

PART III: Warning Strategies and Operational Decisions - New Year's Eve Tornado Outbreak 2010

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A historic cool-season tornado outbreak occurred on New Year's Eve, 31 December 2010, across the St. Louis Weather Forecast Office County Warning Area (WFO LSX CWA). Warning strategies, user response, and operational decisions that were made during and after the convective event will be discussed.

Atypical warning strategies were employed during this event due to the speed of the Quasi-Linear Convective System and the transient nature of embedded tornadic mesovortices. Large tornado warning polygons were issued well ahead of the convective system and included modified call to action statements stressing "numerous reports of rain wrapped tornadoes." The large warning polygons kept the message consistent and simple for the general public and maximized lead time. WFO LSX used NWSChat to convey the very latest location of the strong rotation couplets (mesovortices) to the media and emergency management partners. In addition, individual phone calls were made to county sheriff offices to relay the location of the most intense rotation and possible tornado touchdowns. WFO LSX received an overwhelmingly positive response to this warning strategy from local media partners and the emergency management (EM) community during post event discussions.

WFO LSX utilized the situational awareness display system (SADS) and provided decision support services (DSS) to the EM community during tornado recovery efforts. Live news reports on the SADS allowed the staff to quickly identify the location with the greatest degree of damage and dispatch the Warning Coordination Meteorologist just an hour after the tornado had occurred. This provided media outlets the opportunity for a timely interview and preliminary damage assessment. A DSS webpage was launched on WFO LSX's website just two hours after the severe threat had ended across the CWA. This webpage offered specific forecast information, including the impending single digit wind chills, and was widely distributed to first responders and the EM community.

Forecasters executed the WFO LSX Severe Weather Operations Plan, supplementing staff to account for additional workload and ensuring proper situational awareness. Scientific research, training, and experience enabled the warning forecaster to use atypical warning strategies to maximize lead time and provide a simple and consistent message to the public. Relationships forged with media and EM partners ahead of the event allowed for excellent communication. These operational decisions led to positive feedback from the public, media, and EM community.