2019 ANNUAL MEETING OF THE
CUMBERLAND CHAPTER OF URISA
http://cumberlandurisa.org/
DEPARTMENT OF GEOGRAPHY
BURCHFIEL GEOGRAPHY BUILDING
UNIVERSITY OF TENNESSEE
Knoxville TN 37996-0925
865-974-2418

DAY 1 WORKSHOP PROGRAM: Tuesday March 19, 2019

DAY 2 MEETING PROGRAM: Wednesday March 20, 2019

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THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

DAY 1 - WORKSHOP PROGRAM: Tuesday March 19, 2019

WORKSHOP 1: Introduction to Lidar Data Utilizing Esri ArcGIS Pro
Room BGB 206
8:00 AM to 5:00 PM
Instructor: *Paul Dudley, Tennessee Dept. of Finance and Administration STS-GIS Services*

The State of Tennessee is very close to completing 100% coverage of QL2 Lidar. The data is shared with the public and this training will help you get started using it! This is an introductory course and will focus on understanding more about Lidar data, its products, use cases, and the capabilities within Esri ArcGIS Pro and Esri ArcGIS Desktop. This will be a hands-on course in the UTK Geography lab and will be utilizing ArcGIS Pro to complete several exercises. Handouts will also be provided.
The course will cover the following:
- The collection and production aspects of Lidar data
- 3DEP program pertinent specifications and deliverables
- Lidar data products and use case scenarios
- Capabilities and Licensing for Esri products
- Using Lidar data with Esri ArcGIS Pro
o Point cloud navigation
o Classification symbology and manipulation
o DEM and mosaic dataset workflows
o Contour Generation workflows
- Data access and alternative software
Instructor: Paul Dudley – GIS Analyst with the State of TN STS GIS-Services
If you have questions about the content please feel free to contact Paul Dudley at Paul.Dudley@tn.gov or 615-770-3809.

WORKSHOP 2: Introduction to QGIS
Room BGB 404
8:00 AM – 12:00 PM
Instructor: *Randal Hale*
                North River Geographics

This 4-hour workshop is designed to introduce you to QGIS 3.x, an Open Source GIS software for viewing, editing, and managing spatial data in a wide variety of commonly used vector and raster formats. It is lightweight, flexible, and can be installed on Windows, MacOSX, and Linux. By the end of the class students should be able to install QGIS, display data, begin editing, and create a map.

Randal Hale is the owner of North River Geographic Systems, Inc. NRGS works with a wide variety of clients from small governments to private companies. NRGS works mostly with Free and Open Source Software for GIS. Currently he volunteers with the QGIS.us users group and will hopefully be either canoeing or hiking if he's not sitting in front of a computer.

WORKSHOP 3: Using LiDAR with Grass
Room BGB 404
1:00 PM – 5:00 PM
Instructor: *Randal Hale*
                North River Geographics

This workshop will focus on using lidar (Digital Elevation Model and point clouds) data with Grass 7.4.

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WORKSHOP 4: Working with UAV-collected Imagery
Room BGB 405
8:00 AM – 12:00 PM
Instructor: *Ryan Hermann, NKY DroneLab; UAS Analyst*
                Professional Development Services of Kenton County

This workshop will introduce you to Drone2Map layout, functions and features. Sections include: 2D Mapping, 3D Mapping, Inspection Obliques, processing and analyzing imagery. Drone2Map will be demonstrated in tandem with ArcPro.

As the UAS Analyst Ryan is responsible for all UAV/Drone projects (NKYdroneLAB) at PDS. This includes aerial photography collection, inspections, planning, emergency response, data processing, and analysis. Other responsibilities include: custom mapping, digital file organization, and delivering exceptional customer service. In addition, Ryan also facilitates the mapping and GIS needs for cities, citizens, police and fire, utilities, schools, planning, and the public across Northern Kentucky. Ryan earned BA in Geographic Information Systems from Ohio University in 2013.

WORKSHOP 5: Working with LiDAR Data – Essentials and Applications
Room BGB 405
1:00 PM – 5:00 PM
<u>Instructor</u>:   *Jeremy L Mullins CP, PLS, GISP; Vice-President, HALIS*

This workshop will explain LiDAR concepts, collection methodologies, and how LiDAR data is processed to derive usable GIS data products. There will be examples of LiDAR data use in real world GIS applications presented. The workshop will also include a hands-on computer-based exercise teaching major steps in LiDAR data processing and use in GIS. This workshop is appropriate for GIS managers and technical staff—including individuals with little LiDAR experience or those with experience seeking to augment or update their skills.

Jeremy Mullins has over 20 years of experience in the geospatial field, including 17 years of experience working with differing LiDAR technologies. He is a Certified Photogrammetrist, Licensed Surveyor (KY), and GIS Professional, and currently serves as Vice-President at HALIS. His LiDAR experience includes flight planning and product generation from aerial LiDAR sensors, mobile scanning, and static scanning, as well as developing work flows for each technology. Managed projects have included 1' and 2' contour mapping, 3d modeling, and high accuracy (better than 0.1') engineering-support.

INFORMATIONAL GATHERING: The 2020 U.S. Census – Update on Opportunities
Room TBD
1:00 PM – 3:00 PM
<u>Instructor</u>:   *Charlotte Faye Anderson – U.S. Census Bureau* **(INVITED)**

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DAY 2 MEETING PROGRAM: Wednesday March 20, 2019

8:30 AM – 9:00 AM	**Registration and Refreshments**
9:00 AM – 9:15 AM	**Welcome**
	▪ *James Bates, Chapter President*
	▪ *Dean of College or Department Chair (suggested)*
	▪ *Michael Camponovo, UTK Department of Geography*
9:15 AM – 9:45 AM	**State of Tennessee Data Initiatives: LiDAR Updates and More!**
	Paul Dudley, Tennessee Dept. of Finance and Administration STS-GIS Services
9:45 AM - 10:15 AM	**Knox County TN's GIS: 34 Years Old and Still Focused on its Core!**
	John Edwards, GISP, KGIS Systems Administrator, Knoxville-Knox County KGIS
10:15 AM - 10:30 AM	**Break**
10:30 AM – 11:00 AM	**Enterprise Asset Management: Approaches and Strategies for a Large Water Utility**
	James Bates, Director of Infrastructure Planning and Records
	Louisville Water Company
11:00 AM – 11:45 AM	**Student Poster Competition**
	Michael Camponovo, UTK Department of Geography
11:45 PM – 1:15 PM	**Lunch (provided)**
	Sponsor Presentations
	Danny Hendren, Cyclomedia
	Student Poster Competition Awards
	UTK Department of Geography
	OneURISA, A New Membership Model for the Future
	Kim McDonough, GISP, TDOT, President Elect URISA
1:15 PM – 2:00 PM	**NKY droneLAB**
	Ryan Hermann, UAS Analyst
	Professional Development Services of Kenton County
2:00 PM – 2:15 PM	**Break**
2:15PM – 3:00 PM	**Open Source GIS: Opportunities and Challenges**
	Randy Hale, North River Geographic Systems
3:00 PM - 3:45 PM	**2020 U.S. Census Geographic Programs Overview**
	*Noelle Vought, Geographer (**INVITED**)*
	Philadelphia Regional Census Center - U.S. Census Bureau
3:45 PM – 4:30 PM	**OneURISA, A New Membership Model for the Future**
	Kim McDonough, GISP, TDOT, President Elect URISA
4:30 PM - 5:00 PM	**Cumberland Chapter of URISA – Business Meeting**

State of Tennessee Data Initiatives: LiDAR updates and more!
Presenter: *Paul Dudley*
                   State of TN Dept. of Finance and Administration
                   STS-GIS Services

Paul Dudley is a GIS Analyst working with the State of Tennessee's Strategic Technology Solutions GIS Services Group.   Paul is a 2007 graduate of the University of Tennessee Geography Department. With the state his primary focuses are on imagery, LiDAR and cadastral data.

This presentation will cover the State of Tennessee's wealth of data available to government entities and the public. Topics will include status update of the USGS 3DEP LiDAR program in Tennessee, Google Imagery, and TNMap services available to the public.

Knox County TN's GIS: 34 Years Old and Still Focused on its Core!
Presenter: *John Edwards, GISP*
                   Systems Administrator, KGIS

In his 29 years at KGIS, John has been involved in almost all facets of KGIS's operations. He manages KGIS's trusted network and server systems, ArcGIS Server and ArcGIS Online environments, and directs KGIS's ongoing systems/software performance and upgrade programs, including calls for technical support by the various user departments of the City, County and KUB. (He also knows how to make a good map!). John obtained a BA in Geography from the University of Tennessee.

KGIS was founded in 1985 as a partnership between the City of Knoxville, Knox County and the Knoxville Utilities Board (KUB), wherein each party agreed to use the "computerized mapping system" as its primary source for geographic mapping and facilities management applications. In the years since then, KGIS has adapted its operations to embrace new technologies, address new demands and expand the audience of users. However, some things remain the same – including KGIS's commitment to maintaining its Core. This presentation will showcase how the KGIS enterprise works today, highlighting some of those "core" features that still help define this 34-year-old multi-jurisdictional partnership.

Enterprise Asset Management: Approaches and Strategies for a Large Water Utility
Presenter: *James Bates*
                   Director of Infrastructure Planning and Records
                   Louisville Water Company

James Bates is the Director of Infrastructure Planning and Records for the Louisville Water Company (LWC) in Louisville, Kentucky. As Director, James is responsible for multiple aspects of Enterprise Asset Management (EAM), including Infrastructure Planning, Geographic Information Systems (GIS), Surveying Services and Construction Inspection. James has over 32 years of experience in the fields of Mapping and GIS combined. He has spent over 26 years with Louisville Water with an area of focus evolving from the design and implementation of enterprise-wide spatial technology initiatives to the interfacing and leveraging of corporate information systems and processes to support an Enterprise Asset Management (EAM) strategy. James has a Bachelor's Degree in Geography from the University of Kentucky and a Master of Public Administration Degree from the University of Louisville. He is a

Certified GIS Professional (GISP), as well as being a long time member of the Geographic Information Technology Association (GITA), the Urban and Regional Information Systems Association (URISA) and the Kentucky Association of Mapping Professionals (KAMP).

The Louisville Water Company has a lengthy history of innovation and high quality in delivering safe, good tasting drinking water to its customers. While the company has demonstrated progressive thinking with specific focus regarding managing physical assets, until the past five years the company had not institutionalized a more comprehensive "Enterprise Asset Management" (EAM) strategy. Such an approach was identified as necessary for Louisville Water to continue to improve the long-term sustainability of its infrastructure, in an environment of increasing revenue challenges as well budgetary and resource constraints. This presentation will focus on the development of such a program, and will include elements of:

- Defining what Enterprise Asset Management means to the organization.
- The significant role of GIS in asset management.
- The strategic role of EAM (Developing the institutional framework).
- The technical role of EAM (Developing the information systems framework).
- The operational role of EAM

The topics will be covered in the context of building the business case for Louisville Water. It will also discuss the challenges and strategies associated with the development of EAM for a large water utility, and how GIS is a critical hub for information systems interfacing.

OneURISA, A New Membership Model for the Future
Presenter: *Kim McDonough*

NKYdroneLAB
Presenter: *Ryan Hermann*
                   UAS Analyst
                   Planning & Development Services of Kenton County

As the UAS Analyst Ryan is responsible for all UAV/Drone projects (NKYdroneLAB) at PDS. This includes aerial photography collection, inspections, planning, emergency response, data processing, and analysis. Other responsibilities include: custom mapping, digital file organization, and delivering exceptional customer service. In addition, Ryan also facilitates the mapping and GIS needs for cities, citizens, police and fire, utilities, schools, planning, and the public across Northern Kentucky. Ryan earned BA in Geographic Information Systems from Ohio University in 2013.

NKYdroneLAB was established in the Spring of 2017 by Planning and Development Services of Kenton County (PDS). Since then PDS has flown nearly 200 miles on over 40 major missions. From water tank inspections to search and rescues this presentation will give a brief overview of NKYdroneLAB projects along with lessons learned from the experiences operating a UAV as a public agency.

Open Source GIS: Opportunities and Challenges
Presenter: *Randal Hale*
                   North River Geographic Systems, Inc.

Randal Hale is the owner of North River Geographic Systems, Inc. NRGS works with a wide variety of clients from small governments to private companies. NRGS works mostly with Free and Open Source Software for GIS. Currently he volunteers with the QGIS.us users group and will hopefully be either canoeing or hiking if he's not sitting in front of a computer.

This talk will cover the challenges and opportunities of Open Source GIS Software. The software has an allure of being free - and it's anything but free as you have to change processes and possibly some of your data formats. With the Open Geospatial Consortium (OGC) standards though it is possible to run an integrated setup with commercial software and open source software. Part of this talk will look a setup implemented by North River Geographic Systems (NRGS) last year for a client. That example will have the good (integrated setup), and the bad…

2020 U.S. Census Geographic Programs Overview
<u>Presenter:</u>   *Noelle Vought, Geographer*
                  Philadelphia Regional Census Center - U.S. Census Bureau

Noelle Vought is a Geographer for the Philadelphia Regional Census Office. She has been with the Census Bureau since 2017 to work on the 2020 Decennial Census. Her position entails providing support for all 2020 Census Operations, conducting spatial analysis and providing map aids. She graduated from Temple University in Philadelphia with a B.A. in Environmental Studies and a certificate in Geographic Information Systems.

In preparation for Census Day, April 1, 2020, the Census Bureau conducts a variety of programs to support data collection and prepare for data tabulation. Operating through two categories of geography, collection and tabulation, the Census Bureau works with tribal, state, and local governments to produce a complete and accurate population count. This presentation will discuss programs conducted prior to Census day, operations immediately following Census day, and programs to provide statistical geographic areas for local governments and other data users.