Twenty Years after the Hesston Tornado

By

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An NWS Perspective

Many people working _weather' in the Midwest on Tuesday, March 13th, 1990 have memories of that day. That was the day over 60 tornadoes occurred from northwest Illinois to northern Texas and that was the day a very large and violent tornado ripped through Hesston, Kansas. I certainly remember that day. We, as National Weather Service (NWS) employees, battled the severe weather safely within the walls of the Wichita Weather Service Office (WSO).

Photo by Kevin Darmofal.

Three days earlier, Phil Swain, who had been in charge of the Wichita office for years, left me in charge before taking a new NWS position. I thought this temporary transfer of power meant I was going to pay the electric bill and, perhaps, negotiate a few shift changes until the new boss, Dick Elder, arrived. I did not know at the time that reporters from across the country and esteemed research meteorologists would soon focus their attention on a rare Kansas weather event. Later that week I had a greater appreciation of the NWS role to serve our local communities after a natural disaster. Over the next few days the multitude of contacts and inquiries to our office felt like a huge and unexpected responsibility.

Arguably, our most important job in the NWS is to warn people of imminent dangerous weather; in other words, to save lives. By observing our radarscope that day we were able to determine precipitation location, shape, intensity and movement. Weather radar was, and still is, our primary diagnostic tool for severe weather; spotters, ham radio operators, law enforcement officers, and all forms of the media are also vital to the NWS warning process.

The tornado that spawned near Pretty Prairie, Kansas appeared as a classic hook echo - a radar signature often associated with a tornado. As that hook echo began to take shape we began receiving a steady flow of eye-witness reports about that tornado and its location. The urgency of these personal accounts as received by phone and heard over the National Warning System loud speaker made it obvious we were dealing with a large and dangerous tornado.

The technology we used that day was sufficient to the task but was aging and frail. Over these last two decades the NWS has made vast improvements to modernize a weather office. In 1990 we were between eras. We had better communication equipment than the old teletype machines

used in earlier years; but, we had less dependable equipment than a current NWS office. We used the old Weather Surveillance Radar - 1957 (WSR-57). The WSR-57 had a cathode-ray tube. We would draw what we saw on a reflection plotter and then trace contours on a paper map overlay to locate a storm geographically. In contrast, the current weather radar, the WSR-88D, detects more specialized information about a storm and generates scores of colorful radar pictures on a variety of maps, all within a few minutes. Additionally, a wide range of users across the country can now instantly see those pictures.

I remember we did a good job warning people well ahead of the storm's destructive path, all while issuing warnings for other tornadoes and severe thunderstorms in other parts of the state. Our performance earned a Unit Citation from NWS Headquarters. On average, we sent statements every nine minutes on the status of the long-tracked Hesston tornado.

After a busy night, all thunderstorms had moved eastward beyond our warning area. The Kansas Area Manager, Jack May, arrived from Topeka early the next morning. A small contingency of NWS staff traveled west to begin performing a tornado damage survey.

As sparse as farmsteads are across rural Kansas in proportion to wide-open land, the tornado, as it seemed to me, capriciously found and leveled far too many homes and farm buildings. At times the ground in the path of the tornado had been scoured and curiously marked. Peculiar stacks of debris were interspersed. Trees in the path had the notorious shortened and defoliated appearance common with strong tornadoes. Further along the path we found the tornado had intensified where sturdy rural Kansas hedgerows appeared notched to the ground where the tornado had crossed dirt roads.

Photo by Kevin Darmofal:

We talked with people along the way. One man spoke of an eighteen wheeler that had apparently vanished from existence. That is, the engine or frame hadn't been located. One man held his arms widely up to the southwest. He, as I basically recall, said, —Coming over that hill the storm was so wide that it didn't look like a twister.

We eventually arrived at the western outskirts of Hesston. I saw the horrendous reality associated with yesterday's image of a storm on a cathode-ray tube. Looking east into the remains of Hesston, I remember thinking —the hook echo seemed so sterile and benign while all this was happening.|| There were few vertical obstructions down the wide swath the tornado took

through the town. Objects were often unidentifiable. The bare stump-remains of a once large old tree contained a remarkably twisted car or truck frame.

What stands out most in my memory of the Hesston tornado is the small death toll. What I dreadfully remember is two people did die. One young boy went with his family to the basement only to have the chimney fall in on him. A lady perished near Goessel. It was said she may have not been attentive to the weather. She may have been despondent after visiting her ill husband at a nearby hospital.

Randy M. Steadham served as the Acting Official in Charge at the Wichita NWS Office on March 13, 1990. He recently retired after a career that spanned over 39 years. He also served at National Weather Service Offices in Iowa, Illinois, Idaho, Colorado, and Okla- homa. His last position was at the Radar Operation Center in Norman, OK where he helped make scientific improvements to the Next Generation Weather Radar (NEXRAD) systems of 159 Doppler weather radars. Data from these radars are used to warn the public of severe weather and flash floods; support safe, efficient national airspace operations; and support water management, transportation, agriculture and forest management, and snow removal management.