CORRESPONDENCE

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Daily Tornado Frequencies Updated

HARRY GORDON—*National Weather Service, NOAA, Kansas City, Mo.*

Results of a Fourier analysis on tornado days for an 11-yr period ending with 1966 (Gordon 1972) provided a rough probability of tornado occurrence by day for the year. This period was extended 4 yr, using the Severe Local Storms Log as the data source for consistency.

The addition of data statistically approximates the probability of the event more closely and improves the variance between harmonics in the analysis. As data are added, the extremes approach zero. The additional 4 yr of data decreased the number of zero tornado days from 60 to 20, while the dates on which tornadoes occurred every year decreased from 15 to 12. Comparison of the original and updated curves shows little variance other than amplitude (table 1).

TABLE 1.—*Dates of maximum and minimum probability of tornado occurrence for the 11- and 15-yr data samples*

	11-yr period		15-yr period	
	Maximum	Minimum	Maximum	Minimum
Date	June 21	December 30	June 28	December 27
Probability	89. 5	11. 0	87. 3	6. 5

REFERENCE

Gordon, Harry, "Daily Tornado Frequencies for the Contiguous United States," *Monthly Weather Review*, Vol. 100, No. 3, Mar. **1972**, p. 238

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Comment on "Picture of the Month—'Steam Devils' Over Lake Michigan During a January Arctic Outbreak"

J. M. HEIGHES—*Sandhurst, Berkshire, England*

I read with interest the paper by Lyons and Pease (1972) on "Steam Devils" over Lake Michigan. I too have observed a somewhat similar phenomenon but on an even smaller scale.

I placed a large bathtub full of warm water in a moist environment and allowed a flow of cool dry air to pass suddenly and freely over the water surface. The cool air appeared to advance along the length of the bathtub at irregular rates producing lobelike structures rather than a regular front. As the rising steam was pushed forward by the denser air, some of it was observed to become diverted around the lobes and develop weak vortical circulations resembling minature steam devils. Although it would not be wise to speculate on the mechanism of the natural steam devils, it is interesting to note that a similar set of conditions appears to have existed over the lake but covering a much wider area.

It is worth mentioning that, in England, mesoscale atmospheric vorticity has been observed along the leading edge of irregular but well-defined cold fronts (Heighes 1971). Also, in a severe storm situation, a tornado was observed near the gust front where a marked air density discontinuity occurred (Goldie and Heighes 1972).

REFERENCES

Goldie, E. C. W., and Heighes, J. M., "Investigation of a United States Midwest Tornado," *Meteorological Magazine*, Vol. 101, No. 1202, Her Majesty's Stationery Office, London, England, Sept. **1972**, pp. 270–278.

Heighes, J. M., "Observations of Rotating Cloud," *Weather*, Vol. 26, No. 8, Royal Meteorological Society, London, England, Aug. **1971**, pp. 362–363.

Lyons, Walter A., and Pease, Steven R., "Picture of the Month—'Steam Devils' Over Lake Michigan During a January Arctic Outbreak," *Monthly Weather Review*, Vol. 100, No. 3, Mar. **1972**, pp. 235–237.

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