

**ANDREW YOUNG SCHOOL  
OF POLICY STUDIES**

# PERSPECTIVES 2002M

## Global Disasters: Science and Policy

**Summer Term 2000**

**Instructor:**

William L. Waugh, Jr., Professor  
Department of Public Administration and Urban Studies  
Andrew Young School of Policy Studies

This course offers a broad perspective on natural and technological (man-made) disasters in the world and the policies nations and communities adopt to reduce human suffering and property loss. The class examines the major types of natural and technological disasters in the world, including earthquakes and tsunamis, hurricanes/cyclones, volcanoes, floods, wildfires, tornadoes, aviation disasters, terrorism, and public health emergencies. Shorter sessions focus on structural failures and fires, nuclear accidents, and industrial accidents. The topics are sequenced thematically, from the social and economic costs of disaster to the assessment of risk, measures to mitigate (reduce or prevent) the loss of life and property, disaster response, and disaster relief and recovery issues.

Case studies will be used to illustrate some of the historic catastrophes that have influenced how communities live with hazards, such as the 1906 San Francisco earthquake and the 1985 Nevado del Ruiz volcano in Columbia; the recent disasters that have encouraged the development of more effective mitigation programs, such as the 1985 Mexico City earthquake, the 1995 Kobe (Japan) earthquake, and the 1999 Turkish earthquakes; and the impending disasters in major urban areas, such as Mt. Vesuvius threatening Naples, Italy, and Mt. Rainier threatening the Seattle/Puget Sound region of Washington State.

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**Required Textbook:**

William L. Waugh, Jr., *Living with Hazards, Dealing with Disasters: An Introduction to Emergency Management* (Armonk, NY: M.E. Sharpe Publishers, 2000).

**Required Readings:**

Michael Parfit, "Living with Natural Hazards," *National Geographic*, Vol. 194, No. 1 (July 1998): 2-38. (Including map supplement on "Natural Hazards of North America")

Curt Suplee, "El Niño, La Niña: Nature's Vicious Cycle," *National Geographic*, Vol. 195, No. 3 (March 1999): 72-95.

John G. Mitchell, "In the Wake of the Spill: Ten Years After Exxon Valdez," *National Geographic*, Vol. 195, No. 3 (March 1999): 96-117.

A.R. Williams, "After the Deluge: Central America's Storm of the Century," *National Geographic*, Vol. 196, No. 5 (November 1999): 108-129.

US Department of State, *Patterns of Global Terrorism 1999* <<http://www.state.gov>>, <[www/global.terrorism](http://www/global.terrorism)>.

### **Supplemental Reading List:**

Rutherford M. Platt, ed., *Disasters and Democracy: The Politics of Extreme Natural Events* (Washington, DC: Island Press, 1999).

Ali Farazmand, ed., *Handbook of Crisis and Emergency Management* (New York: Marcel Dekker, 2000).

Dennis S. Mileti, ed., *Disasters by Design: A Reassessment of Natural Hazards in the United States* (Washington, DC: Joseph Henry Press, 1999).

Raymond J. Burby, ed., *Cooperating with Nature: Confronting Natural Hazards with Land-Use Planning for Sustainable Communities* (Washington, DC: Joseph Henry Press, 1998).

Howard Kunreuther and Richard J. Roth, Sr., eds., *Paying the Price: The Status and Role of Insurance Against Natural Disasters in the United States* (Washington, DC: Joseph Henry Press, 1998).

Richard T. Sylves and William L. Waugh, Jr., eds., *Disaster Management in the U.S. and Canada* (Springfield, IL: Charles C. Thomas Publishers, 1996).

Ian Burton, Robert W. Kates, and Gilbert F. White, *The Environment as Hazard*, 2<sup>nd</sup> Edition (New York: The Guilford Press, 1993).

National Research Council, *Facing the Challenge: The U.S. National Report to the IDNDR World Conference of Natural Disaster Reduction, Yokohama, Japan, May 23–27, 1994* (Washington, DC: National Academy Press, 1994).

### **Course Requirements:**

There will be **two examinations** with questions drawn from the readings, lectures, videos, and presentations and a **short research project** involving Internet resources on disasters. Make-up examinations will be in essay and short answer form. A guide to Internet resources will be provided, along with information on government agencies and nongovernmental organizations involved in disaster response and recovery, status reports on disaster operations, forecasts of disasters, and historical information on past disasters.

Students are encouraged to subscribe to discussion lists and electronic newsletters from the US Geological Survey, the Federal Emergency Management Agency, the Office of Foreign Disaster

Assistance, the National Oceanic and Atmospheric Administration/National Weather Service, the Centers for Disease Control, the UN, and other agencies and to participate in virtual conferences. Lists of Internet resources will be provided.

Students are encouraged to become familiar with University policies regarding plagiarism and academic honesty. Policies are printed in University catalogues and posted on the GSU website <[www.gsu.edu](http://www.gsu.edu)>.

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### Advising:

Office: 1248 Urban Life Building  
Office Hours: 5:00–6:00 pm, Mondays and Wednesdays and by appointment.  
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<b>Grading:</b>	Midterm Exam	45%	
	Final Exam	45%	
	Research Project	10%	
		100%	= Course grade

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### Tentative List of Topics and In-class Activities

Date	Topic	Readings/Activities
<i>Theme: Overview - From Asteroid Strikes to Power Failures</i>		
June 14	Managing Natural and Manmade Disasters:	Introduction to course, field of study and profession Waugh, Chapter 1 “The Great San Francisco Earthquake of 1906” (Video)
<i>Theme: The Costs of Natural and Manmade Disasters</i>		
June 19	The Social and Economic Costs of Disaster and the US Emergency Management System	Waugh, Chapter 2 Federal Emergency Management Agency website < <a href="http://www.fema.gov">http://www.fema.gov</a> > Parfit, “Living with Hazards,” <i>National Geographic</i>

June 21           Hurricanes/Cyclones  
Case Studies: Hurricane Andrew  
in US and Hurricane Mitch in  
Central America, Bangladesh  
and Indian Cyclones

Nightline Shows on  
Honduran Relief Effort  
Hurricane Forecast (website)  
Waugh, Chapter 3, ReliefWeb  
<<http://www.reliefweb.int>>  
Hurricane Mitch and El Niño  
readings in *National Geographic*

Floods  
Case Studies: The Great Midwest  
Flood of 1993, the South Georgia  
Flood of 1994, the Venezuelan  
Floods of 1999, the Mozambique  
Floods of 2000

Presentation on land use planning

***Theme: Reducing the Risk of Disaster***

June 26           Earthquakes  
Case Studies: Loma Prieta and  
Northridge earthquakes in the  
US, Mexico City earthquake of  
1985, Kobe earthquake of 1995,  
and Turkish earthquakes of 1999

“Earthquake!” (Video) – on  
Northridge and Kobe quakes  
USGS website  
<<http://quake.wr.usgs.gov/>>  
Presentation on Building Standards

Tsunamis  
Case Studies: Great Anchorage,  
Alaska, Earthquake/Tsunami:  
Hilo, Hawaii, Tsunami of 1956:  
and New Guinea Tsunami of 1998

USGS Slides of tsunami damage  
USGS animation of tsunami and  
Pacific Tsunami Warning System

***Theme: Preparing for Disasters***

June 28           Volcanoes  
Case studies: Vesuvius, Pinatubo,  
Mount St. Helens, Monserrat,  
and Popocatepétl (Mexico), and  
Nevado del Ruiz (Columbia)

“In the Shadow of Vesuvius” video  
USGS website on volcanic hazards  
-The Decade Volcanoes  
<<http://volcanoes.usgs.gov>>

July 3            Research assistance

July 5            More Volcanoes

July 10	Wildfire Case Studies: The Oakland Hills/ Berkeley Fire, Recent fires in southern California, Indonesia, New Mexico, and Australia	Presentation on emergency planning
	Tornadoes Case Studies: The Tri-State Outbreak of 1925, the Outbreak of 1974	Presentations on Critical Incident Stress Debriefing and Community Stress Counseling
July 12	<b>Midterm Examination</b>	
	<i>Theme: Responding to Disasters</i>	
July 17	Aviation Disasters Case Studies: Sioux City Crash, Guam Crash of 1997, Civil Aviation in the Developing World	Guest speaker on aviation safety Waugh, Chapter 4
July 19	Disaster operations: The role of Emergency Operations Centers, Disaster communications, new Technologies, etc.	
July 24	Terrorism Case Studies: 1985 TWA/Beirut and 1999 Air India Hijackings; Oklahoma City Bombing, Tokyo Subway Sarin Attack	Presentation on Event Security and the Threat from Weapons of Mass Destruction State Dept, <i>Patterns of Global Terrorism 1999</i>
July 26	Public Health Emergencies Case Studies: 1918 Spanish Flu Epidemic, 1976 Swine Flu Scare, the Ebola Outbreaks, AIDS	“The 1918 Flu Epidemic” (Video)

***Theme: Recovering from Disasters***

Technological Disasters Case Studies: Chernobyl and Three Mile Island nuclear plant disasters, Exxon Valdez oil spill, and the Bhopal Union Carbide plant disaster	Exxon Valdez reading in <i>National Geographic</i>
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*Theme : Lessons Learned*

July 31	Disasters as Focusing Events Case Studies: The Hyatt Skywalk Disaster of 1980, the Winecoff Hotel Fire in Atlanta	Waugh, Chapter 5
	The Risk Disaster in the US and in Atlanta: Conclusions and Review	Waugh, Chapter 6

**August 7, Monday, 2:45-4:45 pm, Final Examination**

**NOTE:** The class schedule is subject to change. Students are responsible for all changes announced in class.