

Funding for Uinta Basin Winter Ozone Research

Background

- Ozone, an air pollutant that impacts lung function, exceeds U.S. EPA standards in the Uinta Basin during some winters. In August 2018, the Uinta Basin was declared a marginal ozone nonattainment area by EPA, triggering regulatory emissions control requirements.
- Regulations to reduce ozone-forming emissions are impacting the Uinta Basin's oil and gas industry, a significant source of revenue for the state that accounts for the majority of local economic activity.
- Scientific research performed at USU's Bingham Research Center (BRC) is helping to understand why and how winter ozone forms, so emissions reduction plans can be crafted that maximize environmental benefits while minimizing economic impacts.

Current Funding

- The BRC has a \$1 million annual budget (\$750,000 for labor, \$250,000 for equipment, materials, and other expenses), 80% of which is for winter ozone research. The Center's funding is from the Utah legislature (Utah Code 53B-18-14; \$250,000 annually, 2023 sunset) and grants and contracts with private and government entities.
- Research at the BRC encompasses three areas: (1) measurement of pollutants in ambient air, (2) characterization of air pollutant emissions, and (3) use of these measurement data to develop accurate computer models that will be used to create pollution reduction plans. This work has advanced understanding of the winter ozone issue so regulators and industry can make scientifically sound and economically viable decisions to reduce air pollution.

Need for Additional Funding

- Because of high ozone last winter, the Uinta Basin's non-attainment designation will be changed from marginal to moderate in 2021, triggering increased regulatory requirements.
- With this regulatory clock ticking, additional research is urgently needed to provide regulators with the information they need to make effective emissions control decisions.
 - In particular, research to improve computer models of wintertime ozone is needed, since federal law requires that regulatory agencies use these to develop emissions reduction plans. Computer models that perform poorly could lead to ineffective regulations, requiring costly controls on the oil and gas industry that don't improve air quality, increase the likelihood of a future "bump" to serious nonattainment, and lead to even more costly regulation.
 - Research that elucidates (1) the magnitude and composition of pollutant emissions from which oil and gas sources and (2) how to better simulate winter inversion meteorology will have the most significant impact on model performance.
- \$200,000 in additional annual funding from the legislature will allow the BRC to carry out these tasks in an accelerated way. This funding will enable the Center to (1) hire an additional full-time scientist, (2) employ an additional student to assist with seasonal field data collection, and (3) replace older, failing measurement instrumentation.