

# Forest Health Monitoring Program Monthly Update October 2018

## WHAT'S NEW

**Get to know FHM.** This month get to know the [Forest Health Monitoring Program \(FHM\) website](https://www.fs.fed.us/foresthealth/protecting-forest/forest-health-monitoring/index.shtml) (https://www.fs.fed.us/foresthealth/protecting-forest/forest-health-monitoring/index.shtml). The FHM home page is a gateway to a wide variety of forest health products and information. Each of the main components of FHM are listed with links to more information: Detection Monitoring, Evaluation Monitoring, Intensive Site Monitoring, Research on Monitoring Techniques, and Analysis and Reporting. Clicking on each of these components leads to historical and current reports, factsheets, and other information. There are also often links to other Forest Service sites of interest such as the Forest Inventory & Analysis Program and regional Forest Service sites. There is also a map of the United States. Clicking anywhere on the map will result in access to all the annual Forest Health Highlights by State by year. Some States, such as those from New England and the upper Midwest, have highlights from as early as 1994. The State Highlights document the most important forest health issues and information as determined by the State forestry agency, often in cooperation with the federal Forest Service counterparts. Previous FHM Monthly Updates are also archived on the FHM website. Be sure to visit the FHM website to see what new information is available.

### **Evaluating Services and Products from Forest Health Protection (FHP) -**

The Aerial Survey Working Group (ASWG) Subcommittee has been charged with a task to identify practices, strategies and methods to improve the Aerial Detection Survey Program and its delivery into the future. Associated with this request, we are to consider ways to incorporate new technology, clarify customer needs, meet user expectations, identify practices to improve efficiency, and approaches to improve consistency.

The ASWG Subcommittee has developed the survey “Evaluating Services and Products from Forest Health Protection” to help answer these questions. The survey is now open **through October 15th**, has 37 questions and should take about 20 minutes to complete. Please answer all questions and be patient as they sometimes take a few seconds to load.

Find this survey on the Web at: <https://www.dnr.wa.gov/ForestHealth> (scroll down to nearly the bottom of the webpage). This website will provide information on the survey effort and direct you from the Washington Department of Natural Resources website to the survey itself, located on the Survey monkey website.

Please forward this invitation to participate in this important survey to your forest health contacts including users of and personnel involved with aerial survey data collection and other products and services such as resource managers, silviculturists, planners, pesticide use coordinators, foresters /

entomologists / pathologists, technical experts, other federal users and partners, and federal consumers of FHP products and services. Our nongovernment partners and clients are critical to the collection and use of aerial survey data and FHP products.

Thank you in advance for taking the time to complete this survey.  
Aerial Survey Working Group

**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](mailto:jsteinman@fs.fed.us)), Chris Asaro for Southern FHM Region ([casaro@fs.fed.us](mailto:casaro@fs.fed.us)), Jeri Lyn Harris for Interior West FHM Region ([jharris@fs.fed.us](mailto:jharris@fs.fed.us)), or Karen Ripley for West Coast FHM Region ([klripley@fs.fed.us](mailto: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](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](mailto:greams@fs.fed.us)), or the Committee Secretary, Haans Fisk, at 801-975-3760 ([hfisk@fs.fed.us](mailto:hfisk@fs.fed.us)).

## UPCOMING EVENTS

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

\***November 6-8, 2018**. Indianapolis, IN. Annual Gypsy Moth Review (AGMR). The Indiana Department of Natural Resources and the AGMR Board look forward to showing you some ‘Hoosier Hospitality’ at the 2018 Annual Gypsy Moth Review. This year’s meeting will be in Indianapolis, Indiana Tuesday, November 6 through Thursday, November 8. The deadline for returning registration is **Monday, October 15, 2018**. The deadline for the block of rooms was October 8. Please visit the [conference website](#) for more information.

## UPCOMING WEBINARS

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

**\*October 23, 2018 at 2:00 p.m. Eastern Daylight time. Role of Agroforestry in Supporting Pollinators.** (Sponsored by USDA Natural Resources Conservation Service – Science and Technology, National Technology Support Centers) Speakers: Gary Bentrup (MLA, Research Landscape Planner, USDA National Agroforestry Center, Lincoln, NE); Mace Vaughan (MSc/MAT, Pollinator Program Co-Director, Xerces Society, and Joint Pollinator Conservation Specialist Portland, OR). Join the conversation to learn how agroforestry practices can be designed and managed to support pollinator conservation and services in temperate regions. Agroforestry can enhance habitat and reduce pesticide exposure for pollinators and other beneficial insects. With appropriate selection of plant species and design considerations, agroforestry practices can provide these services while also providing other desired production and environmental benefits. Common agroforestry practices include: windbreaks (including shelterbelts, hedgerows, living snow fences), riparian forest buffers, alley cropping, silvopasture, and multi-story cropping (also known as forest farming). This webinar will summarize how these practices can be designed and managed to support pollinators. Examples of FY2019 payment scenarios for these practices will also be provided. Pre-registration is not required! CEU available: Conservation Planner (CP) – 1 hour Conservation Planning credit; New York Logger Training – Trained Logger Certification (NYLT-TLC) - .25 hour NYLT TLC Credit; Society of American Foresters – Certified Forester Education (SAF-CFE) - 1 hour Category 1 Credit; Certified Crop Advisors (CCA) – 1 hour CCA – S Credit. Plan to [join the webinar](#) 15 minutes early.

**\*October 24, 2018 at 2:00 p.m. Eastern Daylight time. Peers and Pros 360 – Teaching and Learning Together by Using What Forest Landowner Peers Have to Say.** (Sponsored by North Carolina State University Extension, Southern Regional Extension Forestry, and Pennsylvania State Extension) Speakers: Sanford “Sandy” Smith (Teaching Professor and Extension Specialist of Forest Resources, Penn State Extension); David “Dave” Jackson (Forest Resources Educator, Penn State Extension). This webinar features a new and novel approach to organizing landowner and public educational tours and presentations. This effective and engaging teaching method uses peer to peer interaction and mediated learning by natural resources professionals. It can be easily adapted to a variety of audiences and different settings. Pre-registration is not required! CEU available: Georgia Master Timber Harvester – Continuing Logger ED. (GaMTH CLE) - 1 hour CLE – Business Credit; Society of American Foresters – Certified Forester Education (SAF-CFE) - 1 hour Category 1 Credit. CEU applied for: New York Logger Training – Trained Logger Certification (NYLT-TLC) - .25 hour NYLT TLC Credit. Plan to [join the webinar](#) 15 minutes early.

**\*October 25, 2018 at 1:00 p.m. Eastern Daylight time. Leaf Spots, Scorches, & Wilts Affecting Southeastern US Deciduous Trees.** (Sponsored by Southern Regional Extension Forestry) Speaker: Dr. Jean Williams-Woodward (Associate Professor and Extension Plant Pathologist, University of Georgia). Foliage and vascular wilt diseases affecting deciduous trees in urban landscapes, including anthracnose, fungal leaf spots, bacterial leaf scorch, Verticillium wilt, and more will be covered with a focus on identification and management. Leaf spot diseases can ruin the look of deciduous trees in urban

landscapes; however, they rarely are life-threatening for deciduous trees. On the other hand, vascular wilts and leaf scorch diseases will kill trees over time. Their symptoms can be confusing, so proper identification is needed to know which disease is affecting the trees. Often disease management options for urban trees are limited. In this webinar, Extension Agents will learn about disease management options for each disease. Pre-registration is not required! CEU available: Georgia Master Timber Harvester – Continuing Logger Ed. (GaMTH CLE) - 1 hour CLE – Environmental Credit; International Society of Arboriculture (ISA) - 1 hour ISA Municipal Specialist Credit; International Society of Arboriculture (ISA) - 1 hour ISA Certified Arborist Credit; International Society of Arboriculture (ISA) - 1 hour ISA Management Credit; Society of American Foresters – Certified Forester Education (SAF-CFE) - 1 hour Category 1 Credit. CEU applied for: 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](mailto:geotrainingadmin@fs.fed.us)) and they will register you manually.**

- **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.
- **November 1, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.5 – 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.
- **November 6-7, 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.
- **November 7, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Obtaining and Processing VHR Satellite Imagery](#) (Technical - RS)** Satellite imagery is opening up new ways to map and monitor our changing world. This webinar explains how very high resolution (VHR) satellite imagery from Digital Globe can be a unique and powerful resource for your projects. You will learn where and how to obtain the imagery for free. Then you will learn how to process the imagery in ERDAS Imagine Photogrammetry to produce point clouds, elevation models, and pansharpened orthoimagery.
- **November 7, 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.
- **November 8, 2018 at 10:00 am – 12:00 pm (Mountain Time) [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.

- **November 13, 2018 at 10:00 am – 4:00 pm (Mountain Time) [ArcGIS 10.5 – Data Driven Pages](#) (Technical - GIS)** Participants will learn how to create and manage multiple map pages using Data Driven Pages within ArcMap. This course covers how to arrange the base map layout needed for Data Driven Pages, how to setup and manage Data Driven Pages, how to use tools within the Data Driven Pages Toolset within ArcToolbox, and how to export map pages in various formats. Included in the course is an optional lesson on how to create a map book product using a Python script.
- **November 13, 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.
- **November 14, 2018 at 10:00 am – 4:00 pm (Mountain Time) [Geospatial Scripting in Python](#) (Technical - RS)** The objective of this 1-day workshop is to teach participants to use Python for scripting and streamlining geospatial workflows. The course will introduce the modules, functions, and classes of the ArcPy site package, how to design geospatial workflows, and how to translate existing workflows in ArcMap into repeatable and well-documented python scripts. 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. Participants should be familiar with the basics of programming in Python, and have experience using ArcGIS for geoprocessing.
- **November 14, 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.
- **November 15, 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.

- **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.

**FOR MORE**  
**FHM**  
**INFORMATION**

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