

**UNIVERSITY OF NORTH CAROLINA
AT CHAPEL HILL**

Department of City and Regional Planning
University of North Carolina at Chapel Hill

**PL 310 (11). NEW DIRECTIONS IN HAZARD MITIGATION:
BREAKING THE DISASTER CYCLE.**

Spring 2001
Time: Wednesday, 2:00-4:30 p.m.

Instructor: Professor David Godschalk
Place: Saunders 201

This seminar will address new approaches to reducing damage from natural hazards, aimed at breaking the vicious cycle of disaster/rebuilding/disaster through hazard mitigation programs and policies. These approaches seek to stem the tide of loss from repetitive damage incurred by development within known hazard areas, such as floodplains, storm surge areas, and earthquake fault zones.

Recently, the United States has suffered record natural disasters. Hurricane Andrew in 1992 caused an estimate \$25 billion in damage. The 1993 Midwest Floods resulted in some \$12-16 billion in damage. The 1994 Northridge Earthquake caused \$20 billion in damage. Much of that damage could have been averted with foresighted hazard mitigation efforts, taken before the event.

Past U.S. policy has focused on preparing for an imminent disaster, through evacuation and temporary property protection; responding to a disaster that has occurred, through search and rescue and debris clearance; and recovering from a past disaster, through rebuilding damaged structures.

During the 1990's the U.S. Congress directed the Federal Emergency Management Agency to place its highest priority on natural hazard mitigation shifting its emphasis away from preparation response, and recovery to mitigating future hazard events. Mitigation acts well before a disaster event to reduce or eliminate long-term risk to human life and property. It is *proactive*, rather than reactive.

Implementing the new hazard mitigation policy raises a number of important social, environmental, and practical issues. At the same time, the new policy approach provides increased opportunities for smart growth and sustainable development. Seminar participants will explore these issues and opportunities through reading current literature, hearing from involved planners, public officials, and researchers, and preparing and presenting term papers on selected topics.

Among the seminar topics to be discussed are:

- Hazard mitigation amendments to the Stafford Act adopted in 2000, which significantly expand and revise incentives and requirements for hazard mitigation by States and local governments.
- Opportunities for building hazard mitigation capacity and commitment at the State and local levels of government, under the new national policy.

- Social issues arising from hazard mitigation, including problems of relocating and re-housing lower income households, protecting property rights, ensuring personal freedom, and creating an ethos of responsibility for mitigation.
- Environmental issues arising from hazard mitigation, including resource conservation, economic development, environmental justice, and elimination of pollution sources.
- Practical issues of incorporating mitigation into recovery, as exemplified by North Carolina's recovery from Hurricane Floyd, including the largest buyout and relocation of flood-damaged homes in the Nation's history.
- Opportunities for linking hazard mitigation to smart growth and sustainable development initiatives, through land use planning and development management, as well as community development.
- Criteria for evaluating hazard mitigation plans prepared by State and local governments, in order to assess effectiveness and award mitigation funds.
- Defining hazard areas and informing the public about hazard risks, as exemplified by the potential impacts on urban development and redevelopment of re-mapping the 100-year floodplains in Charlotte, and throughout North Carolina.
- Lessons from case studies of successful and unsuccessful hazard mitigation approaches.

Syllabus

January 10-Introduction: Traditional Emergency Management (Godschalk)

Readings:

- Chapter 1, Mitigating Natural Hazards: A National Challenge, pp. 3-25. *Natural Hazard Mitigation: Recasting Disaster Policy and Planning*. Godschalk, et al., 1999. Washington. D.C.: Island Press.
- Chapter 1. Shouldering the Burden: Federal Assumption of Disaster Costs, pp. 11-46. *Disasters and Democracy: The Politics of Extreme Natural Events*. Platt. 1999. Washington. D.C.: Island Press.

January 17-Developing New Federal Hazard Mitigation Policy (Godschalk)

Readings:

- Chapter 2. Evolving Mitigation Policy Directions, pp. 27-87. *Natural Hazard Mitigation: Recasting Disaster Policy and Planning*. Godschalk, et al., 1999.
- Disaster Mitigation Act of 2000. pp. 1-8.
- Chapter 3. Stemming the Losses: The Quest for Hazard Mitigation, pp. 69-107. *Disasters and Democracy: The Politics of Extreme Natural Events*. Platt. 1999.
- Unleashing the Power of Planning to Create Disaster-Resistant Communities, Burby, et al., *Journal of the American Planning Association* 65 (Summer 1995, pp. 247-258).

January 24-Implementing Mitigation and Recovery at the State Level (Eric Tolbert and Gavin Smith, North Carolina Division of Emergency Management, invited)

Readings:

- Chapter 5. Influences on the Adoption and Implementation of Mitigation, pp. 135-154. *Disasters by Design: A Reassessment of Natural Hazards in the United States*. Mileti. 1999. Washington, D.C.: Joseph Henry Press.
- Chapter 2. A Theory of Focusing Events and Agenda Change, and Chapter 3. Natural Disasters as Focussing Events, pp. 21-73. *After Disaster: Agenda Setting, Public Policy, and Focusing Events*. Birkland. 1997. Washington. D.C.: Georgetown University Press.
- Chapter 4. Missouri after the Midwest Floods of 1993, and Chapter 5. Iowa after the Midwest Floods of 1993, pp. 161-229. *Natural Hazard Mitigation: Recasting Disaster Policy and Planning*. Godschalk, et al., 1999.

January 31-Integrating Mitigation and Recovery at the Local Level (Jacky Eubanks, Kinston Planning Department, invited)

Readings:

- Chapter 3. Florida After Hurricane Andrew, pp. 103-160, *Natural Hazard Mitigation: Recasting Disaster Policy and Planning*. Godschalk, et al., 1999.
- Chapter 8. The Bay Area: One Disaster After Another, pp. 241-276. *Disasters and Democracy: The Politics of Extreme Natural Events*. Platt. 1999.

February 7-Assessing Hazard Mitigation Plans (Professor Edward Kaiser, invited)

Readings:

- Chapter 9. State Hazard Mitigation Plans: Falling Short of Their Potential, pp. 327-391. *Natural Hazard Mitigation: Recasting Disaster Policy and Planning*. Godschalk, et al., 1999.
- Chapter 4. Integrating Hazard Mitigation and Local Land Use Planning; Chapter 5 Hazard Assessment: The Factual Basis for Planning and Mitigation; and Chapter 6. Managing Land Use to Build Resilience, pp. 85-201. *Cooperating with Nature: Confronting Natural Hazards with Land Use Planning for Sustainable Development*. Burby, et al., 1998.

February 14-Building Mitigation Capacity and Commitment (Professor Ray Burby)

Readings:

- Chapter 9. Rethinking Planning Mandates. *Making Governments Plan: State Experiments in Managing Land Use*, Burby and May, 1997.
- Intergovernmental Environmental Planning: Addressing the Commitment Conundrum, Burby and May, *Journal of Environmental Planning and Management* 41:1, January 1998, pp. 95-110.

February 21-Hazard Mitigation Ethics (Professor Tim Beatley, invited)

Reading:

- Chapter 12. Ethical Guidelines for Hazard Mitigation, pp. 479-524. *Natural Hazard Mitigation: Recasting Disaster Policy and Planning*. Godschalk, et al., 1999.

February 28-Coastal Erosion Issues (Professor Rutherford Platt, invited)

Reading:

- Chapter 4. Property Rights Organizations: Backlash Against Regulations; Chapter 5. The Takings Issue and the Regulation of Hazardous Areas; and Chapter 6. Fire Island: The Politics of Coastal Erosion, pp. 111-214. *Disasters and Democracy: The Politics of Extreme Natural Events*. Platt. 1999.

March 7-Sustainable Development and Mitigation (Professor Phil Berke, invited)

Readings:

- Chapter 13. Natural Hazard Mitigation: Planning for Sustainable Communities, pp. 525-552. *Natural Hazard Mitigation: Recasting Disaster Policy and Planning*. Godschalk, et al., 1999.
- Chapter 8. The Vision of Sustainable Communities, and Chapter 9. Policies for Sustainable Land Use, pp. 233-291. *Cooperating with Nature: Confronting Natural Hazards with Land Use Planning for Sustainable Development*. Burby et al., 1998. Washington, D.C.: Joseph Henry Press.

March 21-Hazard Areas Definition and Risk Notification

Readings:

- Chapter 1. Introduction and Definition of Hazard Areas, and Chapter 2. Hazards Notification, pp. 1-38. Godschalk, et al., *Coastal Hazards Mitigation: Public Notification, Expenditure Limitations, and Hazard Areas Acquisition*, Center for Urban and Regional Studies, University of North Carolina, 1998.

March 28-Impact Fees as a Mitigation Tool (Professor Robert Deyle, invited)

Reading:

- TBA

April 4-Environmental Protection and Hazard Mitigation (David Conrad, National Wildlife Federation, invited)

Readings:

- Chapter 1. The Buyout Option: History and Context, and Chapter 5. A Tale of Three Cities—Tulsa, Houston, and New Orleans, pp. 1-23, and 145-173. *Higher Ground: A Report on Voluntary Property Buyouts in the Nation's Floodplains*. National Wildlife Federation, 1998.

April 11-Measuring Success of Hazard Mitigation (Professor David Brower, invited)

Readings:

- *Hazard Mitigation Successes in the State of North Carolina*, Emergency Management Division, 1999, pp. 1-79.
- *Hazard Mitigation in North Carolina: Measuring Success*, Emergency Management Division, n.d., pp. 1-84.

April 18 Student term paper reports
April 25 Student term paper reports
May 2 Student term paper reports

Course Requirements

Every student will:

- Complete the assigned readings.
- Participate in class discussions.
- Moderate a class session on a selected topic, guiding discussion, and summarizing major points.
- Prepare a term paper on a selected topic and present its findings and conclusions to the class.

Reserve Readings

The seminar will rely on the following recent books dealing with hazard mitigation, as well as reports and articles.

- *Natural Hazard Mitigation: Recasting Disaster Policy and Planning*. Godschalk, et al., 1999. Washington. D.C.: Island Press.
- *Cooperating with Nature: Confronting Natural Hazards with Land Use Planning for Sustainable Development*. Burby, et al., 1998. Washington, D.C.: Joseph Henry Press.
- *Disasters and Democracy: The Politics of Extreme Natural Events*. Platt. 1999. Washington. D.C.: Island Press.
- *Disasters by Design: A Reassessment of Natural Hazards in the United States*. Mileti. 1999. Washington, D.C.: Joseph Henry Press.
- *After Disaster: Agenda Setting, Public Policy, and Focusing Events*. Birkland. 1997. Washington. D.C.: Georgetown University Press.
- *The Hidden Costs of Coastal Hazards: Implications for Risk Assessment and Mitigation*. Heinz Center for Science, Economics, and the Environment. 2000. Washington. D.C.: Island Press.
- *Catastrophic Coastal Storms: Hazard Mitigation and Development Management*. Godschalk, Brower, and Beatley. 1989. Durham: Dunke University Press.
- *Planning for Earthquakes: Risk, Politics, and Policy*. Berke and Beatley. 1992. Baltimore: Johns Hopkins University Press.
- *Planning for Post-Disaster Recovery and Reconstruction*. Schwab, et al. 1998. PAS Report 483/484. Chicago: American Planning Association.

- *Disaster Prevention for Sustainable Development*. Munasinghe and Clark, eds. 1995. Washington, D.C.: International Bank for Reconstruction and Development.
- *Sharing Environmental Risks: How to Control Government's Losses in Natural Disasters*. Burby, et al. 1991. Boulder: Westview Press.