

BRIDGING
THE GAP

FOR 22 YEARS
OKSCAUG 2019

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The OKSCAUG Steering Committee *welcomes you to the* 22nd Annual OKSCAUG Conference

This year's conference theme is Bridging the Gap, which is highly appropriate, because:

GIS bridges the gap between the present and the future. Elegantly mapped data collected from the real world shows us where we are, so that we can begin to chart a course to where we want to be. Whether the destination is a more sustainable city, a healthier ecosystem, a safer neighborhood, or increased profits, it is better to have a map to guide you.

GIS users bridge the gap between theory and reality. The best software in the world is powerless if no one uses it.

Developers and programmers bridge the gap between users' needs and implementable solutions. They listen to you, trawl the GeoNet hub, and look for thumbs-upped suggestions on the Esri boards. And then they get to work.

Finally, this conference itself bridges time and space to bring you all together in one place, where you benefit from seeing faces, touching hands, and having sparkling conversations that fly like jets compared to the stilted back-and-forth of an email chain.

We hope you find something in the conference today that helps you feel you are a part of something big. For the steering committee, today bridges the gap between nine months of planning and seeing our plans realized. To each and every one of you—thank you. Without you, we'd just be eight people emailing each other a lot.

- The 2019 OKSCAUG Steering Committee

Shellie Willoughby

Charles Brady III

Carrie Landgraf

Madeline Dillner

Talia Gammill

Greg Hakman

Joel Foster

Sohail Hasanjee

Amber Davis



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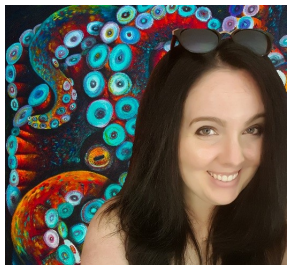
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KEYNOTE ADDRESS—MADELINE DILLNER

“BRIDGING THE GAP”

8:30 AM



Usually we try to get keynote speakers to send in their bios in the third person, but since I am the one who assembles this conference guide, and I am typing this up, it only feels right for me to use the first person. So, hello and welcome to the 22nd Annual OKSCAUG Conference!

I am your friendly neighborhood OKSCAUG Co-Conference Coordinator, Oklahoma Representative for SCAUG, oilfield and gas station Brownfield Project Coordinator, aerial photo collector and disseminator, independent artist, and Mid-Del Art Guild President. I have worked for the Oklahoma Corporation Commission for over seven years. I started as a part-time GIS Intern

in my last semester of college at the University of Oklahoma, where I earned my Bachelor of Science degree in Environmental Sustainability. (Todd Fagin was my GIS professor!) Now I am the Brownfield Program Project Coordinator. I've managed the Oklahoma Historical Aerial Digitization Project since 2013, and I've helped oversee the assessment and remediation of several oilfield and gas station Brownfield sites across the state of Oklahoma, all of which are described, of course, in an ArcGIS Story Map. In 2018, I was elected as the Co-Conference Coordinator for OKSCAUG, and in 2019, I was nominated and elected to be the Oklahoma Representative on the SCAUG board. Outside of work, I am also an independent artist, known for bright colors and being President of the Mid-Del Art Guild. I am lucky to be a part of all these groups, but OKSCAUG has a special place in my heart. The people are wonderful, and GIS combines all the things I love: people, places, data, and art. I use mapping technology (usually Esri products specifically) to enhance my work, my art, and my travels.

I feel so lucky to be able to give the keynote address today. Thank you, Steering Committee, for allowing me to run with the idea of an “interactive keynote/icebreaker activity.” With the help of Joel and the other committee members, I created and tested all the surveys until I thought they could give me the graphics and effects I wanted to present to you today. The data that fuels the maps in this keynote is all submitted by you—the exhibitors and the attendees. I can't wait to show you... you.



My website

Happy conference day, OKSCAUG.

Love & Maps,

Madeline Dillner

MONDAY WORKSHOPS



Morning Workshops — 8:30 AM - 12:00 PM unless instructor specifies otherwise:

- *Don't Run with Scissors, You Are Responsible for NG9-1-1 (Part 1)* - Room 110
- *Utilizing Your Mobile Device for High-Accuracy GNSS Data Collection* - Room 111
- *Introduction to Projects: The Art and Science of Making a Round Earth Flat* - Room 112
- *Getting the Most From Your LiDAR Data* - Room 201

Afternoon Workshops — 1:00 PM—4:30 PM unless instructor specifies otherwise:

- *Don't Run with Scissors, You Are Responsible for NG9-1-1 (Part 2)* - Room 110
- *GISP: The Road To An Exam* - Room 111
- *Introduction to Metadata for Data Management* - Room 112
- *Basic Map Making in ArcPro: Are You ArcPro-Shy?* - Room 201
- *Google Earth Pro* - Room 203

MONDAY & TUESDAY HANDS ON LEARNING LAB — ROOM 210



Hours: Mon., Sept. 16—9:00 AM to 4:00 PM & Tues, Sept. 17 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 HOLL consists of a group of laptops with headphones where students can work through lessons at their own pace. A lesson consists of a recorded presentation followed by a hands-on exercise. Each lesson typically takes about 45 minutes to one (1) hour to complete and students can generally come and go as they please. Education Services instructors are on hand to assist users with questions.

WEDNESDAY AND THURSDAY TRAINING



Hours: Weds., Sept. 18 & Thurs, Sept. 19—8:30 AM to 5:00 PM

- *Introduction to R for Data Visualization and Exploration* – Room 201
- *ArcGIS Basics I* – Room 203
- *GIS Test Prep* – Room 205

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User Presentations

10:20–10:50 AM

Room 109

SUPERMAP: TRUTH, JUSTICE, AND THE GIS WAY

Matthew Wormus and Amy Brittain — Oklahoma Department of Environmental Quality

Sharing our story is the top priority for the Oklahoma Department of Environmental Quality. One way to do that is using web based GIS. Recently, the DEQ has compiled a series of Story Maps and their new Dashboard developed for the OK Legislatures into one "Mega" Story Map. This new application compiles in one place spatial stories for the public. Learn how the application came to be, where the application is going next, and what lessons were learned along the way.

Room 110

IMPLEMENTING THE NG911 ADDRESS STANDARD IN OKLAHOMA – HOW DOES IT CHANGE MY GIS DATA?

Lance Terry - State 911 Coordinator, Charles Brady III - City of Ardmore, Mike Davis - ACOG

The Next Generation 911 (NG911) and Address Standard version 2.1 was adopted by the State of Oklahoma in February. As the national deadline for Next Generation 911 draws closer what changes need to be made to existing GIS datasets in order to meet the new standard? Why do these changes need to occur? What needs to be modified within existing datasets? What new datasets need to be developed? How do you maintain current functionality while integrating the new content? These questions among others will be discussed from the integrated perspective of a Municipality, a Regional Council of Government & the State of Oklahoma all working together.

Room 111

CITY OF MIDWEST CITY GEOHUB – GATEWAY TO MAPS AND DATA FOR THE CITIZENS OF MIDWEST CITY

Greg Hakman, GISP; and Bryan Salsieder, GISP — City of Midwest City

The City of Midwest City has created an ArcGIS Hub allowing citizens of Midwest City to access valuable information about their city in the forms of maps and open data. This presentation will go through the process of creating the Hub and an in depth look at the content currently available to the public and future growth of the Hub. It will also show how the internal ArcGIS Portal Sites pages for City departments are integrated to create a one stop location for both city employees and the general public.

User Presentations

10:20–10:50 AM

ROOM 112

THIS LAND IS MY LAND: HOW OWNERSHIP OF REAL ESTATE HAPPENS

Tami Mohow and Joel Foster — Canadian County Assessor's Office

Private ownership of land has been a fundamental idea going back at least as far as early systems of writing but how does that happen in today's world. How does anyone know, let alone map, who owns what land? This presentation will cover some basics on the types of documents that prove to the world, or at least the property tax system, that you own what you think you own. It will cover different types of instruments, or deeds, parts of those instruments, and some of the problems that could be encountered. It will also cover basics of legal descriptions used in Oklahoma, the peculiarities of real estate in Oklahoma, and how parcel data, which can be a fundamental GIS layer for many types of projects, is pieced together from those descriptions. It may even be helpful in general for all those who own or live on land.

ROOM 205

LOCATION ALLOCATION OF SUGAR BEET PILING CENTERS USING GIS AND OPTIMIZATION

Nimish Dharmadhikari Ph.D., GISP — INCOG

The sugar beet is one of the most important crops for both social and economic reasons, even though the area under sugar beet cultivation in the Red River valley of North Dakota and Minnesota is comparatively smaller than that of corn and other crop lands. It generates a large economic activity in local and regional level with a greater impact on jobs and stimulation of agriculture, transportation, and farm economy. Sugar beet transportation takes place in two stages in Red River Valley: the first step is from farms to piling centers (pilars) and the second step from pilars to processing facilities. This study focuses on the problem of optimizing pilier locations based on supply variation. Sugar beet supply and harvest varies significantly due to numerous reasons such as weather, water availability, and different maturity dates for the crop. This provides for a variable optimal harvesting time based on the plant maturity and sugar content. Sub-optimized pilars location result in the high transportation and utilization costs. The objective of this study is to minimize the sum of transportation costs to and from pilars and the pilars utilization cost. A two-step algorithm based on the geographical information system (GIS) with global optimization method is used to solve this problem. This method will also be useful for infrastructure decision makers such as planners and engineers to predict the truck volume on rural roads.

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Esri Technical Session

10:20–10:50 AM

Room 206

TRACKER FOR ARCGIS: AN INTRODUCTION



Brig Bowles—Esri

Location tracking is a new capability available in ArcGIS Enterprise and ArcGIS Online allowing organizations to capture the location data of mobile workers, contractors and employees. Track information can be used within mapping apps, dashboards, and for analytics. Location tracking supports a variety of security and work management needs. Location tracks are stored and managed in a highly performant, data store and can be used for visualization and analysis. Using securely shared views, others within the organization can visualize and analyze track data by timeline, mode of travel, and accuracy.

Exhibitor Session

10:20–10:50 AM

Room 207

OPERATIONAL INTELLIGENCE TECHNOLOGY: PLANNING DRONE FLIGHTS WITH LAND SCOUT

KNOW BEFORE YOU GO, PLAN YOUR FLIGHT IN ADVANCE



Alex Sherman and Madeline Cole — Land Scout

Land Scout is a comprehensive mapping software developed in-house by Reagan Smith Energy Solutions to aid in project planning and surveying. Our certified FAA drone pilot, Alex Sherman, uses Land Scout to plan drone missions and analyze real-time data collection. The use of drones in various industries allows us to view potential issues the human eye cannot detect, perform maintenance and inspections, and supplement our fieldwork. By pre-planning our flight paths, we can avoid structures, right-of-way issues, restricted airspace, sensitive wildlife or environments, and archaeological sites and artifacts. Drones advanced use of data gathering abilities has furthered the efficiency and accuracy of our work. Come join our presentation to see our work in action!

User Presentations

11:00–11:30 AM

Room 109

COLLECTOR FOR WATER RESCUE

Lieutenant Ronald Vaughn — Dallas Fire Rescue

Summer time brings people to lakes for recreation. Individuals spend time on the water fishing, water sports and relaxing. Unfortunately accidents do occur on lakes and some of these individuals need assistance. In this presentation I will show how Dallas Fire Rescue has begun using the Collector App to assist in Water Rescue.

Room 110

EXCEL-LENT PREPARATIONS

Pamela Jurney — Cross Timbers Consulting, LLC

Do you recall one of the standard definitions of GIS – Digital Mapping with Data Management? This presentation is all about data management in Excel. We will look at efficient ways to clean up and organize U.S. Census data. We will explore formula expressions. We will build pivot tables to summarize data. We will dabble with arrays (a formula that can perform multiple calculations on one or more items). In this session, we will share ideas and techniques to save time and ensure accuracy.



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User Presentations

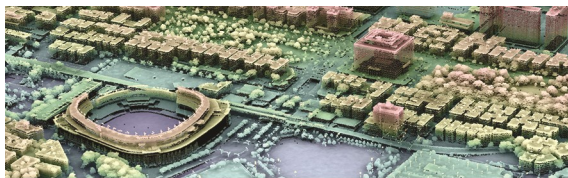
11:00–11:30 AM

Room 111

MAKING LAWTON BEAUTIFUL WITH ESRI SOLUTIONS

Judy Franco — City of Lawton

When the City of Lawton started looking for a citizen engagement app, the GIS division to the initiative to show what GIS can do. With the use of ESRI's solutions, ArcGIS Online, and Portal, we were able to empower our citizens with the tools to report issues in their neighborhood or around the City of Lawton. It provides management to view the status of issues and how quickly it is resolved.



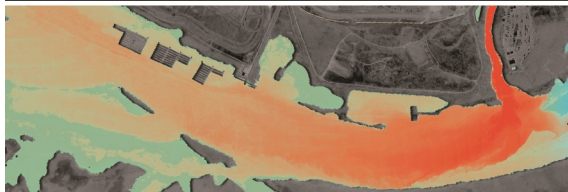
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Data Analysis
eGIS
Visualization
Data Mgmt

User Presentations

11:00–11:30 AM

Room 112

UNDERSTANDING THE LOCATIONS OF MEDICAL MARIJUANA DISPENSARIES AND THEIR EFFECTS ON LOCAL BUSINESSES

Ashley Hicks — Greater Oklahoma City Chamber

SQ788 went into effect July 26, 2018. A year later, Oklahoma now has the most medical marijuana dispensaries out of any state in the country. In this presentation we'll discuss where the dispensaries are located, how this affects different aspects of real estate, what local businesses are saying and more.

Room 205

UPDATING THE INCOG REGIONAL TRAFFIC COUNTS WEB MAP USING STREET-LIGHT AADT ESTIMATES

Ty Simmons — INCOG

INCOG, being both the Metropolitan Planning Organization (MPO) for the Tulsa area and a Council of Governments, has always had a regional focus. One aspect of INCOG's role as a regional entity is to compile traffic counts collected by the various municipal, county, and state governments in the Tulsa area into one map for easy public consumption. In 2014, a transition was made from the once paper only regional traffic counts map to an ArcGIS online web map, which has proven to be useful to the public. However, as time has gone by, many of the local governments in the region have eliminated traffic count collections from their budgets resulting in many out-of-date counts in the map. To address this issue and to have access to other transportation related data, INCOG purchased a subscription to StreetLight, an online transportation analytics data provider. This presentation will delve into the process that INCOG used to reformat the 2,500 plus traffic count locations in the region for use in StreetLight, obtain average annual daily traffic estimates for those locations, and finally convert them back into a point feature for use in our new AADT Estimates web map. The presentation will also focus on some issues we encountered along the way and how we addressed them.

Esri Technical Session

11:00–11:30 AM

ROOM 206

WHAT'S NEW IN ARCGIS



Pam Kersh—Esri

Every year at the Esri User Conference new and exciting advancements are unveiled. This presentation will cover some of the highlights of what's new in ArcGIS, what was released at the User Conference, and new improvements in our most popular software components.

Exhibitor Session

11:00–11:30 AM

ROOM 207

CREATING AND EXTENDING WEB MAP APPLICATIONS FOR WEATHER USING ESRI WEB APPBUILDER FOR ARCGIS



E. DeWayne Mitchell, Senior GIS Meteorologist — DTN

The ESRI Web AppBuilder for ArcGIS (AG WAB) is a powerful online tool used for building rich, intuitive and informative web-based mapping applications. AG WAB provides many off-the-shelf functions called widgets that provide important capabilities within a map application including but not limited to editing, drawing, printing, querying and measuring. The author may also choose from multiple basemaps, color schemes and fonts. These map applications can be created without any coding, and they can run on any device or browser. AG WAB is an integral part of ArcGIS Online, hence users can immediately begin building their own mapping applications. However, a developer edition is also available for those who wish to extend a map application capability and functionality by creating and adding custom widgets.

DTN has developed weather-focused widgets to extend the purpose and functionality of weather applications using AG WAB for the purpose of situational awareness in public safety. These weather applications have been created using both AG WAB in AGOL as well as the developer edition. These applications comprise DTN's unique weather content as well as custom widgets beyond the accompanying ESRI off-the-shelf widgets. We will demonstrate the construction of web-based mapping applications using AG WAB comprising DTN's weather content as hosted on ESRI ArcGIS Server. In addition, we will illustrate DTN's point forecast weather widget and how it seamlessly integrates into the mapping application.

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User Presentations

12:40–1:10 PM

Room 109

BRINGING THE DASHBOARD OUT OF THE VEHICLE: CREATING DASHBOARDS AT ODOT

Gwen Johnson and Devin Hargus — Oklahoma Department of Transportation

ODOT's GIS Management Branch and Road Inventory Branch work closely together to maintain ODOT's GIS data. The Road Inventory Branch is in charge of maintaining our roadway network and reporting to the Federal Highway Administration and the Oklahoma Tax Commission. The GIS Management Branch is in charge of all other data maintenance and mapping requests. Over the last year we have created a couple Operations Dashboards to assist relaying important information to upper management and County Commissioners. ODOT will discuss the steps taken to create the County Certification Dashboard and the MAPS-21 Performance Measures Dashboard. We will start with the elements of a dashboard then add some lessons we learned and resources you can use for your own dashboards.

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User Presentations

12:40–1:10 PM

Room 110

LABEL MANAGER, ARCMAP BFF

Pamela Journey — Cross Timbers Consulting, LLC

Are you one of those people to whom using ArcMap comes easily? Like it's smooth sailing to navigate through the software? Yeah, me neither. ArcMap is hard but sometimes you find tools that make your mapping life a lot easier. Label Manager is one those things. I have often called in my ArcMap BFF. It gets me, I can communicate with it, and in the end, it helps me (well, my map) look good. So, if you want to explore label classes, expression queries, placements, abbreviation dictionaries, and more, join us for this Label Manager / Maplex Label Engine session.

Room 111

OLD MAPS, STORY MAPS, AND AERIAL PHOTOS: HOW OKLAHOMA STATE UNIVERSITY LIBRARY IS BRINGING OKLAHOMA'S CARTOGRAPHIC PAST, PRESENT, AND FUTURE TO LIFE

Kevin Dyke — Maps and Spatial Data, Oklahoma State University Library

In this session I will demonstrate a number of projects underway in Maps and Spatial Data at Oklahoma State University's Edmon Low Library. These efforts seek to spotlight and preserve Oklahoma's cartographic heritage, and also show how to make maps and tell stories with them. These projects include a spatial search interface for finding maps, a web-based tool for aerial photograph/map comparison, and, thanks to the generous support of the McCasland Foundation, the addition of hundreds of new maps to the Oklahoma Digital Maps Collection, bringing the total number of maps available online to the brink of 10,000. I will also discuss how we are integrating Esri's story maps into library exhibits, workshops, and classrooms.

User Presentations

12:40–1:10 PM

Room 112

HIDDEN TREASURES BENEATH

Kellie Lewelling — Oklahoma Corporation Commission

The Oil and Gas Division at the OCC is starting a new and exciting journey. Drones are beginning to be used to solve many problems in the oilfield. With the drones we can locate missing equipment after a weather event, assess polluted areas without getting too close, take measurements, and even locate wells up to 65 ft. beneath the surface. We will have 5 drones to cover all parts of the state, and approximately 15 people will be licensed. One of the drones will come equipped with its own LiDAR sensor and magnetometer. This ground-penetrating technology will aid us in locating old wells that were never known to have existed, allow us to see old pits, possibly prevent some spills and/or seeps, etc. The other 4 drones are going to be equipped with thermal cameras to show changes in heat signatures and check for gas leaks. Not only will this project help us find out more about what is under our feet, it will also add a layer of security for our field staff.

Room 205

UPDATING WETLAND MAPS FOR RESOURCE MONITORING AND MANAGEMENT IN OKLAHOMA

Dan Dvoretz — Oklahoma Conservation Commission

Wetland maps are a foundational component of resource management and are utilized in numerous planning activities including determination of potential impacts from development and discharges. The National Wetlands Inventory (NWI) represents a statewide digital map for the entirety of Oklahoma. However these maps are approaching 40 years old; given the dynamic nature of wetland ecosystems and improved mapping techniques, the Oklahoma Wetlands Program has made wetland map updates a priority. In the last five years we have remapped 6 watersheds totaling over 1.7 million acres. These areas were targeted due to identified inaccuracies in the NWI coverage, primarily resulting from highly ephemeral and forested wetlands. NWI maps were typically drawn on single-date base imagery, often during leaf-on periods. This procedural limitation made identifying temporary water and water obscured by tree canopies difficult, and furthermore, led to inaccuracies in attribution of flood duration to wetland polygons. We have utilized new mapping protocols involving high-recurrence satellite imagery from multiple seasons and multiple years to more accurately represent the extent and hydrology of ephemeral depressions and forested wetlands. Using decision tree classification of 51 Landsat images from 1994 to 2011 we mapped over 3,000 wetland units in the Pleistocene Sand Dunes Ecoregion along the Cimarron River, 700 more than the original 1980's NWI map. More recently, we have been developing protocols for updating floodplain wetland maps, by identifying Landsat imagery that coincide with periods of flooding determined from stream gauge data. With many rivers in Oklahoma incised, it is often difficult to determine the extent of connected floodplains by elevation alone. Identifying the extent of flooding during 1-3 year flood events, should improve the accuracy of floodplain wetland boundaries.

Esri Technical Session

12:40–1:10 PM

Room 206

**PUBLIC SAFETY: THE MEMBERS OF YOUR COMMUNITY
TRUST YOU TO KEEP THEM SAFE**



Brad Owens—Esri

Esri's GIS mapping software supplies real-time, reliable information when you need it most. See where a threat is headed. Know who and what are at risk. Execute a smarter strategy across jurisdictions—all through the power of visualizing, analyzing, and acting on data through the lens of location.

Exhibitor Session

12:40–1:10 PM

Room 207

RESOLUTION REVOLUTION



Jonathan Ballard — EagleView

Join oblique imagery expert Jonathan Ballard as he breaks down the evolution of aerial imagery, from panchromatic film to what's now the highest resolution in the world. As we embark on the resolution revolution, find out how innovation opens the doors for more use cases across local and municipal government agencies.

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User Presentations

1:20–1:50 PM

Room 109

AIDING NATURAL DISASTER RESPONSE: REGULARLY UPDATING STORM SHELTER REGISTRATIONS THROUGH AUTOMATION

Kevin Gustavson — City of Tulsa, Information Technology Department, GIS Services

City of Tulsa residents can register their storm shelters online so that first responders can efficiently know where to look for people in a disaster situation. To aid in this effort, the City of Tulsa GIS Services has been conducting an annual update of its storm shelter feature class by manually geocoding the latest list of registrants each Spring. Using the updated shelter points, an updated storm shelter map book has been produced and emailed to the Fire Department, and a storm shelter web map has been automatically updated with the new points. This year, GIS Services decided to fully automate the process using ArcPy and the Task Scheduler. Once the Fire Department was notified of the new procedure and capabilities, they became curious about how GIS Services could further assist them. Through a series of planning sessions, they ultimately decided that they wanted weekly updates of the registered storm shelters, along with spreadsheets of the weekly changes to help them keep their CAD (computer-aided dispatch) system up-to-date. Now, a series of Python scripts fully automate weekly geocoding, map book and spreadsheet production, and delivery of updates via email.

Room 110

ENGAGING YOUTH WITH GIS: SHAWNEE GEO TEAM

Cheyenne Branscum — Shawnee Middle School

There is a myth that somehow GIS is restricted to adults or is too complicated for youth. For the past two years, students in Shawnee have consistently proved otherwise. 6th to 8th graders have been using ArcGIS, drones, Survey123, underwater ROVs, and other GIS technology to gather and analyze data for their research projects. They have presented at conferences and entered their projects into competitions in both Oklahoma and Texas. The ultimate goal for many of them is to use their GIS skills to reach the top level of International Science and Engineering Fair (ISEF) and be selected for the Regeneron Science Talent Search. While these accomplishments and goals may seem to fit a well-funded school with a high socioeconomic status, the Geo Team smashes that myth as well. Shawnee Middle School is an ethnically diverse, Title 1 school where all students receive free breakfast and lunch. There may be barriers, but they do not prevent GIS from reaching Shawnee youth and do not need to prevent any youth from engaging with GIS.

User Presentations

1:20–1:50 PM

Room 111

DRONE MAPPING AT UNT FACILITIES

Peter Palacios — University of North Texas

This presentation will outline the journey of using drone technology for mapping purposes at the University of North Texas Facilities department. The department currently operates two unmanned aerial systems (UAS) and uses the derivative orthomosaic products to extract features for integration into the department's GIS by using GNSS-enabled registration markers that allows them to georeference the images. The topographic derivative products also support campus planning.

Room 112

PIPELINE SAFETY: IDENTIFYING HIGH CONSEQUENCE AREAS FOR LIQUID PIPELINES

Sheila McGinty, PhD — Williams

Safety is the most critical function of all pipeline companies. One part of pipeline safety is understanding what and where high consequence areas are and how a pipeline can affect them. High consequence areas are defined as "specific locales and areas where a release could have the most significant adverse consequences" (49 CFR 195). High consequence areas fall under three specific categories: population, unusually sensitive areas, and commercially navigable waterways. Populated areas are determined by the US Census bureau and broken down into highly populated and other populated areas. Unusually sensitive areas are critical drinking water sources and ecological areas. Commercially navigable waterways are defined by Congress and fall under the authority of the Corps of Engineers. Pipeline operators are required by federal regulation to determine what and how areas would be affected in case of pipeline failure. Pipeline companies are then required to build and manage a pipeline in order to prevent and mitigate damage. This presentation will focus on how GIS is used to determine high consequence areas, 3D spill modeling, and associated regulatory requirements for maintaining safe pipeline operation. The discussion will include existing pipelines as well as proposed pipelines.

User Presentations

1:20–1:50 PM

Room 205

APPLICATION OF STATE NATURAL HERITAGE PROGRAM DATABASES FOR BIODIVERSITY PLANNING AND RESEARCH: THE OKLAHOMA NATURAL HERITAGE INVENTORY AND THE OKLAHOMA BIODIVERSITY INFORMATION SYSTEM (OBIS)

Bruce Hoagland — Oklahoma Natural Heritage Inventory

Todd Fagin — Oklahoma Biological Survey

The Oklahoma Natural Heritage Inventory (ONHI) is legislatively mandated to maintain dynamic, georeferenced information on the state's biological diversity, including rare and endangered species, species of special concern, and significant ecological communities. ONHI biologists conduct field inventories to find and evaluate occurrences of species and communities throughout the state. These data, as well as biodiversity data collated from a variety of sources, are stored within a centralized database, the Oklahoma Biodiversity Information System (OBIS), for dissemination to researchers, state and federal policy makers, educators, and other interested parties. ONHI is also one of the few state heritage programs located at a university and that effectively services as both a research unit and a state agency. We present several ongoing ONHI projects, with a focus on the Oklahoma Biodiversity Information System, to demonstrate the role state natural heritage programs can play to inform biogeographic knowledge, assess biodiversity and species rarity, provide consistent methodology and standards for data storage and dissemination, and aid biodiversity conservation from the local to global.



ParcellInfo. io

Esri Technical Session

1:20–1:50 PM

Room 206

INSIGHTS LOCAL FOR ARCGIS

Brig Bowles—Esri

Explore data and perform advanced analytics such as spatial, statistical, predictive, and link analysis within an intuitive experience that works the way you do. Revolutionize decision-making with analysis that visually informs the organization of new, previously unexplored insights gained from the perspective of “where”.



Exhibitor Session

1:20–1:50 PM

Room 207

IT'S ALL ABOUT THE DATA

Bradley Chatman—Cityworks

Cityworks provides tools for local government organizations to make informed decisions, improve business practices and pursue true top to bottom web GIS centric asset management. But where do you start? At Cityworks, we maintain that it all boils down to the data. Come look at some case studies with us to see how an organization can reach that next level by setting data driven goals and establishing a plan to achieve them.



User Presentations

2:45–3:15 PM

Room 109

GIS FOR SMALL WATER AND WASTEWATER SYSTEMS

*Ginny Holcomb, Gaylene Riley, Karen Conrad - Communities Unlimited
Rod Pratt - McCurtain County Rural Water District #5*

In the age of digital solutions, it's no wonder GIS is widely used in water and wastewater infrastructure mapping. Accurate location information and interactive maps ensure the ability to quickly and easily find components such as water lines, valves, meters, manholes, and hydrants – all within a single click. Detailed attribute tables serve as a one-stop-shop for planning and budgeting for future maintenance, as well as preparing for emergency response. In many cases, however, smaller water and wastewater systems lack resources normally available to larger systems, such as dedicated GIS staff and software. Communities Unlimited offers GIS mapping services to help these small communities affordably map their water and wastewater infrastructure, while providing these systems with the tools and training to manage and update their own GIS data. Using ESRI's Collector app on a smartphone or tablet, GPS points are gathered and stored in the cloud, allowing data management operations to be completed both in the field using the Collector app and remotely using ArcGIS Online.



User Presentations

2:45–3:15 PM

Room 110

MAPS AND ADVANCED DATA COLLECTION IN THE PALM OF YOUR HAND

LeAnna Kilhoffer — Oklahoma Water Resources Board

The OWRB measures about 904 water levels across the state of Oklahoma in January. This year we embedded the Survey123 Application into ArcCollector to link predetermined sites with a survey to collect data. We were able to take advantage of ArcCollector's ability to display sites on a mobile map, site specific important information, and even navigate to the site, AND use Survey123 to collect new complex site information including mathematical functions. Traditionally our work was done with field sheets, pen and paper, and lots of printed out site maps. We can now enter the data straight into the phone and have that data upload automatically to the web where it can be exported in to a multitude of formats, and can then be uploaded into our database in a single batch. To further facilitate sample tracking, staff had access to an Esri dashboard that gave real time stats on the state of sampling progress and access to all the water level data that had been collected.

Room 111

STREAMLINING DATA COLLECTION AND MAPPING WITH COLLECTOR AND TRIGGERS

John May, CSM, GISP — ESciences Inc.

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

User Presentations

2:45–3:15 PM

Room 112

SUPPORTING INNOVATION THROUGH DATA MANAGEMENT AND METADATA: THE PATH FORWARD

Thomas E. Burley, GISP — U.S. Geological Survey

Data management is critical for supporting any organization's mission and objectives. As data volumes across all areas increase with the advent of new technology and sensor networks, risk increases for potential missteps with managing these investments and resources. There is arguably universal recognition of the importance of this topic, however it remains an elusive moving target for many agencies and businesses alike. Considering the elements of any organization's data lifecycle, documentation will always be a common denominator. Metadata as standard documentation is the glue that binds it all together during and after the work is done, along with the other principal components of the data lifecycle, to help ensure that data can be understood and used. More importantly, data management creates a pathway for communication of quality products along with opportunities for innovative delivery of data and information.

Room 205

PATHWAY TO 2022: THE ONGOING MODERNIZATION OF THE UNITED STATES NATIONAL SPATIAL REFERENCE SYSTEM

Daniel B. Prouty — National Geodetic Survey

In 2022, the National Geodetic Survey (NGS) will be replacing the US horizontal and vertical datums (NAD 83 and NAVD 88). We will discuss what activities are being undertaken to ensure a smooth transition. Also, NGS is currently in the process of producing a much-improved national hybrid-geoid model in 2018, to replace GEOID12B. We will also discuss the history of the North American Datum of 1983 and the North American Vertical Datum of 1988, their relationships to other reference frames, and the reasons for their ongoing evolution. This presentation will also provide information on the National Geodetic Survey's powerful Coordinate and Transformation Tool (NCAT), capable of 3D transformations between all commonly used datums.

Esri Technical Session

2:45–3:15 PM

Room 206

ADVANCE MOBILE WORKFLOWS FOR WORK ORDERS USING ARCGIS



Pam Kersh—Esri

Learn how to complement your work management system by providing your field inspectors with optimized routing capabilities and assign Workforce for ArcGIS assignments with Jupyter for Notebooks.

Exhibitor Session

2:45–3:15 PM

Room 207

SUCCEEDING WITH PARCEL FABRIC



Joel Foster — Canadian County Assessor's Office

Lisa Schaefer, GISP — Pro-West & Associates

Join Canadian County to learn about its ongoing project to implement Esri's Parcel Fabric with the goal of efficiently and independently managing vital tax parcel data. The presentation will cover:

- Why the County decided to implement the parcel fabric
- How they are going about implementing the fabric
- Lessons learned so far
- What success will look like
- Tips for a successful project

Canadian County will be supported by parcel fabric implementation partner Pro-West & Associates.

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User Presentations

3:25–3:55 PM

Room 109

THE CITY OF MIDWEST CITY'S USE OF CITYWORKS PLL FOR CODE ENFORCEMENT

Greg Hakman, GISP; and Cole Davis— City of Midwest City

The City of Midwest City has been an avid user of Cityworks AMS since their implementation in 2011. Recently the City has expanded into Cityworks PLL, one example is the use of PLL to manage code enforcement cases. The mobile application allows a user to select a location from a map, select a code enforcement case type, add in critical details, notes, and pictures from a mobile device, and ultimately create a case in Cityworks PLL and print and post the violation all while staying in the field. This presentation will cover how code enforcement integrated GIS and Cityworks PLL into their daily workflows creating greater efficiencies and collaboration among officers and other City departments.



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User Presentations

3:25–3:55 PM

Room 110

WHAT'S NEW WITH THE USGS NATIONAL GEOSPATIAL PROGRAM

Claire DeVaughan — National Geospatial Program, US Geological Survey

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

Room 111

SUPERCHARGING SURVEY123

Christopher L. Rogers — Quantum Leap Geospatial Intelligence Solutions

This presentation, "Supercharging Survey123", will introduce you to several powerhouse features that can be implemented through Survey123 Connect. Officially released at Esri's 2016 User Conference, Survey123 for ArcGIS has continued to make its mark in the GIS user community while maturing at a rapid pace. Built upon the XLSForm and ODK XForm Standards, Survey123 for ArcGIS is a powerful and intuitive form-centric data collection tool which can transform paper forms and field data collection into "Intelligent Workflow Processes". New Survey123 features and bug fixes are released about every six to eight weeks making it a challenge for even the best end-users to keep up with and take advantage of all these new capabilities. Survey123 can also be easily integrated with other Esri solutions such as Web App Builder, Workforce, Operations Dashboard, and/or Story Maps. If you want to find out how to improve your data collection and analysis workflows while taking advantage of the advanced features in Survey123 for ArcGIS then this session is a must.

User Presentations

3:25–3:55 PM

Room 112

FUN WITH PROJECTIONS: WHEN THE MISUSE OF A PROJECTION CAUSES A KERFUFFLE OR A BROUHAHA

Michael Larson – Oklahoma State University Cartography Services

How many times have we opened up a third-party data set only to scratch our collective heads and wonder what projection is this and why does it not match my existing data? Or, how many times do we accept the software defaults not knowing we can or even should change the projection parameters? This presentation will briefly examine the basic properties of projections and explore what can happen when we get it wrong.

Room 205

ORGANIZING CHAOS: OPERATIONS DASHBOARDS IN THE OKLAHOMA STATE EMERGENCY OPERATIONS CENTER

Zach Stanford — Oklahoma Department of Emergency Management

For many, the first thought when hearing of our great state is the movie "Twister!" While Oklahoma is the unfortunate touchdown capitol for a myriad of tornadoes, we're also no stranger to wildfires, floods, earthquakes and ice storms. The Oklahoma Department of Emergency Management is tasked with monitoring and responding to disasters across the state. Their secret weapon to coordinate the chaos? The State Emergency Operations Center, a cold war era nuclear fallout shelter, nestled deep beneath the State Capitol. With an impressive array of monitors displaying multiple ArcGIS Operations Dashboards, strong interagency data partnerships and some high tech tools help emergency managers across the state capture, monitor, and respond to events that threaten the safety of Oklahomans.

Esri Technical Sessions

3:25–3:55 PM

ROOM 206

ARCGIS EARTH: MAPS FOR EVERYONE ON EARTH



Brad Owens—Esri

Part of the Esri Geospatial Cloud, ArcGIS Earth allows you to explore any part of the world. Work with a variety of 3D and 2D map data formats... including KML. Display data, sketch placements, measure distances and areas, and add annotations. ArcGIS Earth has everything you need to easily understand spatial information so you get the full picture.

Exhibitor Session

3:25–3:55 PM

ROOM 207

A SIMPLIFIED APPROACH TO IMPLEMENTING GIS



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Nick Tonias, P.E. — The CEDRA Corporation

Over the last 20 years, the implementation of GIS in municipalities has exploded. Many of these municipalities have implemented very extensive, yet expensive, Enterprise GIS environments. These same municipalities have hired staff to maintain data, develop applications and integrate multiple departments with the GIS. The results have been impressive with a sound return on investment. However, these municipalities tend to be large in size. The question then arises, as to what about the small municipalities who want to implement GIS but lack the resources to pursue the path that their larger counterparts have.

This presentation discusses how a small municipality can enjoy the benefits of a GIS without a significant investment. Using ArcGIS (Basic) and ArcGIS Online, this presentation illustrates how a municipality can develop a comprehensive GIS for their parcels, street centerlines, utilities, easements and other data layers. Topics to be discussed in the presentation include the following:

- Assessment of Current Esri Software and Hardware
- Assessment of Existing Records
- GIS Database Design (Custom versus LGIM)
- GIS Database Development
- Application Development
- GIS and Application Deployment



Monday, September 16 - 9:00 AM to 4:00 PM - Room 210
Tuesday, September 17 - 9:30 AM to 3:00 PM - Room 210

The HOLL is included with your conference registration. It consists of a classroom full of **laptops with headphones** where conference attendees can work through lessons at their own pace. A lesson consists of a recorded presentation followed by a hands-on exercise. Each lesson typically takes about 45 minutes to one (1) hour to complete and students can generally come and go as they please. Lessons include:

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

7:30 AM—2:00 PM	REGISTRATION		
7:30 AM—8:30 AM	EXHIBITOR VISIT + BREAKFAST SERVED—ROTUNDA		
8:30 AM—9:30 AM	WELCOME AND KEYNOTE		
9:30 AM—10:15 AM	MORNING BREAK—EXHIBITOR VISITS		
SESSIONS	ROOM 109	ROOM 110	ROOM 111
10:20 AM - 10:50 AM	<p>SUPERMAP: TRUTH, JUSTICE, AND THE GIS WAY</p> <p>ODEQ</p>	<p>IMPLEMENTING THE NG911 ADDRESS STANDARD IN OK—HOW DOES IT CHANGE MY GIS DATA?</p> <p>PANEL DISCUSSION</p>	<p>CITY OF MIDWEST CITY GEOHUB – GATEWAY TO MAPS AND DATA FOR THE CITIZENS OF MIDWEST CITY</p> <p>MIDWEST CITY</p>
11:00 AM - 11:30 AM	<p>COLLECTOR FOR WATER RESCUE</p> <p>DALLAS FIRE RESCUE</p>	<p>EXCEL-LENT PREPARATIONS</p> <p>CROSS TIMBERS CONSULTING</p>	<p>MAKING LAWTON BEAUTIFUL WITH ESRI SOLUTIONS</p> <p>CITY OF LAWTON</p>
11:35 AM—12:35 PM	LUNCH + POSTER COMPETITION + NETWORKING		
12:40 PM - 1:10 PM	<p>BRINGING THE DASHBOARD OUT OF THE VEHICLE: CREATING DASHBOARDS AT ODOT</p> <p>ODOT</p>	<p>LABEL MANAGER, ARCMAP BFF</p> <p>CROSS TIMBERS CONSULTING</p>	<p>OLD MAPS, STORY MAPS, AND AERIAL PHOTOS: HOW OKLAHOMA STATE UNIVERSITY LIBRARY IS BRINGING OKLAHOMA'S CARTOGRAPHIC PAST, PRESENT, AND FUTURE TO LIFE</p> <p>OSU LIBRARY</p>
1:20 PM - 1:50 PM	<p>AIDING NATURAL DISASTER RESPONSE: REGULARLY UPDATING STORM SHELTER REGISTRATIONS THROUGH AUTOMATION</p> <p>CITY OF TULSA</p>	<p>ENGAGING YOUTH WITH GIS: SHAWNEE GEO TEAM</p> <p>SHAWNEE MIDDLE SCHOOL</p>	<p>DRONE MAPPING AT UNT FACILITIES</p> <p>UNIVERSITY OF NORTH TEXAS</p>
2:00 PM—2:40 PM	AFTERNOON BREAK—EXHIBITOR VISITS		
2:45 PM - 3:15 PM	<p>GIS FOR SMALL WATER AND WASTEWATER SYSTEMS</p> <p>COMMUNITIES UNLIMITED & MCCURTAIN CO RWD5</p>	<p>MAPS AND ADVANCED DATA COLLECTION IN THE PALM OF YOUR HAND</p> <p>OWRB</p>	<p>STREAMLINING DATA COLLECTION AND MAPPING WITH COLLECTOR AND TRIGGERS</p> <p>ESCIENCES INC.</p>
3:25 PM - 3:55 PM	<p>THE CITY OF MIDWEST CITY'S USE OF CITYWORKS PLL FOR CODE ENFORCEMENT</p> <p>MIDWEST CITY</p>	<p>WHAT'S NEW WITH THE USGS NATIONAL GEOSPATIAL PROGRAM</p> <p>USGS</p>	<p>SUPERCARGING SURVEY123</p> <p>QUANTUM LEAP GEOSPATIAL INTELLIGENCE SOLUTIONS</p>
4:00 PM - 4:30 PM	CLOSING REMARKS + PRIZES—MAIN HALL		

REGISTRATION				7:30 AM—2:00 PM
EXHIBITOR VISIT + BREAKFAST SERVED—ROTUNDA				7:30 AM—8:30 AM
SPEAKER: MADELINE DILLNER, OKLAHOMA CORPORATION COMMISSION, OKSCAUG, SCAUG				8:30 AM—9:30 AM
MORNING BREAK—EXHIBITOR VISITS				9:30 AM—10:15 AM
ROOM 112	ROOM 205	ROOM 206	ROOM 207	SESSIONS
THIS LAND IS MY LAND: HOW OWNERSHIP OF REAL ESTATE HAPPENS CANADIAN COUNTY ASSESSOR	LOCATION ALLOCATION OF SUGAR BEET PILING CENTERS USING GIS AND OPTIMIZATION INCOG	TRACKER FOR ARCGIS: AN INTRODUCTION ESRI	PLANNING DRONE FLIGHTS LAND SCOUT	10:20 AM - 10:50 AM
UNDERSTANDING THE LOCATIONS OF MEDICAL MARIJUANA DISPENSARIES AND THEIR EFFECTS ON LOCAL BUSINESSES GREATER OKC CHAMBER	UPDATING THE INCOG REGIONAL TRAFFIC COUNTS WEB MAP USING STREETLIGHT AADT ESTIMATES INCOG	WHAT'S NEW IN ARCGIS ESRI	CREATING AND EXTENDING WEB MAP APPLICATIONS FOR WEATHER DTN	11:00 AM - 11:30 AM
LUNCH + POSTER COMPETITION + NETWORKING				11:35 AM—12:35 PM
HIDDEN TREASURES BENEATH OK CORP COMMISSION	UPDATING WETLAND MAPS FOR RESOURCE MONITORING AND MANAGEMENT IN OKLAHOMA OK CONSERVATION COMMISSION	PUBLIC SAFETY: THE MEMBERS OF YOUR COMMUNITY TRUST YOU TO KEEP THEM SAFE ESRI	RESOLUTION REVOLUTION EAGLEVIEW	12:40 PM - 1:10 PM
PIPELINE SAFETY: IDENTIFYING HIGH CONSEQUENCE AREAS FOR LIQUID PIPELINES WILLIAMS	THE OKLAHOMA NATURAL HERITAGE INVENTORY AND THE OKLAHOMA BIODIVERSITY INFORMATION SYSTEM (OBIS) ONHI / OK BIOLOGICAL SURVEY	INSIGHTS LOCAL FOR ARCGIS ESRI	IT'S ALL ABOUT THE DATA CITYWORKS	1:20 PM - 1:50 PM
AFTERNOON BREAK—EXHIBITOR VISITS				2:00 PM—2:40 PM
SUPPORTING INNOVATION THROUGH DATA MANAGEMENT AND METADATA: THE PATH FORWARD USGS	PATHWAY TO 2022: THE ONGOING MODERNIZATION OF THE UNITED STATES NATIONAL SPATIAL REFERENCE SYSTEM NATIONAL GEODETIC SURVEY	ADVANCE MOBILE WORKFLOWS FOR WORK ORDERS USING ARCGIS ESRI	SUCCESSING WITH PARCEL FABRIC PRO-WEST & CANADIAN CO. ASSESSOR	2:45 PM - 3:15 PM
FUN WITH PROJECTIONS: WHEN THE MISUSE OF A PROJECTION CAUSES A KERFUFFLE OR A BROUHABA OSU CARTOGRAPHY	ORGANIZING CHAOS: OPERATIONS DASHBOARDS IN THE OKLAHOMA STATE EMERGENCY OPERATIONS CENTER OEM	ARCGIS EARTH: MAPS FOR EVERYONE ON EARTH ESRI	A SIMPLIFIED APPROACH TO IMPLEMENTING GIS CEDRA	3:25 PM - 3:55 PM
CLOSING REMARKS + PRIZES—MAIN HALL				4:00 PM - 4:30 PM



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B	I	N	G	O
Someone who has attended an Esri User Conference	Cross this square off if you voted in the poster competition	Someone whose dream vacation is outside of the US	Someone who has their GISP Certification	Someone you'd trade jobs with for a day
Someone who has been doing GIS for less than 5 years	Cross this square off if you asked anyone a question today	Someone who attended the Monday night social	Someone who has attended 10+ OKSCAUG conferences	Someone who has never attended OKSCAUG before
Someone whose job involves more than just GIS	Someone who builds models, writes scripts, or uses FME		Someone on the OKSCAUG Steering Committee	Cross this square off if you asked someone what their favorite part of their job is
Someone who loves ArcGIS Pro	Someone whose dream vacation is inside the US	Find someone who has attended a SCAUG Regional Conference	Someone who presented today	Someone who has been doing GIS for over 15 years
Cross this off if you dropped a token in an exhibitor bucket	Someone who has lived in more than 2 states	Cross this off if you met someone new today	Someone who will attend a workshop or training at OKSCAUG	Cross off this square if you will answer the post-conference survey

When you BLACK OUT your bingo card, please write your name here, tear out this page, and turn it in at the Registration Desk for a drawing to win this

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Poster Presentations

INTEGRATING ENVIRONMENTAL CAD DRAWINGS TO A GIS

Lisa Maslanka — Oklahoma Department of Transportation

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

TULSA COUNTY MATERNAL CHILD HEALTH PROFILE

Kiran Duggirala and Sandra Braun — Tulsa County Health Department

The Tulsa Health Department collects and analyzes data to inform public and health professionals about the health status of Tulsa County residents. This data is used to compile the Tulsa County Health Status Report, which highlights areas that Tulsa is excelling in as well as areas where improvement is needed. Through community partnership, Tulsa can address these areas to become the healthiest county.

Maternal Child Health (MCH) is an important indicator of the well-being of the next generation. This data can help predict future public health challenges and assist with planning programs. Protecting the health of mothers, infants and children is an essential component in maintaining the overall health of the entire population. Health conditions, health behaviors, and health system indicators are all areas of concern that fall under the umbrella of maternal child health. This poster displays indicators used to assess MCH in Tulsa County. Providing quality preconception, prenatal and inter-conception care at the correct times is instrumental in reducing the risk of maternal and infant mortality and pregnancy-related complications. Premature birth and low birth weight are two of the more serious risk factors associated with increased infant mortality and can also indicate long term health issues. Environmental and social factors also influence MCH. These factors include tobacco use, education attainments and marital status. All these components of maternal child health affect the health, wellness, and quality of life of women, children and families in Tulsa County.



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Poster Presentations

HISTORY OF FLOODING IN TULSA, OKLAHOMA

Alana Kleven — City of Tulsa

Tulsa has witnessed many storms and subsequent flooding due to its location on the Arkansas River and in tornado alley. Over the course of Tulsa history since settlement around 1830, stormwater-related disasters have cost the city millions of dollars and claimed dozens of lives. Flood hazards, both natural and man-made, hinder efforts to protect residents from future stormwater damage and destruction. However, learning from past events, Tulsa has made significant improvements through implementation of effective, dynamic stormwater management.

This poster explores the history of flood events in Tulsa, as well as reactions of city government and other entities. Although risk to property and life from flood hazards may never be entirely diminished, with cohesive efforts from government and citizens alike, the threat to Tulsans is lower today than ever before. This was witnessed in the recent 2019 floods, wherein not a single life was lost due to flooding in the City of Tulsa.

RESIDENTIAL PROPERTIES THAT ARE WALKING-DISTANCE TO PUBLIC POOLS IN SAN ANTONIO, TEXAS

Alberto Solis III — Bexar County Appraisal District

This map illustrates Total Value Assessment (Land Value and Improvement Value) for the residential properties within walking-distance to public pools in San Antonio. San Antonio has 303 public parks, 25 of these public parks have swimming pools. Focusing on residential properties, there are a total of 9,960 properties within 500 meters of a public pool. Dellview Park ranks 1st with 780 properties and Lady Bird Johnson Park ranks last with just 27 properties. The purpose of this map is to show how many residential properties are within walking-distance to a public pool. We are also using this as a proof of concept to demonstrate to our appraisal staff how we can identify properties based on known landmarks.



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Poster Presentations

HEAT ISLANDS: BIG AND SMALL?

John McIntosh — Northeastern State University

Urban heat islands occur when urban areas experience warmer temperatures than nearby rural areas. The difference in temperature observed in rural and urban areas is from human activities, primarily a result of how well the surfaces in each of these environments absorb energy from the sun during the day and hold heat. Rural areas typically have more plant cover than urban areas and the associated transpiration cools down the air. Urban areas on the other hand have a much higher proportion of the surface covered with buildings, roads, parking lots and other impervious surfaces. These surfaces tend to absorb sunlight and radiate sensible heat into the environment. Even vegetated areas within urban areas are warmer than similar areas outside of the heat island. Even modest temperature increases of a few degrees can have impacts on things such as human health and energy consumption. Mitigations such as application of coatings to lighten streets and roofs, plants on rooftops and other measures have been advocated to reduce the urban heat island effect. Most of the research on urban heat islands has focused on large urban areas. Is there a significant urban heat island in smaller cities that should, or could, be mitigated? This poster reports the analysis of the urban heat island effect on four small cities in Oklahoma. The urban heat island effect was analyzed using land surface temperatures derived from Landsat imagery using ArcGIS.

VISUALIZATION OF SENSITIVE INFORMATION USING ARCGIS PRO: STORM SHELTERS IN TULSA, OKLAHOMA

Alana Kleven — City of Tulsa

Working with sensitive information is often unavoidable in data-related industries. Both advantages and difficulties arise when trying to visualize sensitive information for parties not privy to specific content. For example, privately-owned storm shelters are generally regarded as non-public, sensitive information; during an emergency, storm shelter owners would be averse to strangers locating and attempting to gain access to their structure. In Tulsa, storm shelters are fairly common, and are usually registered with the City in case of an emergency. These data must be guarded from the general populace, thus the problem emerges: how can the data be safely expressed to help inform decisions or satisfy data requests? ArcGIS Pro makes it easier than ever to visualize sensitive information, such as storm shelter data, with restraint yet ample substance.



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- Fundamentals and Intermediate ArcGIS (ArcMap)
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Poster Presentations

PREVENTION TO RECOVERY: VISUALIZING RESOURCES TO COMBAT THE OPIOID CRISIS

*Ray Bottger, PhD; Carrie Daniels, MS; Vi T. Pham, MPH, CPH —
Oklahoma Department of Mental Health and Substance Abuse Services*

Oklahoma is in the midst of an opioid crisis. The Oklahoma Department of Mental Health and Substance Abuse Services (ODMHSAS) uses prevention, harm reduction, treatment, and recovery strategies to assist in mitigating this crisis. ArcGIS was used to visualize the magnitude of the crisis and the geographic distribution of resources to abate the crisis. Several maps were developed during this process:

- To display geographic differences in opioid-related overdose deaths, a map was created showing the number and rate of death per 100,000 residents by county.
- Safe storage and disposal of prescription opioids are key strategies in preventing prescription opioid misuse and opioid-related overdose deaths. Oklahomans' level of access to selected safe prescription drug storage and disposal options was determined by mapping the locations of these resources along with population data.
- A map was created showing ODMHSAS certified facilities that treat opioid use disorder at no or low cost.
- Facilities where ODMHSAS distributes naloxone, a medication used to reverse the effects of opioid overdose, free of charge were mapped.
- A hot spot map was created from data that shows addresses that filled opioid prescriptions from 5 or more prescribers and 5 or more pharmacies in a 6-month period.

While not inclusive of all facilities and resources available through other agencies, tribes, and organizations, these maps will assist ODMHSAS program planners in directing Oklahoma residents to various resources and identifying areas where additional resources are potentially needed.

IMPLEMENTING GIS INTO THE OKLAHOMA TURNPIKE AUTHORITY'S DRIVING FORWARD PROGRAM

MaKyla Tipken, Kyndra Spencer, and Craig Moody — Poe & Associates

Poe & Associates has been overseeing all of the GIS efforts for the Oklahoma Turnpike Authority's Driving Forward Program. The Driving Forward Program, announced in late 2015, has grown to over \$1 billion and includes six turnpike corridor projects – three of which are being designed on brand new alignments. The GIS team at Poe & Associates has worked to create weekly, bi-weekly and monthly status updates that are used in all aspects of planning, coordination, design, and construction projects included in the program. The GIS team utilizes CAD survey and designs to monitor and track changes in all aspects of the program including right-of-way, design, and utility relocation projects in an expedited design environment.



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Poster Presentations

COMMERCIAL ACCOUNT DENSITY IN SAN ANTONIO, TEXAS

Marissa Acuña — Bexar County Appraisal District

Bexar County Appraisal District is responsible for appraising residential and commercial accounts according to the Texas Property Tax Code and the Uniform Standards of Professional Appraisal Practices (USPAP). The maps above show the commercial account density per square mile for tax years 2009 and 2019. The commercial density within Bexar County, Texas has increased approximately 3.21% in the past decade. The district can use this to identify trends in commercial property movement between tax years.

BEXAR APPRAISAL DISTRICT PROTESTS (2014-2018)

Roy Cooper — Bexar County Appraisal District

In Texas, every year, property owners and tax agents have the ability to protest their appraised value. This map was developed to help identify areas of protest by mapping the protests for the prior four years. By using the maps created, management can identify trends of protest across Bexar County. By identifying these trends and patterns we can help serve the community by providing information to less protested areas.

IDENTIFYING DANGEROUS INTERSECTIONS IN THE OCARTS BOUNDARY

Lauren Wood, Jordan Evans, Hayden Harrison, and Jennifer Sebesta — Association of Central Oklahoma Governments (ACOG)

This poster will be showing the most dangerous intersection in each city within the Oklahoma City Area Regional Transportation Study (OCARTS) boundary using a weighted severity index based on crash data from 2013 to 2017. This area includes 47 cities and towns located with Oklahoma and Cleveland Counties, and portions of Canadian, Grady, Logan, and McClain Counties. The analyzed crash data will locate the most dangerous intersection overall, as well as look at the most dangerous intersections for bicyclists and pedestrians. An overview of the top causes, collision types, and environmental impacts will be shown.

Poster Presentations

GIS-BASED ENVIRONMENTAL RISK SCREENING

Brandon Wesbury — Enercon Services, Inc.

Operating safely is an important goal for every company in every industry. Even with “accident-free” being the expectation and intention, a significant component of operating safely is proper planning that helps to ensure that potential impacts are mitigated in the event of an unintentional release. With this in mind, ENERCON has worked with our clients to develop customized GIS-based risk screening tools for a variety of potential risks to support our industry partners so that they, in turn, can better plan and execute their projects. This presentation will outline the criteria and methodology we used to develop the risk tools and also discuss the benefits that ArcGIS brings in identifying high risk areas. Additionally, we will walk through a recent example of a risk tool developed to assess potential secondary containment concerns in the event of an unintentional release.



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Vice President
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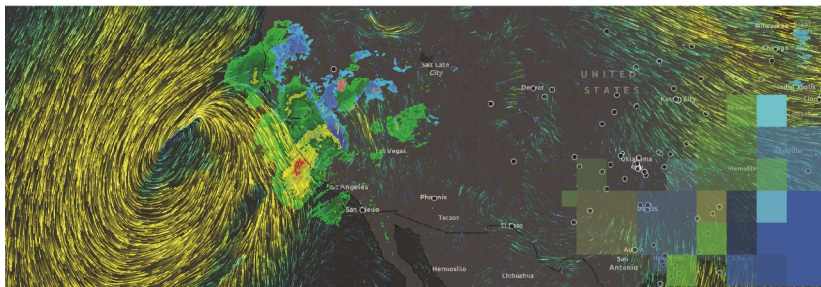
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[back of poster ballot]

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Michael Baker
INTERNATIONAL



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



Esri applies The Science of Where to unlock data's full potential in every organization. We continue to pioneer real-world problem solving using geographic information systems (GIS).

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Using this powerful platform to reveal deeper insights in their data, Esri users are creating the maps that run the world.



Our firm began with the sole focus on providing hydrologic and hydraulic analysis services to communities and other engineering firms. Over the last 30 years, we have strategically added more services to support our clients' needs.

Meshek & Associates is the only firm in the state that can provide the level of expertise in these unique but complementary services. **These service include: Hydrologic and Hydraulic Engineering , Civil and Roadway Design, Land Survey and LiDAR Scanning, Geographic Information Systems, Right-of-Way and Land Acquisition Services, Planning and Grant Administration.** Our team cares about each detail of every project — this is more than a job. We are devoted to delivering on the vision of each community, developing solutions that safeguard today and build a stronger tomorrow.

Meshek has enjoyed strong partnerships with municipalities and state agencies since our inception three decades ago. Our firm has completed more than 1,100 projects, most of which are right here in our home state.

Our experience and local presence has allowed us to develop the expertise, local relationships, and market knowledge to ensure the successful, timely completion of any of the proposed projects. We are eager to leverage these resources to help strengthen the infrastructure of your growing community.



Since 2005, Geospatial Training Services has provided high quality training opportunities for GIS professionals. Our training events are presented in a number of different formats including traditional classroom, live-online, self-paced online with access to the instructor, and self-paced. Our goal is to provide you

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Pro-West is an award-winning, employee-owned small business focused entirely on making its clients successful with GIS. We have been helping local, state and federal government across the country transform business processes, engage with citizens and get more from their location

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MAGIC

The MidAmerica GIS Consortium is a network of dedicated leaders in the field of mapmaking, location services, and data development. We support the growing infrastructure of geospatial data analysis through coordination, networking, outreach and education.

The people who run MAGIC are volunteers who believe in educating those who support this infrastructure so that they understand the industry standards, the ways in which they can ensure data authenticity, and are able to explain the integrated relationships of the tools and services in this realm.

MAGIC represents 9 states in the region. But, we are not limited to just state representation. Our network spans the gamut from local government to academia to private industry.



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 8,000 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 Exam[®]** 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.



Manager – Kevin McFarlin

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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.

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Land Scout integrates mapping, regulatory, and environmental data into a seamless, real-time, collaborative environment. This robust application frees up project management



teams to make quick decisions, troubleshoot pitfalls, and determine avoidances while generating a working project record. To support its environmental and regulatory consulting business, Reagan Smith Energy Solutions conducted a massive databasing and mapping campaign. This collection proved so valuable that Reagan Smith now offers it to customers through their sister company Land Scout. Leveraging Reagan Smith's extensive pool of federal oil and gas records, Land Scout creates collaborative applications that incorporate all the data needed to make quick decisions.



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Notes

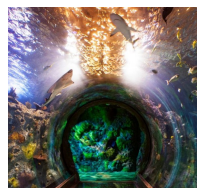
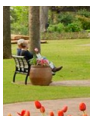
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2019 OKSCAUG GISP CREDIT CHECKLIST

WORKSHOPS (4 & 8 HOUR)

(WORKSHOP CERTIFICATE REQUIRED FOR DOCUMENTATION CREDIT.)

	TYPE	CREDIT	RECERT CREDIT	CREDITS EARNED
Don't Run with Scissors, You Are Responsible for NG9-1-1 - Part 1 (4 hours).....	EDU	0.1	0.67	_____
Don't Run with Scissors, You Are Responsible for NG9-1-1 - Part 2 (4 hours).....	EDU	0.1	0.67	_____
Utilizing Your Mobile Device for High-Accuracy GNSS Data Collection (4 hours)...	EDU	0.1	0.67	_____
Introduction to Projections: The Art and Science of Making a Round Earth Flat (4 hours).....	EDU	0.1	0.67	_____
Getting the Most from Your LiDAR Data (4 hours).....	EDU	0.1	0.67	_____
GISP: The Road to An Exam (4 hours).....	EDU	0.1	0.67	_____
Introduction to Metadata for Data Management (4 hours).....	EDU	0.1	0.67	_____
GISP: The Road To An Exam(4 hours).....	EDU	0.1	0.67	_____
Basic Map Making in ArcPro: Are You ArcPro-Shy? (4 hours).....	EDU	0.1	0.67	_____
Google Earth Pro (4 hours).....	EDU	0.1	0.67	_____
I taught a Monday workshop : _____	CON	3	9	_____

SCAUG CONFERENCE (8 HOUR)

Attendee.....	EDU	0.2	1.33	_____
Presenter.....	CON	1	3	_____
Poster Presenter.....	CON	1	3	_____
Poster Award Winner.....	CON	2	6	_____

2 DAY TRAINING (16 HOUR)

(TRAINING CERTIFICATE REQUIRED FOR DOCUMENTATION CREDIT.)

Introduction to R for Data Visualization and Exploration	EDU	0.4	2.67	_____
ArcBasics I	EDU	0.4	2.67	_____
GISP Test Prep	EDU	0.4	2.67	_____
I taught a 2-Day Training Course : _____	CON	6	18	_____

Total GISP Points Earned _____

OKSCAUG Conference Layout at MNTC

Main Entrance

1st Floor



Stage
Main Hall &
Exhibitors

Drinks



Registration

Breakfast
Lunch
Break
Buffet

Map Gallery

Session Rooms
112
111
110

109

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Stairs
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