

# Forest Health Monitoring Program Monthly Update - Supplement June 23, 2020

## WHAT'S NEW

The links to the Phase 2 webinar on Geo Spatial Support for the Forest Health Survey are now available. The document attached to this email includes introductory material, the recorded presentations, and additional support information in a series of clickable links. These materials cover the Phase 2 webinars conducted on May 27/28, 2020.

The Phase 1 Webinar (conducted April 16, 2020) is also available for viewing at [this link](https://fs-fed.webex.com/recording/service/sites/fs-fed/recording/playback/83ef7e01409143029696a7383e8fad73) (<https://fs-fed.webex.com/recording/service/sites/fs-fed/recording/playback/83ef7e01409143029696a7383e8fad73>) The recording password is **dDidFJq2** (copy and paste).

Thank you to the personnel at the U.S Forest Service Geospatial Technology and Applications Center (GTAC), who produced these materials and were instrumental in the discussions for Survey 2020.

For additional information you may contact Tom Eager ([tom.eager@usda.gov](mailto:tom.eager@usda.gov), 571-481-7931), Jim Ellenwood ([james.ellenwood@usda.gov](mailto:james.ellenwood@usda.gov), 970-214-9939), or Ryan Hanavan ([ryan.hanavan@usda.gov](mailto:ryan.hanavan@usda.gov), 406-493-2891).

## FOR MORE FHM INFORMATION

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

# Geospatial Solutions for Supporting ADS FY20 Field Season: Webinar Links

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## Day 1: May 27, 12-2 pm MDT

### Framework Overview (20 min)

- [Recording](#)
- [PowerPoint](#)
- GTAC will provide an overview of the general framework for using geospatial and remote sensing technologies to supplement ADS work for the FY20 season. [An organizational flowchart of the framework is located at the end of this agenda.](#)
- Hierarchical Levels of Production Work
  - Broad Level – Goal is to identify targeted areas of interest; tools include but are not limited to historic assessment data (e.g., ADS data), LCMS, ForWarn II, LandTrendr, etc. This level will use data in the 30-250 m spatial resolution range.
  - Moderate Level – Goal is to identify and confirm areas of change that were previously identified at the Broad Level. Tools like HiForm and manual interpretation of imagery (swiping) can be leveraged. This level will use data in the 10-20 m spatial resolution range.
  - Fine Level – Goal is to map features of interest using DMSM and high resolution imagery; imagery is acquired based on disturbance confirmations at the Moderate Level. This level will use data in the 0.5 - 5 m spatial resolution range.

### Awareness Overviews (25 min each)

#### *Historic Perspective*

Are there any general areas of local concern ([NIDRM](#)) in the Region/Area/State? What data sets can we leverage to organize the Region or landscape into more manageable chunks (e.g., IDS)? We will review how to leverage ADS Products & LCMS data for identifying areas with historic precedent for survey work this year.

- [Historic ADS Perspective](#) from Dan Ryerson

#### *Coarse and Quick Near Real-time Assessments*

Are there any areas within the areas of historic precedent that should be targeted areas of interest? Based on results from change tools / products that use relatively shorter time intervals for analysis (like ForWarn II), where should this year's efforts be focused?

- Refer to Day 2, Track 1

#### *Detecting and Monitoring Change*

We can use imagery with slightly higher temporal and spatial resolutions to confirm and further hone in on change events. We can use multi-date imagery (e.g., Sentinel-2) to visualize and identify locations of change in GIS or image processing software, like ArcGIS or ERDAS Imagine. We can also plot the spectral values from

the imagery over time and note deviations in slope, which are indicators of potential change (e.g., HiForm, LandTrendr, TimeSync).

- [LandTrendr PPT](#) from Karen Hutten
  - [PPT Notes](#)
- [Change Detection Overview](#) from Brenna Schwert

### *Mapping Infestations*

Once change has been visually confirmed, we can use existing high resolution data where it exists and potentially task commercial satellites to acquire additional high resolution imagery and use image interpretation skills to map where those polygons of change or disturbance exist. We can digitize directly within DMSM, or we can use “pan and scan” or “scoot and sketch” techniques in ArcGIS.

- Refer to Day 2, Track 3

## Day2: May 28, 12-2 pm MDT

### Training Capacity Building – 3 concurrent sessions (2 hr each).

Some individuals may be tasked with learning multiple components of the geospatial framework presented in this webinar; each webinar will be recorded, so individuals will be able to review all materials at a later date. Please do not register for more than one track in order to ensure that we can maximize attendance and participation.

#### *Track 1: Historic Perspective, Coarse and Quick Near Real-Time Assessments*

- [Recording](#)
- Historic Assessments – previous ADS products and LCMS data
  - [LCMS PowerPoint](#)
  - [LCMS Data Explorer](#)
  - [LCMS FHP Explorer](#)
  - [LCMS IDS Viewer](#)
  - [FSGeodata Clearinghouse](#)
  - T-Drive : T:\FS\NFS\WOEngineering\GMO-GTAC\Program\RMIM\LCMS
- Near Real-Time Assessments – using ForWarn II
- Monitoring Change with Plotted Data – LandTrendr; TimeSync
  - [Google Earth Engine Data tool](#) (Note this tool is a prototype and any suggestions are welcome, and options are subject to change. I have currently disabled mask options water, waterPlus and non forests, but will have them back soon.)
  - [LandTrendr Visualizer PowerPoint](#)

#### *Track 2: Confirming Change, Tasking Satellites, and Sharing Imagery*

- [Recording](#)
- [Track 2 Overview / Tasking PowerPoint](#)
  - [CIDR Tool](#) – tasking portal
  - [USGS EarthExplorer](#) – data download portal
  - [Discover](#) – DigitalGlobe data discovery portal
  - [EVAHS G-EGD](#) – DigitalGlobe data download portal

- [Obtaining Remotely Sensed Imagery self-paced tutorial](#)
- [Using Sentinel-2 imagery to confirm the presence of change / disturbance PowerPoint](#)
- [FHAAST Data Packaging Guide](#)

### *Track 3: Mapping Infestations*

- [Recording](#)
- [Image Interp PowerPoint](#)
  - [About Service Caches](#)
  - [Band Combo Cheat Sheet](#)
- [Pan & Scan PowerPoint](#)
- [Setting Up Your Environment PowerPoint](#)
  - [Quick Connection Guide Image Services](#)
- IDS resources
  - [IDS Data Submission Template](#)
  - [IDS2 Template Feature Classes](#)
  - [IDS2 Template Feature Classes Geodatabase](#)

# Framework Flowchart

