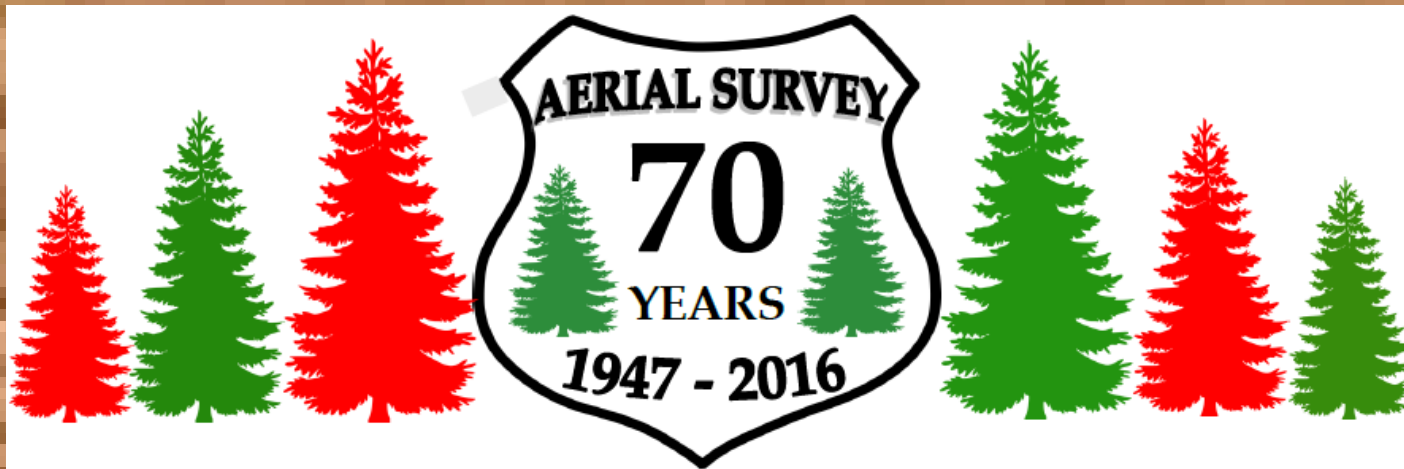


Aerial Surveys in Oregon and Washington

How surveys are conducted and access to the data



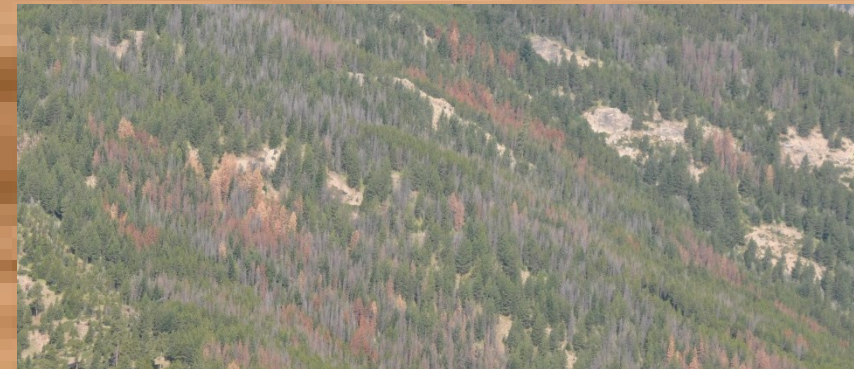
Aerial Survey Primer

- The survey is a **cooperative** effort between the Oregon Department of Forestry, US Forest Service, and the Washington Department of Natural Resources.
- Survey flights are flown on a 4-mile grid over all forested areas in Oregon and Washington. (Except the Juniper type)
- Observers look out 2 miles on both sides of the plane
- The aircraft usually fly at 1500 to 2000 feet above the ground (AGL)
- At a speed of 100 to 120 mph
- This allows each observer to survey 4 square miles/minute



What are we doing up there?

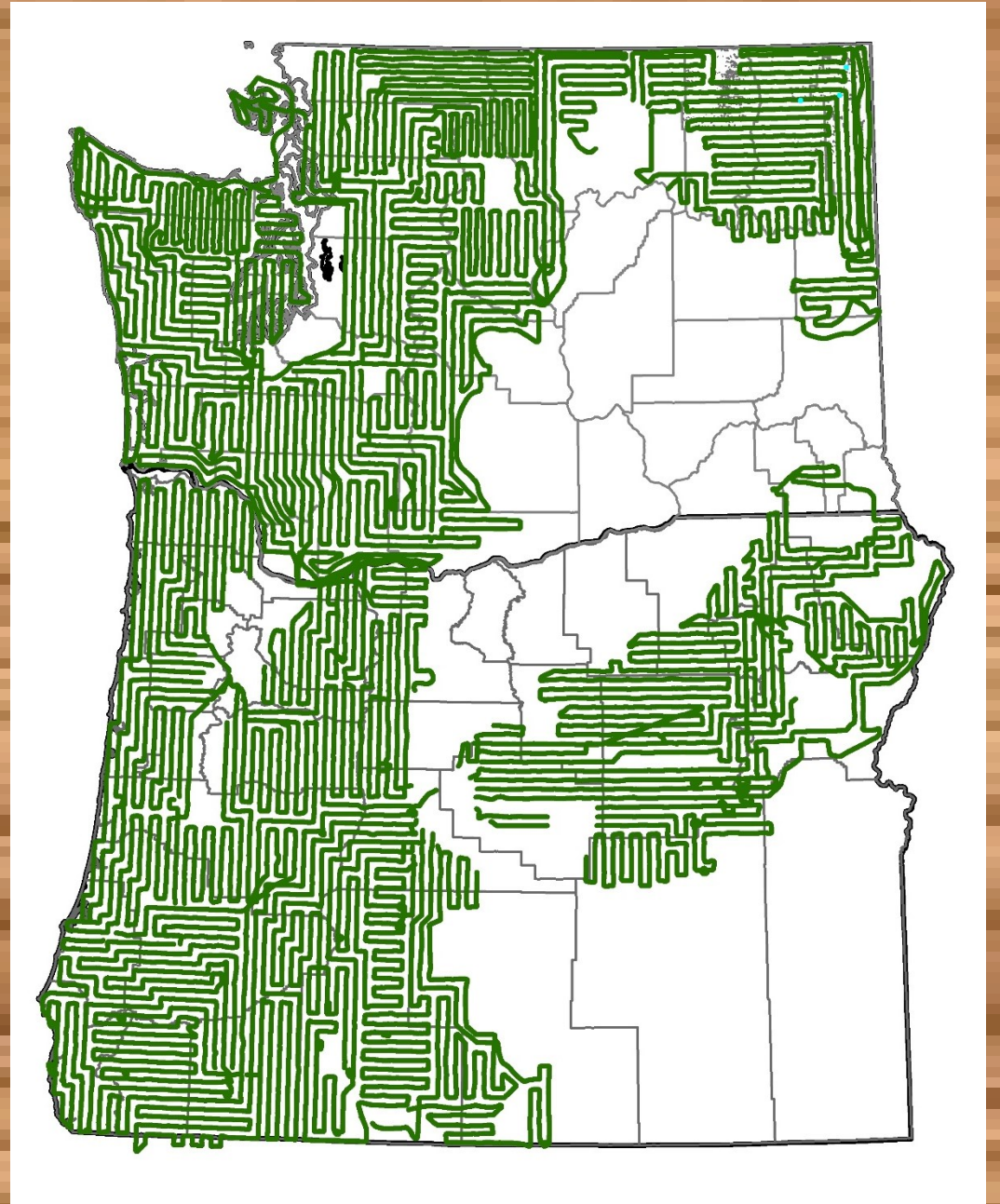
- The purpose of the survey is to provide a snapshot in time of current forest disturbances.
- Surveys are timed to catch most disturbances when they are most visible.
- Surveyors are trained to identify many different types of disturbances (mortality, defoliation, declines and abiotic damage), and use this training to map the agent and intensity of what they see.
- Observations are mapped using a tablet computer with a scrolling map base



Where

The surveys are flown over all forested lands in OR and WA, except the Juniper type.

These are the flight lines from the 2015 surveys.



When are the Surveys Flown

Swiss Needle Cast – Usually flown in late April and early May, most visible before bud break in the spring

Bear/Modified General Overview – Flown in Oregon coast range and cascade foothills in June.

General Overview – Flown from July – September, covers OR and WA

Special Surveys – Blowdown, Pandora Moth, landslide...



Why

- Forest Health Protection is required (FS handbook direction) to conduct surveys, and this is the most efficient and cost effective method available
- Aerial survey is able to covers areas that aren't easily accessible by other methods of transport.
- The data provides valuable trend information of insect and disease activity to land managers.
- Cost effective and quick turn around time for data availability
- Provides a different perspective of the landscape.
- People are interested in the occurrence of damaging insects and disease in the forests.



After the flight


- The data to collected from each day's flight is merged together to create a cumulative dataset for Oregon and Washington.
- The data for each state is combined to create the regional dataset for the year.
- This data is used to create the 100K digital reporting maps and is available in our draft data viewer.
- Before the dataset is finalized an effort is made to ground check the information and make corrections. Unknown or unfamiliar signatures.





Annual Reports of activity in each state

USDA
United States Department of Agriculture

Forest Health Highlights in Oregon—2015




Oregon Department of Forestry
Forest Health Program
February 2016




Pacific Northwest Region
Forest Health Protection

USDA
United States Department of Agriculture

Forest Health Highlights in Washington—2015



Washington State Department of Natural Resources
Forest Health Program
February 2016



for the greatest good

Pacific Northwest Region
Forest Health Protection

AERIAL SURVEY DATA AND PRODUCTS

← → http://www.fs.usda.gov/detail/r6/forest-grasslan ↻ Region 6 - Insects & Diseases ×

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Go

- Site Map

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- Recreation
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- Maps & Publications
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- Land & Resource Management
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 - Insects & Diseases**
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Contact Information

Pacific Northwest Region
Forest Service
1220 SW 3rd Avenue
Portland, Oregon 97204
Phone: (503) 808-2468

Contact Us

About Forest Health Protection

Protecting the Health of Forest Ecosystems in the Pacific Northwest through Collaborative Management of Native Insects and Diseases



healthy ponderosa pine forest

U.S. Forest Service **Forest Health Protection (FHP)** has shared responsibility for monitoring and protecting the health of forest ecosystems in the Pacific Northwest. Forest Health Protection Staff work closely with colleagues from the Oregon Departments of Forestry and Agriculture and the Washington Departments of Natural Resources and Agriculture regarding forest diseases and insects on state and private lands, and with regional Native American governments for assistance related to forest diseases and insects on tribal lands.

The Forest Service also cooperates with federal and university scientists to evaluate, develop, and transfer technology aimed at enhancing forest health.

Contact Us.

Forest Health Protection (FHP)


- FHP Home
- Invasive Species
- Forest Health Monitoring
- Publications and Reports

Aerial Detection Survey (ADS)

- ADS Home
- ADS Quad Maps
- ADS Data
- ADS Fact Sheet

Contacts and Links

- R6 FHP Contacts
- Forest Insect & Disease Leaflets (FIDLs)
- Western Forest Insects & Diseases
- Organizations & Partners
- FHP International Activities





pandora moth

Western Forest Insects & Diseases- Catalog

Review a catalog of Western Forest Insects and Diseases here.

Aerial Detection Survey

Find Aerial Detection Survey Data and information here.



View Images of Forest Insects and Diseases at Forestryimages.org

100%

What is available

Draft Data

Cumulative
mortality and
defoliation

PDF Quad maps

GIS Data

Region 6 - Insects & Diseases

Forest Service Home About the Agency Contact the National Office

Search

Go

- Site Map

Region 6

- Home
- Special Places
- Recreation
- Passes & Permits
- Maps & Publications
- Fire & Aviation
- Climate Change
- Land & Resource Management
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Aerial Detection Surveys (ADS)

Every year since 1947, aerial detection surveys (ADS) have recorded the insects and diseases affecting forests in Oregon and Washington. These annual surveys are cooperative efforts by the Forest Health staffs of the **Washington Department of Natural Resources**, **Oregon Department of Forestry**, and the **USDA Forest Service Forest Health Protection** staff.



Digital data from these annual surveys are available from 1947 through the present year and maps are available from 2003 through the present year.

- View the ADS Review WebMap for the latest draft data from the survey
- View the Cumulative Tree Mortality and Defoliation Viewer to see areas with the most insect and disease mortality and defoliation (Note: Tree mortality is compiled in 5 year increments from 1985-2014 and defoliation is summed from 2010-2014)
- View or Download ADS Quad Maps (2003-present)
- Download ADS Data (1947-present)
- View ADS Fact Sheet
- View a Video Illustrating Tree Mortality due to Bark Beetles as captured during ADS (1947-2015)

A **data dictionary** describes the available data files and their contents. View **flight lines** showing the paths of the survey aircraft for each year, color-coded by date. Learn more about current **aerial surveys**.

Aerial survey observations and other data have been summarized in **Forest Health Highlights**, **Forest Insect and Disease Conditions**, and **other related reports**.

Contact Us

If you have any questions or comments regarding these maps or the information they provide, we would like to hear from you:

Ben Smith - Aerial Survey Program Manager & Unit Aviation Officer
(bsmith02@fs.fed.us, 503-668-1761)

Zack Heath - Geographic Information Systems Analyst
(zheath@fs.fed.us, 503-668-1459)

Forest Health Protection (FHP)

- FHP Home
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- Publications and Reports

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- ADS Home
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- ADS Data
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Draft data

This year we plan on releasing draft data online through ArcGIS Online. Only a web browser is needed to view the data. In addition, other information will be included in this map story format, such as photos and/or videos from the flight and some interpretation of the data from the observers.

2016 Swiss Needlecast Survey Update

Region 6 Forest Health Protection




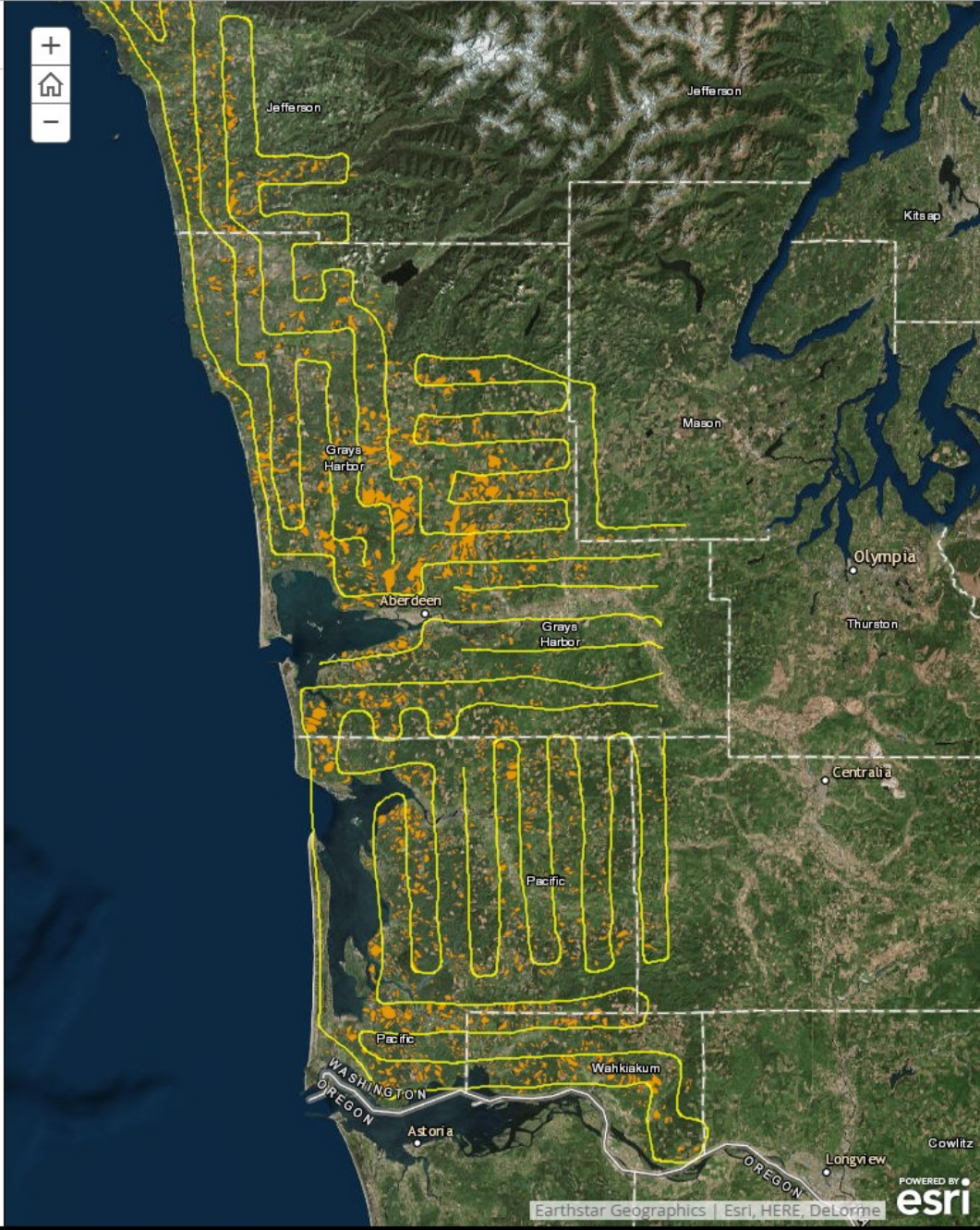
Background: Aerial forest health surveys for Swiss needlecast (SNC) have been conducted in the Pacific Northwest since 1996. This is an update from the survey covering coastal Washington. The Washington State SNC surveys this year were funded by the Washington State Legislature.

Date: April 18 and 20, May 2, 2016

Objective: Detect and map extent and severity of tree damage from SNC.

Survey team: A. Dozic, A. Ramsey and G. Kohler, Washington DNR, surveyors. B. Smith and J. Hof, USFS, surveyors. M. Kimbrel, Washington Fish and Wildlife, pilot.

Results: Flightlines (yellow) from the survey and polygons (orange) representing areas with visible symptoms of SNC are displayed on the map to the right. Zoom into the map to see the polygons. Last year nearly 350,000 acres of SNC were mapped in Washington State.



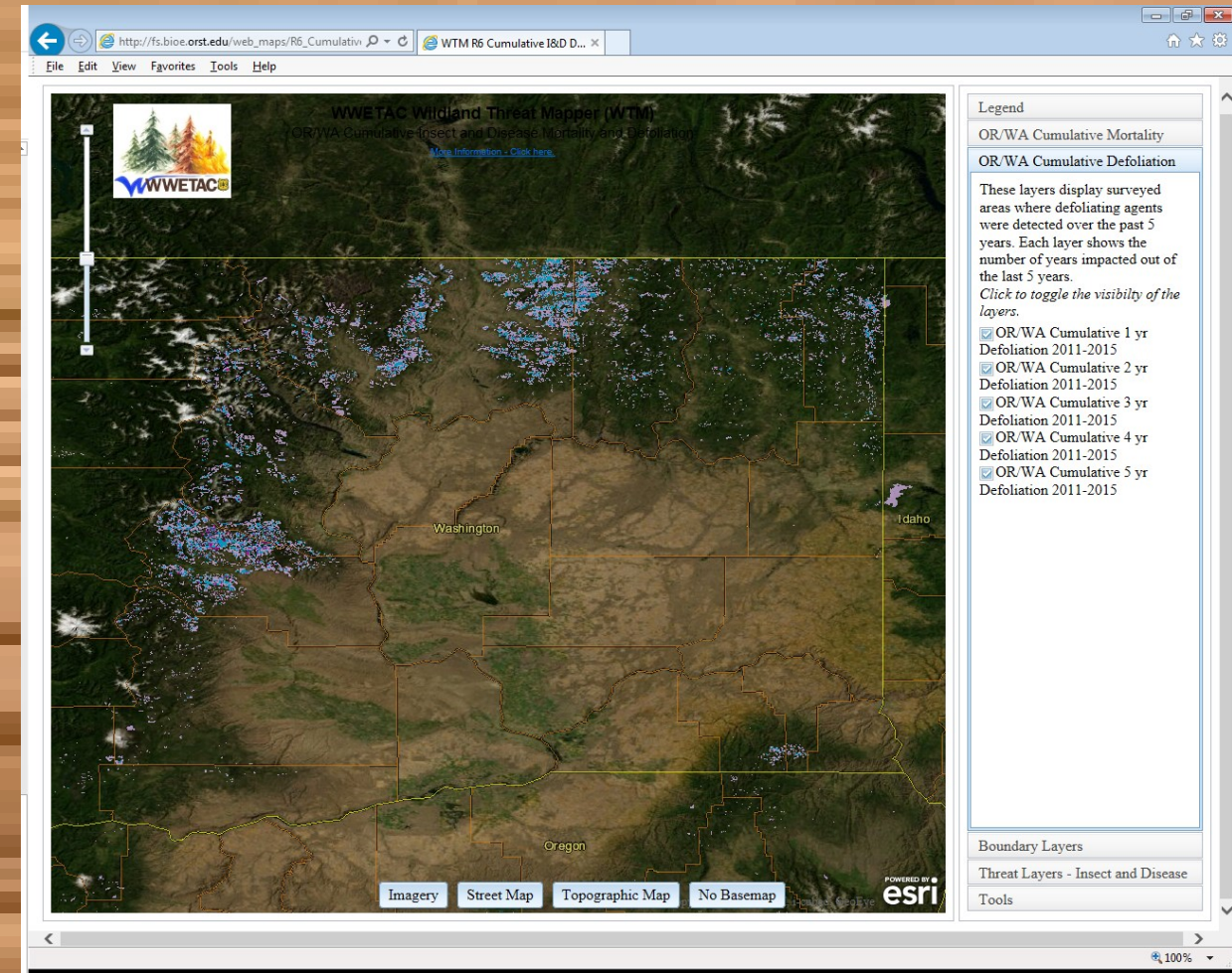
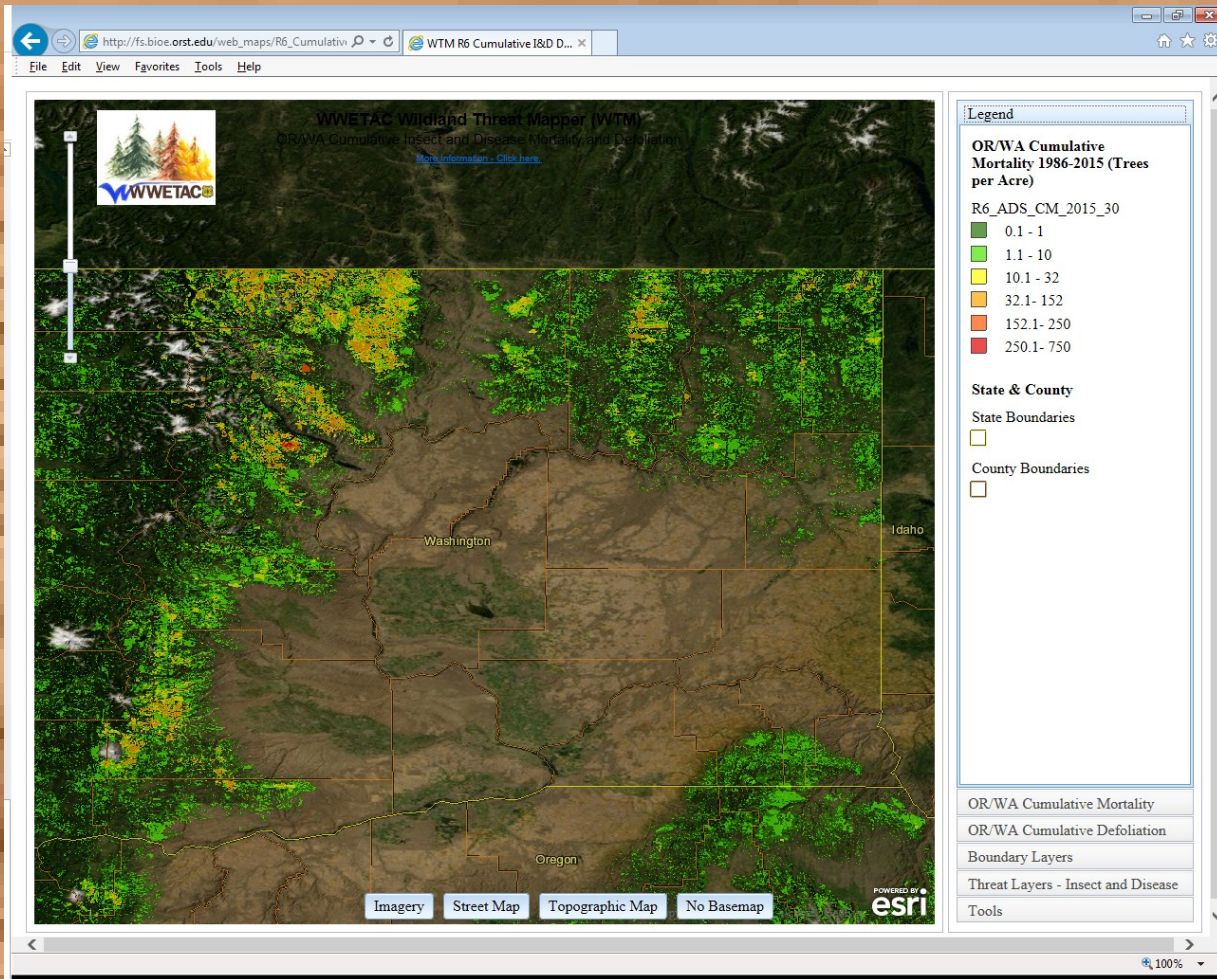
Earthstar Geographics | Esri, HERE, DeLorme | **esri**

Cumulative Mortality and Defoliation Viewer

http://fs.bioe.orst.edu/web_maps/R6_Cumulative_Mortality_Defoliation.html

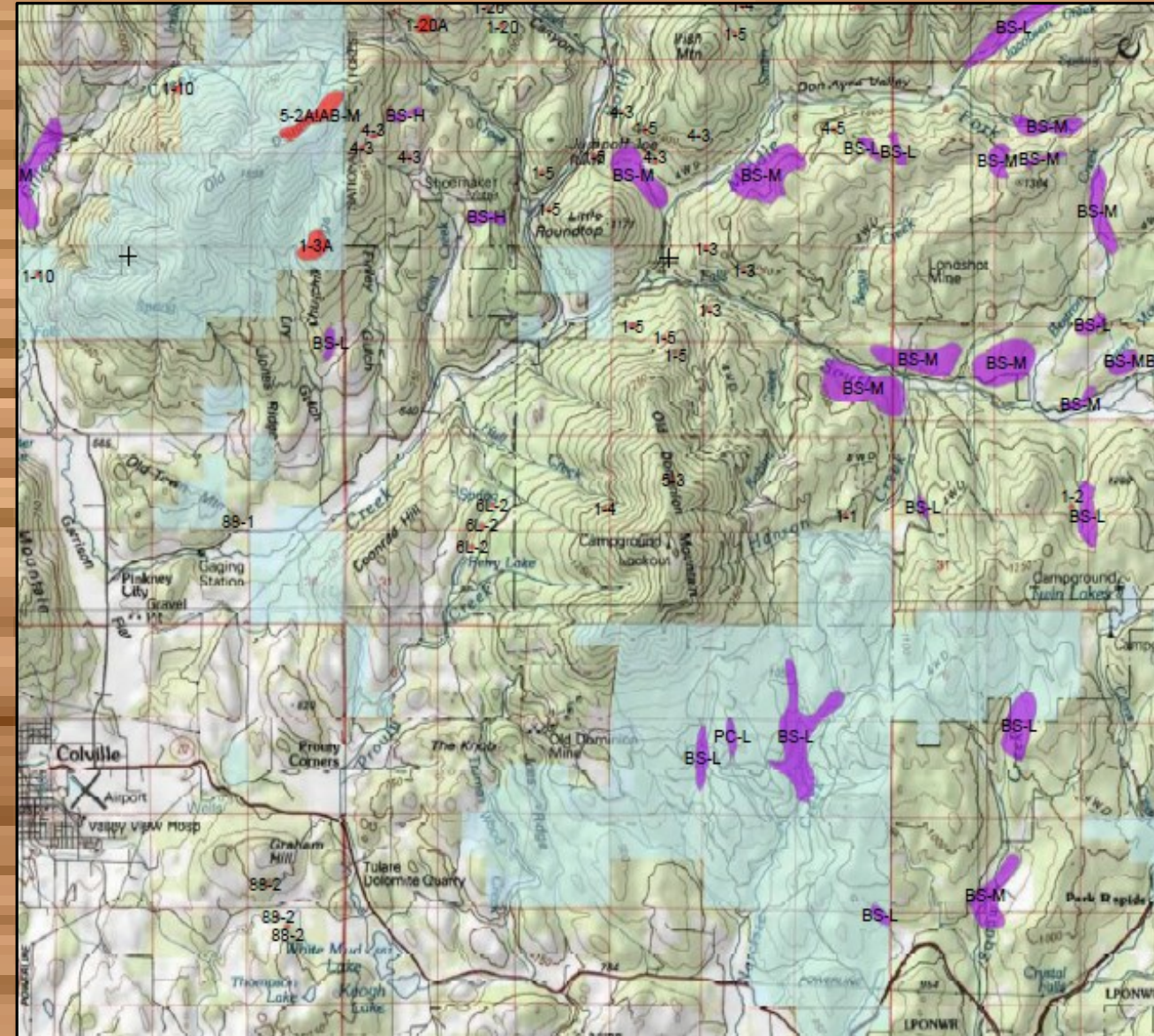
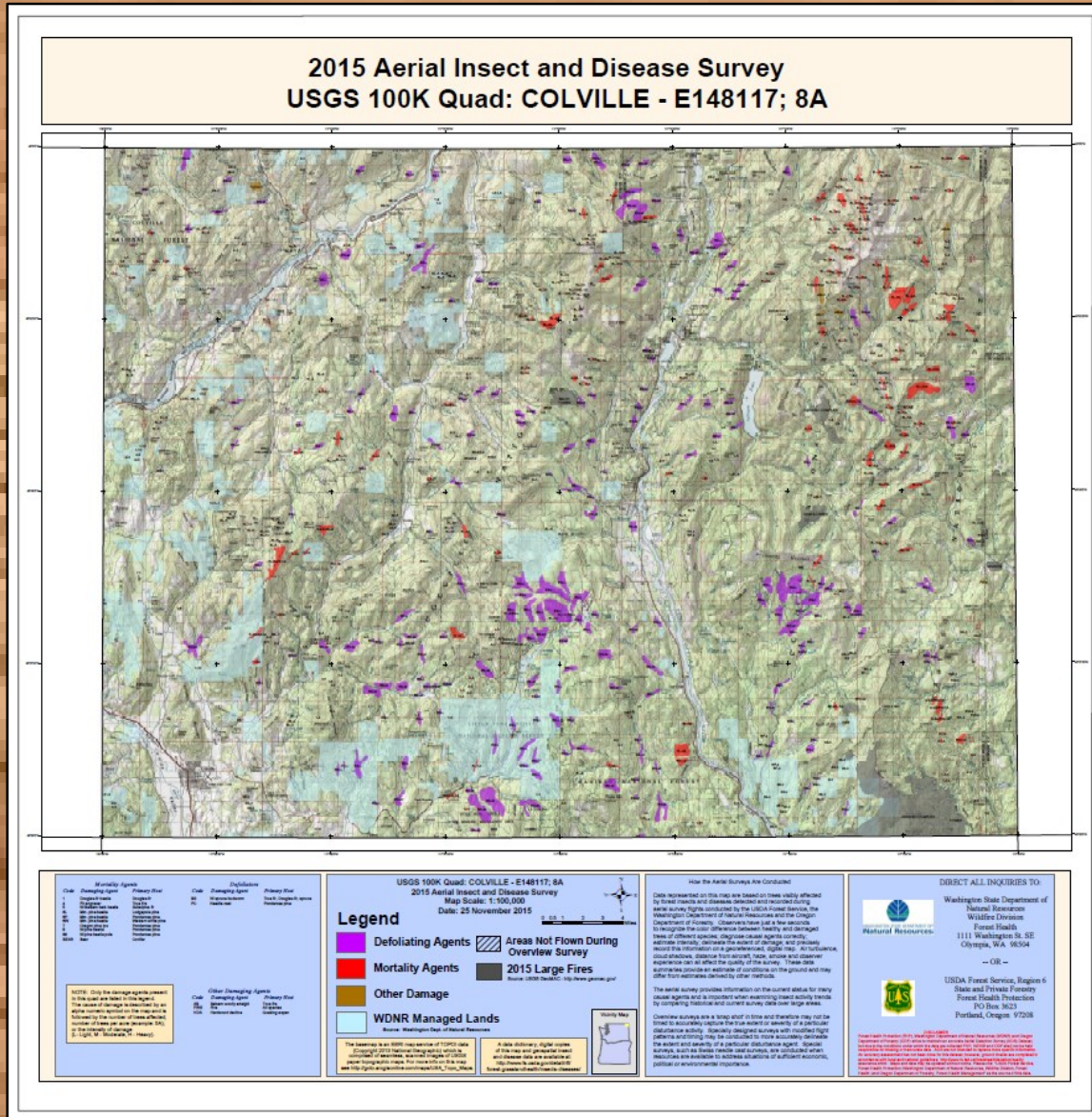
1986 – 2015 Cumulative Mortality,

2011 - 2015 Cumulative Defoliation



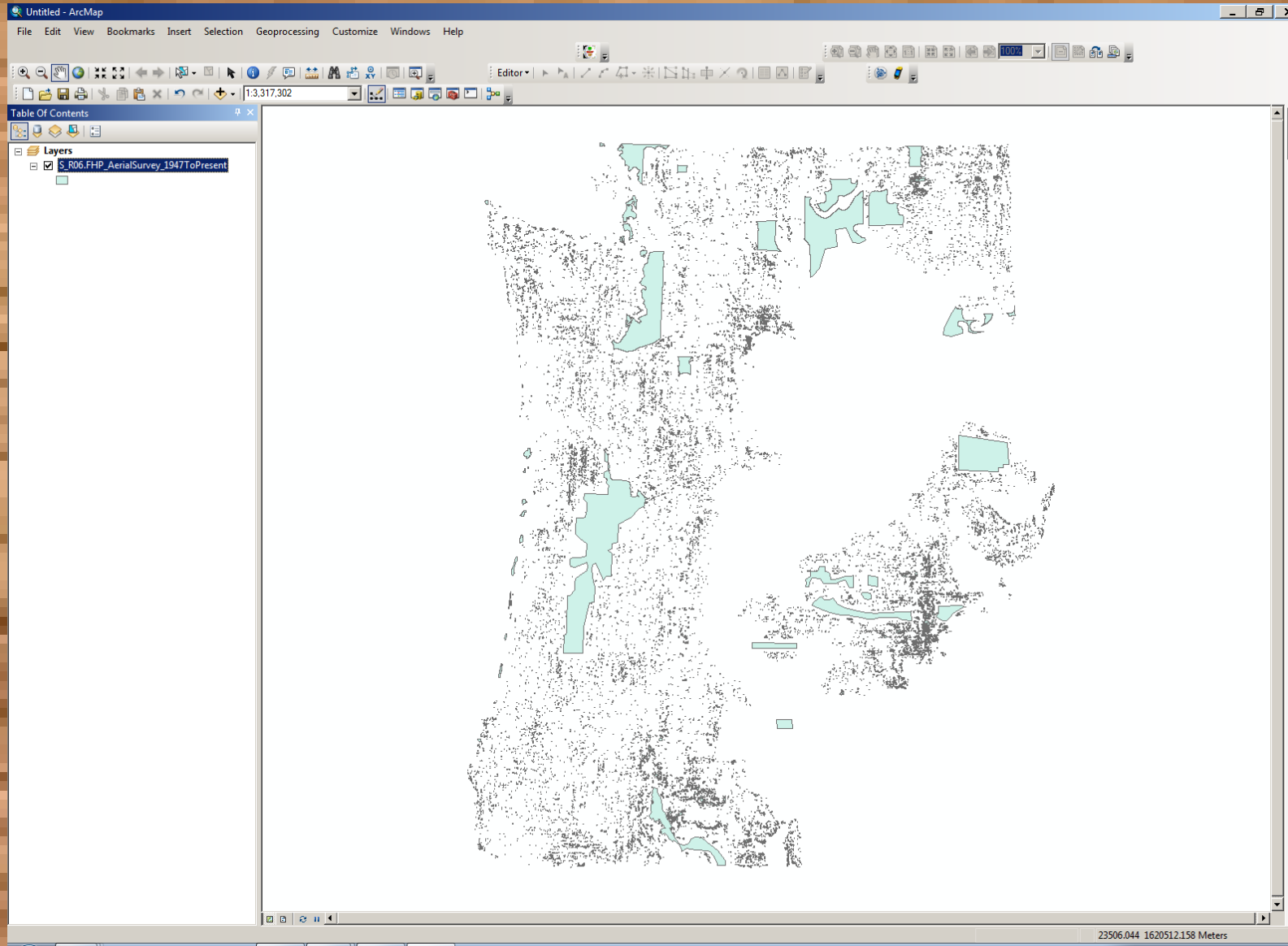
PDF Quad Maps

Available for 2003 – 2015. Compatible with Avenza's PDF maps app.



GIS Data

Available for 1947 – 2015. Can be downloaded one year at a time. Contact Zachary Heath (zheath@fs.fed.us) for the comprehensive data set. Includes metadata.



Aerial Survey Contacts

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Bob Schroeter rschroeter@fs.fed.us 541-858-6123

Aleksandar Dozic Aleksandar.Dozic@dnr.wa.gov 360-902-1320

Danny Norlander Danny.norlander@Oregon.gov 503-945-7395



Questions?

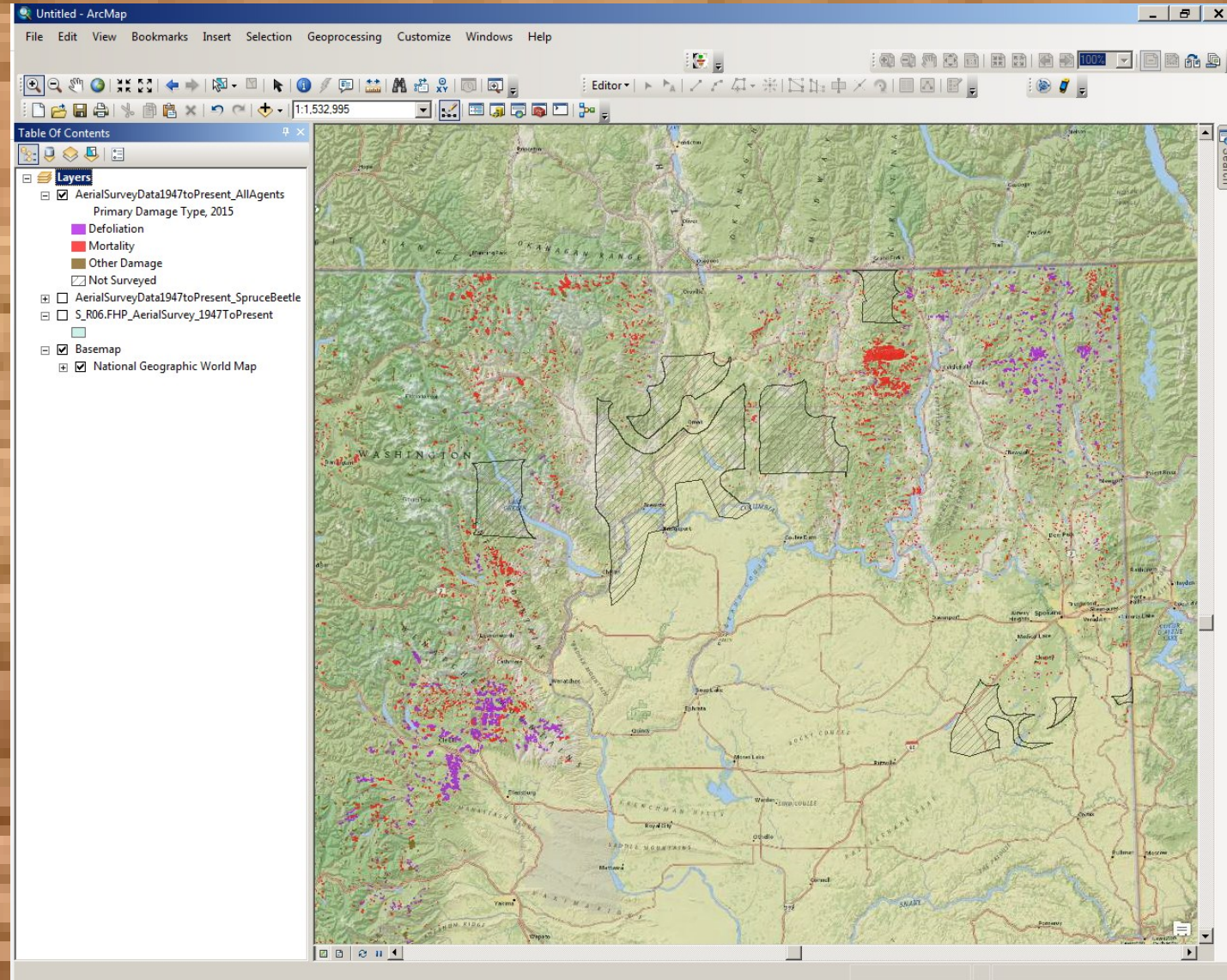
2015 late season survey



GIS Data on SDE (USFS Employees only)

Layer files available for 1947 – 2015 for major insect and disease pests. Data is pre-symbolized.

T:\FS\Reference\GIS\r06\LayerFile\InsectAndDisease



GIS Data on SDE (USFS Employees only)

Available for 1947 – 2015.

T:\FS\Reference\GeoTool\r06\DatabaseConnection\r06_default_as_myself.sde\S_R06.InsectDisease

