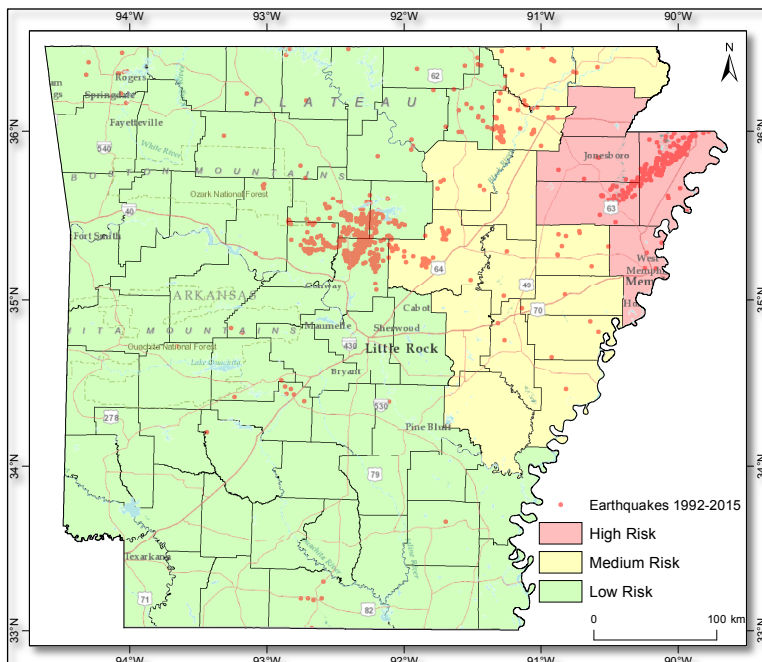


ARKANSASVIEW 2023 - 2024 ACTIVITIES

- ArkansasView has launched a multi-year initiative, "Developing a Summer Internship Program", with two primary objectives: first, to establish a sustainable internship program that provides valuable professional experience for students; and second, to utilize multi-temporal optical and radar remote sensing data to monitor environmental changes across Arkansas. These data will help identify and assess regions of the state vulnerable to geohazards, such as landslides, floods, and other geological threats. Spanning five years, the project made significant progress in GY23, laying the foundation for continued growth and expansion in the coming years.
- In summer 2024, ArkansasView provided critical training to two graduate students pursuing a PhD in Geosciences at the University of Arkansas. Funded in part by ArkansasView, these students gained advanced skills in geospatial technology and remote sensing, preparing them to contribute to the study of geohazards and geospatial data analysis. The internship program is designed to nurture a highly skilled, future-ready generation of researchers equipped to tackle pressing environmental challenges.
- Concurrently, ArkansasView conducted a comprehensive study on geohazards in Northwest Arkansas, leveraging cutting-edge remote sensing technologies to monitor active landslides, land subsidence, and other hazards. By integrating these advanced tools, the program aims to enhance the state's capacity to assess and mitigate geohazard risks, ultimately strengthening preparedness and resilience strategies across Arkansas.



Summer interns collect and analyze various geospatial datasets, including seismic data, to assess seismic hazards in Arkansas. On the map, small red dots represent recent earthquake occurrences, visually highlighting areas of recorded seismic activity. These markers are essential for identifying trends in earthquake frequency and location, providing valuable insights into the region's seismic risk. Such observations are crucial for guiding preparedness and mitigation efforts.

Notably, some recent seismic events in north-central Arkansas occurred within a low-risk zone. The seismic risk levels across the state, as determined by the United States Geological Survey (USGS), are color-coded based on proximity to the New Madrid Seismic Zone, a major fault system in the central U.S. that extends into northeastern Arkansas and has the potential to produce significant earthquakes.

BENEFITS TO ARKANSASVIEW

- The summer internship program will directly benefit Arkansas by training future researchers in Synthetic Aperture Radar Interferometry (InSAR), a key tool for monitoring geohazards such as landslides, ground subsidence, and seismic activity. By equipping interns with expertise in advanced remote sensing techniques, the program will help build local capacity for geohazard assessment, improving the state's ability to identify and mitigate risks. The program's real-world focus on Northwest Arkansas will generate valuable data to support informed decision-making, enhance disaster preparedness, and improve land-use planning. Ultimately, it will foster a highly skilled workforce capable of addressing the state's growing geospatial and environmental challenges.
- Geohazards in Northwest Arkansas, including landslides, subsidence, flooding, tornadoes, and seismic events, pose significant risks to infrastructure and public safety. Effective monitoring is essential, and remote sensing offers powerful tools for mapping and analyzing these threats across large areas. This study focuses on using InSAR to monitor ground deformation from landslides, subsidence, and seismicity, providing high-precision, cost-effective insights into spatial and temporal patterns of crustal movement. Unlike traditional survey methods, which offer limited point-based measurements, InSAR enables continuous, millimeter-level tracking of ground motion over wide regions, regardless of weather or time of day. By identifying areas at risk of failure, InSAR will improve hazard mapping, resource management, and decision-making, ultimately enhancing the understanding and management of geohazards in the region.
- Further strengthening its research impact, ArkansasView initiated collaborations with key figures at the Office of the State Geologist (OSG), formerly known as the Arkansas Geological Survey, including Scott Ausbrooks, Angela Chandler, and Martha Kopper. These initial contacts aim to share findings from ongoing geohazard studies and establish long-term research partnerships. Efforts to solidify these collaborations and expand the scope of geohazard research in Arkansas will continue in the coming years.
- The Director of ArkansasView took on leadership roles at the University of Arkansas as Coordinator for the Graduate Certificate in Geospatial Technologies and Undergraduate Faculty Advisor for the Certificate of Proficiency. He helped shape the geospatial curriculum and taught online courses through the Global Campus, sharing his remote sensing expertise with off-campus students from diverse industries and institutions across Arkansas. These courses play a crucial role in training the next generation of geospatial researchers and scientists.

ARKANSASVIEW CONSORTIUM MEMBERSHIP



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

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