DISASTER MANAGEMENT IN THE U.S. AND CANADA

DISASTER MANAGEMENT IN THE U.S. AND CANADA

The Politics, Policymaking, Administration and Analysis of Emergency Management

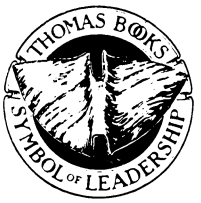
Second Edition

Edited by

RICHARD T. SYLVES, PH.D.
Department of Political Science
and International Relations
University of Delaware

and

WILLIAM L. WAUGH, JR., PH.D.
School of Public Administration
and Urban Studies
Georgia State University



CHARLES C THOMAS • PUBLISHER, LTD.
Springfield • Illinois • U.S.A.

Published and Distributed Throughout the World by

CHARLES C THOMAS • PUBLISHER, LTD.
2600 South First Street
Springfield, Illinois 62794-9265

This book is protected by copyright. No part of it may be reproduced in any manner without written permission from the publisher.

© *1996 by* CHARLES C THOMAS • PUBLISHER, LTD.

ISBN 0-398-06608-6 (cloth)
ISBN 0-398-06609-4 (paper)

Library of Congress Catalog Card Number: 96-1041

With THOMAS BOOKS *careful attention is given to all details of manufacturing and design. It is the Publisher's desire to present books that are satisfactory as to their physical qualities and artistic possibilities and appropriate for their particular use.* THOMAS BOOKS *will be true to those laws of quality that assure a good name and good will.*

Printed in the United States of America
SC-R-3

Library of Congress Cataloging-in-Publication Data

Disaster management in the U.S. and Canada : the politics, policymaking, administration, and analysis of emergency management / edited by Richard T. Sylves and William L. Waugh, Jr. — 2nd ed.
p. cm.
Rev. ed. of: Cities and disaster. c1990.
Includes bibliographical references and index.
ISBN 0-398-06608-6 (cloth). — ISBN 0-398-06609-4 (pbk.)
1. Disaster relief—United States—Planning. 2. Disaster relief—Canada—Planning. 3. Local government—United States. 4. Local government—Canada. 5. Central-local government relations—United States. 6. Central—local government relations—Canada. I. Sylves, Richard Terry. II. Waugh, William L. III. Cities and disaster.
HV555.U6C58 1996
363.3'456'0973—dc20 96-1041
CIP

CONTRIBUTORS

Emory Scott Bales; an environmental specialist in air pollution monitoring for the Georgia Department of Natural Resources' Environmental Protection Division. He has served as Division Duty Officer with statewide, inter-agency coordination responsibilities on the Emergency Response Team; as the Air Protection Branch's representative on the Division GIS Committee; and, as representative of his Department on the Inter-agency Spatial Information Team for the 1994 Georgia Flood. His research on the Florida Emergency Management System began in 1994 and he was employed part-time as a specialist in the Florida Department of Community Affairs, Emergency Management Division, GIS Center under a NOAA coastal hurricane flood zone assessment grant in 1995.

Beverly A. Cigler; professor of public policy and administration at Pennsylvania State University, Harrisburg. In 1994, she received the Donald Stone Award for "outstanding researcher for distinguished scholarship in intergovernmental relations" from the Intergovernmental Section of the American Society for Public Administration. In 1995, she received the "Friend of County Government Award" from the County Commissioners Association of Pennsylvania. Her research, writings, and service contributions are broadly in the area of state-local relations.

Catherine S. Clause; doctoral student in the industrial organization psychology program at Michigan State University. Her research interests are on organizational entry, focusing on both selection and socialization and including test-taking behavior and sub-group differences.

Michel S. Coutu; Major, Royal Canadian Engineers, is at the Air Command Headquarters, Winnipeg. He took his B.A. at Universite' de Montre'al in 1981 and his M.A. in Community and Regional Planning at the University of British Columbia in 1995. His military experience includes project planning, personnel management and field operations in Canada and overseas.

James M. Dahlhamer; field director at the University of Delaware's Disaster Research Center. His current research focuses on business disaster preparedness, business disruption due to disasters, subsequent business recovery, and the assessment of current disaster policies as they affect businesses. He is the author of a number of papers on these topics, including an *International Journal of Mass Emergencies and Disasters* article entitled "Determinants of Business Disaster Preparedness in Two U.S. Metropolitan Areas" (with M. D'Souza).

Christina J. Futch; doctoral student in the industrial organization psychology program at Michigan State University.

Nancy K. Grant; associate dean of Buchtel College of Arts and Sciences and associate professor of public administration at The University of Akron, having earned her Ph.D. in public administration from the University of Texas at Arlington. She is active in the American Society for Public Administration, currently serving as Chair of the Section on Public Administration Research and as a member of four other major committees. Her research in Emergency Management, Hazardous Materials, and Public Safety have led to numerous publications, including two co-authored books: *SARA Title III: Intent and Implication of Hazardous Materials Regulations* and *Fire Service Administration.* She is currently writing a book on "Fire and Emergency Response Planning" and is helping develop a standardized emergency management undergraduate curriculum for FEMA.

Henry C. Hightower; professor in the School of Community and Regional Planning, and the director of the Disaster Preparedness Resources Centre, in the University of British Columbia, Vancouver, Canada. He read sociology at the London School of Economics and took a doctorate in planning at the University of North Carolina, Chapel Hill. He is past president of the Association of Collegiate Schools of Planning.

Ronald John Hy; professor of public administration at the University of Arkansas at Little Rock. He recently co-authored a book entitled *State and Local Tax Policies.* His research has appeared in journals such as *Public Productivity Review, State and Local Government Review, Government Finance Review, Health Policy, Social Science and Medicine,* and *Drug Intelligence and Clinical Pharmacy.* His research focuses on economic modeling of various tax and health finance issues.

Robert W. Klebs; California general building contractor and FEMA Disaster Assistance Employee (Reservist) housing inspector. He is certi-

fied by the International Conference of Building Officials as a building inspector. A former home builder and seismic retrofit expert, he graduated from California State College, Dominguez Hills, having majored in sociology. He is also a U.S. Coast Guard licensed master and SCUBA instructor.

Michael K. Lindell; professor of industrial/organizational psychology at George Washington University. His principal research area is the response of individuals and organizations to the threat of disaster. His previous research projects have investigated factors influencing individuals' responses to warnings of imminent dangers and how individuals adjust to a variety of natural and technological hazards. He is currently directing a longitudinal study of the effectiveness of local emergency planning committees.

Joanne M. Nigg; professor in the Department of Sociology and Criminal Justice and Co-Director of the Disaster Research Center at the University of Delaware. She holds a Ph.D. in sociology from the University of California, Los Angeles. She has been involved in research on societal response to natural and technological hazards, especially earthquake threats, since 1976. She has served as a member of the National Academy of Sciences—National Research Council's Committee on Earthquake Engineering and on the Board of Directors of the Earthquake Engineering Research Institute. The results of her research have been published in five books and monographs and in numerous journal articles, technical reports, and conference papers.

Thomas J. Pavlak; professor of public administration and director of the Institute of Public Administration at Fairleigh Dickinson University. He received his Ph.D. in political science from the University of Illinois at Urbana-Champaign in 1971. He has taught at the University of Missouri—St. Louis, the University of Illinois—Chicago and the University of Pittsburgh. He authored the book *Administrative Justice* (with G. Pops).

Joseph Scanlon; Director of the Emergency Communications Research Unit at Carleton University in Ottawa, Canada, and has been doing disaster research for 25 years. Recently he was elected president of the Research Committee on Disasters, International Sociological Association.

Allen K. Settle; professor in the School of Communicative Arts and Humanities at the California State University, San Luis Obispo. He is Mayor of San Luis Obispo and is author of *Emergency Management in*

Public Administration Education, Legal Issues in Emergency Management: The Coalinga Earthquake, and co-author of *American Public Administration: Concepts and Cases.* He is a member of the Senior Executive Policy Center at FEMA's National Emergency Training Center.

Sandra Sutphen; teaches public administration and American government at California State University, Fullerton. Her research in emergency management focuses on natural hazards (her California habitat provides ongoing sustenance) and governmental organizations, particularly local structures. She is Chair of the Division of Political Science and Criminal Justice and MPA program coordinator.

Richard T. Sylves; professor of political science and public administration at the University of Delaware. He wrote *The Nuclear Oracles: A Political History of the General Advisory Committee of the U.S. Atomic Energy Commission, 1947–77,* published in 1987 and co-edited *Cities and Disaster: North American Studies in Emergency Management* (with W. Waugh) in 1990. In 1993 he testified before the U.S. Senate Governmental Affairs Committee about reforms needed at the U.S. Federal Emergency Management Agency. He has published about 30 articles in academic journals and books, most on disaster management. He is editor and publisher of the newsletter, "Emergency Management Dispatch," for the American Society for Public Administration's Section on Emergency and Crisis Management. Over 1994–95, he was a Center for Advanced Study faculty fellow at his home university and is helping FEMA develop model emergency management courses.

Kathleen J. Tierney; associate professor in the Department of Sociology and Criminal Justice and Co-Director of the Disaster Research Center at the University of Delaware. She received her Ph.D. in sociology from The Ohio State University. Her main areas of interest are the sociology of disasters and collective behavior and social movements. Her recent publications include a book, *Disasters, Collective Behavior, and Social Organization,* co-edited with R. Dynes, and book chapters on the 1992 Los Angeles riots and the 1990 Iben Browning earthquake prediction.

William L. Waugh, Jr.; professor of public administration, urban studies, and political science at Georgia State University. He has published widely in the U.S., Canada, and Europe on disaster management, terrorism, administrative theory, local government capacity, and professional education and is a frequent consultant to public and non-profit

agencies and the media on leadership, administration, and crisis management. He is past chair of the American Society for Public Administration's Section on Emergency and Crisis Management and a contributor to the U.S. National Report to the IDNDR World Conference on Natural Disaster Reduction in Yokohama, Japan, in May 1994.

David J. Whitney; assistant professor of psychology at California State University—Long Beach. His major research interests are differential item functioning in employment tests and applications of organizational behavior theory to local emergency planning committees.

Frances E. Winslow; director of emergency management, City of San Jose, California and former member of the California Seismic Safety Commission. She graduated from Drew University and earned a doctorate in planning from New York University. She has written many articles about emergency preparedness, emergency planning, and law enforcement.

To my parents
Robert and Joanne Sylves

To my wife
Deb Waugh

FOREWORD

Emergencies constantly test our ability to deal with crisis. The loss of life, services, and businesses have a dramatic impact on people. Fear that disasters may or will strike in the future contributes to stress. For some there is fear of personal suffering and individual property loss. For others, there is fear of business disruption that hurts owners, managers, and employees in general. For others still, there is fear that disaster will irreparably damage public infrastructure, metropolitan economies, or local property and income tax bases.

Emergency managers understand and appreciate these fears. They have advocated disaster preparedness, mitigation, response, and recovery to policymakers and the public with modest success. However, the differing philosophies, priorities, and perceptions of others have created conflict and competition, making it ever more difficult for them to collect, maintain, and organize the people and resources needed to perform emergency management. Today, emergency managers must be masters of anticipatory thinking, exhibit leadership, and exercise artful powers of persuasion in order to overcome incessant turf wars among public agencies and officials. They must use their talents to save emergency management from indifference, complacency, and the daily crush of other public business.

This book builds from an earlier edition, from advances in the literature and field of emergency management, and from recent disaster experience, to offer concepts and lessons to local, state, and provincial governments and organizations that must cope with disasters. A central theme is the need for all levels of government to develop a cooperative effort to plan for, and handle, emergencies. Authors want various organizations, inside and outside government, to work in close harmony and with coordination, because they know no single agency or entity can independently manage disasters or major emergencies.

Emergency management has become a vital profession better able to meet ever-increasing public demands, better able to advance post-disaster

cost recovery and relief, and better able to put communities back together after a disaster. This book is designed and intended to help the reader, whether familiar or unfamiliar with the field, better understand the human impacts emergencies have on us all. It examines laws, policies, regulations, and arrangements of the intergovernmental world of disaster management.

The original 1990 edition of this book had its origins in a 1984 Federal Emergency Management Agency sponsored workshop to promote scholarly understanding of emergency management. There I had the personal and professional benefit of working with Rick Sylves and Bill Waugh, who later included one of my articles in their first edition and now have invited me to write this Foreword. I am a mayor and professor who has had direct experience in my home city dealing with several federally declared disasters. I have long been a student and teacher of emergency management as well. I therefore say with confidence, contributors to this volume draw from policymakers, emergency managers, and academic researchers in a way that advances our knowledge and understanding of disaster management. The book represents a strong contribution to the professional field of emergency management, and its editors and contributors are to be commended.

ALLEN K. SETTLE
Professor
California State University
Mayor, City of San Luis Obispo

INTRODUCTION

Hurricane Andrew, the Northridge Earthquake, the 1993 Great Midwestern Flood, the New York Twin Towers bombing, and the Oklahoma City Murrah Federal Office Building bombing, have catapulted disaster management into the public policy arena. For North America, the 1990s may not be labeled the decade of disaster, but clearly natural and man-made disasters have become more destructively expensive, in some respects more deadly, and certainly better publicized.

In the mid-to-late 1980s, we went to work on a jointly edited book. Published in 1990, *Cities and Disaster: North American Studies in Emergency Management,* was aimed at bringing U.S. and Canadian scholarly research on emergency management to a growing community of interest. We commissioned experts who were academics, practitioners, or both, to contribute their work to that endeavor. We wanted *Cities* to serve as a reader in undergraduate and graduate courses that addressed emergency management and disaster policy. We wanted to build greater awareness of, and scholarship within, emergency management inside and outside academic circles. We sought to refute these common myths: that emergency management is all-training and no education; that the field of emergency management has few occupants willing to promote knowledge creation and professionalism; that studies of disaster are only unidisciplinary and anecdotal; and, that emergency management is peripheral, narrowly occupational, episodic work. If we achieved our objectives, we were helped by an unfortunate string of mega-disasters and by a fortunate revolution in the political and managerial world of disaster management.

Disaster Management in the U.S. and Canada is a complete overhaul of the 1990 first edition. Most chapters are new and the three which are not, were rewritten and revised. More chapters are added, more disciplinary perspectives are represented, more American and Canadian authors and articles are featured, and more emphasis is given to national, state

and provincial roles in disaster management but without ignoring the continuing centrality of local emergency management.

The heart of this compilation is the intergovernmental relations of disaster management. *Cities and Disaster* concentrated on municipal and local aspects of emergency management. *Disaster Management in the U.S. and Canada* extends beyond this in a variety of directions. Readers will notice that disaster management now has a place in the offices of the President and the Canadian Prime Minister, now is regularly examined and debated in the U.S. Congress and Canadian Parliament, now has a higher public profile thanks to the work of the U.S. Federal Emergency Management Agency and Emergency Preparedness Canada, and now has greater importance and respect in state and provincial governments.

Readers will also recognize that this book gets closer to disaster victims. Several chapters address the post-disaster problems of homeowners, apartment dwellers, and business people. Many chapters provide a sense of what governors, mayors, and other public officials need to understand about disaster management, appreciating that disaster management is generally not their domain of expertise. Emergency responders, planners, information managers, and citizen advisers also hold prominent positions in this study.

We hope this book is used as a text and/or reader in emergency management-related courses, whether in public administration, political science, intergovernmental relations, disaster sociology, organizational studies, or urban studies. We also hope everyone in the vast community of emergency management, whether working at the local, state, provincial, or federal level, working in the corporate sector, or serving in non-profit community organizations, reads and benefits from this book.

The world of North American disaster management has grown more complex and more interdependent. The North American Free Trade Agreement has helped pull Canada, Mexico, and the United States closer together. A commodity of more open trade may be information about disaster management. Perhaps this book is a modest contribution to that exchange.

PART 1

Part 1 sets the stage by reviewing how emergency management has evolved in the 1990s. Problems, ineptitude, and disorganization in the aftermath of Hurricane Andrew created tremendous pressure for reform

of U.S. emergency management. Disasters have become more political than ever before. President Clinton, despite shortcomings in other policy areas, has made improved emergency management an administration goal. He and his FEMA Director, James Lee Witt, have dramatically refashioned federal emergency management.

In Chapter I, Richard T. Sylves surveys these changes through two rounds of National Performance Review. His chapter considers the FEMA Director's organizational relations, managerial pressures, constituency and clientele service obligations, and critical internal agency forces. He shows how FEMA's reform of federal emergency management has affected the states.

In Chapter II, Sylves delves into the controversy surrounding the politics of presidential disaster declarations and he examines the budget battles over who is to pay for the increasing costs of disasters and emergencies. Each controversy embodies conflict between the federal government and the states. Sylves enters the nether world of gubernatorial requests for presidential disaster declarations by considering the record of approvals and turndowns by nine presidents. He surmises that media coverage and political factors have much to do with who wins and who loses.

In Chapter III, William L. Waugh, Jr. and Sylves address a range of intergovernmental emergency management issues. Chapters I and II were written from the national perspective. Chapter III was written from a state and local perspective. The chapter surveys and comments on the strengths and weaknesses of state and local emergency management. All-hazards and integrated emergency management, federal cost-sharing arrangements, movement to block grants, national performance standards, the FEMA press for state disaster trust funds, obstacles to local emergency management, the role of counties in disaster management, disaster victims as "customers," etc., are investigated in policy analytic terms and in terms which appreciate the position of the states and localities.

In Chapter IV, Henry C. Hightower and Michel Coutu investigate Canadian federal law and policy regarding emergency management. They present British Columbia and Quebec provincial emergency preparedness and response arrangements, and they offer an insightful case study of how one Vancouver metro area city has gone about preparing for a catastrophic earthquake. Their work interweaves findings of disaster sociological research with a vivid description of earthquake hazard

vulnerabilities of the case city, its response organizations, and the work of planners in meeting the locality's disaster threat.

PART 2

Part 2 is devoted exclusively to the state of California. No other state has received more presidential declarations of major disaster; no other state has received more federal disaster relief dollars; no other state has experienced more disaster damage loss; and no other state has the variety of disasters and emergencies California does (determined from Sylves' analysis of 42 years of presidential disaster declaration data supplied by the U.S. Federal Emergency Management Agency). Florida's Hurricane Andrew was more devastating and deadly than California's Northridge Earthquake. However, long-term, multi-billion dollar Northridge quake recovery costs far exceed Hurricane Andrew's and a considerably larger share of Andrew's losses were privately insured when compared with Northridge Earthquake losses—meaning Northridge absorbed substantially more public money than did Andrew.

Owing to frequent experience with disaster, California is in many ways on the cutting edge of emergency management. These chapters confirm this claim in many dimensions of management, but they also highlight glaring deficiencies and continuing vulnerabilities.

In Chapter V, Frances E. Winslow presents California's "operational area" approach to urban-suburban-rural emergency preparedness and response. She demonstrates how America's most populous state is attempting to orchestrate a multiplicity of governments reflecting a dizzying array of emergency capabilities and resources. The California Office of Emergency Services' operational area initiative was not joyously embraced in every local jurisdiction. She reviews major implementation problems and considers prospects for success and possible adoption of the "operational area" concept elsewhere.

In Chapter VI, Robert W. Klebs and Sylves grapple with the grassroots problem of Northridge Earthquake housing repair and family assistance. Klebs walks us through the damaged or demolished homes of Northridge quake survivors. His account is written from the perspective of a FEMA investigator. Klebs' experience conveys a wealth of knowledge regarding FEMA post-disaster inspection work and is a poignant plea for more and better earthquake mitigation in residential single-family, multi-family, and condominium construction. Klebs and Sylves

present the plight of quake victims, many of them displaced from their homes and bewildered by the problems of rebuilding, renovating, or relocating. The chapter also demonstrates the challenge of FEMA's job in verifying loss, validating that assistance funds were spent properly, responding to complaints of disaster assistance applicants, and representing government in a human form to disaster victims. It also demonstrates how high technology advances like grid pads, palmtops, cellular phones, voice mail, paperless inspections, and geographic information systems, are transforming disaster field work.

Building from first person interviews of responders, official documents, and newspaper accounts, Sandra Sutphen's Chapter VII takes us into the field with southern California firefighters to battle a stubborn series of wildfires that constantly encroach into and threaten developed areas. Her account reveals both triumphs and failures of intergovernmental coordination. No chapter better demonstrates the multi-dimensionality of disaster mitigation and preparedness. Homeowners complain that Endangered Species Act rules prevented them from removing flammable vegetation from around their properties and so they blamed the federal government for wildfire damage to their homes. Environmental interests succeed in defeating a fire department request for a new hilltop reservoir and months later residents scream at firefighters who are winding up hose as wildfire flames bear down on their neighborhood. The firefighters had insufficient water and pressure to combat the fire in several areas, in part because the reservoir was never built.

PART 3

Part 3 aims more at the heartland of the U.S. Here the concerns are flood policy, the impact of key utility loss on businesses during and after the 1993 Midwest floods, and Local Emergency Planning Committees of the central U.S.

In Chapter VIII, Beverly A. Cigler revisits U.S. flood policy in a thorough and up-to-date consideration of lessons learned, and not learned, from the 1993 Midwest flood. She explains major changes in the National Flood Insurance Program (NFIP), the growing importance of environmental disaster mitigation, the changing role of the Army Corps of Engineers, the success of FEMA-sponsored home (and town) relocation efforts, and a host of other matters. Cigler laments the continuing low

level of municipal and public participation in the NFIP. Her policy analysis embodies excellent insights.

Chapter IX by Kathleen J. Tierney, Joanne M. Nigg, and James M. Dahlhamer, declares that understanding business vulnerability to disasters is needed for loss estimation, hazard mitigation, disaster preparedness, and recovery planning. It presents early findings from a study of 1079 businesses in Des Moines/Polk County, Iowa, done in the months after the Midwest floods of 1993. It examines business dependence on lifeline utility services, flood damage businesses experienced, lifeline service disruption to both flooded and unflooded businesses, and the impact lifeline service interruption had on business owners. The Tierney-Nigg-Dahlhamer study helps us appreciate the vulnerability and economic loss of Des Moines business owners who suffered interruption of utility lifeline services stemming from the 1993 Midwest floods. The study has many generalizable findings and it refines appreciation and measurement of commercial loss from disaster and its consequences.

Michael K. Lindell, David J. Whitney, Christina Futch, and Catherine S. Clause devote Chapter X to an investigation of the dynamics of citizen participation on Local Emergency Planning Committees, bodies intended to advise public and private officials about the public's concerns, worries, and interests. By surveying LEPCs and their members, the Lindell team explores factors that help account for the success, failure, and viability of these advisory groups. LEPCs are instruments of "grassroots democracy" in emergency management. They serve a variety of important purposes not the least of which is outreach, public education on hazard and disaster vulnerability, and citizen/group representation in matters of emergency preparedness and hazard reduction.

PART 4

Part 4 is dedicated to aspects of municipal disaster management in Canada, in New York City, and in all those jurisdictions responsible for regulating building.

In Chapter XI, Waugh and Ronald John Hy use the Hyatt-Regency Skywalk disaster in Kansas City, Missouri, as a crucible for reviewing the regulation of building for disaster mitigation. They examine the kinds of risks posed by poor building standards and inadequate code enforcement, as well as the consequences of building failures. The Hyatt case raised issues of faulty design, ineffective state licensing of engineers,

and inadequate code enforcement. It is also an object lesson in the price to be paid for building failures. Waugh and Hy contend that lax building regulation and code enforcement have resulted in loss of life and millions in property damage. Recent post-disaster reports underscore the need for states to strongly encourage, if not mandate, appropriate building regulations for construction, seismic risk, flood, wind, and fire. Waugh and Hy favor giving local emergency managers a role in building regulation and they believe that some federal and state financial support may be needed to encourage improved local standard setting and code enforcement.

Chapter XII is a reprise of the original edition's New York City case study. Sylves and Thomas J. Pavlak discuss the Twin Towers terror bombing disaster and they reassess how America's most populous city manages major emergencies. They also inspect changes in the city's emergency management under Mayor Rudolph Giuliani.

In Chapter XIII, Joseph Scanlon again insists that emergency management needs to better appreciate the role of the mayor or local chief executive in both predisaster preparedness planning and in disaster response. His addition of cases from the 1990s further confirms his claim that "active" mayor communities carried out more effective response to their emergencies than "inactive" mayor communities did. "Active" and "inactive" mayor communities were determined on the basis of whether or not mayors were involved in, or measurably in support of, emergency preparedness and response activity *before the incident occurred in their locality.*

PART 5

Part 5 offers general and technical advice about emergency management in the 1990s. It speaks to public administrators struggling to understand the whys, whats, and wherefores of emergency management. It also speaks to information managers, which in disaster management is a very wide circle of people. And, it speaks of the future of disaster management given the challenges posed by the 1990s and beyond.

In Chapter XIV, Nancy K. Grant provides a useful primer for public administrators and officials who may be unfamiliar with emergency management, or worse, reluctant to give it a portion of their time and understanding. She shows the many ways emergency management is a concern of all public administrators. As policymakers have been com-

pelled to address a host of new, old, and proliferating hazards, many federal and state laws, amendments, regulations, and directives have moved emergency management into seemingly foreign areas like zoning, building regulation, municipal budgeting, local public health and welfare, transportation, and so on. Grant succeeds in getting public officials to "wake up and smell the coffee." She challenges local officials to demand more and better education and training in emergency management from higher governments and from the academic community.

In Chapter XV, Emory Scott Bales and Waugh use the Hurricane Andrew experience to underscore the modern demands of information data-base management. They explain the fundamentals and uses of geographic information systems. They also make a convincing argument for training more disaster managers in the use of GIS and in making it a vital tool of response and recovery. They do a superb job canvassing the ever-growing community of agencies using GIS, they observe that private corporate GIS users cannot be counted on to volunteer their resources and expertise in every disaster, and they paint an excellent picture of how GIS, an amazing computing innovation, is rapidly making itself indispensable to disaster managers.

In Chapter XVI, Waugh summarizes the major findings of this study, identifying disaster mitigation as a primary sub-theme running through the entire volume. He also laments the likely affects of the current federal budgetary crisis, the shrinking influence of FEMA (despite its new-found public popularity and positive image), and the variability of state and provincial emergency management capabilities. Yet, he does see an increasing role for the private sector and the volunteer community, the inevitability of greater individual responsibility for disaster preparedness, and expanded use of public and private insurance as instruments of disaster mitigation and loss reduction. Waugh shows us the international relevance of emergency management and offers prognostications about where disaster management is headed through the remainder of the 1990s and into the next millennium.

We, the editors of this volume, hope that this new retitled edition will make its way into graduate and undergraduate courses that address disaster policy and emergency management. We also hope this study contributes to a growing and important body of scholarship in what is fast becoming a very "hot" professional field.

R. Sylves
W. Waugh

ACKNOWLEDGMENTS

The editors of the project would like to thank our respective employers and their staffs for having provided the support and resources that made this study possible. The University of Delaware's Department of Political Science & International Relations and Georgia State University's School of Public Administration and Urban Studies provided computer facilities, word processing resources, and fax services essential in this work. Professor Sylves would like to single out for special thanks Kurt Grelak, who provided absolutely invaluable computing assistance.

Both editors would like to acknowledge the help of the University of Colorado's Natural Hazard Research and Applications Center. Sylves would like to thank the Disaster Research Center of the University of Delaware. Both centers employ marvelous, erudite colleagues and possess excellent research holdings and information dissemination resources. We would also like to thank FEMA's Dr. Wayne Blanchard for supplying us with an excellent compilation of emergency management-related course syllabi which helped us in our work on the bibliography of this volume. Waugh would like to thank as well the staff of the International Decade of Natural Disaster Reduction of the United Nations.

Dr. Sylves would also like to thank the University of Delaware for a sabbatical leave and for a Center for Advanced Study one-year faculty research fellowship used to work on this endeavor. He would also like to thank his university's Morris Library for a study carrel, computer-link, and help in research of government holdings.

Also helpful has been the advice and information provided by FEMA headquarters and regional officials, many state emergency managers, and a host of experts who unselfishly read and critiqued draft chapter work of this study.

CONTENTS

		Page
Foreword		xiii
Introduction		xv
	PART 1	
I.	Redesigning and Administering Federal Emergency Management *Richard T. Sylves*	5
II.	The Politics and Budgeting of Federal Emergency Management *Richard T. Sylves*	26
III.	Intergovernmental Relations of Emergency Management *William L. Waugh, Jr. and Richard T. Sylves*	46
IV.	Coordinating Emergency Management: A Canadian Example *Henry C. Hightower and Michel Coutu*	69
	PART 2	
V.	Intergovernmental Challenges and California's Approach to Emergency Management *Frances E. Winslow*	101
VI.	The Northridge Earthquake: Memoir of a FEMA Inspector *Robert W. Klebs with Richard T. Sylves*	126
VII.	California Wildfires: How Integrated Emergency Management Succeeds and Fails *Sandra Sutphen*	161
	PART 3	
VIII.	Coping with Floods: Lessons from the 1990's *Beverly A. Cigler*	191
IX.	The Impact of the 1993 Midwest Floods: Business Vulnerability and Disruption in Des Moines *Kathleen J. Tierney, Joanne M. Nigg, and James M. Dahlhamer*	214
X.	The Local Emergency Planning Committee: A Better Way to Coordinate Disaster Planning *Michael K. Lindell, David J. Whitney, Christina J. Futch, and Catherine S. Clause*	234

PART 4

XI. The Hyatt Skywalk Disaster and Other Lessons in the Regulation of Building 253
William L. Waugh, Jr. and Ronald John Hy

XII. Managing Major Emergencies in "Gotham City" 270
Richard T. Sylves and Thomas J. Pavlak

XIII. The Crucial Role of the Canadian Mayor in Emergency Management 294
Joseph Scanlon

PART 5

XIV. Emergency Management Training and Education For Public Administrators 313
Nancy K. Grant

XV. All-Hazards, Operational Emergency Management Information Systems: A Lesson Learned from Hurricane Andrew 327
Emory Scott Bales and William L. Waugh, Jr.

XVI. Disaster Management for the New Millennium 344
William L. Waugh, Jr.

Bibliography 361

Index 383

LIST OF FIGURES AND TABLES

Table I-1: FEMA Director Managerial Relations 9
Table II-1: FEMA Director Political and Budgetary Relations 28
Table II-2: Presidential Disaster Declaration Approvals and Turndowns by State Request Action Category, Jan. 1, 1953–Aug. 19, 1994 31
Table II-3: Approvals, Turndowns, and Marginality 36
Figure IV-1: Greater Vancouver and the Fraser Delta 80
Figure VII-1: Southern California Wildfires October 26 to November 5, 1993 167
Table IX-1: Percentages of All Businesses and Flooded Businesses in the Des Moines Sample By Economic Sector and Size 221
Table IX-2: Profile of All Businesses and Flooded Businesses in the Des Moines Sample 222
Table IX-3: Importance of Lifelines 223
Table IX-4: Importance of Lifeline Usage 224
Table IX-5: Percent of Businesses Reporting Lifeline Service Interruption by Economic Sector 225
Table IX-6: For Businesses that Lost Service, Median Duration of Service Interruption (in Hours) by Economic Sector 225
Table IX-7: Disruptiveness of Lifeline Service Interruption 226
Table IX-8: Median Number of Hours Businesses Closed by Type of Business 227
Table IX-9: Reasons for Business Closure 228
Table XIII-1: Involvement of the Mayor in Emergency Response 300
Table XIII-2: Elements Present in Emergency Response 301

DISASTER MANAGEMENT IN THE U.S. AND CANADA

PART 1

Chapter I

REDESIGNING AND ADMINISTERING FEDERAL EMERGENCY MANAGEMENT

RICHARD T. SYLVES

INTRODUCTION

In the aftermath of Hurricane Andrew in 1992, the U.S. Federal Emergency Management Agency (FEMA) was highly criticized, if not excoriated, for a poor, mismanaged emergency response. FEMA's Inspector General documented the shortcomings of the agency's response to Hurricane Andrew.[1] A few lawmakers even proposed legislation calling for FEMA's dissolution.[2] Today, most of those proposals have been withdrawn, side-tracked, or are awaiting further consideration.

Since Hurricane Andrew, significant changes have occurred. Those changes include the 1992 presidential election, the start of the Clinton administration, the appointment of a state emergency director to head FEMA, the push of two National Performance Reviews aimed at reinventing federal administration, and a FEMA Director-led in-house assessment and reorganization. In January 1994, Southern California experienced the Northridge Earthquake. This new mega-disaster gave FEMA officials a chance to demonstrate how much they have improved their operations since Hurricane Andrew.

This chapter delves into the managerial environment of FEMA. It examines the organizational relationships of the FEMA Director; the political pressures brought to bear on that office; the constituency and clientele service obligations of that post; and, the complex intergovernmental forces imposed on that job.

FEMA HISTORY

President Carter formed the Federal Emergency Management Agency April 1, 1979 in order to consolidate a confusing array of federal emergency agencies. The re-organization came during a much-criticized

federal emergency response to the Three Mile Island Unit #2 Nuclear Power Plant accident. FEMA was to provide a single point of contact for state and local governments and was to "optimize" the use of emergency preparedness and response resources at all levels of government by taking advantage of the similarities and response activities for both peacetime and attack emergencies.[3] The agency was supposed to replace a patchwork of disparate agencies, councils, laws, and executive orders with a central, consolidated, and integrated emergency management agency.[4] FEMA was to be headed by a single director.

Before FEMA opened its doors in 1979 and before the Federal Response Plan (FRP) took effect in August 1992, there was "no organized, regulated framework by which the federal government could provide" coordinated emergency management and federal disaster response.[5] The FRP was in place for many years to help coordinate federal response, but not disaster assistance. Also, for many years Congress dispensed disaster aid to the states on a disaster-by-disaster basis. From 1803 to 1950, over 128 separate disaster laws were enacted.

One definitive 1986 study of disaster policy revealed that laws passed "between" disasters (in normal times) were usually better conceived than those hurriedly approved soon after disasters.[6] It also demonstrated that Congress was slow to understand disaster in generic, rather than type-specific, terms. Lawmakers tended to pass separate laws for earthquakes, hurricanes, forest fires, floods, etc. By failing to approach disaster policy in more generic terms using "all-hazards" reasoning, legislators often created a patchwork of overlapping organizations and programs that worked duplicatively, inefficiently, parochially, and sometimes at cross-purposes.

The Federal Disaster Act of 1950 (P.L. 81-875) broke the single incident cycle. It embodied the basic philosophy of disaster relief and laid the foundation for federal and state cost-sharing in disaster assistance. Initially, federal relief went only to public (government-to-government) assistance (PA) projects which usually supported infrastructure repair or replacement. Often the federal government paid 100 percent of these costs. Individual victims of disaster could only seek help from private charities like the American Red Cross and the Salvation Army.[7]

Although the gap between public and individual assistance was largely closed by the temporary housing program and other individual assistance programs put in place after the Disaster Relief Act of 1970, the Disaster Relief Act of 1974 (P.L. 93-288) instituted the Individual and

Family Grant (IFG) program.[8] This provided 75 percent of the funding for a state-administered program aimed at providing cash help for furniture, clothing, and essential needs.[9] States matched the federal contribution with a 25 percent share of program cost. FEMA provides direct disaster assistance to victims through its Temporary Home Repair program of individual assistance.

From 1979 to 1988, FEMA handled a variety of disaster response and recovery operations largely under the broad authority of the Disaster Relief Act of 1974. In 1988 it was accorded a new "structure and legal basis for disaster response" under the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (P.L. 100-707). The Stafford Act supplies "FEMA with the authority to provide for *all* disasters, regardless of cause. It delineates FEMA's disaster assistance programs, and in conjunction with the FRP [as of 1992], the processes by which specialized assistance is afforded to victims."[10] "Regardless of cause," means that human-caused and environmental disasters are included, as well as natural disasters.

FEMA operates as an independent agency, and promotes disaster mitigation, preparedness, response, and recovery through its work with state and local emergency managers. The agency also advances comprehensive, all-hazards emergency management.[11]

FEMA has about 2600 employees. Most work at FEMA headquarters in Washington, D.C., but many are in the agency's ten regional offices, field offices, and training facilities. FEMA has five directorates organized along functional lines: Mitigation; Preparedness, Training and Exercises; Response and Recovery; Operations Support; and Information Technology Services. It also hosts the U.S. Fire Administration and the Federal Insurance Administration.

FEMA's Fiscal Year (FY) 1996 budget request to Congress was $817 million with an additional $320 million for the President's Disaster Relief Fund. Another $806 million was sought for an emergency contingency fund.[12]

THE MANAGERIAL WORLD OF FEMA

Table I-1 depicts in simplified terms the major authorities, organizations, groups, and aggregations that interact with FEMA and its agency leadership. Sections which follow examine FEMA's internal changes and its relations with other federal departments and agencies (note: FEMA's