PREFACE

From the early evening of 3 May 1999 through the early hours of the following morning, some of the most intense tornadoes ever observed tore through parts of the central and southern Great Plains, devastating metropolitan areas and nearly destroying entire communities. According to the National Weather Service, 96 tornadoes occurred overall in Texas, Oklahoma, Kansas, Nebraska, and South Dakota, with more than 60 in Oklahoma alone. In the Norman, Oklahoma, National Weather Service County Warning Area, 58 tornadoes were reported during a 10-h period, shattering the previous statewide, 1-day record of 26 set on 13 May 1983 and tied on 4 October 1998. One particular tornado on 3 May, which devastated first a small town and then a suburb of Oklahoma City, reached F5 intensity at times and stayed on the ground for almost 1.5 h. Based upon mobile Doppler radar observations, J. Wurman estimates that wind speeds within this tornado exceeded 300 mi h⁻¹.

The 3 May tornado outbreak resulted in 46 deaths and the destruction of more than 10 000 buildings, with hundreds of businesses and thousands of homes damaged or destroyed. Insured property losses exceeded $1 billion. The ferocity of the storms, in conjunction with the occurrence of several tornadoes simultaneously for extended periods of time and the movement of intense tornadoes through densely populated areas, made this event exceedingly dangerous to the public. However, because of extensive live media coverage, excellent warning services made possible in part by advanced technology, outstanding response by emergency personnel, and perhaps unprecedented agency coordination, the death toll was remarkably low.

Although major natural disasters leave scars that cannot be erased with the passage of time, they also provide an opportunity to improve our understanding and thus our ability to prepare, respond, and recover. To capitalize on this opportunity, a National Symposium on the Great Plains Tornado Outbreak of 3 May 1999 was held in Oklahoma City on the first anniversary of the event. It brought together, for the first time in a single venue, some 400 individuals from the natural science, engineering, construction science, insurance, social science, policy making, public safety, health, information dissemination, and disaster relief communities to evaluate the successes and failures of the response to the events of 3 May 1999. Most important, however, the symposium provided a framework for stimulating crosscutting discussions and for linking traditionally separate disciplines in ways designed to promote future interaction.

This special issue of Weather and Forecasting reflects the theme of the symposium by presenting papers on the 3 May disaster from several disciplines. It is the first time that an American Meteorological Society (AMS) journal issue has been so constructed, and I express my sincere appreciation to AMS Executive Director Ron McPherson for his enthusiastic endorsement of this concept. The difficult coordination of reviews was handled with extraordinary skill by Chief Editor Robert Maddox and by Editors David Stensrud and Gregory Byrd. We dedicate this special issue to those who lost their lives in the 3 May outbreak and to the men and women who, through their dedication, skill, and professionalism, saved so many more lives on that fateful evening.

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