Forest Health Monitoring Program
Monthly Update
January 2021

WHAT'S NEW

Get to know FHM. This month, get to know the Forest Health Monitoring national status and trends report. Each year the FHM program produces a national status and trends report. Each report has three objectives. The first objective is to present forest health information from a national or multi-State perspective using Forest Health Protection (FHP) data, Forest Inventory and Analysis (FIA) data, and other applicable data available. The second objective is to present new techniques for analyzing forest health data, and new applications of established techniques from natural resources or other disciplines. The third objective is to present summaries of recently completed evaluation monitoring projects. Several chapters in each report present analyses that are updated each year and written by staff from the Forest Health Team of the Eastern Forest Environmental Threat Assessment Center. Other chapters are often written by other Federal and State members of the FHM community. If you have an idea for a chapter, please contact Kevin Potter (North Carolina State University) at kpotter@ncsu.edu. Past FHM national status and trends reports are available online via the **FHM web site**.

The elusive fungus that causes Aspen Running Canker disease has recently been identified and named, new to science, *Neodothiora populina* Crous, G.C. Adams & Winton (Crous et al. 2020. Persoonia 45: 251-409). Aspen running canker is an aggressive canker disease that can rapidly kill the cambium of aspen trees as it spreads along tree boles. In intermediate-aged to mature stands, infections can girdle and kill smaller, understory trees within a single season. Since it was first noted in 2015, through work initially funded by a Forest Health Monitoring Evaluation Monitoring grant, this disease has been mapped throughout the boreal forest of Interior and Southcentral Alaska. Because it is so widespread and often found far from roads and population centers, this disease is most likely caused by a native pathogen that is favored by current conditions (host susceptibility or environment). Work continues to understand the main factors influencing disease distribution and tree responses to infection. See the **Region 10, Forest Health Protection website** for more information about the disease. A **poster** was presented on the detection of aspen running canker at the 2020 FHM Workshop in Raleigh, NC.

UPCOMING WEBINARS

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

*Announcing a new **IUFRO webinar series** co-hosted by the working parties 7.03.05 (Ecology and Management of Bark and Woodboring Insects) and 7.03.16 (Behavioural and Chemical Ecology of Forest Insects) and will focus on the Behavioural and Chemical Ecology of Bark and Woodboring Insects. The format of the talks will include a short introductory talk by the webinar coordinator (5-10 min) followed by 2-3 short research talks (45-50 minutes total) and concluding with an open discussion period with the speakers (ca. 25 min) so that the total length of each webinar will be about 90 minutes. To track participation and protect against unwelcome visitors you are asked to **register** for the webinar series (you will receive a confirmation email after you register and then the week of each seminar an email with the zoom link for the webinar). If you registered for the last webinar series, please register again as the database has been reset. The webinars are co-hosted by the Forestry and Agricultural Biotechnology Institute, University of Pretoria, the Institute for Forest Entomology, Forest Pathology and Forest Protection, BOKU, the Universidad de la Republica, Uruguay and the Canadian Forest Service. If you are unable to attend a webinar live but would like to view it, recordings of the webinars will be posted at a YouTube channel. The first two webinars are listed here:

- January 21, 2021 - **Plant Defense and Biotic and Abiotic Stressors**. Speaker: Nadir Erbilgin, University of Alberta.
- February 4, 2021 - **Visual Ecology of Forest Beetles. Speaker:** Johannes Spaethe, University of Wurzburg

***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.

- **January 20, 2021 at 10:00am – 4:00pm (Mountain Time). Intermediate WebGIS Using ArcGIS Online** (**Technical - GIS-Web**) **Forest Service Only.** 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.
- **January 21, 2021 at 10:00am – 4:00pm (Mountain Time). Survey123 Form Creation, An Introduction** (**Technical - GIS-Mobile**) **Forest Service Only.**
- **January 21, 2021 at 10:00am – 4:00pm (Mountain Time). ArcMap – Advanced Editing** (**Technical - GIS-Desktop**) 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.
- **January 25, 2021 at 10:00am – 4:00pm (Mountain Time). ArcMap – Spatial Analyst** (**Technical - GIS-Desktop**) ArcGIS Spatial Analyst provides a broad range of powerful spatial modeling and analysis capabilities. You can create, query, map, and analyze cell-based raster data; perform integrated raster/vector analysis; derive new information from existing data; query information across multiple data layers; and fully integrate cell-based raster data with traditional vector data sources.
- **January 26, 2021 at 10:00am – 12:30pm (Mountain Time). Forest Service Geospatial Resources (Awareness – Data Management) Forest Service Only.**
- **January 26, 2021 at 10:00am – 4:00pm (Mountain Time). Introduction to Raster Geoprocessing** (**Technical - RS**).
- **January 27, 2021 at 10:00am – 4:00pm (Mountain Time). ArcMap – Thematic Mapping 1:Development and Classification** (**Technical - GIS-Desktop**) 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.
- **January 28, 2021 at 10:00am – 12:30pm (Mountain Time). Overview of Remote Sensing** (**Technical - RS**). This 2.5-hour awareness session is designated 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 contact
- **January 29, 2021 at 10:00am – 4:00pm (Mountain Time). ArcMap – Thematic Mapping 2: Analysis and Modeling** (**Technical - GIS-Desktop**) This course provides an in-depth look at the world of spatial modeling. You will gain insight on data preparation techniques to complete various spatial modeling scenarios that will increase your understanding of ArcGIS ModelBuilder and various spatial modeling theories.

- **February 2-3, 2021 at 10:00am – 4:00pm (Mountain Time). ArcMap – 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.
- **February 3, 2021 at 10:00am – 11:00am (Mountain Time). MTBS Google Earth Engine Scripts (Lightning talk - RS).**
- **February 4, 2021 at 10:00am – 12:00pm (Mountain Time). Obtaining Remotely Sensed Imagery (Awareness - RS).**
- **February 4, 2021 at 10:00am – 4:00pm (Mountain Time). ArcGIS Field Maps – Data Collection (Technical - GIS-Mobile) Forest Service Only.**
- **February 4, 2020 at 10:00am – 4:00pm (Mountain Time). ArcMap – Spatial Statistics (Technical - GIS-Desktop)** 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 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.
- **February 9, 2021 at 10:00am – 4:00pm (Mountain Time). Introduction to WebGIS Using ArcGIS Online (Technical - GIS-Web) Forest Service Only** 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.
- **February 9, 2021 at 10:00am – 10:30am (Mountain Time). Raster Functions vs. Geoprocessing (Lightning talk - RS).**
- **February 10-11, 2021 at 10:00am – 3:30pm (Mountain Time). Lidar Derivatives: Processing and Analysis (Technical - RS).**
- **February 10, 2021 at 10:00am – 4:00pm (Mountain Time). ArcMap – Geoprocessing (Technical - GIS-Desktop)** The Analysis toolbox contains a powerful set of tools that perform the most fundamental GIS operations. In this course you will perform overlays, create buffers, calculate statistics, perform proximity analysis, and much more.
- **February 11, 2021 at 10:00am – 4:00pm (Mountain Time). ArcMap – Cartographic Tools in ArcGIS (Technical - GIS-Desktop)** Participants will learn how to work with various cartographic related properties in ArcGIS. The course covers how to set Layer and Data Frame properties, work with Layer files, assign classification symbology, work with labeling and annotation, and create a final map product.

*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 (https://www.srs.fs.usda.gov/webinars/science-in-practice/) website. These 30-minute webinars focus on practical takeaways for land managers. Visit the web site for more information.

FOR MORE FHM INFORMATION

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