

Memorandum for: Steven Cooper, Acting MSD Chief, SR Headquarters

From: Timothy W. Troutman, Forecaster, NWSO Nashville, TN

Subject: Aerial Storm Surveys for the April 16th 1998 Tornado outbreak  
in Middle Tennessee

Aerial surveys were completed across middle Tennessee in the two main tornado track areas on Friday, April 17th and Monday April 20th. We were flown across the damage areas by personnel from the Tennessee civil air patrol. Accompanying me on Monday, April 20th was Structural Engineer and Meteorologist Tim Marshall from Haag Engineering.

There were six documented tornado tracks which we discovered during the eight hours and flights covering around 7000 square miles. The first tornado damage occurred around three miles southeast of Dickson, Tennessee between highway 46 and Interstate 40. There was F-3 damage to one house with two other homes sustaining F-2 and F-3 damage respectively. Two mobile homes were lifted off their foundations and destroyed and a Flea market building suffered F-2 damage.

This particular tornado then lifted and did not touch down again until it reached the western part of the downtown Nashville area. Preliminarily, the next tornado damage track occurring with the same thunderstorm cell occurred about one mile west of Charlotte Avenue and the Interstate 440 loop. F-1 damage occurred here as a flimsy metal building had most of its roof blown off. Several trees were also twisted and downed.

The damage path continued into the immediate downtown area of Nashville with over 100 windows blown out of the Tennessee Performing Arts Center (TPAC). Further F-1 tornado damage was noted as the tornado crossed the Cumberland River into the east Nashville residential areas. Results of the aerial survey further indicated that as the tornado crossed the Cumberland River, it increased in intensity and knocked over two cranes which were being used involving the construction of the NFL Nashville Oilers Football Stadium. The under-construction stadium received quite a bit of damage, rated as an F-2 at this point.

The damage width path of the tornado ranged from around a six block range (around a quarter of a mile) as it crossed the Cumberland River, to over a nine block width (over one half mile) at a maximum in the east Nashville area. Aerially, we could only find evidence of a strong F-2 damage path during the tornadoes path across east Nashville. Ground surveys indicated weak F-3 damage in this area. The maximum damage length was around 11 miles with the first Nashville tornado. Several million dollars worth of damage occurred during the tornadoes last two miles of track at the Cornelia Fort Airpark. The track ended in the Opryland area where there was minor damage to the Gaylord Entertainment corporate offices.