**The use of volunteer monitoring for the development of Wisconsin’s statewide Landsat 8 water clarity products**

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Water quality monitoring is an integral part of water resource management. Monitoring will insure sustainable use of our aquatic resources and track short and long-term changes resulting from anthropogenic influences such as shoreline development, eutrophication, and climate change. Current water quality monitoring budgets can constrain the assessment of ecosystem health, evaluation of environmental problems, and determination of the success of management actions using conventional methods of periodic *in*-*situ* water quality monitoring in terms of spatial and temporal coverage. Remote sensing presents a cost efficient complementary approach for a more comprehensive assessment of our aquatic resources. Aquatic remote sensing activities at the Wisconsin Department of Natural Resources include the systematic processing of Landsat 8 OLI data for the retrieval of water clarity, the use of satellite retrieved water clarity data for the assessment of trends in water quality, and the development of new interactive ways to present the satellite retrieved water clarity data for public use. These activities are supported through volunteer monitoring data collected for hundreds of lakes on Landsat 8 image acquisition dates for algorithm calibration and validation and the derived water clarity products include average summer lake water clarities for General Condition Assessments and water clarity maps for the State of Wisconsin. Insights are provided in the steps for the development of Wisconsin’s statewide Landsat 8 water clarity products and the challenges in future improvements of these products.

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