

THE DEPARTMENT OF ATMOSPHERIC AND OCEANIC SCIENCE (AOSC) AT THE UNIVERSITY OF MARYLAND offers M.S. and Ph.D. degrees. Our proximity to Washington, D.C., and national research centers, and our cross-campus collaborations enable our students to pursue studies in nearly any aspect of Earth systems science. From developing theoretical concepts to implementing them at nearby operational centers, our students are engaged in both basic and applied research.

For more information, visit
aosc.umd.edu

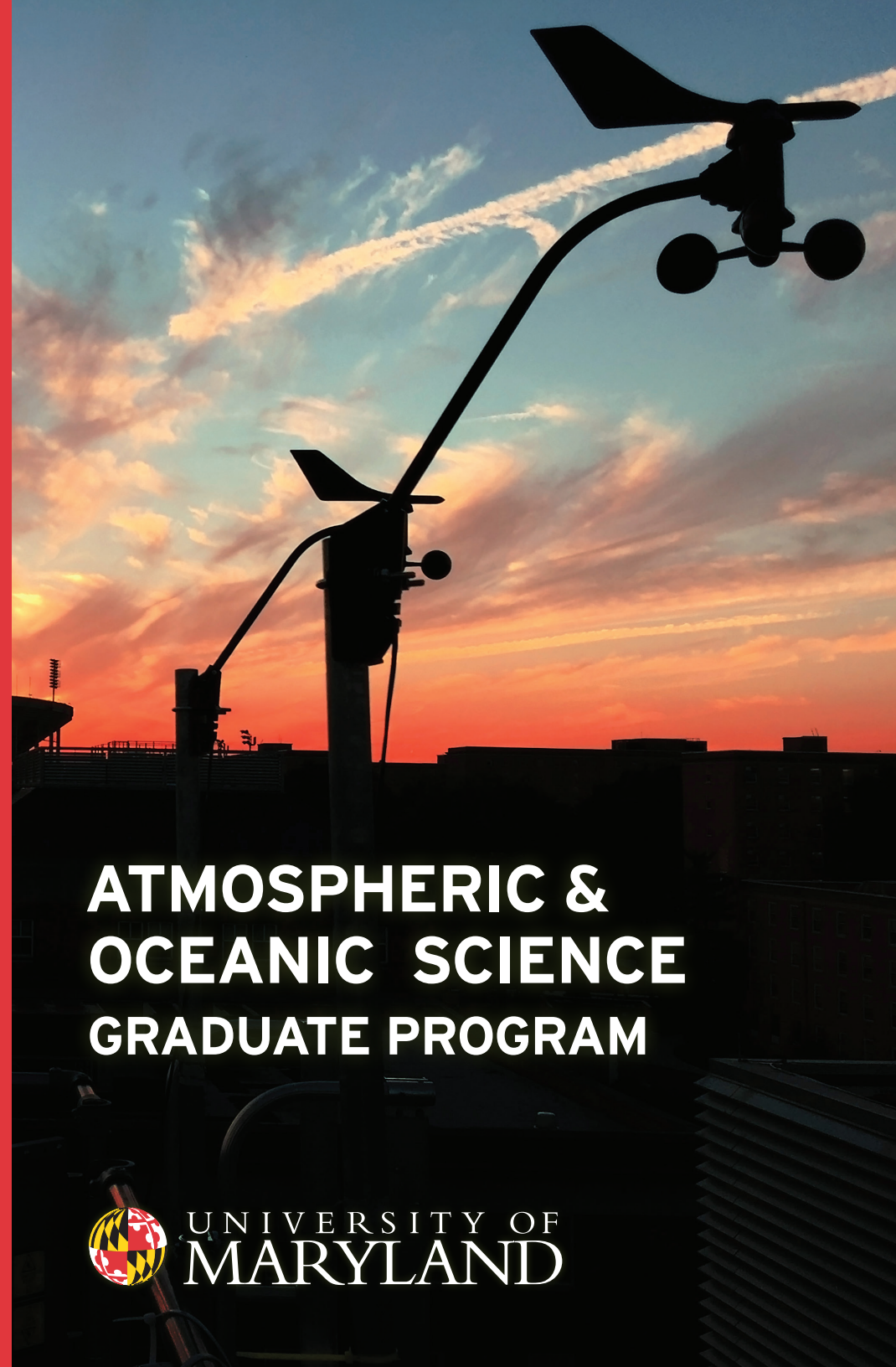
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DEPARTMENT OF
**ATMOSPHERIC &
OCEANIC SCIENCE**

On the cover: A rooftop photo of our department's anemometers with the UMD stadium in the background.



ATMOSPHERIC & OCEANIC SCIENCE GRADUATE PROGRAM



The Perfect Location for Collaboration

AND ranked in the **top 10** oceanography, atmospheric sciences and meteorology programs by the National Research Council

Located just a few miles from Washington, D.C., the University of Maryland is centrally located near several top national research centers. As a result, many students in the AOSC program are co-advised or mentored by researchers at NASA, NOAA, NIST, and other government agencies. Research conducted by AOSC graduate students and faculty members is used to educate local, national and international policymakers and inform regulatory strategies.

AOSC faculty members and students also collaborate with the Maryland Department of the Environment, the EPA, and other campus units, including applied mathematics and statistics, and scientific computation; chemistry; aerospace engineering; and public policy.

M Square, UMD's research park, includes the NOAA Center for Weather and Climate Prediction, the Cooperative Institute for Climate and Satellites (CICS-MD), the Joint Global Change Research Institute (JGCRI), and the UMD Earth System Science Interdisciplinary Center (ESSIC).

▲ Earth Networks (Weather Bug)

- National Institute of Standards and Technology

MD Dept. of the Environment ▲

Tipton Airport ►

- Howard University Beltsville

National Oceanic and Atmospheric Administration

• National Weather Service College Park

• M Square

• NASA's Goddard Space Flight Center

American Meteorological Society •

• U.S. Environmental Protection Agency

U.S. Department of Energy • • NASA Headquarters

• U.S. Naval Research Laboratory

Major Research Areas

ATMOSPHERIC CHEMISTRY

We use observations and chemical models to quantify the effects of harmful pollutants such as carbon monoxide, ozone and aerosols.

DATA ASSIMILATION AND NUMERICAL WEATHER PREDICTION

Advanced computational techniques and observational systems allow us to improve forecast models for weather prediction, seasonal climate outlooks, the global carbon cycle, trace chemical transport and mesoscale systems such as hurricanes.

OCEANOGRAPHY AND THE CRYOSPHERE

The ocean and cryosphere play big roles in determining Earth's climate. We study air-sea interactions such as the El Niño Southern Oscillation, ocean dynamics, the movement and change of glaciers and sea ice and cryospheric and oceanic biogeochemical processes.

CARBON CYCLE, ECOSYSTEMS AND CLIMATE

We study how the emission of greenhouse gases, as well as the uptake of carbon from the surfaces of both the land and the ocean, affect atmospheric concentrations of carbon dioxide and global climate.

REMOTE SENSING

We use remote sensors such as satellites, radio detectors, and LIDAR for applications such as observing lightning, tracking glacial melt and conducting aerosol property and concentration research.

Our Students

- In most cases receive full support for five years (tuition, benefits, stipend)
- Publish first-author papers in top-tier scientific journals
- Receive prestigious fellowships including NSF Graduate Research Fellowships and NASA Earth and Space Science Fellowships
- Coordinate and participate in social and service events through our graduate student organization, MetoGrads
- Have ample access to UMD's supercomputer, Deepthought2, one of the nation's fastest university-owned supercomputers.

