PART I

Introduction

The second week of September 2013 began as many late summers do in Colorado, with a baking sun and dry weather. Those "unseasonable" days are more common than they once were (Bianchi, 2019a). The *Denver Post* described a changing Colorado climate, saying, "Changes to the climate have potentially suppressed recent September snowfall and expanded summer later and later" (Bianchi, 2019b). The changing climate in Colorado and across much of the western United States makes drought a perennial hazard and wildfires an urgent concern for residents and policymakers (Merzdorf, 2019). Less discussed by journalists, elected officials, and Coloradans is the threat of flooding that has also grown under a changing climate (McMahon, 2018).

In 2013, communities nestled along Colorado's Rocky Mountain foothills and metropolitan corridor changed dramatically when struck by extreme floods. These floods caused loss of life and damaged infrastructure, residential and commercial buildings, and recreation and outdoor amenities. They also placed extreme pressure on the governments that had to cope with the disaster. As we look back on the floods and the recovery in their aftermath, a story emerges of lessons learned by local governments that allowed some of them to make changes that may help their communities become more resilient to future disasters.

Communities worldwide live with hazards – whether natural hazards they live with daily or human-made and technological hazards that are real but have not yet captured attention. When risks that stem from these hazards culminate in a crisis event, communities jump into emergency response to save lives and protect property. But in the months and years after the disaster passes and the influx of outside assistance recedes, communities must confront hard decisions about whether and how to rebuild. These decisions can be minor tweaks or they can involve radical changes to community planning. Whether

such changes help build community-level resilience to future risks may be linked to whether or not a community learned various lessons while managing disaster recovery.

The Plan of the Book

This book presents the story of communities faced with difficult decisions in the aftermath of disaster. The story and empirical analyses presented provide insight into what factors make disaster-affected communities more likely to build resilience during their post-disaster decisions. At the core of this book is an understanding that communities respond in differing ways when faced with a crisis. The learning that takes place after such an event may influence the extent to which a community becomes more resilient after a disaster. This book investigates factors that help explain variation in learning and resilience-building across communities.

The book discusses critical characteristics in disaster recovery and resilience-building in Colorado's flood-affected communities – factors that local governments can work to develop prior to disaster events so that they can see better disaster-related outcomes. First, *resources available* to a community's local government after a disaster are critical to processes and outcomes of disaster recovery. These resources can be internal to a community or external, and may include significant inflows of new resources. Resources are closely associated with a second factor: *type and extent of disaster damage* incurred. Low-capacity governments or those that face significant disaster damage may be more reliant on external resources for successful disaster recovery and their processes may be dictated by higher governmental authorities. Additionally, *internal community characteristics* can influence disaster recovery outcomes. These include belief systems of members of a community, as well as the scale of the disaster and the size and demographic composition of a community. Also internal to a community, risk and disaster-related *information dissemination* to the public is important during disaster recovery. These various internal community factors may also influence the degree to which individuals are concerned about the disaster, and this in turn may influence community members' support of policy decisions of their local government during disaster recovery. The procedural dynamics during disaster recovery also matter, with *participatory processes established by local*

governments during disaster recovery and *intergovernmental dynamics* and relationships with higher-level governmental authorities important to consider when applying our understanding of learning after a disaster to local governments. All of these factors combine to influence the learning and policy change we observe within disaster-affected local governments, as readers will learn in the following pages.

Part I (Chapters 1 and 2): Introduction

The book looks specifically at a set of communities affected by extreme flooding in Colorado, United States, in 2013. The chapters are structured to examine potential drivers of learning. The current part (Part I) lays out the theoretical underpinnings and potential drivers of local-level learning and resilience-building (Chapter 1). Chapter 2 then examines the case of Colorado's extreme floods of 2013, describing the event, damages, and the aftermath during the early weeks of disaster recovery. Readers learn about the event, the destruction it caused, and the massive undertaking of disaster recovery that took place once the floodwaters receded. It sets the stage for subsequent chapters that empirically assess the disaster recovery processes and outcomes.

Part II (Chapters 3 and 4): Damage and Resources

Following the discussion of a theoretical framework described in Chapter 1 and the introduction to the Colorado 2013 floods (Chapter 2, Part I), Part II details and investigates the role that variation in disaster damage and resources plays in disaster recovery. Resources, including existing capacity the local government had prior to the floods and inflow of external resources during and after emergency response, are dissected in detail. Readers learn about the capacity-building strategies that communities used and the importance of resources to successful disaster recovery.

Part III (Chapters 5 and 6): Individual Beliefs

Part III articulates the ways in which internal community characteristics influence the disaster recovery processes and decisions made by local governments. Experience with damage from the most recent

disaster, along with perceptions of problem severity and future risk perceptions can influence the degree to which residents view disasters as an increasing and urgent problem for their local governments to manage. Finally, the nexus of local government information dissemination and participatory processes (covered in Part IV) established during disaster recovery can serve two important roles: (1) garnering support for local government action and trust in government decisions, along with (2) incorporating a range of views beyond only technocratic experts to build innovative policy solutions.

Part IV (Chapters 7 and 8): Individual and Group Engagement

Part IV discusses the importance of relationships – within a community and with other governments – that can encourage or limit learning and resilience during disaster recovery. Important to this discussion are concepts related to the autonomy that local governments enjoy over their fiscal and decision-making affairs, intergovernmental relationships with state and federal agencies that can influence disaster recovery, and the dynamics of groups that form in the aftermath of a disaster. The degree of collaboration and dependence involved in intergovernmental relationships shapes the extent to which these relationships aid communities during disaster recovery. Part IV similarly presents characteristics of groups of stakeholders that form within communities to advocate for policy changes, which can influence whether a disaster-affected community initiates changes in the wake of a disaster.

Part V (Chapters 9–11): Connections, Conclusions, and Recommendations

As this introductory part argues, disasters are fundamentally policy related. Disasters affect communities globally and those events are expected to increase in the future under current climate and human development scenarios. Local governments are the first line of disaster response, but also bear the burden of performing long-term disaster recovery and planning for future events. And yet, scholars do not have a clearly articulated framework for understanding if, how, and with what effect local governments learn after a disaster strikes their community. The framework of community-level learning after disaster

presented in Chapter 9 synthesizes the previous chapters and the disaster scholarship to develop a picture of what characteristics are necessary for a community to navigate a disaster and come out of that experience with greater resilience. Chapter 10 builds upon the analyses presented in the prior chapters and applies those findings to other cases in the United States and globally. This chapter illustrates that the various community-level characteristics and intergovernmental dynamics detailed in Parts II–IV are important for disaster recovery and resilience-building at the community scale beyond the floods in Colorado. Rather, after disaster, emergency managers, scholars, and policy experts observe similar factors that aid in successful disaster recovery and resilience-building. This final part concludes the book by providing a set of recommendations for practitioners to plan for disaster recovery and build community-level resilience.