

**Breaking the Disaster Cycle:  
Future Directions in Natural Hazard Mitigation**

*Course Introduction;  
Traditional Emergency Management  
Policy and the Disaster Cycle*

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# *Course Introduction*

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## ➤ Objectives:

- 1.1 Conduct self-introductions of students and faculty; identify student backgrounds, learning goals and course expectations.
- 1.2 Discuss course overview, purpose, and overall objectives.
- 1.3 Review course syllabus and modules; describe requirements for student participation and term papers.

# *Course Introduction*

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## ➤ Objectives:

- 1.4 Present information on availability of course textbooks, readings, and materials.
- 1.5 Describe the history of U.S. disaster policy and hazard mitigation practice.
- 1.6 Identify the assumptions underlying traditional federal disaster policy, based on a post-disaster model of mitigation.

# *Course Introduction*

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## ➤ Objectives:

- 1.7 Describe the intergovernmental policy system for natural hazard mitigation under the Robert T. Stafford Disaster Relief and Emergency Assistance Act.
- 1.8 Discuss the concepts of mitigation capacity and commitment.
- 1.9 Discuss problems with hazard mitigation under the traditional model, including issues of repetitive damage and the disaster cycle.

# *Course Introduction*

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## ➤ Objectives 1.1 – 1.4

- Course introduction and overview
- Course requirements and resources

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## ➤ Objective 1.5:

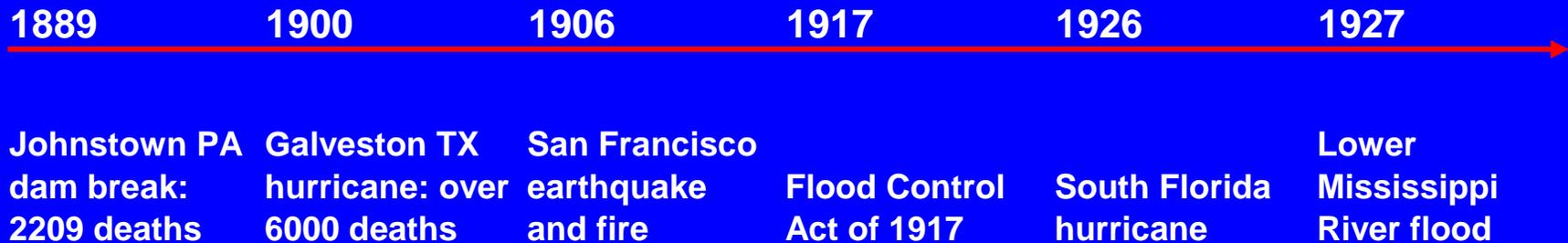
- The 1889 to 1949 Period
  - Limited federal disaster assistance
  - Focused on flood control - Mississippi flood of 1927



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- **Figure 1.1. Major Natural Disaster Events and Federal Assistance: 1889-1927.** Source: Godschalk et al. 1999; Platt 1999



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➤ **Figure 1.1. Major Natural Disaster Events and Federal Assistance: 1928-1944.** Source: Godschalk et al. 1999; Platt 1999



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## ➤ Objective 1.5

### – The 1950 to 1987 Period:

- Federal Disaster Relief Act of 1950 - federal role expands greatly
- 1956 National Flood Insurance Program Act
- Disaster Relief Act of 1969
- The National Flood Insurance Program (NFIP)
- Additional programs

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- **Figure 1.2. Major Natural Disaster Events and Federal Assistance: 1950-1968.** Source: Godschalk et al. 1999; Platt 1999

1950	1953	1954-55	1955	1964	1965	1968
Disaster Relief Act of 1950	TVA Local Flood Relief Program	New England Hurricanes	National Flood Insurance Program Act	Alaskan Earthquake	Hurricane Betsy - Gulf of Mexico	National Flood Insurance Act
	Small Business Administration Disaster			Alaskan Earthquake Assistance Act	Southeast Hurricane Disaster Relief Act	

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## ➤ Alaskan earthquake of 1964



Source: NOAA

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- **Figure 1.2. Major Natural Disaster Events and Federal Assistance: 1969-1973.** Source: Godschalk et al. 1999; Platt 1999

1969	1970	1971	1972	1973
Hurricane Camille - Gulf of Mexico	Disaster Relief Act	San Fernando California Earthquake	Hurricane Agnes (mid-Atlantic)	Flood Disaster Protection Act of 1973
Disaster Relief Act of 1969			Rapid City SD flash flood	
			Federal Dam Safety Act	

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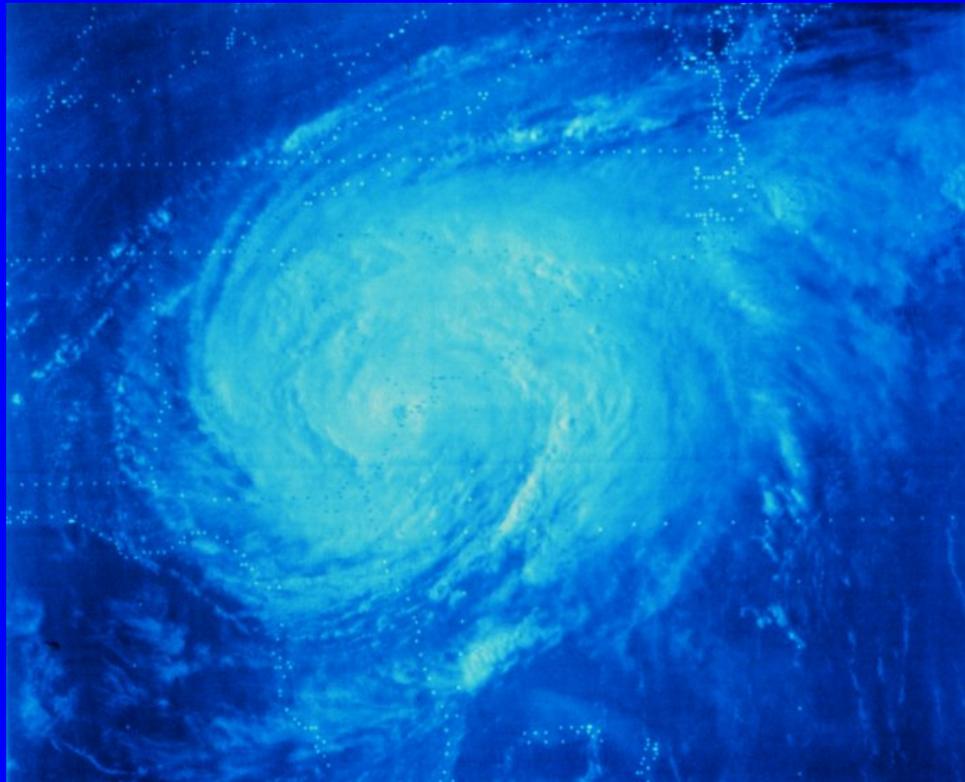
- **Figure 1.2. Major Natural Disaster Events and Federal Assistance: 1974-1982.** Source: Godschalk et al. 1999; Platt 1999



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## ➤ Hurricane David 1980



Source: NOAA

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## ➤ Objective 1.5

### – The 1988 – 2000 Period:

- 1988 - Robert T. Stafford Disaster Relief and Emergency Assistance Act:
  - ✓ State mitigation plans
  - ✓ Hazard mitigation grants
  - ✓ Hazard mitigation teams
- 2000 Mitigation Act

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- **Figure 1.3. Major Natural Disaster Events and Federal Assistance: 1988-1994.** Source: Platt 1999

1988	1989	1991	1992	1993	1994
Stafford Disaster Relief and Emergency Assistance Act	Hurricane Hugo (Caribbean and southeastern US)	Oakland CA wildfires	Hurricane Andrew (FL & LA)	Midwest Floods	Northridge CA earthquake
			Hurricane Iniki (HI)	Hazard Mitigation and Relocation Assistance Act	National Flood Insurance Reform Act

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- **Figure 1.3. Major Natural Disaster Events and Federal Assistance: 1994-2000.** Source: Platt 1999

1995 - 97	1996	1997	1998	1999	2000
CA floods	Hurricanes Fran and Bertha, NC	Ohio River Floods Red River Floods (MN, ND)	Hurricane George (Gulf of Mexico states)	Hurricane Floyd (NC & eastern seaboard) Hurricane Dennis (NC & PA)	Disaster Mitigation Act of 2000

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## ➤ **Figure 1.4. Stafford Act Mitigation Components**

### **1) State Mitigation Plans (Section 409)**

- Required to receive federal disaster assistance
- Content:
  - Hazard evaluation
  - Analysis of state & local mitigation capabilities
  - Goals & strategies to reduce long-term vulnerability
  - Methods to implement, monitor, & update mitigation plans

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## ➤ **Figure 1.4. Stafford Act Mitigation Components**

### **2) Hazard Mitigation Grant Program (Section 404)**

- Federal matching grants for state & local mitigation projects
  - Tied to disaster declarations
  - Limited to 15% of federal disaster assistance monies for a disaster
- Purpose: reduce risk of future damage, hardship, loss, or suffering from disasters
- Can be supplemented by HUD CDBG funds, SBA loans, & other funding sources
- Other federal disaster grants available to repair & replace damaged public facilities & provide individual assistance

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## ➤ **Figure 1.4. Stafford Act Mitigation Components**

### – **3) Hazard Mitigation Teams**

- Federal-state-local teams activated after disasters
- Came to disaster scene, reviewed damage, & issued report to guide applications for 404 mitigation grant applications & revisions to 409 mitigation plans



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## ➤ **Figure 1.5. Disaster Mitigation Act of 2000**

### Mitigation Planning (Section 322)

- Continues requirement for state mitigation plans as condition of disaster assistance
- Provides for states to receive increased HMGP funds, (from 15 to 20 % of total federal assistance) if FEMA-approved Standard & Enhanced State Plan in effect at time of disaster declaration
- Establishes new requirement for preparation of local & multi-jurisdictional mitigation plans
- Authorizes up to 7 percent of HMGP funds available to a state to be used for development of state, tribal, and local pre-disaster mitigation plans

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## ➤ **Figure 1.6 Evolution of Federal Disaster Agencies.**

1951 – 1952	Housing and Home Finance Agency (HHFA)
1953 – 1958	Federal Civil Defense Administration (FCDA)
1958 – 1962	Office of Civil and Defense Mobilization (OCDM)
1962 – 1974	Office of Emergency Planning (OEP)
1974 – 1979	Federal Disaster Assistance Administration (FDAA) of HUD
1979 –	Federal Emergency Management Agency (FEMA)

Source: Platt 1999

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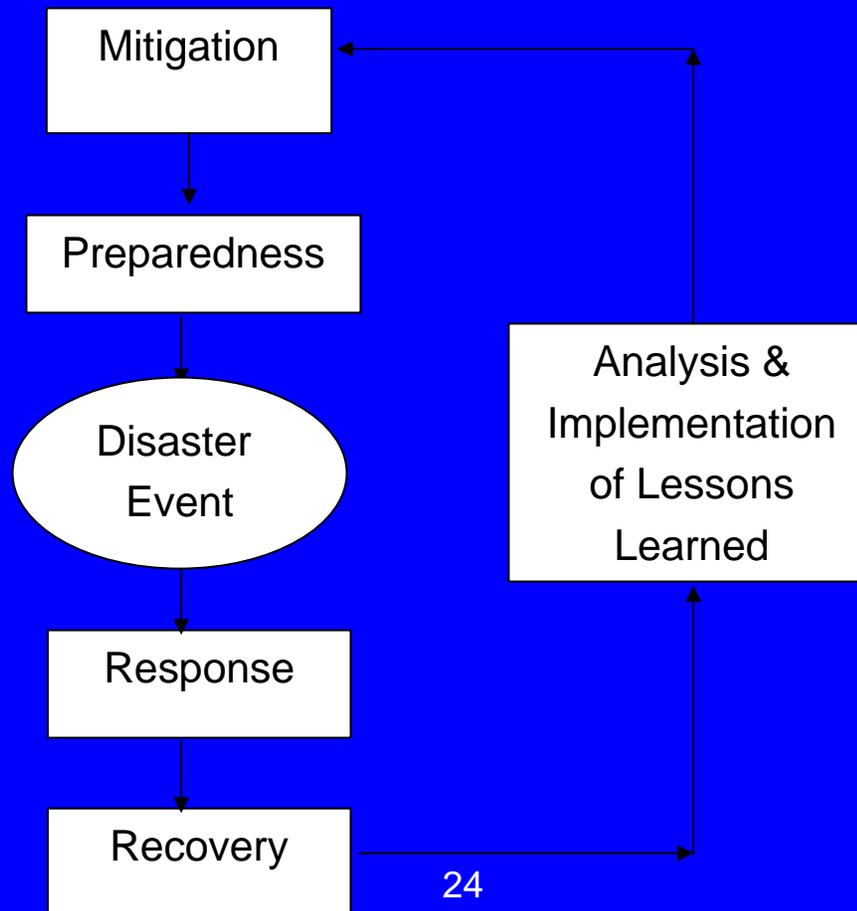
## ➤ Objective 1.6

- Identify the assumptions underlying traditional federal disaster policy, based on a post-disaster model of mitigation:
  - Mitigation
  - Preparedness
  - Response
  - Recovery

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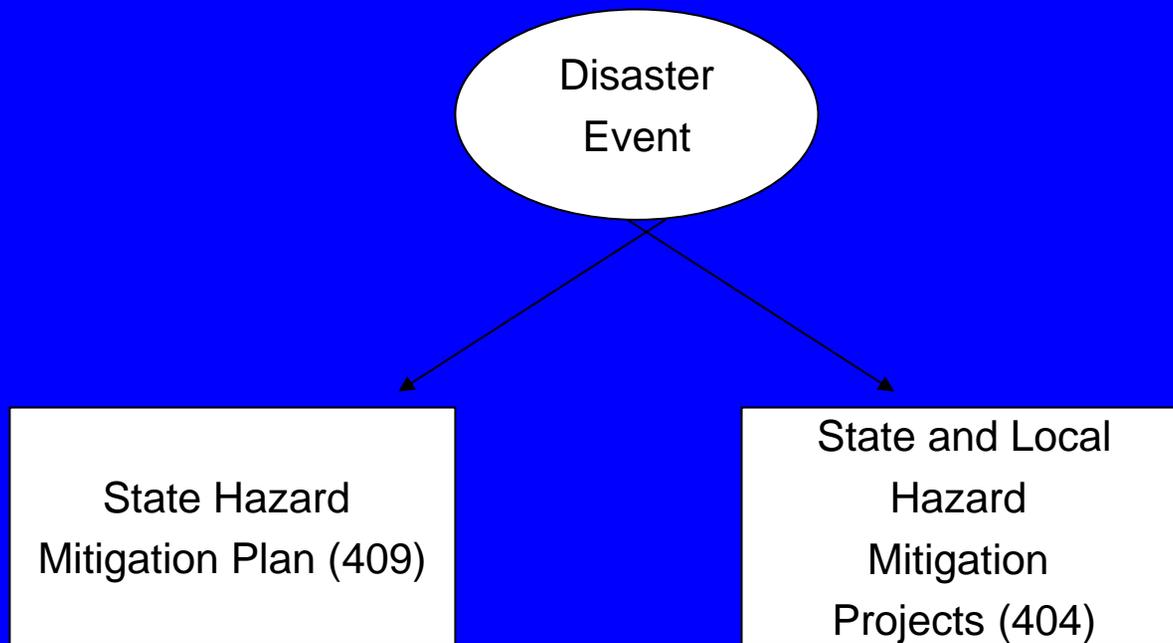
## ➤ Figure 1.7. Emergency Management Phases



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- **Figure 1.8 Post Disaster Mitigation Under the 1988 Stafford Act.** Source: Godschalk et al. 1999



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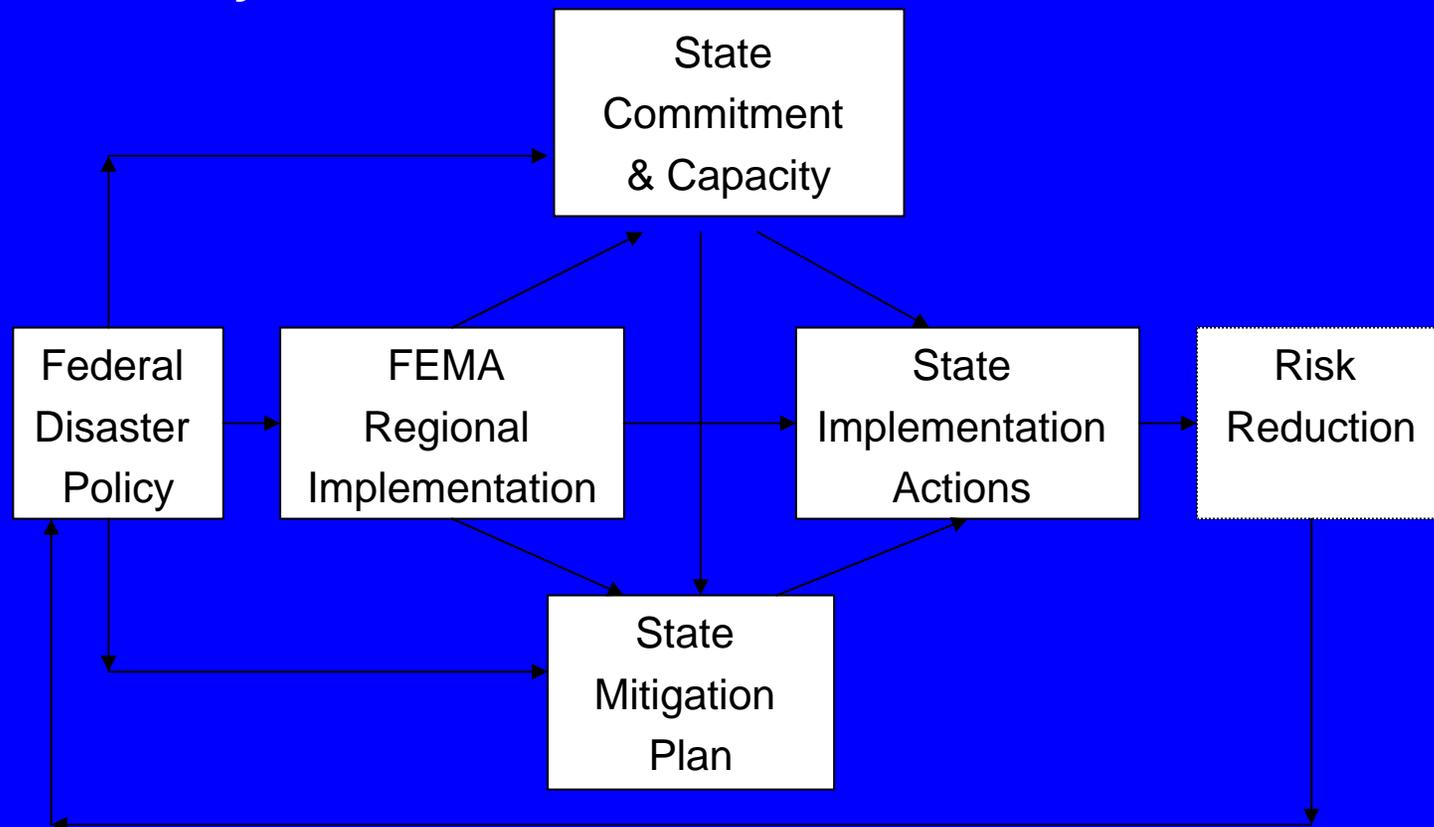
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## ➤ **Objective 1.7**

- Describe the intergovernmental policy system for natural hazard mitigation under the Robert T. Stafford Disaster Relief and Emergency Assistance Act.
  - Six related components:
    - ✓ Federal hazard mitigation policy
    - ✓ FEMA regional office implementation
    - ✓ State political and organizational commitment
    - ✓ State hazard mitigation plans
    - ✓ State implementation actions
    - ✓ Risk reduction effectiveness

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- **Figure 1.9. Intergovernmental System for Hazard Mitigation in Theory.** (Source: Godschalk et al. 1999)



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## ➤ Objective 1.8

- Discuss the concepts of mitigation capacity and commitment :
  - The Achilles heel of hazard mitigation
  - The “moral hazard”
    - ✓ Mitigation capacity
    - ✓ Mitigation commitment

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- **Figure 1.10. Mitigation Capacity and Commitment**
- ***Mitigation capacity: ability to carry out effective hazard mitigation***
  - Number of full-time mitigation staff members
  - Training of mitigation personnel
  - Resources devoted to mitigation
- ***Mitigation commitment: willingness to support risk reduction goals***
  - State & local elected officials support for mitigation
  - Staff support for mitigation

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## ➤ Objective 1.9

- Discuss problems with hazard mitigation under the traditional model, including issues of repetitive damage and the disaster cycle:
  - Repetitive damage
  - Disaster cycle