PROGRAM DETAILS

Using ArcGIS Online and Story Maps for Geomentoring

Instructors: Laura Moore, GISP, DuPont High School, Amy Nemon, GISP, Kevin Cary, M.Sc., GISP, and Scott Dobler, GISP Geography Department, Western Kentucky University and Kentucky Geographic Alliance.

The Kentucky Geographic Alliance (KGA) is developing an online GIS training and teaching resources for K-12 educators. This site will be used to introduce Geomentors to local schools for basic GIS integration into the curriculum. The KGA has received funding from Esri to provide multiple levels of training for interested K-12 teachers, with emphasis on ArcGIS Online (AGO) as the entry point for both teachers and students. This one-day workshop will illustrate the use of AGO in developing project-based exercises, and the integration of spatial data into shareable story maps for curriculum development and community feedback. Participants are encouraged to bring their own mobile devices. Registrants will be required to possess or create an account in ArcGIS Online ahead of the workshop (http://www.arcgis.com/features/free-trial.html).

Kim Ezell has been the GIS Coordinator for Hopkins County, Kentucky since 2003. Kim’s primary responsibilities include data collection and web development. Kim received her Certificate in Geographic Information Systems from Western Kentucky University in the spring of 2015. She is a member of the Kentucky Association of Mapping Professionals (KAMP) and is serving a geomentor to the Hopkins County School System for the 2015-2016 school year.

Laura Moore teaches GIS Career and Technology Education for Jefferson County Public Schools. Since 1994, her career has included: Louisville Metro Public Works, Greene Horne & O'Mara, Inc., Lexington-Fayette Urban County Government, and GRW, Inc. A re-certified GISP, she is a current member of the GISCI Ethics Panel and a member of the KAMP Education Committee. Ms. Moore is the first Kentucky teacher graduate from Esri’s 2014 T3G Institute.
Amy Nemon is a geographer at Western Kentucky University. She specializes in environmental education and GIS. She received her undergraduate degree from Western Michigan University and her MS from Western Kentucky University. She is the Kentucky coordinator for the National Geography Bee, she is a steering committee member of the Kentucky Geographic Alliance, and is a member of the Kentucky Geographic Names Committee.

Scott Dobler has been employed as a geographer and instructor at Western Kentucky University’s Department of Geography and Geology since 2000. He received his undergraduate degree at Morehead State University and a MS at Bowling Green State University. He has served as the State Geographer for the Commonwealth of Kentucky and has been a co-ordinator of the Kentucky Geographic Alliance for the last ten years. He also serves as the chair for the Kentucky Geographic Names Committee. Scott is dedicated to the public communication of geographic information to create well-informed citizens.

**Introduction to Using Esri’s Business Analyst Online**

**Instructor:** Scott Dobler, GISP Geography Department, Western Kentucky University and Kentucky Geographic Alliance.

“Location –Driven Market Insights” happen when using software such as Esri’s Business Analyst for market planning, site selection, and customer segmentation. This software allows for combining demographic, lifestyle, and spending data with map-based analytics to create accurate reports and present powerful market insights. A series of presentations and short exercises will allow exposure to this powerful tool designed to help in geographic economics analysis.

Scott Dobler has been employed as a geographer and instructor at Western Kentucky University’s Department of Geography and Geology since 2000. He received his undergraduate degree at Morehead State University and a MS at Bowling Green State University. He has served as the State Geographer for the Commonwealth of Kentucky and has been a co-coordinator of the Kentucky Geographic Alliance for the last ten years. He also serves as the chair for the Kentucky Geographic Names Committee. Scott is dedicated to the public communication of geographic information to create well-informed citizens.
High Definition, Merged Spatial Datasets  
*Instructor: Ben Shinabery, P.L.S., Project Manager, Qk4*

With technology increasing the speed and volume of data being collected, high definition reality capture datasets give the geospatial community complete existing 3D point clouds for greater spatial analysis. The entire spectrum of data collection, from traditional survey points, high altitude aerial LiDAR, Mobile and Terrestrial 3D Laser Scanning, plus Aerial Drone LiDAR and Photogrammetry, is evolving the way we view our world from the comfort of our digital environment.

Through our hands on demonstration of high definition merged datasets, we will discuss the various methods of different data collection techniques, the pros and cons, and reliability of the post-processed point cloud. We will work through a fully rendered merged dataset collected with three different methods (GPS Survey, 3D Terrestrial Laser, and Aerial Drone Mapping) to analyze the accuracy and precision of each method.

Hands-on workflows include: Loading and rendering high definition 3D point clouds, Isolation techniques for analysis, 3D measurement and surface creation, 3D merged point cloud export.

This High Definition class is for those who want to be on the forefront of geospatial technology and will have opportunity for discussions on integrating new technology into current workflows. Any experience in digital CAD or ARC environment will easily transfer to the hands-on applications for this demonstration.

Ben Shinabery is a land survey project manager at Qk4, Inc. where he specializes in high definition digital terrain modeling through traditional survey, 3D Laser Scanning and Aerial Drone Mapping. His land survey experience includes field work in Michigan, Indiana, Kentucky, Tennessee, Alabama, and Florida. Ben has been licensed in Kentucky since 2007 and has worked on notable projects such as: the Ohio River Bridges project, the KFC Yum Center, Kentucky Touchstone Energy UAS Economic Development, Interstate 71 widening, and the Parklands of Floyds Fork. In his spare time, he enjoys cycling, golf, woodworking, and collecting historic maps and axes.

Consuming Kentucky Weather and Climate Web Map Services  
*Instructor: Kevin Cary, M.Sc., GISP, Western Kentucky University*

The Open Geospatial Consortium defines a Web Map Service (or WMS) as an interface standard providing “…a simple HTTP interface for requesting geo-registered map images from one or more distributed geospatial databases.” This one-hour workshop,
intended for beginners, will start out with an Internet browser web map application with Kentucky Mesonet data and end with consuming Kentucky Mesonet and NOAA’s real-time observations in both Google Earth Pro, ArcGIS for Desktop and QGIS.

Mr. Cary is an instructor at WKU teaching GIS for the past 15 years in both undergraduate and graduate programs in the Department of Geography and Geology. He began his college teaching career with meteorology in 1998 and has a graduate degree that focused on spatial data analysis and climatology. He has experience working in local government GIS in South Carolina and has been a certified GIS professional since 2005.

**Streamlining Data Collection and Deliverable Output Using Direct Data Connections**

*Instructor: Andy Zimmerman, GISP, Environmental Information Services Manager, EnSafe Inc.*

Traditional methods of producing a final deliverable from data collected in the field can be time consuming and introduce human error. By streamlining this process, it is possible to go from collecting data in the field to a deliverable pdf report in a few easy steps.

This session will be split into three sections;

1) Configuring a workflow to enable direct editing of an enterprise geodatabase through either the Collector for ArcGIS app or a custom web map.

2) Field exercise for data collection. It is recommended that participants load Collector for ArcGIS on their smart phone or device, but not required.

3) Direct geodatabase connection (ODBC) through a Microsoft Access database and pdf report creation of data collected during the field exercise.

Andy Zimmerman is the Environmental Information Services Manager at EnSafe Inc., a nationwide environmental consulting and management firm. He graduated from Western Kentucky University in 2004 with a BS in geography and has been working in the GIS sector ever since. In the past 6 years at EnSafe he has won 4 awards for his innovative solutions. Most recently was a Grand Award from the American Council of Engineering Companies (ACEC) for real world implementation of the solutions highlighted in this session.
Mobile Data Collection Workflows Using Trimble’s TerraFlex and R10 GNSS System

Instructor: David Siskin, MGIS Support Specialist, Precision Products

Terraflex is a data collection application that can be used on mobile devices such as your cell phone, tablet, or Windows Mobile Device. The software can paired via Bluetooth to a GNSS receiver which allows for higher accuracy when in the field. Terraflex is cloud based, customizable to fit your needs, and with the BYOD boom hitting the GIS field, it’s an easy solution for many agencies. It can be paired with multiple mapping grade receivers like an R1 capable of achieving sub-meter accuracy, as well as survey grade receivers such as the R10. The R10 is able to lock in 1cm on the horizontal pending your network connection. Once data has been collected with Terraflex, and synced back to the cloud you can then view your data and export it out to multiple formats. Some formats include KML files read by Google Earth, a Shapefile which is read by most mapping/GIS solutions such as ArcMap, and even an Excel file for data review. We will be focusing on using Terraflex with an R10 to achieve Survey grade accuracy, and export the data to a Shapefile, and then we’ll view the data in ArcMap version 10.3.

David is the MGIS Support Specialist with Precision Products. He has been with the company since December of 2014. David graduated from the University of Arizona with a BA in Geography, and emphasized on Cartography and Regional Development courses while there. He is a Trimble Certified Trainer on Terrasync Field Software and GPS Pathfinder Office Software. David is excited to see the GIS/GPS field grow with the influx of mobile devices capable of collecting data in the field via mobile apps as well as the growth in UAV technology.

Consuming GIS Data from Kentucky’s Provisioning Services for Spatial Analysis

Instructor: Demetrio P. Zourarakis, Ph.D., GISP, CMS-GIS/LIS, CMS-RS

Concepts and buzzwords such as “Big Data” and “Open Data” seem to be todays’ driving force behind all data and information flow. Using GIS as the example of “big data” made available and being “open” by definition, this part of the workshop will provide participants with a list of services that can be brought to bear in analysis and modeling. Web mapping services and image services will be used to extract information from terrain data (e.g. LiDAR-derived DEMs), multispectral, high resolution aerial imagery (KYAPED) and vector data services by performing geoprocessing tasks. Ingestion and processing of data in other platforms will be explored, such as ArcGIS
Online, and Google Earth. A list of resources beyond those of the Commonwealth will be provided and examined as time allows.

Demetrio P. Zourarakis is a GIS and Remote Sensing Analyst with the Kentucky Division of Geographic Information; his duties include data processing and information analysis, as well as outreach and agency consultation and coordination. He also administers the Kentucky Esri Site License Program for Postsecondary Education. He holds GISP (GISCI) and Certified Mapping Scientist (ASPRS) – Remote Sensing and GIS/LIS, certifications and re-certifications. He holds a Ph.D. from the University of Kentucky, a M.Sc. from Iowa State University and a B.S. from the University of Buenos Aires, Argentina. Demetrio is a charter member of the Kentucky Association of Mapping Professionals and the Cumberland Chapter of URISA. He is a member or chair of several state, regional and national technical committees, and serves in several advisory roles to projects and programs. He has received numerous awards, published articles and monographs and presents regularly at conferences.

Consuming GIS Data from Kentucky’s Provisioning Services for Spatial Analysis

Keynote Presenter: Corey Bell, CM-BIM, Virtual Design and Construction (VDC) Manager

Corey over 20 years of experience in construction ranging from working in the field as a carpenter and superintendent as well as roles in the office as a project manager and estimator for both large and mid-sized general contracting firms. Corey leveraged his passion for technology along with my construction experience to quickly become a fixture in the Virtual Design and Construction realm. Corey has experienced and helped facilitate every aspect of BIM utilization on projects as well as helping companies to develop their BIM departments throughout the last 11 years of his career. He is also very active in teaching BIM practices for many associations including the Associated General Contractors (AGC) and the Carpenter’s Joint Apprenticeship Program (CJAP). Corey takes pride in working collaboratively with several other people and trades to help projects to completion with a pleasurable and fun experience for all involved.

Corey’s specific focus is on our Virtual Design and Construction (VDC) Services, and he is personally responsible for helping deliver VDC Services to our clients. Though we have been building just fine for years, advancements in technology have created a pathway to help build better, be more accountable, and keep better records. As a representative of BuildingPoint and having back-office staff support from Trimble, Corey has a cumulative experience on over five hundred VDC/BIM projects.