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STORMS

# New technology could advance storm warnings

D-FW area may test a system based on a network of radars

Governments in North Texas are considering a proposal to be the first urban area to test a new approach to weather forecasting.

Like Twitter's many ground-level dispatches, the system is based on a series of small radar devices that can be scattered around cities and their suburbs, rather than a large beacon that takes a sweeping, imprecise view.

The widespread deaths and damage inflicted this week by tornadoes throughout the South demonstrated that warnings using current weather technology are limited. Meteorologists and public safety officials said they hoped that the new system could prevent deaths from tornadoes and flash floods.

"Because we have a network of radars, it's like many pairs of eyes," said V. Chandrasekar, deputy director for research for the Engineering Research Center for Collaborative Adaptive Sensing of the Atmosphere, or CASA.

"We can see things faster than things can change," said Chandrasekar, an engineer at Colorado State University.

Credibility is an issue. About 80 percent of tornado warnings are false alarms, Chandrasekar said, because officials have to guess.

And the people who hear the warnings do not believe them "because they can't see it," said Molly Thoerner, director of emergency preparedness for the North Central Texas Council of Governments in the Dallas-Fort Worth area.

Many tornadoes simply never register on Doppler radar. Those antennas send new images every five minutes, but tornadoes can touch down and dissipate quicker than that, said Edward Cravens, the director of emergency management in McClain County, Okla. His rural Tornado Alley district has been the site of a multiyear test of five CASA radars, which send new images every minute.

"You can actually check the storm's development as it's traveling," Cravens said, adding that such a capability would be especially important for storms like those that tore through Alabama at more than 60 mph on Wednesday, leaving hundreds dead.

Cravens estimated that he could issue a tornado warning up to four minutes sooner using CASA data.

William Bunting, the meteorologist in charge of the National Weather Service's forecast office in Fort Worth, was skeptical that CASA would improve tornado warning lead times, but he said that its improved rainfall estimation would help predict flash floods, the leading cause of weather-related deaths in the United States.

CASA, financed by a 10-year grant from the National Science Foundation, is a collaboration among Colorado State and the University of Oklahoma, the University of Massachusetts and the University of Puerto Rico, Mayaguez.

Sarah Wheaton,  
The New York Times