

ATMOSPHERIC AND OCEANIC SCIENCES: PROFESSIONAL PROGRAM, MS

This is a named option within the Atmospheric and Oceanic Sciences MS (<https://guide.wisc.edu/graduate/atmospheric-oceanic-sciences/atmospheric-oceanic-sciences-ms/>).

The MS-AOS: Professional Program in Atmospheric and Oceanic Sciences focuses on developing the in-demand skills needed to succeed and become leaders in the rapidly expanding and changing industry of meteorological consulting, risk management, and operational forecasting. The program provides training in fundamental atmospheric sciences as well as skill development in forecasting, modeling, data analysis, scientific communication, and evaluation of research for professional careers in both government and commercial institutions.

We offer four specialization internal pathways:

FORECASTING AND MODELING

Weather and climate computer models are increasingly complex, specialized, and are used in everyday decision making by a large number of industries and people. Skilled modelers who understand the theory, can run the models, and interpret the output are in high demand in industry and agencies like NOAA and NASA. Gain insight into how models work and experience in running state-of-the-art models in our field.

AIR QUALITY SCIENCE AND REGULATION

Air pollution affects public health globally, and understanding how emissions, atmospheric transport, and human impacts are linked requires a deep understanding of chemistry, dynamics, epidemiology, and policy. Our air quality pathway prepares students to tackle key pollution problems.

CLIMATE SCIENCE, RISK MANAGEMENT, AND COMMUNICATION

Climate change is a leading environmental problem of our generation. Skilled leaders who can evaluate climate variability from seasonal to century timescales, connect these to impacts and risks to society, and present these to diverse audiences in government and the private sector are in high demand.

SATELLITE METEOROLOGY

UW-Madison is the birthplace of satellite meteorology and home of the UW Space Sciences and Engineering Center (SSEC) (<https://www.ssec.wisc.edu/>) and the NOAA Cooperative Institute for Meteorological Satellite Studies (<https://cimss.ssec.wisc.edu/>), both located in the same building as our department. You have access to these expert scientists. This track prepares students in real-world analysis of weather satellite, radar, and allied remote sensing technologies.