

An Analysis of Lightning Activity in Southeast Montana

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ABSTRACT

Thunderstorm type varies greatly across the Billings county warning area, ranging from higher-based, drier storms which are typical in the west, to wetter, stronger and often supercellular storms in the east. Associated lightning activity also varies and can be difficult to predict. A study was performed that attempts to correlate specific temperature and moisture profiles, as well as stability indices, to lightning activity. Other tools, such as those offered on the Storm Prediction Center's website, were also considered to help predict lightning. The purpose of such research was to aid forecasters in an operational setting, and to allow the forecasters to pass this information on to fire weather and other customers. Experimental graphics quantifying lightning potential are currently produced. It is hoped that research performed by WFO Billings, along with other tools, can enhance these graphics and the office's ability to provide decision support.