About NCAS

NOAA Center for Atmospheric Sciences is a Cooperative Science Center led by Howard University in collaboration with three other minority-serving institutions (MSIs): Jackson State University, University of Texas at El Paso, University of Puerto Rico at Mayagüez, and two major institutions: University of Maryland College Park, and State University of New York at Albany. The Center has been funded by the NOAA Educational Partnership Program (EPP) since September 2001 and has formed a cooperative partnership with the NOAA National Weather Service (NWS). These four minority-serving institutions possess the highest combined enrollment of minority undergraduate majors in Science, Technology, Engineering, and Mathematics (STEM) fields. The NCAS partnership is a unique balance of minority-serving and majority institutions located along the eastern seaboard, the southwest, the Gulf coast, and the United States (US) Caribbean.

The NCAS research and training activities support the central philosophy of “producing quality students for the nation's technical workforce through high quality research training and education.”

Our Goal

Produce a diverse and well-trained cadre of technical and environmentally literate professionals who will help shape the nation’s future as “an informed society that uses a comprehensive understanding of the role of the oceans, coasts, and atmosphere in the global ecosystem to make the best social and economic decisions” (NOAA Strategic Plan Fiscal Year 2009-2014 – Vision Statement).

NCAS Programs

NCAS supports the research and training of over 75 students, postdoctoral fellows, and faculty across the six partnering academic institutions and integrates scholarly and scientific activity between STEM disciplines and Education, Communications, Social, and Behavioral Sciences to address 21st century challenges for science, technology and society. Our goals are supported through a variety of programs that include: Graduate Fellowships; Postdoctoral Fellowships; High School and Middle School Weather Camps; Environmental Literacy Campaigns; Field Intensive Research Fellowships; Undergraduate Summer Research Internships; Research facilities: Beltsville Atmospheric Measurements Program, Coastal Zone Observations, including the Coral Reef Early Warning System buoy in La Parguera, the Aerosols and Radiation Network (AERadnet) and the Aerosols and Ocean Science Expeditions (AEROSE).
Key Accomplishments

Education and Outreach
Leading producer of diverse workforce talent for NOAA and the Nation.
- 24 NCAS current and former students are currently working as NOAA employees.

Critical financial support for the Howard University Program in Atmospheric Sciences (HUPAS) – the first PhD granting program in atmospheric sciences at a Historically Black College and University (HBCU).
- Leads nation in the production of PhD recipients in atmospheric sciences from underrepresented groups of color.

Developers of the CAREERS Weather Camp program
- Nationally recognized outreach program for high school and middle school students.
- Operating in ten locations nationwide and Puerto Rico in 2013.
- Engaged over 3,000 students from K-20 in NOAA sciences through outreach and training programs, ranging from middle school camps to PhD production.

Research and Technical Capacities

**AEROSE (AERosols and Ocean Science Expeditions)**
Internationally recognized series of field campaigns designed to explore African air mass outflows and their impacts on climate, weather, and environmental health.
- Developed a rich set of meteorological as well as chemical data sets for tropical meteorology research.
- Provided NOAA satellite data validation and weather and climate operations.

**Air Quality Research**
Developed new chemical mechanisms for Regional Atmospheric Chemistry Mechanism 2 (RACM2) to be incorporated in the new NOAA air quality prediction system.

**Beltsville Atmospheric Measurements Program (BAMP)**
Developed a national facility in Beltsville, Maryland that was cited as an exemplar by the National Academy of Sciences, and is used by NWS (and a variety of other federal agencies) for instrument testing and evaluation.
- BAMP is a national recognized facility supporting multi-agency initiatives (NOAA, NASA, EPA) in air quality, climate, and weather research.
- BAMP is one of only three (3) GRUAN (Global Climate Observing System Reference Upper-Air Network) international scientific recognition sites in the US.

**Modeling Research**
Co-Sponsored the development of Climate Weather Research Forecast (CWRF) modeling capabilities designed for regional climate research.
- CWRF has been released to public users’ applications, governments, and private communities.
- Developed improved PBL parameterization schemes for weather and climate forecast models, and for PBL heights prediction as an integral part of a team to assist NOAA and Department of Homeland Security to develop an operational PBL height product over the continental US.