CISESS

Howard University Beltsville Campus (HUBC) Atmospheric Science Research Activities

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Abstract

Howard University, in partnership with NOAA, NASA, and several other federal agencies, has built a research program in atmospheric sciences at the Howard University Beltsville Campus (HUBC). Atmospheric science research at HUBC is helping various national and international communities to understand and develop innovative strategies to improve weather forecasts, effectively mitigate climate change, and better understand and predict air quality.

HUBC is located approximately 12 miles northeast of downtown Washington, DC, on 110 acres in suburban Maryland. The campus is in a suburban/rural setting. Less than 5 percent of the HUBC land area is occupied by building structures, making it an ideal environment for studying a range of surface-atmospheric interaction processes.

A comprehensive set of instruments have been deployed on a long-term basis at HUBC, including water vapor Raman lidar, microwave radiometer (MWR), upper air sounding systems, spectral and broadband radiometers, 31 m flux and meteorological tower, gas analyzers and particle samplers, as well as low-cost sensors. These instruments are calibrated to international standards, and their measurements properly archived and disseminated for a variety of scientific research activities and applications.

This poster presents some of our current research activities at HUBC such as our participation in field campaigns, satellite validation, air quality efforts, and weather forecast. These activities will be leveraged to enhance performance within CISESS, particularly in the areas of: Sensor Calibration & Validation, Surface Observing Networks, Algorithms & New Product Development, Data Fusion & Blended Products, as well as in the calibration and validation of a variety of satellite products.