

Presentation Agenda

	Start Time	Room 13 Education	Room 14 Gov and Public Works	Room 15 Vendor
Wednesday, April 27	1:00 PM	UAS: Their Many Uses; Present and Future	Cost-Effective Map Services for the Community - Tipton County GIS Board	Multi-Hazard Risk Portfolio (MHRP)
	1:30 PM	Developing Cross Platform Mobile Apps with Cordova	Using GIS to Manage Asphalt and Mowing Projects for Tipton County Public Works	Reducing Paper With the Help of GIS Technologies
	2:00 PM	Visualizing Neighborhood Indicators	Streamlined Utility System Management with ArcGIS Online	Shelby County Traffic Signal Infrastructure in GIS
	3:00 PM	An (Unbiased) Comparison of Open Source and Proprietary Solutions for Enterprise GIS in the Public Transportation Field	Presentation Brief: HIFLD Programmatic & Data Update	LiDAR Hydro Derivative Project
	3:30 PM	Managing and Implementing a Regional Resource Inventory for THRIVE 2055 Regional Planning Project Area	Town of Collierville's SMARTGov cloud-based permit management solution	Getting the Best Accuracy from Esri's Collector App

Presentation Agenda

	Start Time	Room 13 Education	Room 14 Gov and Public Works	Room 15 Vendor
Thursday, April 28	8:00 AM	Using the ESRI Story Map Platform for Public Outreach	Making the Case for Multiple-Benefit Linear Park Investments: The Healthy Connected Chattanooga mapping platform and its implications for public health and community connectivity.	Knox County MS4 Stormwater GPS/GIS Inventory
	8:30 AM	Teaching GIS using Stormwater Pollution Prevention Plans (SWPPP)	Rocking GIS Apps for a Rocking City	Point Cloud Density. How important is it?
	9:30 AM	TBA	The Park Locator	The Changing Geospatial Landscape
	10:00 AM	Geography Education in Tennessee – TNGIC Has a Horse in this Race	Building an Online Customer Response Work Order System	Utilizing Lidar in Tennessee
	Start Time	Rooms 13, 14, and 15 ESRI		

	2:30 PM	Introduction to the ArcGIS WebApp Builder: JavaScript Apps Made Easy
	3:00 PM	Introduction to mobile solutions for the ArcGIS Platform

2016 TNGIC Conference Presentations

Wednesday 11:00 AM **Room(s)** 13, 14, and 15 **Level**
Intermediate
Presenter(s) Dennis Pedersen
Abstract Title
State of Tennessee GIS Coordination Update

Abstract

The Department of Finance and Administration, GIS Services group is continuing its efforts to bring statewide LIDAR coverage to Tennessee. This presentation will address the project status in two regions of the State and also discuss the data dissemination, data access solutions for GIS users across Tennessee. The presentation will include a demonstration of how to access LIDAR data from the Tennessee GIS Clearinghouse as well as the feasibility of hosting dynamic LIDAR services.

Wednesday 1:00 PM **Room(s)** 13 **Level**
Beginner
Presenter(s) Austin Ramsey
Abstract Title
UAS: Their Many Uses; Present and Future

Abstract

UAS have become an explosive technology that is used today in many applications. In this presentation, some of the uses of UAS will be explained. Furthermore, we will discuss the future of UAS and the rules and regulations that the FAA has set up.

Wednesday 1:00 PM **Room(s)** 14 **Level** Beginner

Presenter(s) Bob Beanblossom Shawn Anderson

Abstract Title

Cost-Effective Map Services for the Community - Tipton County GIS Board

Abstract

GIS has been a very important component of Tipton County Government since 2000 and has offered many opportunities for cost savings and geographic knowledge for us 'Country Folks'. The presentation will give a brief history and outline of who we are, what our members are doing and what lies ahead in the future.

Wednesday 1:00 PM **Room(s)** 15 **Level**
Intermediate

Presenter(s) Mike Camponovo

Abstract Title

Multi-Hazard Risk Portfolio (MHRP)

Abstract

With the fifth largest land area but 45th lowest population density, New Mexico needed to develop a way to prioritize hazard mitigation projects that was objective, repeatable, and transparent to best utilize limited financial resources. The New Mexico Silver Jackets deployed the first phase of the Multi-Hazard Risk Portfolio (MHRP) to assess watershed based flood risk across the state on a variety of factors. The tool includes a desk reference; watershed aggregated interactive story map, and interactive reference map. The tool has been used to prioritize lidar purchases and sequence watersheds for FEMA's Risk MAP program. The MHRP is expanding this year to include watershed based wildfire risk, and pending availability of funds, will expand to include additional hazards in ongoing years. The presentation will highlight the collaborative role of developing an inter-agency tool such as the MHRP, specific geospatial and hazard inputs for the tool, and lessons learned that will be applied in future versions.

Wednesday 1:30 PM **Room(s)** 13 **Level**
Intermediate

Presenter(s) Bruce Ralston

Abstract Title

Developing Cross Platform Mobile Apps with Cordova

Abstract

Cordova is a Free and Open Source Software (FOSS) platform for developing apps that run on several platforms, including iOS and Android. It leverages the power of HTML5, JavaScript, and

CSS to develop cross platform applications. If you can build a simple web page, you can develop mobile apps with Cordova. It works with both FOSS mapping standards, such as Open Layers and Leaflet, and with commercial mapping platforms such as Google Maps and ArcGIS Services. This presentation will go over how to install and use Cordova for mapping apps. An example app will be developed, along with some useful resources for getting started with Cordova.

Wednesday 1:30 PM **Room(s)** 14 **Level**
Beginner

Presenter(s) Dwayne Coley

Abstract Title

Using GIS to Manage Asphalt and Mowing Projects for Tipton County Public Works

Abstract

This presentation will offer ways the Tipton County Public Works Department has used GIS to manage costs and improve efficiency for asphalt and grass mowing projects.

Wednesday 1:30 PM **Room(s)** 15 **Level**
Beginner/Inter

Presenter(s) Chris Holder and Greg Butler

Abstract Title

Reducing Paper with the Help of GIS Technologies

Abstract

Hixson Utility District currently tracks repairs and maintenance done in our 26,000+ customer service area with paper work orders. With the help of our existing GIS, and other new and upgraded software platforms, the District plans to "go green" and significantly reduce paper output while better cataloging the work being done.

Wednesday 2:00 PM **Room(s)** 13 **Level**
Intermediate

Presenter(s) Nate Ron-Ferguson

Abstract Title

Visualizing Neighborhood Indicators

Abstract

Most neighborhood "dashboards" restrict users to a single geography when reporting community

indicators, limiting the user's ability to understand the state of their community in a larger context. WhereWeLiveMidsouth.org was a one year effort by the Center for Applied Earth Science and Engineering Research at the University of Memphis to design a system that enables users to compare communities across a variety of measurements and a range of geographic scales in order to achieve a more complete and holistic understanding of neighborhood health. This talk will delve into the tools, processes, and methods required to pull a massive collection of data from federal, state, and local sources spanning 5 geographic scales and wrangle it into a format that is navigable, consumable, and coherent to its users. In addition to diving into some of the inner workings of the project, time will also be spent showcasing the final application.

Wednesday 2:00 PM **Room(s)** 14 **Level** Intermediate
Presenter(s) Mike Brewer Nick Lawalin

Abstract Title

Streamlined Utility System Management with ArcGIS Online

Abstract

Over the last several years, Mike Brewer has presented on his migration from his paper utility system to a more advance and up to date GIS system. Mike will offer an update and cover the Poplar Grove Utility System processes from the field to the office using ArcGIS Online with real time observations. He will also examine benefits, trials, tribulations and cost saving triumphs since implementation.

Wednesday 2:00 PM **Room(s)** 15 **Level**
Intermediate

Presenter(s) Justin Abart

Abstract Title

Shelby County Traffic Signal Infrastructure in GIS

Abstract

In 2001, Shelby County and the City of Memphis entered into a contract with Tennessee Department of Transportation (TDOT) to begin implementing intersection improvement projects that qualify for funding under the Congestion Mitigation Air Quality (CMAQ) program. CMAQ is a federally funded program to improve air quality by employing measures that reduce traffic congestion. A few examples of

intersection improvements eligible for funding under this program include operational upgrades for signalized and unsignalized intersections, signal system coordination, addition of left and right turn lanes and installation of traffic signal actuation and emergency vehicle preemption devices. SSR has been involved with the signal system coordination efforts and implementing the infrastructure information into a Geographic Information System (GIS). As a result, this geodatabase has served as a platform for technicians in the field making traffic signal maintenance calls as well as TN811 utility location. This presentation will cover the background of the CMAQ project and the implementation of GIS.

Wednesday 3:00 PM **Room(s)** 13 **Level** Intermediate

Presenter(s) Nathan Hilbert

Abstract Title

Public An (Unbiased) Comparison of Open Source and Proprietary Solutions for Enterprise GIS in the Transportation Field

Abstract

solely GIS is all about having the right tools for the job. Many organizations have taken a hard line on investing their time and money in either open source or proprietary solutions without much calculation of ROI. I will explore four core business processes of GIS in the public transportation field including setup and management of services, web map application development, desktop data editing, and analysis. Each process will be laid out in two parallel tracks; open source and proprietary. A scorecard for each will be tallied as I discuss software choices, time, money, utility, and complexity. Hopefully, there will be plenty of insights as we review the results.

This presentation is ideal for business analysts, managers, directors, and those that are interested in how the other side approaches a problem. I will try to keep the technical jargon to a minimum, but cannot provide guarantees.

Wednesday 3:00 PM **Room(s)** 14 **Level** Beginner
Presenter(s) Julie Sokol Sarah Spalding

Abstract Title

Presentation Brief: HIFLD Programmatic & Data Update

Abstract

The Homeland Infrastructure Foundation-Level Data (HIFLD) Subcommittee is a formal interagency governance body serving the Federal Geographic Data Committee (FGDC). It was established in 2002, and today serves as a coordinating body to help improve the collection, processing, sharing, and protection of foundational geospatial information about critical infrastructure and key resources for the Nation. The HIFLD Subcommittee works across multiple levels of government to develop and distribute common foundation geospatial information to be used within the Homeland Security, Homeland Defense, Emergency Preparedness, and Community Resiliency mission areas. This presentation will provide a programmatic update on the latest status of HIFLD, new dissemination portals (i.e. HIFLD Open) as well as to discuss future direction on data enhancements efforts that are underway.

Wednesday 3:00 PM **Room(s)** 15 **Level**
Beginner/Inter

Presenter(s) Tim Blak

Abstract Title

LiDAR Hydro Derivative Project

Abstract

The presentation will provide an overview of Atlantic's most recent LiDAR derivative project for Weakley

County E-911 and the City of Martin, Tennessee. Since the beginning of the Atlantic – Weakley County E-911 partnership, there has been one recurring theme – innovation – with one mindset – we can do this. The project deliverables included the development of a countywide shaded relief base map (customized) as well as a hydro derivative add-ons. Atlantic will discuss the preliminary design incentive, the creation of their innovative workflow, samples of the final deliverables. In addition, examples of how Weakley County E-911 utilized the LiDAR derivatives in the field during their search and rescue missions throughout the harsh winter months this year (2016).

Wednesday 3:30 PM **Room(s)** 13 **Level**
Advanced

Presenter(s) Charlie Mix

Abstract Title

Managing and Implementing a Regional Resource Inventory for THRIVE 2055 Regional Planning Project Area

Abstract

THRIVE 2055 is an ambitious regional planning project of the 16 county Chattanooga area involving several working partners from various industries and backgrounds working to ensure sustainable growth for the region, with an emphasis on environmental conservation, economic development, transportation and education. UTC GIS maintains a regional resource inventory of geospatial data and resources that supports THRIVE 2055 and other projects. This presentation will describe the regional resource inventory, analysis and modeling being performed with this data and how the greater GIS community can leverage and access this valuable resource for their needs.

Wednesday 3:30 PM **Room(s)** 14 **Level**
Intermediate

Presenter(s) Kevin Bingham

Abstract Title

Town of Collierville's SMARTGov cloud-based permit management solution

Abstract

In the summer of 2015 Collierville's Code Enforcement Division decided to invest in a cloud-based permit management solution called SMARTGov. From the project's beginning it was expected that geospatial information would be an integral part of this solution. The challenges of integrating

geospatial information included incorporating the most recent parcel data, providing access to other geospatial data layers, and accounting for permits on new properties without a parcel number. In this presentation we will discuss and demonstrate how geospatial information has been integrated with the SMARTGov permit management solution.

Wednesday 3:30 PM **Room(s)** 15 **Level**
Intermediate

Presenter(s) Tiffany Puett

Abstract Title

Getting the Best Accuracy from Esri's Collector App

Abstract

This presentation is for users interested in using the Collector app for field data collection. The purpose of this presentation will be to demonstrate how to get the best GNSS positional accuracy from data collected with Esri's Collector app. Topics will include how to choose the best datum and projection, the benefits of real-time differential correction, the contrast of accuracy thresholds as well as the best way to set up a project in ArcMap for quality control.

Thursday 8:00 AM **Room(s)** 13 **Level**
Beginner

Presenter(s) Michael Camponovo

Abstract Title

Using the ESRI Story Map Platform for Public Outreach

Abstract

The ESRI Story Map platform is an effective tool for developing interactive maps and websites for public outreach that is already included in your ESRI license. This presentation will highlight specific examples used in New Mexico for hazard outreach and planning including "Impacts of September 2013 Flooding in New Mexico", "Turn Around Don't Drown New Mexico", and the watershed aggregated results for the New Mexico Multi-Hazard Risk Portfolio. The presentation will also provide tips and lessons learned for more effective use of the platform as well as examples for other disciplines. If time allows we will build a story map live.

Thursday 8:00 AM **Room(s)** 14 **Level**
Beginner

Presenter(s) Noel Durant

Abstract Title

Making the Case for Multiple-Benefit Linear Park Investments: The Healthy Connected Chattanooga mapping platform and its implications for public health and community connectivity.

Abstract

This presentation will be focused on the Trust for Public Land's Healthy Connected Chattanooga mapping tool, and the subsequent success of this tool in securing funding for recreational investments to improve public health. This online mapping platform incorporates The Trust for Public Land's Climate-Smart Cities program priorities with an equity and public health analysis of park distributions across Chattanooga. This presentation will include examples of how this online mapping platform's outputs have been used successfully in public funding request to demonstrate the need for investment in underserved communities in Chattanooga. There will be a live demonstration of the mapping platform, as well as a Q & A on the trends in data driven decision making for more resilient communities.

Thursday 8:00 AM **Room(s)** 15 **Level**
Beginner/Inter

Presenter(s) Rob Hench Cathy Olsen

Abstract Title

Knox County MS4 Stormwater GPS/GIS Inventory

Abstract

The presentation will cover the 2015 Knox County MS4 stormwater inventory project. The project covered approximately 170 square miles of Knox County and included over 36,000 stormwater structures, over 22,000 stormwater pipes/culverts and over 1,300 miles of drainage ditches and channels. The project also included approximately 75,000 hyperlinked photographs and sketches of the stormwater structures. Key aspects of the project that will be addressed in the presentation include the regulatory requirement to conduct the inventory, GPS/Field data collection, stormwater structure inventory, LiDAR processing, GIS processing, GIS Deliverables and Quality Assurance/Quality Control and a description of how the data products will be used by Knox County. The presentation will begin by covering the detailed project workflow and will conclude with a live demonstration of the final ArcGIS Geodatabase and associated GIS deliverables.

Thursday 8:30 AM **Room(s)** 13 **Level**
Beginner

Presenter(s) Joanne Logan

Abstract Title

Teaching GIS using Stormwater Pollution Prevention Plans (SWPPP)

Abstract

Stormwater Pollution Prevention Plans (SWPPP) are a great resource to use to teach a college-level introductory GIS class in Soil and Water Science. Key GIS concepts such as map layers, adding data, classifying and symbolizing, heads-up digitizing, field data collection with GPS and mobile apps, map layouts, spatial analyses, and online mapping

are all covered in the process of developing the maps and analyses used for SWPPP reporting. A sample project work flow will be presented.

Thursday 8:30 AM **Room(s)** 14 **Level**
Intermediate
Presenter(s) Mickey Park Jessica Hendrix Bimal Shah
Abstract Title
Rocking GIS Apps for a Rocking City

Abstract

The City of Chattanooga Public Works GIS has used ESRI ArcGIS Server web mapping tools since 2005 along with various Desktop GIS Mobile solutions. But now with the latest technology improvements of ESRI ARC GIS Server, Microsoft 2014 SQL Server Reporting tools and HTML5 mobile apps and the expert help of a consultant (NUORIGIN, Brentwood, TN) for some custom development the Public Works Engineering Department has been able to supercharge our Mobile GIS capability. By leveraging in house GIS Staff and using out of the Box ESRI Collector and ArcGIS Web Solutions to fit the basic needs of most users, and developer tools to customize out of the box solutions we have been able to solve multiple Mobile GIS data collection and robust reporting needs for our Water Quality Management Asset Inventory, Water Quality Stormwater Control Measures, Sanitary Sewer Overflow live mobile tracking and reporting tools, Public access maps with Live real time Snow Plow/Salt and Brine vehicle tracking, Leaf Collection vehicle Tracking, Garbage Collection vehicle tracking. These GIS tools have improved staff efficiency, time management and our operational work flows tremendously.

Thursday 8:30 AM **Room(s)** 15 **Level** Beginner
Presenter(s) Nancy Graham
Abstract Title
Point Cloud Density. How important is it?

Abstract

Historically, one of the most important specifications of point cloud data (typically from LIDAR) is "Density". Point cloud density (or its reciprocal, Nominal Point Spacing NPS) is one of the more important parameters affecting the applications for which data can be used as well as the procurement cost. Recently, the USGS has developed a set of standard density/accuracy "brackets" to quickly categorize data. In this paper, we will examine how point density affects the ways data can be used, the levels of densities covered by the USGS specifications, as well as specialized applications that might require "buy-ups" outside these standard Quality Levels. We will also briefly discuss how density affects the "total cost of analysis".

Thursday 9:30 AM **Room(s)** 14 **Level** Beginner
Presenter(s) Bill Avant Tim Buchanan
Abstract Title

The Park Locator

Abstract

The Park Locator is a configuration of ArcGIS and a JavaScript application that allows citizens to locate park and recreation opportunities in their community from a smartphone, tablet, and desktop computer.

Park Locator is typically used by parks and natural resources departments, or other state government organizations responsible for managing parks and recreation activities. This application provides access to the public 24 hours a day, seven days a week for the public to discover recreational activities.

The Trail Mapping Initiative is to first and foremost make sure that every state park has an accurate, to scale, professional looking trail map that will better communicate to our visitors the trails of the park that can be enjoyed. A template of the trail map has been created and the template should be utilized at every park. The most general reason to have standards is to create a strong TDEC/State Parks brand, so that the work is easily recognizable by the public. Cartographic standards also provide other advantages that will be reviewed in this presentation.

Thursday 9:30 AM **Room(s)** 15 **Level**
Beginner

Presenter(s) Jeff Lovin

Abstract Title

The Changing Geospatial Landscape

Abstract

This high level presentation will discuss change that is occurring in the geospatial industry and how it is shaping our world through consolidation, SaaS and new sensors coming to market like Geiger and Photon Lidar, using the cloud, 3D Mapping, UAS and how to leverage all of this data.

Thursday 10:00 AM **Room(s)** 13 **Level** All

Presenter(s) Kurt Butefish

Abstract Title

Geography Education in Tennessee – TNGIC Has a Horse in this Race

Abstract

In 2013, for all intents and purposes, the Tennessee State Department of Education removed meaningful geography content from the K-12 curriculum. Realizing the negative impact this will have on undergraduate enrollment in geography programs and the potential impact on developing

qualified geospatial professionals, the presenter and his organization are working with all stakeholders to reverse this short-sighted decision. Come learn about what is being done and how you can assist by giving a much needed voice to the geography and geospatial technologies professional communities.

Thursday 10:00 AM **Room(s)** 14 **Level**
Beginner/Inter

Presenter(s) Julian Burke

Abstract Title

Building an Online Customer Response Work Order System

Abstract

This presentation will cover the problem faced by Chatsworth Water Works Commission (CWWC), a water/wastewater utility located in Chatsworth, GA and the development of a web based software solution.

Thursday 10:00 AM **Room(s)** 15 **Level**
Intermediate

Presenter(s) Sam Moffat

Abstract Title

Utilizing Lidar in Tennessee

Abstract

In this session, Woolpert will discuss the various uses of Lidar and other geospatial data and the benefits obtained from large scale Lidar data coverage for The State of Tennessee, TVA and local county governments. We will explore how to leverage the 3D Elevation program (3DEP) that is managed by the USGS and funded through FEMA with the goal of acquiring QL2 Lidar data over the entire U.S. every eight years. We will highlight the exciting future of remote sensing that includes rapid automated feature extraction techniques that is used in various emerging technologies such as augmented reality and hydrographic modeling.

Thursday 2:30 PM **Room(s)** 13, 14, and 15 **Level**
Intermediate

Presenter(s) William Meyers

Abstract Title

Introduction to the ArcGIS WebApp Builder: JavaScript Apps Made Easy

Abstract

Using Esri's HTML5/JavaScript based application gives you the power to create your own beautiful, fast and intuitive web applications. This presentation will demonstrate the ability to consume ArcGIS for Server hosted services in ArcGIS Online and open data to create a configurable web application using WebApp Builder.

Thursday 3:00 PM **Room(s)** 13, 14, and 15 **Level**
Intermediate

Presenter(s) William Meyers

Abstract Title

Introduction to mobile solutions for the ArcGIS Platform

Abstract

This presentation will show you how to leveraging Esri's Mobile Solutions by empowering your mobile workforce, giving the right information, on the right device, anytime and anywhere. The products and solutions to be demonstrated include; Workforce for ArcGIS, Collector for ArcGIS, Navigator for ArcGIS and Survey123.