Forest Health Monitoring Program
Monthly Update
November 2018

WHAT'S NEW

Get to know FHM. This month get to know the kinds of evaluation monitoring (EM) projects currently funded by FHM. In 2017, EM projects were chosen for funding by FHM in all FHM regions. Some examples by region follow: Northeast Region – *Combining Novel Remote Sensing Methods with FIA Data to Evaluate Effects of Drought and Gypsy Moth Defoliation on Tree Mortality at Landscape scales*; North Central Region – *Do Forest Health Issues in Oak Forests of the Eastern US Accelerate Compositional Shifts to Non-Oak Species?*; South Region – *Monitoring Spread and Impact of Laurel Wilt in Sassafras Beyond the Gulf-Atlantic Coastal Plain;* Interior West Region – *Influence of Climate and Weather Patterns on Balsam Woolly Adelgid and Host Trees*; West Coast Region – *Decline in Pacific Madrone: Assessing Health and Future Persistence Using Common Garden Sentinel Tests*. These projects are representative of the EM part of the FHM Program, including studying effects and spread of insects and disease, effects of climate and weather, and potential of applying 'new' techniques to forest health problems. FHM continues to receive proposals containing excellent ideas from a variety of sources resulting in production of high quality work.

UPCOMING WEBINARS

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

***November 27, 2018 at 12:30 p.m. Mountain Standard time. Prescribed Fire Policy Barriers: Findings from a JFSP Project on Challenges and Strategies on Federal Lands Across the West.** (Sponsored by Utah State University Forestry Extension) Speakers: Courtney Schultz (Colorado State University) and Heidi Huber-Stearns (University of Oregon). Prescribed fire is an essential management tool for restoring and maintaining fire-dependent ecosystems; however, land managers are unable to apply prescribed fire at the necessary levels. Past surveys have identified a range of policies and regulations that managers say limit their ability to conduct prescribed fire. The researchers are conducting a project investigating barriers to prescribed fire across the West for the BLM and the US Forest Service. Goals are to identify the origin and range of interpretation of perceived policy barriers (i.e. whether these reside in law, agency guidance, culture, or individual discretion) and characterize the opportunities and mechanisms that are available to overcome barriers at various scales. The first phase of our project involved a legal analysis and interviews across the 11 Western states with BLM and Forest Service fire and fuels managers and state-level air quality regulators. Reporting is on the diversity of regulatory approaches, policy barriers, and strategies for overcoming challenges across the West, based on the legal review and interviews. While air quality regulation limits managers' ability to conduct

prescribed fire, it is only one of many issues that managers say affect their programs; other significant challenges include capacity limitations, a lack of incentives to increase accomplishments, and individual risk aversion. The speakers will discuss the importance of governance and communication strategies for overcoming the challenge of integrating air quality and land management concerns and discuss other suggestions from interviewees that would afford managers greater opportunities to get more prescribed fire on the ground. CEU available the day of the webinar: Society of American Foresters OR International Society of Arboriculture. To register for this free webinar symposium, visit the webinar **registration site**. Plan to join the webinar 15 minutes early.

* **November 28, 2018 at 12:00 p.m. Mountain Standard time. The Emerald Ash Borer: Strategies for Conserving Ash in the Urban Forest.** (Sponsored by Utah State University Forestry Extension) Speaker: Dr. Dan Herms (The Davey Tree Company). This presentation will review research that provides scientific basis for EAB management and conservation of ash in urban environments. Results of multiyear insecticide trials with soil applied, trunk injected, and bark applied systemic insecticides show that protection of even very large caliper ash trees is a viable option to consider as part of an integrated management program for EAB. The EAB Cost Calculator and tree inventories can be used to integrate treatments with removal schedules to develop proactive, strategic management programs for ash and the EAB "death curve" in the urban forest. CEU available the day of the webinar: Society of American Foresters OR International Society of Arboriculture. To register for this free webinar symposium, visit the webinar **registration site**. Plan to join the webinar 15 minutes early.

* **December 7, 2018 at 1:00 p.m. Eastern time. Casualty Loss and Income Tax Deductions Related to Timber and landscape Trees.** (Sponsored by North Carolina State University Extension Forestry, Southern Regional Extension Forestry, and the U.S. Forest Service) Speaker: Dr. Linda Wang (National Timber Tax Specialist, USDA Forest Service.) Timber or landscape trees destroyed by recent fires, hurricanes or other storms are "casualty losses" that may allow the property owners to take a deduction on their federal income tax returns. To help timber owners, as well as home owners, who suffered timber or landscape tree damages with their tax reporting, this webinar will focus on the new tax law changes that Congress passed in 2017 that affect the casualty loss deductions starting in the 2018 tax year. Pre-registration is not required! CEU available: Georgia Master Timber Harvester – Continuing Logger Ed. (GaMTH CLE) - 1 hour CLE – Business Credit. CEU applied for: Society of American Foresters – Certified Forester Education (SAF-CFE) - 1 hour Category 1 Credit; New York Logger Training – Trained Logger Certification (NYLT-TLC) - .25 hour NYLT TLC Credit. Plan to **join the webinar** 15 minutes early.

* 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) and they will register you manually.**

- **November 27, 2018 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.
- **November 28, 2018 at 10:00 am – 4:00 pm (Mountain Time) ArcGIS 10.5 – 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. The Analysis toolbox has four toolsets. Extract. Overlay. Proximity. Statistics.
- **November 28, 2018 at 10:00 am – 4:00 pm (Mountain Time) UAS Image Processing (Technical -RS)** Unmanned aircraft systems (UAS) are useful tools for collecting very high resolution imagery of features and project sites. This one-day workshop will cover how UAS imagery is collected and what products can be created from it. Participants will learn how to use Agisoft PhotoScan to process UAS imagery to produce orthomosaics, point clouds, and other elevation products.
- **November 29, 2018 at 10:00 am – 12:00 pm (Mountain Time) Sentinel Satellites (Awareness - RS)** The European Space Agency (ESA) has developed a new family of satellites called the Sentinel Satellites. Each of these satellites are designed with specific objectives in mind. This awareness session will go over the Sentinel program and specifically focus on the first two Sentinel Satellites and how they may be used in forest applications. The data from these satellites is being provided for free and

may be of great use. Sentinel 1 is a radar imaging satellite and Sentinel 2 is a multispectral sensor very similar to the Landsat satellites.

- **November 30, 2018 at 10:00 am – 4:00 pm (Mountain Time)** **ArcGIS 10.5 – Using Citrix for GIS Projects** (**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.
- **December 4, 2018 at 10:00 am – 4:00 pm (Mountain Time)** **Collector for ArcGIS in the Forest Service** (**Technical - GIS**) **Forest Service Only** his 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.
- **December 4-5, 2018 at 10:00 am – 4:00 pm (Mountain Time)** **ArcGIS 10.5 - 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.
- **December 5, 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.
- **December 6, 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.
- **December 11, 2018 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.

- **December 11-12, 2018 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.
- **December 12, 2018 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.
- **December 13, 2018 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.
- **December 13, 2018 at 10:00 am – 4:00 pm (Mountain Time)** **ArcGis - Editing** (**Technical**) This class demonstrates editing environment in ArcGIS Desktop 10.5. 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.

Job Opportunities

The U.S. Forest Service, Northern Research Station will soon be advertising a Forest Inventory and Analysis, data collection Forester/Ecologist position (GS-0460/0408-09) to be located in Delaware, Ohio. Strong candidates will be highly motivated individuals who have demonstrated written, verbal, "people", analytical, and data collection skills, as well as ability and experience in key areas associated with public and/or private forest inventory and monitoring programs. The incumbent will have demonstrated advanced skill in field data collection techniques in regards to forest inventory, monitoring, and assessment research. Work experience that demonstrates a progression of responsibilities pertaining to forest inventory and monitoring, with evidence of effective participation in both field data collection, and quality control, will provide the necessary foundation for success in this position. This position will be publicly advertised in the near future. The position will include speaking and communicating with various landowners on a daily basis in an attempt to gain access to their property, and concurrently inform them of what our research entails. After navigating to the fixed radius research plot, the employee with be gathering data on tree growth, mortality, removals, and health as well as understory vegetation structure and composition. Larger scale plot and condition/ecotype data will also be assessed. The employee will also participate in inventory of downed woody material, invasive plants, advanced tree seedling regeneration, tree crown measurements, and soil analysis on a subset of the research plots throughout the year. Urban forestry data will also be collected by this employee throughout the state of Ohio during parts of the year. Urban forestry data collection may also take place in adjoining states/cities from time-to-time. The employee will be required to work extended hours and travel periodically throughout the year, and at times, extensively. The employee will also be expected to hike significant distances over rugged terrain in inclement weather while carrying moderate loads, throughout the year. Work will be performed in the field a large majority of the time, on both private and public property, throughout the entire state of Ohio. However, the employee may be asked to work in other states within NRS FIA, for a short period of time, if there is a need. The employee will also serve a primary role in quality control throughout the state of Ohio checking various federal and contract completed research plots insuring the collection of consistent quality data throughout the state. At times, some of this quality control work may take place in adjoining states if the need arises. Persons interested in this position are encouraged to contact Michael Effinger, UU.S. Forest Service Supervisory Forester for OH/WV/western PA, by email at meffinger@fs.fed.us or by phone 304-285-1593. **Please complete the Outreach Interest form attached to this Update as Attachment 1 and email it to Michael Effinger, by November 30, 2018.** This is a pre-announcement only. When the position is advertised, the announcement will be posted on the Office of Personnel Management web site. The announcement will contain all of the information you need to apply for the position. *USDA is an Equal Employment Opportunity Employer.*

The U.S. Forest Service, Northern Research Station will soon be advertising a Forest Inventory and Analysis, data collection Forester/Ecologist position (GS-0460/0408-09) to be located in Ray Brook, New York. Strong candidates will be

highly motivated individuals who have demonstrated written, verbal, "people", analytical, and data collection skills, as well as ability and experience in key areas associated with public and/or private forest inventory and monitoring programs. The incumbent will have demonstrated advanced skill in field data collection techniques in regards to forest inventory, monitoring, and assessment research. Work experience that demonstrates a progression of responsibilities pertaining to forest inventory and monitoring, with evidence of effective participation in both field data collection, and quality control, will provide the necessary foundation for success in this position. This position will be publicly advertised in the near future. The position will include speaking and communicating with various landowners on a daily basis in an attempt to gain access to their property, and concurrently inform them of what our research entails. After navigating to the fixed radius research plot, the employee with be gathering data on tree growth, mortality, removals, and health as well as understory vegetation structure and composition. Larger scale plot and condition/ecotype data will also be assessed. The employee will also participate in inventory of downed woody material, invasive plants, advanced tree seedling regeneration, tree crown measurements, and soil analysis on a subset of the research plots throughout the year. Urban forestry data will also be collected by this employee throughout the state of New York during parts of the year. Urban forestry data collection may also take place in adjoining states/cities from time-to-time. The employee will be required to work extended hours and travel periodically throughout the year, and at times, extensively. The employee will also be expected to hike significant distances over rugged terrain in inclement weather while carrying moderate loads, throughout the year. Work will be performed in the field a large majority of the time, on both private and public property, throughout the entire state of New York. However, the employee may be asked to work in other states within NRS FIA, for a short period of time, if there is a need. The employee will also serve a primary role in quality control throughout the state of New York checking various federal and contract completed research plots insuring the collection of consistent quality data throughout the state. At times, some of this quality control work may take place in adjoining states if the need arises. Persons interested in this position are encouraged to contact Jason Morrison, Supervisory Forester for NY, by email at jwmorrison@fs.fed.us or by phone 603-868-7681. **Please complete the Outreach Interest form attached to this Update as Attachment 2 and email it to Jason Morrison, by November 30, 2018.** This is a pre-announcement only. When the position is advertised, the announcement will be posted on the Office of Personnel Management web site. The announcement will contain all of the information you need to apply for the position. *USDA is an Equal Employment Opportunity Employer.*

PUBLICATIONS OF INTEREST

1. **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. https://doi.org/10.1371/journal.pone.0203619

2. **Housman, I. W.; Chastain, R.A.; Finco, M.V.** 2018. An evaluation of forest health insect and disease survey data and satellite-based remote sensing forest change detection methods: Case studies in the United States. Remote Sensing. 10: 1184-1205. doi: 10.3390/rs10081184.

FOR MORE FHM INFORMATION

Visit the FHM homepage and the Forest Health Portal
or access both via the **USDA Forest Service homepage**

Attachment 1

Outreach Interest

Reply by October 31, 2018

NRS FIA Forester/Ecologist

If you are interested in this position, complete this form and send it by email to:
Michael Effinger, Supervisory Forester
USDA Forest Service, Morgantown, WV
meffinger@fs.fed.us Questions? call Michael at 304-285-1593

PERSONAL INFORMATION

Name: _____ Date: _____

Address: _____

City: _____ State: _____

E-mail address: _____ Phone: _____

EMPLOYMENT

Are you currently a Federal Employee? Yes ☐ No ☐

If Yes:

Name of your Agency & Location: _____

Current title/series/grade: _____

Type of Appointment: Permanent ☐ Term ☐ Temporary ☐

If No:

Current Employer: _____

Current Position Title & Approx. Salary: _____

Type of Appointment: Permanent ☐ Term ☐ Temporary ☐

Are you eligible for appointment under any of the following special authorities?

☐ Former Peace Corps

☐ Person with Disabilities

☐ Student Employment Program

☐ Veteran with 30% Compensable Disability

☐ Veteran's Employment Opportunities Act of 1998

☐ Veteran's Readjustment

☐ Reinstatement Eligibility

☐ Other

Thank you for your interest in the position

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Attachment 1

Outreach Interest

Reply by October 31, 2018

NRS FIA Forester/Ecologist

If you are interested in this position, complete this form and send it by email to:
Jason Morrison, Supervisory Forester
USDA Forest Service, Durham, NH
jwmorrison@fs.fed.us Questions? call Jason at (603) 868-7681

PERSONAL INFORMATION

Name: _____ Date: _____

Address: _____

City: _____ State: _____

E-mail address: _____ Phone: _____

EMPLOYMENT

Are you currently a Federal Employee? Yes ☐ No ☐

If Yes:

Name of your Agency & Location: _____

Current title/series/grade: _____

Type of Appointment: Permanent ☐ Term ☐ Temporary ☐

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