NEW ORLEANS (AP) - The airport here now has the nation's most advanced system for detecting an invisible and deadly weather phenomenon - windshear - which caused a plane crash two years ago that claimed the lives of 153 people.

Windshears, or microbursts, are abrupt, sometimes severe reversals in wind direction - capable of bringing down a big airliner when it is taking off or landing.

Windshear was what brought down Pan Am's Flight 759 within a few seconds after it lifted off the rain-swept International Airport runway here at 4:10 on July 9, 1982.

The crash stripped 15 houses out of a residential section next to the airport, located beside the suburb of Kenner, killing all 145 people on the plane and 8 on the ground.

John McCarthy, of Boulder, Colo., a scientist now directing a windshear experiment at Denver's Stapleton International, said the microburst that felled Flight 759 developed smack in the middle of the field.

So the doomed flight, in the space of a few seconds, moved from strong headwinds to an equally strong tailwind. Engines roaring futilely, it sagged until a wing clipped a tall tree.

On that day, the airport's low level windshear detection system could not have "felt" a microburst in the center of the field.

"We now will be able to detect a windshear in the center of the airport where before we could not," said Dan Gardner, coordinator for the Federal Aviation Administration in New Orleans.

"What we have today is basically the same thing we had before, except it gathers more data from a larger area."

The FAA spent $600,000 improving New Orleans International Airport's system, which was unveiled last week.

Instead of six wind sensors, there are 11. Instead of being three miles apart, they are within a mile. They connect to a better computer that feeds information directly to air traffic controllers in the tower.

The low level windshear alert system, known as the LLWAS and pronounced "L-Was," is relatively simple.

On all sides of the airport, sensors, a computer term for gauges, keep constant measure of wind speed and direction, feeding data to the computer. The computer compares data from the outlying sensors to the winds at the center of the field. Any significant deviation signals a windshear, the alarm buzzes, and the controller passes the word by radio.

Gardner compared a microburst to an inverted tornado.

The downburst of air hits the ground and fans out in all directions, creating dramatic changes in wind for a plane that happens to pass through.

On the average, the area covered ranges in width from half a mile to nearly two miles. Windshear velocity averages 56 miles an hour, but has been measured at 107 mph.

McCarthy, director of the National Center for Atmospheric Research, said his study of microbursts shows that, in a few areas, they are all too frequent.

On a typical summer day at Denver's Stapleton International, he said, pilots could have about 15 close encounters with microbursts on takeoffs and landings.

"I am convinced that the great majority of pilots are not sufficiently aware of this hazard," he said.

The 45-day Stapleton test involves a more sophisticated windshear detector - Doppler radar, capable of reading echoes from such minute objects as dust particles, raindrops or insects in the air and thus revealing the speed and direction of the surrounding winds.

Conventional radar cannot make such readings.

However, Doppler is expensive and still regarded as a system under development. McCarthy, reached by telephone, estimated that installing such radar will cost $1 million or $2 million per airport.

"So the LLWAS will be around a long time and probably should be," he said.

"But we think it should be improved, and the FAA action at New Orleans is clearly going down the right path."

Gardner said a study of the enhanced New Orleans LLWAS will determine whether the FAA will undertake similar enhancement of such systems already in place at 58 other airports.

In addition, data from this prototype system will go into planning LLWAS installations to be made at 51 more airports.

Experts hope none of them will have the same problem New Orleans has had. Hunters often have used outlying...
An airliner lands at New Orleans International, passing near a windshear detector.

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sensors as targets.

“We have a sensor west of the airport in a swamp area that has been shot out many times. We couldn’t keep it in operation,” Gardner said. “It looked like a small airplane without wings. Folks thought it was an ideal target.”

The new sensors look more like a light bulb protected by a wire cage.

Gardner said the old signs used to threaten shooters with prosecution and dire penalty. Those made no impression. The new one gets more attention.

“Instead of threatening to put them in jail, we finally put up signs that say these facilities are used by airplanes landing and taking off and destruction could cause an aircraft accident with loss of life,” he said. “So far, it works a lot better.”