Mountains and the Ohio River Valley, primarily from its industrial and automobile emissions.

In addition, Stehr is also involved in the Linear Comparison Campaign with the National Aeronautics and Space Administration (NASA). Last summer, Stehr's group took their small plane and equipment around the outskirts of Washington D.C., while a NASA P3 plane took concentration readings within the metropolitan area. The planes were flown at the same time as a satellite taking the same measurements passed overhead. The data was compared and used as part of a NASA project to improve satellite readings of atmospheric conditions.

These affiliations and the results of their research are extremely relevant to areas along the East Coast, especially Washington, D.C. “We are pretty ideally situated to get transport from the Ohio River Valley. On high air pollution days, you can see the way it sets up and just comes right over the mountain,” Stehr said.

While Stehr has extensive experience researching atmospheric chemistry, he now has a new role as the Associate Director of Undergraduate AOSC. This major spans multiple different topics, including meteorology, climatology, marine science, atmospheric chemistry and atmospheric physics. Though the major is new to Maryland, the AOSC department is not. It started off as part of a research institute that still exists today— the Institute for Physical Sciences. “At some point they realized that they had a bunch of dynamical modelers, who were really meteorologists, and they broke off and formed their own department,” Stehr explained. After the department was created, graduate students were soon incorporated, and now, after years of battling for support and funding, the undergraduate program has, too, been approved.

The University of Maryland, College Park, is currently the only school in the state to offer an AOSC undergraduate degree. However, it is an increasingly popular field. According to the Bureau of Labor Statistics, employment of atmospheric scientists is projected to increase by 15% over the next 10 years. “This is a major where you can actually go out and get a job,” Stehr said. “You can get a job with a bachelor's degree in this major, and in physical sciences, that's kind of tough to come by.”

Due to multiple political and economic interests, the Department of Agriculture, NASA, reinsurance firms and consulting firms have all found weather data to be a necessary factor in their work. Stehr believes that climate change is undoubtedly playing a role. “People want to know what's going on with climate change, whether they believe it's going on or not...you need to know what's happening,” he said.

With concerns of climate change as a continuously controversial topic, demands for scientific explanations and solutions are high. Between conducting air pollution research and playing a large role in Maryland's addition of the new undergraduate major, Stehr and the AOSC department are doing all they can to not only search for answers, but set the stage for future climate research.