

Preface

The genesis for this book, drawing lessons from natural hazards planning and applying them to challenges associated with adapting to a changing climate, represents a natural evolution of our ongoing working relationship. We first met in the aftermath of Hurricane Katrina as Gavin served as the Executive Director of the Mississippi Governor's Office of Recovery and Renewal, and Bruce was studying the effects of Hurricane Katrina on the City of New Orleans and the challenges of recovery in the region. Gavin's experiences with creating a way to explain the complexities of recovery to a growing staff in the Governor's Office, and a recognised gap in the academic literature, led to the writing of the book, *Planning for post-disaster recovery: A review of the United States disaster recovery assistance framework*. The book provides a critical analysis of disaster recovery as practiced in the United States and offers a series of recommendations tied to the critically important roles of planning and governance, both central components in *Adapting to climate change: Lessons from natural hazard planning*.

Shortly before the arrival of Hurricane Katrina, Bruce had been appointed to a new position at Massey University, sponsored by the New Zealand Earthquake Commission—which provides Government backed insurance for homes, contents and land, to explore the role of natural hazards planning in reducing disaster risk and building resilient, sustainable communities. He was seeking firsthand insight into the factors that predispose communities to disaster and to understand the barriers and opportunities for charting recovery pathways. Bruce has continued his research on the post-Katrina recovery experience, returning to the region regularly since 2006 to observe and learn from key recovery actors. Our combined practice and research-based experiences led us to realise that Katrina provided invaluable lessons about how to reduce risk and build more resilient communities; and that we were in a unique position to draw from and expand upon such lessons. We reflected on the root causes of disasters and the complexity of the hazard mitigation and recovery process and pondered how we might distil and share the lessons from this experience while drawing from natural hazards planning scholarship and practice to help build stronger, safer and more sustainable communities. We were struck by the need to learn from history and to look into the future and envisage how to plan for and manage natural hazard risks in an era of climate change. We were troubled by the limited attention focused

on this imperative as the Gulf recovery process evolved. These conversations provided the origin for this book, and the start of our ongoing collaboration.

In the summer of 2008 Gavin gave the keynote address at the Australasian Hazards Management Conference in Wellington, New Zealand, focusing on the application of research and practice to recovery in Mississippi following Hurricane Katrina. Two years later Gavin wrote an article in a Special Issue of the *Australasian Journal of Disaster and Trauma Studies* (<http://trauma.massey.ac.nz/issues/previous.shtml#2010-1>), focusing on disaster recovery lessons. Bruce had initiated the Special Issue to distil insights from natural hazards planning scholarship for disaster risk reduction in Australasia, drawing, in part, from Gavin's experience in the USA. After returning from two years working in Mississippi, Gavin accepted a position as the Executive Director of the Department of Homeland Security's Coastal Hazards Center of Excellence at the University of North Carolina at Chapel Hill. Bruce was appointed Associate Director of the Massey University—GNS Joint Centre for Disaster Research. We established a Memorandum of Understanding between the two universities, which was signed in 2009, encouraging scholars to identify opportunities to collaborate on disaster research and scholarship. Bruce made a number of visits to the University of North Carolina at Chapel Hill (UNC) to share his research findings on the post-Katrina recovery experience and to work on this book with Gavin. In November, 2010, Gavin and Bruce contributed to a Theory of Recovery workshop at UNC that was convened by the Public Entity Research Institute with the support of the National Science Foundation. Participants developed a definition of disaster recovery, identified variables that influence the recovery process and outlined a research agenda to analyse these variables and ultimately inform policy-making and facilitate improved recovery outcomes. The workshop findings were published in a Special Issue of the journal *International Journal of Mass Emergencies and Disasters* (<http://www.ijmed.org/issues/30/2/>). The need to draw from and apply lessons from natural hazard mitigation and disaster recovery to arguably the most pressing challenge of the twenty-first century (i.e., climate change) was clear and compelling.

The co-editing of this book thus became the focus of our collaboration. We invited leading disaster and natural hazards planning scholars to contribute to the book and were encouraged by the overwhelmingly positive response. Bruce's ability to sustain focused attention editing the book was, however, impacted by the necessity to contribute to the disaster recovery process in the aftermath of a series of major earthquakes and aftershocks that struck Greater Christchurch. Seismic activity, which began on the 4th of September 2010, continued for at least 2 years, severely affecting many liquefaction prone neighbourhoods, killing 185 people and devastating the central business district on the 22nd of February 2011. This experience underscored the need to learn from and apply lessons from natural hazards planning scholarship and experience; especially given ongoing seismic risk and the exposure of some areas of Christchurch to sea-level rise. The imperative to learn from and apply natural hazards planning lessons in North Carolina, USA, were also underscored by Gavin's work with the State as he served as the Assistant Director for Hazard Mitigation during the two worst disasters in the state's history. Hurricane's Fran (1996) and Floyd (1999), which struck in close proximity to one another, provided a unique opportunity to draw lessons from one event to another and for Gavin to work

closely with Governor James B. Hunt Jr. and the Director of the North Carolina Division of Emergency Management, Eric Tolbert, both of whom embraced efforts to link sustainable development, hazard mitigation and disaster recovery. Tangible examples of the state's efforts included the creation of 22 state-level programs intended to address gaps in post-disaster federal assistance, the acquisition and relocation of over 5,000 flood-prone homes in one of the largest single-state efforts of its kind in the USA, the state-led re-mapping of North Carolina's floodplains, and the creation of a state-led hazard mitigation planning effort, which influenced the federal rules promulgated under the Disaster Mitigation Act of 2000. The pivotal role of planning to reduce disaster risk and build resilience and adaptive capacity was underscored by these experiences and is increasingly recognized in the USA and New Zealand. But there is little information available that provides practical insights into real-world hazard experiences that can assist communities in these and other countries to plan for and adapt to a changing climate. This book seeks to fill this gap.

We would like to thank the many people and organisations who enabled us to complete this book. First, we would like to sincerely thank Katharine Moody for providing invaluable assistance in the technical editing of the book as well as working tirelessly with authors to ensure that each chapter was satisfactorily completed. Second, we would like to thank each of the contributing authors for sharing their knowledge, insights and experience with us. Together, we believe, these contributions provide a vital platform for natural hazards planning in this era of climate change.

Bruce would like to thank his current and previous Head of School at Massey University, Allanah Ryan and Henry Barnard, for their support over the years; and Massey University for providing the financial means to employ Katharine to assist with technical editing and undertake replacement teaching, and enable Bruce to conduct fieldwork in the Gulf Coast and work on this book. He would also like to thank the Earthquake Commission, and in particular Hugh Cowan and former CEO David Middleton, for their support and funding that enabled him to study the post-Katrina experience in the Gulf Coast and travel to UNC to work with Gavin on this book. In addition, he would like to thank David Johnston, Director: Joint Centre for Disaster Research, for providing a 2 year sub-contract from a Foundation for Research, Science and Technology grant that helped to cover fieldwork and travel costs incurred during the writing of this book.

Gavin would like to thank the Science and Technology Directorate, Office of University Programs in the U.S. Department of Homeland Security. Their support of the Coastal Hazards Center of Excellence has proven invaluable and enabled him to focus on a number of research projects, including the writing of this book, the findings of which are being used in the teaching of a DHS-supported class at the University of North Carolina at Chapel Hill titled Planning for Natural Hazards and Climate Change Adaptation.

We believe that this book provides an important source of information for scholars, students and practitioners as they frame new questions and continue to research unanswered questions, seek to gain deeper understanding of interrelated complexities, and develop robust, flexible and actionable plans that guide and better integrate natural hazards risk management and climate change adaptation efforts.

Adapting to Climate Change

Lessons from Natural Hazards Planning

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