



Wisconsin State Cartographer's Office



Your resource for mapping and geographic information in the state of Wisconsin

February 2011

Wisconsin Orthophotography

The Wisconsin Regional Orthophotography Consortium (WROC)¹ was the focus of significant orthophoto acquisition activity during the spring of 2010. In all, 45 Wisconsin counties and approximately 70 cities, villages, and towns participated in the 2010 WROC project. State and federal partners contributed over \$1.1 million toward WROC projects in 2010.

Statewide 18-inch product available in 2011

A portion of funding contributed to WROC by state and federal partners will be used to create a statewide, color, leaf-off product with a spatial resolution of 18 inches.

The statewide 18-inch product is expected to be available for download from the WisconsinView Web portal sometime during summer of 2011. More information on the 18-inch statewide product is available in a WROC specifications document.²

The statewide product will be assembled by the WROC contracting team (Ayres Associates and Aero-Metric) by resampling high-resolution, high-accuracy imagery acquired over WROC member counties, along with additional 18-inch lower-accuracy imagery acquired over counties that did not participate in WROC. More details on the accuracy specifications are described in a WROC partnership flyer.³

In addition, the U.S. Geological Survey (USGS) plans to resample the 18-inch product to a one meter resolution, and make it available on The National Map.⁴ Fourteen counties (see map on right) are also partnering with the USGS and the National Geospatial-Intelligence Agency to make public domain 12-inch resolution imagery available through The National Map.

More NAIP in 2010, including near-infrared band

Wisconsin and 29 other states were flown during the summer of 2010 as part of the U.S. Department of Agriculture Farm Service Agency (FSA) National Agriculture Im-

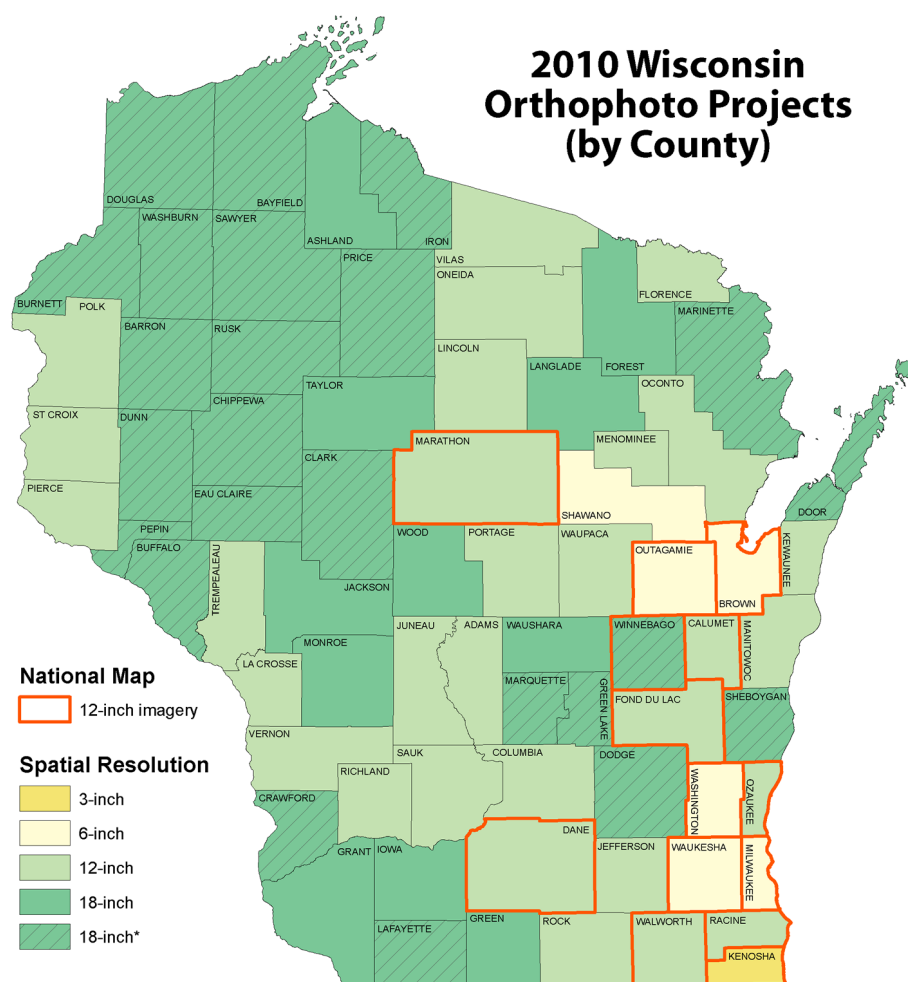
agery Program (NAIP). One of the most interesting NAIP developments in 2010 was the widespread availability of a fourth near-infrared band. Thanks to lower than expected contracting costs, several key state partnerships, and funding from the Natural Resources Conservation Service (NRCS), FSA was able to make the near-infrared band part of the standard product available to all users.

As of January 2011, the 2010 NAIP imagery (3-band color images, 1-meter resolution, tiled by county in MrSID format, pro-

jected to UTM zone 15 or 16) is available for free from the WisconsinView Data Portal.⁵

In order to make the data more usable for state government users, the Wisconsin Department of Natural Resources (DNR) is currently in the process of reprojecting the county-based mosaics into the Wisconsin Transverse Mercator (WTM) coordinate system. The WTM mosaics will also be available from WisconsinView in March 2011.

Finally, WisconsinView expects to make the 2010 NAIP imagery available in GeoTIFF format sometime during the spring of 2011.



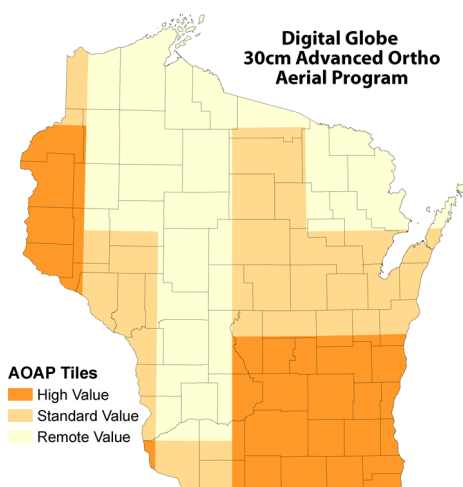
* Imagery produced for these areas have a lower spatial accuracy compared to other 18-inch products produced in 2010.

The GeoTIFF images, unlike the MrSID mosaics, will contain the fourth near-infrared band and will be tiled by USGS quarter-quadrangle. DNR has not yet determined if they will have the resources to reproject the individual GeoTIFF tiles to WTM.

New commercial program seeks nationwide coverage

In 2010 Microsoft and Digital Globe (DG) unveiled an ambitious plan to collect 30-centimeter resolution color orthoimagery over the entire lower 48 states by mid-2012. Microsoft is conducting all imagery acquisitions through their Vexcel subsidiary. All imagery collected by Microsoft will be displayed in their Bing Maps services, while DG is acting as the primary distributor of GeoTIFF-format products for the geospatial community. DG is calling their product the Advanced Ortho Aerial Program (AOAP).

Unlike most traditional imagery programs, AOAP is strictly an off-the-shelf program, where customers purchase imagery previously collected by the Microsoft and DG team. DG classifies their AOAP "region tiles" as High Value, Standard Value, and Remote Value. Only High Value tiles are



guaranteed leaf-off coverage, while leaf-off is desired (but not guaranteed) in Standard Value tiles. Leaf-off imagery is not available in Remote Value tiles. Likewise, the accuracy specifications, sun angle, cloud coverage, and haze thresholds become progressively less stringent in the Standard and Remote Value tiles. As of December 2010, Microsoft and DG have collected a small amount of imagery in the Eau Claire area. They have not yet announced future plans for acquiring the rest of the state.

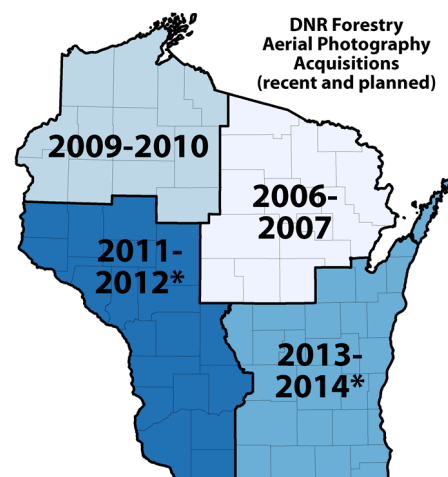
DNR Forestry Aerial Photography

The DNR Forestry Division acquires stereoscopic aerial photography for approximately one quarter of the state every two years. The Northeast quadrant was flown in 2006-2007, followed by the Northwest quadrant in 2009-2010. Both projects were acquired in the fall with color-infrared film.

The primary product for the Forestry program is 9x9 inch contact prints at a scale of 1:15,840. Beginning in 2006, Forestry also started scanning the imagery to create orthorectified, county-mosaiced imagery.

Forestry is still exploring options for public distribution of their county mosaics. Information about digital availability will be posted on the [Forestry Division's Aerial Photography Web site](#)⁶ as details are finalized. In the interim, prints may be ordered via an order form available on their Web site. Most DNR Forestry prints prior to 1999 may be previewed and copied at the [UW-Madison Robinson Map Library](#).⁷ Flights prior to 2006 are stereoscopic, collected during the summer with black and white infrared film, at a scale of 1:15,840.

The Southwest quadrant is currently projected to be flown in 2011-2012, followed by the Southeast in 2013-2014, but changes in film availability may require changes to future project specifications and delay availability of imagery in these quadrants.



* Projected. Future flights may change due to availability of film.

Historic aerial photography now online

In early 2011, the University of Wisconsin-Madison released a new online tool designed to help users find and download historic aerial photography. The [Wisconsin Historic Aerial Image Finder](#)⁸ site currently includes a statewide set of 38,000 USDA aerial photographs acquired from 1937 to 1941. Using a simple interface, users can locate and then download public domain images in JPEG or TIFF format, at a variety of resolutions. Looking to the future, the project team hopes to secure additional funding to make statewide USDA aerial photography from the 1950s, 60s, and 70s available as well. To find additional Wisconsin historic aerial photography, visit the [SCO Catalog of Aerial Photography](#).⁹

Wisconsin State Cartographer's Office

The Wisconsin State Cartographer's Office provides a wide range of services to the state's geospatial community, including educational workshops and presentations, technical consulting, print and online publications, web-based mapping applications, and information about events, jobs and emerging trends. We collaborate with state and national associations to promote effective utilization of geospatial technology, and serve as a liaison between geospatial data producers and consumers in Wisconsin to help coordinate the needs of these groups. The office also assists the public with map-related inquiries. The State Cartographer's Office has operated from the University of Wisconsin-Madison since 1974.

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Web References

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