Industry Donations Support USU's Environmental Research

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- Uintah Basin biology student Makenzie Holmes, who works with Seth Lyman, prepares air samples to be analyzed for atmospheric pollutants that contribute to wintertime ozone.

Utah State University's (USU) Bingham Research Center has teamed up with local oil and gas industry partners to address emissions of pollution that can lead to high wintertime ozone. Recently, the group has received two corporate donations, each providing $25,000 to help further research on understanding of wintertime inversion in Utah's Uintah Basin. USU's research is aimed towards mitigating ozone impacts while minimizing costs to industry.

These contributions will help empower the BRC to provide reliable modeling data that can be used by state and federal regulators. As inversions affect several regions of Utah, most inversions in Utah are classified due to their particulate matter. In addition to meteorological ozone factors, the Uintah Basin is chemically different. Despite the differences, BRC's models and data can still be applied to other areas experiencing ozone challenges and can help inform mitigation strategies and solutions.

"By working with companies such as Chevron and Dominion Energy, we can further the science that helps industry make the important decisions that impact both the economic and environmental future of our state," said Seth Lyman, director of USU's Bingham Entrepreneurship & Energy Research Center and research associate professor in chemistry and biochemistry.

The $25,000 donation from Chevron helped with the purchase of a liquid chromatograph that measures aldehydes, which are a byproduct of the oil and gas industry. While ozone inversions are typically seen in the summer months, aldehydes in the atmosphere create the type of wintertime ozone inversions that are seen in the Basin.

The environmental stewardship grant from Dominion Energy, totaling $25,000, helped Lyman and his research team upgrade laboratory instrumentation, purchase computing resources and pay for undergraduate student researcher wages as they continue the long-term Uintah Basin inversion project. The competitive grants are designed to support education and stewardship projects that preserve, enhance or make nature more accessible.

The Uintah Basin, which includes Vernal, Roosevelt, Duchesne and other smaller communities, provides most of the refined oil that is delivered throughout Utah, including the Salt Lake area. Lyman is grateful for the partnerships that help further the understanding of the inversions.

"These kinds of partnerships are crucial to the livelihood of the Basin," Lyman said. "Ozone is one of the largest air quality issues facing the state. We are grateful to both corporations who see the value of our scientific expertise and importance of developing data-driven air quality solutions."

USU's Bingham Research Center in Vernal is dedicated to energy and environmental research in Utah and around the world and specializes in the areas of air quality, energy and environmental science. It was dedicated in 2010 and is named for Marc and Debbie Bingham, Utah entrepreneurs and business leaders.

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