

# OKSCLAUG 2014



17th Annual Conference  
September 23, 2014



**GIS FOR THE MASSES**

# The OKSCAUG Steering Committee

## Welcomes you to the

# 17th Annual OKSCAUG Conference!

Join hundreds of your fellow GIS professionals on September 23rd for the 17<sup>th</sup> Annual OKSCAUG Conference. As geographic information plays a larger role in government and in daily life, GIS professionals are developing data and sharing more information than ever.



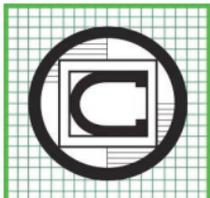
Our *GIS for the Masses* theme came about as OKSCAUG members discussed our own experience with data sharing and our expanding use of on-line mapping platforms.

This year OKSCAUG will be offering another way to connect with your Oklahoma GIS network: on Monday evening, before the conference begins on Tuesday, we will have an informal mixer at the Moore-Norman Technology Center. Please join us, visit with old friends, make new contacts, and have some light refreshments. Tuesday, share your opinions throughout the day regarding your experiences at the conference and with OKSCAUG in general. We welcome your input. OKSCAUG hopes to continue to be your go-to resource for GIS networking and training.

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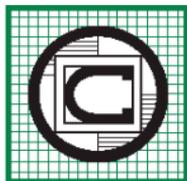
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# 2014 Conference Schedule

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

**Keynote Speaker: Wade Patterson**  
*Garfield County Assessor*

**9:30 – 10:15**      **Morning Break - Vendor Exhibits**

## **User Presentations**

<b>10:15 – 10:45</b>		<u>Room</u>
Putting Python into Practice		109/110
What's New at OKAssessor.com?		111/112
Preserving Historical Aerial Photographs to Protect Oklahoma Groundwater		206
On the Road Again: Claremore Industrial Park Commuting Study		207
GIS to the Rescue: "Getting Emergency Responders to the Right Location"		210

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# 2014 Conference Schedule

## User Presentations

<b>10:50 – 11:20</b>	<b><u>Room</u></b>
Introduction to SQL Spatial Databases	109/110
Automating Quantitative Sub-seasonal Long Range Climate Forecasts using ArcGIS - WxOps Climate Toolkit Toolbar	111/112
Using GIS to Locate Historic Survey Monuments on the Eastern Chickasaw Nation boundary	206
Attracting Retail: How GIS is used to Recruit New Retail in Oklahoma City	207
911 Data: Bringing Communities Together	210
<b>11:25 – 11:55</b>	<b><u>Room</u></b>
Using ArcGIS, Python, and R to Study Social Interaction Potential (SIP) in Tulsa and Oklahoma City	109/110
Environmental Data at Your Fingertips, How an ArcGIS Online Subscription is used to Meet DEQ's Data Sharing Needs	111/112
USGS National Geospatial Program Update	206
Mobile GIS for Public Garden Management	207
The City of Tulsa Storm Shelter Locations	210

# 2014 Conference Schedule

**12:00 – 1:00    Lunch - Poster Competition - Vendor Exhibits**

## **Afternoon Vendor Showcase**

<b>1:00 – 1:20</b>	<b><u>Room</u></b>
Missouri-Arkansas LIDAR Project — <i>Tim Donze, Surdex Organization</i>	206
Customizing ArcGISiDAR Mobile Mapping: Revolutionizing Asset Management — <i>Nick Tonias &amp; Elias Tonias, CEDRA</i>	210
<b>1:00 – 1:45</b>	<b><u>Room</u></b>
Benefits of digital field work in today's workplace — <i>Allison Alford &amp; Cody Cantrell, Western Data Systems</i>	109/110
Proactive Asset Management After a Natural Disaster: A Case Study — <i>Jeremy White, Azteca Systems, Inc</i>	111/112
<b>1:25 – 1:45</b>	<b><u>Room</u></b>
LIDAR Mobile Mapping: Revolutionizing Asset Management — <i>Bartley Estes, CEC Infrastructure Solutions</i>	206
WDT Map Services and Custom Weather Data — <i>Matt Gaffner, Weather Decision Technologies (WDT)</i>	210



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# 2014 Conference Schedule

## ESRI Technical Sessions

<b>1:45 – 2:30</b>		<b><u>Room</u></b>
ESRI: Get your Platform on! — <i>Gary Scoffield</i>		109/110
ESRI: You want to Web Enable My Geodatabase? Management and Deployment of Database Content — <i>Mike Beavers &amp; Pam Kersh</i>		111/112
ESRI: Modernize your Land records Solution — <i>Karen Lizcano</i>		210

**2:30 - 3:15      Afternoon Break — Vendor Exhibits**

## ESRI Technical Sessions

<b>3:15 – 4:00</b>		<b><u>Room</u></b>
ESRI: From Zero to Hero with the Web app — <i>Karen Lizcano</i>		109/110
ESRI: Sprint to Success with ArcGIS Pro — <i>Pam Kersh</i>		111/112
ESRI: Don't be Shy, Open up with ArcGIS Open Data Portal — <i>Mike Beavers</i>		210
<b>4:00 – 4:30</b>	<b>Closing Remarks/Door Prizes</b>	Main Hall

# **2014 OKSCAUG Steering Committee**



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*-City of Ardmore, Oklahoma*



**Shellie Willoughby, GISP** –OKSCAUG Co-Conference Coordinator, Regional SCAUG Vice President

*-Oklahoma Office of Geographic Information*



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**Brad Nesom, GISP** –OKSCAUG Vendor Coordinator

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**Elizabeth Montgomery-Anderson, GISP –**  
OKSCAUG Publications Coordinator

*-Cherokee Nation GeoData*



**Sohail Hasanjee, GISP –OKSCAUG User Group**  
Meeting Coordinator

*-Oklahoma Natural Gas*



**Pamela D. Journey, GISP -OKSCAUG Outreach**  
Coordinator

*-Cross Timbers Consulting*



**James Allen –Regional SCAUG Treasurer**

*-Carter County, Oklahoma*

# Keynote Address

8:30 a.m.

## *Wade Patterson*

*Garfield County Assessor's Office*



Wade is the Garfield County Assessor in Enid, Oklahoma. He has been the assessor for 18 years after being appointed in 1997. Prior to becoming the assessor, Wade worked for the Oklahoma Tax Commission for 6 years, and a private appraisal firm for 5 years.

He is currently serving on the Infrastructure Review Committee of the International Association of Assessing Officers (IAAO) and is the past Chairman of the Communications

Committee of IAAO, he also served as a member of the Communications Committee for 6 years prior to becoming chairman.

In 2009 Wade served as President of the County Assessor's Association of Oklahoma. In 2004 and 2005 he was the President of the Oklahoma Chapter of IAAO. He is a past member of the State Geographic Information Council for Oklahoma. He was appointed by Governors Henry and Fallin to serve on the Task Force for Comprehensive Tax Reform in 2011-2012.

Wade serves on the Legislative Committee for the County Assessor's Association, and has been the Chairman since 2012.

He is married to Cheryl, who was just appointed to be the Secretary of the Garfield County Election Board. They have two children, Kayci 23, and Kyler 18.

# User Presentations

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

### **Room 109/110**

#### **Putting Python into Practice**

*Joel Foster, Canadian County Assessor's Office*

Python has been integrated with ArcGIS software since the 9.0 days. There are many classes available from a variety of sources that teach Python but it can be difficult to take the things you learn in those classes and use them when you're back at the office on Monday with your data and your computer, particularly if you learned only the basics. How do you take those ifs, elses, fors, and whiles and use it to your benefit? This presentation can give you a few ideas to help you get some return on your investment in learning Python by covering a few ways the Canadian County Assessor's Office has found to put Python to practical use in ArcGIS by creating scripts for Model Builder, field calculator expressions, and label expressions.

### **Room 111/112:**

#### **What's New at OKAssessor.com?**

*Dawn M Sowinski, GISP, Visual Lease Services, Inc.*

OKAssessor is an unparalleled search tool for property data offering more than 200 ways to search for properties of interest, alleviating the need to manually wade through county courthouse files. Over the past fourteen years, Visual Lease Services, Inc., (VLS) has been revising its online property search tool to include access to building footprints, photos, plat map pages, and more. Now, VLS combines their extensive knowledge of property and assessment and state-of-the-art technology to roll out a leading-edge parcel search web page. This innovative site will include all of the search functionality our customers expect, with so much more. This session will show a sneak-peak of what our clients will be seeing in the near future.

# User Presentations

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

### Room 206:

#### **Preserving Historical Aerial Photographs to Protect Oklahoma Groundwater**

*John Harrington, Kellie Duncan, and Madeline Dillner, ACOG and OK Corporation Commission*

Over the years, historical aerial photographs, along with electromagnetic and geophysical scanning equipment, have revealed that brine, a common, persistent, and destructive contaminant resulting from oil and gas exploration and production, especially old, high-density exploration and production, was responsible for several groundwater contamination events in the central Oklahoma area. Because of this, the Association of Central Oklahoma Governments has been conducting brine patch identification studies in their four-county area. These studies included collecting historical aerial photographs from city governments and the Oklahoma Corporation Commission's extensive collection and using those photographs to identify white patches on the earth that could be oilfield brine. In the same groundwater-pollution-prevention vein, the Oklahoma Corporation Commission has created a shapefile of historic dense oilfields (HDOs) across the state of Oklahoma. HDOs are places where salt and oil contamination is more likely to occur, due to the wells' age (completed before 1980, when big environmental laws came into effect) and density (over 16 per square mile; 40-acre spacing). After the OCC's HDO shapefile was released, ACOG started using it and census data to identify areas of high-risk and attempt to get an EPA Area-Wide Planning Grant to help clean up some of the areas where the higher risk of groundwater pollution would have a more severe impact. The support goes both ways: after reading ACOG's white paper on their brine patch identification project, the OCC decided to use their massive historical aerial photograph collection to copy ACOG's work, but on a statewide scale. The OCC plans on using the polygon shapefile created from delineating brine patches across Oklahoma to check whether the HDO shapefile is an accurate representation of where pollution exists in the state.

# User Presentations

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

Clearly, historical aerial photographs have helped ACOG and the OCC identify areas of pollution across the state of Oklahoma and move in directions to help protect the groundwater and citizens of Oklahoma. We believe that historical aerial photographs could help anyone, which is why the OCC is pleased to announce that the final step of the Oklahoma Historical Aerial Digitization Project has begun. Since 2007, the OCC has been collecting, digitizing, and georectifying historical aerial photographs from repositories all over the state of Oklahoma. Now, the process of uploading all of these photographs to the state data viewer, OKMaps, has begun. Soon, historical aerial photographs of the entire state of Oklahoma since the 1930s will be available to the public to download easily, for free.

### **Room 207:**

#### **On the Road Again: Claremore Industrial Park Commuting Study**

*Marcus Arreguin, MIS, EGc(GIS), Rogers State University Innovation Center*

Where do people live that work in your city and why? These questions inspired us to do a study of commuting in Claremore, OK. Every day, almost 2,000 people go to work at the Claremore Industrial Park. Home addresses of most of the employees were obtained from the top employers at the industrial park. The addresses were geocoded, mapped, and analyzed, and results were compared to other areas. In this presentation, results of the study will be shown and discussed.

# User Presentations

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

### Room 210:

#### **GIS to the Rescue: “Getting Emergency Responders to the Right Location”**

*Kurt Bickle, INCOG*

INCOG’s Regional E-911 Board members include the cities of Bixby, Claremore, Collinsville, Glenpool, Jenks, Owasso, Sand Springs, Sapulpa, Skiatook, Tulsa and Tulsa County. INCOG’s Mapping Division maintains the E-911 Streets and the Master Street Address Guide (land line telephone database) for each of these communities. We are also responsible for verifying cell tower routing to each of the Public Safety Answering Points (E-911 Centers). The presentation will describe INCOG’s E-911 mapping program beginning with the process of establishing an accurate Emergency Service Zone (ESN) shape file. Currently there are thirty six (36) emergency service zones within the INCOG E-911 region. We will also describe the process of maintaining and updating the E-911 Streets shape file and the land line telephone data base (MSAG). We will explain the method we use to verify cell tower sector routing to ensure the cell phone caller reaches the proper E-911 Center. This presentation will include examples of each of these processes and show how they come together to ensure that the emergency responders arrive at the caller’s location without delays.



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# User Presentations

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

### Room 109/110:

#### Introduction to SQL Spatial Databases

*Terry Sherman, Oklahoma State University*

This presentation is geared toward those with ArcGIS for Desktop experience interested in storing spatial data in a Relational Database Management System. There are several points to consider before moving beyond file-based datasets to best utilize ArcSDE and a SQL spatial database. This presentation will provide insights on how you can leverage the same spatial database outside the ArcGIS platform as well as situations where file-based datasets are still the best option for your analyses and workflows.



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# User Presentations

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

### Room 111/112:

#### **Automating Quantitative Sub-seasonal Long Range Climate Forecasts using ArcGIS - WxOps Climate Toolkit Toolbar**

*Amber Cannon, GIS Analyst, Weather Decision Technologies (WDT), Norman, OK*

The WxOps Climate Toolkit was designed to automate and standardize the process of creating quantitative sub-seasonal long range forecasts in ArcGIS. A custom toolbar was created using the Python Add-In Wizard by ESRI. The functionality of this toolbar includes creating a polygon feature class from a template, generating a forecast, and exporting the resulting map to a .png image file. The forecast is generated for the specified date range using a custom dataset built from 30 years of National Weather Service (NWS) Automated Surface Observing System (ASOS) sensor network data. Using this tool in combination with the climate dataset, WDT's expert forecasters are able to produce quantitative sub-seasonal long range forecasts for Max/Min/Avg temperatures, growing degree days, and heating/cooling degree days. The tool is built fundamentally with the arcpy.mapping and arcpy.SA (spatial analyst) modules. The WxOps Climate Toolkit is presently undergoing testing by our WxOps forecast team in Houston and is expected to be an operational product in the coming months. It is currently in the second phase of development for the addition of many more features including blending of the hand drawn climate anomalies, automated extraction of all forecast values for specified points, and the incorporation of model data in addition to the current climate dataset to increase forecast accuracy.



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# User Presentations

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

### Room 206:

#### **Using GIS to Locate Historic Survey Monuments of the Eastern Chickasaw Nation Boundary**

*Brian McCurdy, The Chickasaw Nation*

On January 17, 1837, at the first signing of the Treaty of Doaksville, the Chickasaw people were to be removed into Indian Territory amongst the Choctaws. This territory would become the Chickasaw District of the Choctaw Nation in what is now eastern Oklahoma. At the second signing of the Treaty of Doaksville on November 4, 1854, the Chickasaws were granted separation from the Choctaws and their own permanent territory; the current boundaries of the Chickasaw Nation. Both tribes agreed the Chickasaws would employ a surveyor to mark the eastern boundary of the district and bear all expenses of the survey. It was also agreed that the leaders of each Choctaw district would appoint a commissioner to supervise the running of the line, which was marked at every mile on trees where there was sufficient timber, or otherwise by a stone monument. These stones were inscribed on the western side with the word "Chick or Chickasaw" and on the eastern side with the word "Choc or Choctaw", along with the year and sometimes the mile number. The survey was to be completed before the first day of August 1855. In May of 2013, the Chickasaw Nation GeoSpatial Information (GSI) Department was given the task of locating all the existing stone survey monuments on the eastern side of the Chickasaw Nation. By utilizing geographic information systems (GIS), new technologies and the historic Government Land Office maps, the department was able to complete the project with great success. County land parcels were used to acquire owner information. These owners were contacted to obtain permission to access the land and to gain any prior knowledge of the survey monument's location. With data collection complete and stored within the GIS, historic data and information can be easily accessed for cultural preservation and historic reference.

# User Presentations

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

### Room 207:

#### **Attracting Retail: How GIS is Used to Recruit New Retail in Oklahoma City**

*Taylor Hatchett & Eric Long, Greater Oklahoma City Chamber of Commerce*

For over 100 years, the Greater Oklahoma City Chamber has been the voice of business and the visionary organization in Oklahoma City. 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 highlight several tools that the Chamber leverages in order to aid retail growth, including ESRI Business Analyst Online, ArcGIS Online, OKCEDIS, OKCLBI, ACOGMaps, Oklahoma County Assessor GIS, and Xceligent. You will also hear stories about how retailers like Cabela's, TopGolf, and Whole Foods used GIS and location analytics to open their Oklahoma City locations.

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# User Presentations

## 10:50-11:25 a.m.

### **Room 210:**

#### **911 Data: Bringing Communities Together**

*Jessica Colvin, McClain County 911 Trust Authority*

The McClain County 911 Trust Authority has been working with the smaller cities and towns within McClain County as well as surrounding communities to maintain and promote the use of GIS data. Because emergencies do not occur in neat standardized scenarios, nor do they fall within the arbitrary boundaries assigned by state agencies, communication between municipalities is key to responding quickly. When someone calls 9-1-1 for help, it is imperative that the dispatcher know where the call is coming from, and who should be responding to provide the best help. This only works when municipalities, other agencies and businesses work together. By working with numerous agencies, we have been able to establish a more accurate, and updated dataset with communities to serve everyone's needs better. There are numerous challenges associated with GIS data in rural counties, but McClain County has been working together to provide a better end product and greater understanding of our community so that quick action can be taken when an emergency occurs.

The Canon logo is displayed in a large, bold, red font. The letters are thick and rounded, with a distinctive white shape inside the 'o' that resembles a lens or a camera shutter.

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# User Presentations

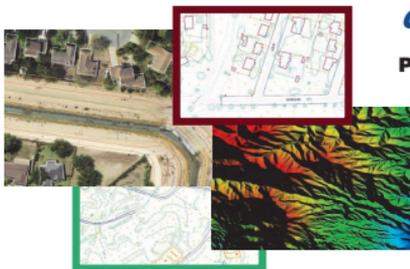
## 11:25-11:55 a.m.

### Room 109/110:

### **Using ArcGIS, Python, and R to study social interaction potential (SIP) in Tulsa and Oklahoma City**

*Matt Haffner, Oklahoma State University*

Social degradation is now a serious problem in cities in the United States. People are interacting in physical space with their neighbors, families, and those within their community less frequently. Recently “time geography” has enabled researchers to rethink traditional approaches to studies in social interaction along with studies in transportation, accessibility, and mobility. This subdiscipline of geography is based on an individualized approach that incorporates the constraints that all humans face on a day-to-day basis. The programs ArcGIS, R, and Python valuable tools that can aid researchers in studying and measuring social interaction, especially when coupled with a time geographic theoretical framework. In this presentation I demonstrate a quantitative approach to measuring social interaction potential in Oklahoma City and Tulsa using ArcGIS, R, and Python. Using restaurants as activity locations, I calculate the amount of time that can potentially be spent interacting with others at activity locations based on different combinations of work locations and home locations within the two cities. The results of these studies can provide urban planners with valuable information about the nature and structure of cities.



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# User Presentations

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

### **Room 111/112:**

#### **Environmental Data at your Fingertips, How an ArcGIS Online Subscription is Used to Meet DEQ's Data Sharing Needs**

*Amy Brittain, Oklahoma Department of Environmental Quality*

The Oklahoma Department of Environmental Quality (DEQ) has been utilizing ArcGIS Online to create web maps and web GIS applications to share environmental data within the Agency and with the public since 2012. In 2013, DEQ purchased an Agency subscription for ArcGIS Online. This presentation will talk about how the Agency is implementing ArcGIS Online into the everyday business of GIS in the Agency (<http://eq.maps.arcgis.com/home/index.html>). The advantages of using this subscription and the challenges of full scale implementation will be discussed.

### **Room 206:**

#### **The UGSS National Geospatial Program Update**

*Igrid Landfrac, Geospatial Liaison, US Geological Survey*

This presentation will cover the latest news on the 3D Elevation Program (3DEP) including proposed changes to the LIDAR specifications and products, partnership opportunities for LIDAR, and the on-line elevation inventory. Additional topics include future directions for the National Hydrography Dataset, and deciphering web map services from The National Map.

# User Presentations

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

### Room 207:

#### **Mobile GIS for Public Garden Management**

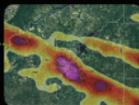
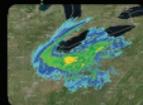
*Gary Huneycutt, Philbrook Museum of Art GIS*

The Philbrook Museum of Art GIS is the outgrowth of an initiative to develop a comprehensive Tree Management Plan for the 29 acres of grounds. The Philbrook GIS became an integral part of the Tree Management Plan by providing the data store and analytical tool to house a myriad of attribute data regarding each of the 1152 trees comprising 115 different species. The GIS has become the tool of choice for managing its tree resources by collecting and displaying data on a wide variety of attribute information associated with each tree. Tree hazards, pruning needs, tree health, tree lighting, tree photos, vine

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# **User Presentations**

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

impacts and maintenance actions along with tree genus/species, diameter, height, and crown spread all provide a snapshot in time regarding the management needs and issues surrounding this valuable resource that dates to approximately 300 years ago.

The Philbrook GIS uses ESRI's mobile web-based GIS applications to catalog and map each of the trees and was based on a combination of site specific survey data points, aerial photos, and GPS data points. The GIS also houses other mapping applications such as topo and soils maps, flood plain maps for Crow Creek, City of Tulsa utilities, property surveys, management area designations and other site features such as sidewalks benches, outdoor sculptures, fences, gates, refuse containers, water fountains and signage.

The long-term objective of the Philbrook GIS is to provide two applications, one of which will run on either desktop or mobile applications that access all information remotely, and the other which will be used by our visiting public to access tree attribute and mapping information through the Philbrook Museum of Art web portal. While the first GIS application is approximately 95 percent complete, it is anticipated that the public application will be completed and fully functional by the end of 2014. Funding for this initiative was through a grant by the Phillips Foundation which endeavors to leverage public information in meaningful ways.

Questions regarding the Philbrook Museum of Art GIS and/or Tree Management Plan can be directed to Gary Huneycutt (918-748-5332); e-mail [gary.philbrook@icloud.com](mailto:gary.philbrook@icloud.com) or Shelia Kanotz, Philbrook Garden Manager (918-748-5383); e-mail [skanotz@philbrook.org](mailto:skanotz@philbrook.org).



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# User Presentations

11:25-11:55 a.m.

## Room 210:

### **The City of Tulsa Storm Shelter Locations**

*John Gregorovic & Josh Wise, City of Tulsa*

This project began directly after the May, 20th 2013 tornado in Moore, OK. After the disaster, the City of Tulsa pulled resources from various departments (Police, Fire, E-911, Permitting, IT and the Emergency Operations Center) to determine the feasibility of creating a process to identify and map storm shelters. The ongoing collaboration produced a systematic process for mapping the location of storm shelters in the Tulsa area, which will allow emergency personnel to quickly determine the approximate location of storm shelters and possible survivors during catastrophic emergencies. We would like to present our solution, and how it was developed from the permitting process into a GIS solution.

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# Vendor Showcase

1:00 – 1:20 p.m.

## **Room 206**

### **Missouri-Arkansas LiDAR Project**

*Tim Donze, Surdex Organization*

An overview of the 2014 MO/AR partnerships that facilitated one of the largest state and federal LiDAR collaborations in the nation. Details of the project and the partnering efforts will be summarized as well as lessons learned.

## **Room 210**

### **Customizing ArcGISiDAR Mobile Mapping: Revolutionizing Asset Management**

*Nick Tonia & Elias Tonia, CEDRA*

With over 200,000 installations world-wide and a GIS market share of over 40% one of the major benefits ESRI offers its users is the ability to customize ArcGIS and develop applications which run on top of ArcGIS. This presentation discusses some applications which have been developed for the surveying, engineering and utility communities. These applications are tightly integrated with ArcMap so that projects can be started and completed entirely within the ArcGIS environment without the need to utilize other 3rd party software. Some the applications that will be discussed in this presentation include: well pad design, well spotting, web based data entry/maintenance, footage call calculations, generation of oil and gas line profiles, preparation of plan and profile drawings and optimized routing for heavy and wide-load vehicles.

# Vendor Showcase

1:00 – 1:45 p.m.

## Room 109/110

### **Benefits of Digital Field Work in Today Workplace**

*Allison Alford & Cody Cantrell, Western Data Systems*

A look at how current GPS equipment can benefit a GIS professional in today's workplace. Changing from paper to digital has shown that field work productivity increases and errors are reduced. Going digital also reduces time spent validating data back office. However, at times it is hard to get away from "the way we have always done it". Customer stories show real world application in oil & gas, environmental, utilities, and even cemetery restoration.



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1:00 – 1:45 p.m.

## Room 111/112

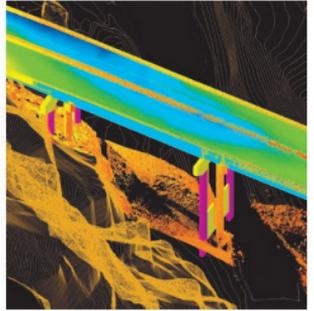
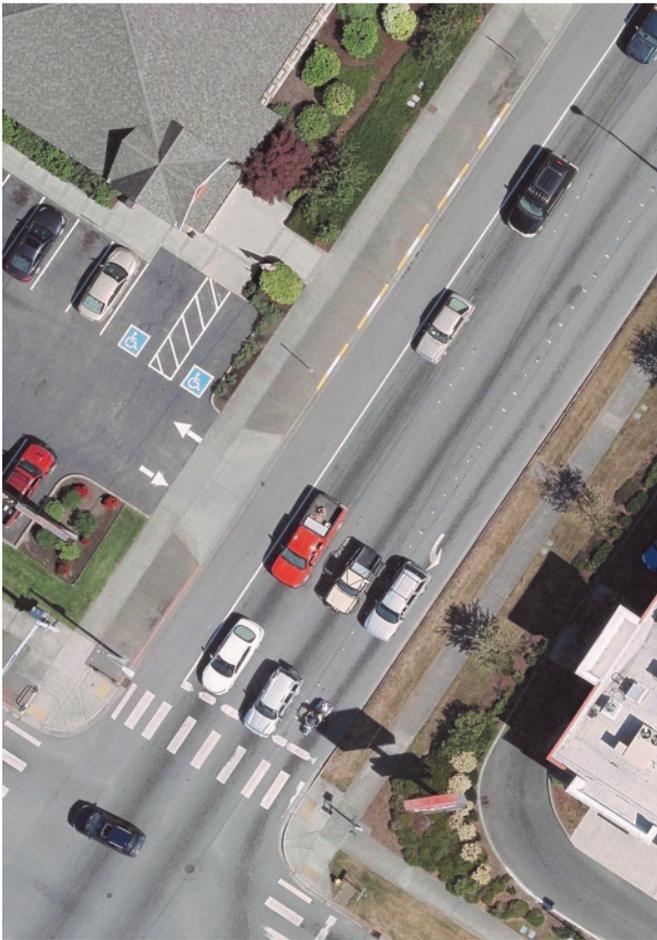
### **Proactive Asset Management After a Natural Disaster: A Case Study**

*Jeremy White, Azteca Systems, Inc.*

Being prepared for a natural disaster the size of a category-5 hurricane may sound impossible, from an information services standpoint, Gulfport's Public Works Department was as prepared as they could be. Hurricane Katrina hit Gulfport on Monday morning, August 29, 2005, with winds of up to 150 mph and storm surge levels up to 30 feet high. The lengthy infrastructure recovery process following the storm was expedited by the City's GIS-centric asset work management system. The system helped mitigate damages by generating crucial utility and street maps, locating assets under piles of debris more than 10 feet high, and serving as a geospatial damage report depository. The latter was instrumental in gaining federal assistance and aid from the U.S. Environmental Protection Agency (EPA) and the Federal Emergency Management Agency (FEMA).

As soon as it was humanly possible, the City had people in the field repairing the severely damaged water and sewerage systems. The recovery effort began in the middle of the storm and went around the clock amid chaos as workers labored to plug and cap holes and shut off valves to keep Gulfport's water tanks from completely draining. Many of the damaged lines were underwater or beneath rubble and debris, making their exact location difficult to pinpoint and access. This is where GIS and their asset management system became invaluable.

They started tracking and mapping the damage done by the hurricane. They used this highly detailed geo-spatial information to report to the EPA. In short time the EPA made a recommendation to FEMA that Gulfport receive the funding to rebuild its water, sewer, and storm drain infrastructure near its coast. Such a project also required new sidewalks, curb and gutter, and asphalt roadwork. With EPA's recommendation, FEMA approved the multiyear project at an estimated overall cost of more than \$100 million.



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# Vendor Showcase

1:25 – 1:45 p.m.

## **Room 206:**

### **LiDAR Mobile Mapping: Revolutionizing Asset Management**

*Bartley Estes, CEC Infrastructure Solutions*

When most people think of Light Detection and Ranging (LiDAR), they imagine wide-area aerial mapping. However, LiDAR has been brought down to earth and made practical for incredibly fast and accurate data collection. Imagine having the ability to map a city's assets as you drive in real time. With LiDAR mobile mapping, we can leverage the technology to enhance data collection efforts. This presentation will give a basic overview of how LiDAR technology works, as well as explore how it is revolutionizing how we approach data collection in the GIS community.

## **Room 210:**

### **WDT Map Services and Custom Weather Data**

*Matt Gaffner, Weather Decision Technologies (WDT)*

WDT is a premium weather content provider that has been in business since 2000. WDT has always used GIS, but in the last 18 months WDT has been working to stand up a reliable set of Map Services. WDT adds value to many basic weather layers like radar, satellite, and surface observations through our unique QA/QC procedures. In addition, WDT also runs unique algorithms to produce premium weather layers such as lightning, hail swaths, and real-time potential tornado paths. WDT's warehouse of weather data and expert meteorologists allow WDT to provide quality weather data or custom tailored weather solutions for your industry.

# ESRI Technical Sessions

1:45 -2:30 p.m.

## **Room 109/110**

### **Get your Platform On!**

*Gary Scoffield, ESRI*

Are you struggling to maintain legacy applications, while also trying to meet new market expectations and support a broad range of customers? Are you being asked to do this with the same or less resources? You aren't alone. All organizations are faced with these challenges. At Esri, we are working to help our customers deal with these challenges by evolving the ArcGIS Platform to be easier to implement, more sustainable, and reach more users. During this session, we will discuss how you evolve your existing GIS investment into a geographic platform, which you will configure to provide solutions across your organization. By configuring out-of-the-box apps and templates, you will deliver valuable applications quicker to business users and more easily sustain these applications. You will empower your whole organization to use geography in its daily work, which will lead to sustained and even growing investment in GIS.

## **Room 111/112**

### **You Want to web enable My Geodatabase? Management and deployment of database content**

*Michael Beavers & Pam Kersh, ESRI*

This session will explore the advanced capabilities of the geodatabase data model. We will look at and discuss the concepts of spatial and attribute validation. Topics also covered will be relationship classes and options for storing annotation, creating subtypes and domains. Lastly we will look at the different options for publishing your authoritative content to the web in applications and editing environments. This session is intended for those with ArcGIS 10x experience and general familiarity with the geodatabase data model.

# ESRI Technical Sessions

1:45 -2:30 p.m.

## Room 210

### **Modernize your Land Records Solution**

*Karen Lizcano, ESRI*

By Leveraging esri's Land Records solution you can manage an accurate inventory of real property, analyze the value of land along with its' associated improvements, describe who owns the land, and convey land-use and zoning regulations. During this session we will look at modern solutions available for the Land Records industry. We will also discuss options for editing and publishing your parcel information to the web in solution applications and out of the box, configurable templates.



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GeoExpress software

# ESRI Technical Sessions

3:15 -4:00 p.m.

## Room 109/110

### **From Zero to Hero with the Web App Builder**

*Karen Lizcano, ESRI*

The Web AppBuilder for ArcGIS is a feature of ArcGIS Online and Portal for ArcGIS, it provides a foundation for building web applications in ArcGIS. It is a configurable HTML5/JavaScript-based application that lets you quickly create intuitive, focused 2D and 3D apps from scratch without writing a single line of code (no plugins required!). During this cutting edge session we will learn how to configure and deploy an application, add out of the box widgets and the option for further customization.

## Room 111/112

### **Sprint to Success with ArcGIS Pro**

*Pam Kersh, ESRI*

ArcGIS Pro is a new ArcGIS for Desktop application that provides many exciting features. ArcGIS Pro is an application for creating and working with spatial data on your desktop. It provides tools to visualize, analyze, compile, and share your data, in both 2D and 3D environments. During this session we will provide an introduction to the functionality of Pro and the exciting new capabilities.



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**March 2-5, 2015**

**Oklahoma City, Oklahoma**

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For more information about the conference program, registration details and exhibit/sponsor opportunities, visit [www.urisa.org](http://www.urisa.org) and click on this conference banner:



# ESRI Technical Sessions

## 3:15 -4:00 p.m.

### Room 210

### Don't be Shy, Open Up With ArcGIS Open Data Portal

Michael Beavers, ESRI

ArcGIS Open Data makes it easy to share your organization's data, available to anyone in standard formats, by creating an Open Data site using the services you've already published. Of course, there is some effort required in maintaining the site over time. Organizations can configure a website with their own look and feel, specify Open Data groups to share specific items, create user roles to help maintain the site and lastly share the data so it can be accessed by your open data portal. The general public can use Open Data sites to search by topic or location, download data in multiple formats, and view data on an interactive map and in a table. During this session we will look at examples and best practices for deploying an open data portal. You will go back to your organization ready to get your own site up and running!



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# Poster Presentations

## **Where the Road Leads...**

*Pamela Journey, Cross Timbers Consulting, LLC*

Life is crazy. If I tried to explain my job now to my ten-year-younger self, that person would have said, “Huh?” My present self has done things that I never knew I was capable, traveled places that I never knew existed, and made plans that I never would have imagined. The road has led me to some memorable places and introduced me to some remarkable people along the way. A year ago in June, a new opportunity presented itself in the form of a start-up company that specializes in tribal transportation. To commemorate this leap of faith, I decided to run a marathon – in Portland, Oregon. What ensued was a series of running adventures that took me across the country for either professional or personal reasons. With a Garmin on my wrist, the maps of my paths have been preserved to the delight of this professional geographer/ hobbyist runner/ working wife & mother. Please join me on a year’s worth of running adventures.

## **Napoleon’s 1812 Invasion of Russia – GIS**

*Jason Kleps, Meshek & Associates PLC*

The 19<sup>th</sup> century French civil engineer Charles Joseph Minard pioneered the use of graphs and statistics in cartography, using both to striking effect in the creation of his masterpiece, *Carte figurative des pertes successives en hommes de l’Armee Francaise dans la campagne de Russie 1812-1813* (*Figurative map of the gradual losses in men by the French Army during the Russian campaign of 1812-1813*). This map displays – via gradual thinning – the depletion of French forces that occurred as they marched and fought in increasingly brutal weather. As such, it is an ideal map for use in a GIS. My poster will use modern GIS techniques to recreate this stunning example of the cartographic art.

# Poster Presentations

## **On the Road Again: Claremore Industrial Park Commuting Study**

*Marcus Arreguin, MIS, EGc(GIS), Rogers State University Innovation Center*

Where do people live that work in your city and why? These questions inspired us to do a study of commuting in Claremore, OK. Every day, almost 2,000 people go to work at the Claremore Industrial Park. Home addresses of most of the employees were obtained from the top employers at the industrial park. The addresses were geocoded, mapped, and analyzed, and results were compared to other areas. This poster will show and discuss the results of the study.

## **Oklahoma Earthquakes – 1882 to present**

*Dawn M. Sowinski, GISP – Visual Lease Services, Inc.*

Oklahoma is known as the Sooner State, Tornado Alley, and now Earthquake Central? It seems like every day the news is announcing a new tremor. But are they that much more numerous? This map utilizes ArcMap 10.1 to display the frequency of earthquakes from 1882 to present, illustrating the growing number and magnitude of Oklahoma Earthquakes.

## **Mapping the Gardens at the Philbrook Museum of Art**

*Jacob Shipman, Meshek & Associates PLC*

In January of 2014 Meshek & Associates teamed up with Gary Huneycutt, of the Philbrook Museum of Art, to map the gardens located on the grounds of the museum. From March through July Gary collected GPS points, as well as other specific data about trees, statues, and park benches located within the gardens. While Gary was collecting the data, Meshek & Associates began digitizing the garden management areas, museum boundaries, building locations, and other areas of spatial importance. Once all the data had been collected or created it was compiled into a web-based map hosted by Meshek & Associates for further use by Gary and others at the Philbrook Museum of Art.

# Poster Presentations

## **Monitoring Oklahoma Lake Water Quality with Remote Sensing**

*Clay Barrett, Oklahoma State University*

Using Landsat imagery and sediment data from the Oklahoma Water Resources Board, a predictive relationship for sediment appears to be possible for Oklahoma lakes.

## **Using the Traverse tool for legal descriptions in ArcMap/ArcInfo**

*Mary Jane Dossett, Mapping Technician, The City of Oklahoma City Public Works Department -GIS/CAD*

I would like to submit a poster showing some examples of legal descriptions I have plotted using ArcGIS – ArcInfo Traverse tool. We use Shapefiles, Personal Geodatabases with feature classes, reference data layers such as our Chief Surveyors’ Control points for section corners and other points, township/range/section layers, and lot & block layers. Using our projected coordinate system of NAD\_1983\_CORS96\_StatePlane\_Oklahoma\_North\_FIPS\_3501\_Ft\_US and the Lambert\_Conformal\_Conic projection, the legals are very accurate laid out over our aerial photos.

The City of Oklahoma City’s Right-of-Way Department in Public Works must determine land locations for City projects such as land acquisition for trails and parks, easements for City personnel access, and disputes between the public, utility companies and the City. This department submits requests for land location with easement, deed, tract and parcel documents to our GIS/CAD department. We must plot these land locations and show them on aerial photographs with subdivision, lot & block, and any other pertinent data requested. Sometimes these legal documents are proven to not close or not be in the location specified. So the work becomes a process of the Right-of-Way Department’s research and us plotting a bunch of legal descriptions to

# Poster Presentations

find out which are in the right area and those that are not.

Our engineering departments ask for easements and proposed land developments to be plotted out for review on parking lots, buildings and streets. The Development Services Department has requested that I review the plat/subdivisions submitted by developers. In the plat review process, the legal boundaries of new plats are plotted and if they do not 'close' they are sent back for changes by the developer. Ensuring an accurate and complete plat record is important to our Development Services department and I have checked these plats for many years.

In Arcmap-ArcInfo desktop the Traverse function is available in the Advanced Editor toolbar. Using this function I can use the Traverse window to type in legal descriptions with bearing, distance and curve data. Previously, I used shapefiles to draw each legal, but our GIS/IT department told me that using a Personal Geodatabase with Feature Classes would be more stable. So I have been using these in my newer assignments. On this poster I show some legal property examples, a plat boundary legal description, and also some screen shots of some of the Traverse tool windows. More detailed instructions will be available upon request.

These drawings help departments make decisions, present information to the public and utility companies, and visualize exactly where an area in question is located and how it relates to other properties.



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# Poster Presentations

## **Exploring Fee Structures for Implementation of a Storm Water Utility**

*John McIntosh, Joyce Green, Larry Knapp, Rick Hoffstatter; City of Norman*

The City of Norman has grown from a population of less than 5000 in the early 20th century to over 115,000 today. This growth in population has been accompanied by corresponding growth in business and residential construction leading to substantial increases in the percentage of impervious surfaces throughout the city. Impervious surfaces impact runoff by increasing peak flows and decreasing lag times, which leads to greater discharge volumes. Unregulated development can lead to flooding, pollution, erosion and other problems.

The City regulates surface runoff in new developments to protect existing land uses by requiring facilities such as storm drains, water retention ponds, and stream stabilization. While these requirements apply to new development to help mitigate runoff, the City must still maintain existing facilities. In 2011, City Council adopted the Storm Water Master Plan (SWMP). One of the implementation strategies in the SWMP is to develop a storm water utility to provide funds for maintenance of storm water infrastructure. According to the research in the SWMP, there are two imperatives for a sound storm water utility: 1) the parties that have the most runoff and receive the most benefit must pay a greater share and 2) the utility must be administered fairly and cost-effectively.

The City of Norman GIS Services Division is supporting this effort by developing maps of existing facilities, mapping and analysis of impervious surfaces, and by developing tools for City staff to explore potential costs under different fee structure scenarios. This poster will illustrate methods used by the GIS division to map and analyze impervious surfaces in Norman and tools developed to help staff explore different fee scenarios and communicate that information to the public in a responsive and transparent way.

# Poster Presentations

## **Disability and Employment in the United States: A Geo-Statistical Approach**

*Mr. Ram Poudel, Ms. Jennifer Lockhart, Ms. Maleeha Shahid; Sooner SUCCESS, Department of Developmental and Behavioral Pediatrics, University of Oklahoma Health Sciences Center*

Navigating the services and resources available for assisting people with disabilities to obtain quality employment is like fitting together the pieces of a puzzle. The United States cannot successfully compete in a global economy without fully engaging the 33 million working-age people with disabilities in our workforce. Geographic information systems (GIS) have been applied mainly to describe dynamics of infectious disease and other environmental factors. In this study using GIS and spatial analysis the patterns of disabilities and employment among individuals with disabilities have been examined. This study aims at identifying state-level prevalence of disabilities and spatial autocorrelation of disability and employment rate. The secondary data from United States Department of Labor and Cornell University have been used for this study. After cleaning the data SAS 9.3 was used statistical analyses. Spatial analyses were conducted with ArcGIS 10.2. The Moran's I statistic was used to identify clusters and outliers. The average prevalence of disabilities across the United States is 12.1%. West Virginia has highest (18.6%) and Utah has the lowest prevalence (9.3%). Inverse correlation (-0.72) between the rate of disability and the percentage of people with disabilities has been found. There were more cold (19) than hot spot states (11) with high prevalence (Hot Spots) and low prevalence (Cold Spots). More analyses are required to assess if some of this clustering and correlation may be partly explained by socio-demographic and policy factors.



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Our roots began in Oklahoma's red soil and with our presence growing, CEC is proud of the legacy that we have worked so hard to build. Our clients include numerous federal, state, municipal, tribal, county, government agencies and private organizations. CEC is a multi-divisional company with the ability and resources to cover any and all projects simultaneously and on time.

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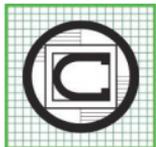
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## Customizing ArcGIS

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The Oklahoma Department of Environmental Quality's (DEQ) Brownfields Program works with local governments, non-profits, and private entities to provide education and support for the cleanup, sustainable reuse, and redevelopment of Brownfield properties. This program spurs community reinvestment and returns properties to beneficial reuse.

<http://www.deq.state.ok.us/lpdnew/brownfindex.html>



DEQ is hosting the Oklahoma Brownfields Conference November 5th through the 6th at the Hyatt Regency Hotel in Tulsa, Oklahoma. Keynote speakers will include social architect Bill Strickland, sustainable development leader John Knott, and former EPA Acting Administrator

Marianne Horinko. Topics at this year's conference include: Story Maps, 3D GIS Contamination Mapping, Historic Aerial Photographs, Brownfields & LEED Certification, Infill and Brownfield Redevelopments, Bringing Commercial Banks on Board for Brownfield Financing, and Environmental Insurance. [www.oklahomabrownfields.com](http://www.oklahomabrownfields.com)

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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 positive method of developing value for professionals and employers in the GIS profession. There are currently over 5500 active GISPs located throughout the world.

The current GISP Certification process consists of an application 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.

An exam is now being developed, to be added to the current process by the first half of 2015. Selected GISPs are performing groundbreaking work in the process of creating the exam based on the Geospatial Technical Competency Model (GTCM) approved by the Department of Labor in 2010.



GRI has been in business since 1987 and thus are celebrating 27 years in 2014. 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 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.

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The International Disaster and Conference Exposition (IDCE) is an annual international forum that brings together leading public and private sector professionals to

address the critical areas of disaster mitigation. IDCE focuses content and programming around the principal of public-private partnerships as the key component to planning, response and recovery efforts on a national and international scale. For more information, please visit: [www.idcexpo.net](http://www.idcexpo.net).





Meshek & Associates GIS division, founded over 15 years ago, has assembled an exemplary staff with four certified GISPs, two Masters Degrees, and over 70 combined years of GIS experience. We stand behind our proven track record



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



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Surdex 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,



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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.



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



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in 1966. From webinars and workshops to multi-day conferences, URISA presents an abundance of educational programs, offers volunteer GIS expertise through its GISCorps program, and assists government agencies with benchmarking GIS maturity through its GIS Management Institute. URISA fosters excellence in GIS through its programs, guiding and supporting GIS professionals throughout their careers.



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# 2014 Oklahoma SCAUG GISP Credit Checklist

## Half-day Workshops (4 hour)

Description	Class	Credit	Re-Cert	Earned
ArcGIS Tips & Tricks	EDU	0.1	0.67	_____
Be Awesome with ArcGIS Online	EDU	0.1	0.67	_____
Coordinate Datum Shifts and GNSS Best Practices	EDU	0.1	0.67	_____
Get your Data on the Web and in the Field	EDU	0.1	0.67	_____
Introduction to Cartographic Concepts I	EDU	0.1	0.67	_____
Introduction to Cartographic Concepts II	EDU	0.1	0.67	_____
MapSAR: GIS for Search and Rescue	EDU	0.1	0.67	_____
Spatial Statistics in ArcMap	EDU	0.1	0.67	_____
1 Day Training Instructor	CON	3.0	9.0	_____

SCAUG Conference	Class	Credit	Re-Cert	Earned
Attendee (.1 x number of days)	EDU	0.2	1.33	_____
Presenter	CON	1.0	3.0	_____
Poster Presenter	CON	1.0	3.0	_____
Poster Award Winner	CON	2.0	6.0	_____

Two-day Training (16 hour)	Class	Credit	Re-Cert	Earned
Editing Data With ArcGIS for Desktop	EDU	0.4	2.67	_____
Configuring and Managing the Multiuser GDB	EDU	0.4	2.67	_____
ArcGIS Basics III	EDU	0.4	2.67	_____

**(workshop or training certificate required for documentation credit)**

**Total GISP Points Earned**

# Congratulations OKSCAUG 2014 Scholarship Recipients

Matt Haffner

—Oklahoma State University

Emma Kuster

—University of Oklahoma

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

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## Additional workshops and Training Locations

### Workshops: Monday, Sept. 22

### ROOM

Introduction to Cartographic Concepts I	8:00 am – 12:00 pm	111
ArcGIS Tips and Tricks	8:00 am – 12:00 pm	201
Get Your Data on the Web and in the Field	8:00 am – 12:00 pm	112
Coordinate Datum Shifts and GNSS Best Practices	8:00 am – 12:00 pm	203
Introduction to Cartographic Concepts II	1:00 – 5:00 pm	111
Spatial Statistics in ArcMap	1:00 – 5:00 pm	201
MapSAR (GIS in Search and Rescue)	1:00 – 5:00 pm	203
Be Awesome with ArcGIS Online	1:00 – 5:00 pm	112

### Training Courses: Wednesday, Sept. 25 – Thursday, Sept. 26

### ROOM

Editing Data with ArcGIS for Desktop	8:00 am – 5:00 pm	207
Configuring and Managing the Multiuser Database	8:00 am – 5:00 pm	203
ArcGIS Basics III	8:00 am – 5:00 pm	201



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