Estimating Wind Speeds of Convective Storms from Tree Damage

Ernest Ostuno
National Weather Service
Grand Rapids, Michigan

Tree damage is typically the most common damage indicator available in the Great Lakes region to meteorologists estimating wind speeds from convective storms. Unfortunately, most meteorologists have little or no formal training in the susceptibility of trees to high winds, and the Enhanced Fujita scale does not address many of the various factors that affect the wind tolerance of trees. These factors are described along with a strategy for using them to estimate wind speeds based on tree damage. A quick review is included of a treefall pattern analysis technique being developed by a sub-committee of the American Society of Civil Engineers (ASCE) Enhanced Fujita Scale Standards project.