**Violent and Wintertime Tornadoes in the Central Midwest: A Study of History, Trends, and Climatology**

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Tornadoes are among the most widely-feared elements of weather. The central Midwest, a region that, for the purposes of this study, encompasses eastern Iowa, southern Wisconsin, northern and central Illinois, northern and central Indiana, southern Michigan, and northwestern Ohio, is notorious for some of the worst tornado events in recorded history. The purposes of this study are manyfold. The goals are to establish a violent (F4/EF4-F5/EF5) tornado and wintertime tornado climatology for the central Midwest, to search for previously hypothesized patterns in major tornado occurrences, and to determine whether there are links between climate variables and incidences of violent and wintertime tornado occurrences. It has been hypothesized that certain climate indices affect the probability of wintertime tornado occurrences. Data collected on significant tornado occurrences since 1880 by Grazulis (1993) and climate data from the National Oceanic and Atmosphere Administration (NOAA) will be used as the basis of this project. The data from this study establishes the relationships between some of the climate variables and violent and wintertime tornado activity.

*Information about the Author:*
Anthony Lyza is a junior meteorology major at Valparaiso University. His research on violent and wintertime tornadoes began during the summer of 2010 as a student volunteer at the National Weather Service Forecast Office in Romeoville, Illinois. He is continuing his research on the topic this semester as an independent study with Dr. Bart Wolf, chair of the Department of Geography and Meteorology. His future goal is to work at the National Weather Service.

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