Usage Guide for the NAIP Status Web Service

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Version 3.0

For: FSA State GIS Staff
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Version	Date	Summary of Changes	Author
1	06/05/2009	Initial Revision	Kevin Clarke
2	01/05/2010	Update for 2010	Louise Mathews
3	06/04/2013	Update for 2013	Louise Mathews

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Introduction

The acquisition and subsequent inspection of the NAIP dataset occurs over many months during the prime agricultural growing seasons each year. An ongoing requirement has been providing FSA users with timely information on the NAIP dataset. This web service allows FSA state and county personnel to easily attain information on the status of overall NAIP acquisition and inspection for their state. This NAIP Status web service was new for the 2009 NAIP acquisition year. It is available as a public facing web service, and is available to the general public as well as FSA personnel.

The NAIP Status web service can be added directly into any ArcMap project file for use with other in-hand data sources to assist FSA state and county personnel in making decisions relating to the administration of the various Farm Programs they support. It can also help non-FSA users in researching to see if new imagery from the current year is available for their specific areas of interest.

The NAIP Status map is also available in a stand-alone viewer. The URL can be found on page 11 of this document.
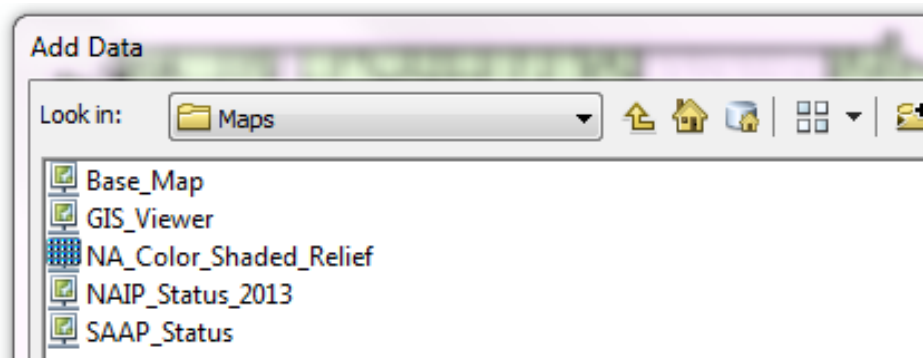
Accessing the NAIP Status Web Service

The 2013 NAIP Status web service can be accessed via ArcMap 9.1 and above by adding the APFO ArcGIS Server http://gis.apfo.usda.gov to the list of ArcMap GIS Servers. Details of this process will change in upcoming years, but the basic example from NAIP 2013 will be the same.

Adding the service can be done by:
1) Clicking *Add Data*, and selecting *Add ArcGIS Server*
2) In the wizard, select *Use GIS Services*, and then click *Next*.
3) In the box *Server URL,* add the URL http://gis.apfo.usda.gov/arcgis/services, click *Finish*.
4) The service should be added to the list, and can be selected.

Once the GIS Server has been added, select it. Select the Maps folder, and the NAIP Status for the year will be one of the options to select.

Using the NAIP Status Web Service
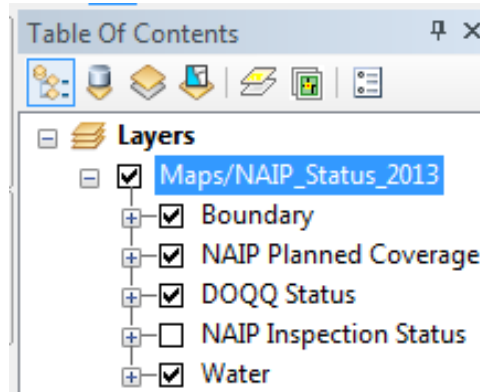
When the NAIP Status web service is added to an ArcMap project, a new group layer, MAPS/NAIP_Status_2013, will be added to the ArcMap Table of Contents.

This group layer is comprised of five subordinate group layers denoted as Boundary, NAIP Planned Coverage, DOQQ Status, NAIP Inspection Status, and Water.

The Boundary layer provides State and County boundary line segments, and the Water layer provides graduated polygons for the Great Lakes at full scale, and additional water boundaries at larger scales. These two layers can be set to inactive (unchecked) if other similar and preferred datasets are available for inclusion in the project by the user.

The remaining three group layers will be discussed individually. The general usage of the other three group layers is such that only one of the layers should be active at any one time.

Only one of the three group layers - NAIP Planned Coverage, DOQQ Status, and NAIP Inspection Status - should be active at a time, to improve response time and to ensure that the correct interpretation of status information occurs

Planned Coverage
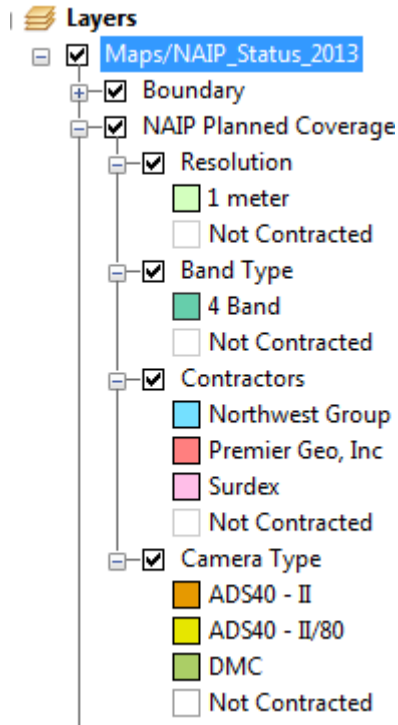
The NAIP Planned Coverage group layer displays details about the contractual award by county. (The project area is generally for an entire state, and all counties will be included.) This group layer generally will not change in status for the current season, since contractual award data remains static.

The layer can be used as a reference for each state that is part of the 2013 NAIP cycle. In 2013, all imagery will be acquired at a 1 meter resolution, and in four bands (red, green, blue and near infrared.) Displays of these characteristics for the states contracted will display 1 meter for Resolution and four band for Band Type; other states will be white, indicated that they were not contracted.

The layer will also identify the contractor and camera (or sensor) type used for acquisition. In 2013, three contractors acquired the imagery, and each used a different sensor. For example, Northwest Group used an ADS40 II, Premier Geo used an ADS40 II 80, and Surdex used a DMC.

The NAIP Planned Coverage group layer displays information by county, and does not display at zoom levels of 1:500,000 or larger. The polygons are attributed with the data used in the display (Resolution, Band Type, Contractors, and Camera Type), as well as the state and county name, and the state and county FIPS codes. The attributes can be viewed by using the *identify* icon (the white "i" within a blue circle.)

The county names appearing in the display come from the Boundary layer, and will not appear if that is turned off. The names will not appear at a zoom level smaller that 1:4,000,000.
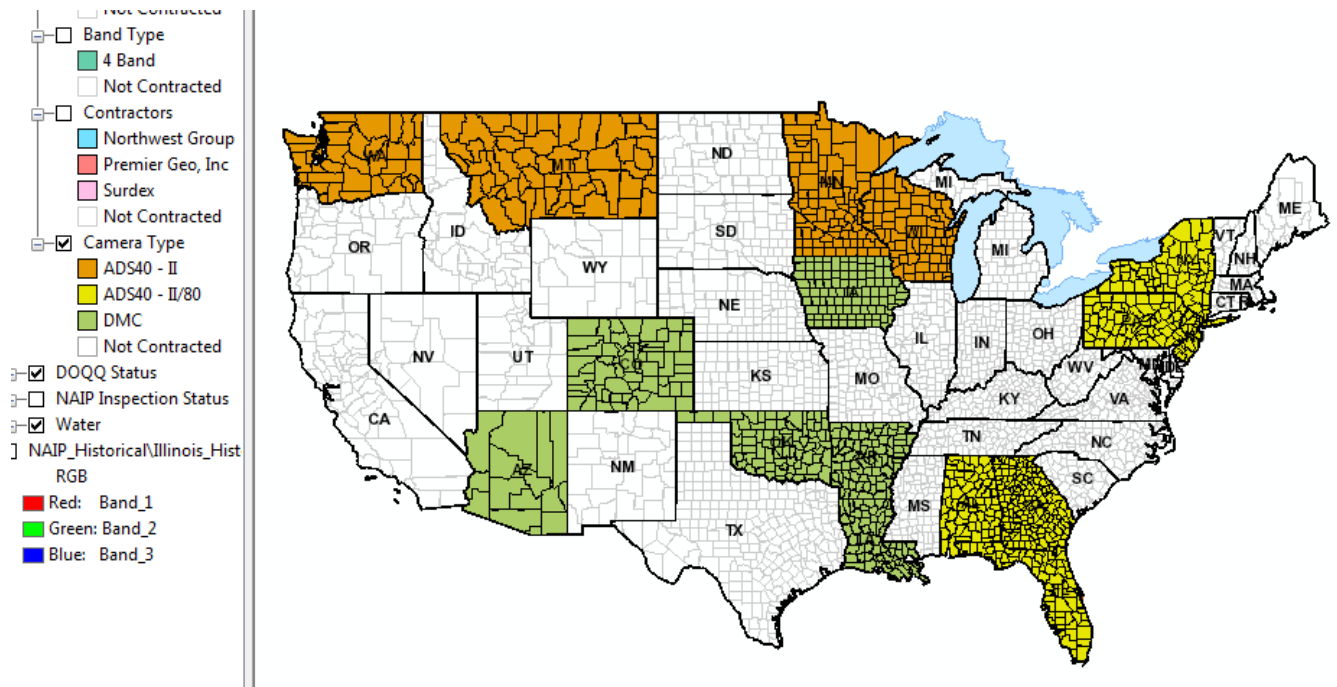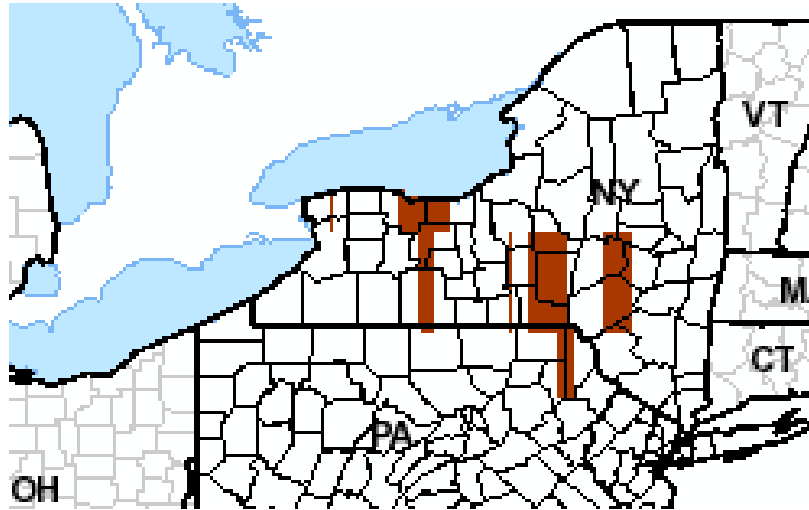
This 2013 status map is displaying the type of sensor used in acquisition. This display map parallels the contractor map; Northwest used the ADS40 – II (orange), Premier Geo used the ADS40 –II/80 (yellow) and Surdex used the DMC (green).

DOQQ Status

The DOQQ Status group layer displays the acquisition status of DOQQs for the 2013 NAIP cycle. This group layer is updated many times a day based on progress reports sent to APFO daily by the contractors.

The layer displays individual DOQQs. Attributes for the DOQQ polygons include the acquisition date, the DOQQ name, and the APFO name (ex. Straylor Lake NE and 402115NE), as well as the Acquisition Status code and a code (C) to indicate that the DOQQ was contracted.

The Attribute Table for the Acquisition Status is coded with A indicating "Acquired," R indicating "Received," or V indicating "Archived." Both of the Acquisition Status displays access the same data, and the same colors are used for the Acquisition Status (Fill) layer as the Acquisition Status (Grid) display. These are red for acquired, orange for received, and green for archived. The attributes are identical.

The Acquisition Status (Fill) layer displays the areas as a solid color with no DOQQ borders visible. The layer is visible at all zoom levels. The map below shows 2012 as totally complete.
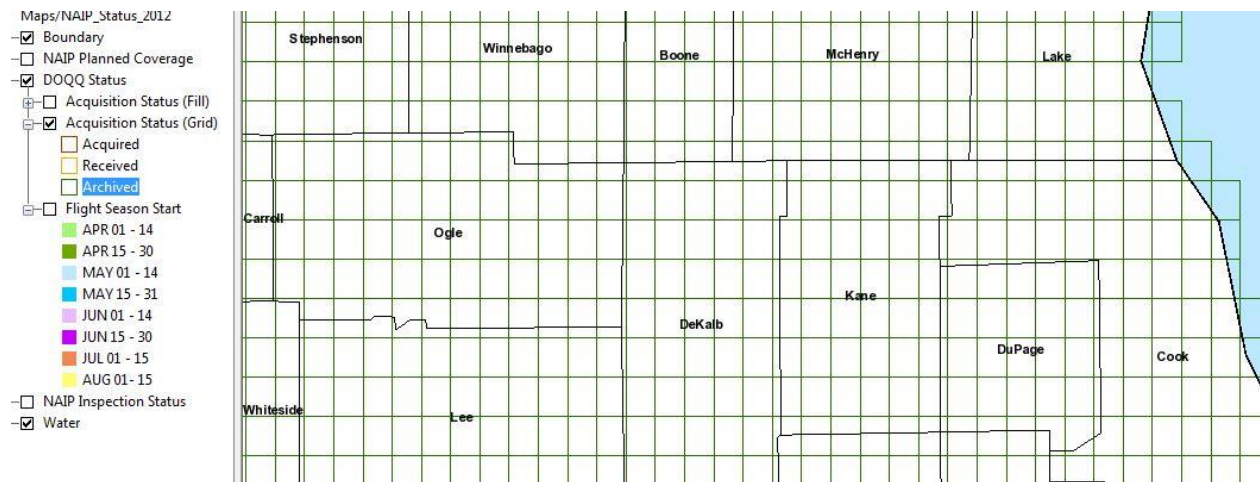
This section of the 2013 Status Map shows recently acquired imagery in New York.

The Acquisition Status (Grid) displays the DOQQ borders without a fill, and is visible at zoom levels of 1: 3000000 or larger.


Since the layer renders as gridlines, other data such as imagery and CLU can be utilized within the same ArcMap project. Other data can display the land areas which have actually been acquired, within a specific context, to assist with making farm program support decisions.

The example below displays the gridlines for NAIP DOQQs over the imagery. The line color cannot be changed.
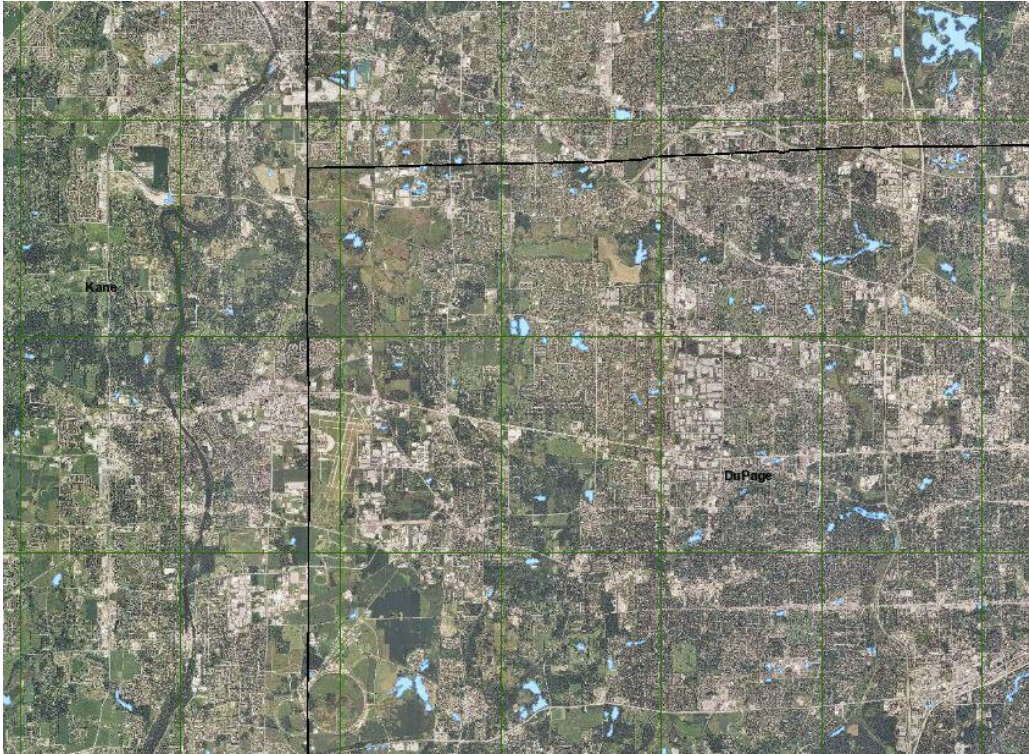
The third display in the DOQQ Status layer, Flight Seasons (shown without the overlapping boundary layer), displays the range of dates for which imagery was scheduled to be acquired, according to the contract. This display is mapped based on 2013 flying seasons for the states receiving NAIP imagery, which is constructed from the DOQQ boundaries.
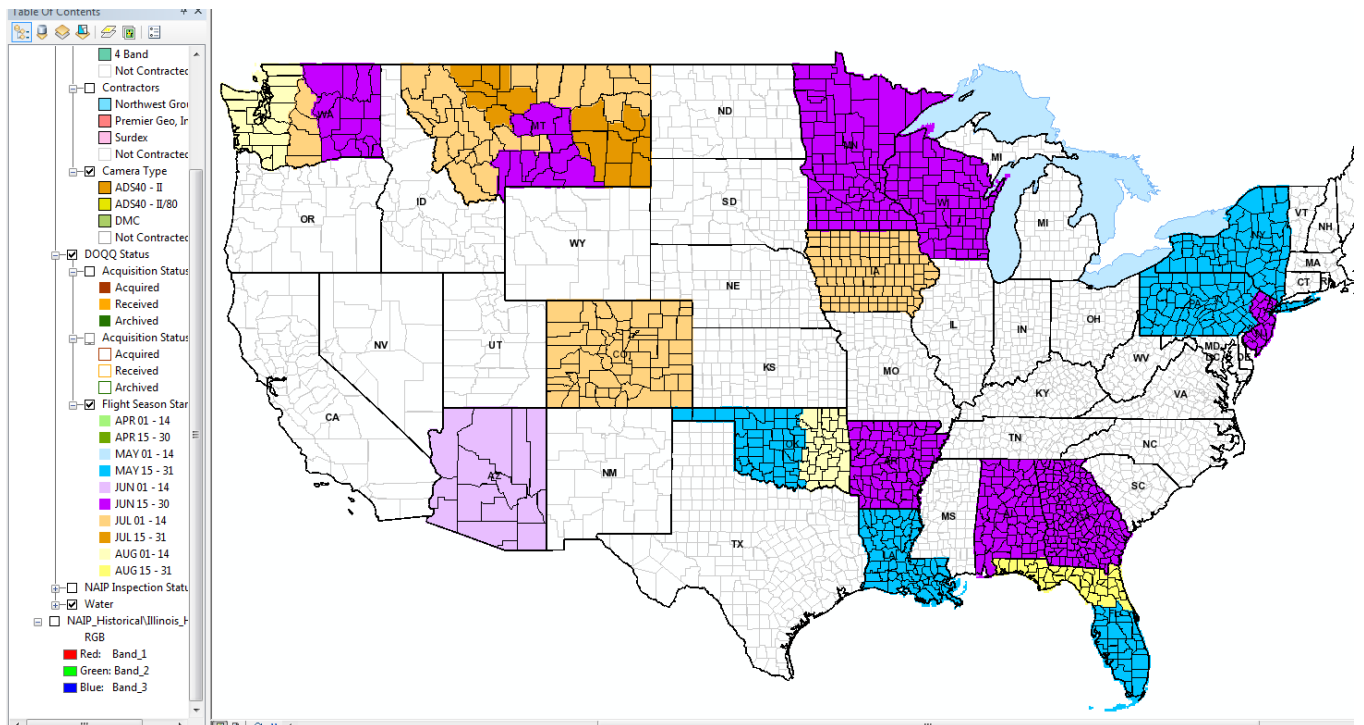
These flying season dates were selected by state level Farm Service Agency officials, and reflect the growing seasons for crops in that state, or portion of the state. The dates appear as labels at a scale of 1:9,000,000 and larger; the fill displays at all zoom levels. This example is from 2012.
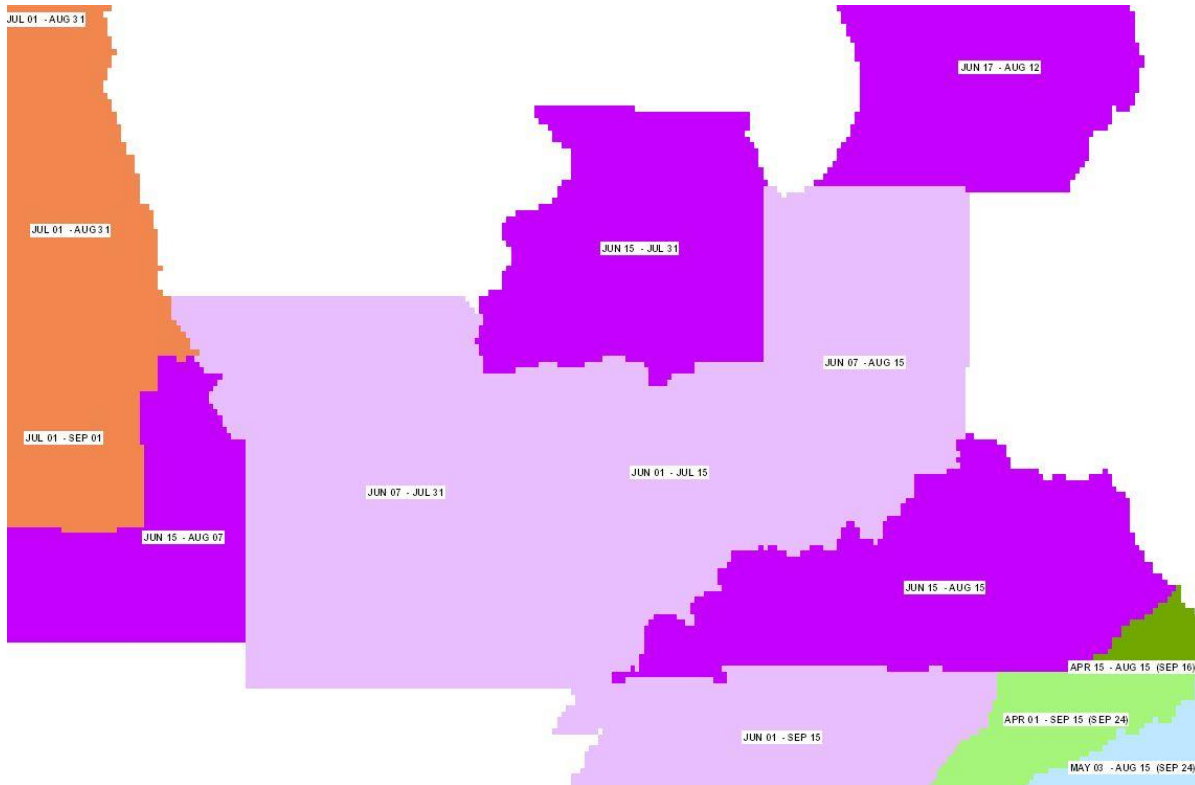
An optional flying season extension date is also include as an attribute. The flying season dates can be compared to the actual acquisition date, which is included in the Acquisition Status layer. However, the acquisition dates are DOQQ based, and the flying season range of dates, with extension, is an attribute of the shapefile for the entire region, even though lateness might be limited to a county or smaller geographic unit. Comparisons which seem to be extreme should be checked with the APFO Contracting Office.

NAIP Inspection

The NAIP Inspection Status group layer displays county based inspection status information. This group layer is updated several times a day based on data collected from internal APFO NAIP inspection applications. The fill colors reflect the latest step of the inspection process which has been completed. This example is from 2012, showing all of the imagery inspected as accepted.
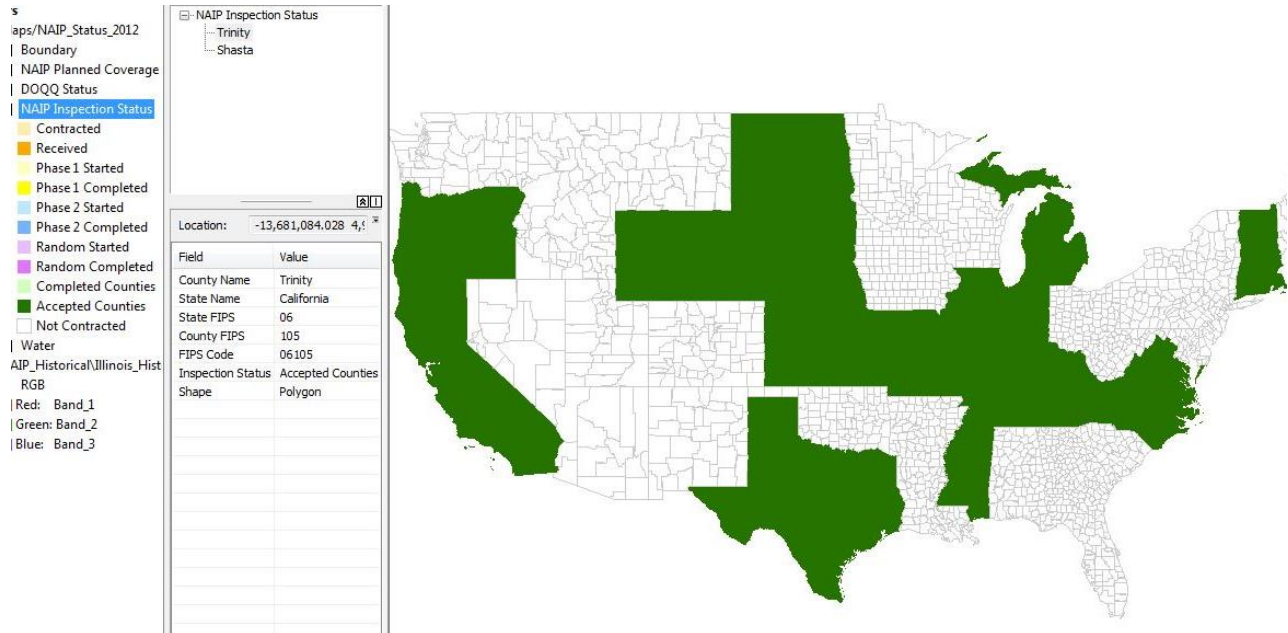
The Phase 1 and Phase 2 inspection processes look at the Compressed County Mosaic (CCM) for the specific county, checking for tone quality and horizontal accuracy.

The Random Phase indicates that inspection is occurring on a random selection of DOQQs for the particular county. Status for individual counties within a state will progress through Phase 1, then Phase 2, for the CCMs, and then the Phase 3 (i.e. Random) inspection of the DOQQs begins.

Over time, all counties within a state will move to Completed status. When all counties for a state are identified as Completed, the inspection for all CCMs and randomly generated DOQQs for the state has been completed by APFO Inspection staff, and the entire state will appear with a light green fill.

Once all counties for a state are completed, the APFO Contracting Office then begins the acceptance process for the state, which involves finalizing payments and meeting other contract details with the flight contractor for that particular project (state). When final payment to the contractor has been issued by APFO, the state is considered Accepted and all counties move to Accepted status simultaneously, and fill will change to dark green.

When a state is identified as Accepted, it implies that APFO has initiated the process of delivering the DOQQs for that state to the various partners.

The NAIP Inspection Status group layer shows information for a state, aggregated by county, and as such is set to be active only at scales smaller than 1:500,000. At scales of 1:500,000 or larger the entire group layer will automatically turn off.

The NAIP Status Viewer

The same map is available through the APFO website as an online viewer. This is especially useful for customers who may not have ArcGIS. The layers are the same, and it is possible to view the attributes through the *identify* icon (i).

The URL is: http://gis.apfo.usda.gov/naipstatus13/
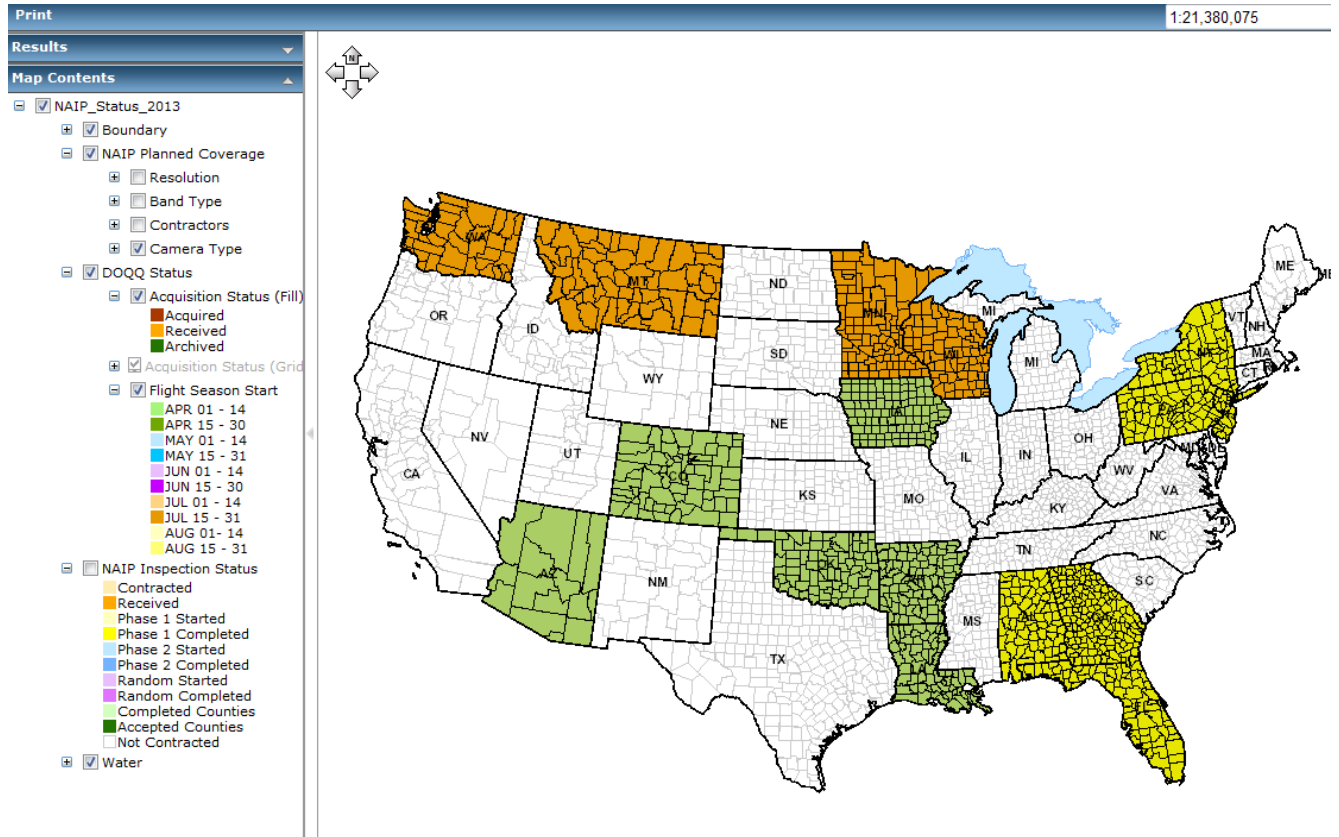
**For additional information
contact: USDA-FSA
Aerial Photography Field Office
2222 West 2300 South
Salt Lake City, UT 84119-2020
801-844-2930
801-844-2934
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