Department of Atmospheric and Oceanic Science, University of Maryland, College Park

The Department of Atmospheric and Oceanic Science (AOSC) is nationally ranked in an area of science that is intellectually and computationally challenging, yet of great relevance for societal well-being, national security, and the health of our planet. AOSC is home to 100+ exceptional graduate and undergraduate students, 16 tenure-track and 20 professional track faculty of national and international stature, and highly competent administrative staff. The National Research Council's 2010 Assessment of Research-Doctorate programs in the US placed AOSC in the top-10 oceanography, atmospheric sciences, and meteorology programs. The 2020 US News and World Report Ranking in Geoscience (which includes atmospheric and oceanic science) put the University of Maryland (UMD) at #9, while the 2020 Shanghai Academic Ranking of World Universities placed UMD at 10th globally in Atmospheric Sciences.

The Department is notably strong in Atmospheric Chemistry and Air Pollution; Aerosols, Clouds, and Remote Sensing; Climate Dynamics and Analysis of Climate Change; Data Assimilation; Mesoscale-to-Earth System Modeling and Prediction; Ocean-Atmosphere-Land Interactions; and Physical Oceanography. Its footprint in polar climate and regional hydroclimate is expanding from growing links with other departments (e.g., geographical sciences, geology) and colleges (e.g., agriculture).

Active research collaborations with NASA's Goddard Space Flight Center, NOAA's National Centers for Environmental Prediction (NCEP), NOAA's Satellite and Air Resources Laboratories (NESDIS and ARL, respectively), and the State of Maryland's Departments of the Environment and Natural Resources reinforce the Department's strengths. The proximal location of NOAA and NASA centers facilitates collaborative research, including joint advisement of students.

The Department's close relationship with the Earth System Science Interdisciplinary Center (ESSIC), a UMD research center that also administers the NOAA Cooperative Institute for Satellite Earth System Studies, provides faculty and students an infrastructure for multidisciplinary research with NASA, NOAA, and the UMD Departments of Geology and Geographical Sciences. Joint appointments of AOSC faculty with Chemistry, Center for Scientific Computation And Mathematical Modeling, Institute of Physical Science and Technology, and Marine Estuarine Environmental Science programs provide additional interdisciplinary research opportunities.

The Department faculty are widely recognized for their seminal contributions: The faculty roster has fellows of the American Meteorological Society (AMS), American Geophysical Union (AGU), and the American Association for the Advancement of Science (AAAS); it also includes Jefferson, Fulbright, Leopold, and Humboldt fellows. We are proud to have a fellow of the American Academy of Arts and Sciences and two of the National Academy of Engineering. Our roster also includes a Distinguished University Professor who is also a member of Academia Europaea. Department faculty have served in leadership positions in professional societies and national scientific research and advisory committees, including those of the National Research Council and National Science Foundation.

The Department students have received graduate fellowships from the National Science Foundation, NASA, AMS, National Defense Science and Engineering Office, and other organizations. Our newly minted Ph.Ds. have found employment in industry, research organizations (NASA, NOAA, DOE, NCAR), and academia, including prestigious postdoc placements (e.g., at GFDL/Princeton, NASA/GSFC, NASA/JPL, NCAR). Young alumni have garnered prestigious awards, including the PECASE, Holton (AGU), and WMO Gerbier-Mumm awards. AOSC undergraduates are just as accomplished – we are proud to have 5 NOAA Hollings Scholars on our roster.

The Department staff has received college-wide and university-level recognition for exemplary service and achievements – they are key to the successful running of the AOSC enterprise.