

National Agriculture Imagery Program – Leaf-On Orthophotography Base Maps

<http://www.fsa.usda.gov/FSA/apfoapp?area=apfohome&subject=landing&topic=landing>

Program Highlights

Data Product

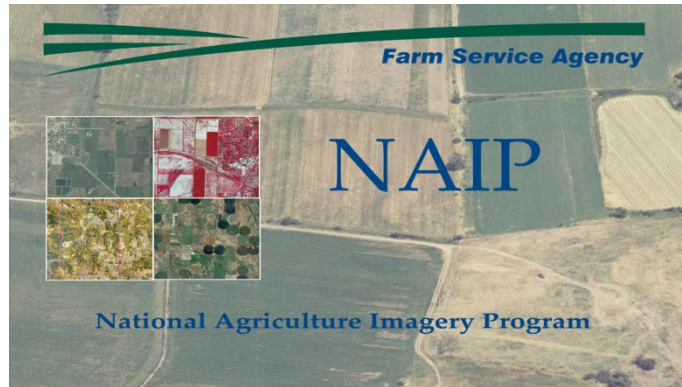
- County-level and quarter-quad orthophotography.
- 1-meter or 2-meter resolution available (more detail below).
- Many areas captured using digital sensor.

Advantages

- Generally more recent than National Digital Orthophoto Program (NDOP) Digital Orthophoto Quadrangles (DOQs).
- Natural color.

Disadvantages

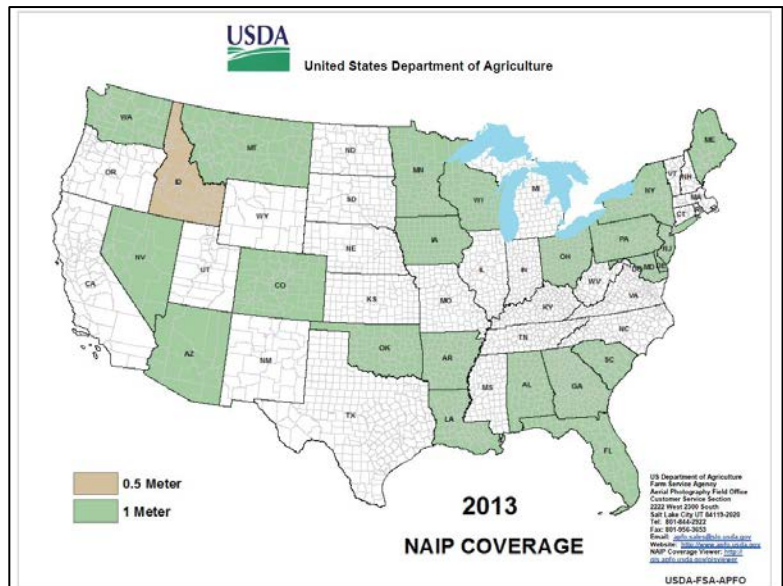
- Imagery is acquired during peak growing season; may not be suitable for areas with heavy “leaf on” conditions.
- 2-meter data not acceptable for Flood Insurance Rate Map (FIRM) base map.
- County mosaics use varying degrees of compression. Some may degrade visual quality substantially.
- Occasional clouds in images.



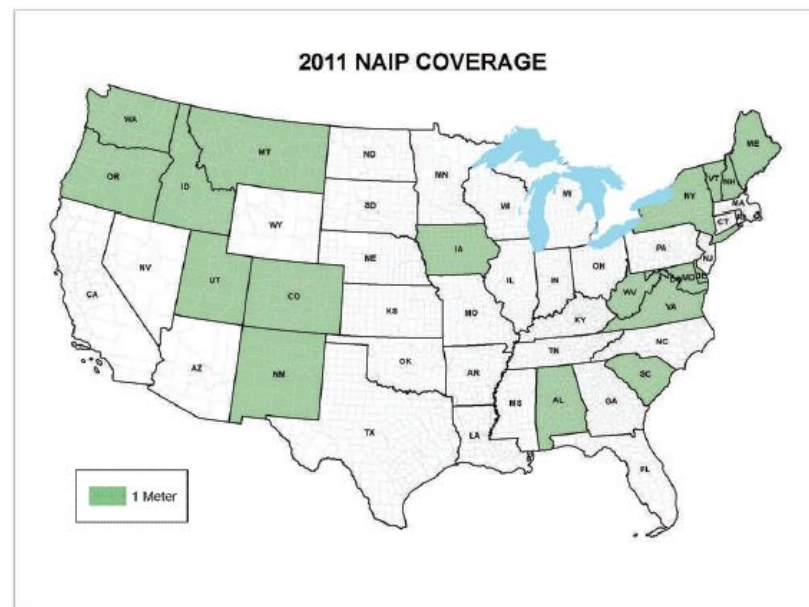
Program Overview

In 2002, the U.S. Department of Agriculture (USDA) started the National Agriculture Imagery Program (NAIP) to support the continued development of their own geographic information system (GIS) program through the acquisition of digital orthophotography. This imagery, when used in conjunction with other land and customer information already available, provides the ability to effectively administer farm programs, and georeference natural disasters and animal or plant disease outbreaks to support better decision-making.

The program’s goal is to acquire 1-meter-resolution imagery on a 3-year cycle over the contiguous 48



States, and deliver it to users within a few months. In order to support agriculture analysis, imagery is captured during the peak growing seasons (June–August).



Data Details

Two primary data products are developed and available through NAIP. These include the Compressed County Mosaic (CCM) and the Full-Resolution Quarter-Quad Tiles (QQ). Historically some States were acquired at 2-meter resolution, but more recently all data are acquired at 1-meter resolution. The data are natural color (red/green/blue bands) and many recent datasets include a near infrared band that is often used for vegetation identification and other image analysis techniques.

Because the imagery is captured during peak growing season, this “leaf on” status is likely to obscure some ground level features, especially in heavily treed areas. This issue should be considered based on the geography of the region under consideration. All data come with a full suite of Federal Geographic Data Committee compliant metadata for documentation.

Compressed County Mosaic

The CCMs are developed for the convenience of full county coverage. In many contexts, manipulating a single, full county file is easier than multiple, smaller Digital Orthophoto Quarter Quadrangles (DOQQs). It can reduce the costs for management of data and increase production efficiency. CCMs are useful when larger geographic coverage is required. CCMs use varying degrees of compression. Some may degrade visual quality substantially.

Full-Resolution Quarter-Quad Tiles

The QQ is the full-resolution standard delivery product. The QQ can be a better format when smaller geographic areas are concerned as the tiles cover an area measuring 3.75-minutes longitude by 3.75-minutes latitude, or approximately 2.5 miles on each side. The DOQQ format is Georeferenced TIFF (GeoTIFF).

Digital Sensors

In some cases, vendors use digital cameras for an entire State. In a fully digital workflow retrieving the raw imagery for other uses can be very efficient for vendors. Negotiating with the vendors to produce high-quality elevation data for targeted areas may be possible using these data. Because the data are already acquired, this procedure may be a practical way to obtain small areas of quality elevation data for high-risk areas.

Data Applicability to Flood Mapping Program

The 1-meter-resolution data are acceptable for FIRM base maps provided vegetation does not obscure roads or other important ground features. This imagery is more recent than NDOP DOQs, but 2-meter-resolution data and highly compressed county mosaics are not acceptable for FIRM base maps.

Data Availability

The program has been meeting or exceeding a 3-year refresh cycle, so all States have new 1-meter-resolution data within the past 3 years.

See <http://www.fsa.usda.gov/FSA/apfoapp?area=home&subject=maps&topic=landing> for more information.

Data Ordering

For more information call (801) 975-3500. To order full-resolution NAIP imagery, visit

- [Customer Order Entry System](#)

For compressed county mosaics, visit <http://datagateway.nrcs.usda.gov>.