

Excerpt from "The Everything Weather Book"

The First Tornado Forecast

In the last few years, millions of dollars and thousands of hours have been spent learning how to predict these storms using sophisticated Doppler radar and other electronic methods. But the very first tornado forecast was accomplished back in 1948 without the aid of today's high-tech gadgetry.

On March 20th, California native Robert C. Miller, an Air Force Captain and meteorologist, was putting together the evening forecast for Tinker Air Force Base in Oklahoma where he was stationed. Miller and a fellow forecaster analyzed the latest weather maps from Washington and concluded it would be a relatively quiet night, with moderately strong winds but no storms, and that's what their 9 PM forecast predicted. The two men didn't realize that some of their source data was erroneous until a strong twister tore through the base an hour later, narrowly missing the aircraft hangars and operations center and blowing the windows out of nearly every building on the base.

The next day, five General Officers flew in to interrogate Miller and his commanding officer Major Ernest J. Fawbush on the events of the previous evening. "I was especially tense," said Miller in his memoirs, "having performed in such an abysmal manner the previous evening. It really didn't seem fair that a bright young forecaster, native to an area where a mild thunderstorm was considered a holiday event that caused people to run outside and gesticulate skyward mouthing such phrases as 'golly' and 'wow,' should be thrust into an area subject to such miserable phenomena."

The review board decided that "due to the nature of the storm it was not forecastable given the present state of the art," letting Miller and Fawbush off the hook. But the board recommended that the Air Force Weather Service begin working toward the goal of forecasting thunderstorms which might produce tornadoes.

A Second Chance

Five days later, on March 25th, 1948, while producing the morning charts, Miller noticed that the day's expected weather conditions would be almost identical to those on the day of the tornado. He alerted General Fred S. Borum, who was by now in charge of the operation. The general ordered Miller to issue a thunderstorm warning, and by 2 PM a squall line had formed, just as it had before the last tornado.

"Are you going to issue a tornado forecast?" the General asked. Miller and Fawbush hemmed and hawed, neither relishing the idea of having another blown forecast pinned on him. "We both made abortive efforts at crawling out of such a horrendous decision," said Miller. "We pointed out the infinitesimal possibility of a second tornado striking the same area within twenty years or more, let alone in five days. 'Besides,' we said, 'no one has ever issued an operational tornado

forecast.'"

"You are about to set a precedent", said the General.

On the Money

The forecast was composed, typed and sent to Base Operations. A weather alert was sounded and base personnel flew into action, securing planes in hangars and tying down loose objects. At 5 PM a squall line passed through a nearby airport, but with only light rain and some small hail. Dejected, Miller drove home to commiserate with his wife. But later that evening as the couple was listening to the radio, an announcer broke in with an urgent bulletin about a tornado at Tinker Field.

Miller rushed back to the base to find a scene of devastation, with power poles down and debris strewn everywhere. A jubilant Major Fawbush told Miller what he'd missed: "As the line approached the southwest corner of the field, two thunderstorms seemed to join and quickly took on a greenish black hue. They could observe a slow counterclockwise cloud rotation around the point at which the storms merged. Suddenly a large cone shaped cloud bulged down rotating counterclockwise at great speed. At the same time they saw a wing from one of the moth-balled World War II B-29's float lazily upward toward the visible part of the funnel. A second or two later the wing disintegrated, the funnel shot to the ground and the second large tornado in five days began its devastating journey across the base very close to the track of its predecessor.

The tornado left \$6 million worth of damage in its wake, and made Fawbush and Miller instant heroes. More importantly, it was a first small step in predicting twister formation. At the time, the only radars available for use by forecasters were World War II vintage units with fuzzy screens and limited range. But the next few decades would bring a flood of new tools to aid in tornado forecasting, including the most valuable of all: Doppler radar.

Bouyed by their success, the Air Force set up the Severe Weather Warning Center in 1951, and soon the public was clamoring for their own storm warnings. In 1952 the Weather Bureau finally set up its own storm prediction agency, the Weather Bureau Severe Weather Unit, which became the Severe Local Storm Warning Center in 1953, the National Severe Storms Forecast Center in 1965, and gained its current name - the Storm Prediction Center - in 1995.