



# Wisconsin State Cartographer's Office



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

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## Wisconsin Orthophotography

Most local governments in Wisconsin acquire aerial imagery on a five-year cycle, with the next major round of projects expected in 2015.

The [Wisconsin Regional Orthophotography Consortium \(WROC\)](#)<sup>1</sup> released a Request for Qualifications in November 2012, and in December 2012 selected the team of Ayres Associates and AeroMetric (recently re-named Quantum Spatial) to provide services to participants in the 2015 WROC project.

The North Central Wisconsin Regional Planning Commission (NCWRPC) is once again taking on the lead coordination role for the project, working in close co-operation with the other Regional Planning Commissions (RPCs) in the state.

Consortium participants can select from a variety of imagery products, as well as LiDAR and planimetric mapping services. The 2015 projects will be primarily funded by local government (city and county) budgets. Unit pricing for the imagery products are uniform across the consortium, [as described in a WROC Info-Sheet](#).<sup>2</sup>

At this time, it is too early to forecast how many cities and counties will participate in the 2015 WROC project. However, using past history as a guide, it is likely that 40 or more of Wisconsin's 72 counties will participate.

In the 2010 WROC project, 36 counties contracted for 12-inch or higher resolution imagery. Due to lower acquisition and processing costs, many counties are expected to acquire higher-resolution imagery in 2015. Three-inch resolution imagery is a product primarily desired by cities, although in 2010 one county (Kenosha) did acquire 3-inch imagery county-wide.

While work is in progress to finalize city and county contracts, WROC organizers are actively seeking financial partners for



2013 National Agriculture Imagery Program image for downtown Wausau, WI.

the 2015 project. In 2010, WROC was able to secure \$1.2 million in partnership funding, which resulted in a statewide, public-domain 18-inch imagery dataset.

### Northeastern counties form consortium

Six counties in the northeastern part of the state (Brown, Calumet, Manitowoc, Oconto, Outagamie, and Sheboygan) formed a consortium in the fall of 2013 for imagery acquisition services.

The group published a Request for Proposals via the Brown County Purchasing

Department in October 2013, and subsequently selected a firm to provide services for all six counties during the spring of 2014.

Like WROC, counties in the northeastern consortium will each contract directly with the service provider selected for the northeastern consortium. Contracts have not been finalized at this time, but it appears all six counties will each acquire 6-inch resolution imagery during the spring 2014 flying season. Higher resolution 3-inch imagery may be acquired over some urbanized areas.

as, but those details have not yet been determined.

There were two main drivers behind the formation of the new consortium. First was a desire by the counties in the region to acquire imagery on a more frequent update cycle (3 years) compared to the five year cycle currently standard for WROC. In addition, the six purchasing departments felt it was appropriate to release an RFP in order to ensure their respective counties were receiving the best combination of price and quality for imagery services.

### **Summer 2013 NAIP imagery now available from NRCS, WisconsinView coming soon**

Wisconsin and 22 other states were flown during the summer of 2013 as part of the U.S. Department of Agriculture Farm Service Agency (FSA) National Agriculture Imagery Program (NAIP).

All 2013 NAIP imagery has a 1-meter ground resolution, and is designed to meet a 6-meter horizontal accuracy specification at a 95% confidence interval.

In the past, NAIP was strictly a 3-band (natural color) product. Beginning in 2010, all states flown also included a fourth near-infrared band which is useful for more detailed vegetation and wetlands analyses.

Currently, all 2013 NAIP imagery is available as a free download from the [USDA Natural Resources Conservation Service Geospatial Data Gateway](#).<sup>3</sup> However, NAIP imagery from the Data Gateway is available only as a three-band compressed MrSID county mosaic projected to UTM zone 15 or 16.

By mid-February, the original uncompressed, 4-band GeoTIFF-format images will be available on the [WisconsinView Data Portal](#).<sup>4</sup> In addition, the Wisconsin Department of Natural Resources is currently re-projecting the original UTM Zone 15/16 imagery to Wisconsin Transverse Mercator (WTM) base, and once that work is com-

plete, the WTM imagery will also be available on the WisconsinView site.

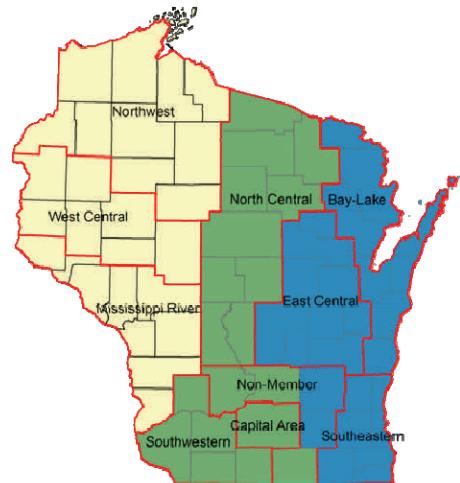
### **Imagery business plan nearly complete**

After some delays during the summer of 2013, the State Cartographer's Office is now wrapping up work on the project to develop a [business plan for a future Wisconsin aerial imagery program](#).<sup>5</sup>

Fundamentally, the project is examining existing models used to manage aerial photography projects in the state, and based on considerable community input, analyze the lessons learned from these past projects. The expected outcome is a formal implementation plan (a "blueprint") for an aerial photography program that meets the needs of the widest possible audience of users in our state.

Some major conclusions of the in-work draft include:

- The state of Wisconsin should take steps to implement an "enhanced consortium" imagery program model that is based on the past success of WROC. This includes providing 100% funding to counties to acquire 1-foot resolution imagery every three years.
- Establish a standardized three-year collection schedule beginning in 2018, and divide the state into three north-south zones that follow Regional Planning Commission boundaries.
- Multiple service providers should be awarded imagery services contracts during each year 3-year cycle.
- Wisconsin lacks a formal geospatial governance structure. Currently, no single agency or organization has the authority or mission to implement a statewide imagery program. The governance issue must be addressed before a sustainable program can successfully proceed.



Collection regions proposed in draft Wisconsin aerial imagery business plan. (West, Central, East)

### **1930's aerial photography 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](#)<sup>6</sup> site currently includes a statewide set of 38,000 U.S. Department of Agriculture 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.

To find additional Wisconsin historic aerial photography, visit the [SCO Catalog of Aerial Photography](#).<sup>7</sup>



Scan with your smartphone!

## **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**

1. Wisconsin Regional Orthophoto Consortium [www.ncwRPC.org/WROC2015/](http://www.ncwRPC.org/WROC2015/)
2. WROC InfoSheet [tinyurl.com/wroc-2015](http://tinyurl.com/wroc-2015)
3. NRCS Geospatial Data Gateway [datagateway.nrcs.usda.gov/GDGOrder.aspx](http://datagateway.nrcs.usda.gov/GDGOrder.aspx)
4. WisconsinView Data Portal [www.wisconsinview.org](http://www.wisconsinview.org)
5. Wisconsin Aerial Imagery Business Plan [orthoplan.sco.wisc.edu](http://orthoplan.sco.wisc.edu)
6. WI Historic Aerial Image Finder [maps.sco.wisc.edu/WHAIFinder/](http://maps.sco.wisc.edu/WHAIFinder/)
7. SCO Catalog of Aerial Photography [www.sco.wisc.edu/ap-catalog.html](http://www.sco.wisc.edu/ap-catalog.html)