

Forest Health Monitoring Program

Monthly Update

March 2018

WHAT'S NEW

The Forest Health Monitoring (FHM) Program held a successful national workshop February 13-15, 2018 in Phoenix, AZ. The workshop was attended by about 80 federal, state, and university participants representing all FHM regions, 29 States, several universities and the National Park Service. Working sessions included some history about FHM and its components and products; how FHM and FIA work together; the use of digital sketch mapping (DMSM) in FHM; how the Region 5 Remote Sensing Center and FHM can work together; alternate detection methods; use of ForWarn and sentinel imagery; how FHM can effectively involve partners; the national risk map; how FHM can effectively engage the public; how FHM can more effectively present results and other information gained from evaluation monitoring projects; and how FHM and FIA can continue working together in the future. Notes and action items from each session were recorded. Plans are for them to be available on the FHM web site in the future. Each FHM region also had the opportunity for the federal and state attendees to meet and discuss issues specific to their region. 22 posters representing evaluation monitoring projects were displayed. FHM hopes to post them on the web site in the future. For more immediate information, please contact FHM National Program Manager, Tom Eager at teager@fs.fed.us or 202-572-0387.

UPCOMING EVENTS

(Items beginning with * indicate a new listing or new information)

August 5-10, 2018. Mt. Sterling, OH. The 6th International Workshop of the Genetics of Host-Parasite Interactions in Forestry. The workshop is titled *Tree Resistance to Insects & Diseases: Putting Promise into Practice*. The call for abstracts for oral and poster presentations is now open. The due date for abstracts was January 21, 2018. Lodging reservations needed to be made by February 1, 2018. For more information contact the [workshop web site](#). Because the size will be limited to 110 participants, for planning purposes please contact Richard Sniezko (rsniezko@fs.fed.us) or Jennifer Koch (jkoch@fs.fed.us) and specify if you plan to attend, may attend, or will not attend but want to be on the Tree Resistance mailing list. Sending this email is not a commitment to attend the meeting.

UPCOMING WEBINARS

(Items beginning with * indicate a new listing or new information)

***March 14, 2018 at 1:00 p.m. Eastern time. Nature and Health in Communities: A Review of Best Available Science.** (Sponsored by Southern Regional Extension Forestry) Speaker: Dr. Kathleen Wolf (Research Social

Scientist, College of the Environment, University of Washington, and Research Associate with USDA Forest Service Pacific NW Research Station on research program about Human Dimensions of Urban Forestry and Urban Greening). The Green Cities: Good Health web site is an informational portal to the extensive research on nature and human wellness response. Dr. Wolf, the project director, will provide an overview of the science and its relevance in community policy and planning. This webinar is part of the series, Understanding Urban and Community Forests: An Extension Webinar Series. The series was developed by Southern Regional Extension Forestry, with input from southeastern US urban forestry Cooperative Extension experts. No pre-registration is required! CEU applied for: none at this time. To access this free webinar, visit the [webinar information site](#) for more details. Plan to join the webinar 15 minutes early.

***March 28, 2018 at 1:00 p.m. Eastern time. Planning and timing are Critical for Saving your Urban Ash Forest from EAB.** (Sponsored by Southern Regional Extension Forestry) Speaker: Dr. Cliff Sadof (Department of Entomology, Purdue University). This webinar will give an update on the status of the emerald ash borer, EAB, as well as advances in treatment and management strategies. No pre-registration is required! CEU applied for: New York Logger Training - .25 hour NYLT TLC credit; Society of American Foresters – 1 hour Category 1 credit. CEU available: Georgia Master Timber Harvester – 1 hour CLE – Environment credit; International Society of Arboriculture – 1 hour ISA Practice credit; International Society of Arboriculture – 1 hour ISA municipal Specialist credit; International Society of Arboriculture – 1 hour ISA Certified Arborist credit; Mississippi Professional Logging Manager - 1 hour other credit; Texas Pro Logger Program – 1 hour Other credit. To access this free webinar, visit the [webinar information site](#) for more details. Plan to join the webinar 15 minutes early.

***March 28, 2018 at 1:00 p.m. Eastern time. From Science to Action: Evidence-Based Programs for Nature and Health Communities.** (Sponsored by Southern Regional Extension Forestry) Speaker: Dr. Kathleen Wolf (Research Social Scientist, College of the Environment, University of Washington, and Research Associate with USDA Forest Service Pacific NW Research Station on research program about Human Dimensions of Urban Forestry and Urban Greening). The evidence about nearby nature and human health response is extensive, and we continue to learn more. Communities are now working to translate that evidence to community-based, outdoor programs to promote human wellness. No pre-registration is required! CEU applied for: none at this time. To access this free webinar, visit the [webinar information site](#) for more details. Plan to join the webinar 15 minutes early.

***March 29, 2018 at 2:00 p.m. Eastern time. Drought & Climate Galleries.** (Sponsored by The Office of Sustainability and Climate, USDA FS) Speakers: Cynthia West (Director, Office of Sustainability and Climate, USDA FS); Eric Johnson (Program Analyst, Office of Sustainability and Climate); Nathan Walker (Web GIS Fellow, Office of Sustainability and Climate); Maria Janowiak (Deputy Director, Northern Institute of Applied Climate Science). The Office of Sustainability and Climate supports national forests and grasslands with the tools, training, and resources they need to build resilience into their landscapes in the face of a changing climate. Two galleries with

maps, apps, and other resources have been developed to provide resource planners and managers with current and verifiable data for their plans and projects. No pre-registration is required! CEU available: Society for Ecological Restoration (SER) – 1 hour SER-CERP Credit; Society of American Foresters - 1 hour Category 1 Credit.. To access this free webinar, visit the [webinar information site](#) for more details. Plan to join the webinar 15 minutes early.

Past webinars from the Learn at Lunch Live Webinars series sponsored by the Utah State University Forestry Extension are available for viewing at the following [website](http://forestry.usu.edu/videos-conferences-webinars/webinars/index) (<http://forestry.usu.edu/videos-conferences-webinars/webinars/index>).

*Webinars and other information from **The National Academies of Sciences, Engineering and Medicine study, *The Potential for Biotechnology to Address Forest Health***, are posted on the [study web site](#). Visit the web site for more information.

***Webinars offered by the U.S Forest Service Geospatial Technology and Applications Center (GTAC)** include three varieties. The lightning talks (**Lightning Talks**) are very short presentations that will last approximately 15-30 minutes; they will focus on specific geoprocessing tasks and are designed to provide concise and useful information in a very efficient manner. The Awareness Sessions (**Awareness**) are designed to build your knowledge base on the particular topic and enable you to further explore the technology with realistic expectations. The Technical Training Webcasts (**Technical**) are designed to provide you with the technical skills and tools to complete geospatial tasks. **GIS** listed after presentation type indicates GIS training. **RS** listed after the presentation type indicates remote sensing training. **Note: If you don't have access to the Forest Service Intranet, the registration links will not work. Please email what class you want to take to (geotrainingadmin@fs.fed.us) and they will register you manually.**

- **March 15, 2018 at 10:00 am – 12:00 pm (Mountain Time) [Overview of Lidar Technology and FUSION Software](#) (**Awareness - RS**)** The objective of this introductory workshop is to provide participants with an overview of lidar and its application in regards to different resource areas within the USDA Forest Service. In addition, we will perform a brief demonstration with lidar point clouds (las files) in FUSION software to expose participants to the logic behind lidar datasets and provide a glimpse into FUSION's capabilities for visualizing and extracting information from raw lidar point clouds.
- **March 15, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Editing](#) (**Technical - GIS**)** This class demonstrates editing environment in ArcGIS Desktop 10.2. You will be exposed to the new editing environment. The course covers editing attribute data, performing spatial edits, and creating new data (digitizing). The hands on exercises teach basic editing functionality.
- **March 20, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Introduction to ArcGIS Online](#) (**Technical - GIS**) [Forest Service Only](#)** This course covers how the Forest Service administers ArcGIS Online using roles and

privileges, and how we leverage Forest Service data in this WebGIS platform. Participants will learn how to use AGOL to create simple web maps, create and manage groups, create a Story Map Journal web app, and learn how to work with ArcGIS Collector. Included in the course is an optional lesson on further exploring Story Maps by creating a Tour App. ****Note:** This is not an introductory course for ArcGIS Desktop. If you are interested in an introductory training in ArcGIS, please see our ArcGIS 10.3 Quick Start course.

- **March 20, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Introduction to Raster Geoprocessing in ArcMap](#) (Technical - RS)** Raster datasets provide an avenue for powerful spatial analysis, and yet they are scarcely utilized in GIS workflows. This course is designed to enable GIS users to gain a fundamental understanding of raster data and how to effectively utilize raster data sets in ArcMap. In addition, the course provides an introduction (via hands-on Exercises) to general processing skills in ArcMap, including, but not limited to: converting, clipping, georeferencing, and mosaicking; and intermediate skills such as surface analysis and raster math. The course utilizes tools in ArcToolbox and explores the Raster Calculator and the Image Analysis window.
- **March 21, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Cartographic Tools](#) (Technical - GIS)** Participants will learn how to work with various cartographic related properties in ArcGIS. The course covers how to set Layer and Data Frame properties, work with Layer files, assign classification symbology, work with labeling and annotation, and create a final map product.
- **March 22, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Editing in SDE](#) (Technical - GIS) **Forest Service Only**** In a multiuser editing environment, SDE is used to centrally store data and user edits without duplicating data. Versioning allows you to avoid the creation of redundant data while maintaining data snapshots and alternate views. In this webinar, you learn basic concepts and Forest Service workflows of versioning and techniques used to maintain database performance. This course will provide an overview of ArcGIS SDE geodatabases and discuss different methods of editing in a multi-user / SDE environment.
- **March 22, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Geoprocessing](#) (Technical - GIS)** Do MORE with your data! The Analysis toolbox puts POWERFUL tools right at your fingertips. This course covers 19 of the 21 tools in the Analysis toolbox found right in ArcMap. Whenever you need to solve a spatial or statistical problem, look to the Analysis toolbox.
- **March 27-28, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Managing Forest Service SDE Geodatabases](#) (Technical-GIS) **Forest Service Only**** This course is intended for unit GIS Coordinators or SDE Managers who are responsible for their ArcSDE Geodatabases. The class covers the skills needed manage ESRI ArcSDE geodatabases in the Enterprise Data Center (EDC) and Natural Resource Management (NRM) environments. Management includes loading data, coordinating access to the data, assuring the database is maintained by analyzing, rebuilding indexes and managing versions owned by other users. Users attending this class must have knowledge of ESRI geodatabases, familiarity with editing in a geodatabase and the responsibility for spatial data administration. If these are your job duties, this course is for you.

- **March 28, 2018 at 10:00 am – 11:00 am (Mountain Time) [Overview of Historical Aerial Photography](#) (Awareness - RS)** This awareness webinar provides an overview of historical aerial photographs and how they are being used in the Forest Service. This irreplaceable archive provides a glimpse back in time, as far back as the 1930's, to see past conditions of the national forests. In this webinar, we'll discuss how the film archive is being scanned and organized in order for this valuable asset to be accessible for years to come.
- **March 29, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 - ArcGIS Pro for ArcMap Users](#) (Technical – GIS) [Forest Service Only](#)** New Course! **USFS organizational account for AGOL and ArcGIS Pro required, see other info for more details** This course is designed as a crosswalk between using ArcGIS Desktop and ArcGIS Pro. This course provides a hands on introduction to participants of Pro's new user interface and project management. Participants will walk through common workflows previously performed in ArcMap/Catalog such as navigation, editing, analysis, sharing, symbolizing, creating a layout, geoprocessing, importing maps and data, and querying. ArcGIS Pro is a projects based application. A project contains maps, layouts, layers, tables, tasks, tools, and connections to servers, databases, folders, and styles. Projects can also incorporate content from your organization's Portal or ArcGIS Online accounts.
- **April 3-4, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Quick Start](#) (Technical - GIS)** Participants will learn how to get started using ArcGIS Desktop's primary applications, ArcMap and ArcCatalog. The course covers fundamental GIS concepts and basic functionality to view and manipulate display properties. The hands on exercises teach basic viewing functionality and GIS data types and their properties.
- **April 5, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Introduction to Random Forests](#) (Technical - RS)** Random forests is a classification algorithm developed by Leo Breiman and Adele Cutler. While it offers many improvements over existing supervised classification algorithms (e.g., easy to parameterize and run, doesn't overfit models as classification trees do, minimizes training bias, etc.), the algorithm can be difficult to grasp conceptually. In this webinar, we will walk participants through the steps that a random forests algorithm takes to arrive at a classification, teach them how to parameterize a model, and run a model in two different environments (R and Google Earth Engine) in order to create a simple land-cover layer.
- **April 10, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Editing](#) (Technical - GIS)** This class demonstrates editing environment in ArcGIS Desktop 10.2. You will be exposed to the new editing environment. The course covers editing attribute data, performing spatial edits, and creating new data (digitizing). The hands on exercises teach basic editing functionality.
- **April 10, 2018 at 10:00 am – 12:00 pm (Mountain Time) [Introduction to Forest Service Geospatial Resources](#) (Awareness - GIS) [Forest Service Only](#)** This course is for people who are new to the Forest Service or new to GIS and need to learn about the geospatial data, protocols, and platforms available in the Forest Service. PLEASE NOTE: This course will not teach you how to use specific GIS software. If you are new to GIS, we

recommend you take the GSTC ArcGIS 10.3 Quick Start class, or the Introduction to ArcGIS Online course.

- **April 11, 2018 at 10:00 am – 10:30 am (Mountain Time) [Las Zip](#) (Lightning Talk - RS)** This 15 minute “Lightning Talk” will walk participants through the process of installing LAsTools and using the LASzip tool to perform lossless compression of raw lidar data files (las), which will reduce their size by approximately 75%. This lightning talk assumes that participants have a basic understanding of lidar data. There will be an optional question and answer session immediately after the presentation. Lightning Talks are short demonstration webinars, meant to last 15 minutes. It will begin exactly on top of the hour, so please make sure you have joined the webinar and teleconference a few minutes early to ensure complete participation.
- **April 12, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Geodatabases](#) (Technical - GIS)** Participants will learn how to create a File Geodatabase, and import existing data, how to create attribute domains, and edit table-attribute values that are linked to those domains; and how to create Topologies. These topologies will be used to verify the vertical integration of spatially coincident feature classes.
- **April 12, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Geospatial Scripting in R](#) (Technical - RS)** Geospatial scripting in R teaches the fundamental skills, concepts and tools required to write custom scripts for powerful data analysis and processing. Scripting in R allows you to integrate powerful R graphical and statistical functionality with flexible R geospatial data tools. This course is a 1-day technical webinar with hands-on exercises designed to cover basic concepts of geospatial scripting in R to users with some R experience. Introduction to Geospatial Scripting is a recommended prerequisite for this course.
- **April 17, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 - ArcGIS Pro for ArcMAP Users](#) (Technical – GIS) [Forest Service Only](#)** New Course! **USFS organizational account for AGOL and ArcGIS Pro required, see other info for more details** This course is designed as a crosswalk between using ArcGIS Desktop and ArcGIS Pro. This course provides a hands on introduction to participants of Pro's new user interface and project management. Participants will walk through common workflows previously performed in ArcMap/Catalog such as navigation, editing, analysis, sharing, symbolizing, creating a layout, geoprocessing, importing maps and data, and querying. ArcGIS Pro is a projects based application. A project contains maps, layouts, layers, tables, tasks, tools, and connections to servers, databases, folders, and styles. Projects can also incorporate content from your organization's Portal or ArcGIS Online accounts.
- **April 18, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Advanced Editing](#) (Technical - GIS)** NEW Course! Participants will learn how to work with the Advanced Editing Toolbar in ArcMap; practice using geodatabase topology to find and fix errors; and automate editing through a vertical integration tool that aligns Forest Service data with existing reference data.
- **April 19, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Lidar Point Cloud Processing](#) (Technical - RS)** Lidar data provides a 3D model of landscapes that can be used to derive high resolution raster data such as digital elevation models, canopy cover, canopy density and canopy height.

This course introduces participants to a processing workflow that utilizes freely available FUSION software to create canopy metric rasters from the lidar point cloud. Participants will learn how to utilize FUSION tools to perform QA/QC on their lidar data and convert data types, as well as how to use the AreaProcessor to process the point cloud.

- **April 24, 2018 at 10:00 am – 4:00 pm (Mountain Time)** [Introduction to ArcGIS Online](#) (**Technical - GIS**) **Forest Service Only** This course covers how the Forest Service administers ArcGIS Online using roles and privileges, and how we leverage Forest Service data in this WebGIS platform. Participants will learn how to use AGOL to create simple web maps, create and manage groups, create a Story Map Journal web app, and learn how to work with ArcGIS Collector. Included in the course is an optional lesson on further exploring Story Maps by creating a Tour App. ****Note:** This is not an introductory course for ArcGIS Desktop. If you are interested in an introductory training in ArcGIS, please see our ArcGIS 10.3 Quick Start course.
- **April 25, 2018 at 10:00 am – 4:00 pm (Mountain Time)** [PhotoScan Image Processing](#) (**Technical - RS**) Agisoft PhotoScan is a software application that uses Structure from Motion (SfM) techniques to automatically align images and create 3-D models from both ground-based and aerial imagery. In this webinar, we will learn how to use PhotoScan to create various products, such as orthomosaics, dense point clouds, digital surface models (DSM), photo-realistic 3-D models, and volumetric estimates. We will also discuss the similarities and differences of these outputs to structure information obtained using lidar.
- **April 26, 2018 at 10:00 am – 4:00 pm (Mountain Time)** [Collector for ArcGIS in the Forest Service](#) (**Technical - GIS**) **Forest Service Only*** This introductory course covers GPS data collection using the Collector app on a tablet or smart phone. Learn to download maps to your device, collect data outside, and synchronize your data to an ArcGIS online map. You'll need a smart phone or tablet, WI-FI for your device to connect to, and a Forest Service ArcGIS Online account for this course. An optional lesson on configuring GIS data and maps is included with every offering of this class. The optional lesson requires some knowledge of and access to ArcMap. Note: This workflow covers hosting features on the ESRI cloud, and does NOT cover the ArcGIS Server / SDE workflow. This course is also available on-site. Contact instructor for details. *Outside partners are welcome to join the class if certain requirements are met.

FOR MORE
FHM
INFORMATION

Visit the [FHM homepage](#) and the [Forest Health Portal](#)
or access both via the [USDA Forest Service homepage](#)