

2018 Virginia GeoCon Training & Workshops

Wednesday, April 4, 2018

Title: Applying problem solving using pseudo code in GIS technologies

Presenters: Jemima Johnson, Kandianne Pierre, Joshua Weaver

Abstract: Problem solving is the most important skill for anyone working in technology. The technology you use today may be archaic 6 months from now, but you can stay ahead of the industry by having a strong process to think through any solution. Improve your logical thinking and problem-solving skills in a hands-on, collaborative setting by solving real life GIS problems using a step-by-step process that covers the pseudo code technique. No prior knowledge of programming is required.

Title: ArcGIS - Mobile Solution Offerings

Presenter: Matt Viverito

Abstract: Extending GIS into the field is one of the fastest growing uses of GIS, driven largely by the advancements and availability of smart phones and tablet devices. Esri's focus on developing new solutions to help streamline field data collection and field workforce activities is evidenced by the growing number of ready-to-use applications. The development approach focuses on creating configurable tools that can be extended as needed to meet your field workflow needs. By employing this approach, organizations are able to rapidly deploy solutions at low cost and realize a return on investment quickly. Please join us as we provide an overview and demonstration of these mobile offerings: Collector for ArcGIS, Survey 123 for ArcGIS, Navigator for ArcGIS, Workforce for ArcGIS and Operations Dashboard.

Title: ArcGIS Online Administration at Scale

Presenter: Seth Peery

Abstract: As WebGIS implementations mature and adoption increase, the practice of organization administration must be able to scale. This session identifies best practices to manage this complexity, including Enterprise Logins, scripts for on-boarding users, credit and privilege management, user lifecycle management, self-service content migration and more. Attendees will develop a better understanding of the available tools to automate cumbersome manual organization administration tasks. Target audience: ArcGIS Online organization administrators, especially those with a growing population of named users and a proliferation of content.

Title: ArcGIS Online: An Introduction

Presenter: Seth Peery

Abstract: The technological underpinnings of GIS have evolved with advances in information technology, and an emerging pattern organizations are using for the storage, presentation, analysis and dissemination of GIS data is "Web GIS". In this webinar, we will discuss the WebGIS implementation pattern (realized as products such as ArcGIS Online and Portal for ArcGIS in the ESRI world) and consider how it can complement an existing investment in on-premises GIS software and data, as well as transform business processes and enable capabilities not previously possible. This is an introductory course; no prior experience with ArcGIS Online is necessary, but by the end of the session attendees should have a working knowledge of the operating principles of Web GIS, understand how it relates to other forms of geospatial computing, and have a sense of where to go to learn more about this technology. Target audience: Technical staff and organizational leaders with an understanding of the vocabulary of GIS and an interest in learning more about how the principles of GIS translate to the ArcGIS Online environment, and how that can add value.

Title: ArcGIS Pro: Transition from ArcMap with Confidence

Presenter: Matt Viverito

Abstract: This workshop will take the apprehension out of 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.

Title: Cadastral Mapping in ArcMap

Presenter: Parrish Simmons

Abstract: I will discuss and illustrate cadastral mapping issues using ArcMap. This training will cover basic cadastral issues of using surveys and legal descriptions and the arc tools designed for surveys. I also will address ArcGIS issues in cadastral mapping such as polygons versus lines, multiple parcels in polygons, and preserving parcel history.

Title: Crisis Track Mobile Application Training

Presenter: John Maylie

Abstract: Last year, Virginia Department of Emergency Management (VDEM) procured Crisis Track for each of Virginia's Counties and Independent Cities. VDEM's objective was to provide all localities with the capability to quickly complete, document, and report the outcomes of local damage assessments in a manner that allowed VDEM to see real-time data of the disaster consequences. This real-time data will help VDEM to be better prepared to support any unmet needs and assist VDEM in more quickly processing requests for Federal Assistance when needed. The system uses local government GIS data, such as address points and tax parcel layers, to locate and value every structure in the Commonwealth. When an incident occurs, local emergency managers use Crisis Track to identify all infrastructure in an area of concern and send pre-populated damage assessment forms to each damage assessment team's mobile device. As teams complete the damage assessment forms, Crisis Track calculates damage costs using tax assessment values and summarizes results for each county. Throughout the process, the data being collected at the county can be viewed in real-time at VDEM's Emergency Operations Center. The Crisis Track Field training will cover how to perform a damage assessment using a mobile device in the field as well as review the data requirements for the system. Typical attendees are Emergency Managers, Building Code Official, Tax Assessors, and Public Works employees. However, VDEM believes that having the local government GIS professionals knowledgeable can help these teams during an incident. It is a mix between classroom training and a short field exercise. Participants will need to bring a mobile device for this training and load the Crisis Track application (search for "Crisis Track" in the App Store or Google Play Store).

Title: Customizing Web AppBuilder - Guidelines and Lessons Learned

Presenter: Kelly Fisher

Abstract: Esri's Web AppBuilder for ArcGIS is a powerful and easy to use out of the box solution for building Web Applications that utilize data hosted as services in ArcGIS Online or Portal for ArcGIS. If out of the box Web AppBuilder components do not fulfill all required functionality, custom widgets can be added to a Web AppBuilder solution. These widgets can be developed using Web AppBuilder Developer Edition and/or users can download already developed widgets from Esri's GeoNet Community site. However, there are specific requirements that must be met in order to customize and deploy a custom Web AppBuilder solution. This presentation will provide guidelines to help determine if customizing Web AppBuilder is the right choice for you. GeoDecisions has developed several custom widgets in Web AppBuilder. These widgets will be showcased during the presentation as well as lessons learned when developing the widgets.

Title: Death, Taxes and the Modifiable Areal Unit Problem

Presenters: Kimberley Browne and Taylor Holden

Abstract: Geographers and Demographers can count on more than death and taxes, they must also learn to cope with one of the most common problems in spatial analysis: the Modifiable Areal Unit Problem or MAUP. This workshop will cover some of the theoretical background for the MAUP (especially Stan Openshaw's work), and will include ample hands on lessons to help participants understand the interplay of the zone and scale effect on aggregate data. Anyone who works with CENSUS data or other data would benefit from this workshop. If time permits, participants may also receive an introduction to various methods of areal interpolation used in the field. This workshop will likely be taught using ESRI products, but may include some Open Source solutions as well.

** Participants should have ArcMap 10.x if they want to perform analysis along with us. ArcGIS online will be adequate if they want to follow along and view the layers used in the analysis. We will make the data available for both.*

Title: Demystifying NRCS Soil Data – Introduction to NRCS Soil Data and Soil Data Viewer Thematic Maps

Presenter: Marco Gonzalez

Abstract: Why recreate the earth! Making use of the existing tools provided by the Natural Resources Conservation Service to demystify the complexity of the soil database. The NRCS Soil Data is a robust resource generated by the US Department of Agriculture, Natural Resources Conservation Service for public consumption. This dataset contains a digital soil dataset that include a detailed inventory of soils and their characteristics throughout the country. This session will introduce you to the SDV ArcMap extension from download to installation and the creation of Thematic Map Layers that you can generate for your various agency departments to aid in comprehensive planning undertakings.

Title: GIS in Next Generation 9-1-1

Presenter: Joe Sewash

Abstract: GIS will play a significant role in the operation of NG 9-1-1. In this session, ISP staff will walk through the technical details of standards and quality control to assure GIS is prepared to support emergency response. The use of GIS data for geospatial call routing will be introduced, as well as the role of GIS managers and staff in the locality NG 911 decision process and implementation planning details.

Title: GIS Self Service Application Development

Presenter: Seth Peery

Abstract: Apps are a very effective way to bring GIS data, cartography and analysis products to the people that need them. Apps, whether viewed in a browser or installed on a device, meet users where they are and can be tailor-made to a user community's technical skill level and GIS experience. They offer focused experiences that allow the cartographic presentation, analysis tasks or workflows designed by geospatial professionals to take center stage. However, the traditional barrier to the widespread prevalence of apps for content access has been the need to do custom programming (e.g., ESRI Javascript API). Not all GIS professionals specialize in programming, but most all GIS professionals can benefit from the use of apps as a data dissemination tool. As GIS technology has evolved, new ways of packaging geospatial information products within the context of apps have emerged: it is now possible for a GIS professional with no programming experience to use configurable templates and application builders to create basic, but highly effective, geospatial web applications in a matter of minutes. Template-based GIS data viewers are not a fundamentally new concept (e.g., ESRI FlexViewer); however, the relative ease at which the WebGIS pattern, as realized in ArcGIS Online, enables users to build and deploy applications is a real game-changer for meeting the needs of commonly encountered use-cases for map sharing. This session will briefly review the WebGIS pattern generally, then focus on the application development functionality included in ArcGIS Online. By the end of the webinar, users with an existing ArcGIS Online organization should be comfortable deploying basic web applications using WebApp Builder and ESRI's configurable templates. Targeted Audience: GIS professionals tasked with the sharing and presentation of spatial data, both internally and to the public, interested in creating customized user experiences without having to learn computer programming.

Title: Integrating Story Maps into the Classroom

Presenter: Taylor Holden and Ryan Brazell

Abstract: As part of the liberal arts experience at the University of Richmond, we encourage students and faculty to explore and learn technologies with real-world application, including ESRI ArcGIS. Story Maps introduces students to spatial thinking and reasoning, and allows creative presentation of their ideas and research. Using examples from projects created within Geography, Sociology, Biology, and Music courses, this workshop will provide attendees with the tools necessary to integrate Story Maps into a variety of classroom environments for group and individual projects.

Title: Mapping and Classify Urban Tree Canopies and their Role in Stormwater Management

Presenter: John Scrivani

Abstract: The Green Infrastructure Center has developed methods for mapping urban tree canopies from high-resolution aerial imagery and LiDAR. GIC also uses ancillary spatial data and spatial analysis to classify tree canopy into various classes important for stormwater management. GIC then identifies sites when additional trees can be planted, by tree size, and then models the possible canopy attainable once the planed trees mature. GIC has developed a model

to model the impact of existing and potential tree canopies on stormwater runoff yield. The training session will provide an overview of the classification and analysis methods used throughout our process.

Title: Migrating from ArcMap to ArcGIS Pro

Presenters: Jarrett Green and Maha Thulasi

Abstract: Are you struggling to get started with ArcGIS Pro, feeling overwhelmed with the interface or wondering how your organization can leverage ArcGIS Pro? This session is for you! Maha Thulasi and Jarrett Green will introduce the 'project' concept, new interface and features, ArcGIS Online integration and other tips and tricks for maximizing your GIS potential with ArcGIS Pro. The presenters will discuss the above topics, demo new functionality and end with a Q&A session. Attendees are not required to have a laptop or ArcGIS Pro.

Title: Next Generation 9-1-1: Programmatic update and implementation status

Presenters: Steve Marzolf and Dorothy Spears-Dean

Abstract: Next Generation 9-1-1 represents a significant step forward in public safety response and dispatch. This session will provide an update on the statewide plans to implement NG 9-1-1. Public safety answering point (PSAP) and GIS managers will develop and coordinate locality-specific implementation plans through Spring and Summer 2018. GIS managers and practitioners will receive knowledge and the opportunity to learn more how GIS will be implemented across the Commonwealth and in their locality.

Title: Practical application of Data Reviewer & Python: A case study of NG911 preparedness

Presenters: Ally Reynolds and Jennifer Kennedy

Abstract: ESRI's Data Reviewer (DR) extension is the best practice application for QAQC within Esri's environment. With over 40 configurable checks, DR can assess attributes, spatial relations, or a combination thereof. Timmons Group has combined Data Reviewer's capabilities with custom-built script tools to ensure data quality standards while helping Virginia localities ready themselves for Next Generation 911 (NG911). This 90 minute training session will introduce users to the concepts of Data Reviewer, data quality checks through Python, and show the practical implementation within the Eastern Virginia NG911 preparedness project. Audience members do not need to have existing python or Data Reviewer skills to benefit from this session. This training will also touch on how to easily correct common errors using ESRI tools like selections, saved queries, and Field Calculator.

Title: Transitional GIS Challenges of Next Generation 9-1-1

Presenter: Jason Blalock

Abstract: Don't worry! Your 9-1-1 authority and the software, data and systems supporting GIS-based data & routing, will not cut over to NG9-1-1 in chaos! Instead, Public Safety Answering Points (PSAPs), Carriers, and 9-1-1 Service Providers can thoughtfully manage the transition to a fully-realized, i3-compliant, GIS-based system for emergency communications in a phased approach – safely and with confidence.

Geographic Information Systems provide a required, but rich, component to the entities responsible for routing and delivering 9-1-1 calls to help save lives. Location is key! Traditionally, PSAPs have used tabular data and the Master Street Address Guide (MSAG) for location validation. The transition to Geospatial validation and call-routing depends upon GIS to maintain support and synchronization of the traditional 9-1-1 MSAG and Automatic Location Identification (ALI) database. This is entirely feasible and can be accomplished while also supporting the more stringent demands of National Emergency Number Association (NENA) GIS requirements for their i3 standards.

Join this session to learn about the fundamentals of GIS for NG9-1-1. Mr. White will discuss the requirements and industry standards for GIS data utilization for NG9-1-1, the necessity of GIS for both location validation and call routing, and optimal outcomes that will be achieved.

- Objectives:
 - Attendees will gain an understanding of public safety industry requirements and standards for GIS-based data, location validation and routing
 - Attendees will learn more about the obstacles and benefits of the transition to NG9-1-1

- Attendees will certainly benefit from reviewing real world experience in overcoming inherent challenges of this transition

Title: Versioned Editing in ArcSDE Enterprise

Presenter: Annie Short

Abstract: This training session explores what is happening at a database level when you have enabled concurrent multiuser geodatabase editing in ArcSDE geodatabases. The session utilizes Legos as a metaphor for changing data concurrently through different versions. It takes the student on a journey through the reconciling and posting process to increase understanding of where the data is dropped off and then describes what happens during the compress. This session also helps students understand how conflicts occur and are detected. The final portion of the training discusses how conflicts can be handled through the conflict detection window and from back-end geoprocessing.