

# Forest Health Monitoring Program Monthly Update March 2019

## WHAT'S NEW

**Get to know FHM.** This month, get to know the **Forest Health Monitoring (FHM) Program of the Forest Service, U.S. Department of Agriculture.** FHM is a Forest Service – State partnership that collects and analyzes information from many sources to assess status and trends of forest health indicators. FHM's three main objectives are (1) identify forest ecosystems where conditions might be deteriorating in subtle ways over large areas; (2) verify and define the extent of deterioration in forest ecosystems where potential problems are identified; and (3) understand the processes that cause forest health problems so strategies can be developed for problem mitigation and prevention ([Bechtold and others 2012](#)). Each month, watch for specific information about getting to know the FHM program components, partners and cooperators, forest health data and reporting, and analysis tools. In 2019, get to know FHM!

## UPCOMING EVENTS

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

- \***October 30-November 3, 2019.** Louisville, Kentucky. The 2019 Society of American Foresters National Convention. The call for presentations is now available. The deadline for presentation and proposals for professional development seminars and workshops is **March 31**. The deadline for science flashes and posters is **August 31**. For complete information about the convention as it becomes available, visit the [convention web site](#).
- \***November 24-26, 2019.** Knoxville, Tennessee. 2019 Forest Inventory and Analysis Science Meeting: Celebrating Progress, Possibilities, and Partnerships. The USDA Forest Service, Forest Inventory and Analysis (FIA) Program is pleased to announce the 2019 FIA Science Meeting, hosted by the U.S. Forest Service Southern Research Station and the National Council for Air and Stream Improvement, Inc. (NCASI). The theme of the 14th biennial Science is *Celebrating Progress, Possibilities, and Partnerships*, emphasizing innovation in maximizing use of the FIA “annual” sample design and data; development of delivery tools to meet client needs; integration of more powerful and efficient monitoring technologies and statistical techniques into established analyses; and implementation of FIA's expansion into areas such as enhanced timber product monitoring, improved carbon/biomass estimates, enhanced ownership study, land cover/use research, urban inventory, monitoring of Interior AK, and small

area estimation. The Symposium brings together international forest scientists, managers, and stakeholders with regional, national, and international inventory and monitoring missions. The first call for organized sessions, presentations, and demonstrations (digital engagement including applications, tools, databases, websites, storymaps, digital poster) is available. The deadline for **oral presentation abstracts is June 28, 2019** and for **digital engagement abstracts is August 30, 2019**. Abstract must be submitted [online](#). Note that submitted abstracts will be distributed digitally at the meeting. Meeting presenters are encouraged to more fully document their contributions by submitting an extended abstract for inclusion in a General Technical Report to be published shortly after the conclusion of the meeting. Extended abstract submission details will be provided to all authors and made available on the meeting website. For more information, contact the meeting organizers at [fis\\_science@fs.fed.us](mailto:fis_science@fs.fed.us) or visit the [symposium web site](#).

\* **SAVE THE DATE!** February 25-27, 2020. Raleigh, North Carolina. **The National Forest Health Monitoring (FHM) Workshop**. To be held at the Nature Research Center at the North Carolina Museum of Natural Sciences in downtown Raleigh, NC. This will be a working meeting that will draw State and Federal cooperators together to discuss forest health issues and make recommendations about the future direction of the FHM Program. Please save the date now; the agenda, and lodging and travel materials will be available as soon as possible. For further information, please contact FHM National Program Manager, Tom Eager at [teager@fs.fed.us](mailto:teager@fs.fed.us) or 202-572-0387. Watch future *Monthly Updates* for updated information.

## UPCOMING WEBINARS

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

\*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 and other information about **Citizen Science and the U.S. Forest Service** are posted on the [Citizen Science 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 Talk**) 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](mailto:geotrainingadmin@fs.fed.us)) and they will register you manually.**

**March 12, 2019 at 10:00 am – 4:00 pm (Mountain Time) [Collector for ArcGIS in the Forest Service](#) (**Technical - GIS**) [Forest Service Only](#)** This introductory webinar covers GPS data collection using the Collector app on a tablet or smart phone. The GIS data and map setup is also discussed. You will need a smart phone or tablet, an internet connection for setting up the device, and a Forest Service ArcGIS Online account.

**March 13, 2019 at 10:00 am – 12:00 pm (Mountain Time) [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.

**March 13, 2019 at 10:00 am – 4:00 pm (Mountain Time) [Survey 123 Form Creation](#) (**Technical - GIS**) [Forest Service Only](#)** Create survey forms for the Survey123 app using the Survey123 web application and Survey123 Connect. Create simple smart forms with relevant questions and drop down lists. Customize the look of your form. Analyze resulting survey data and create AGOL map. A Forest Service ArcGIS (AGOL) account and Survey123 Connect software are required for this course. Audience: Forest Service employees ready to move their paper and electronic forms into Survey123.

**March 13-14, 2019 at 10:00 am – 4:00 pm (Mountain Time) [Lidar Derivatives: Raster Geoprocessing and Analysis](#) (**Technical - RS**)** LIDAR derivatives such as canopy height, canopy cover and digital elevation models can be used in analyses to derive or predict forest and landscape characteristics. Possible applications include forest stratification (stand delineation), habitat suitability models, road digitization and stream network modeling. This class focuses on using those LIDAR derivatives for various analyses in ArcMap. The first day covers the basics of LIDAR and how to use LIDAR derivatives for vegetation analyses. The 2nd day covers how to use LIDAR surface models for road detection and hydro modeling.

**March 14, 2019 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS Pro for ArcMap Users](#) (Technical - GIS) [Forest Service Only](#) \*\*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.

**March 19, 2019 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, 2019 at 10:00 am – 4:00 pm (Mountain Time) [Using Lidar Data in ArcGIS Pro](#) (Technical - RS)**

In this 1-day webinar, we will explore the ways in which we can use ArcGIS Pro to perform basic LIDAR visualization and analysis functions. We will cover topics such as the basics of LAS data navigation and visualization within the ArcPro environment, assessing pulse density of LIDAR datasets, creating bare earth surfaces and hydrology models, and creating a canopy height model.

**March 21, 2019 at 10:00 am – 4:00 pm (Mountain Time) [Intermediate ArcGIS Online](#) (Technical - GIS) [Forest Service Only](#)**

\*\*US Forest Service organizational account for AGOL required, see other info for more details\*\*  
\*\*A general understanding of ArcGIS Online and GIS is assumed for this course\*\* This course will look at some of the more advanced options available in AGOL. A closer look at map and feature services will be explored. An examination and exploration of the Living Atlas will be conducted. Lastly, an overview of the analysis tools and geocoding will be covered.

**March 26, 2019 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.5 – Advanced Editing](#) (Technical - GIS)**

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.

**March 28, 2019 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.5 – 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.

**March 28, 2019 at 10:00 am – 4:00 pm (Mountain Time) [Survey 123 Form Creation](#) (Technical - GIS) **Forest Service Only**** Create survey forms for the Survey123 app using the Survey123 web application and Survey123 Connect. Create simple smart forms with relevant questions and drop down lists. Customize the look of your form. Analyze resulting survey data and create AGOL map. A Forest Service ArcGIS (AGOL) account and Survey123 Connect software are required for this course. Audience: Forest Service employees ready to move their paper and electronic forms into Survey123.

**March 28, 2019 at 10:00 am – 4:00 pm (Mountain Time) [Advanced eCognition](#) (Technical - RS)** eCognition is a powerful remote sensing software best known for its segmentation capabilities (i.e., dividing an image up into homogenous features). Aside from segmentation, eCognition can be used for a host of other remote sensing related processes, such as classification, band math (e.g., NDVI and other indices), and much more. In this course we expand on the basics learned in the Introduction to eCognition webinar or tutorial, which is highly recommended as a prerequisite.

## **PUBLICATIONS OF INTEREST**

1. [Earth's most massive living thing is struggling to survive](#). Segment from the PBS NewsHour form February 3, 2019. This segment represents the work of Dr. Paul Rogers (Director, Western Aspen Alliance) and his colleague Darren McAvoy.

Aspen ecosystems (upland *Populus*-dominated forests) support diverse species assemblages in many parts of the northern hemisphere, yet are imperiled by common stressors. Extended drought, fire suppression, human development, and chronic herbivory serve to limit the sustainability of this keystone species. Here we assess conditions at a renowned quaking aspen (*Populus tremuloides*) grove—purportedly the largest living organism on earth—with ramifications for aspen biogeography globally. The “Pando” clone is 43 ha and estimated to contain 47,000 genetically identical aspen ramets. This iconic forest is threatened in particular by herbivory, and current management activities aim to reverse the potential for type conversion, likely to a non-forest state. (Rogers, P.C.; McAvoy, D.J. 2018. Mule deer impede Pando’s recovery: Implications for aspen resilience from a single-genotype forest. PLoS ONE 13(10):e0203619. Available [online](#))

**FOR MORE**  
**FHM**  
**INFORMATION**

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