

YEAR OF THE
Storms



THE DESTRUCTIVE KANSAS WEATHER OF 1990

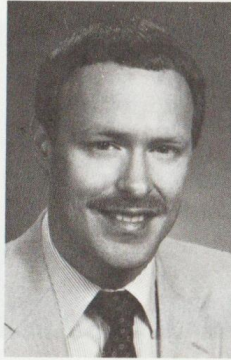
Tornado Chasers

Meteorologist and Pratt businessman Jon Davies is successful enough in his medical supply business that he has time to pursue the avocation that is close to his heart: chasing tornadoes whenever skies look threatening. Davies followed the south central Kansas March 13 tornado from its birth near Pretty Prairie to the Burrton area, where power lines blocked his way. Another tornado-chaser, whose car received a solid pounding from the March 13 tornado, is Doug Nelson, who makes his living as a carpenter in the Alma area.

On March 13, Nelson rushed to west of Hesston when he heard reports a tornado had touched down in Reno County headed northeast. His color photos are some of the most dramatic of the storm. "I tried to stay ahead of it, but I chickened out and parked underneath the overpass," he said. "I saw pieces of roof flying by." Nelson continued to follow the tornado toward Hillsboro, capturing it at its intensity as it crossed K-15. At some points he was within a half-mile of the funnel. He followed it until dark near Dwight. "It almost got me there. It was so dark," he said.

Nelson, like Davies, has been trained as a spotter through the National Weather Service. "The public and the media shouldn't follow them as closely as I do. One of these days, someone who doesn't know what they're doing is going to get killed."

Far Right: North of Haven, the March 13 tornado has been on the ground about half an hour as it races toward Burrton. Photo by Robert Williams.



Jon Davies



nadoes. The first tornado, which began near Pretty Prairie, was rated F4 at Hesston, where it narrowed to a path of 200 yards wide. The F4 rating is applied to a devastating tornado of 207-260 miles per hour on an intensity scale (0 to 5) developed by Dr. Theodore Fujita, widely recognized as a leading tornado expert.

The second tornado touched down just northeast of Hesston and paralleled the first tornado for two miles until they converged at approximately 5:45 p.m., forming a larger tornado that grew rapidly to F5 intensity (261-318 mph). Whether the F5 was a third tornado or just an enhancement of the second tornado is open to question, said Davies. The F5 tornado followed a path south of Goessel to just east of Goessel, where the deadly storm claimed its second fatality of the day, a 65-year-old woman found near her farm home. The F5 tornado finally lifted just shy of Marion Reservoir east of Hillsboro around 6:15 p.m.

Another tornado occurred just east of Pilsen at 6:30 p.m. and continued into the Flint Hills to north of Alta Vista at 7:35 p.m. Its strongest intensity was rated F2 (113-157 mph) near Delavan. The last of the Hesston tornado gang touched down briefly about six miles northeast of Wamego at 8:03 p.m. with an F1 (73-112 mph) intensity.

March 13 was a record-breaking day for Kansas tornadoes. Consider:

- Meteorologist Jon Davies mapped 17 tornadoes occurring in Kansas March 13 between 4:30 p.m. and 10 p.m. The last major tornado in Kan-

sas touched down just before 7 p.m. north of Burrton and took an unusual northerly path toward McPherson. The funnel caused more than \$1 million damage to 20 homes. Davies' mapping also showed 40 other tornadoes during that time in Texas, Oklahoma, Nebraska, Missouri and Iowa.

- A typical Kansas tornado stays on the ground for about 10 minutes, but the storm that ravaged Hesston was on the ground for two-and-a-half hours as it crossed much of central Kansas.
- Average speed of a tornado is between 30 and 35 mph. The Hesston tornadoes were reported moving at 40 mph.
- The average length a tornado stays on the ground is six miles. The Hesston tornadoes traveled over 100 miles. According to preliminary research by the National Weather Service in Topeka, the Salina tornado of 1973 was the last time a tornado crossed more than 100 miles in Kansas.
- At several points along its path, the major March 13 tornado was estimated to be at least three-quarters of a mile wide.
- The two March 13 tornado deaths are the earliest tornado-related deaths for any year on record in Kansas. The previous record for earliest deaths was March 15. The two fatalities were also the first tornado-related deaths in Kan-



Marvin Hatch of Sedgwick shot this photograph of a twister that touched down in Harvey County about 7 p.m. April 9. The tornado is three-and-a-half miles north of Sedgwick on the Sedgwick-Harvey county line. At this point, the twister is about one quarter mile wide and Hatch reported he could hear the classic "freight train" roar. The tornado damaged the farm of C. G. McGuinn, but the home of Dave and Denise Manning, seen in the foreground at left, was not damaged.

sas since 1984.

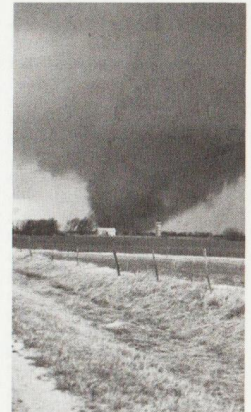
- The Hesston F4 and F5 tornadoes comprise a category that is less than 2 percent of all tornadoes. During the 1980s, only three of this intensity occurred over the entire country. The last F4 recorded in the state was May 10, 1985, in north central Kansas.
- The Hesston outbreak could rank as high as second in terms of the number of tornadoes spawned by a late winter/early spring storm.
- Meteorologist Mike Smith of WeatherData Inc. said the F5 Hesston tornado may be the most intense tornado ever recorded.

But the Hesston tornadoes weren't the only violent storms recorded in Kansas during 1990.

- On April 25, four tornadoes in sequence from one thunderstorm swept across Ellis County in western Kansas during a four- to five-hour period. The strongest was recorded with an F3 intensity. Total paths on the ground were nearly 120 miles, about the same as the Hesston tornadoes. Fortunately, the tornadoes struck mostly in open country, but estimated damage was still over \$1 million.
- On May 24, four or more tornadoes occurred northeast of Great Bend near Claflin, Holyrood, Bushton and Lorraine. The tornadoes formed

from at least two and possibly three different thunderstorms during a three-hour time period. The total tornado paths were close to 100 miles long. An F4 tornado that narrowly missed Lorraine by one-fourth mile blew 88 cars of a 125-car train off the track between Claflin and Bushton. Total damage from the storms was nearly \$6 million.

- On June 7, at least nine tornadoes developed from several thunderstorms in east central and northeast Kansas, with the most intense recorded at the western edge of Emporia with an F2 rating. All the tornadoes were 100 yards wide or less with path lengths of 10 miles or less. Seventeen injuries were reported in Emporia and the city's damage was estimated at \$26 million. The last tornado of the evening occurred about 11 p.m. near Pretty Prairie — not far from where the Hesston tornado had begun three months earlier. The twister, which caused no major damage, moved from southeast to northwest, a very unusual movement for tornadoes, Davies said. Most tornadoes move southwest to northeast or south to north, he said.
- On June 19, a rare and unusually violent hurricane-strength wind storm blasted south central Kansas causing millions of dollars worth of property damage, massive utility outages, gas leaks and numerous injuries. Kansas held on through the night as three waves of rowdy



After decimating farms in the Goessel area, the March 13 tornado is shown in the photo about three miles south of Hillsboro, and is headed for Old Highway 56. Photo furnished by Curt and Jason Vajnar.

RENO COUNTY STORMS



THE BIRTH of the March 13 tornado is seen in the top photo by Jon Davies of the supporting mesocyclone cloud formation as it approaches K-17, northeast of Pretty Prairie. The photo was taken at 4:40 p.m., a few minutes after the tornado touched down to begin its 100-mile march.

TWO DAYS BEFORE the Hesston tornado, this tornado is seen as it plows through western Reno County heading into Rice County. The thunderstorm had clouds only 23,000 feet tall, compared to the 35,000 to 55,000 feet height of a typical tornado-producing thunderstorm. The March 11 storm passed near Lyons and Geneseo and produced several tornadoes over its 50-mile route. Photo by Jon Davies.