

# **NOAA Cooperative Science Center in Atmospheric Sciences and Meteorology (NCAS-M)**



**NOAA COOPERATIVE SCIENCE  
CENTER IN ATMOSPHERIC  
SCIENCES & METEOROLOGY**  
EDUCATION RESEARCH IMPACT

**NOAA Educational Partnership Program with Minority-Serving Institutions  
Cooperative Agreement - #NA16SEC4810006**

# Outline

What is NCAS-M?

Student Statistics

Research & Training Activities

Accomplishments

Future Plans



# What is NCAS-M?

- Mission
- Partnerships
- Themes
- Alignment with NOAA
- Structure

# NCAS-M Mission

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- The core mission of NCAS-M is to increase the number of workforce-ready graduates from underrepresented communities in NOAA-related sciences, to support NOAA, other Federal agencies, academic institutions, and the private sector.
- NCAS-M is guided by the philosophy of research as education.
- To accomplish its goals NCAS-M collaborates with NOAA and NOAA stakeholders in support of this mission in three thematic areas.

# NCAS-M PARTNERS

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- Howard University - Lead
- State University of New York-Albany
- University of Maryland-College Park
- University of Puerto Rico -Mayagüez
- University of Texas - El Paso
- University of Maryland - Baltimore County
- San Jose State University
- Jackson State University



# Research & Training Themes

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- Interdisciplinary scientific research for building resilient communities against weather extremes
- Interdisciplinary scientific research to support modeling and forecasting activities for building community resilience against extreme weather, water, atmospheric, and climate events
- Integrated research in support of building public safety through Impact-Based Decision Support Services (IDSS)

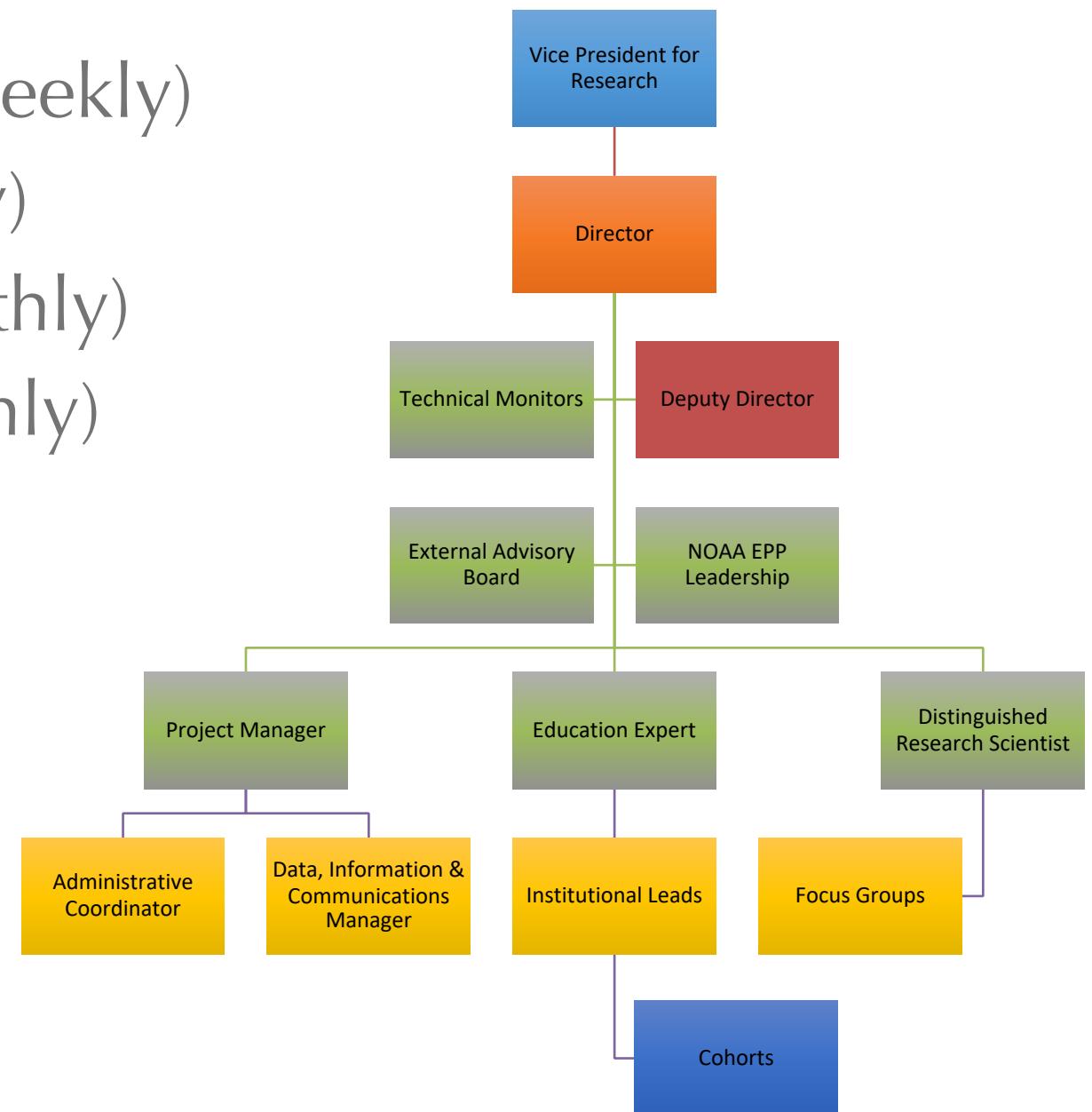
*NCAS-M research integrates a variety of disciplines such as communications, education, economics, public relations, psychology, and sociology into research on environmental sciences, marine sciences, climate change, and atmospheric sciences to address 21st century challenges for science, technology and society.*



# NCAS-M Management and Structure

## Key Elements

- Executive Management Team (Weekly)
- Institutional Tiger Team (Monthly)
- PI Administrative Meetings (Monthly)
- Research Group Meetings (Monthly)
- NOAA Engagements (Monthly)
- OED Tag-Up (Monthly)
- Site Visits
- CCWG (Quarterly)
- Annual Meeting
- External Advisory Board
- External Evaluator



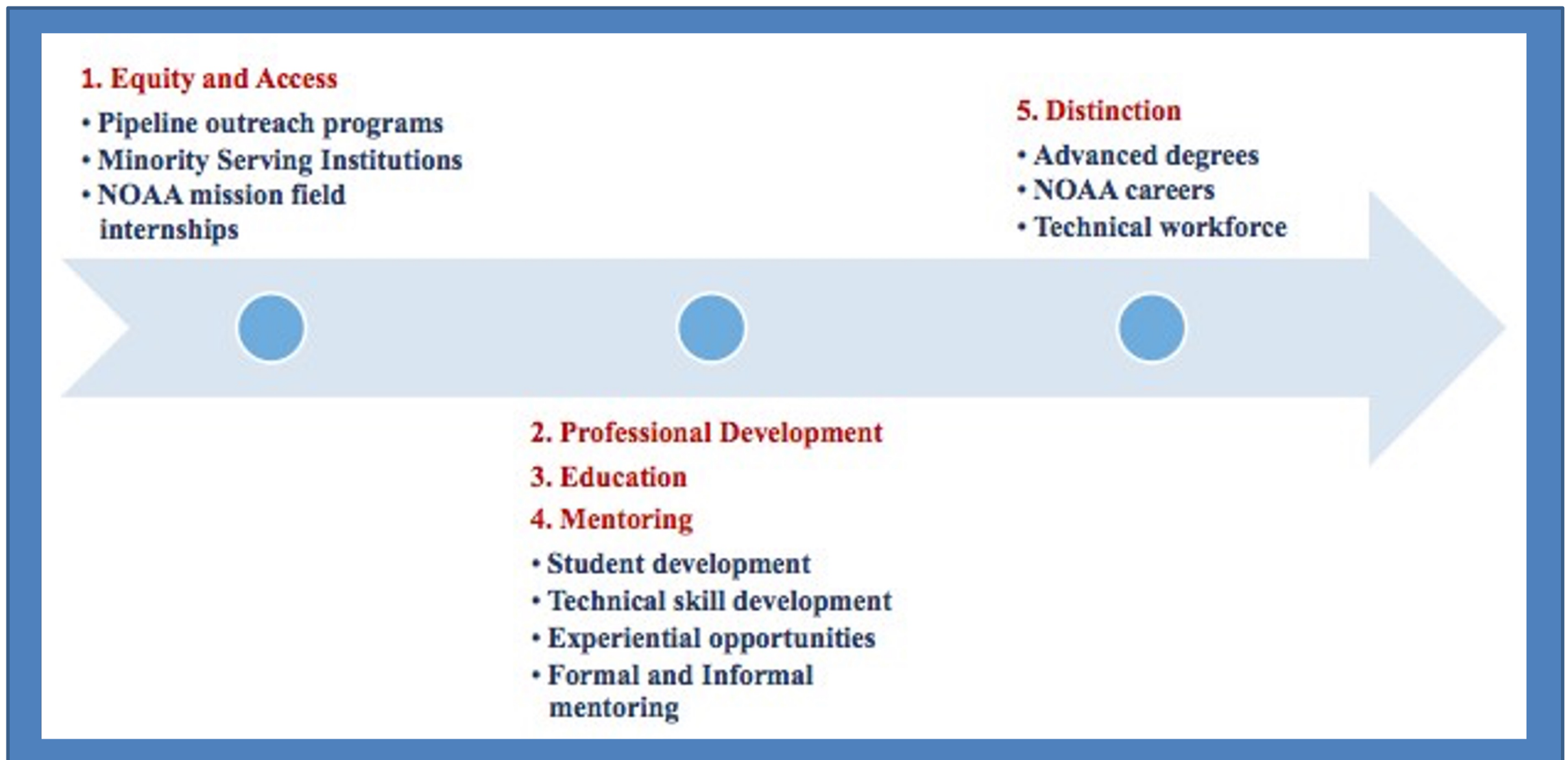
# Student Statistics

- Approach
- Students Supported
- Student Activities
- Alumni





# Five-Tiered Approach for Talent Pipeline



# Core Competencies

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- Ability to conduct translatable data science and social competencies to communicate impact of NOAA NWS mission services and products;
- Ability to experience and conduct R&D projects from end-to-end; and
- Ability to identify, prepare, analyze, interpret, and convey the impacts to decision makers and the public.

# Students Supported – Cohort I

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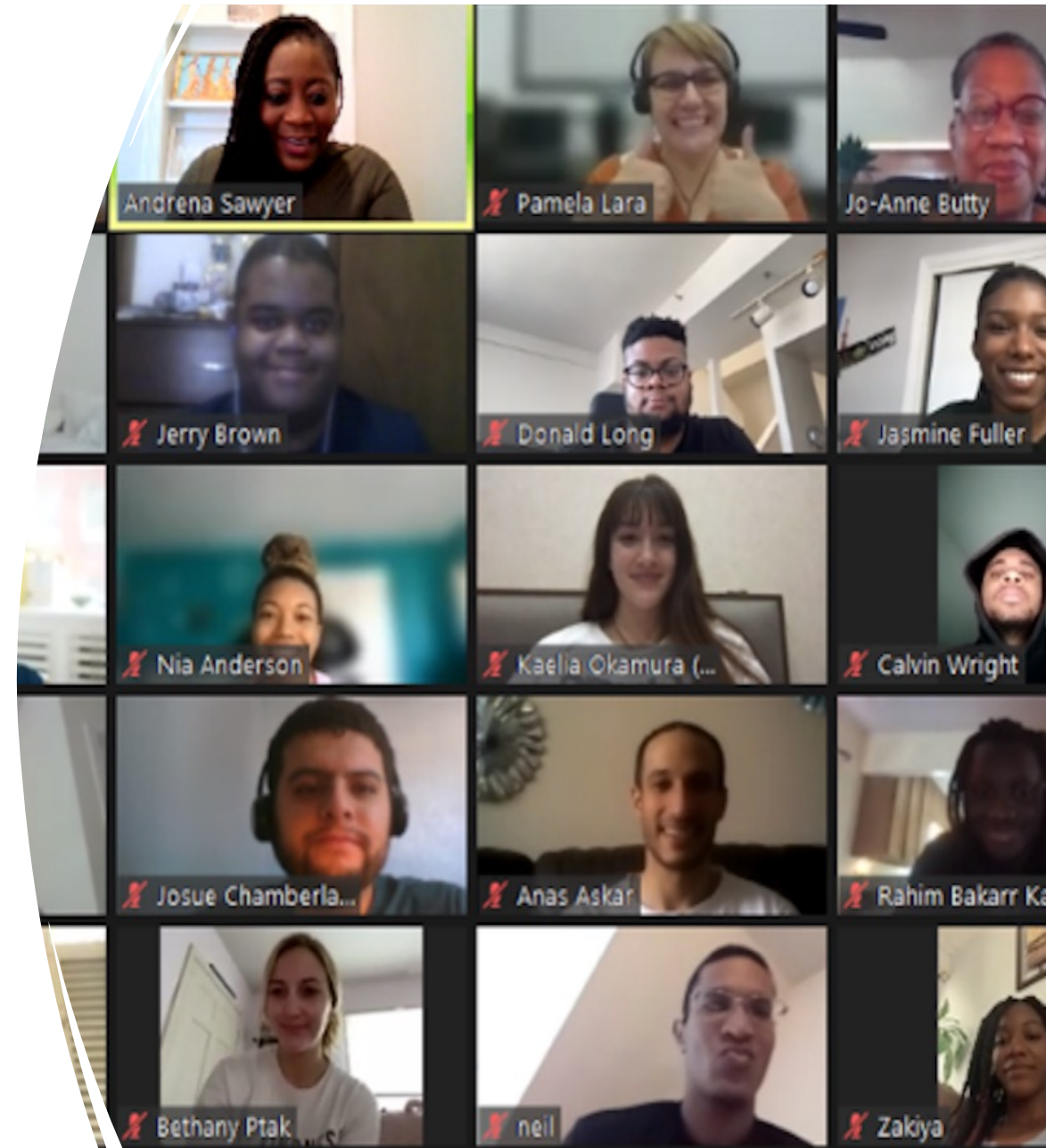
- 22 Students
- 6 PhD Students
- 6 MS Students
- 10 BS Students



# Research & Training

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- Individual Student Development Plan (SDP)
- NOAA Mission-Aligned Internships
- NOAA Skills and Competencies Training at NCAS-M II
- Annual Center-wide Cohort Experience
- NOAA Mission-Aligned Interdisciplinary Research Seminars



# NOAA Mission Internships (NERTO & NETSI)

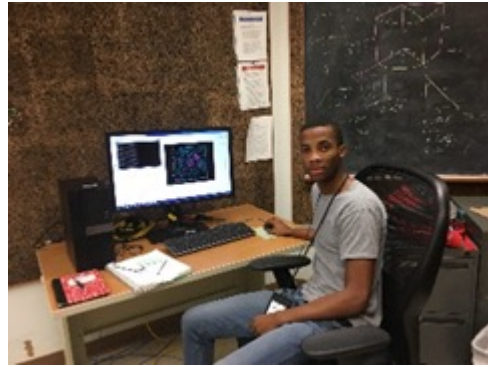
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- NERTO - NCAS-M graduate fellows at a NOAA facility under the guidance of a full-time NOAA employee for a minimum of 12 contiguous weeks .
- NETSI - For undergraduate students, a 10-week summer internship is highly encouraged at a NOAA facility under the direction of a NOAA employee.
- Graduate and undergraduate students completing NERTOs/NETSIs are eligible to receive a Certificate of Eligibility upon graduation that may be used for direct hire under the Conservation Corps Act (CCA).



# NERTO SPOTLIGHT

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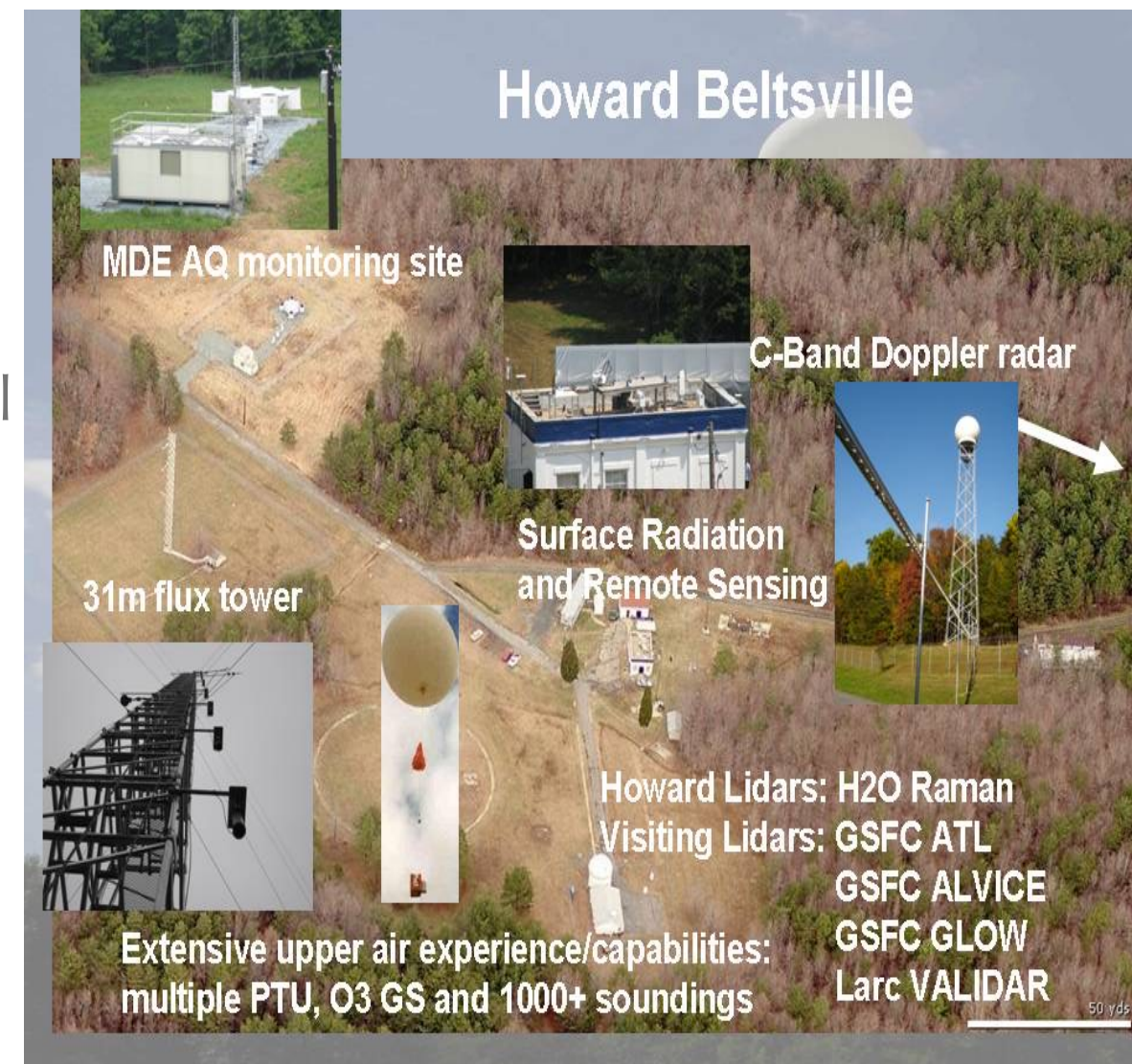
# Research

- Beltsville Campus
- Innovative Observations
- Social Science



# Research Highlights – Innovative Observations: Beltsville

- Howard University's North Campus (HUNC), Beltsville is a world-class facility equipped with the instruments that collect climate observations.
- It is the first university-operated site in the world certified by the World Meteorological Organization (WMO) as a member of the Global Climate Observing System (GCOS).
- The National Academy of Science report (2009) cites Beltsville as an exemplary collaborative research site between academic institutions, government agencies, and private industry.





# Research Highlights – Innovative Observations

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- Support research and applications that take greater advantage of novel and traditional environmental observations particularly those that close observational gaps in NOAA operational network that limit WRN forecast metrics.
- Field campaigns
- Surface and upper air measurements from suburban and urban
- Other similar efforts provide quality observations to fill gaps in existing Earth system observing networks and to help NOAA to expand coverage, especially in underserved regions.

# Research Highlights – Decision Support Social Science

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- Collaborative Research (i.e., GSL, NSSL) and Citizen Science Projects
  - Examination of the interpretation and use of IDSS within NWS
  - Fire weather research examining perceptions of risk and decision-making practices of Emergency Managers and Incident Commanders
  - Examine of the influence of risk perceptions of heat on the decision-making practices of citizens

# Historical Highlights

- Major Contributions to  
NOAA & the Nation



# Highlights of Previous Award



## NCAS-M Facts & Figures 2016-2022



[www.ncas-m.org](http://www.ncas-m.org)



# NCAS-M Alumni Highlights

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- Top produce of African American PhDs in Atmospheric Sciences
- Major contributor of the number of Hispanic Female PhDs in Atmospheric Sciences
- Major contributor of Social Scientists at NOAA
- Three high ranking (or previously) NOAA personal were NCAS-M Fellows (i.e., DaNa Carlis, Michelle Harkins, Jamease Sims)

# Key Historical Highlights

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- NOAA funding has enabled Howard University's Graduate Program in Atmospheric Sciences (HUPAS) to become the nation's leader in producing minority PhDs in [Atmospheric Sciences](#).
- The program has produced approximately 54% of the African American PhDs in [Atmospheric Sciences](#) matriculated in the US over the past decade.
- 96% of our graduates have found employment in a technical field related to their study
- Major contributor of [Social Scientists](#) at NOAA
- HUPAS is the leading producer of African Americans and Latina PhDs to NWS and OAR.