Forest Health Monitoring Program
Monthly Update
August, 2020

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 2021, the priority issues are environmental change and impacts (including fire and fuels), unusual weather events, use of remote sensing tools to monitor forest condition, tree mortality, invasive species, and use of FIA data. 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. The Forest Health Protection Special Projects (including Evaluation Monitoring) Request for Proposals will be issued in late August. Complete information on FY2021 Evaluation Monitoring Projects will be available on the Special Projects grants website at that time.

The USDA Southeast Regional Climate Hub (SERCH) provided tools and information to help forest land managers adapt to climate change and variability, and other threats during the Raleigh, NC 2020 Forest Health Monitoring Workshop. The SERCH was formed in 2014 as part of a ten USDA Climate Hub network to help producers (forest and grazing land managers and farmers) make climate-informed decisions to improve productivity and to increase working land resiliency to environmental threats. The SERCH works closely with Extension agents, University, State, and Federal partners to better understand producer needs and to develop and deliver user-friendly resources (e.g., factsheets, assessments, tools) using the best available science. The **Climate Hubs Tool Shed** is one of the tools that was presented at the FHM Workshop. The Tool Shed is an online inventory of vetted tools that help producers make climate-informed decisions. Tool Shed users can choose their sector (forestry, agriculture, grazing) and geographic region to filter out a list of applicable tools. There are currently 47 forestry-related tools in the Tool Shed, and the SERCH will continue to add to this inventory as new tools are developed or as existing tools are discovered. Visit the **Climate Hubs Tool Shed** and explore the variety of useful online tools! For questions or comments about the Tool Shed, contact Michael Gavazzi, michael.gavazzi@usda.gov

UPCOMING WEBINARS

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

***August 20, 2020 at 11:00 a.m. Eastern time. Biochar for Innovative Products.** (Made possible through a partnership with the U.S. Biochar Initiative and Southern Regional Extension Forestry) Speaker: Kathleen Draper (US Biochar Initiative) Biochar for innovative products - on the use of biochar beyond agricultural soil uses (e.g. animal feed, building materials & composites, etc.). Pre-registration is not required! CEU available: Certificate of participation. Plan to **join the webinar** 15 minutes early.

***September 9, 2020 at 1:00 p.m. Eastern time. Air Potato and Brazilian Peppertree in the Southeast: Where do we Stand?** (Sponsored by Southern Regional Extension Forestry) Speaker: Dr. Carey Minteer (Assistant Professor, University of Florida) Brazilian peppertree (*Schinus terebinthifolius*) and Air potato (*Dioscorea bulbifera*) are two non-native species harming natural ecosystems in Florida and other regions in the southeastern United States. Dr. Minteer will provide a general overview of the introduction, range, impact and possible management strategies for these species. Pre-registration is not required! CEU available: Certificate of participation. Plan to join the webinar 15 minutes early.

***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. The courses are also divided into five categories. The categories are indicated after each web link in the list below as follows: **GIS-Desktop; GIS-Web; GIS-Mobile; Remote Sensing; and Data management**.

All class registrations can be accessed via the CATALOG WEBPAGE.

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 (SM.FS.geotraining@usda.gov) and they will register you manually.

- **August 19-20, 2020 at 10:00am – 4:00pm (Mountain Time). ArcGIS 10.5 – Managing Forest Service SDE Geodatabases** (**Technical** - **GIS-Desktop**) **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 to 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.

- **August 25, 2020 at 10:00am – 4:00pm (Mountain Time). Collector for ArcGIS in the Forest Service** (**Technical - GIS-Mobile**) **Forest Service Only** This introductory webinar covers GPS data collection using the Collector app on a tablet or cell phone. The GIS data and online map setup for Collector are also introduced.
- **August 26, 2020 at 10:00am – 4:00pm (Mountain Time). ArcGIS Pro for ArcMap Users** (**Technical - GIS-Desktop**). **Forest Service Only** A general understanding of GIS and a working knowledge of ArcGIS Desktop is required. This course is designed as a crosswalk between using ArcMap to ArcGIS Pro. This course provides a hands-on introduction to participants of Pro's new user interface and project platform. Participants will walk through common workflows previously performed in ArcMap/Catalog such as navigation, editing, analysis, sharing, symbolizing, creating a layout, geoprocessing, querying and importing maps and data.
- **August 27, 2020 at 10:00am – 4:00pm (Mountain Time). Survey123 Form Creation** (**Technical - GIS-Mobile**) **Forest Service Only** What is Survey123? Part of the ESRI Geospatial Cloud, Survey123 for ArcGIS is a complete, form-centric solution for creating, sharing, and analyzing surveys. Use it to create smart forms with skip logic, defaults, and support for multiple languages. Collect data via web or mobile devices, even when disconnected from the Internet. Analyze results quickly, and upload data securely for further analysis. This webinar introduces the Survey123 App and the tools used to create forms. Come explore this data collection workflow and see if it is the right tool for your project. The objective of this course is to build and publish survey forms for use in the Survey123 field app. The Survey123 website and Survey 123 Connect for desktop will be used to create simple smart forms with drop down lists.
- **September 1-2, 2020 at 10:00am – 4:00pm (Mountain Time). ArcGIS 10.5 – QuickStart (Technical - GIS-Desktop)** 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
- **September 3, 2020 at 10:00am – 4:00pm (Mountain Time). ArcMap – Geodatabases (Technical - GIS-Desktop)** 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.

- **September 9, 2020 at 10:00am – 4:00pm (Mountain Time). Introduction to WebGIS Using ArcGIS Online (Technical - GIS-Web)** **Forest Service Only** This course covers the basics of using ArcGIS Online (AGOL). Students will learn how to make a map in AGOL, how to work in groups, what roles are, and then how to take a map offline to use in a mobile app like collector. Finally we will create a web app to view our completed map. The objectives of this course are to understand the role of ArcGIS Online as a component of the US Forest Service's implementation of web-based services; and to gain an understanding of the administration of ArcGIS Online, publishing of map services, and the process to create web maps and web applications that we can share with others.
- **September 10, 2020 at 10:00am – 4:00pm (Mountain Time). Collector for ArcGIS in the Forest Service (Technical - GIS-Mobile)** **Forest Service Only** This introductory webinar covers GPS data collection using the Collector app on a tablet or cell phone. The GIS data and online map setup for Collector are also introduced.
- **September 15, 2020 at 10:00am – 1:00 pm (Mountain Time). Forest Service Geospatial Resources (Awareness – Data Management)** **Forest Service Only.**
- **September 15, 2020 at 10:00am – 4:00pm (Mountain Time). Survey123 Form Creation (Technical - GIS-Mobile)** **Forest Service Only** What is Survey123? Part of the ESRI Geospatial Cloud, Survey123 for ArcGIS is a complete, form-centric solution for creating, sharing, and analyzing surveys. Use it to create smart forms with skip logic, defaults, and support for multiple languages. Collect data via web or mobile devices, even when disconnected from the Internet. Analyze results quickly, and upload data securely for further analysis. This webinar introduces the Survey123 App and the tools used to create forms. Come explore this data collection workflow and see if it is the right tool for your project. The objective of this course is to build and publish survey forms for use in the Survey123 field app. The Survey123 website and Survey 123 Connect for desktop will be used to create simple smart forms with drop down lists. .
- **September 22, 2020 at 10:00am – 4:00pm (Mountain Time). Collector for ArcGIS in the Forest Service (Technical - GIS-Mobile)** **Forest Service Only** This introductory webinar covers GPS data collection using the Collector app on a tablet or cell phone. The GIS data and online map setup for Collector are also introduced.
- **September 29, 2020 at 10:00am – 4:00pm (Mountain Time). Intermediate ArcGIS Online (Technical - GIS-Web)** **Forest Service Only** A general understanding of ArcGIS Online and ArcMap 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.

*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 and other information from **U.S. Forest Service, Southern Research Station, Science in Practice** are posted on the Science in Practice website. These 30-minute webinars focus on practical takeaways for land managers. Visit the web site for more information.

PUBLICATIONS OF INTEREST

1. **Bright, Benjamin C.; Hudak, Andrew T.; Meddens, Arjan J.H.; Egan, Joel M.; Jorgensen, Carl L.** 2020. Mapping multiple insect outbreaks across large regions annually using Landsat time series data. Remote Sensing. 12 (10): 1655.

2. **Bright, Benjamin C.; Hudak, Andrew T.; Egan, Joel M.; Jorgensen, Carl L.; Rex, Franciel E.; Hicke, Jeffrey A.; Meddens, Arjan J.H**. 2020. Using satellite imagery to evaluate bark beetle-caused tree mortality reported in aerial surveys in a mixed conifer forest in northern Idaho, USA. Forests. 11(5): 529.

3. **California Forest Pest Counci**l. July 2020. July newsletter from the California Pest Council. The lead article is an update on the Mediterranean Oak Borer (*Xyleborus monographus*), which is native to Europe and a new pest to the West Coast.

4. **Campbell, Michael J.; Dennison, Philip E.; Tune, Jesse W.; Kannenberg, Steven A.; Kerr, Kelly L.; Codding, Brian F.; Anderegg, William R.L.** 2020. A multi-sensor, multi-scale approach to mapping tree mortality in woodland ecosystems. Remote Sensing of Environment. 245: 111853.

5. **Hicke, Jeffrey A.; Xu, Bingbing; Meddens, Arjan J.H.; Egan, Joel M.** 2020 (11/01/2020). Characterizing recent bark beetle-caused tree mortality in the western United States from aerial surveys. Forest Ecology and Management. 475: 118402.

6. **Holden, Zachary A.; Swanson, Alan; Lockman, Blakey; Egan, Joel; Cleaver, Christy M.; McKeever, Kathleen; Bush, Renate; Landguth, Erin L.** 2020 (10/15/2020). Using climatic and biophysical attributes to

model the presence and severity of root disease across the U.S. northern Rocky Mountains. Forest Ecology and Management. 474: 118355.

7. **Natural Areas Association.** 2020. Aspen Conservation: The Changing Landscape of a Keystone System. Webinar. To know western forests is to understand the outsized role played by quaking aspen (*Populus tremuloides* Michx.) communities. As ecologists, we understand the natural bounty of aspen systems, but it is important to fully appreciate the value of these forests to society at-large. This presentation looks at values to people and ecosystems in the context of an evolving science and conservation of aspen. The Western Aspen Alliance (WAA) advocates monitoring and collaboration as central practices for effective management in aspen communities. Cross -agency, -boundary, and -discipline work will govern the future of sustainable aspen ecosystems. At the global scale, we discussed how aspen practices discussed here are being shared around the world under the "mega-conservation" banner.

8. **North Carolina State University.** 2020. Moving to Virtual Programs: A Discussion with Natural Resource Professionals. Webinar. Hear from five presenters from around the country who will share their experiences and lessons learned in moving their programs to a virtual platform. They will cover topics ranging from things you can do in your own backyard to large-scale conferences. This event is open to everyone, but is targeted for natural resources professionals who are considering organizing virtual events in the future. Available on demand.

9. **Pontius, Jennifer; Schaberg, Paul; Hanavan, Ryan P.** 2020. Remote sensing for early, detailed, and accurate detection of forest disturbance and decline for protection of biodiversity. In: Cavender-Bares, Jeannine; Gamon, John A.; Townsend, Philip A., eds. Remote Sensing of Plant Biodiversity. Cham: Springer International Publishing. pp. 121-54.

10. **Western Forester**. April/May/June, 2020. Invasive species. The Western Forester is a publication prepared approximately quarterly for members of the Society of American Foresters and non-industrial private forest landowners in the Pacific Northwest (AK, WA, ID, western MT, OR, northern CA). This issue focuses on managing a wide range of invasive forest species, including describing some tools available.

FOR MORE FHM INFORMATION

Visit the FHM homepage and Forest Health Assessment and Applied Sciences or access both via the **USDA Forest Service homepage**