

*Michael Beavers*

We will introduce the ready-to-use solutions make available through the Esri Government Solutions practice. We will discuss the purpose of our solutions efforts, why we have adopted a COTS (commercial off the shelf) approach as a strategic platform initiative and the vast array of solutions available. We will also provide clear examples of how people can get involved with the Esri solutions effort and a preview of the road map for new development.

# **Esri Technical Sessions**

**3:50 – 4:35 p.m.**

## **Room 109**

### **SURVEY 123**

*Elvis Takow*

Smarter Forms, Smarter Field Work. Survey123 for ArcGIS is a new form-centric solution for mobile field data collection. Survey123 for ArcGIS allows users to author and publish sophisticated forms into ArcGIS, capture data in the field and analyze the results in a straight-forward manner. In this session we will introduce the product, discuss how it integrates with the ArcGIS Platform and business opportunities. Survey123 for ArcGIS is useful across many different industries!

## **Room 110**

### **UNDERSTANDING AND ACCESSING ESRI GLOBAL DEMOGRAPHIC AND LIFESTYLE DATA**

*Zena Pelletier*

ArcGIS includes a living atlas of the world with ready to use maps and layers from Esri and hundreds of other organizations that users can combine with their own data to create new maps and applications. This presentation will provide an overview of the Living Atlas, Demographic and Lifestyle Data, and how to access this information using applications like ArcGIS Online, Community Analyst, and Business Analyst.

# **Esri Technical Sessions**

**3:50 – 4:35 p.m.**

## **Room 111**

### **DEPLOYING THE ARCGIS PLATFORM IN WATER RESOURCES, WATER UTILITIES, AND STORM/SANITARY SEWER**

*Seth Tribbey*

In this session, we'll discuss the direction for the ArcGIS platform as a whole and provide some examples of how water utilities and water resources organizations are taking advantage of esri's configurable solutions for water to solve common industry challenges such as flood preparedness and response, water conservation/water loss, main break response, etc.

## **Room 112**

### **STORY MAPS**

*Michael Beavers*

Everyone has a story to tell. Harness the power of maps to tell yours. Rather than death by Power Point, engage and inspire your audience with interactive, Story Maps. During this workshop, we will show you how to leverage your AGOL subscription more fully by covering the Step-by-Step instructions on how to build your own Story Map.

An aerial photograph of a city street and canal. The canal is filled with various boats, including sailboats and motorboats. The street is lined with buildings and parked cars. A teal overlay is present in the top right corner, featuring the word 'here' in white, slanted text.

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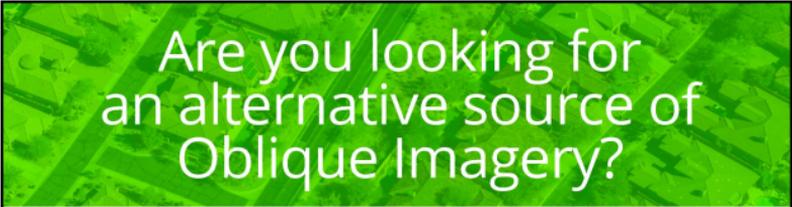
# Poster Presentations

## **DRONE REGISTRATION AND LOCATIONS IN OKLAHOMA**

*Janelle Williams, Tulsa Airports Improvement Trust*

The poster will identify the aggregated number of unmanned aerial systems (UAS - drones) registered with the Federal Aviation Administration in each county of Oklahoma. The information will be further divided by the type of registration listed, either Commercial or Non-Commercial, hobbyist. FAA regulations require UAS operators to notify local airports and air traffic control towers if flying within five (5) nautical miles of an airport. The poster will depict these 5 mile buffer zones. The FAA has published rules for UAS operations and developed both web and mobile applications to assist the public in meeting the requirement to ensure the flying public's safety. The poster will display samples of the regulations and mobile applications available.

*Source: FAA DRONE REGISTRATION 5-12-2016.xls; ZIP CODE, STATE & COUNTY BOUNDARY DATA from US CENSUS TIGER files. FAA AC 91-57A, AC 107-2, ACRP 144 NOT TO SCALE - FOR REFERENCE ONLY*



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# Poster Presentations

## USING GIS TO HELP THE COLLECTION OF TRANSIT RIDERSHIP DATA AND MAPPING

Nimish Dharmadhikari, INCOG

The Metropolitan Tulsa Transit Authority (MTTA) or Tulsa Transit was established in 1968. (Tulsa Transit, 2016) Currently Tulsa Transit operates 27 fixed routes with the help of 66 buses out of which 5 routes are nightline bus routes. Tulsa Transit needs to alter the routes and scheduling periodically based on the ridership changes. The ridership changes are captured with the help of data collection and mapping. We established a method of using GIS to help with the data collection and mapping. First step of the method involves the development of the data instrument used on the bus with the help of route shapefiles. Second step is actual data collection. Third step consists of data analysis and mapping of the data. Using this approach we helped Tulsa Transit to make decisions about their nightline routes. *Source: Tulsa Transit. (2016). About Tulsa Transit. Retrieved 07 26, 2016, from <http://tulsatransit.org/>: <http://tulsatransit.org/useful-info/mtta-history/>*

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## Poster Presentations

### **LINGUISTIC ZONES DERIVED FROM THE BUREAU OF ETHNOLOGY VOL 7 PLATE 1**

*Gano Perez Jr., Muscogee (Creek) Nation Historic & Cultural Preservation Dept.*

Thousands of years before any explorer ever visited what is now labeled North America, numerous tribes and languages existed and flourished throughout this continent. Literally hundreds of dialects were being spoken in the matters of oral traditions, ceremonial orations, free trade and commerce, along with countless other vocal interactions amongst native factions.

This map features data derived from the Seventh Annual Report of the Bureau of Ethnology to the Secretary of the Smithsonian Institution 1885-1886 by J.W. Powell (Director), sub-titled Indian Linguistic Families of America North of Mexico. Focusing on the southeastern region, where the Muskogean language flourished, the Linguistic Zone Map displays the ancestral homelands of the Muscogee (Creek) Nation along with other Muskogean dialect tribes and neighboring tribal linguistic stocks such as Iroquoian, Caddoan, Siouan, and Algonquian, etc. This data exhibits the expansive coverage of the Muskogean influence even though to this late period of inhabitation circa early 1800's.

Luckily there have been scholars in the scientific fields of ethnography, anthropology, archaeology and linguistic field research; who thus created various records of their own and compiled extensive data from previous scholars' work which originated from the early exploration accounts of our native lands. The scholarly report mentioned above is bound within the pages of the Bureau of American Ethnology (BAE); formerly the Bureau of Ethnology, which was established in 1879 for the purpose of transferring archives, records and materials relating to the Indians of

## Poster Presentations

North America from the Interior Department to the Smithsonian Institution. A rich collection of annual reports and bulletins were notably created from this repository mission therefore contributing tremendously to the files and documentation of this precious world heritage.

### **GIS ANALYSIS OF RESIDENTIAL PROPERTY SALES IN CANADIAN COUNTY**

*Joel Foster, Canadian County Assessor's Office*

Property tax systems around the nation rely on gathering and maintaining accurate data on all property within a jurisdiction so an accurate estimate of value can be derived. In Oklahoma, each county has an elected Assessor who is responsible for appraising each property within that county each year to support the property tax system. Location is always said to be the most influential driver of real estate value. Using GIS to analyze real estate data, particularly real estate sales, can give a complete picture of how property location determines its value. This data can then be incorporated into mass appraisal methods to derive accurate property values that will ensure equitable and fair administration of the property tax system. This poster explores residential real estate sales in Canadian County from 2011 to 2015 using geospatial methods to analyze density, average sale price, and changes in both over time.

# Poster Presentations

## **SPATIAL IMPLICATIONS OF OKLAHOMA SENATE BILL 808**

*Lauren Wood and Stephen J. Stadler, Oklahoma State University*

The wind industry in Oklahoma has grown fast enough and generated enough backlash to pass Oklahoma Senate Bill 808. The bill was created in order to keep the base of a new wind turbine one and one half nautical miles away from public schools that are within public school districts, hospitals, and the center lines of a municipal-owned airport, public airports, and private-use airports that meet with the Federal Aviation Administration (FAA) requirements. The bill specifically affects the locations of wind turbines built after January 1, 2017. This poster examines the spatial consequences of Senate Bill 808. If the bill had been passed before the construction of the existing wind turbines, how many of these turbines would not be in compliance with the bill?

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## Poster Presentations

### **MODELING AND SIMULATION OF WATER MANAGEMENT IN THE RIO GRANDE RIVER BASIN**

*Kyndra Hanson and Dr. Jennifer Koch, University of Oklahoma - Department of Geography and Environmental Sustainability*

The Rio Grande River basin (RGB) stretches through Colorado, New Mexico, Texas and Mexico before it reaches the Gulf of Mexico, spanning a politically, socio-economically, and environmentally diverse region. Management decisions in this highly complex system may lead to unintended outcomes in other parts of the basin, both upstream and downstream. One example is the management for the Rio Grande Silvery Minnow. The Silvery minnow, an endangered fish species, is affected by many water management decisions in the RGB, as it requires a minimum in-stream flow to sustain life. Under certain climatic conditions, the in-stream flow requirements may compete with irrigation requirement for agricultural production, essential to sustain the needs of local farmers. A change in climatic conditions is likely to aggravate these management conflicts in the RGB. We will use the *Envision* framework to create a simulation model for the RGB. *Envision* has the ability to represent landscape characterizations, behaviors of decision-makers, and many other plug-ins that represent components of the Rio Grande River. We will focus on 10 regions of the basin to further understand how water resources are allocated, how the river is perceived by conservation managers, and how the public and managers value of the river. With *Envision*, we will develop scenarios based on climate change predictions and use these to guide future decisions within the Rio Grande River basin in order to support sustainable management decisions.

# Poster Presentations

## **OVERVIEW AND DETAILS OF FME (FEATURE MANIPULATION ENGINE)**

*Kelby Thomasson, City of Midwest City*

Feature Manipulation Engine, or FME, is a process and workflow application used in data management. It is a very powerful program that can work with all formats of data, and can be used to convert that data to another format. This becomes helpful when working with workflow processes: you can show how the data is presented at the beginning of the process, to how it ends up in the final format along the entire process. FME has a wide assortment of tools called “Transformers”. These transformers are used to QA/QC, manipulate, and create new databases, as well as perform analysis and processing of data. Databases, and the associated features of those databases, can easily be translated in a very broad assortment of programs and software, including ArcGIS, allowing for multiple divisions to use data from one department to the other. The author shows the many different ways that FME can be used in several aspects of business, and within city government applications and data management areas.

The purpose of this overview is to inform software users and management of the capabilities and power of the FME software, by showing the potential of FME within and across departments, and how it can be used to solve problems, or reoccurring issues, that may be plaguing certain departments. The question that is purposed is ‘would the cost of the software actually add justifiable efficiency and benefit to workflows and data processing?’

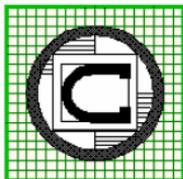
# GIS based Solutions for Asset Collection and Asset Inventory System Implementation

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As municipalities struggle to maintain their infrastructure it has become increasingly important for them to efficiently plan and budget in this effort. Implementing an Asset Inventory System is a critical first step in implementing an effective means to plan for fiscal maintenance needs of infrastructure assets be they roads, hydrants, signs, trees, culverts, manholes, water valves, meters, guide rails and so forth.



Huitt-Zollars and The CEDRA Corporation specialize in performing Asset Collection and implementing Asset Inventory Systems in a GIS environment. H-Z and CEDRA have been working together for more than a dozen years and possess the requisite technical expertise, experience and equipment in providing these types of services. For more information, contact The CEDRA Corporation.



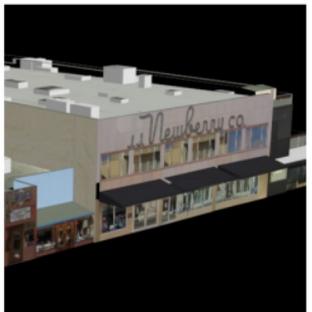
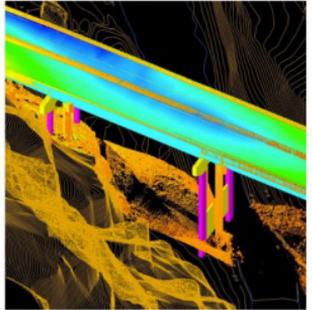
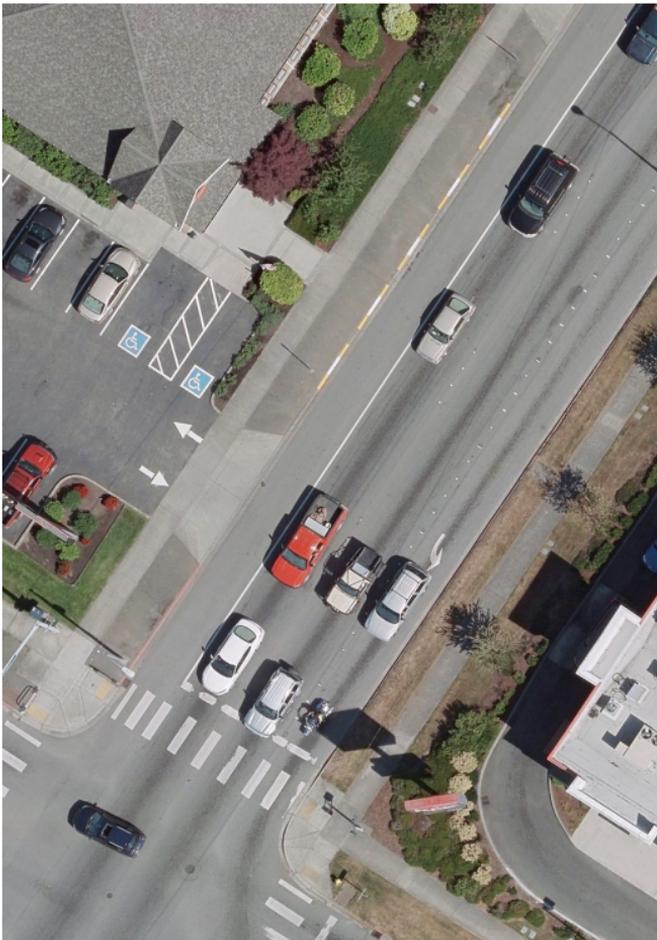
## **The CEDRA Corporation**

151 Sully's Trail – Suite 6

Pittsford, New York 14534

585-232-6998

<http://www.cedra.com>



# ACCESSGEOGRAPHIC

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## Exhibitor Bios

# ACCESSGE<sup>+</sup>GRAPHIC

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Access Geographic serves local industry and government agencies across Oklahoma, Texas, Louisiana and Mississippi by using innovative geospatial technologies without losing sight that care and detailed craftsmanship still drives quality results. The AGL team is passionate about working with geography, and is continually inspired to make it an accessible and useful resource through discipline, creativity and respect for our clients. From aerial mapping to terrestrial LiDAR, Access Geographic works hard to find the appropriate solution for your geospatial goals.

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With more than sixteen years' experience in Trimble GPS sales and training, Benchmark GPS can help you with your data collection needs. Benchmark GPS offers the full line of Trimble mapping and GIS data collection products. In addition, we offer customized on-site training for our customers. We pride ourselves in providing the best service possible and we work to make sure our customers stay on the cutting edge of GPS technology. We specialize in fast turnaround of orders and are just a phone call away for answers to your specific GPS-related questions. Contact Benchmark at 405-641-6136 or [bspringer@benchmarkgps.net](mailto:bspringer@benchmarkgps.net).



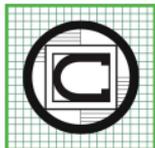


# CEC

At CEC, we serve the purpose to, "Get Stuff Built Right!" As a multi-service engineering firm, our company exists to better our community through the



collaboration of highly skilled problem solvers driving to provide the best solutions to improve your infrastructure. However, it is not just the built environment we wish to impact. We build relationships. Our commitment to you is to use the services we provide to see your project from conception, to design, to construction. We believe in building relationships with our clients through trust. We build communities. As a design firm that has been serving Oklahoma since 1921, we have worked hard to develop and build the communities we serve and live. We are honored to play a part in driving our community growth. We build families. The work we do impacts the families within our communities – including our very own. The safety as well as the quality of life of the general public is dependent on the infrastructure we design. No other industry has the ability to affect so many people as ours, and we take that seriously. Through our vision to eliminate aging infrastructure and drive community growth, we at CEC have developed our passion to Get Stuff Built Right – our relationships, our communities, and our families.



## The CEDRA Corporation

Bridging Engineering and GIS  
Providers of

ArcGIS® and ArcView® GIS Software Extensions



The CEDRA Corporation, offers ArcGIS based software for CAD, surveying, COGO, roadway and site design, tax mapping, land parcel management, sewer modeling, water distribution modeling and data entry/maintenance applications. Complementing CEDRA's software development services is its consulting division which specializes in developing, populating and maintaining GIS databases, data conversion, custom application development and providing routing services.

CEDRA's consulting services division, comprised of a number of civil engineers, is highly specialized in developing water, wastewater and storm sewer databases and converting existing information (digital and non-digital) into ESRI's GIS format. CEDRA also has experience in developing databases for other types of utilities such as electrical, oil and natural gas pipeline facilities. CEDRA is located in Pittsford, New York and is an ESRI Authorized Developer and Reseller.



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's ArcGIS technology, Cityworks' 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 for thousands of people, saving time and money, while improving operational efficiencies.



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in GIS, ESRI software is used in more than 300,000 organizations worldwide including each of the 200 largest cities in the United States, most national governments, more than two-thirds of Fortune 500 companies, and more than 7,000 colleges and universities. ESRI applications, running on more than one million desktops and thousands of Web and enterprise servers, provide the backbone for the world's mapping and spatial analysis. ESRI is the only vendor that provides complete technical solutions for desktop, mobile, server, and Internet platforms. Visit us at [www.esri.com](http://www.esri.com).



Geomatic Resources is the premier Leica Geosystems dealer for Oklahoma, Arkansas and North Texas. Our firm was founded in 2005 with an eye towards bringing



value to the product by staffing with measurement and technical professionals. Colin Fletcher has over thirty years of measurement, construction and mapping experience.

We are proud to have a staff that includes two Professional Land Surveyors and a combined 100+ years of industry experience in Surveying, Construction, GIS, Machine Control, HDS, and software solutions. We don't just provide the best products, we provide superior solutions. We are professionals backing professional products and we are proud to be a part of SCAUG!



GRI has been in business since 1987 and thus are celebrating 29 years in 2016. We have 17 stores nationally: Oklahoma City & Tulsa, OK - Dallas, Fort



Worth, Austin, San Antonio, & Houston, TX - Tempe, AZ - Irvine, San Jose, & San Francisco, CA - Chicago, IL - Minneapolis, MN & Atlanta, GA. GRI works with a wide variety of customers in different fields such as Architecture, Engineering, Construction, Manufacturing, Oil & Gas, Federal/State/Local Govt., etc. Some of our core services include digital printing, copying, scanning, document management and equipment sales. GSI sells large format copying, printing and scanning equipment and are also GSD Resellers for HP.



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 positive method of showing 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 that describes an applicant's background in Ethics, Education, Experience, and Contributions to the Profession. That application, accompanying documentation, and payment are submitted, and the review generally takes from 30 to 45 days for approval.

The GISCI Geospatial Core Technical Knowledge ExamR has now been developed and added to the GISP Certification process. It is based on a job analysis, informed by the GIS &T Body of Knowledge, and guided by the Geospatial Technical Competency Model (GTCM). It is offered twice each year, in the Summer and Fall.



Geographic Information Services, Inc. (GISinc) is an award-winning location based technology and professional services firm headquartered in Birmingham, AL. Since 1991 our team of GIS



professionals has been using Geographic Information Systems to solve staffing, technology, and business needs in markets for Federal, State and Local Governments and privately-held companies.

HERE Maps, formerly NAVTEQ, have been creating navigation-grade maps for over 30 years. Our maps power 175 million devices worldwide. Whether you are on your phone, your computer, or in your car, our goal is

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Maps for Life

to provide you with the most advanced and accurate maps available so you can explore your world with ease and comfort. And with HERE's new Map Creator program, it's now even easier for people to contribute location experiences and



promote your community to help make the HERE Map even better. Please see us at our booth or go to [here.com](http://here.com) for more information.

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Around the world highways agencies are having to respond to increasing road usage against a climate of restricted



funding. This combination presents significant challenges to reducing congestion, enhancing safety and asset condition, increasing capacity, and expanding their networks. Our highways solutions can help by connecting the enterprise with current, authoritative data and delivering task-oriented solutions that inform planning and operations to focus limited resources where they will deliver the greatest benefit. Their specialized capabilities support critical highways functions from asset management to permitting, safety planning, and physical security

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Land Scout was created to meet the need for streamlined project planning by bringing together a multitude of mapping resources. Land Scout is an Esri ArcGIS based mapping application which simplifies the decision making



process. The Land Scout service can be used anywhere you go, on location or in the office, utilizing a tablet or desktop. You can easily run and print reports, upload shapefiles and sketch areas of interest. Land Scout is the sister company to Reagan Smith Energy Solutions, which is a full service state and federal regulatory consulting firm. This unique partnership allows Land Scout to provide federal and Indian land data that was previously very difficult to obtain.

Other resources include wetland and floodplain maps and reports making developers aware of required permits. Our cultural resource layer provides data on known areas with high probability of encountering cultural resources. Our endangered species layers allow developers to see possible impacts to listed species. Well data indicates producing and abandoned wells in the area of interest. Use Land Scout for a quick comprehensive visual resource for project planning.

*creating a better tomorrow...*



Meshek & Associates GIS division has assembled an exemplary staff since its inception in 1999. Our team



now has 7 certified GISPs, 3 Masters degrees, and over seventy years of combined GIS experience to offer our clients. Our exxperience makes us uniquely qualified to help our clients navigate the rapidly changing world of GIS and provide cutting edge solutions that stand the test of time.

Meshek GIS services range from the basic to the advanced. Services include converting existing paper maps, CAD data, or tabular reports into an integrated GIS; performing sub-meter GPS surveys of infrastructure and environment; and, the design and deployment of advanced web-based GIS services and applications. Our knowledge, experience, and vision will ensure all of your GIS projects meet their true potential.

As a homegrown Oklahoma company, Meshek has developed a proven track record for successful GIS project design and implementation throughout our great state. Meshek is the preferred local choice for all your GIS needs.



**MIDLAND**  
**GIS Solutions**

With more than 16 years of experience, Midland GIS Solutions is an industry-leading,



professional Geographic Information System (GIS) firm serving state and local governments and private industries throughout the Country. Midland provides GIS data development and conversion services, digital cadastral mapping and maintenance, innovative web-based and mobile GIS services, and various other GIS-centric solutions for editing, maintaining and managing geospatial data.



**NewEdge** Services, LLC is focused on implementing GIS, Asset/Work Management Systems, Cloud Hosting, and Related Services. **NewEdge** provides clients with turnkey solutions for a wide variety of needs and can



provide additional resources for clients on specific projects. Our experience demonstrates our abilities, which include: Database design, implementation, and management (Oracle, SQL, ArcSDE), Custom web and mobile applications, Hosted cloud solutions, GIS data creation, GIS analysis, Hard copy map/plan inventory, cataloging, and georeferencing, System integration, Asset/Work management system implementation and integration, Permitting system implementation and integration, User training and support, And much more...

**NewEdge** has strategically aligned with multiple business partners to provide our clients with implementation services for products that are leaders in their perspective fields. Our long standing business partner relationships include: Amazon Web Services, CitySourced, Cityworks, Esri, Freeance, Geocortex by Latitude Geographics.

The **NewEdge** team has all of the knowledge, experience and expertise needed to successfully implement all GIS related projects. Our team has been working together since 2008 and has over **100 years** of combined

experience in working with multiple types of data, software, and technologies that will be critical for a successful project.

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Pictometry® Intelligent Images® As the innovator and leader in all types of aerial imagery, Pictometry invented the capture of high-resolution oblique images that, unlike traditional orthogonal (top-down) images, show each side of every structure, roadway and other outdoor objects, with views from all four cardinal directions. Since each pixel is individually geo-referenced, users can quickly and precisely measure geographic position, height, distance and altitude directly on the images in real-time. This innovation changed the GIS world in 2002. Today, the professional-quality, high-resolution aerial imagery is stored in the cloud, eliminating the need for local, manual management of imagery. Simply upload location-based data sets and the information is layered on the images alongside proprietary measurement and analytic tools to deliver unparalleled visual insights. The image library currently contains more than 300 million images captured by a fleet of 108 aircraft utilizing the only oblique camera system to receive USGS certification. Pictometry, an EagleView Company, continues to innovate with leading research and product delivery in all types of aerial imagery capture, data analytics and GIS solutions that serve the commercial, government, oil/gas and public utility sectors. Pictometry engineers continue to lead the market with innovation, research and development providing unmatched delivery of products into multiple markets supported by excellence in imagery and web-based solutions. Pictometry is the largest aerial solutions company in the world which ensures rapid collection times of aerial imagery.



RazorTek was established in 2002. We are a GeoSpatial data provider specializing in data development, data conversion, feature



extraction, map production, Georeferencing paper maps, on-site GIS training, custom GIS programming, web application, MrSid image processing, and Project Management. In addition, RazorTek is a software reseller for a variety of vendors (ESRI, LizardTech (GeoExpress) and PlanetLabs), a provider for high resolution satellite imagery (PlanetLabs and Digital Globe), aerial photography and LiDAR. At RazorTek, we pay attention to all of the details that go into all of our GeoSpatial projects, providing you the quality, performance and pricing you expect and deserved We use the latest computer technologies, with industry standard computer applications such as ESRI, LizardTech, Terrago, MicroStation, ERDAS and Microsoft Office Suite applications and many more.

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Sanborn is a 21st century industry leader in geospatial solutions and technology, offering superior services,



program management, and customer support. For our clients we provide a nationwide presence, extensive resources, quick responses, and exceptional value. For 150 years, we have been a leader in the geospatial industry, with successful projects delivered worldwide. For more information about our products and services, visit us online at [www.sanborn.com](http://www.sanborn.com) or call 1.866.726.2676 to speak with a representative.

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Founded in 1962, The Schneider Corporation is a leading provider of geospatial and e-government solutions to hundreds of municipal, county, state, federal, and private entities. A technology leader,



Schneider provides innovative, industry-leading solutions to help organizations get the most from their limited resources, with creative product solutions such as Beacon™ and qPublic.net™ (local government information portals), Permitting™ (cloud-based permitting and work flow management), and IDAM™ (damage assessment software). Serving nearly 20% of the counties in the U.S., Schneider has a wide geographic footprint with several regional offices across the county. Schneider is a registered WBE and HUB.

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Suredex Corporation is one of the largest geospatial data and services providers in North America. For over a half-century we have served federal, state, and local governments as well as



private, engineering, and defense mapping clientele. We are one of the very best at acquiring aerial data, whether it is digital imagery, film photography, or LiDAR data. Our fleet of eight (8) aircraft is supported by our own inspection, maintenance, repair, and customization facility—ensuring maximum productivity and availability of these precious resources. Our aerial sensors include: 3 Intergraph Digital Mapping Cameras (DMC) – one of the largest such installations in the world · A Vexcel Imaging UltraCam Xp/WA camera providing cost-effective imagery capture · A Leica ALS-50-II LiDAR with Multiple-Pulse-in-the-Air technology for cost-effective and accurate capture of elevation data · 4 film cameras supported by in-house scanning.



United Geo Technologies, LLC, your geospatial service provider, offers a wide range of services such as photogrammetry, orthophotography, parcel



mapping, and geographic information systems. This small, woman owned business has extensive experience in the geospatial disciplines and our personnel includes a Certified Photogrammetrist. UGT's personnel have extensive experience in the following areas: *Aerial Imagery Acquisition (both analog and digital), Airborne GPS, Aerial Film Scanning, CAD (MicroStation and AutoCAD), Contour Generation, Digital Aerial Triangulation, Digital Elevation Models (DEM), Digital Terrain Models (DTM), Digital Orthophotography (TIFF), Image Compression (MrSID, JPEG2000, ECW), LiDAR DTM and Contour Integration, Parcel Mapping, Geographic Information Services (ESRI), Plan and Profile, Planimetric Feature Extraction, UAV / Drone Image Processing, Volume Computations*



Vertical Aspect, LLC focuses on helping individual professionals and companies in developing their own in-house UAS mapping capability. Vertical Aspect conducts UAS mapping service work to



prove the value of this technology or for those that wish to outsource. Their unique specialty is in providing consulting and training to across the entire mapping workflow, from mission planning through in-flight capture to final deliverable. They can also offer select proven hardware and software solutions including Pix4D mapping and Virtual Surveyor software, and they are distributors for the Robota Eclipse fixed wing system and the v-Map RCS (for obtaining Ground Control Points). Headquartered in San Antonio, with professional pilots and a Registered Surveyor on staff – they service Texas and surrounding states, and conduct remote one-on-one training worldwide. Vertical Aspect can quickly help organizations take advantage of the new Part 107 regulations and develop their own commercial UAS mapping capability.



Weather Decision Technologies, Inc. is the industry leader, providing organizations with weather data via GIS-ready map services. WDT offers archive, real-time,



and forecast weather data for plug-and-play use in ESRI maps and applications. In addition to providing weather data via REST endpoints from our ArcGIS Server infrastructure, WDT also offers weather data services via proprietary APIs. To further support the meteorological needs of our clients WDT employs the world-renowned WeatherOps forecast team, staffed by experts who provide global asset projection, decision support, and commodities trading insight. WDT maintains operational offices in Norman, Oklahoma and Houston, Texas.



Western Data Systems is an authorized Trimble Dealer specializing in the sales, rentals, training and technical support for Survey, Mapping, Marine, Utility, Environmental, Fleet Management and Seismic Industries. WDS was founded in 1982 and since then has concentrated on supplying top of the line Spatial Measurement and GPS related products in Texas and Oklahoma for sales and worldwide for rentals. We offer several peripheral items such as pipeline locators, ground penetrating radars, laser rangefinders, laser scanners, GPS cameras, barcoders, tablets and much more. WDS has two full Survey Supply stores in Texas and delivers wood, stakes, flags and any supply needed daily. With our extensive rental fleet we have more than enough gear to get you through any job and can ship worldwide. Our Technical Support staff is comprised of a staff that has worked in the field and can help out with any support need you have. We offer free support to both our rental and sales customers. WDS also manages the largest private VRS Network in the world. This network is available to both Survey and Mapping communities. We are adding base stations continuously and the amount of users grows each year. For a full line of our products and Services please visit our website at [www.wds-us.com](http://www.wds-us.com). With six offices across Texas and Oklahoma you are never too far from The Experts!



**Are You Contemplating  
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**A GISP Certification Can  
Help!**

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# Congratulations OKSCAUG 2016 Scholarship Recipient

Stephanie Heald  
Oklahoma State University

*Student grantee received a \$500 OKSCAUG Scholarship  
funded by OKSCAUG professionals.*



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## Additional Workshops and Training Locations

### **Workshops: Monday, Sept. 19**

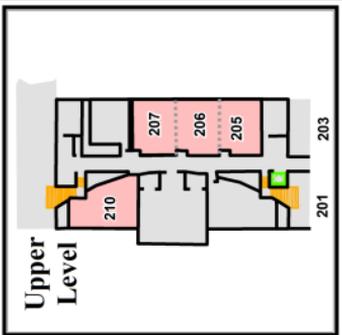
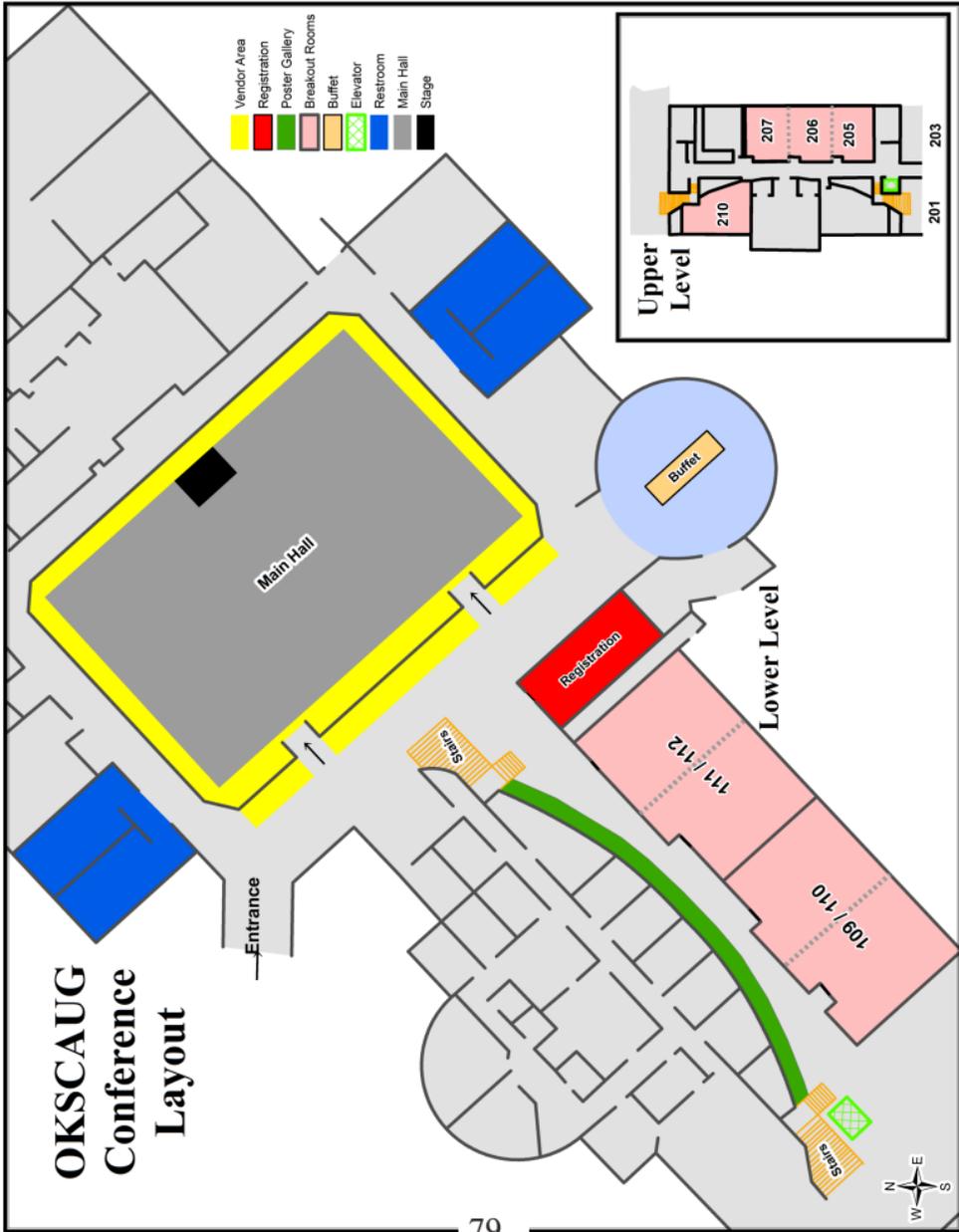
		<b>ROOM</b>
Minimum Standards for Legal Descriptions & Mapping Applications	8:30 am – 12:00 pm	111
GISP: The Road to an Exam	8:30 am – 12:00 pm	112
ArcGIS Tips and Tricks I	8:30 am – 12:00 pm	201
Getting Your ArcGIS Online Up and Running	8:30 am – 12:00 pm	203
Cost Effective, High Precision GPS Field Data Collection Using TerraGo Edge for iOS and Android	1:00 – 4:30 pm	110
Oklahoma Emergency Management/GIS	1:00 – 4:30 pm	111
Multi Rotor Aircraft for Mapping Workshop	1:00 – 4:30 pm	112
ArcGIS Tips & Tricks II	1:00 – 4:30 pm	201
Find, Record, & Display: Using Navigator, Collector, & Web App Builder	1:00 – 4:30 pm	203

### **Training Courses: Wednesday, Sept. 21 – Thursday, Sept. 22**

ArcGIS Basics III	8:30 am – 5:00 pm	201
Using ArcGIS for Water Utility Workflows	8:30 am – 5:00 pm	203
Deploying and Maintaining a Multiuser Database	8:30 am – 5:00 pm	210

# OKSCAUG Conference Layout

- Vendor Area
- Registration
- Poster Gallery
- Breakout Rooms
- Buffet
- Elevator
- Restroom
- Main Hall
- Stage



# We've grown a lot since 1969, but our mission remains the same

## Our Actions Speak...

We were founded to help solve some of the world's largest problems. From natural disasters to humanitarian crisis, the important work our users do will always be the focus of what we do.



## Our Values

We wake up every day hoping to help solve problems we couldn't have fathomed the day before.



### Time-Tested

After 40+ years, we continue to thrive and grow as a leader in mapping innovation.



### User-Centric

Our top priority is our users. We listen to their needs and challenges so we can keep making a better platform.



### Research-Driven

We spend more than 23% of our annual revenue on R&D. That's how much we believe in advancing the use of applied geography.

# 41

The number of Esri offices around the world with employees from **67 different countries**.  
(Care to join us?)

Experience the User Conference

USER CONFERENCE  
UNITED WE MAP



# 350K+

More than **350,000** organizations worldwide rely on Esri software.

*Tear along dotted line*

## **MAP BALLOT**

*Please vote for your favorite map*

Number of Map \_\_\_\_\_

Please tear out and turn in no later than 1. PM

*Tear along dotted line*

**MAP BALLOT**

Thank you for your vote!

# 2016 Oklahoma SCAUG GISP Credit Checklist

Description	Classification	Credit	Recert Credit	Credits Earned
<b>Workshops (4 hour) (Workshop Certificate required for documentation credit.)</b>				
Minimum Standards for Legal Descriptions & Mapping Applications (0 hours)	EDU	0.1	0.67	_____
GISP: The Road To An Exam (0 hours)	EDU	0.1	0.67	_____
ArcGIS Tips & Tricks (0 hours)	EDU	0.1	0.67	_____
Getting Your ArcGIS Online Up & Running (0 hours)	EDU	0.1	0.67	_____
Oklahoma Emergency Management/GIS (0 hours)	EDU	0.1	0.67	_____
Multi Rotor Aircraft for Mapping Workshop (0 hours)	EDU	0.1	0.67	_____
Cost effective, high precision GPS field data collection using TerraGo Edge for iOS and Android (4 hours)	EDU	0.1	0.67	_____
ArcGIS Tips & Tricks II(0 hours)	EDU	0.1	0.67	_____
Find, Record, & Display: Using Navigator, Collector, & Web App Builder (4 hours)	EDU	0.1	0.67	_____
1 Day Training Instructor : _____	CON	3	9	_____
<b>Exhibitor Software Training Lab (Training Certificate required for documentation credit.)</b>				
Western Data Systems / Trimble (9 hours)	EDU	0.075	0.5	_____
Pictometry (8.1 hours)	EDU	0.0625	0.42	_____
<b>SCAUG CONFERENCE (8 hour)</b>				
Attendee	EDU	0.2	1.33	_____
Presenter	CON	1	3	_____
Poster Presenter	CON	1	3	_____
Poster Award Winner	CON	2	6	_____
<b>2 Day Training (16 hour) (Training Certificate required for documentation credit.)</b>				
Deploying and Maintaining a Multiuser Database (ESRI 2 Day)	EDU	0.4	2.67	_____
Using ArcGIS for Water Utility Workflows (ESRI 2 Day)	EDU	0.4	2.67	_____
ArcGIS Basics III	EDU	0.4	2.67	_____
2 Day Training Instructor : _____	CON	6	18	_____
		Total GISP Points Earned: _____		

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