



# MISSISSIPPIVIEW 2020 - 2021

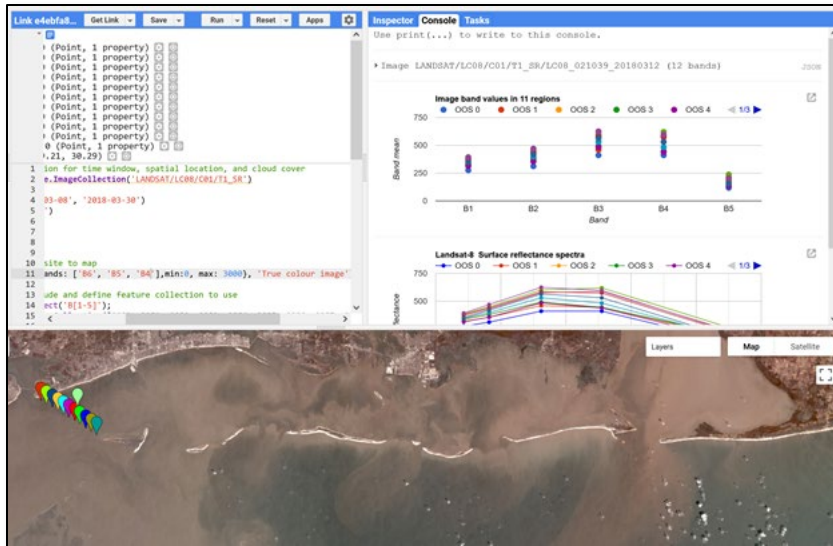


## MISSISSIPPIVIEW 2020 - 2021 ACTIVITIES

MississippiView was established in 2003 and is led by the Mississippi Mineral Resources Institute (MMRI) at the University of Mississippi. We promote and facilitate geospatial data usage, research, and collaboration among the geospatial community in Mississippi while fostering national and international cooperation.

Our high impact activity (HIA) involved the creation of introductory remote sensing laboratories with a Mississippi focus. From fluvial to forest to field, the state of Mississippi has diverse land use/land cover and landforms. These can bring possibilities of geohazards such as flooding. These laboratories allow the student to explore basic remote sensing concepts while engaging with imagery of familiar locations and places of historic interest.

This HIA supported graduate students to develop these laboratories, continue to develop their remote sensing skills, as well as promote the use of ArcGIS Pro, Landsat, and Sentinel-2 imagery with collaborators.



Student research focused on water quality monitoring of oyster reefs in the Mississippi Gulf Coast using Landsat and Sentinel data in Google Earth Engine. Note the sediment load coming from surface water runoff in Spring 2018.

Cover prints of the introductory remote sensing laboratory exercises. These had a focus on locations of interest in the state of Mississippi.

In addition to the creation of educational materials, active research, MississippiView is engaged in active research and developing partnerships within the state to promote use of geoinformational data and tools.

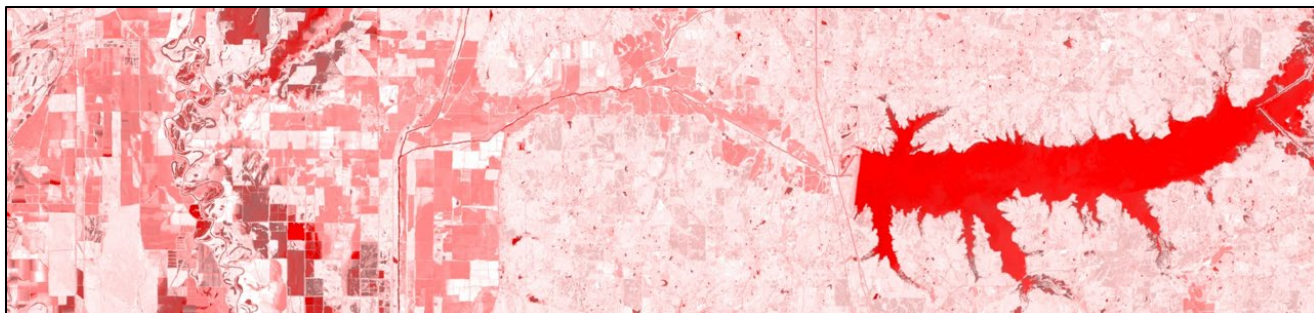
One ongoing project is developing geospatial tools to monitor water quality for the health of oyster reefs in the coastal waters of Mississippi.

MississippiView is a member of the AmericaView Consortium, a nationally coordinated network of academic, agency, non-profit, and industry partners and cooperators that share the vision of promoting and supporting the use of remote sensing data and technology within each state. AmericaView is funded by USGS grant agreement G18AP00077.



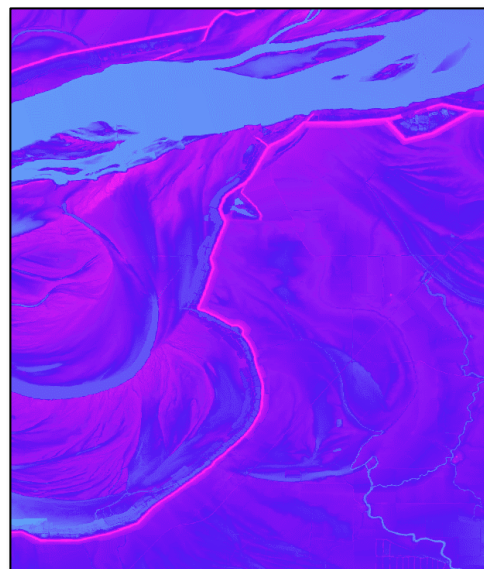
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## BENEFITS TO MISSISSIPPI



- Flooding and groundwater withdrawal are of utmost importance to the state of Mississippi. Monitoring these processes lead to a more effective response to a natural disaster and better management of a valuable resource.
- Applications using a variety of the spaceborne, aerial, and terrestrial-based sensors are taught to students of Mississippi and support applied research in the state.
- Other projects include the use of satellite imagery to monitor habitat of gulf coast oysters. Oysters are an important resource to the Mississippi Gulf Coast. Landsat data is used to monitor water quality parameter such as turbidity, thermal and land use change in upland watersheds. Results from the research supporting our HIA and non-HIA.

*Student research project using Landsat imagery to create a time-series of water pixels in the Mississippi Delta and uplands.*



*Floodplain visualization using relative elevation models (REMs) of flood prone areas.*



*Using terrestrial laser scanning (TLS) and aerial LiDAR in combination with high-resolution imagery, ground subsidence methods are investigated to benefit the flood prevention infrastructure of the state.*



## MISSISSIPPIVIEW CONSORTIUM MEMBERSHIP

MississippiView is engaged in developing partnerships within the state. We have teamed with outreach efforts from the University of Mississippi's School of Engineering, School of Education and School of Applied Sciences to provide spatial data and aerial/satellite imagery to support student learning and research.

We have continued to work with students from Rust College in Holly Springs, Mississippi



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