

# Assessing people's actions and attitudes during the December 20-21, 2006, Colorado Front Range winter storm

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## Introduction

❖ Winter weather contributes to 400,000 vehicular accidents annually in the USA, leading to 1,300 fatalities and 118,000 injuries. These numbers far exceed average fatalities for other natural hazards.

❖ This study investigated meteorological and non-meteorological factors that influenced people's decision-making related to driving in hazardous winter weather conditions for the Dec 20-21, 2006, Colorado winter storm.

❖ This storm provided an intriguing case study from both physical and societal standpoints. Physically, the storm ranked as one of the largest ever seen along the Colorado Front Range. Societally, because snow did not begin falling heavily until mid-morning, people's decisions to stay home would have been based largely on weather forecasts.

❖ Information on respondents' sources, uses, and perceptions of weather forecasts; driving decisions related to the winter storm; and demographics were obtained via an Internet survey.

### What were respondents' main sources for obtaining weather information for the December 20-21, 2006, winter storm?

❖ Nearly 2/3 of respondents used local television as their main weather forecast information source leading up to the storm, and during the storm, 76 percent tuned into the local television stations as their main information source (Figure 1).

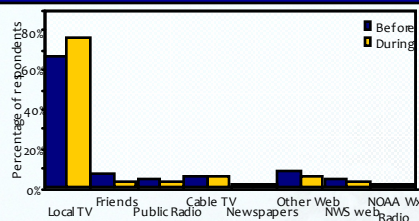


Figure 1 - The main information sources for obtaining weather forecast information before and during the December 20-21, 2006, winter storm.

❖ This result highlights the important role local broadcast meteorologists play in conveying information to the general public during major meteorological events, and it further emphasizes the importance of public-private sector relationships.

### Did respondents decide to stay home on December 20, and if so, what information and characteristics influenced that decision?

❖ 52 percent stayed home on Dec. 20, and 65 percent of these attributed their decision as being based on the weather forecast. Thus, roughly one in three respondents stayed home based on the weather forecast.

❖ As self-reported anxiety levels related to driving in hazardous weather increased, the percentage of respondents staying home also increased (Figure 2).

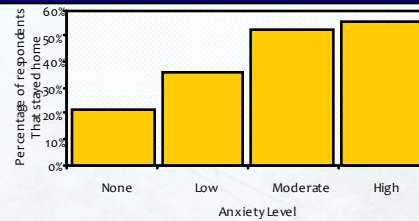


Figure 2 - Percentage of people who stayed home on December 20, 2006, based on their self-reported level of anxiety related to driving in hazardous weather conditions.

❖ This result reinforces the notion that decision-making related to hazardous weather events is not solely related to meteorological forecasts or conditions.

### What were the respondents' perceptions of the accuracy of the weather forecast?

❖ The majority of respondents (56 percent) felt that the snow began to fall approximately when it was forecast to begin (Figure 3).

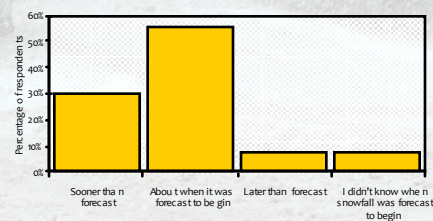


Figure 3 - Respondents' perceptions of the timing of the beginning of snowfall on December 20, 2006.

❖ In comparison, a majority of respondents believed that more snow fell than was actually forecast (Figure 4).

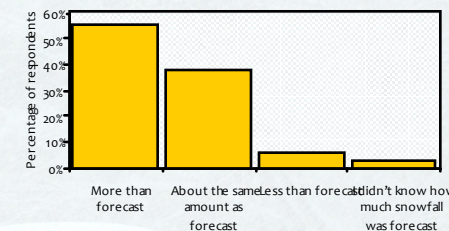


Figure 4 - Respondents' perceptions of the actual versus forecast amount of snowfall on December 20, 2006.

❖ Certain characteristics are associated with those that felt more snow fell than forecast. 52 percent of those who stayed home thought that more snow fell than was forecast, compared with 60 percent of respondents who left home. Of the 17 people who became stuck on their way home, an even larger percentage (70%) felt more snow fell than was forecast.

❖ This suggests that people's perceptions of forecast accuracy may be related to how much they're impacted by the weather!

### More information

❖ The full report is available online at <http://www.colorado.edu/hazards/research/q1r/q1r192/q1r192.html>

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