

## OHIOVIEW HISTORY AND SUCCESSES

OhioView is a consortium of universities and partners in Ohio dedicated to furthering education and research in Earth Observation Science. Initiated in 1997, OhioView was selected by the United States Geological Survey to serve as the model for a national program dedicated to furthering remote sensing education, research and workforce training. In early 2001 the AmericaView program was formed and today enjoys a membership of 40 states.

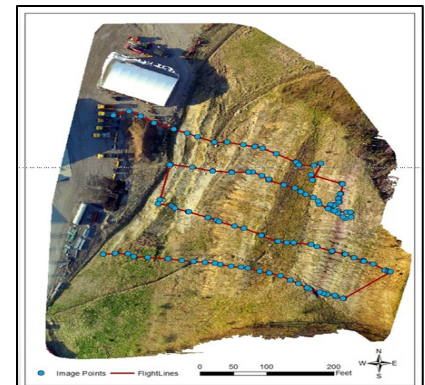
OhioView members consist of 14 state universities as well as other schools. OhioView is overseen by a Board of Directors made up of PIs from several of the universities in the consortium. Most OhioView schools participate in the OhioView Software Pool, by which the member schools contribute to a central fund dedicated to purchasing specialized remote sensing software at a significant cost savings to each school. This software enables the classwork, education, and research conducted by OhioView universities.

Over the past 22 years, OhioView has been committed to research and education. The following are several examples of previous OhioView success stories:

- OhioView universities have collaborated in research with NASA concerning focused on developing algorithms to detect toxic algal species and Harmful Algal Blooms (HABs). During their flight campaigns, NASA and NOAA collected airborne hyperspectral data over Lake Erie, Ohio and along the Lake Erie shoreline to support these research efforts.
- Unmanned platforms (aka “drones” or “UAS”) have gained widespread interest within the planning and resource management community. Previous OhioView work presented at the Ohio GIS Conference in Columbus, Ohio examined UAS applications in site characterization and environmental assessment. These are application areas where ultra-fine spatial resolution data is essential, but the large data volumes strain traditional image processing workflows.
- OhioView has partnered with the Wright Patterson Air Force Base Air Force Research Laboratory (AFRL) Discovery Lab to creatively address the educational needs of Ohio by educating and using geospatial technologies through the usage of a cutting-edge, virtual world platform.
- One of the longest running OhioView initiatives is the SATELLITES (Students and Teachers Exploring Local Landscapes to Interpret the Earth From Space) Program. This is offered yearly to K-12 teachers (particularly middle and high school level) in Ohio. SATELLITES provides K-12 teachers and students with hands-on, inquiry-based science, and STEM education using geospatial technologies. The student created projects are then presented and showcased at the annual SATELLITES Conference held each spring in Toledo, Ohio.



*Using remote sensing for monitoring and studying harmful algal blooms (HABs) in Lake Erie.*



*Three-dimensional model created through remotely sensed UAS imagery.*



*K-12 students presenting their remote sensing research at the annual SATELLITES conferences at the Penta Career Center.*

## OHIOVIEW CURRENT ACTIVITIES

### OhioView Multi-University Remote Sensing Workshop

OhioView member universities Youngstown State University, University of Toledo, Bowling Green State University, and University of Dayton presented a day-long workshop for 65 participants on March 1, 2019, that covered a variety of remote sensing and geospatial topics.

Each university's PI presented their section of the workshop to not only the individuals at their site but across the internet to the other three sites simultaneously, and then participants at all four sites worked together on hands-on applications of remote sensing. These included imagery change detection (presented by Dr. Umesh Haritashya), vegetation monitoring (presented by Dr. Anita Simic Milas), designing and publishing web maps (presented by Dr. Bradley Shellito), and training in the NASA Globe Observer app and protocols (presented by Dr. Kevin Czajkowski).

### ArcGIS Pro Training

OhioView member university Youngstown State University (YSU) held a workshop for regional geospatial professionals for switching from the former industry standard software, ArcMap, to the new standard, ArcGIS Pro.

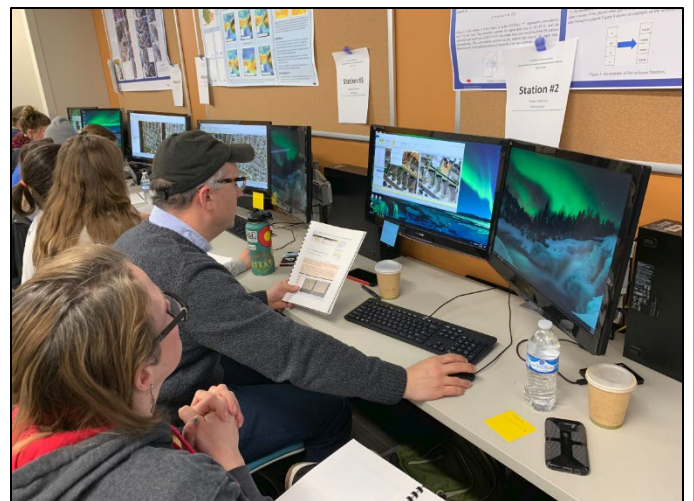
35 participants attended the day-long workshop at YSU on February 8, 2019, which also included a demonstration of remote sensing imagery and content held on the new 4K visualization system of the YSU planetarium.

### SPatial LITeracy - SPLIT Remote Sensing

The SPLIT Remote Sensing integrated the research-educational cascade model to support surface water quality monitoring. It offered high school and university students the opportunity to gain hands-on field remote sensing learning and research knowledge in an actual research scenario. The program was also designed to educate K-12 teachers who could then contribute to creating a diverse and highly skilled future workforce in the field of remote sensing. The program also included an exhibition *SPLIT through ART* where students displayed over twenty visually appealing remote sensing images, each accompanied by its own story including information about image and related environmental issues.



Participants in the OhioView Multi-University Workshop publish Web maps at Youngstown State University, one of four locations involved in the hybrid workshop.



Participants in the OhioView Multi-University Workshop perform change detection of an urban environment at University of Dayton.



SPLIT Remote Sensing for Water Quality workshop at Bowling Green State University – NASA engineer Roger Tokars was one of the lecturers together with FAA and industry representatives, BSGU professors and students and high school teachers (May 2019).

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