

A Spatial Analysis of Storm Based Warnings across the Northern Plains Using Geographic Information Systems

Kelly Kramlich and Mike Fowle
NOAA/NWS Aberdeen, SD

ABSTRACT

The National Weather Service (NWS) began transitioning from county based warnings to storm based warnings (SBWs) in 2004, with SBWs becoming an official NWS product on 1 October 2007. This new technique has resulted in forecasters issuing more geographically specific short fused warnings with a reduction in false alarm area. Overall, this has led to an improvement in the quality of NWS warning services. It has also allowed for geographic information systems to be able to plot and analyze these “polygon warnings” in a more in depth manner.

In this study ESRI's ArcMap has been used to perform a spatial analysis of warning polygons across the northern plains. The spatial analysis is performed by counting the number of overlapping polygons over a defined region. The analysis can provide insight on trends in “warning density” from year to year. Additional conclusions pertaining to storm development, the warning process, population, and topography can be drawn from this study.