

Forest Health Monitoring Program

Monthly Update

September 2018

WHAT'S NEW

Get to know FHM. This month get to know the **Evaluation Monitoring (EM) component of the Forest Health Monitoring Program (FHM).**

Evaluation monitoring is comprised of projects chosen competitively that are intended to investigate the extent, severity, and/or cause of forest health issues. The projects should be 1 to 3 years long. Each year proposal instructions and guidelines are available on the Forest Health Protection (FHP) [grants website](#). These instructions and guidelines include a list of priority issues for proposals, developed from current analyses of forest health indicators tracked in FHM. For 2019, the priority issues are environmental change and impacts, unusual weather events, national risk map validation, tree mortality, invasive species, and fire disturbances. Proposals are evaluated competitively according to the criteria listed in the guidelines and instructions. When a proposal is accepted, there are specific reporting responsibilities for the project researchers so that the resulting research findings can be documented, shared, and incorporated into the ongoing work of FHM to report on the status and trends of forest health. For more information about the 2019 EM grant competition, see the EM request for proposals below.

Evaluation Monitoring (EM) Request for Proposals – The Forest Health Monitoring Program is requesting proposals for FY 2019 EM projects designed to determine the extent, severity, and causes of undesirable changes in forest health. Project proposals for new and continuing projects should be submitted by **October 26, 2018** to the FHM Regional Managers: Jim Steinman for Northeast and North Central FHM Regions (jsteinman@fs.fed.us), Chris Asaro for Southern FHM Region (casaro@fs.fed.us), Jeri Lyn Harris for Interior West FHM Region (jharris@fs.fed.us), or Karen Ripley for West Coast FHM Region (klripley@fs.fed.us). The FHM Regional Managers will, in turn, forward their top selected proposals to the Washington Office by November 30, 2018. Detailed instructions and templates for EM project proposals and reporting are available [online](#). EM is the first selection listed under FHP grants.

The GeoTASC is currently accepting proposals for USDA Forest Service remote sensing projects through **October 19, 2018**. This program has been a great way for field units and staff areas to raise awareness about critical resource management challenges and seek assistance. The GeoTASC webpage (http://fsweb.rsac.fs.fed.us/index.php?option=com_content&view=article&id=47) includes a link to “Submit a New Proposal” as well as information on the scope of the Program and how to prepare proposals. Please share this opportunity with your contacts as appropriate. For more information about this invitation, please contact the Committee Chair, Greg Reams, at 703-605-4189

(greams@fs.fed.us), or the Committee Secretary, Haans Fisk, at 801-975-3760 (hfisk@fs.fed.us).

UPCOMING **WEBINARS**

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

*** September 25, 2018 at 12:00 p.m. Mountain Daylight time. Seattle's Approach to Street Trees and Sidewalks.** (Sponsored by Utah State University Forestry Extension) Speakers: Darren Morgan (Seattle Urban Forestry Manager). The manager of the Seattle Department of Transportation Department will provide an overview of both the City's Street Tree Management Plan and the Sidewalk Safety Repair Program. Seattle is responsible for over 40,000 of the City's roughly estimated 250,000 street trees. Seattle also manages over 2300 miles of sidewalk assets. A recent [sidewalk assessment](#) showed that approximately 12% of sidewalk related defects may be relatable to trees. Seattle is also updating its [street tree inventory](#) as part of a 9 year strategy funded through 2014. The discussion will present information on both the strategies and tactics that SDOT is employing to optimize investments in both street trees and sidewalks. 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.

***September 26, 2018 at 1:00 p.m. Eastern Daylight time. What's Bugging your Trees? Insect & Fungal Pests in Southeastern Urban Landscapes.** (Sponsored by Southern Regional Extension Forestry) Speaker: Dr. David Coyle (Extension Associate in Forest Health, Southern Regional Extension Forestry). This webinar will cover identification and management of native and invasive insect and fungal pests of trees in urban landscapes in the Southeast. Common as well as likely-soon-to-be-here pests will be addressed. Urban landscape trees are under just as much a threat as trees in natural settings when it comes to insect and fungal pests. This webinar will cover the biology, identification, and management of several tree pests in the southeastern U.S. Native and invasive pests will be covered, with a focus on how they spread and what can be done to manage them. Ultimately, an integrated management approach is the most effective way to deal with pests in the urban landscape Pre-registration is not required! CEU available: Georgia Master Timber Harvester – 1 hour CLE – Environmental Credit; International Society of Arboriculture – 1 hour ISA Municipal Specialist Credit; International Society of Arboriculture – 1 hour ISA Certified Arborist Credit; International Society of Arboriculture – 1 hour ISA Management Credit; ; International Society of Arboriculture – 1 hour ISA Municipal Specialist Credit; Society of American Foresters – 1 hour Category 1 Credit. 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 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.**

- **September 18, 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.
- **September 19, 2018 at 10:00 am – 4:00 pm (Mountain Time)** [ArcGIS Pro for ArcMap](#) (**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.

- **September 20, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – Editing](#) (Technical - GIS)** This class demonstrates editing environment in ArcGIS Desktop 10.3. 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.
- **September 25, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 – 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.
- **September 26, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.3 Thematic Data 1 – 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.
- **September 27, 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.
- **September 27, 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.
- **October 2, 2018 at 10:00 am – 12:30 pm (Mountain Time) [Overview of Remote Sensing Technology in the Forest Service](#) (Awareness - RS)** This 2-hour awareness session is designed to highlight a variety of remote sensing technologies and describe how they are used in addressing resource management issues in the Forest Service. The session will also provide additional information on obtaining remote sensing datasets, highlight upcoming training opportunities, and provide a list of remote sensing contacts.
- **October 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.

- **October 4, 2018 at 10:00 am – 4:00 pm (Mountain Time)** [ArcGIS 10.5 - Editing](#) (Technical - GIS) This class demonstrates editing environment in ArcGIS Desktop 10.3. 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.
- **October 9, 2018 at 10:00 am – 4:00 pm (Mountain Time)** [Collector for Arc GIS 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.
- **October 10, 2018 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.
- **October 11, 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.
- **October 11, 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.
- **October 16, 2018 at 10:00 am – 4:00 pm (Mountain Time)** [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.

- **October 17, 2018 at 10:00 am – 4:00 pm (Mountain Time)** [ArcGIS 10.5 - 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.
- **October 17, 2018 at 10:00 am – 12:00 pm (Mountain Time)** [Unmanned Aircraft Systems in the Forest Service](#) (**Awareness - RS**) Unmanned aircraft systems (UAS), also known as drones or UAVs, are becoming powerful tools for collecting really high resolution data, such as imagery, videos, and even lidar data for various projects. This awareness webinar provides an overview of the technology and shares how the Forest Service has used it thus far. Information will also be shared on requirements and regulations for conducting a UAS mission within the Forest Service. If interested in learning how to process UAS imagery, please also see the "Processing UAS Imagery" webinar.
- **October 17, 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. Because GIS datasets often contain more data than you need, the Extract tools allow you to select features and attributes in a feature class or table based on a query to create new datasets. New information is discovered when overlaying one set of features with another, identifying spatial relationships between those features. With the Overlay toolset you can overlay multiple feature classes to combine, erase, modify, or update spatial features, resulting in a new feature class. The Proximity toolset contains tools that are used to determine the proximity of features within one or more feature classes or between two feature classes, identifying features that are closest to one another or calculating distances between or around them. And the Statistics toolset performs standard statistical analysis (such as mean, minimum, maximum, and standard deviation) on attribute data as well as tools that calculate area, length, and count statistics for overlapping and neighboring features.
- **October 18, 2018 at 10:00 am – 4:00 pm (Mountain Time)** [ArcGIS 10.5 - Spatial Statistics](#) (**Technical - GIS**) Participants will learn the basics of Spatial Statistics and ways in which you can explore spatial data using the Spatial Statistics toolset. This course covers measuring the distribution and relationship of spatial features and any significant patterns that may exist. Participants will also learn how to analyze patterns in spatial data and identify locations of statistically significant spatial clusters and/or dispersion.
- **October 23, 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.

- **October 24-25, 2018 at 10:00 am – 4:00 pm (Mountain Time)** **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 (VDC) 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.
- **October 25, 2018 at 10:00 am – 4:00 pm (Mountain time)** **Introduction to eCognition** (Technical - RS) **Forest Service Only** eCognition is a powerful image segmentation and object-based image analysis software that can be used for vegetation mapping, stand delineation, and other applications. This Introduction to eCognition course is designed to introduce students to the software. Topics will include installation, project setup, image segmentation with some exposure to advance techniques, and basic image classification. Upon completion of the class, students should have the software installed on a local computer, be able to load and segment an image, and be able to perform simple classifications of features such as water or trees/nontree. The course is structured around PowerPoint lectures and hands-on exercises. The course will be limited to a maximum of 15 students because of a limited number of eCognition licenses.
- **October 30, 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.
- **October 31, 2018 at 10:00 am – 4:00 pm (Mountain Time)** **Introduction to Geospatial Scripting** (Technical - RS) Geospatial scripting allows you to write scripts for quick processing of lots of data. These scripts also have the advantages of being reusable and providing automatic documentation for your projects. Introduction to Geospatial Scripting is a 1 day technical webinar designed to present basic concepts of scripting to new users. No previous programming experience is required. This course allows users to choose between one of three scripting

languages, JavaScript, Python, or R. Participants will be walked through simple scripts, learning some syntax and vocabulary of their language of choice before writing a geospatial script to learn some useful applications.

- **October 31, 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.

PUBLICATIONS OF INTEREST

1. **Eastern Forest Environmental Threat Assessment Center.** 2018. Forest ThreatNet, the Summer 2018 edition of the Eastern Forest Environmental Threat Assessment Center's newsletter. Available online at [The Forest ThreatNet](#).
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.
3. **Vickers, L.A.; McWilliams, W.H.; Knapp, B.O.; D'Amato, A.W.; Saunders, M.R.; Shifley, S.R.; Kabrick, J.M.; Dey, D.C.; Larsen, D.R.; Westfall, J.A.** 2018. Using a tree seedling mortality budget as an indicator of landscape-scale forest regeneration security. Ecological Indicators. 10 p. <https://doi.org/10.1016/j.ecolind.2018.06.028> .

FOR MORE FHM INFORMATION

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