

# New data will help Colorado study health effects of fracking

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New data on air pollution from fracking wells in Colorado will be a big help in assessing whether the emissions are harmful to human health, state officials say.

A three-year study released Tuesday measured methane—a greenhouse gas—and ozone-causing compounds that were released from new natural gas wells in western Colorado.

The research, by Colorado State University professor Jeff Collett, didn't measure the [emissions'](#) health effects, but [state officials](#) will use the data in computer modeling to assess the risks, said Mike Van Dyke of the Colorado Department of Public Health and Environment.

"This study is incredibly useful," said Van Dyke, chief of environmental epidemiology, occupational health and toxicology for the health department.

The state expects to hire outside researchers by the end of next month to begin modeling the [human health](#) risks, using the western Colorado research as well as data from a second study Collett is conducting at wells near the state's urban Front Range.

The state risk study is expected to be completed in January 2018.

Collett's study is the first time researchers have been able say with certainty they were measuring pollution only from drilling operations

and not from other sources, Van Dyke said.

Van Dyke believes Collett's study is the first of its kind in the country.

Fracking, or hydraulic fracturing, uses pressurized water, sand and chemicals to break open underground formations and release oil and gas. Critics say [air pollution](#), spills and leaks from fracking operations are a threat to public [health](#) and the environment, but the industry says the procedure is safe.

Garfield County, in the heart of western Colorado's biggest gas field, contributed \$1 million toward Collett's study. Oil and gas companies donated another \$700,000 and allowed researchers access to drilling sites.

Collett said that access was essential.

Quizzed by the county commissioners in Glenwood Springs on Tuesday, Collett said neither the companies nor anyone else influenced his research.

Collett's team took air samples and measurements from the plume of air emissions downwind from new natural gas wells during three phases: drilling, fracking and "flowback," when the [natural gas](#) began flowing out of the fractured formations and up the well, pushing the water and fracking chemicals back out.

They also released a tracer chemical—acetylene—at the well site, which helped them identify which direction the emissions were blowing.

Since they knew how much acetylene they released at the well, they were able to calculate how much of it was dispersed before it got to their sampling stations. That data allowed them to calculate how much of the

well emissions were dispersed, also.

Researchers measured the same pollution upwind from the site so they could determine how much of the emissions were from the well and how much were already in the air.

Collett said the highest level of well emissions came during the flowback phase.

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