

Killer Tornados

By Yaakov Astor

The recent massive, deadly tornado outbreak that hammered the United States produced 69 tornados in 4 days and resulted in 35 fatalities and over 200 injuries, decimating homes, towns and families. The US is the world's cyclone capital, and this may be only the first monster weather system of the season.

The churning interiors of the world's most violent storms are still shrouded in mystery, but scientists are trying to get a glimpse inside. Join Zman as we venture into a tornado's swirling vortex, a place where the laws of nature seem not to apply.

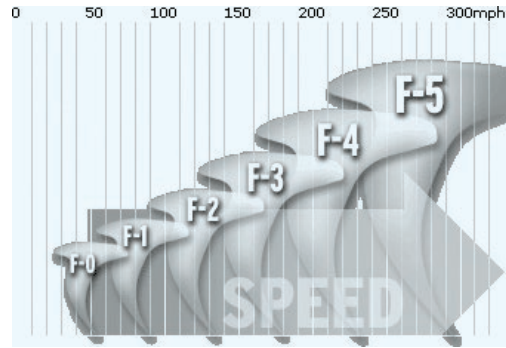
- **What happened when the world's greatest storm chaser, Tim Samaras, who made a career of studying some of the world's most dangerous weather phenomena, met the world's greatest tornado?**
- **It flattened entire neighborhoods from one minute to the next and completely gutted a hospital in the space of 45 seconds. Residents of Joplin, Missouri were used to routine tornado warnings, but no one was prepared for a storm like this. Experience the harrowing stories of survivors of the costliest tornado in history.**

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Dozens of storm chasers are navigating back roads beneath a swollen, rotating, *mile-wide* wall of cloud that has brought an early dusk to the remote farm country southwest of El Reno, Oklahoma. Among them are renowned tornado researcher Tim Samaras, 55, his son Paul Samaras, 24, and his chase partner Carl Young, 45.

Debris is pelting their specially outfitted chase vehicle as they drive on a county road parallel the highly erratic, multi-vortex tornado with a mesocyclone (or parent storm). The mother cloud, which is dropping down and pulling up tornados around it, looks like “an octopus with many tentacles,” according to one witness. Each “tentacle” alone is a killer.

Tornados are classified into five levels of intensity; the most destructive is an EF5 (or an F5 according to the earlier classification system). An EF5 is freakish and hostile. The phenomenal wind speeds and pressures at the center make it a place where the laws of physics seem to be repealed. Cars, rooftops and animals become weightless



The Fujita Scale categorizes tornados according to their power and destructiveness.

and take flight; tractor trailers tip over like Matchbox toys; ancient oaks are plucked whole out of the ground and levitated. In the tornado’s aftermath, oddities abound such as phonograph records rammed sideways into telephone poles; full place settings left undisturbed on a dinner table in a house without walls; or, in one well-documented case, near Kickapoo, Kansas, a man set down alive after being lifted up and carried through the air for more than a mile. (He later died.)

The El Reno tornado that Tim Samaras and the other storm chasers are pursuing is an EF5, the highest on the scale.

There are some good reasons for chasing storms—mainly, scientific. However, a few chasers make a living selling photographs or footage of storms. There are also very good reasons why amateurs should *not* go storm chasing. Cars and tornados are a dangerous mix. Driving at high speeds though heavy rain, large hail and high winds can be hazardous for one’s health—or even fatal. If one is lucky enough to chase down a tornado, even the most experienced chasers can find themselves in a serious life-threatening situation when the unexpected occurs.

Tim Samaras knows about the unexpected and how to deal with it. He enjoys the reputation as not only the most famous storm chaser but as one of the most cautious, conscientious and safety-minded. “Of all the hundreds of storm chasers that roam that Great Plains,” a longtime friend said, “Tim is the most brilliant and most careful.” Samaras has an uncanny ability for finding twisters *and* escaping them with his life.

For miles, Samaras and his team have been racing this monster tornado over dirt roads. The last time he had a good bead on the main funnel, it was tracking east-southeast. As he heads in that direction, the rain comes faster and harder. Soon the tornado wraps itself in rain so dense that he struggles to make out its leading edge. It looks like a shapeless wall of torrential rain.

Despite being in the blind, experience and the sophisticated weather-tracking instruments in his car tell him that inside the monster storm are swarms of sub-vortices—200-yard-wide tornados within the tornado—whose wind speeds approach 300 MPH.

“This is a very bad spot,” he tells the others.

Samaras does not know it yet, but in *seconds* the storm will grow from one-mile wide to *two-and-a-half miles* wide, which will make it the widest tornado ever documented. At the same time, the monster—black as soot and towering into the stratosphere—will make a sudden 120-degree turn and accelerate, tearing toward him across the wide-open wheat fields at highway speed.



The ominous El Reno tornado turned the sky black. Its unpredictability caught even experienced storm chasers by surprise.



A tornado touches down at the airport in Denver, near where Tim Samaras grew up.



Inside a tornado the impossible becomes reality: Huge tractor trailer trucks like this are flung through the air like rags....

The record-breaking 2.6 mile wide tornado from a safe distance.