

PICTURE OF THE MONTH

The Unusual Dissipation of a Tornado Funnel

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1. Introduction

Five tornadoes and large hail were produced by a thunderstorm near Canadian, Texas which had formed

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along the dryline in the Texas Panhandle during the afternoon of 7 May 1986. The purpose of this paper is to document the unusual behavior of the last tornado produced by this storm. Other aspects of this storm are discussed elsewhere (Bluestein, et al., 1988).

2. Discussion

Tornadoes formed repeatedly from wall clouds in the Canadian storm. The fifth and final tornado (0037-



FIG. 1. The fifth tornado, about 30 km north-northwest of Canadian, Texas, 8 May 1986, at (a) and (b) 0037 UTC, (c) and (d) 0038 UTC. View to the northeast.



FIG. 1. (*Continued*)



FIG. 1. (Continued)

0038 UTC 8 May 1986) was unusual, however, in that it formed on the back side of the storm.

It began as a "white" rope-like funnel illuminated by the sun approximately to the southwest of the precipitation core (Fig. 1a). The tornado appeared smaller as it moved to the left of our field of view (toward the north or northeast) (Fig. 1b). The bottom portion of the funnel widened as the upper portion narrowed. The upper and lower portions became detached from each other (Fig. 1c) near a bend in the condensation funnel. The upper portion then disappeared (Fig. 1d), leaving a white funnel cloud making contact with the ground, but not making visible contact with any adjacent cloud mass above. It is unusual to see a condensation funnel only at the ground.

The dynamics of this type of tornadogenesis might be different from the type which occurs near wall clouds, since wall clouds are associated with updrafts, while the back side of a storm is associated with downdrafts and precipitation. The bend in the condensation

funnel near the ground may have been evidence of low-level outflow advecting the tornado away from the source of rotation aloft. The reason why the condensation funnel near the ground widened, while aloft it dissipated, may be that the relative humidity was higher near the ground in rain-cooled air and lower aloft due to the downward advection of drier air.

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REFERENCES

- Bluestein, H. B., E. W. McCaul, Jr., G. P. Byrd and G. R. Woodall, 1988: Case study of a tornadic storm along the dryline in the Texas Panhandle: The Canadian storm of 7 May 1986. *Preprints, 15th Conf. on Severe Local Storms*, Baltimore, Amer. Meteor. Soc. (in press).