CONFERENCE PROGRAM

SCARC GIS Conference 2019

South Carolina Arc GIS Users Network ◆ *October 23-25, 2019* ◆ *Florence, South Carolina*

GIS- Management, Mobility, Mapping

SCARC

Waters Building
135 S Dargan Street
Florence, South Carolina

First and foremost, welcome to our 2019 SCARC fall conference here in downtown Florence! I would like to thank everyone for joining us. I am personally humbled and honored to be the president of such a great group of professionals in the G.I.S. field, as well as having a board that has been supportive and diligent in helping to put on the best conference possible! That being said we have a great conference prepared for you.

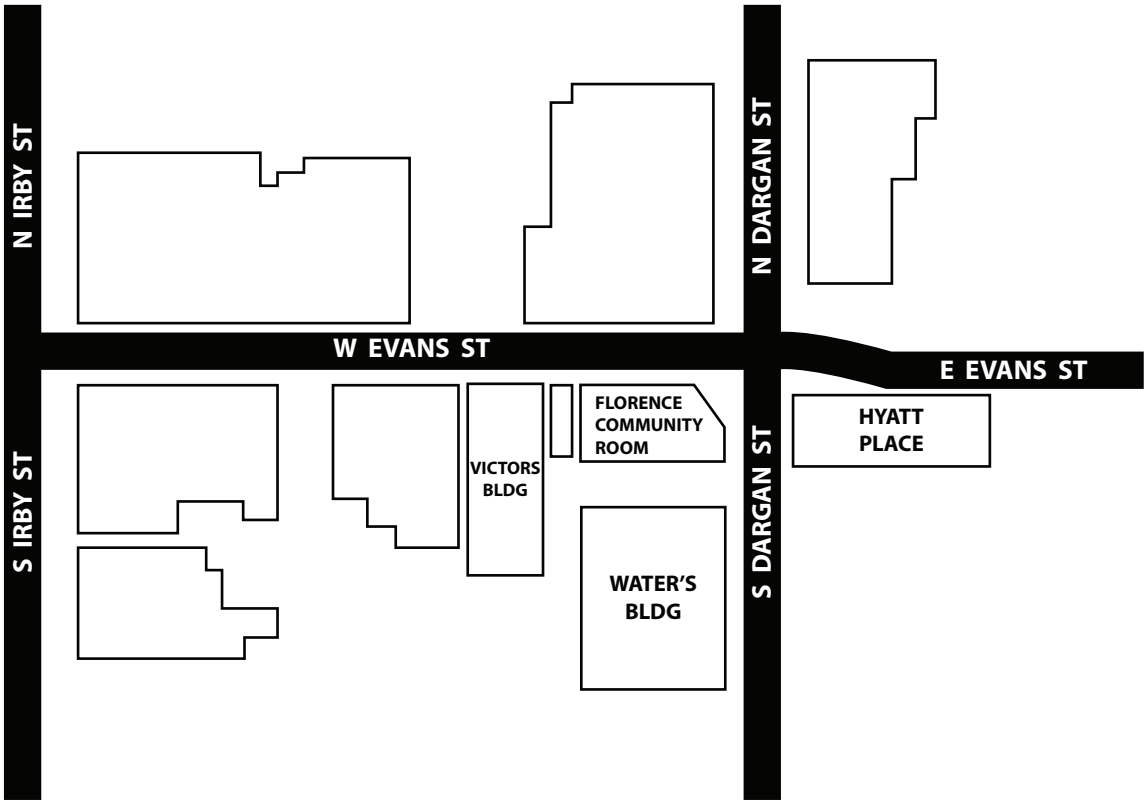
Most people think maps when they hear G.I.S. but that's just one slice of the pie that makes up G.I.S.! The theme of this year's conference is G.I.S.- Management, Mobility, Mapping. These pillars are but a few that make up a strong and cohesive G.I.S. department. This year's conference presentations will highlight these core values. Our presenters are from all walks of the G.I.S. world and we are very thankful for their insight.

A huge thank you goes to all of our sponsors and exhibitors for supporting us. We also wish to extend many thanks to the Hyatt and Hotel Florence for their hospitality, rooms and meeting rooms, and also to the Florence County Museum for the use of the Waters Building as well as Florence County Parks and Recreation for tables and chairs. Thank you to the City of Florence and the Florence Visitors Bureau for their help, promotion, and donations.

Enjoy the conference, enjoy the networking and enjoy Florence!

SCARC
www.scarcgis.org

Reggie Sanders
SCARC President



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SCARC 2019 GIS Conference Exhibitors/Sponsors

Aloft Geographic (www.aloftgeo.com) Aloft Geographic was formed out of substantial growth of the GIS segment of Abraham Land Surveying, LLC. The unique approach of providing truly survey grade data coupled with personal attention to our customers GIS needs on the application side has proven to be a great recipe. We have expanded to offer UAV services for clients who appreciate the GIS applications that drone services are able to provide. We love proving "data does not have to look boring to be useful."

Bradshaw Consulting Services (www.bcs-gis.com) BCS is more than just innovative solutions. We understand the commitment and dedication that is required to be successful in public safety. We create solutions by partnering with agencies that are seeking to leverage technology and strategies to improve their operational performance in the field. From high performance solutions designed to help improve the delivery of time-critical services to managing non-emergency transportation in the most efficient way possible, BCS is focused on helping you achieve your desired results. Talk with us if you are serious about becoming more efficient and effective in your logistical operations.

Carolina URISA (https://carolinaurisa.org) The Carolina chapter of URISA (Urban and Regional Information Systems Association) exists to serve our membership in the Geospatial, Geographic Information Systems (GIS) and Information Technology industry. We are an all volunteer and/or member run organization and we take pride in being an advocate for our members working in these fields.

CDM Smith (www.cdmsmith.com) CDM Smith is a global privately owned engineering and construction firm providing legendary client service and smart solutions in water, environment, transportation, energy and facilities. In 1947, CDM Smith was founded with a commitment to maintain the constant pursuit of excellence, placing responsibility to our clients second only to responsibility to the public. By staying true to this promise for more than 70 years, we've forged tremendous, long-standing relationships, believing responsiveness is the foundation of serving our clients. With the power of independence, we make decisions based on what's best for our clients and our employees, not outside investors. We reinvest in our people, tools and technology to find better solutions and foster amazing careers. Whether you're an employee, client, partner or stakeholder – we're the people you want to be working with. We are CDM Smith.

Duncan-Parnell (www.duncan-parnell.com) Since 1946, Duncan-Parnell has been a trusted supplier to architects, engineers, contractors and survey and GIS professionals. As an authorized dealer, we carry a wide selection of Trimble geospatial equipment, and are your complete source for GIS mapping solutions that seamlessly combine positioning, communications and software to fully equip a mobile workforce. We offer solutions for a wide variety of industries including environmental, utilities (water, gas, electric), telecom, and more. Offering brands like Trimble and Esri, decades of experience and values you can trust, we're here to be a GIS partner you can trust with your business.

EagleView (www.eagleview.com) EagleView's vision is to extract data from imagery using machine learning for providing data to digitize manual workflows. EagleView provides access to its orthogonal and oblique Pictometry® aerial imagery, 3D models, and measurement and analytical tools through proprietary software as well as partner integrations. With a fleet of more than 120 aircraft and a 60-petabyte data library with more than 400 million images, EagleView offers more coverage and partner integrations than any other aerial imagery provider.

Eos Positioning Systems (www.eos-gnss.com) designs and manufactures the world's premier, high-accuracy GNSS receivers for the BYOD (Bring Your Own Device) market. We offer extensive support for connecting our Bluetooth submeter, subfoot or RTK GPS / GNSS receivers to iOS, Android and Windows devices. Our free software utilities and SDK support for all mobile device operating systems allows you to smoothly integrate our GNSS receivers into your mobile GIS workflow.

Esri (www.esri.com) We are the global market leader in GIS, helping customers get results since 1969. Esri was founded to help solve some of the world's most difficult problems. We do so by supporting our users' important work with a commitment to science, sustainability, community, education, research, and positive change. We're committed to serving our users and customers. We seek a deep understanding of their challenges and opportunities, and work together toward viable solutions.

SCARC 2019 GIS Conference Exhibitors/Sponsors cont.

GPI (www.gpinet.com) GPI Geospatial Inc. is committed to being the most trusted provider of precision mapping and surveying services within the transportation planning, design & construction communities. GPI is experienced in LiDAR, Mobile LiDAR, Digital Orthophotography and all geospatial services. We provide high accuracy, simultaneous data collection using multiple sensors from our fixed wing aircraft, or ground based vehicles.

GRW (www.grwinc.com) GRW is a full-service engineering, architectural, and geospatial consulting firm headquartered in Lexington, KY. The company was founded in 1964 by Mr. G. Reynolds Watkins to provide Professional services to federal, state, municipal and private industry clients. Today we offer comprehensive geospatial services including:

- Aerial Photography
- Digital Orthophotography
- Aerial LiDAR Acquisition and Processing
- Boundary/Easement Surveys
- Utility System Surveys
- Terrestrial Scanning/3D Modeling
- Photogrammetric Mapping
- Geographic Information Systems

HP (www.hp.com) Our vision is to create technology that makes life better for everyone, everywhere — every person, every organization, and every community around the globe. This motivates us — inspires us — to do what we do. To make what we make. To invent, and to reinvent. To engineer experiences that amaze. We won't stop pushing ahead, because you won't stop pushing ahead. You're reinventing how you work. How you play. How you live. With our technology, you'll reinvent your world. This is our calling. This is a new HP.

Kucera International, Inc. (www.kucerainternational.com) Kucera International Inc. is a leading provider of aerial imaging, remote sensing, mapping, and related geomatic services for government, professional, commercial/industrial, and educational/research GIS applications. Kucera has served over 40 counties and cities and numerous companies in South Carolina. The work performed has included aerial photography and orthophotography, aerial lidar surveying and topographic feature mapping, planimetric feature and cadastral mapping, change detection and update mapping, and GIS data conversion. Kucera owns and operates a fleet of aircraft outfitted with advanced digital aerial cameras and sensors for aerial data acquisition and has full in-house aerial data processing, mapping, ESRI GIS, and geospatial data hosting capabilities.

Quantum Spatial (www.quantumspatial.com) Delivering actionable intelligence & geospatial analytics to those who want to map, model, and manage their world.

Woolpert (www.woolpert.com) Woolpert's in-house fusion of architecture, engineering and geospatial (AEG) services creates innovative and robust solutions for our clients' complex challenges. We have the expertise and resources to move our clients' projects from cradle to grave, and we leverage cutting-edge technology to elevate the potential of time-tested design principles. We are industry leaders, community partners and environmental stewards, and we nurture a culture of growth and respect.

Wednesday, October 23

Time	Victors	Waters Building	Florence Community Rm	Hyatt Meeting 1	Hyatt Meeting 2
8:00 am - 5:00 pm		Registration	ESRI Preconference Workshop		
10:00 am - 12:00 pm					
12:00 pm - 1:00 pm		Lunch on your own			
1:00 pm - 1:30 pm	Local Welcome	X	X	X	X
1:30 pm - 2:30 pm	**Surfing the GIS Waves to Success** *Adam Carnow* - ESRI	X	X	X	X
2:30 pm - 3:30 pm	Meet the Sponsors	X	X	X	X
3:30 pm - 3:45 pm	Break	X	X	X	X
3:45 pm - 4:30 pm	**State of the Geospatial State** *Adam DeMars* - SC GIS	X	X	X	X
5:30 pm - 7:30 pm	SCARC Social				

Thursday, October 24

Time	Victors	Waters Building	Florence Community Rm	Hyatt Meeting 1	Hyatt Meeting 2
8:00 am - 7:30 pm		Exhibitor Area Open			
8:00 am - 3:00 pm		Registration			
8:30 am - 9:30 am			**GIS for Leaders** *Adam Carnow* ESRI	**NXT Vesta Notification System** *Mike Puckett/Michal Ferber* McLeod Medical Center	**HCConnect** *Tim Oliver* Horry County
9:30 am - 10:00 am		Morning Break / Snack			
10:00 am - 11:00 am			**Cultivating Executive Sponsorship for Your GIS Program** *Adam Carnow* ESRI	**U.S. Datums: Where We've been, Where We're Going, Modernizing the National Spatial Reference System** *Matt Wellslager* SC Geodetic Survey	**SCEMD: Trying to Reason with Hurricane Season Using Esri Tech** *Charlie Kaufman* SCEMD **How GIS Assists in Disaster Intelligence** *Christy Jacobs* SC Army National Guard
11:00 am - 12:00 pm			**Engaging Your Community with Open Data and ArcGIS Hub** *Blake Pierson* ESRI	**Assisting City Operations with Workforce** *Kevin Whaley* North Augusta	**Environmental Analysis with ESI** *Charles Mondello* ESI
12:00 pm - 1:30 pm		Box Lunch			
1:30 pm - 2:30 pm			**ArcGIS Urban & 3D Workflows in ArcGIS Pro** *Yuri Potawsky* ESRI	**There's an App for that** *Elizabeth Thebo* SCDOT	**2020 Census Geographic Partnership Programs Update** *David Cline* Census Bureau
2:30 pm - 3:30 pm			**ArcGIS Pro: Transition from ArcMap with Confidence** *Yuri Potawsky* ESRI	**Real-Time GIS** *Robert Hauck/Emma Paz* City of Charleston	**Drone Imagery and GIS: Best Practices and Techniques** *Kenneth Compton* SCDHEC

Thursday, October 24 cont.

3:30 pm - 4:00 pm		Afternoon Break / Snack			
4:00 pm - 5:00 pm			**ArcGIS Solutions for Public Works** *Yuri Potawsky* ESRI	**3D Modeling of Lexington County Buildings** *Hope Contreras* Lexington County	**Learning to Become an Effective GIS Manager** *Veronica Moore* SCDHEC
5:30 pm - 7:30 pm		Vendor Social			
8:00 pm Until			Downtown Florence Crawl		

Friday, October 25

Time	Victors	Waters Building	Florence Community Rm	Hyatt Meeting 1	Hyatt Meeting 2
8:30 am - 11:00 am		Exhibitor areas open			
8:30 am - 9:30 am			**Mobile GIS Workflows** *Kerri Rasmussen* ESRI	**ArcGIS Online: Tips on Managing Users and Data** *Peter Thompson* Duncan Parnell	**Mobile LiDAR ROW Sign Asset Collection** *Allen Brock* GPInet
9:30 am - 10:00 am		Morning Break / Snack			
10:00 am - 11:00 am			**Operations Dashboard for ArcGIS: Monitoring GIS Operations** *Kerri Rasmussen* ESRI	**All the GIS: A Case Study of GIS Technologies from an Archaeological Survey** *Tanner Arrington* SCDNR	**What GIS Can Do for You** *Mitchell Fulmore/Alisha Smith* Florence County EMD
11:00 am - 12:00 pm			**Being Neighborly - NG911 Boundaries - Panel Discussion** *Alison Sengupta*, Lexington County *LaKeisha Bryant*, Edgefield County *Brooks Lastinger*, Spartanburg County *Cherie Moritz*, Aiken County	**Enhancing Addressing Capabilities using TheAddresser** *Ashley Stribling* Charleston County	**A GIS-centric Evolution for Dam Safety – SCDHEC Dams and Reservoirs Safety Program** *Jeannie Eidson/Jack Beers* SCDHEC/CDM Smith
12:00 pm - 1:30 pm	Lunch / Wrap-up				

Session Descriptions
Wednesday, October 23, 2019

1:30 pm - 2:30 pm

Keynote Speaker (Victors)
Surfing the GIS Waves to Success
Adam Carnow, ESRI

Like other technologies, GIS continues to evolve in a series of waves. We cannot ignore or fight these waves. We have got to learn how to harness them to power our organizations forward. This presentation will review proven, best practice strategies and real world examples on how you can surf these GIS waves to success. These best practices include:

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

3:45 pm - 4:30 pm

State of the Geospatial State (Victors)
Adam DeMars, GIO for SC

What is the state of the State of South Carolina's Geospatial initiatives? As the new State Coordinator I have had the opportunity to review almost every counties address points, parcels, centerlines and a number of other datasets that have been graciously provided by you, our counties. Without this type of collective coordination this would be extremely difficult and extremely costly to create things like a statewide address point dataset. Find out how we use some of this data and what new exiting GIS related projects are on our horizon.

Thursday, October 24, 2019

8:30 am - 9:30 am

GIS for Leaders (Florence Community Room)
Adam Carnow, ESRI

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

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

NXT Vesta Notification System (Hyatt Meeting 1)
Mike Puckett, McLeod Medical Center, *Michal Ferber,* McLeod Medical Center

Extreme weather, fires, crime related, and mass casualty events are just a few of the frequent occurrences that affect the public. Medical and healthcare facilities must manage these occurrences from an in-house basis for employees and staff and from a first responder basis to the public. This requires rapid notification and mass alerting capabilities. VESTA alert is a platform that meets these needs, providing the necessary capabilities to communicate alert notifications quickly and efficiently over local and wide spread areas.

VESTA Alert provides an intricate mapping interface using up-to-date GPS data that allows users to overlay aerial views and navigate detailed street level views. Mapping selection tools are used to highlight areas to push alert notifications out to with a single activation. These include linear point-to-point, square, and freehand polygon selection tools. By default, notifications are pushed out sequentially, but priority based overlays can be added via selection tools allowing notifications to be pushed out to areas by precedence. Contact data can be pulled from various locations such as: ESL/911 data, white pages and commercial data, registration portal data, or from company/business employee data.

VESTA Alert has a variety of messaging features and add-ons that can be implemented with the mapping and alerting functionality. Notifications can be pushed out via phone, SMS text, email, and other methods of communication. Messages can be automated, recorded, or imported and can be played back and saved for future use. Bi-lingual message delivery allows for multi-language formatting of text-to-speech, SMS text, and email notifications. Call flow templets give a selection of routing possibilities for notifications. Groups from Communicator NXT can be imported and included in receiving notifications sent out from VESTA alert. Opt-in preferences can be included for emergency, weather, crime, and public safety alerting on the local and national level. Live feeds can be added that pull data from websites and overlay the data on the map as desired (ex: National Weather Service). The option is available to send alert notifications to social media feeds related to your business or enterprise.

HCConnect - Stay Connected To "My Neighborhood" - Introduction to Horry County's Newest App Features (Hyatt Meeting 2)
Tim Oliver, Horry County

In this day of connectivity, everyone expects to receive information based on their "profile". Who I am, Where I am (or Live) and only the information that is important to me do I want to see. HCConnect is a way to get just the information that is important to you from Horry County Government. Ever wonder what that "Zoning Hearing" sign means? See ground being broken and wondering what is being built? What crime is going on in my neighborhood? What is going on at the local Rec Center? This app provides the ability to select your interests and receive only the information for your area of the county. It also provides the ability to receive notifications with regards to potential emergency situations and to submit 311 requests all from your mobile device.

This is an introduction to the features of HCConnect. Horry County's most recent tool to engage, inform and communicate with the Citizens, visitors and property owners of Horry County.

10:00 am - 11:00 am

Cultivating Executive Sponsorship for Your GIS Program (Florence Community Room)
Adam Carnow, ESRI

Determining the business value of your organization's GIS can be one of the most challenging endeavors that GIS leaders undertake. On top of this, business leaders don't usually speak in the "language of GIS", which challenges you to interpret business challenges, and translate them into GIS opportunities. This session will cover strategies for determining and measuring the business value of your GIS and considerations for how to communicate that value to your executive sponsors.

U.S. Datums: Where We've been, Where We're Going, Modernizing the National Spatial Reference System (Hyatt Meeting 1)
Matt Wellslager, RFA/SCGS

The National Geodetic Survey (NGS) is will perform a datum readjustment for horizontal coordinates and elevations in 2022. This presentation will identify why NGS decided to undertake the datum readjustments from NAD 83 (2011) to NATRF 2022 and from NAVD88 to the new vertical geopotential datum. The presentation will address Geodetic Datums, the New Reference Frames and Preparing for them, Updates on NGS Products and end with Questions.

The discussion about the NGS will be focused more on the National Spatial Reference System, what it is and how it is used. Then why the readjustment, in NGS's mind needs to be done. With regards to Datums, there will be a brief history of horizontal datums which will be followed with a discussion about the vertical datums. This will be followed with an explanation of why, scientifically, the change/readjustment will occur, an approximation of how much of a shift there will be. Finally, I will talk about what we as users should do to prepare ourselves for the readjustment, and introduce the audience to the NGS web page and tools that are available to us to use when moving coordinates from one realization of NAD 83 to another and in time to 2022.

SCEMD: Trying to Reason with Hurricane Season Using Esri Tech (Hyatt Meeting 2)
Charlie Kaufman, SCEMD

During Hurricane Florence, SC Emergency Management used Esri software to manage the flow of information and resource requests through their customized Web App based statewide Common Operating Picture "Palmetto". Numerous Web Apps were created to pass incident information along to the public and emergency managers. Data gathered in ArcMap produced over 100 hard copy maps for office and field use. Finally, Dashboards and Story Maps were used to brief senior leadership and quantify disaster damage.

How GIS Assists in Disaster Intelligence (Hyatt Meeting 2)
Christy Jacobs, SCANG

The SCARNG GIS department assists SCEMD and the SC National Guard during emergencies. The GIS department is integrated into the JDIAC (Joint Disaster Intelligence Assessment Cell) and is activated 24 hours a day during a state emergency. The GIS team creates web applications, assists in the aerial/satellite collection management plan, and provides disaster intelligence to Search and Rescue, many state agencies, and local government.

11:00 am - 12:00 pm

Engaging Your Community with Open Data and ArcGIS Hub (Florence Community Room)
Blake Pierson, ESRI

While Open Data itself can be about transparency, at a greater scale it's about building a better and more informed society. With ArcGIS Hub powered by Open Data, organizations can create HUB sites and pages that report progress via dynamic visualization capabilities as well as solicit feedback regarding the initiates that matter most to their constituents. Come learn how organizations around the world engage with their communities to turn data into knowledge, after unlocking the data they work with every day.

Assisting City Operations with Workforce (Hyatt Meeting 1)
Kevin Whaley, North Augusta

Local Governments are faced with providing excellent customer service to their citizen's every day. The challenge to keep up with the demand in a fast paced world can be difficult. Especially with older systems, workflows, and available staff. Such was the case for the City of North Augusta, SC. The City needed a better way to handle the calls for service, as well as, how to deal with a custom in-house built database system that managed the requests in paper format. The answer was Workforce for ArcGIS. Learn how the City of North Augusta, implemented and transitioned their operational staff to Workforce for ArcGIS to meet and exceed the demand while improving customer service and worker efficiency from the field.

Cloud-Based Environmental Modeling with Near Real-Time Satellite Imagery (Hyatt Meeting 2)
Charles Mondello, ESI

Ecosystem Services Investments (ESI) is a new firm developing environmental modeling and visualization tools. ESI tools are designed to visualize data for more accurate decision making and planning. ESI will review its online cloud data machine learning artificial intelligence analytic. We will cover how visual representations match actual events in multiple spectral bands. The many satellite spectral bands portray more than the eye or four band mapping data can see. These bands when combined via imaging science can show many details. As the satellites fly overhead every few days the briefing will highlight the paradigm benefits of near real-time data over portions of South Carolina. Attendees will see a live demonstration of what can be gleaned from the cloud-based artificial intelligence computing.

1:30 pm - 2:30 pm

ArcGIS Urban & 3D Workflows in ArcGIS Pro (Florence Community Room)
Yuri Potawsky, ESRI

ArcGIS Urban is an immersive 3D experience designed to improve urban planning and decision-making. Quickly visualize projects in your local context and leverage location intelligence to drive better decisions. Learn about how you can leverage existing 3D data in both the ArcGIS platform and within ArcGIS Urban.

There's an App for That (Hyatt Meeting 1)
Elizabeth Thebo, SCDOT

This will be an overview of the applications SCDOT GIS is developing for our maintenance groups and some tips and tricks we've learned along the way.

2020 Census Geographic Partnership Programs Update (Hyatt Meeting 2)
David Cline, Census Bureau

In this presentation I will provide a brief overview of Census 2020 plans and focus on the opportunities for Census collaboration with state and local government liaisons through several different geographic partnership programs. The Participant Statistical Areas Program (PSAP) will utilize local Census data users to review and update statistical geographies (tracts, block groups, census designated places, and census county divisions) for 2020 Census data tabulations. The New Construction Program (NC) will give governments an opportunity to submit addresses for units constructed after the 2020 Local Update of Census Address (LUCA) operation. The annual Boundary and Annexation Survey (BAS) will continue to collect the legal boundaries as of January 1 of each year. I will also provide an update on the 2020 Local Update of Census Address (LUCA) Operation, including the feedback and appeals process. I will present our planned schedules for each of these programs, and we will discuss some of the new tools are being developed to allow our partners to participate efficiently and effectively.

2:30 pm - 3:30 pm

ArcGIS Pro: Transition from ArcMap with Confidence (Florence Community Room)
Yuri Potawsky, ESRI

This workshop will take the apprehension out of the transitioning from ArcMap to ArcGIS Pro. Gain the skills you need, and learn where to find your favorite tools. We'll show you some tips and tricks. See how to tackle essential workflows such as editing, querying, basic analysis, and sharing with ArcGIS Pro.

Real-time GIS (Hyatt Meeting 1)
Robert Hauck & Emma Paz, City of Charleston

Our users often require access to real time data. As a result, the City of Charleston is leveraging ESRI's GeoEvent Server to drive several real-time GIS tools and services. Our projects include TIDE eye, a tide and weather monitoring system to support discussion and decision-making while triggering high-risk forecast notifications and automating road closure warnings; and CAMP, our horse-drawn carriage alerts platform to more effectively monitor and remove equine waste throughout the City.

Drone Imagery and GIS: Best Practices and Techniques (Hyatt Meeting 2)
Kenneth Compton, SCDHEC

It is becoming a regular practice to use drone imagery within the discipline of Geographic Information Systems. Drones can provide a quick, simple, and safe solution to collect updated data for small specific sites. As GIS professionals, the goal is to use imagery collected and turn it into a resourceful product. If today's GIS professional wants to work with drone imagery they should have knowledge of drone flight patterns, imagery overlap, use of ground control points, working with Orthomosaics and 3D point-clouds products. The goal of this presentation is to help today's GIS professional to learn some of the best practices and techniques from preparing drone flights to processing the imagery to obtain the best results.

4:00 pm - 5:00 pm

ArcGIS Solutions for Public Works (Florence Community Room)
Yuri Potawsky, ESRI

Public Works departments are grappling with aging infrastructure, limited funding for repairs, and rising costs for improvements. They face pressure to be more transparent as citizens expect more accountability for government spending. GIS is one of the essential tools that public works departments can use to better manage their assets, more effectively allocate field resources, maximize the value of dollars spent on infrastructure improvements, and increase transparency and quality of service for citizens. This session will provide an overview to a set of public works maps and apps available in the ArcGIS for Local Government solution. These ready-to-use maps and applications help organizations leverage their geographic information to develop more efficient operations.

3D Modeling in AutoCAD Revit and ArcGIS Pro (Hyatt Meeting 1)
Hope Contreras, Lexington County

Hope will be presenting 3D modeling projects for a variety of Lexington County buildings that she has been working on as an intern with Planning/GIS using both AutoCAD Revit and ArcGIS Pro. She will explain soTuesday, September 17, 2019me of the processes and lessons learned starting from acquiring the actual building drawings and floor plans as pdf files to rendering the interior and exteriors in Revit, then transforming those renderings into ArcGIS Pro and creating walk-throughs of those buildings.

Learning to become an effective GIS Manager (Hyatt Meeting 2)
Veronica Moore, SCDHEC

As managers we play an important role in helping develop the next generation of GIS managers. It's our responsibility to provide our staff with the tools needed to achieve their full potential. In order to create these opportunities for our staff we need to become more creative, resilient and flexible. We need to understand where our section fits in our organization and how to promote their work. A common issue among many state, county and local institutions is leadership engagement. With the use of some creativity and GIS applications we can change the leadership perspectives in what our team can do.

Friday, October 25, 2019

8:30 am - 9:30 am

Mobile GIS Workflows (Florence Community Room)
Kerri Rasmussen, ESRI

ArcGIS Field apps help you use the power of location to improve coordination and achieve operational efficiencies in field workforce activities. Reduce or even replace your reliance on paper. Ensure that everyone in the field and the office, uses the same authoritative data so you can reduce errors, boost productivity, and save money. See these apps: Workforce, Navigator, Survey 123, Collector and QuickCapture, in a set of demonstrations and discussions to get you started.

ArcGIS Online: Tips on Managing Users and Data (Hyatt Meeting 1)
Peter Thompson, Duncan Parnell

ArcGIS Online is a powerful and rapidly evolving platform that you can use to store, gather, visualize and analyze maps and layers in the cloud. Add to that the enhanced capabilities of new user types, roles and categories, the amount of flexibility starts to become overwhelming. In this session, you will learn how to store your data online and, once stored, how to manage, update and organize it effectively.

Mobile LiDAR ROW Sign Asset Collection (Hyatt Meeting 2)
Allen Brock, GPInet

ROW Sign Management is becoming an increasing difficult task for municipal governments. Street signs have a limited life cycle and need to periodically be replaced to ensure public safety. Mobile LiDAR is a viable and cost-effective approach to sign collection and processing. The LiDAR point cloud captured during a mobile LiDAR drive plan can be manipulated through software applications to generate a Geodatabase sign inventory. This inventory database can be as simple as sign location (x,y,z), MUTCD code(sign type) and condition(good, fair, poor) or enhanced to include height of the sign, dimensions and reflectivity. This presentation will outline the approach for Mobile LiDAR acquisition, sign extraction and feature coding for input into a geodatabase.

10:00 am - 11:00 am

Operations Dashboard for ArcGIS: Monitoring GIS Operations (Florence Community Room)
Kerri Rasmussen, ESRI

Dynamic dashboards are great for viewing the activities and key performance indicators most vital to meeting your objectives. In this session you will see how to setup the new browser-based Operations Dashboard for ArcGIS to create executive dashboards that integrate maps, lists, charts, and gauges for real-time operation views. Learn about the different visual elements that can be used to reflect the status and performance of people, services, assets, and events in real time.

All the GIS: a Case Study of GIS Technologies from an Archaeological Survey (Hyatt Meeting 1)
Tanner Arrington, SCDNR

In 2017, archaeologists discovered a new 4,000 year-old shell ring complex on a coastal island in South Carolina using a LiDAR digital elevation model. Since the discovery, GIS has been a critically important tool for managing the survey of the archaeological site. Using this archaeology project as a case study, this presentation reviews a cross-section of the GIS technology stack, including LiDAR DEM processing, 3D visuals, coastal erosion modeling, survey grid development, Bluetooth GNSS with ArcGIS Collector, and mobile field data collection using Survey123.

What GIS Can do for You (Hyatt Meeting 2)
Mitchell Fulmore, Florence County, *Alisha Smith,* Florence County

When an emergency occurs, it's up to 9-1-1 Telecommunicators to gather and share valuable information that can save time and save lives. Whether it's a medical emergency, severe weather, or an active assailant, 9-1-1 can provide a faster and more efficient response if call takers can gain access to crucial information quickly.

One of the most essential tools for Emergency Services is our maps. GIS is an integral part of Emergency Services. We will discuss services that Florence County GIS help develop to assist not only Florence County 911 but all Emergency Services.

11:00 am - 12:00 pm

Being Neighborly - NG911 Boundaries - Panel Discussion (Florence Community Room)
Alison Sengupta, Lexington County, *LaKeisha Bryant,* Edgefield County, *Brooks Lastinger,* Spartanburg County, *Cherie Moritz,* Aiken County

This session offers a panel discussion that will include county representatives from rural and urban areas working with their neighbors on matching their polygon boundaries and roads for NG911. This session will include insights on each of their experiences in coming to an agreement on their shared boundaries. Representatives from SC Geodetic Survey, SC Revenue and Fiscal Affairs, as well as our State GIS Coordinator will also be in attendance to assist with questions regarding this topic and its importance.

Enhancing Addressing Capabilities using TheAddresser (Hyatt Meeting 1)
Ashley Stribling, Charleston County

Since 2014, Charleston County has utilized the functionalities of TheAddresser by BCS, Inc. to create and manage address and street data. TheAddresser's error reports, business rules, and streamlined automation have allowed for quality control and data validation of County data. The successful use of TheAddresser has greatly improved County address and street data which has reduced the amount of 911 issues and citizen calls and received great reviews from ESRI's Community Maps Program. This presentation will be a look into how Charleston County has used TheAddresser to enhance addressing capabilities and what this system could do for others.

A GIS-centric Evolution for Dam Safety – SCDHEC Dams and Reservoirs Safety Program (Hyatt Meeting 2)
Jeannie Eidson, DHEC & *Jack Beers,* CDM Smith

Hurricane Joaquin in 2015, and Hurricane Matthew in 2016 both had a significant impact on South Carolina. The impact took the form of catastrophic flooding due to high-volume/intensity rainfall and a series of dam failures. These worst-case scenarios shed light on the regularity of dam inspections and evaluation for hazard classification as it relates to risk for loss of life and property. What if storm events were more intense? What if they took place more often? This is where The South Carolina Department of Health and Environmental Control (SCDHEC) acted and revitalized the Dams and Reservoirs Safety Program.

With more than 2,300 state-regulated dams in SC, the Dams and Reservoirs Safety Act directs SCDHEC to focus resources on regulating and reclassifying when failure could cause loss of life or property (SC Code of Laws, Title 49, Chapter 11, Article 3). In order to properly classify and/or confirm existing classification as high hazard, significant hazard or low hazard, SCDHEC needed to recategorize and update data associated with the dams. SCDHEC undertook an initiative to inspect all regulated dams and updated those dams requiring Emergency Action Plans (EAP). Because each EAP required an inundation map to describe the inundation boundaries and potential for downstream loss of life and property in case of an emergency, SCDHEC turned to GIS to create Simplified Inundation Maps (SIMs). SIMs were created for all high hazard dams using simplified engineering assumptions and methods and were detailed as mapbooks to display inundation and potential hazard locations.

While the inundation maps were helpful in the short-term, the method for creating the data used a relatively pared-down approach. A more accurate methodology was needed to sustain integrity and accuracy of the data in order to limit loss of life and property with future events. For this, SCDHEC turned to DSS-WISE Lite, a web-based automated modeling and mapping tool developed by the University of Mississippi. Operation and maintenance of the tool is supported by FEMA. Inputs for the tool include many of the variables maintained within the National Inventory of Dams database (NID), but many of the dam's data was out of date or missing. SCDHEC's action for this was to again turn to GIS and employ workflows to derive data based upon SC's LiDAR inventory. Because DSS-WISE Lite employs national based elevation data, SCDHEC in conjunction with University of Mississippi staff, mosaiced SC's LiDAR inventory to be used for all modeling within the State.

Finally, SCDHEC needed to provide a risk categorization for all dams which includes, but is not limited to variables for geologic hazards, downstream hazards (associated with a storm event), hazard classification, and dam integrity. For this effort, SCDHEC once again turned to GIS. While it's an on-going effort, every dam is currently being modeled for discharge using the USGS's Stream Stats web-based tool. When finished, the final risk model will be a culmination of years of GIS-centric efforts used to identify and mitigate the loss of life and property. This presentation will discuss many of the methods and approaches employed by SCDHEC while revitalizing the Dams and Reservoirs Safety Program.

KEYNOTE SPEAKER

Adam Carnow, Community Evangelist - ESRI

Adam Carnow is a Community Evangelist at ESRI, the global market leader in Geographic Information Systems (GIS). He is a keynote speaker, thought leader and technology evangelist, helping organizations get the most out of their GIS investment, and make a difference in their communities. He inspires customers to maximize their return on investment in the ArcGIS platform. He works closely with the ESRI teams and Partners to assure customer success. He helps these organizations use the ArcGIS platform to transform from mapmakers into solutions providers, through the application of location intelligence, to deliver spatial insight.

Adam DeMars, *Geospatial Information Officer – State of South Carolina*
Originally from Northwest Ohio and a graduate from the University of Toledo, Adam moved to South Carolina almost 15 years ago where he started his GIS career with Richland County. Eleven of his fourteen years at Richland County were spent with the Columbia Richland 911 Communication Center where he managed the Computer Aided Dispatch (CAD), GIS, AVL and telephony systems. Collaborating with municipal and local governments, Adam was able to streamline critical emergency operations for all RC public safety entities. He has recently transitioned into the role of State GIS Coordinator and SC Geographic Information Council Program Manager. Adam's objectives are to build strong lasting relationships with our local GIS professionals while streamlining intragovernmental data and GIS operations.

Speaker Bios

Tanner Arrington, *SCDNR, Land, Water, & Conservation Division*
Mr. Arrington is the GIS Manager for the Land, Water, and Conservation Division of the Department of Natural Resources. His background is in physical geography and natural resources, with an interest in GIScience in those fields. At SCDNR, he provides GIS support, from technical analysis to cartography to database development, for a variety of disciplines at SCDNR, including climatology, hydrology, geology, archaeology, and biology. Mr. Arrington supports other information management projects in the division including database development, web application development, and digitization and data rescue tasks.

Jack Beers, *CDM Smith*
Jack Beers is a GIS Specialist at CDM Smith in Columbia, SC with 13 years' experience. Jack has a BS in Geophysics from the University of South Carolina. His focus lies with collection, organization and quality control of utility assets to empower the use of enterprise asset management systems. Jack got his start at BP Barber in Columbia, SC where he focused on enterprise GIS system maintenance and configuration. He works with many municipal and county utilities, and local governments throughout the State and Southeast.

Allen Brock, *VP GPI Geospatial*
Education: Surveying, Middle Ga College
Registration: ASPRS Certified Photogrammetrist #R984
GIS Institute-Certified GIS Professional GiSP
Photogrammetric Surveyor SC #22966
Professional Surveyor OR #80747RPP
Land Surveyor Photogrammetrist, VA # 000092
Relevant Project Management Experience:
Mr. Brock has over 35 years of experience in the geospatial industry. He has been involved with aviation projects for the last 15 years and was honored to receive the Jim White corporate member of the year award in 2009.

His background includes executive management, project/program management, topographic mapping, airport obstruction analysis, control and boundary surveys, aerial and ground based LiDAR acquisition, processing, feature collection and data formatting for delivery.

His experience includes both field and office experience utilizing a variety of sensors and platforms. He is adept at utilizing new technology and working with clients to find innovative and cost effective solutions.

LaKeisha Bryant, *Edgefield County*
LaKeisha Bryant is the GIS Manager for Edgefield County. She has been with Edgefield County for over 25 years. Of those 25 years she has been managing the GIS Department for 7 years along with special projects and grants. She was the Assessor for 7 years prior to that. In her spare time she enjoys spending time with her family, especially her grandchild, and travelling. She recently survived the implementation of an ESINet for Edgefield County and has lived to tell about it.

David Cline, *Census Bureau*
My name is David Cline. I am a Geographer for the Census Bureau as part of the Atlanta Regional Census Center (ATRCC). Although I am part of the ATRCC, I am a work at home Geographer and live and work in Harrisburg, which is just to the northeast of Charlotte.

I graduated from UNC-Charlotte with a degree in Geography in 1994. I have been with the Census Bureau since February 1995 and this will be my third and, hopefully, last Census.

My wife and I just celebrated our 25th anniversary this September and we have two boys. The older one just graduated from high school this year and will be attending Appalachian State University. The younger one is in the 11th grade the next week and just got his license this summer.

Ken Compton, *SCDHEC*
Ken Compton is a GIS Manger I at DHEC with his primary focus on the Bureau of Land and Waste Management. Besides this responsibility, Ken also processes DHEC Drone imagery using ESRI's Drone2Map platform. Some of Ken's other GIS experiences include being a Geospatial Engineer Sergeant for the South Carolina National Guard. Ken provides support for both DHEC and the National Guard for the past four years of hurricane events. Prior to these roles, Ken worked in the private sector and at the local government level (Horry County). Before coming to South Carolina, SGT Compton was an active duty soldier serving in the U.S. Army with the 10th Combat Aviation Brigade which included one tour of duty to Afghanistan.

Prior to all of this while Ken was in college, He worked at UPS as a Part-time Dispatch Supervisor helping to implement a mapping system that would reroute drivers to help save millions in gas costs. Ken graduated from the University of Valley Forge with a degree in ministry and served as a Youth Pastor before entering the service and starting his GIS career.

Speaker Bios Cont.

Hope Contreras, *USC Upstate Student/Lexington County GIS/Planning Intern*
Hope Contreras is a student at USC Upstate and an intern with the Lexington County Planning/GIS Department. She has an Associate's Degree in Applied Science in Architectural Engineering Technology and three different certificates in Architectural Computer Graphics, Architectural Design Technology and Architectural Systems and Codes. She has returned to USC this fall to complete her degree in Engineering Technology Management. To relax her mind, Hope shelves books as a library clerk at the Cayce West Columbia Library and prepares various dishes to share with her Planning/GIS family.

Jeannie Eidson, *SCDHEC*
Jeannie Eidson, PhD, GISP, is a GIS manager within the Bureau of Information Technology at SC Department of Health and Environmental Control. The focus of her work, primary associated with hydrologic activities, is to design web and desktop applications relating to watershed dynamics, as well as developing methods to expedite permitting protocols. The members of DHEC's GIS team received a Special Achievement in GIS (SAG) award for their extensive work in developing web applications. Prior to this position, she was the Director of the Santee-Cooper River Basin Study, a 10-year research project, assessing the eutrophication of the Santee-Cooper Lakes. She was leading and supporting projects and research initiatives spanning issues related to nutrient/sediment loading, zooplankton community structure, water circulation and time of travel studies, non-point source runoff, water quality gradients and aquatic plant mapping.

Michal A. Ferber, *McLeod Medical Center*
Michal Ferber is the corporate Director of Telecommunications for McLeod Health, headquartered in Florence, SC. McLeod Health is a not-for-profit, regional healthcare organization that serves a 15-county area and more than one million people in northeastern South Carolina and southeastern North Carolina. Founded in 1906, it currently operates seven hospitals, two urgent care centers and approximately 90 medical practices. Michal has 24 years of experience in the IT field with 16 of those years served at McLeod. He has managed Telecommunications for the last 12 years and has a track record of consistently reducing expenses and driving innovation.

He is also active in his church praise band as a drummer.

He holds a CHEP certification along with many Microsoft and other IT certifications, is a member of the SC Society for Healthcare Emergency Management, and has been published and spoken at national conferences.

He and his wife Emily are residents of Florence. They have three kids, Zachary 19, Eli 8 and Elly 2.

Mitchell "Mitch" Fulmore, *Florence County EMD*
Mitchell "Mitch" Fulmore is the 911 Central Dispatch Manager for Florence County Central Communications/E911 in Effingham, South Carolina. Mitch began his career as a Telecommunicator in 1996. He was promoted to Assistance Shift Supervisor in 1998 a nd Shift Supervisor in 1999. In 2006, Mitch was promoted to Training Coordinator, and he assumed his current position in 2017. Mitch is currently the 1st Vice President of South Carolina APCO. He serves on the South Carolina 911 Advisory Committee. Mitch is also an AAIR (Active Attack Integrated Response) instructor for the Advanced Law Enforcement Rapid Response Training (ALERRT).
Mitch has been a volunteer with South Lynches Fire Department for 28 years. He has worked through the ranks from Lieutenant to District Chief on the station level, Deputy Chief of Fire Prevention, and his current position as 2nd Assistant Chief of the Department. In 2007, he was sworn in as a reserve deputy with the Florence County Sheriff Office.

Robert Hauck, *GISP, City of Charleston*
Working in the field of GIS for more than 20 years, Robert is currently the GIS Director at the City of Charleston and has been employed with the City for 5 years. Robert obtained his Geography degree from Auburn University and has previously worked for the City of Auburn, Alabama; the New York State Department of Environmental Conservation; The Nature Conservancy; and Berkeley County, South Carolina.

Christy Jacobs, *GISP - SC Army National Guard*
Christy Jacobs is the GIS Program Manager for the SC National Guard. She manages GIS in the Military Training, Facilities, and Environmental departments. She also provides database administration for the SCARNG enterprise GIS. Christy graduated from the University of Georgia with a GA in Geography and a Certificate in GIS.

Charlie Kaufman, *GISP - SCEMD*
Charlie holds a Master of Environmental Studies Degree from the College of Charleston specializing in GIS computer modeling of environmental issues. He has worked with natural hazards and emergency management in some form for the past 12 years. As the GIS Manager for the South Carolina Emergency Management Division Charlie provides all of the departments within SCEMD, State and Federal agencies, and local governments with GIS data support for all hazards. He also performs FEMA's Hazus-MH model runs for natural disaster impacts across South Carolina.

Brooks Lastinger, *Spartanburg County*
Brooks Lastinger is the GIS Manager for Spartanburg County. Before taking this position he worked extensively in 911 overseeing 911 mapping services and distributing maps for 39 Fire Districts, 14 Police Agencies, and 27 EMS Stations. He has 15 years experience in the GIS field and has previously had extensive experience with Public Works implementing asset management systems. He is currently attempting to simultaneously implement the Addresser, a 911 ESINet, and a new public works asset management system along with ArcGIS Portal. When he has spare time he enjoys contra dancing and hiking.

Charles Mondello, *Ecosystems Services Investments (ESI)*
Founder & CEO, - Charles Mondello is currently the CEO and a founder of Ecosystems Services Investments (ESI). ESI creates models of environmental risk to property with near live content, providing actionable mapping data via the web. Charles Mondello is currently the CEO and a founder of ESI. In this role, he provides direction for the overall operations, development and growth of the company. He is actively involved in all elements of the firm, with a focus on shaping client requirements into viable corporate initiatives.

As the Past President of the Property Drone Consortium, Charles Mondello worked with unmanned aerial system research and strategy for insurance property inspections with emphasis on regulatory and standards development. He served as a member of the Federal Aviation Administration's Drone Advisory Committee Subcommittee.

Mondello has held multiple industry roles. With nearly two decades at Pictometry (now merged with Eagleview) as EVP of Corporate Development and Deputy CTO, he helped form the firm's foundations. His industry depth includes multiple technical, strategy and sales roles including IBM, CIA NRO, Litton, and Kodak. He served on the inaugural National Geospatial Advisory Committee for the Secretary of the Interior. He is an American Society of Photogrammetry & Remote Sensing Fellow with multiple society Presidential citations. Mondello has a Master's and Bachelor's degree in Imaging Science from Rochester Institute of Technology and holds multiple patents in remote sensing/photogrammetry in oblique and real-time data processing.

Speaker Bios Cont.

Cherie K. Moritz, *Aiken County*
Cherie has been working in GIS for 23 years. She received her training at Arizona State University while pursuing a Masters in Plant Biology. She has tricked people into paying her to do GIS work in all sectors – public (Aiken County), private (Tetra Tech NUS), academic (Arizona State University), and non-profit (The Nature Conservancy). She has been the GeoServices Manager at Aiken County since 2015.

Veronica Moore, *SCDHEC*
Veronica Moore was born in Quito, Ecuador. She attended Espejo High School for Girls and graduated with honors in 1989. After graduating from high school, she came to the United States and graduated in 1996 with honors from Fiorello H. LAGuardia Community College with an A.A.S. She joined the US ARMY Reserves in 1991 and was selected as an honor graduate in Dec 1994 at Fort Lee, Virginia. In 1998 she enlisted in the US ARMY for 3 years and was stationed at Fort Stewart, Hinesville, GA. In 2001 she switched from the US Army to the US Air Force and trained as an Engineer Apprentice. In 2003, she graduated Cum Laude with a B.A in Business Administration and Information Technology from Saint Leo University. While assigned to the 20th Civil Engineer Squadron at Shaw Air Force Base she received numerous awards to include airman of the quarter in 2003, Flight nominee for the "Spirit of Hope" 2003, NCO of the 2005-year award. During this period, she deployed to Iraq where her team was selected as the Sharp Saber Team. In 2006 she left the Air force and got a job with the City of Sumter as an Engineer Associate. In 2008 she joined the 560th Red Horse Squadron, Charleston AFB, SC; during the same year she accepted a GIS Technician position at Florence County. In 2009 she successfully completed the requirements to become a Certified Geographic Information Systems Professional (GISP). In 2011 she joined the City of Sumter as the GIS Coordinator. Currently, Veronica serves as the Non-Commissioned Officer in charge of the Engineering and GIS Section at McEntire Joint National Guard as an Engineer Craftsman, MSgt Veronica Moore directed and performed civil engineering design, drafting, surveying, and contract surveillance to support Air Force facility construction and maintenance programs. In 2013 she was selected as the NCO Airman of the year for the Mission Support Group. She completed her A.A.S in Construction Technology in 2015. She deployed to Qatar in 2016 and received the Air Force Commendation Medal. She supported various military campaigns to include Operation Enduring Freedom, Iraqi Freedom, Global War on Terrorism, Operation Inherent Resolve and Freedom's Sentinel. In 2017 Veronica accepted the GIS Program Manager position at the Department of Health and Environmental Control. Her duties include the planning, development and maintenance of DHEC's Spatial Data infrastructure. She resides with her daughters Crystal and Penelope in Sumter, South Carolina.

Tim Oliver, *Director IT/GIS - Horry County, SC*
Tim has over 26 years experience in the Local Government arena (10 Years in Rock Island, IL and 17 years at Horry County.) He is currently the CIO for Horry County. All line of business applications (deployment, ongoing support, web development and GIS) are under his direction. The team being a part of the IT/GIS department has provided the opportunity to insure GIS is core to all line of business applications. Commitment to always be on the cutting edge of technology usage at the local government level has allowed him to lead the way in the use of mobile technology and rethinking how Horry County uses big data.

Horry County's GIS centric line of business applications and intrinsic GIS has enabled the county to make amazing strides in integration of the GIS technology. Currently the focus is on delivering GIS technologies on mobile platforms, with the goal of cross platform development reducing the need for OS specific development and maintenance of the applications.

Emma Paz, *GISP, City of Charleston*
A science and technology enthusiast since her earlier youth, Emma is fulfilling her techy-destiny as a GIS Developer for the City of Charleston—writing code to wrangle city-related data for various departments and purposes. In her role, Emma is glad to take on new challenges, and strives to tackle new 'problems' as opportunities for innovation. And while she programs to her heart's content by day, Emma also teaches an Introduction to Geographic Information Systems course at the College of Charleston, her Alma Mater.

W. Blake Pierson, *ESRI Local Government Account Manager*
Blake graduating from Kennesaw State University with a certificate in Information Systems and a degree in Geographic Information Science, focusing on environmental studies and urban planning. Blake specialized in database and application development as a Geospatial Analyst working on projects under the Department of Interior for BOEM, BLM, NPS as well as NOAA for three years before starting at Esri as the Local Government Account Manager covering all of South Carolina. Blake now spends his time focusing on all operations of local government identifying and implementing location strategies that will radically improve the challenges they face on a day to day basis.

Yuri Potawsky, *ESRI Solution Engineer*
Yuri Potawsky is a Solution Engineer at Esri who focuses on providing local governments the tools and support they need to successfully use GIS technology. After completing a master's degree in Geography at Appalachian State he worked as a consultant assisting local transportation firms focusing on GIS integration with existing systems. He then moved to Washington, D.C. and worked as an Imagery/Lidar Scientist with the Department of Defense on a variety of critical projects. Upon moving back to North Carolina, he was hired by Esri into educational services where he provided technical support to users across multiple industries focusing on the ArcGIS platform, WebGIS, and GIS development through the ArcGIS web APIs. His interest lies in the ability of Raster and 3D data to model real world landscapes in an increasingly realistic and representative manner.

Michael B. Puckett, *CHEP, CHOP, McLeod Medical Center*
Michael is the Corporate Director of Emergency Management for a 7 facility Hospital system in South Carolina (McLeod Health). Retired from the United States Navy after 20 years of service (1999). Currently a volunteer firefighter at the rank of Captain for South Lynches Fire Department, been in fire service for 18 years, also currently a Reserve Deputy with Florence County Sheriff's Department for 12 years. Worked with Florence County Emergency Management as the Technological Hazards Coordinator, was instrumental in developing and organizing one of the four Regional Incident Management Teams (2005-2015). Currently serve on the Executive Committee for the Pee Dee Regional Healthcare Coalition, and Chairperson for the South Carolina Society of Healthcare Emergency Management Association. Member of the South Carolina Emergency Management Association.

Kerri Rasmussen, *ESRI Solution Engineer*
Kerri Rasmussen is a Solution Engineer at Esri. Prior to Esri she worked at a small gas Utility as a GIS Specialist/Administrator. Kerri also spent 10 years with FEMA as a GIS Specialist. Her role included response and recovery efforts for Hurricanes Katrina, Rita, and Sandy. She has a Bachelor's of Arts degree from SUNY Stony Brook.

Speaker Bios Cont.

Alison Sengupta, *Lexington County*
Alison Sengupta started her career using GIS in the environmental field at The LPA Group (now Michael Baker International) serving as a GIS Analyst/Environmental Scientist. When the opportunity arose to join Lexington County Planning & GIS she jumped at the opportunity to focus solely on GIS. She has been with the County for about 16 years where she has served as a GIS Analyst and currently as the Planning & GIS Manager. She has a BS in Environmental Science from TCU (Go Frogs!) and a Master of Earth & Environmental Resources Management from USC (Go Gamecocks!). Alison has her GISP and is currently the President of GAA-SC and co-chair of the Next Generation 911 GIS Subcommittee for South Carolina. In her spare time she enjoys spending time with her family, traveling, and is an avid sports fan, especially TCU football.

Alisha Smith, *Florence Coutny EMD*
Alisha Smith is the Training Officer for Florence County E-911 Central Dispatch and has been with the center since March 2009. During her 10-year career with Florence County E-911 Center she learned quickly and moved through the ranks from TCO, Communications Training Officer, Assist. Shift Supervisor, to 911 Training Coordinator in 2017. Her positive attitude, motivation, dedication and desire for teaching and mentoring others would be a tremendous asset to the staff that will be coming up through her tutelage. Alisha has a thorough knowledge of the dispatch profession and she takes enormous pride in sharing her vast knowledge with others. She is very comfortable in teaching, mentoring and sharing information with new and senior employees.
Alisha currently serves as the SC NENA Pee Dee Regional Director and works with everyone around the state. In January 2019 she obtained her Emergency Number Professional Certificate (ENP), a prestigious certificate in the 911 world. She also graduated from Columbia College in May 2019 with her BA in Emergency Management. Alisha is an acting member of the Florence County Emergency Response Team and South Lynches Fire Department.

Ashley Stribling, *Charleston County - GIS Analyst*
Ashley began her GIS career in 2008 working for the Hazard and Vulnerability Research Institute at the University of South Carolina while pursuing a Bachelor of Science Degree in Biological Sciences with a minor in Geography. After graduating college, she earned a double Master's degree in Environmental Science and Public Administration at the College of Charleston. While living in Charleston, she worked for the Department of Defense, Dorchester County Water and Sewer, and has been with Charleston County for almost 5 years.

Elizabeth Thebo, *SCDOT*
Elizabeth Thebo is the GIS Planning Services Manager for SCDOT. She currently manages the agency's AGOL website, as well as provides GIS Support to the Department of Planning.

Peter Thompson, *Duncan Parnell*
Peter is a Utility Solutions Sales Rep with nearly 10 years of experience ranging from federal, state, and local GIS environments. Peter has worked for numerous organizations, including DoD contracts with Harris Corporation, SC DHEC as a GIS Analyst, and GIS coordinator for Lee County, Alabama. Today, Peter focuses on field and office geospatial solutions for utility customers throughout the Carolinas and more.

Kevin Whaley, *GIS Analyst, City of North Augusta*
Kevin holds a B.S. degree in Computer Science from the University of South Carolina and is a Certified GIS Professional (GISP). He has 20 years' experience in the GIS field working at Savannah River Site (7 yrs), SCE&G (2yrs), and Local Government (11yrs). He is currently employed with the City of North Augusta (his hometown) as a GIS Analyst. His primary responsibilities include coordinating and leveraging GIS technology and best practices to assist the city's departments and management staff. Other interests include: spending time with my wife and two boys, teaching Royal Ambassadors for boys (1-6 grade) at his church, Gamecock Football, and Fishing (especially at Santee).

Matt Wellslager, *SCGS*
Matt has had the pleasure of working with South Carolina Geodetic Survey (SCGS) for 26 years. His career with geodesy started in 1986 with the National Geodetic Survey. I left NGS in 1989 and started my career with the SC Geodetic Survey. Matt created the first GIS GPS mapping group called the Palmetto Pathfinder User Group. I left the Survey in 2001 and moved out of state for 4 years. I returned to the Survey in 2005 and took on the role of Program Coordinator working with Height Modernization projects. In 2006, I took on the role of Project Manager for the creation and co-administration of the SC Real Time Network. In 2010 I was promoted to the Chief of Mapping Operations. With the retirement of Lew Lapine from the Geodetic Survey in June of 2014 I was promoted to Chief of the South Carolina Geodetic Survey.
I have a Bachelor of Science degree in Geology from the College of Charleston and a Master's of Science degree from USC in Geography specializing in GIS and remote sensing. When away from the office, I enjoy spending time outside sailing, biking in Harbison Forest, jogging, and enjoying an occasional adult beverage.