



A Tale of Two Schools: A Case Study of Two Oklahoma School Districts During Tornado Events

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"The school district did implement their shutdown and we had already issued the tornado warning sirens," Forney City Manager Bryan Brooks said. "It was happening just as parents were picking up their children."

- CBS Affiliate, Dallas, TX, 3 April 2012

There was no time to follow the preferred safety plan and herd students off the bus and inside the school. Instead, an assistant principal signaled drivers to go, setting off a desperate race to beat the tornado that was just minutes from slamming into the town and destroying a large part of the school.

-Deseret News, 6 March 2012, referring to Henryville, IN

Longfellow Middle School was right in the path of the storm. Students were released from the school as usual. "All signs were that it was safe to be able to release our students," Norman Public Schools spokesperson Shelly Hickman said. But, 24 minutes after the release, the twister hit. The district says communication with buses was iffy.

- News 9, Oklahoma City, OK, 26 April 2012

INTRODUCTION

Every year school districts around the U.S. are having to deal with tornado warnings, and with many of these warnings occurring during busy pick-up and drop-off times. Often administrators have only a short period of time between when the tornado warning is issued and when the tornado is directly impacting their school district. In the past few years officials at both the Edmond and Norman Public Schools, located just to the north and south respectively of Oklahoma City, have had first-hand experience in dealing with a tornado threatening schools in their district.

On 10 February 2009 an EF-2 tornado tracked through the northwest parts of Edmond, OK and on 13 April 2012 an EF-1 tornado tracked through the heart of Norman, OK. Both of these tornadoes occurred near or at dismissal time for schools in each district. The tornado events of 10 February 2009 and 13 April 2012 both occurred during slight severe weather risk days according to the Storm Prediction Center (SPC).

Figure 1. Map of Edmond and Norman, OK.

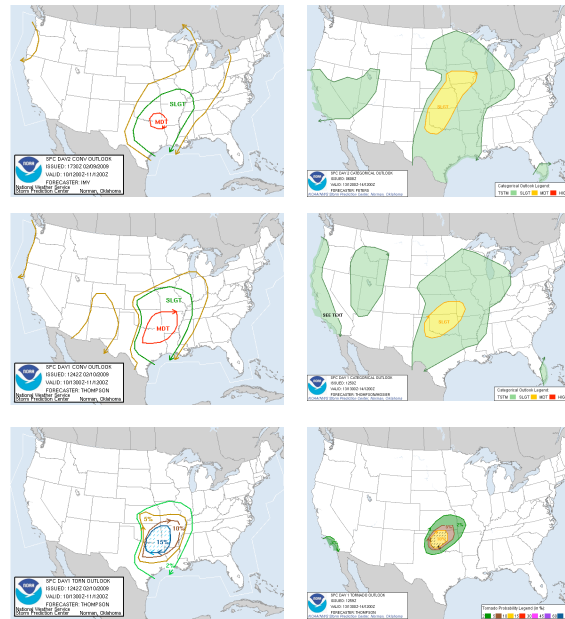
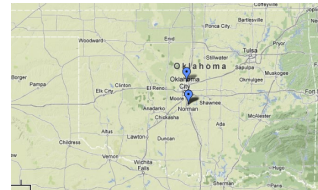


Figure 2. The SPC severe weather outlook products: (1st row) 9 Feb 2009 & 12 Apr 2012 day 2 outlooks, (2nd row) 10 Feb 2009 & 13 Apr 2012 day 1 outlooks, and (3rd row) 10 Feb 2009 & 13 Apr 2012 tornado outlooks for the probability of a tornado within 25 miles of a point. Note that neither day was a high risk severe weather day.



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METHOD

- Snowball sampling of Edmond and Norman district administrators, school principals, and other knowledgeable parties
- Interview questions covering tornado plans before the event, frequency of tornado drills & the different situations practiced in a drill, actions taken immediately after learning of the warning, and any potential changes made to district tornado safety plans as a result of the event
- No students are included in any interviews with either district

IMPLICATIONS

- A major weakness in tornado plans maybe dismissal times as students are not necessarily located in any one area of the building
- More difficult to determine how many students are still at the school, where they are located, and how to quickly get them to safety
- Parents picking up their children may also be on school grounds during an event and would need to be sheltered as well
- It's important to determine how school districts are learning and adapting to events that test their tornado safety plans
- Sharing this information with other school districts that may not experience tornadoes very often could help strengthen their safety plans

REFERENCES

- Burling, Wynona K., and Adrienne E. Hyle. 1997. "Disaster Preparedness Planning: Policy and Leadership Issues." *Disaster Prevention and Management* 6 (4): 234–244.
- Call, David A., and Jill S. M. Coleman. "The Decision Process Behind Inelement-weather School Closings: a Case-study in Maryland, USA." *Meteorological Applications. Forthcoming.*
- Kano, Megumi, and Linda B. Bourque. 2008. "Correlates of School Disaster Preparedness: Main Effects of Funding and Coordinator Role." *Natural Hazards Review* 9 (1) (February): 49–59.
- Norris, Fran H., Tenbroeck Smith, and Krzysztof Kaniasty. "Revisiting the Experience-Behavior Hypothesis: The Effects of Hurricane Hugo on Hazard Preparedness and Other Self-Protective Acts." *Basic and Applied Social Psychology* 21 (1): 37–47.