

## National Digital Orthophoto Program – Leaf-Off Orthophotography Base Maps [www.ndop.gov](http://www.ndop.gov)

### Program Highlights

#### *Data Product*

- 1-meter-resolution, black and white (B/W) orthophotography nationwide.
- High-resolution (usually 1-foot) natural color (some B/W) orthophotography in selected urban areas.
- High-resolution (finer than 1-meter) orthophotography for some States.

#### *Advantages*

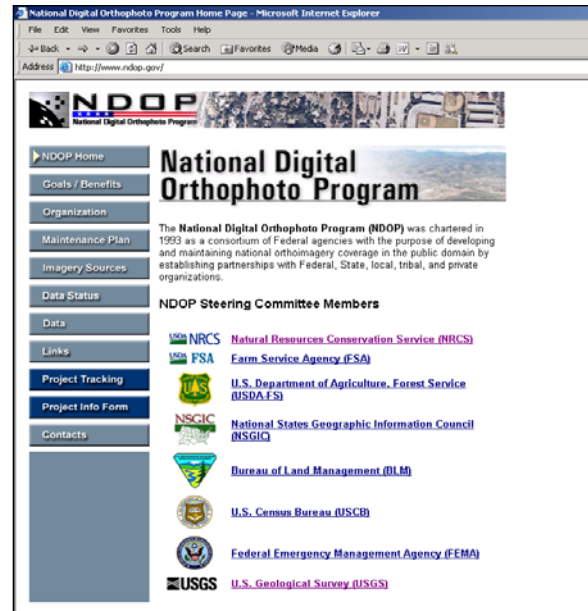
- 1-meter-resolution data are available nationally.
- All these data meet Federal Emergency Management (FEMA) accuracy specifications.
- Uncompressed imagery provides the maximum visual quality.
- Urban area orthophotographs are very recent.
- Accessible through the Seamless Data Distribution System at <http://viewer.nationalmap.gov/viewer/>.

#### *Disadvantages*

- High-resolution data in urban areas are more difficult to manipulate because of file size.
- Much of the 1-meter-resolution data are several years old.
- Full-resolution quarter quad tiles are difficult to manage compared to compressed mosaics of same imagery available from the U.S. Department of Agriculture.
- Source of orthophotographs if local or State data are not available.
- Limited areas are fairly poor quality or Color-Infrared (CIR) photography, which is not as visually pleasing.

### Program Overview

The National Digital Orthophoto Program (NDOP) was chartered in 1993 as a consortium of Federal agencies with the purpose of developing and maintaining national orthoimagery coverage in the public domain by establishing partnerships with Federal, State, local, tribal, and private organizations.



## **Data Details**

Nationwide Digital Orthophoto Quadrangles (DOQs) are B/W, natural color, or CIR images with 1-meter ground resolution.

High-resolution (usually 1-foot) imagery is available for the Nation's largest urban areas and State capitals. The imagery usually is natural color.

The U.S. Geological Survey (USGS) also has agreements in which it distributes statewide high-resolution imagery for some States.

## **Data Applicability to Flood Mapping Program**

All these data meet FEMA's accuracy specifications and could be used as base maps for Flood Insurance Rate Maps if the image quality is acceptable.

## **Data Availability**

Data status for high-resolution imagery can be found at <http://viewer.nationalmap.gov/viewer/>. USGS is developing a new capability to display the status of 1-meter-resolution DOQs.

## **Data Ordering**

In the Seamless Data Distribution System at <http://viewer.nationalmap.gov/viewer/>, users specify the footprint of the data they require. The data are then made available for download. The data are in Georeferenced TIFF (GeoTIFF) format, Universal Transverse Mercator (UTM) coordinate system, North American Datum of 1983 (NAD83). Large requests may be broken into smaller sections. For very large datasets, users may provide the Earth Resources Observation and Science (EROS) data center a hard drive to ship the data. Requests for bulk data may take several weeks to process at <http://cumulus.cr.usgs.gov/bulk.php>.

In the past, USGS produced three types of tiled DOQs, which may also be used:

1. **3.75-minute (quarter-quad) DOQs** are available in both Native and GeoTIFF formats. DOQs in native format are cast to the UTM projection and referenced to either North American Datum of 1927 (NAD27) or NAD83. DOQs in GeoTIFF format are cast to the UTM projection and referenced to NAD83. The average file size of a B/W quarter quad is 40–45 megabytes, and a color file is generally 140–150 megabytes. Quarter-quad DOQs are distributed on CD-ROM, DVD, and File Transfer Protocol (FTP) as uncompressed files.
2. **7.5-minute (full-quad) DOQs** cover an area measuring 7.5-minutes longitude by 7.5-minutes latitude. Full-quad DOQs are mostly available for Oregon, Washington, and Alaska. Limited coverage may also be available for other States.
3. **County DOQs** consist of collections of individual DOQs that have been compiled on a county-by-county basis. Coverage for counties in Kansas, Georgia, Minnesota, North Carolina, and Pennsylvania is fairly good. Other States may have limited counties available. The files are cast to the UTM projection and referenced to either NAD27 or NAD83. County DOQs are packaged as individual JPEG-compressed 8-bit binary files on CD-ROM.