

# Forest Health Monitoring Program

## Monthly Update

### April 2018

#### WHAT'S NEW

**Get to know FHM** - The national Forest Health Monitoring (FHM) Program of the Forest Service, US Department of Agriculture, has three main objectives: (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, W.A; Bohne, M.J; Conkling, B.L. [and others]. 2012. A synthesis of evaluation monitoring projects sponsored by the forest health monitoring program (1998-2007). Gen. Tech. Rep. SRS-159. Asheville, NC: U.S. Department of Agriculture Forest Service, Southern Research Station. 140 p.)

#### UPCOMING EVENTS

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

**August 5-10, 2018.** Mt. Sterling, OH. The 6<sup>th</sup> 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](mailto:rsniezko@fs.fed.us)) or Jennifer Koch ([jkoch@fs.fed.us](mailto: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)

**\*April 23, 2018 at 3:00 p.m. Eastern time. Fire, Smoke, and Air Quality.** (Sponsored by USDA Natural Resources Conservation Service (NRCS) – Science and Technology National Technology Support Centers) Speaker: Dr. Greg Johnson (NRCS Air Quality Team Leader, Gilbert AZ). This webinar will discuss various agricultural and forestry fires and their impacts on air quality, including smoke and other air emissions. Basic Smoke Management Practices (BSMPs) will be discussed as means to minimize air quality impacts from prescribed fires. 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: Certified Crop Advisors – 1 hour CCA – SW Credit; Conservation Planner – 1 hour Conservation Planning Credit; Georgia Master Timber Harvester – 1 hour CLE – Environment credit; Society for Range Management – 1 hour SRM Credit. To access this free

webinar, visit the [webinar information site](#) for more details. Plan to join the webinar 15 minutes early.

**\*April 24, 2018 at 12:00 p.m. Mountain time. A History and Future of White Pine Blister Rust in North America.** (Sponsored by the Utah State University Forestry Extension and The Montana State University Extension Integrated Pest Management) Speaker: Katie McKeever (Forest Pathologist, Montana Department of Natural Resources and Conservation). This webinar will examine the biology, disease cycle, and history of white pine blister rust in North America and provide information on cultural control methods and resistance breeding programs for western white pine and whitebark pine. CEU available: Society of American Foresters – 1 hour; International Society of Arboriculture – 1 hour if viewed live. To register for this free webinar, visit the [webinar information site](#). Plan to join the webinar 15 minutes early.

**\*April 24, 2018 at 1:00 p.m. Eastern time. Storm-Resilient Urban Forests: The Role of Species Selection & Maintenance Pruning.** (Sponsored by Southern Regional Extension Forestry) Speaker: Dr. Eric Wiseman (Associate Professor and Extension Specialist of Urban Forestry, Department of Forest Resources and Environmental Conservation, Virginia Tech, ISA Certified Arborist and Qualified Tree Risk Assessor). Inclement weather, particularly severe thunderstorms and wintry precipitation, is a major cause of damage to urban forests. This webinar will explore how inclement weather impacts trees and how storm-resilient urban forests can be created through careful species selection and preventive maintenance pruning. No pre-registration is required! CEU applied for: New York Logger Training - .25 hour NYLT TLC credit. CEU available: Society of American Foresters – 1 hour Category 1 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 Georgia Master Timber Harvester – 1 hour CLE – Environment credit. To access this free webinar, visit the [webinar information site](#). Plan to join the webinar 15 minutes early.

**\*May 1, 2018 at 1:00 p.m. Eastern time. Strong Roots, New Growth: Resolving Legal Challenges for Family-owned Forest and Farmland.** (Sponsored by North Carolina State University) Speakers: Mavis Gragg (Attorney, The Gragg Law Firm and Co-Chair of Gragg Family Fund, Durham, NC); John Schelhas (Research Forester, USDA Forest Service Southern Research Station, Athens, GA); and Sam Cook (Executive Director of Forest Assets, NC State Univ. College of Natural Resources, Raleigh, NC). Family-owned land is often the most significant source of intergenerational wealth. It also often has complicated legal challenges, such as heirs' property, due to the nature of multi-person and intergenerational ownership. Natural resource professionals can offer valuable information and connections to landowners. This webinar will give participants a basic understanding of this valued and complicated land ownership model. Participants will also be equipped with tools for educating and connecting landowners they already serve for agricultural and forestry needs. This webinar is intended for anyone invested in land ownership resiliency or, at a minimum, tasked with informing and representing landowners in their service territories. Participants will know how to explain the basic concept of heirs property; ways to link to forest and farm

management; develop basic materials to provide land owners; and create asset maps that identify a local network of resources for land management. No pre-registration is required! CEU applied for: 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.

**\*May 9, 2018 at 1:00 p.m. Eastern time. 27 Years of Extension Urban Forestry Outreach: a Pennsylvania Success Story.** (Sponsored by Southern Regional Extension Forestry) Speaker: Vincent Cotrone (Regional Extension Urban Forester, Penn State University, ISA Certified Arborist). This webinar will explore how the Extension urban forestry program was born out of a unique partnership and continues today because of the success of its outreach and strong collaborations. 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: International Society of Arboriculture – 1 hour ISA Certified Arborist 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 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.**

- **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.
- **May 2-3, 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.
- **May 8, 2018 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. 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. See [course description](#) for more details. \*Outside partners are welcome to join the class if certain requirements are met.

- **May 9, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 Thematic Data I – Development and Classification \(Technical - GIS\)](#)** Learn the fundamentals of raster data and imagery including data extraction and exploration techniques and how to perform image classification using the ArcGIS Spatial Analyst extension and the Image Classification toolbar. Students will become familiar with - remote sensing principles such as: Raster types, their resolutions and essential properties; Concepts of multi band imagery including the display and interpretation of Landsat 7 & Landsat 8 Imagery; Data extraction and exploration techniques such as classifications and reclassifications to create valuable thematic datasets for use in project analysis.
- **May 10, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 Thematic Data II – Analysis and Modeling \(Technical - GIS\)](#)** Participants will learn how to use GIS data to analyze a vegetation project proposal and prepare information for a NEPA analysis. Students will use the Forest Service Data Center and Citrix programs that allow for inter-discipline collaboration, and provides a central repository for all the project data. This course covers the process of finding, creating, managing, and analyzing GIS data in order to prepare outputs for NEPA specialist reports.

**\*Additional webinar offered by the U.S Forest Service Geospatial Technology and Applications Center (GTAC).** This mapping program will host a half-day webinar designed to provide participants a greater understanding of the program, the fire mapping and assessment protocols it employs, available data products, and how to obtain data from the program website. The training will also include an instructor-led GIS demonstration providing examples of how to analyze the data, integrate it with local GIS layers for further analysis, and edit the data, if needed. Participants will be provided sample data and step-by-step instructions to complete the GIS exercise on their own or follow along with the instructor during the demonstration. Please click the course link below for additional information and to register. If you have questions or enrollment issues, please contact the appropriate course instructor for the training:

- **April 18, 2018 at 10:00 am – 2:00 pm (Mountain Time) [Understanding & Using Monitoring Trends in Burn Severity \(MTBS\) Data](#)** The objective of this webinar is to provide participants with a greater understanding of the MTBS project and the available geospatial data for characterizing fire effects. This training will provide an overview of the MTBS project, fire mapping and assessment protocols, available data products and how to obtain data and utilize the project website. There will also be an instructor-led GIS demonstration of how to integrate and analyze MTBS data with local GIS map layers and how this information can support management decisions. Participants are welcome to follow along with the demonstration and will be provided sample data and instructions to accompany the demonstration. Optionally, at the end of the webinar, there will be time for participants to complete the same GIS

exercise on their own (ArcGIS 10.x and Spatial Analyst extension are required).

## **PUBLICATIONS OF INTEREST**

1. **Dodds, Kevin J.; Aoki, Carissa F.; Arango-Velez, Adriana; Cancelliere, Jessica; D’Amato, Anthony W.; DiGirolomo, Marc F.; Rabaglia, Robert J.** 2018. Expansion of southern pine beetle into northeastern forests: management and impact of a primary bark beetle in a New Region. *Journal of Forestry*. 116 (2): 178–191. Available [online](#).
2. **Maguire, K.C.; Shinneman, D.J.; Potter, K.M.; Hipkins, V.D.** 2018. Intraspecific niche models for ponderosa pine (*Pinus ponderosa*) suggest potential variability in population-level response to climate shifts. *Systematic Biology*. [DOI](#)
3. **McIntire, Cameron D.; Munck, Isabel A.; Ducey, Mark J.; Asbjornsen, Heidi.** 2018. Thinning treatments reduce severity of foliar pathogens in eastern white pine. *Forest Ecology and Management*. Available online 4 April 2018, ISSN 0378-1127, [DOI](#)

## **FOR MORE FHM INFORMATION**

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