



## Minority University Research and Education Project ([MUREP](#))

**Institution:** North Carolina Agricultural & Technical State University

**Award:** MUREP PBI/HBCU Data Science Equity, Access and Priority in Research and Education (DEAP)

**Title:** DEAP Institute: Harnessing Data Science for Flood Monitoring and Management

**PI:** Leila Hashemi-Beni

**Period of Performance:** May 1, 2023 – April 30, 2026

**Summary:** The team is comprised of three North Carolina-based HBCUs: North Carolina A&T State University (Lead Institution), Fayetteville State University, and Elizabeth City State University. The three intuitions will work together to address the case study of Machine Learning-Based Detection of Flood Extent and Impacts using satellite remotely sensing data. The project teams will train students on the use of geospatial data and machine learning techniques to address the need for accurate and fast processing of massive RS datasets for (near) real-time mapping of floods and expose them to career and graduate education opportunities in STEM. This project will increase capacity and capabilities within each institution through the implementation of data science research initiatives co-designed by the team with mentoring support from NASA. Ultimately, this DEAP Institute will support faculty and student research opportunities for HBCUs, improve lab and information technology infrastructure, and provide workforce development opportunities for underrepresented/ underserved students, aligning with Biden-Harris Administration priorities.

