

# **A Review of Tornadoes Impacting Interstates: Service and Societal Considerations**

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## ABSTRACT

Motorists traveling on Interstates are theorized to have an increased vulnerability to weather hazards due to their unfamiliarity of nearby towns, limited methods to receive short-term weather information, and a general deficiency of substantial shelter. To assess the threat, a database of tornadoes crossing primary and auxiliary Interstates across the central contiguous United States was compiled for the period of 1990 to 2008. The study reveals approximately 485 tornadoes tracked across the Interstate system within the domain during the sample period. It was found that nearly 20% of Interstate tornadoes resulted in an impact to vehicles. Factors such as hour of the day, EF-Scale rating, and travel density were examined to assess potential correlation with the probability of an Interstate impact. This paper discusses current warning and preparedness activities in the operational meteorological community and state transportation departments, as well to as recommend future actions and new technology that can be utilized to mitigate the potential loss of life and property from Interstate tornadoes.