Integrating Hazard Mitigation into Local Planning:  
A Literature Review and Resource List

American Planning Association  
Hazards Planning Research Center

The Integrating Hazard Mitigation into Local Planning literature review and resource list contains three sections:

1. PUBLICATIONS. Book, article, and government document citations.

2. CASE EXAMPLES. Suggested communities/regions that have undergone significant hazard mitigation planning exercises in recent years; recommended by participants in the November 2007 APA-FEMA Scoping Symposium in Chicago.

3. RESOURCES. Resources were selected based on several criteria: relevance to the topic of municipal planning, timeliness, and ability to convey concepts accurately and concisely to an audience of planners.

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PUBLICATIONS


This planning tool offers a broader understanding of the benefits of smart and safe growth among communities. It highlights the essential components of safe growth and specific examples used by communities to deal with natural hazards. Strategies for community planning for community safety are examined.

This CD-ROM includes audio recording synchronized with PowerPoint presentation, program transcript, PowerPoint presentation note sheets, questions and answers, and supplemental reading materials.


Section covers integrating hazard mitigation and local land-use planning recommendations.


Includes current information on what state planning legislation says both with regard to planning in general and natural hazards specifically. One special concern has been extending the reach into the academic community, with hope that this CD-ROM, with a PowerPoint presentation and explanatory notes for instructors, will help facilitate the use of the Summary in university classrooms and introduce many more students to its subject matter.


This article from APA’s Utah Chapter newsletter explains how local comprehensive plans can and should reference pre-disaster mitigation plans, and/or have a mitigation section within the comprehensive plan. The DMA2000 and SHMP are introduced, with emphasis on the emergency management community and planning community working together. Local and state agencies that have resources and tools available to help local communities in mitigating disasters are mentioned.

This book presents research on recovery programs that worked in the Caribbean: programs that provide immediate aid to victims and also lay the basis for sustainable development and growth. The focus is on how to build the capacity of local governments to undertake predisaster mitigation. Chapter 7, Linking Disaster Recovery and Sustainable Development, lays out future directions.


Chapter 3 discusses the impact of natural hazards along the coast and the importance of mitigation. Chapter 8 addresses local planning policy and Chapter 9 presents sustainable building practices within the coastal zone.


This report studies the phenomenon of hillside homebuilding in California, and the responsibilities government has to protect its residents and environment, while driving the state’s economic growth. The goal of the report is not to stop development but to enhance safety controls and to identify and reduce the public subsidies discussed in the report.


The book is interestingly written, and presents clear and practical suggestions for changing local seismic policy. It should be of interest to geographers and other social scientists who study natural-hazards policy.


Hugo... Andrew... Felix... Fran... The names of hurricanes that have devastated the Caribbean region are firmly implanted in the minds of those who survived them. Beyond the scrutiny of the press and television cameras, those survivors often struggle not only with the destruction left in the hurricane's wake but also with the chaotic and disruptive circumstances brought about by massive infusions of well-intentioned "aid." In *After the Hurricane*, Philip R. Berke and Timothy Beatley present state-of-the-art research on recovery programs that work -- programs that provide immediate aid to victims and lay the basis for sustainable development and growth.


This paper uses empirical data from natural hazard elements of 139 community plans in five states to assess whether such state mandates actually result in better local plans. The authors find that a state mandate not only achieves plans from communities that otherwise would not make a plan, but in addition those plans are of higher quality than plans made voluntarily in communities not under a mandate to plan.


This volume examines the rebuilding of cities and their environs after a disaster and focuses on four major issues: making cities less vulnerable to disaster, reestablishing economic viability, responding to the permanent needs of the displaced, and recreating a sense of place. Success in these areas requires that priorities be set cooperatively, and this goal poses significant challenges for rebuilding efforts in a democratic, market-based society.


This article examines the degree to which the quality of local plans changes over an eight-year period with respect to natural hazards mitigation. Jurisdictions in Florida and Washington were sampled in 1991 and in 1999 to determine the extent to which their plans’ hazard mitigation components changed and to identify factors driving communities to adopt stronger policies. Results indicate the plans of local jurisdictions improved and that legal reform, repetitive damage to property, and citizen participation can facilitate an adaptive learning process. This article discusses policy implications and provides recommendations for improving learning capabilities to prepare plans that prevent natural hazards.

This volume focuses on the breakdown in sustainability -- the capacity of the planet to provide quality of life now and in the future -- that is signaled by disaster. The authors bring to light why land use and sustainability have been ignored in devising public policies to deal with natural hazards. They lay out a vision of sustainability, concrete suggestions for policy reform, and procedures for planning. The book chronicles the long evolution of land-use planning and identifies key components of sustainable planning for hazards. Stressing the importance of balance in land use, the authors offer principles and specific reforms for achieving their visions of sustainability. See Chapter 4 by Godschalk, Kaiser and Berke on preparation of hazard mitigation plans and integration of hazards plans with local comprehensive plans and Chapter 6 by Olshansky, Kartez, and Paterson on development management tools.


This article focuses on the importance of citizen participation in the hazard mitigation planning process. An examination of the importance of constituency-building is highlighted. The author categorizes “…the efficacy of citizen involvement” into the following five choices: objectives, timing, participants, citizen involvement techniques, and information given to citizens.


This article examines the relationship between state requirements for preparation of local government comprehensive plans and claims paid by property insurance companies for losses due to weather-related natural disasters between 1994 and 2000. Over the period studied, if all states had required comprehensive plans with hazard mitigation elements, the toll in insured losses to residential property from natural disasters would have been reduced by approximately $213 million in constant 2000 dollars.


The local government paradox is that while their citizens bear the brunt of human suffering and financial loss in disasters, local officials pay insufficient attention to policies to limit vulnerability. Disaster losses can be blunted if local governments prepare comprehensive plans that pay attention to hazard mitigation.


The Second National Assessment on Natural and Related Technological Hazards calls land-use planning the single most promising approach for bringing about sustainable hazard mitigation. This article describes the essential elements of land-use planning for hazard mitigation. It highlights important choices involved in formulating planning processes, undertaking hazard assessments, and crafting programs to manage urban development so that it is more resilient to natural hazards. Research conducted over the past two decades suggests that, if local governments make the right choices in crafting land-use-planning programs, communities will be less likely to suffer severe losses of lives and property in natural disasters.


Planners throughout much of the past century have advocated containment of urban sprawl through regulatory restrictions that include growth boundaries, green belts, and limits to utility extensions. Containment is widely practiced in Europe and is a key component of "smart growth" being advocated by a number of interest groups in the USA. In fact, it has already been incorporated in growth management policies in use in 73 US metropolitan areas. This paper argues that containment may have a serious side-effect. It can lead to increased exposure to natural hazards and higher losses in disasters. However, it also shows that measures are available to counter this effect, if planners recognize the threat and take vigorous steps to contain hazards, adjust building techniques or limit the development of potentially hazardous areas.


This article considers the recent catastrophe in New Orleans in terms of “urban resilience,” the capacity of a city to rebound from destruction. Plans to rebuild the physical infrastructure of the city must be accompanied by a commitment to rehabilitate its social fabric and communal networks.


Examines the mechanisms used today to finance disaster recovery, paying particular attention to the destruction of housing after earthquakes and hurricanes. Comerio develops a catastrophe index for assessing when a natural disaster causes a housing crisis, and policies should address the insurance system and provide incentives for mitigation building.


This book offers a comprehensive overview highlighting the importance of environmental protection and sustainability awareness. The authors examine the importance of local government integration of effective environmental sustainability initiatives into local and regional comprehensive planning. A variety of topics are covered, which include planning law and ethics, economics, and ecology. Among others, these topics strive to deepen public awareness of the effects of increased environmental protection and sustainability. Of particular interest, Part III (Chapter 12, Planning for Natural and Hazards and Natural Disasters) addresses integrating local planning initiatives and hazard mitigation planning as well as examples of federal and state planning initiatives.


(see description under Burby for *Cooperating with nature*)


While the impact on most property owners is likely to be modest, this article shows that a risk-based assessment can achieve tax benefit equity and be the means of financing local government costs of disaster response and recovery not covered by federal and state disaster aid.


Provides a framework for Federal Government support to State, regional, local, and tribal governments, nongovernmental organizations (NGOs), and the private sector designed to enable community recovery from the long-term consequences of an Incident of National Significance. This support consists of available programs and resources of Federal departments and agencies to enable community recovery, especially long-term community recovery, and to reduce or eliminate risk from future incidents, where feasible.


To help states, tribes, and local governments better understand the Mitigation Planning rule under 44 CFR Part 201, FEMA has prepared this document with two major objectives. First, the "Blue Book" is designed to help federal and state reviewers evaluate mitigation plans from different jurisdictions in a fair and consistent manner. Second, the "Blue Book" is intended to help states, tribes, and local jurisdictions develop new mitigation plans or modify existing ones in accordance with the requirements of the rule.


One in a series of “best practices” by the FD.C.A. Provides information on an array of planning polices to be implemented before and after disasters. The guidebook identifies ways communities can better integrate hazard mitigation in day-to-day decision making without increasing the overall commitment of resources by local governments.


One in a series of “best practices” by the FD.C.A. Serves as a manual for communities at risk of wildland fire. The guide identifies wildfire mitigation strategies through case studies, diagrams, and photographs.

This report is a product of the Front Range Fuels Treatment Partnership Roundtable, a coalition of individuals from state and federal agencies, local governments, environmental and conservation organizations, the academic and scientific communities, and industry and user groups—all with a commitment to forest health and fire risk mitigation along Colorado’s Front Range.


Part IV (chapter 13 Natural Hazard Mitigation: Planning for Sustainable Communities) focuses on the need to plan for the future of communities by considering the impacts of natural hazards. Sustainable and resilient communities “…may bend before the extreme stresses of natural hazards, but they do not break.” Protecting the built environment, physical infrastructure, the natural environment, and the quality of life for communities is the goal of designing and implementing functionally-sound hazard mitigation planning standards. The chapter also examines reforming mitigation policy and practice to better suit the needs of at-risk communities.


Citizen interest in participating in the formulation of hazard mitigation policies in comprehensive plans is low, despite mounting evidence of perils to life and property from floods, hurricanes and earthquakes. Using evidence from case studies in Florida and Washington, the causes of disinterest are dissected and ways to increase public input to hazard mitigation policies in local comprehensive plans are recommended.


Cities are complex and interdependent systems, extremely vulnerable to threats from both natural hazards and terrorism. This paper proposes a comprehensive strategy of urban hazard mitigation aimed at the creation of resilient cities, able to withstand both types of threats. The paper reviews hazard mitigation practice, defines a resilient city, considers the relationship between resilience and terrorism, and discusses why resilience
is important and how to apply its principles to physical and social elements of cities. Contending that current hazard mitigation policy, practice, and knowledge fail to deal with the unique aspects of cities under stress, the paper recommends a major resilient cities initiative, including expanded urban systems research, education and training, and increased collaboration among professional groups involved in city building and hazard mitigation.


This PAS Report offers planning practitioners guidance and best practices examples of how to minimize the risk of landslides. The report identifies the importance of linking hazard mitigation planning and local comprehensive plans. It identifies tactics that can be sought for existing developments and specific regulatory measures for discouraging developments in landslide-prone areas. The Report assess the importance of considering a variety of land-use decisions including transportation, local economic development, and housing choices. Components of a comprehensive plan, these elements are directly impacted by landslides (and other natural disasters,) and regulatory measures for hazard mitigation.


GAO was asked to examine (1) natural hazards that present a risk to life and property in the United States, areas that are most susceptible to them, factors that may be increasing these risks, and mitigation activities that reduce losses; (2) methods for encouraging and impediments to implementing mitigation activities; and (3) collaborative efforts of federal agencies and other stakeholders to promote mitigation. GAO’s 70-page report recommends that the Administrator of the Federal Emergency Management Agency (FEMA), in consultation with other appropriate federal agencies, develop and maintain a national comprehensive strategic framework for mitigation.


This case describes the landslide hazard study and implementing landslide hazard ordinances adopted by the City of Salem and Marion County, Oregon. The results demonstrate that jurisdictions, by actively involving their citizenry and using GIS can collaborate to reduce the risk from geologic hazards on a local and regional scale.

“Hidden costs” offers the first in-depth study that considers the costs of coastal hazards to natural resources, social institutions, business, and the built environment. Using Hurricane Hugo, which struck South Carolina in 1989, as a case study, it provides for the first time information on the full range of economic costs caused by a major coastal hazard event. The book takes a structured approach to the problem of coastal hazards, offering a new framework for community-based hazard mitigation along with specific recommendations for implementation. Decision makers—both policymakers and planners—who are interested in coastal hazard issues will find the book a unique source of new information and insight, as will private-sector decision makers including lenders, investors, developers, and insurers of coastal property.


This book provides case studies of recovery efforts with an analysis of what works in urban planning and why. Inam demonstrates the ways in which institutional routines remain powerful effective tools for planning for the unplanned.


The link between risk-management analysis and local planning initiatives is highlighted in Chapter 4, Putting It All Together...


This article focuses on the emerging role of the public sector in dealing with catastrophic disasters. An empirical analysis of the 9/11 response operations provides a detailed case study with an eye to its implications for not only emergency management practice but public policy as well. The "horde of hurricanes" inundating Florida in 2004 provides a brief example of a "routine" disaster for comparative purposes. The argument is made that the response to the extreme event of 9/11 provides clear evidence of (a) the different standards expected of the public sector in the 21st century and (b) the fundamental difference in kind between routine disasters and catastrophic disasters.

Lindell, M., Tierney, K., and and Perry, R. 2001. Facing the unexpected: Disaster

Facing the Unexpected presents the wealth of information derived from disasters around the world over the past 25 years. The authors explore how these findings can improve disaster programs, identify remaining research needs, and discuss disaster within the broader context of sustainable development.


This section examines the role of government regulation in private land-use initiatives. Many times, private landowners may not consider that “…land vulnerable to natural hazards may put their land to use in a way that threatens public safety.” Some contend that government is obligated to regulate land uses when public safety is compromised; others believe that, in this regard, government regulation is “…inequitable.” The conflicting points of view are highlighted. The ‘patchwork’ of intergovernmental public polices, regulations, and programs are the focus of this section’s discussion, primarily considering the “…the motivations and interests of different levels of government, potential conflict among these levels, and the implications for the design and implementation of natural hazards policies.”


Presents new ways states and their local governments have new practical tools available to help combat urban sprawl, protect farmland, promote affordable housing, and encourage redevelopment. The Guidebook and its accompanying User Manual are the culmination of APA's seven-year Growing Smart project, an effort to draft the next generation of model planning and zoning legislation for the U.S.


Workbook includes the following sections: Integration into Comprehensive Plans: the Options; Community Development and the Mitigation of Hazards; Hazard Mitigation: Key Land Use Issues for Communities to Consider; Reducing Community Exposure, Risk, and Vulnerability to Natural and Technological Hazards Through the Application of Land Use/Development Measures and; Land Use Development Guidance and Regulatory Measures in Michigan.

This volume provides an overview of hazards and how to manage them through policies and programs. Chapter 9, “Getting from Here to There,” recommends ways to implement disaster management consistent with sustainable development.


This PAS Report examines the importance of effective subdivision design and regulatory measures, as means to minimizing possible problems in floodplain areas. Examples such as cluster development, coast-to-road lots, and elevated building are all provided as methods to minimize flood damage. Section 3 (Planning tools for flood hazard areas) highlights specific planning techniques used to manage land uses in floodplains.


The report focuses on why the Academy Panel believes wildfire suppression costs are increasing and what could be done to contain them. They conclude opportunities remain for improving efficiency and accountability for costs in fighting large wildfires. The two most significant controllable causes of rising suppression costs are the accumulation of hazardous fuels and the increasing community development surrounding them.


This resource provides information for taking action to reduce the risk from wildfires in local communities through shared responsibility. Some examples of successful projects to use in communities are provided with links to resources.


This updated guide (through Katrina) is for local practitioners on how to build sustainability into a community during the recovery period after a disaster. It encourages communities to incorporate as many of the principles of sustainability into the recovery process as possible, including environmental quality, economic vitality, quality of life, social equity, citizen participation and disaster resiliency. It is intended for local government officials and staff, state planners, activists, emergency management professionals, disaster recovery experts, mitigation specialists, and others who help communities recover from disaster.

Planners have long believed as an article of faith that land-use planning can reduce damage from natural hazards. After evaluating the relationship between the seismic safety elements of comprehensive plans prepared in the Los Angeles region of California and damage caused by the 1994 Northridge earthquake, the authors provide evidence that this faith is not misplaced. They found that fewer homes were damaged when local governments had developed high-quality factual bases, formulated goals for improving seismic safety, crafted regulatory policies to manage development in hazardous areas, and advanced policies that made the public aware of seismic risks. They conclude that including a high-quality seismic safety element in land use plans can reduce property damage associated with seismic events. This work has broad implications for land-use planning.


This book proposes ways to mitigate the impact of emerging issues involved in building on the edge of vulnerable places. It discusses property rights as hurdles to the use of government regulation to mitigate disasters. This volume contains approaches to ecosystem management and regulation that institutions can implement to protect environment and property right.


Each tool or technique includes as many as four parts. The first is a definition. The second is a critique that summarizes concerns about and potential problems arising from the use of the tool. Implementation issues are best practices for using the tool for mitigation purposes. Often the implementation issues propose solutions for the concerns raised in the critique. Whenever possible, this guide provides examples of the tools and techniques in action in communities in North Carolina and around the country.


The purpose of this guidebook is to help local communities to prepare a responsible action-oriented mitigation plan using existing staff and local resources. The guidebook will help you explore your community’s current and future conditions, including identifying possible hazards, assessing vulnerable areas, and analyzing your community’s capability to engage in mitigation activities. The guidebook will help you define goals for
increasing your community’s hazard resilience, design effective mitigation policies, and assign responsibility for action.


The purpose of this mitigation plan is to reduce the risk to life and property from wildland fire in Okeechobee through identification and protection of hazards. The plan focuses on preferred management strategies and prescriptions that reduce the frequency and intensity of wildland fires.


Seismic hazard information generally has not affected decisions on location, type, or intensity of land uses unless coupled with other concerns. Seismic safety policies, however, have created an environment in which it is easier to implement engineering initiatives, such as building codes or hazard abatement.


Hurricane Katrina was the greatest urban and regional disaster in U.S. history. The rebuilding of New Orleans and surrounding areas of Louisiana and Mississippi will require the largest and most complex planning effort in the author’s lifetime. To succeed, planners must learn from disasters of the past, while also applying the planning knowledge of the present. Planners have an obligation to take an active role and advocate for the funding and full participation necessary to achieve these goals.


In a survey of theoretical approaches from the nineteenth century to the present, Palm sets forth a new integrative framework for hazards study and how to apply the study, with special emphasis on earthquakes and the California housing market. Palm argues the relevance of understanding how the factors of physical environment, societal structure, and individual decision makers interact.


Addresses the political response to natural disasters, focusing on the changing role of the federal government. Chapter 3 examines *Stemming the Losses: The Quest for Hazard Mitigation*. Chapter 6, 7, and 8 focus on three case studies: coastal erosion, flood, and earthquake hazards.

Post-storm rebuilding of the North Carolina coastal zone is governed by a complex array of federal, state, and local laws, of which the keystone is the state Coastal Area Management Act (CAMA). This act, as augmented by the National Flood Insurance Program and the federal Coastal Barrier Resources Act, seeks to reduce vulnerability to future coastal hazards through post-disaster adjustments in the horizontal and vertical placement of structures, among other measures. This article reviews experience in rebuilding the North Carolina oceanfront after the 1996 hurricanes to discern the influence, if any, of these laws.


There are measures that can be taken to prepare farm families, fishers, and forest communities in order to reduce the risk that hurricane damage poses to their livelihoods. Through the FAO supported project, "Emergency Assistance for the Formulation of National Hurricane Disaster Preparedness" (TCP/RLM/6616), agricultural communicators and extension professionals came together at a workshop in Grenada in September, 1998, to discuss communication strategies for limiting and preventing hurricane damage in these sectors. Their recommendations are presented here along with a set of practical tips ready to be used by media professionals in their radio and television broadcasts.


The Plan Maintenance (Chapter 8) section of this document details the process that will ensure that the Mitigation Plan remains an active and relevant document. The process includes a schedule for monitoring the plan on an annual basis and producing the required plan revision every five years. This section describes how the localities will integrate the plan into their overall planning efforts.


Volume XXXI in the *Handbooks of Sociology and Social Research* series, the editors of this *Handbook* have brought together a comprehensive and interdisciplinary volume with a diverse and international group of contributors. The *Handbook* is based on the principle that disasters are social constructions and focuses on social science disaster research. Attention is given to the concept of "disaster" and to research methods including GIS, and how disaster research is useful in dealing with emergency operations. The *Handbook*
also includes a number of essays focusing on various types of vulnerabilities. In addition, there are discussions on community processes.

This book is basically a text for emergency management professionals and students looking to create more resilient communities.


Neither sustainable development nor hazard mitigation are brand new ideas. Yet it is not until recently that these concepts have become widely recognized as legitimate, “doable” principles to be incorporated into decision-making. And it is not until even more recently that that the two concepts have been coupled as complementary methods for reaching the same broad goals. While the concept of sustainable development may be wider in scope, both concepts clearly have many salient aspects in common.


Examines the feasibility of permitting development in fire-prone areas and how best to design such developments to reduce the risk of damage and loss.


Chapters include ”A Primer in Disaster Operations,” “The Planning Process,” and “Hazard Identification and Risk Assessment.”


A summary of key findings from the natural and social sciences on most major, rapid hazard events. Offers a broad overview followed by a systematic treatment of each type of disaster. Includes new material.

Srinivasan, D. and Wilson, O. 2005. Sustainable floodplain development: *An integrated*
approach to hazard mitigation using DMA, CRS, and FMA criteria. Paper presented at the Association of State Floodplain Managers (ASFPM) Conference, Madison, WI.


Mitigation program activities in Texas employ the coordinated and interactive use of at least three components. The organization, responsibilities, and operations of the Hazard Mitigation Team are in the “Annex P (Hazard Mitigation)” of a comprehensive “Emergency Management Plan”; current, quantifiable vulnerability and risk data, designed to facilitate the prioritization of mitigation and preparedness needs are in the “Hazard Analysis”; and the identification and implementation of specific vulnerability and risk reduction actions are contained within the “Mitigation Action Plan.” This handbook addresses the relationships and mutually supporting interactions between these three components. Chapter 5 examines Developing a Comprehensive Mitigation Plan.


Taking stock of what is known about the geophysical and human aspects of natural hazards, this volume provides a cross-disciplinary framework for managing these often cataclysmic events. Unlike traditional texts that utilize a hazard-by-hazard approach, the book integrates perspectives from the physical and social sciences to identify and describe general principles that can enhance our understanding of the physical, social, technical, and economic forces inherent in extreme geophysical events. Focusing on the physical characteristics hazards share, such as magnitude, duration, and frequency, the authors consider individual and community perceptions of these events and explore the effects of different attitudes on behavior and response. In its pragmatic rethinking of hazards policy, the book brings to the fore political and economic factors and provides richly detailed examples of planning-based approaches to hazards management.


Topping, K. 2004. Promoting natural hazards mitigation through land use planning on a national scale: Lessons from the U.S. Disaster Mitigation Act of 2000, presented as keynote address at Annual Meeting, National Science and Technology Center for Disaster Reduction (NCDR) in the Republic of China (Taiwan).

Topping, K. 2005. Developing internationally transferable mitigation and recovery
principles: Community stakeholder-based planning, paper presented at the First International Conference on Urban Disaster Reduction (1ICUDR) in Kobe, Japan.


This guide provides suggestions and tools for public transportation systems to improve their emergency response capabilities and coordination with their local communities. The suggestions are based on research conducted with transit systems; local, state and federal emergency planning agencies.


DHA provides case studies to formulate strategies for disaster reduction at the national and international level, and among the general population.


This Risk Management Plan was developed through the advice and support of the Disaster-Resistant University Steering Committee. The work was funded in part through a grant from the Federal Emergency Management Agency to the Institute for Urban and Regional Development. It is a companion to IURD Working Paper 2000-02, "The Economic Benefits of a Disaster Resistant University: Earthquake Loss Estimation for UC Berkeley," by Mary Comerio.

The University of New Orleans with the support of its Center for Hazards Assessment and Response Technology has completed the final draft of its Hazard Mitigation Plan and posted it on the CHART for the public to review. The goal of the pre-disaster hazard mitigation plan, said Monica Farris, CHART assistant director, is to reduce the overall risk to students, faculty and staff, facilities and research assets. It is to be updated every five years.


Throughout history, cities have been sacked, burned, torched, bombed, flooded, besieged, and leveled. And yet they almost always rise from the ashes to rebuild. Viewing a wide array of urban disasters in global historical perspective, *The Resilient City* traces the aftermath of such cataclysms as: --the British invasion of Washington in 1814 --the devastation wrought on Berlin, Warsaw, and Tokyo during World War II --the late-20th century earthquakes that shattered Mexico City and the Chinese city of Tangshan --Los Angeles after the 1992 riots --the Oklahoma City bombing --the destruction of the World Trade Center Revealing how traumatized city-dwellers consistently develop narratives of resilience and how the pragmatic process of urban recovery is always fueled by highly symbolic actions, *The Resilient City* offers a deeply informative and unsentimental tribute to the dogged persistence of the city, and indeed of the human spirit.
CASE EXAMPLES

Belhaven, North Carolina


Berkeley, California


Charlotte-Mecklenburg, North Carolina

Charlotte-Mecklenburg Stormwater Authority. http://www.charmeck.org/Departments/StormWater/Flood+Zone/What+are+floodplain+maps+used+for%3F.htm

http://www.charmeck.org/Departments/StormWater/Flood+Zone/FEMA+Floodplain+vs+Future+Floodplain.htm


Kinsley, Kansas

***Literature describing what happened in Kinsley not found; only two documents that identify Kinsley as a Project Impact community, although the town only used the “Project Impact” name and did not receive federal funds.***


Kinsley is mentioned in this document and cited as a Flood Mitigation Assistance “success story” in connection with receiving a Small Town and Rural Planning Award for Excellence from the American Planning Association.


Kinston, North Carolina


The Conservation Fund, the University of North Carolina at Chapel Hill Department of City and Regional Planning, the City of Kinston and the County of Lenoir. 2001. *Kinston-Lenoir County green infrastructure plan for the Neuse River floodplain*. Unpublished Manuscript.

The Conservation Fund, the University of North Carolina at Chapel Hill Department of City and Regional Planning, the City of Kinston and the County of Lenoir. 2002. Linking natural and historic assets: Green infrastructure as economic development in Lenoir County, NC. Unpublished Manuscript.
**Lee County, Florida**


**Medina County, Ohio**


**Mississippi Gulf Coast**


**New Orleans, Louisiana**


**Pierce County, Washington**

Pierce County Department of Emergency Management. 2004. *Pierce County natural hazard...*

Roseville, California

Teller County, Colorado


Tulsa, Oklahoma
INTERNET RESOURCES

American Red Cross
www.redcross.org
The American Red Cross provides extensive information on disaster mitigation, management, and recovery.

Association of State Floodplain Managers (ASFPM)
www.floods.org
The Association of State Floodplain Managers is an organization of professionals involved in floodplain management, flood hazard mitigation, the National Flood Insurance Program, and flood preparedness, warning and recovery.

Bibliography of books/reports on Floods
www.jibc.bc.ca/library/Bibliographies/FLOODS_-_JIBC_Library.pdf
Justice Institute Library of British Columbia

Community Engagement in Health Emergency Planning
www.riskinstitute.org/PERI/PTR/Community+Engagement+in+Health+Emergency+Planning
The Working Group (WG) on Community Engagement in Health Emergency Planning was an advisory body convened by the Center for Biosecurity of the University of Pittsburgh Medical Center in 2006. The purpose of the group was to counsel government leaders and public health and safety professionals on the value and feasibility of active collaborations with citizens and civil society institutions in preparing for, responding to, and recovering from an extreme health event.

Dealing with Public Risks Involved in Land Use Planning
www.riskinstitute.org/NR/rdonlyres/F9C77BAD-3B84-47F7-A6F1-6AC0C35623EE/0/Land_Use_Compilation.pdf
These Issues and Ideas Papers were presented during one of PERI's "virtual" Symposium Programs, programs that are conducted entirely via the Internet. This program focused on land-use planning issues that raise fiscal, safety, and legal risks to local communities in a variety of critical areas. The symposium covered ways cities and counties can minimize these risks in developing long-range land-use policy strategies, and in carrying out day-to-day development review responsibilities.

EMI Floodplain Management Home Study Course (FEMA)
www.fema.gov/emi/is9.htm
The purpose of this home study course is to enhance the knowledge and skills of local officials responsible for administering and enforcing local floodplain management regulations.

FIREWISE
www.firewise.org
This is a service of the National Wildland/Urban Interface Fire Fire Program.
Flood Mitigation Assistance
www.fema.gov/mit/fmasst.htm

Florida’s Best Practice Guides include:
www.dca.state.fl.us/fdcp/D.C.P/publications/
Disaster Planning for Florida’s Historic Resources
Guiding the Way to Waterfront Revitalization
Preparing a Boating Facility Siting Plan
Minimizing Vulnerability to Flooding and Coastal Storms
Wildfire Mitigation

Front Range Fuel Treatment Project
www.frftp.org/
An alliance of federal, state, and local governments; land management agencies; private
landowners; conservation organizations; and other stakeholders committed to reducing wildland
fire risks through sustained fuels treatment. FRFTP was formed to reduce wildland fire risks
through sustained fuels treatment along the Colorado Front Range.

HAZUS (FEMA)
www.fema.gov/hazus
FEMA, under a cooperative agreement with the National Institute of Building Sciences,
has developed a standardized, nationally applicable earthquake loss estimation
methodology. This methodology is implemented through PC-based Geographic
Information System (GIS) software called HAZUS.

Institute for Business and Home Safety (IBHS)
www.disastersafety.org
“The Institute for Business and Home Safety’s mission is to reduce the social and economic
effects of natural disasters and other property losses by conducting research and advocating
improved construction, maintenance and preparation practices.” IBHS is largely underwritten by
insurance companies interested in supporting public policies aimed at disaster loss reduction.

The Interaction between Hazards and GIScience: A Bibliography (Hazards and
Vulnerability Research Institute)
www.cas.sc.edu/geog/hrl/nasa_biblio.html
1. Hazards & Technology (general) 2. Biological Hazards 3. Chemical Hazards 4. Natural
9. Vulnerability

International Association of Emergency Managers (IAEM)
http://www.iaem.com
IAEM is an organization of local emergency management professionals.

Mitigation Technical Assistance Programs (FEMA)
www.fema.gov/MIT/fldmitast.htm
National Center for Appropriate Development
www.ncat.org
Championing sustainable technologies and community-based approaches that protect natural resources and assist people, especially the economically disadvantaged, in becoming more self-reliant.

National Emergency Management Association (NEMA)
www.nemaweb.org/index.cfm
NEMA is the professional association of state and pacific Caribbean insular state emergency management directors.

National Fire Protection Association (NFPA)
www.nfpa.org
The mission of NFPA International is to reduce the worldwide burden of fire and other hazards on the quality of life by providing and advocating scientifically-based consensus codes and standards, research, training, and education.

National Flood Insurance Program (NFIP)
www.fema.gov/nfip
The NFIP makes Federally-backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

Natural Hazards.org
www.naturalhazards.org
This site provides quick access to basic information on all types of natural hazards.

Natural Hazards Center at the University of Colorado, Boulder
www.colorado.edu/hazards/index.html
The Natural Hazards Center is a national and international clearinghouse for information on natural hazards and human adjustments to hazards and disasters.

Natural Hazards Informer
www.colorado.edu/hazards/publications/informer/informer.html
Written by expert practitioners and researchers, each volume of the Natural Hazards Informer summarized current state-of-the-art knowledge about a specific aspect of natural hazards research and policy, saving readers the time and effort needed to research and update their understanding of a topic.

Natural Hazards Research and Applications Information Center
www.colorado.edu/hazards/wp/wp106/wp106.html

Network of State Hazard Mitigation Officers
www.hazmit.net/index.htm
This represents the networking input of each State Hazard Mitigation Officer for the purposes of learning from each other, getting new, innovative ideas, and becoming friends and effective colleagues.
NOAA Coastal Services Center
www.csc.noaa.gov/themes/coasthaz
The Coastal Hazards page includes current information on Center projects and activities, identifying hazard impacts and solutions, and linking people, information and technology.

Rothstein Catalog on Disaster Recovery. Natural Hazards: Earthquakes, Hurricanes
www.rothstein.com/data/cg220001.htm
A catalog of books/reports on disaster recovery.

Smart Communities Network, US Department of Energy
www.sustainable.doe.gov
This center’s website includes extensive sections that offer information on how long-term community sustainability relates to disaster preparedness, mitigation, and recovery.

State Hazard Mitigation Officers (list)
www.fema.gov/about/contact/shmo.shtm

U.S. Department of the Interior - Natural Hazards Page
www.doi.gov/nathaz/index.html
The DOI has devoted this portion of its website entirely to natural hazards, with sections on wildfires, volcanoes, earthquakes, floods, landslides, storms, tsunamis, and other hazards.

U.S. Geological Survey
www.usgs.gov
The USGS website provides lots of information on geologic hazards including earthquakes, landslides, volcanoes, floods, and coastal storms.