

Knowledge to Improve Utah's Airscape

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Knowledge to improve Utah's Airscape, with Dr. Randy Martin

When it comes to addressing air pollution in the state, it's hard to know what knobs to turn to make positive changes in our air quality. Good policies need good data to back them up.

On February 26, 2019, Dr. Randy Martin presented his research findings at the O.C. Tanner headquarters in Salt Lake City. A few questions answered at this event included:

- How many bus riders does it take to reduce overall emissions?
- What is the easiest way to cut car emissions in half?
- How important is it to reduce car idling?
- What's the most dangerous invisible air pollutant?

Learn more about Randy Martin

Introduction Video

Research One-Pager

Research Highlights in AIR

FINDING AMMONIA "HOT SPOTS" ON THE WASATCH FRONT

Randy Martin is part of a consortium of researchers trying to see how ammonia plays in the formation of the wintertime smog that clings the air along the Wasatch Front.

This month, researchers from Utah Department of Environmental Quality's Division of Air Quality, the U.S. Environmental Protection Agency, the University of Utah, Utah State University, and Brigham Young University joined forces for the Wasatch Front Ammonia and Chloride Observations (WAFACO) study. The study is looking for sources of ammonia.

In a bad winter day, up to 70 percent of the airborne particulates measuring 2.5 microns or smaller are ammonium nitrate. Ammonium nitrate starts as two gases: nitric oxide (NO) and ammonia (NH₃) in the air. Researchers know where the NO is coming from—cars, airplanes, and factories. It's less clear where the ammonia is coming from.

The WAFACO study hopes to locate some of these sources of ammonia so we can better regulate their emissions.

Funded through a one-time appropriation from the Utah State Legislature, the researchers in the WAFACO study set up air monitoring sites from Brigham City to Heber. These monitors housed specialized instruments that measured levels of ammonia and hydrochloric acid (HCl)—another precursor of PM_{2.5}.

WAFACO comes on the heels of the 2017 multi-agency Utah Winter Fine Particulate Study (WFFPS). One of the key findings of WFFPS study was the important role of ammonia in bad wintertime PM_{2.5} in the Salt Lake Valley.

RELATED LINKS

Utah State Ammonia and Chloride Observations (WAFACO) <https://deq.utah.gov/air-quality/monitoring/2019-winter-fine-particulate-study>

Utah Winter Fine Particulate Study <https://deq.utah.gov/air-quality/monitoring/2017-winter-fine-particulate-study>

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