

Irrigation effecting weather

(KLZA)-- Intense irrigation in Nebraska is having a complex effect on the weather according to researchers at the University of Nebraska-Lincoln.

Scientists have been studying the impact of irrigation on weather for years because of irrigation's importance to global food security and the need to understand how its increasing use might change the weather. Irrigated fields produce about 40% of the world's food, and its use is growing.

Dubbed GRAINEX for the Great Plains Irrigation Experiment, the study placed weather sensing equipment across 3,600 square miles of southeast Nebraska — from Merrick County on the northwest to Johnson County on the southeast.

The most noticeable, localized effect that irrigation has on the weather is to make an area more humid. People sense that through muggier and more uncomfortable weather. That humidity also suppresses temperatures, so it's harder for hot weather to generate records.

Other changes aren't discernible by people but can be detected through large-scale scientific studies, analysis of decades of data and sophisticated computer modeling. It's this type of research that has led scientists to conclude that irrigation is changing wind patterns locally and affecting rainfall patterns over a large area.

Irrigation in Nebraska appears to have led to slight decreases in rainfall within the most heavily irrigated areas, while potentially causing slight increases in rainfall many hundreds of miles away.

While the amount of rain involved is minor, a fraction of an inch over decades, the science is very solid.

Nebraska, it turns out, is the perfect laboratory to study irrigation. The state leads the U.S. in irrigated land, and the U.S. ranks third globally for amount of irrigated land.

Using a \$2 million grant from the National Science Foundation, researchers from six institutions undertook a massive study of irrigation in Nebraska in 2018, and that study is still bearing fruit.