

Forest Health Monitoring Program Monthly Update February 2018

UPCOMING EVENTS

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

February 13– 15, 2018. Phoenix, AZ. The National Forest Health Monitoring (FHM) Workshop. This Working Group Meeting will be held at the Bureau of Land Management National Training Center. As part of the effort to re-vitalize the Forest Health Monitoring Program, the 2018 National Forest Health Monitoring Workshop has been announced for mid-February. This will be a working meeting with no registration fees and will draw State and Federal cooperators together to determine the future direction of the FHM Program. The main objectives are to report on forest health conditions and trends; present recent advances in forest health monitoring; and use participant focus groups to develop recommendations for improving the FHM program. Sessions are planned that cover monitoring techniques, data analyses, and technological advances in forest health monitoring. Special efforts have been made to make this gathering as budget-minded as possible. Forest Health Monitoring funding is provided to FHM participants to support their attendance at this meeting. Please save the date now; lodging and travel materials will be available soon. For further information, please contact FHM National Program Manager, Tom Eager at teager@fs.fed.us or 202-572-0387

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)

***February 20, 2018 at 12:00 p.m. (Mountain Time). Learn at Lunch Live Webinar:** (Sponsored by the Utah State University Forestry Extension) **The Role of Insects and Diseases in Aspen Biology.** Speaker: John Guyon (Forest Pathologist, USFS, Intermountain Region). In part due to its vegetative strategy, western aspen is host to a large number of insects and diseases.

However, only a few are agents of significant impact that can cause or warn of substantial changes in the condition of aspen clones. Environmental conditions, particularly drought stress, also play an integral role in the life cycle of the important insects and diseases of aspen, and regional droughts were the triggering factor in the initiation of the most notable instances of substantial aspen dieback and decline. Please [register](#) for the webinar. Zoom will send you a reminder email the day before, and 1 hour before the scheduled webinar. 1 CEU is available from the following organizations for LIVE broadcast only: International Society of Arboriculture, and Society of American Foresters. Plan to access the site a few minutes early.

***February 21, 2018 at 1:00 p.m. Eastern time. It's not a Disease (or is it?): Managing Tree and Forest Health in Palms, Pines, and More.** (Sponsored by Southern Regional Extension Forestry) Speaker: Dr. Carrie Harmon (Director of the Plant Diagnostic Center, University of Florida). Trees in the southeastern U.S. are under constant threat from diseases, both invasive/exotic and native to the area. This webinar will cover biology and management of several diseases impacting trees in urban and rural areas. Palm decline, diplodia tip blight and pitch canker on southern pines, and other emerging diseases will be discussed in terms of how they spread, the damage they do, and what can be done to manage the disease once it's found. Herbicide damage often has similar symptoms to diseases, and in particular metsulfuron damage to oaks has greatly increased recently across the southern states. This webinar will discuss how to diagnose this damage, and what can be done to mitigate it once it's happened. No pre-registration is required! CEU applied for: Georgia Master Timber Harvester – 1 hour CLE Continuing Logger Ed Credit; New York Logger Training – .25 hour NYLT TLC Credit; Society of American Foresters - 1 hour Category 1 Credit. CEU available: 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.

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 Brenna Schwert (bmschwert@fs.fed.us) directly to make accommodations.**

- **February 6, 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.
- **February 7, 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, a Forest Service ArcGIS Online account, and WIFI for this course. An optional lesson on configuring GIS data and maps is included with every offering of this class. The optional lesson requires 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. *The instructor is willing to work with outside partners if certain requirements are met. Contact instructor for details.
- **February 7, 2018 at 10:00 am – 12:00 pm (Mountain Time) [Google Earth Engine Awareness](#) (Awareness - RS)** Google Earth Engine is a cloud-based geospatial processing platform for executing large-scale environmental data analysis, such as detecting deforestation or fire mapping. Users can access Earth Engine in one of two platforms, the point and click interface called Explorer or the scripting interface called Code Editor. This awareness will explain the Earth Engine platform and introduce what data can be found in the data catalog. Demonstrations will show users some useful functions and methods available in the Code Editor.
- **February 7-8, 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.
- **February 13, 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.
- **February 13, 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.

- **February 13, 2018 at 10:00 am – 10:30 am (Mountain Time) [Spectral Signatures and Band Combinations for Viewing Remotely Sensed Imagery](#) (Lightning Talk -RS)** This Lightning Talk will explain the basic concepts for interpreting the spectral signatures of various on-the-ground features in remotely sensed imagery. We will also demonstrate how individual greyscale image bands of multispectral imagery can be combined to create true- and false-color images.
- **February 14, 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, a Forest Service ArcGIS Online account, and WIFI for this course. An optional lesson on configuring GIS data and maps is included with every offering of this class. The optional lesson requires 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. *The instructor is willing to work with outside partners if certain requirements are met. Contact instructor for details.
- **February 14, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Python for Geoprocessing](#) (Technical - RS)** The objective of this 1-day introductory workshop is to help participants get started scripting in Python to streamline geospatial workflows. The course will introduce fundamental concepts and explore a variety of Python data structures, methods, applications and resources. Participants will have the opportunity to apply their knowledge in a set of technical exercises representing common GIS workflows using arcpy with an emphasis on raster geoprocessing. No programming experience is required; however, participants should have experience using ArcGIS for geoprocessing.
- **February 15, 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.
- **February 22, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Using the Terrestrial Ecological Unit Inventory \(TEUI\) Toolkit](#) (Technical - RS)** The TEUI Toolkit is a national application based on the Forest Service's Terrestrial Ecological Unit Inventory Technical Guide. However, the Toolkit can be used for any polygon and raster based mapping efforts. Its benefits are to help users utilize geospatial data, visualize landscapes, characterize environmental conditions, assess product quality through validation, and do so in a consistent and repeatable manner. In this class, students will learn to install the TEUI Toolkit ArcGIS Add-In, manage

their data, run statistics, visualize the data with graphs and charts, design a sampling scheme, produce a connotative legend, and more.

- **February 27, 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.
- **February 28, 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.
- **February 28, 2018 at 10:00 am – 4:00 pm (Mountain Time)**
[Introduction to Image Interpretation](#) (**Technical - RS**) The human brain-eye system remains the most sophisticated image interpretation system available. High-resolution digital imagery is an important source of information for forestland and rangeland managers and image interpretation from aerial photography or other high spatial resolution imagery is possible once you understand the basic concepts of image interpretation and how to apply them to a workable classification scheme. RSAC has developed a suite of ArcMap Add-In's that emulate the tasks performed by the image analyst using acetate mylar overlays on hard-copy imagery such as aerial photographs. This course will cover the basics of aerial photography, image interpretation and how to use the digital tools that assist an interpreter during PI work. Those tools are: Image Sampler, Cover Interpreter and Canopy Cover Add-In's for ArcMap v10.
- **March 1, 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.

- **March 6, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Introduction to Geospatial Sample Design and Accuracy Assessment](#) (Technical - RS)** In this one day technical webinar, you will learn the basics of constructing a geospatial sample design, including important points to consider in order to best customize the sample design to your work or project. You will also learn how to conduct a basic accuracy assessment on your categorical map products using error matrices.
- **March 6-7, 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.
- **March 7, 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.
- **March 8, 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.
- **March 8, 2018 at 10:00 am – 11:00 am (Mountain Time) [Raster Data in the RDW and FS Image Services](#) (Awareness - RS)** This 1-hour awareness webinar is about how to access and use raster data available on the FS Image Services and the Raster Data Warehouse. This raster data includes NAIP imagery, lidar derivatives, and many other continuous and thematic datasets which are useful for resource management applications. Various ways to process and analyze the data in ArcMAP will be demonstrated.
- **March 13, 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

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- **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.

Job Opportunities

The U.S. Forest Service, Intermountain Region (Region 4) is currently advertising two Biological Science Technician (insects & disease) (GS 07-08) positions. One will be located in Boise, ID and one will be located I Ogden, UT. These positions are located on a Forest Service Unit within the Intermountain Region, and report to the Regional Office in Ogden, UT. The incumbent is responsible for performing a variety of complex and recurring duties supporting Forest Health Protection/Pest management implementation. Both positions will be filled at the GS-7 or GS-8 level with promotion potential to the GS-9. The incumbents function as a trainee on a Forest Service unit. As a trainee, the incumbents will perform basic duties and receive training pertaining to a variety of Forest resources and activities. Responsibilities:

- Conducts aerial and ground surveys including forest health monitoring, biological evaluations and pilot tests to collect the data required. Organizes, verifies, and refines the data collected. Studies and evaluates the data.
Performs project planning activities concerning pest management and forest health protection.

- Adapts a design, coordinates and executes forest health protection/pest field and laboratory projects.
- Resolves administrative and safety concerns related to the project and trains and supervises lower grade employees assigned to the project. Develops a project work plan which includes selecting the methods for pest detection, collection, identification, evaluation and pilot testing.
- Writes up methods, findings, recommendations and other conclusions for approval.

These jobs are open to current permanent federal employees with competitive status, Land Management Workforce Flexibility Act, Farm Service Agency permanent county employees, CTAP/RPL/ICTAP, and VEOA eligibles. The announcement number is 18-GVQ1-404-Fs2522G-ALO and be accessed via the [USAJOBS web site](#). The open and closing dates for these positions are **01/24/2018 to 02/06/2018**. *USDA is an Equal Opportunity Employer*

The U.S. Forest Service Umpqua National Forest is currently advertising a permanent full-time Biological Science Technician position (GS 06-07). This position is located at the Dorena Genetic Resource Center, a regional disease resistance testing center and nursery located in Cottage Grove, OR. This position is located at a nursery and testing center and supports a variety of activities including containerized seed orchard maintenance; pollen and cone collection, controlled cross breeding, screening, selection, and propagation of disease resistant trees; database management, data summary analysis, report writing, and GIS project development. The position requires performing demanding fieldwork at DGRC including application of pesticides in a greenhouse environment, and in rugged offsite terrain and sometimes inclement weather with the expectation of overnight travel during the field season. The position will also require lab work such as pollen quality testing (moisture and viability), which can involve many hours of microscope and moisture testing work. Office requirements include detailed data input and database updating as well as data summary analysis and report writing.

Responsibilities:

- Independently plans and conducts a variety of horticultural practices in tree breeding including tree selection, cross pollination, pollen and cone collection, pollen and seed processing and testing, and orchard maintenance operations including pesticide applications, and pruning.
- Responsible for database management, data summary analysis and report writing, and GIS project development.
- Independently recognizes various stages of tree development and problems with tree health and schedules the appropriate operations at the appropriate time. This includes surveys for cone or seed crops, collecting cones or seeds, isolating female flowers to prevent pollination, collecting pollen, and controlling pollination.
- Examines plants for common insect and disease problems, recognizes the problems, and takes or recommends action to minimize damage.

- Conducts propagation of large numbers of trees through cross-pollination, seeding, and various hot and cold grafting techniques to assess and improve resistance to insects and diseases.
- Collects, prepares, evaluates, and verifies samples, and keeps supporting records. Maintains detailed plant inventory and accession records.
- Maintains inventory of chemicals including fertilizer, plant media and nutrients, pesticides, herbicides, etc. and prepares solutions and reagents for use in the laboratory, field, or greenhouse, and safely disposes of waste material (both chemical and biological).

This job is open to current permanent Federal employees with competitive status, Land Management Workforce Flexibility Act, CTAP/RPL/ICTAP, VEOA, and reinstatement eligibles, Farm Service Agency permanent county employees; former Peace Corps or VISTA volunteers; and Public Land Corps eligibles. The announcement number is 18-SVQ1-0615-450960-G-HMc and be accessed via the [USAJOBS web site](#). The open and closing dates for this position are **01/25/2018 to 02/07/2018**. *USDA is an Equal Opportunity Employer*

The U.S. Forest Service, Northeastern Area State & Private Forestry is currently advertising a Supervisory Entomologist/Plant Pathologist position (GS 13) with the Office of St Paul Field Rep located in Falcon Heights, MN. This position is an interdisciplinary position for the General Schedule 0414 and 0434 series. The incumbent serves as the Forest Health Protection (FHP) Group Leader within the State and Private Forestry (SPF) organization. The position has responsibility for providing long-range planning, program direction, coordination, evaluation of program activities and staff supervision. Responsibilities:

- Directs the development of work plans, field staff program of work, staffing plans, budgets, policies, and guiding activities to accomplish program objectives.
- Participates with the Northeastern Area SPF FHP Director and other Field Office FHP Group Leaders in the formulation and establishment of Area policies, programs, and standards for federally funded forest insect and disease prevention, detection, suppression and restoration projects.
- Develops annual and long-term pest/disease management programs for the field staff. Extends existing techniques or develops new alternatives for use by specialists, local and state organizations, private landowners, and/or other Federal agencies.
- Develops guidelines by identifying and determining the present amount of damage caused, and exercises scientific judgment of a high order in evaluating the actual or potential seriousness of the infestation/infection.
- Monitors cooperative agreements and grants for the regional area covered.

This job is open to current permanent Federal employees with competitive status, Land Management Workforce Flexibility Act, CTAP/RPL/ICTAP, VEOA, and reinstatement eligibles; Farm Service Agency permanent county employees; 30% or more disabled veterans; Individuals with Disabilities; former Peace Corps or VISTA volunteers; certain Military Spouses; and those eligible for other Hiring Authorities. The announcement number is 18-SVQ1-RES-442139G-EF and be accessed via the [USAJOBS web site](#). The open and

closing dates for this position are **01/29/2018 to 02/12/2018**. *USDA is an Equal Opportunity Employer.*

PUBLICATIONS
OF INTEREST

1. **Jo, I.; Potter, K.M.; Domke, G.; Fei, S.** 2018. Dominant forest tree mycorrhizal type mediates understory plant invasions. *Ecology Letters*. 21: 217-224. DOI: 10.1111/ele.12884.
2. **Riitters, K.; Potter, K.M.; Iannone, B.V.; Oswald, C.M.; Fei, S.; Guo, Q.** 2018. Landscape correlates of forest plant invasions: A high-resolution analysis across the eastern United States. *Diversity and Distributions*. 24:274-284. DOI: 10.1111/ddi.12680.

FOR MORE
FHM
INFORMATION

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