PROJECT OUTCOMES REPORT

Advancing Atmospheric Science Education Through Collaboration and Research

The "Developing Expertise and Building Collaborations to Advance Atmospheric Science Education Research" project began with a workshop in May 2023. The workshop introduced atmospheric science educators, including graduate students and K-12 teachers, to education research methods. Educational materials and resources, including training sessions led by education research experts, have advanced their knowledge of the topic. The teamwork during the workshop helped create well-designed research projects in atmospheric science education. These projects explored topics such as understanding why students choose to pursue meteorology at the college level, their experiences once they are enrolled in an atmospheric science program at the college level, exploring how students understand and reflect on their own learning experiences, and alternative grading methods.

The workshop resulted in six presentations given at the American Meteorological Society's Annual Meeting in 2024 and one presentation at the Earth Educators' Rendezvous. Another three presentations were given at the American Meteorological Society's Annual Meeting in 2025. In addition, a special Presidential Conference session on atmospheric science education research was held at that meeting. The session, titled "Teaching Atmospheric Science: Celebrating Atmospheric Science Education Research Progress and Sustaining Momentum into the Future," aimed to raise awareness of this work and encourage more participation in atmospheric science education research.

The knowledge gained from these studies of teaching and learning in atmospheric science can also be applied to other science, technology, engineering, and math fields. The professional development workshop resulted in a larger and stronger community that shares the common goal of improving atmospheric science education to ensure that we are training future weather and climate scientists in the best manner possible so they can better inform society about and address weather and climate impacts now and in the future.