



INDIANAVIEW 2023 - 2024

AmericaViewSM
Empowering Earth Observation Education
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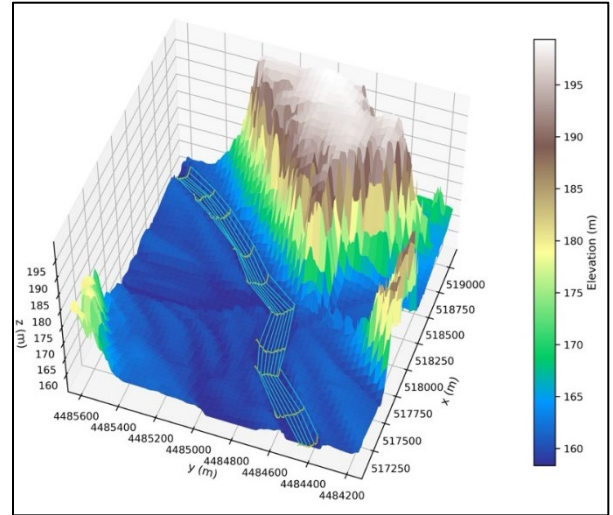
INDIANAVIEW 2023 - 2024 ACTIVITIES

IndianaView Student Scholarship Program

IndianaView provided scholarships for six students (five graduate and one undergraduate) from the member educational institutions to participate in remote sensing and geospatial projects. Each of the student provided a fact sheet about their project and a testimonial on how the scholarship assisted them.

Completed students' projects include: Eastern towhee migration study at central Indiana; Analysis of short- and long-term controls on the variability of event-based runoff coefficient in the Ohio River region; Optimizing irrigation for corn and soybean cultivation; Constraining formation hypotheses for irregular mare patches on the moon with orbital reflectance spectra; Simulation of the effect of groundwater storage and withdrawals in the Wabash River basin; and applying deep learning to predict comprehensive land and river topography for hydrological and hydraulic simulations.

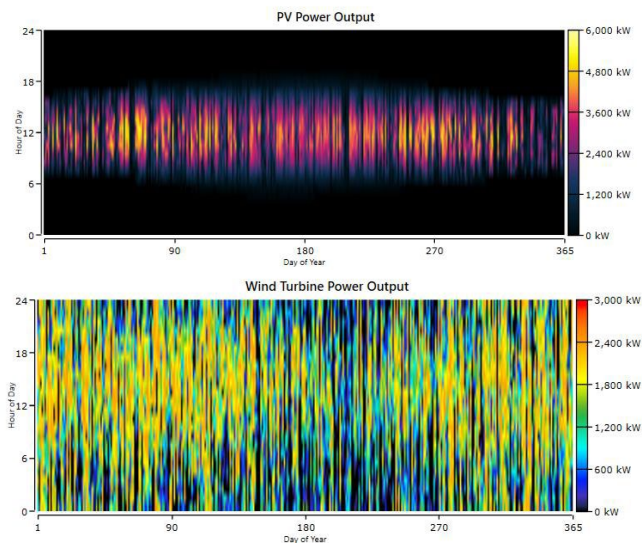
Students' testimonials show that the scholarship opportunity motivated them to apply remote sensing data in their disciplinary studies, opened opportunities for their data collection and analysis, and improved their confidence in using cutting edge technology in field data collection.



Riverbed topography or bathymetry is crucial for hydrologic and hydraulic applications. But the data are not easily accessible or widely available for large areas. With IndianaView support, the student developed a synthetic mesh of the riverbed surface (blue and green lines) generated by the deep learning model (CGAN).

IndianaView mini-grant Program

IndianaView provided a means for researchers at partner institutions to participate in IndianaView via geospatial projects relative to the state of Indiana. Two mini-grants were funded during 2024. One mini-grant project used remote sensing image to design a hybrid photovoltaic and wind energy system for Franciscan health, a hospital in Lafayette, Indiana. The project has been integrated into a course taught at Purdue Northwest involving 32 undergraduate and graduate students. Another mini-grant project further developed the Indiana Statewide LiDAR data portal, which enabled Cloud Optimized GeoTiff (COG) data format for the statewide ortho images served at the portal, so that users can easily access the image without downloading the geospatial data products to their local machines. This is a continuation work of enabling COG data for Lidar data at the portal.



Students at Purdue Northwest designed renewable energy systems (PV panels and wind turbines) for a local hospital.

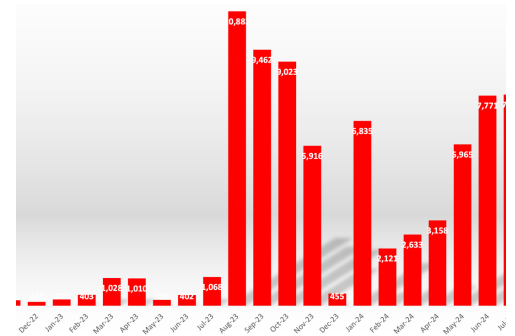
IndianaView is a member of the AmericaView Consortium, a nationally coordinated network of academic, agency, non-profit, and industry partners and cooperators that share the vision of promoting and supporting the use of remote sensing data and technology within each state. AmericaView is funded by USGS grant agreement G23AP00683.

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BENEFITS TO INDIANA

- The student scholarship program has greatly encouraged students across Indiana educational institutions to apply geospatial information in their specific research areas. This year, we have received twelve applications by undergraduate and graduate students.
- The Indiana statewide LiDAR and ortho imagery data portal (<https://hub.digitalforestry.org/>) was supported by IndianaView for multiple years through the mini-grant program to add QGIS plug-ins and enable cloud optimized data format. The volume of the data served increased significantly after those improvements implemented.
- Led by IndianaView PI, the post-bachelor certificate program in geospatial information science has graduated eleven students in its third year. Forty-seven students were admitted into the program including majors in agriculture, civil engineering, anthropology, earth science, business, and American Studies.
- The Purdue GIS Day event not only gathered researchers and students in multiple disciplines at Purdue university, but also had visitors from Indiana Geographic Information Council, Esri, Amazon AWS, databricks, and students from other universities. It provided a platform to discuss about the recent advancement in GeoAI, as well as a place for students to learn about career opportunities.



The Indiana LiDAR data portal web service statistics for monthly data volume served in GB.



Students in different disciplines learned geospatial information from the interdisciplinary program.

INDIANAVIEW CONSORTIUM MEMBERSHIP



Federal consortium members identified above do not receive funding from AmericaView.

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