

*MGMT E-5090:*  
**CRISIS MANAGEMENT AND  
EMERGENCY PREPAREDNESS**

(#13601)

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## **COURSE THEMES AND FOCUS**

News headlines, dramatic photographs, and video tell us about the lives lost, destruction, and hardship generated by many types of severe emergencies:

- *Natural disasters* (hurricanes, tsunamis, earthquakes, floods, forest fires),
- *Technology, infrastructure, and systems failures* (major industrial accidents, bridge collapses, power or cyber system blackouts, airline and train crashes),
- *Infectious Disease* (Ebola, MERS, H1N1, SARS, West Nile virus, avian flu), and
- *Purposeful, human-initiated disasters* (terrorism, bio-terrorism, riots).

Such crises challenge society to respond creatively to novel situations with very high stakes. Lives, property, and critical resources are at risk.

Today, traditional emergency responders (police, firefighters,

### **Mgmt E-5090 and E-5095**

Dr. Howitt teaches two courses at the Extension School: Mgmt E-5090: *Crisis Management and Emergency Preparedness*, and Mgmt E-5095: *Disaster Relief and Recovery*.

These courses are closely related, but each covers very different material. Students who have taken E-5095 will find virtually no overlap in content in E-5090.

Neither course is a prerequisite for the other. Thus *Crisis Management and Emergency Preparedness* could be taken either before or after *Disaster Relief and Recovery*.

and emergency medical teams) have to be ready for these emergencies; but an even wider range of public sector responders must also be prepared (including, for example, state and local public health, transportation, and public works agencies). No less do private business firms and nonprofit organizations like universities have to be prepared for extreme events. Moreover, concerned individuals need to understand the dynamics of severe emergencies in order to thoughtfully exercise their responsibilities as citizens – including to vote for qualified candidates for public office and assess budgets for emergency capacity building.

In the United States and many other countries, committed people are working hard to improve crisis-response capabilities. But what is required to help individuals, agencies, and the emergency management system as a whole prepare well and perform effectively in future crises?

Getting truly ready is extremely difficult because responders have to function in two modes – preparing *both* for what we will term “routine emergencies” *and* for the rarer but more difficult true “crises.” In a crisis, taking action is urgent, but the tactics and methods that work in confronting everyday emergencies may be inadequate – or even counterproductive. Crisis conditions can lead to confusion about the correct course of action, decision-making delays, failures of communication, conflicts or unintentional interference among response organizations, flaws in execution of response action, and undesirable citizen reactions. Response leaders confronting crises therefore must operate in a different mode than that appropriate for routine emergencies; they must make decisions with participation of a wider range of stakeholders, developing new solutions by combining elements of several kinds of routine response or by innovating in their strategies and tactics. Effective *improvisation* is frequently crucial to handle the novel elements of crisis. More expansive communication methods are also frequently essential.

To help improve emergency preparedness, this course develops a managerial perspective on crisis management. The course carefully examines:

- The distinctive challenges of dealing with very large (“landscape-scale”) disasters;
- The stresses that crisis situations place on individual and group decision making;
- The problems of communication that arise within the group of initial responders, among other organizations mobilized by the crisis, and between officials and the public-at-large;
- Methods of coordinating the diverse organizations likely to be involved in emergency response – organizations that come from different professions, agencies, levels of government, and the private sector; and
- The contrasting leadership and organizational strategies for responding, on one hand, to “routine” emergencies and, on the other, to the novel, unanticipated “crisis” emergencies for which prior preparations may be inadequate or counterproductive.

In taking this managerial view, the course seeks to identify and explain the skills and systems that must be deployed in times of crisis; considers how to set a course of action, mobilize and coordinate resources, and rally support; and – quite importantly – asks how organizations can effectively prepare in advance for crises.

## **COURSE FORMAT – “LIVE” AND “DISTANCE LEARNING” OPTIONS**

The course will meet “live” once a week on **Mondays from 5:30 to 7:30 PM** in Room 306, 1 Story Street, on the Harvard campus in Cambridge. The course will also be available electronically both in “real-time” internet streaming or as on-demand, recorded class sessions available on the web.

Class sessions will mix lecture and discussion, with an emphasis on the latter. Most sessions will involve analysis of a detailed case study of an emergency management situation, but other assigned readings will also be discussed. I will have plenty to say but will rarely lecture for an entire class meeting. Instead, I prefer to run most class sessions as discussions with lots of participation. Comment, disagreement, participant-to-participant discussion are all “in bounds” and will make our time together more productive and livelier.

As noted, through the Extension School’s Distance Education Program, Mgmt E-5090 classes at Harvard each week are recorded and made available to all registered students via the internet. Some students will thus be taking the course exclusively or partially online, via *real-time streaming video* or *recorded lectures posted on the web* about one day after a class occurs “live” in the classroom. If distance students view the real-time streaming video, they will also be able to participate in an online “chat room” with other distance students, which will be moderated by David Giles, the course teaching fellow. Students can access the chat room by signing into the course website.

Note that when class session videos are posted to the course website (usually about 24 hours after the live class), they will be available to *both* “distance” and “in class” students throughout the semester. So a student who normally attends classes “live” will be able to view a session that s/he has missed or review material that was covered during a class attended “live.” Only students officially registered for the course will be able to access the video postings on the course website.

## ACCESSIBILITY

The Extension School is committed to providing an accessible academic community. The Disability Services Office offers a variety of accommodations and services to students with documented disabilities. Please visit [www.extension.harvard.edu/resources-policies/resources/disability-](http://www.extension.harvard.edu/resources-policies/resources/disability-services-accessibility)

### STUDENT INFORMATION

To give me a better idea of your prior educational background, work experience, and personal objectives, **please e-mail a RESUME, plus a COVER LETTER telling me why you are taking the course.** (My e-mail address is on the first page of the syllabus.) I am most interested in your prior education and work experience. This information helps me better target what I am doing in class and get acquainted with you much faster. If you don't have a reasonably up-to-date resume, please don't bother constructing one; just tell me the basic story in your letter. **If you are a distance education student, please let me know your location – city, state, country – since otherwise I have no way of knowing. Please make sure that you include your e-mail address and phone number so that I can reach you if necessary.**

[services-accessibility](http://www.extension.harvard.edu/resources-policies/resources/disability-services-accessibility) for more information.

## COURSE WEBSITE

The course website should prove a valuable asset whether you are taking the course “live” or over the internet. The website will put in one electronic place a number of resources: downloadable versions of the syllabus, information about the instructor and the course, class PowerPoint slides, assignments, discussion bulletin boards to communicate with classmates, etc. New material will appear at least weekly. The URL for the course website is:

<https://canvas.harvard.edu/courses/18390/assignments/syllabus>

**Please note:** Only registered students will be able to access the website. You will need to log in with your Harvard Key (a “pin” provided by the Extension School when you register for the course).

## PROGRAM ON CRISIS LEADERSHIP WEBSITE

Howitt and Giles are Faculty Co-Director and Associate Director, respectively, of Harvard Kennedy School’s Program on Crisis Leadership (PCL). PCL’s website contains a wide range of publications – many of which can be downloaded at no cost – as well as a listing of case studies on emergency management. The website also announces term-time PCL events that students located in the Harvard area are welcome to attend. See <http://www.hks.harvard.edu/programs/crisisleadership>

## READING ASSIGNMENTS

**The syllabus lists required readings and case study assignments for each class session.**

Students are expected to read the **REQUIRED READING** assignments *before* class. Often the syllabus lists several questions to think about while you are doing your reading. In preparing for class, these questions should help you focus on key points and prepare for class participation. (I *don’t* want or expect, however, that you will submit written responses to the discussion questions!)

Sometimes class sessions will directly discuss the required readings, particularly the case studies, and discussion questions; at other times some required readings will be mentioned briefly in class or not at all. However, I regard all required readings as important and will hold you responsible for their content in written assignments.

**In addition, this syllabus is meant to be a resource for students who wish to go beyond the requirements of the course on selected subjects.** On most topics the syllabus lists many **SUGGESTED FURTHER READINGS**. These are included so that if a topic piques your interest or if in the future you need to delve more deeply into an issue, you will have references. I do *not* expect that you will read these as we go along in the course, but I hope that many of you will eventually sample the books, articles, and documents included among the suggested readings.

### Finding course required readings:

- **BOOKS:** For those students who **purchase** course readings, which you will find quite convenient, you can purchase the following books at the Harvard Coop in Cambridge or order them from Amazon, Barnes and Noble, or other online booksellers:

Arnold M. Howitt and Herman B. “Dutch” Leonard, eds., *Managing Crises: Responses to Large-Scale Emergencies* (CQ Press, 2009).

Gary Klein, *Sources of Power: How People Make Decisions* (MIT Press, 1999).

- **CASE STUDIES:** Many case studies we use in the course are contained in the Howitt and Leonard book noted above. In addition, some required case studies will be available for free download on the course website. However, other required case studies, for which free download is not permitted because of copyright restrictions, are available for online purchase. A course pack will be available that will enable students to purchase these *as a set* with a discount. **Instructions on how to procure the pack will be sent to students by email and posted on the course website.** In addition, links for purchasing these cases *individually* are provided on the syllabus, under the date for which they are assigned.

- **OTHER READINGS:** Some readings, as indicated on the syllabus, may be downloaded directly from the internet or are available on the course website. Others are available electronically through Harvard’s online library portal, at: <http://sfx.hul.harvard.edu/hvd/az/>. Instructions on how to then proceed to obtain readings through this portal are provided on the syllabus, under the date for which they are assigned. Please note that to access these readings, you will be asked to enter either your Harvard Key or Harvard ID and PIN numbers.

**NOTE: Accessing *New York Times* articles:** We have assigned *New York Times* articles for a number of class sessions. The *Times*, however, limits how many free articles an individual can read online each month. Therefore, to obtain these articles, you need to access them through the Harvard Library's online subscription, which is available and free to students who have a Harvard Key or Harvard ID number and a PIN. To access the articles, please follow these instructions:

1. Go to <http://e-research.lib.harvard.edu/V?func=find-db-1> [\*\*NOTE THAT YOU WILL PROBABLY NEED TO LOG-IN WITH YOUR HARVARD KEY OR HUID AT THIS POINT\*\*]
2. Type Lexis into the "Database Name" field.
3. Click on LexisNexis Academic [this should be the first option that appears]
4. You will then be directed to the search page for the LexisNexis database. Enter the article title into the search field. Click on the result that matches the information for the reading given in the syllabus.

The syllabus also lists “suggested readings” in addition to required ones. Some of these are available for download on the internet. However, we do not have ways of supplying some others of these readings, especially to distance-learning students. Students will have to find these items on their own if you wish to read them.

## A NOTE ON THE CASE STUDY METHOD

This course relies heavily on the “case study method.” Case studies are descriptions of management situations, often ending with a problem or dilemma for the manager to solve. In the process of dissecting the problem during discussion and assessing the options available to the manager for solving it, we will learn a good deal about emergency management in general – not just about that particular situation.

The best way to prepare a case study for class involves several steps:

- Look at the discussion questions listed on the syllabus to orient you to the issues. Class discussion will later engage these or related discussion questions.
- Next, read the case through.
- Then return to the questions, develop some tentative answers based on your reading, and carefully review the case again to test the feasibility and good sense of your ideas.

This thinking in advance will “prime” you to listen acutely to classmates’ comments and participate in class discussions.

## WRITTEN ASSIGNMENTS

The course requires three written analyses. The first two assignments (each approximately 1000-1200 words in length) will be due in electronic form on or before **September 19** and **November 7** at the time that class starts. In each instance, I will post a detailed assignment sheet on the course website a few weeks prior to the due date – i.e., on **August 29** and **October 17**.

The final assignment (similar in length to the first two) will be posted on the web on **November 28** and will be due electronically on Monday, **December 19**.

## GRADING

Course grades will be based on the *quality* of both written work and active participation in the course. Each of the three written assignments will count for 25% of your final grade; and course participation will count for an additional 25%.

**(1) Written work:** In grading your written assignments, which I do personally, I consider *both* your ability to recognize and apply the theoretical concepts about emergency preparedness and crisis management that are developed in readings and class sessions *and* how well you can relate these concepts to the “fact” situations of the case studies that are covered in course reading assignments.

In addition, your written assignments are graded on qualities of good writing: organization, strength and precision of reasoning, and clarity of expression. I recognize that some international students have less experience in writing in English than native speakers, so for those students I make some allowance in reading their assignments. However, the basic principles of strong substantive content, good organization, clear reasoning, and effective expression must be in evidence in *all* students’ papers. (I will post on the course website a memo with more information about how to think about written assignments in the course.)

Because the schedule for assignment completion is set at the beginning of the semester and is very clear, I am strict about receiving papers on time. Late papers will definitely be accepted, but I may apply a grade penalty appropriate for the degree of lateness.

**(2) Class Participation:** In giving overall term grades I take account of students’ class participation in addition to writing assignments. Active participation in the course produces educational benefits for *all*. First, through participation, a student actively engages with readings and lectures, as well as her/his classmates’ comments, and improves her/his ability to frame thoughts cogently and persuasively. Second, it contributes to the education of others by giving them the benefit of each student’s experience and ideas.

Therefore, students are expected to contribute to our collective learning by participating in one or more methods of interactive class discussion. Class participation, as noted above, will count for 25% of a student’s term grade.

The course will have three ways to participate, including ways appropriate for distance students:

- **In-class participation:** In traditional fashion, classroom sessions will afford students *in the room* the opportunity to ask questions, comment, and engage in interactive dialogue with the instructor and other students.
- **“Chat room” during live classes:** During classroom sessions, students *watching the live video feed online* will have the opportunity to log into a “chat room” where they can ask questions, comment, and engage in dialogue with other students in a forum moderated by the course teaching fellow, David Giles. The link for accessing the chat room is available on the course website.
- **On-line Discussion Forums:** The course website will have a section of “Discussion Forums”— where students will be able to post responses to questions and issues related to

course topics. Some of these forums will be initiated by David Giles and me; but students may request that we start additional ones. Students may comment on or give examples (or counter-examples) of things discussed during class, disagree with ideas presented by the instructor or classmates, or introduce additional concepts that have not been covered in class. All of this will be well “in bounds” and welcome.

All students – including distance students – will be expected to participate in one or more of the modes described. Distance students will understandably be limited to the electronic participation modes. Some may find it feasible to participate *only* through the Discussion Forums, which are the means of participation best suited to distance-learning students who cannot attend class in real-time either in person or through the chat room. That will be perfectly acceptable. Access to these Forums will be available 24/7 -- and therefore not subject to the “tyranny” of the real-time class schedule. However, some form of **regular** participation through at least ONE of the methods described above is a course requirement.

**Please note that I assess participation primarily in terms of the *quality* of contributions, not simply the quantity. I expect regular, thoughtful, substantive participation and will grade participation accordingly.**

## ACADEMIC INTEGRITY

You are responsible for understanding Harvard Extension School policies on academic integrity ([www.extension.harvard.edu/resources-policies/student-conduct/academic-integrity](http://www.extension.harvard.edu/resources-policies/student-conduct/academic-integrity)) and how to use sources responsibly. Not knowing the rules, misunderstanding the rules, running out of time, submitting "the wrong draft", or being overwhelmed with multiple demands are not acceptable excuses. There are no excuses for failure to uphold academic integrity. To support your learning about academic citation rules, please visit the Harvard Extension School Tips to Avoid Plagiarism ([www.extension.harvard.edu/resources-policies/resources/tips-avoid-plagiarism](http://www.extension.harvard.edu/resources-policies/resources/tips-avoid-plagiarism)), where you'll find links to the Harvard Guide to Using Sources and two, free, online 15-minute tutorials to test your knowledge of academic citation policy. The tutorials are anonymous open-learning tools.

## CONTACTING THE INSTRUCTORS

Both David Giles and I will be readily available to help students with course issues. David is a very knowledgeable specialist in emergency management who as teaching fellow can help with many substantive and administrative matters. However, I don't want you to regard him as a *necessary* intermediary for contacting or speaking with me. I am happy and expect to have direct contact with students on matters relating to readings, course ideas, or assignments.

**For those students in the Cambridge area who will attend classes “live,”** I am always available for discussion after class. For both **distance learning** and **in-class** participants, I am conveniently available via email at [Arnold Howitt@hks.harvard.edu](mailto:Arnold.Howitt@hks.harvard.edu). This is probably the easiest and fastest way for us to communicate on many matters. David Giles will also be happy to answer questions or discuss course ideas and materials. His email address is [David Giles@hks.harvard.edu](mailto:David.Giles@hks.harvard.edu).

In addition, I can confer by telephone during the regular workday (note that I am *not* available evenings other than on class nights); or we can make an office appointment at a mutually convenient time. My phone number is 1-617-495-4571, and David's phone number is 1-617-496-4165. If we are not in when you call, please leave a voice mail message with your **full name** (not just your first name!), the **course name** (we are both involved in other things, so we can't always figure out which course or project a student is calling about), and a **return phone number or email address**. We will get back to you as promptly as possible. Please speak slowly and distinctly when leaving

your name and phone number. Poor audio quality of messages sometimes makes it very difficult to decipher this essential information and therefore hinders us in getting back to you.

As noted above, we will also establish online “Discussion Forums” so that students will be able to conduct discussions with each other directly. We will *not* be responding to these online posts, however; this is primarily a method for students to talk about the course with each other.

My mailing address and office location are different:

- **Mailing address:** **Arnold M. Howitt**, Ash Center for Democratic Governance and Innovation, Harvard Kennedy School, 79 John F. Kennedy Street, Mailbox 74, Cambridge, MA 02138. **David Giles’** mailing address is the same.

**Office Location:** My office is *physically located* in the Ash Center for Democratic Governance and Innovation suite at 124 Mt. Auburn St., Room 266. **David Giles** is in Room 235. These offices are on the building’s 2<sup>nd</sup> floor North, accessed by the elevator from the main lobby in the front of the building. **Please note:** This building is NOT in the main Kennedy School complex. It is located nearby—across Mt. Auburn St. from the Harvard Square post office, a short distance from the Harvard Coop and subway station.



## COURSE OUTLINE AND SCHEDULE

***PART I:******CHALLENGES OF EMERGENCY RESPONSE***

Mon, Aug 29	IN THE MOMENT OF CRISIS – <b>1st written assignment will be posted</b>
Mon, Sept 5	<b>Labor Day Holiday</b> – No class session
Mon, Sept 12	CATASTROPHIC DISASTERS
Mon, Sept 19	EMERGENT CRISES – <b>1st written assignment due</b>
Mon, Sept 26	THE GENESIS AND AFTERMATH OF CRISIS

***PART II:******CRISIS DECISION-MAKING***

Mon, Oct 3	DECISIONS UNDER PRESSURE
Mon, Oct 10	<b>Columbus Day Holiday</b> – No class session but SPECIAL VIDEO-ONLY CLASS: THE DYNAMICS OF GROUP DECISION-MAKING
Mon, Oct 17	DEALING WITH NOVELTY, COGNITIVE BIAS, AND ORGANIZATIONAL BIAS – <b>2nd written assignment will be posted</b>

***PART III:******COORDINATION OF EMERGENCY RESPONSE***

Mon, Oct 24	THE CHALLENGES OF COORDINATION DURING EMERGENCIES; INCIDENT MANAGEMENT SYSTEMS I
Mon, Oct 31	INCIDENT MANAGEMENT SYSTEMS II
Mon, Nov 7	IMS AND THE POLITICS OF CRISES – <b>2nd written assignment due</b>

***PART IV:******CRISIS COMMUNICATION***

Mon, Nov 14	CRISIS COMMUNICATION
Mon, Nov 21	LEADERSHIP AND CRISIS COMMUNICATION

***PART V:******IMPROVING PREPAREDNESS AND RESPONSE***

Mon, Nov 28	PREPAREDNESS PLANNING – <b>Final assignment will be posted</b>
Mon, Dec 5	RESPONDING TO TERRORISM: BOSTON, PARIS, SAN BERNARDINO, ORLANDO
Mon, Dec 12	RESPONDING TO NOVEL CHALLENGES
Mon, Dec 19	HIGH PERFORMANCE IN CRISIS RESPONSE – <b>Final assignment due</b>

## ***READING ASSIGNMENTS***

### **PART I: CHALLENGES OF EMERGENCY RESPONSE**

#### ***IN THE MOMENT OF CRISIS***

(Monday, August 29)

As requested on p. 3, please email me:

- (1) A brief letter about why you are taking the course, and
- (2) Your resume (or include a brief description of your educational and professional background in your letter).

Please provide information about your previous education and work experience and include your mail address, e-mail address, and phone number, in case I need to contact you during the semester. If you are a distance education student, please let me know your primary location – city, state, and country.

**Please Note: The assignment sheet for the first written assignment, due September 19, will be posted on the course website prior to class time.**

#### ***Required Readings:***

Herman B. “Dutch” Leonard and Arnold M. Howitt, “Acting in Time against Disaster: A Comprehensive Risk Management Framework,” in H. Kunreuther and M. Useem, eds., *Learning from Catastrophes: Strategies for Reaction and Response* (Wharton School Press, 2010).

[http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/Acting%20in%20Time%20Against%20Disaster.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/Acting%20in%20Time%20Against%20Disaster.pdf)

Quynhanh Do, “The Cost of Natural Disasters,” *NY Times* (August 5, 2015) – six-minute video. <http://nyti.ms/1N9yCXI>

Arnold M. Howitt and Herman B. “Dutch” Leonard, *Managing Crises*, Ch. 16, “High Performance in Emergencies: Two Modes of Operation,” pp. 611-end. (In the required text.)

Case study: Esther Scott, “Hurricane Katrina,” in Howitt and Leonard, pp. 13-74.

#### ***Discussion Questions:***

1. How would you define the category of events we loosely call “crises”? What features of a situation characterize a crisis?
2. How does a crisis affect the people who are responding to it?
3. In a crisis, does performance typically rise to the occasion or degrade?

**Snapshots of Recent Disasters:**

Nick Stockton, “In Case You Forgot, Canada’s Massive Ft. McMurray Fire is Still Burning,” *Wired* (May 21, 2016). <http://www.wired.com/2016/05/case-forgot-canadas-massive-northern-fire-still-burning/>

Ellen Barry, “Earthquake Devastates Nepal,” *NY Times* (April 25, 2015) <http://www.nytimes.com/2015/04/26/world/asia/nepal-earthquake-katmandu.html?src=xps>

Choe Sang-Hun, Kirk Semple, and SU-Hyun Lee, “Errors Mounted as Chaos Ruled Capsizing Ferry,” *NY Times* (April 20, 2014) <http://www.nytimes.com/2014/04/21/world/asia/chaos-ruled-sinking-ferry.html?module=Search&mabReward=relbias%3Ar%2C{%221%22%3A%22RI%3A6%22}>

David Beasley, “Deadly Ice Storm Turns Atlanta Into Parking Lot, Strands Thousands,” *Reuters* (January 29, 2014) <http://www.reuters.com/article/2014/01/29/us-usa-weather-idUSBREA0Q1DK20140129>

Keith Bradsher, “Vast Challenges for Philippines After Typhoon,” *NY Times* (November 10, 2013) [http://www.nytimes.com/2013/11/11/world/asia/philippines-typhoon.html?\\_r=1&](http://www.nytimes.com/2013/11/11/world/asia/philippines-typhoon.html?_r=1&)

Amanda J. Crawford, Julie Bykowicz & Elise Young, “Arizona Hotshots Die Fighting Fire Called State’s Worst,” *Bloomberg* (July 2, 2013) <http://www.bloomberg.com/news/2013-07-01/arizona-blaze-kills-19-firefighters-as-homes-evacuated-ap-says.html>

**Suggested Further Reading:**

Frank J. Barrett, *Yes to the Mess: Surprising Leadership Lessons from Jazz* (Harvard Business Review Press, 2012).

Max H. Bazerman and Michael D. Watkins, *Predictable Surprises: The Disasters You Should Have Seen Coming and How to Prevent Them* (Harvard Business School Press, 2004).

Stephen Flynn, *The Edge of Disaster* (Random House, 2007).

Charles Perrow, *Normal Accidents: Living With High Risk Technologies*, with a new afterword and a postscript on Y2K (Princeton University Press, 1999).

Karl E. Weick and Kathleen M. Sutcliffe, *Managing the Unexpected: Assuring High Performance in an Age of Uncertainty* (Jossey-Bass, 2001).

James Reason, *Managing the Risks of Organizational Accidents* (Ashgate, 1997).

Richard A. Clarke, *Against All Enemies: Inside America’s War on Terror* (Free Press, 2004), especially Chapter 1: “Evacuate the White House,” pp. 1-34.

The National Commission on Terrorist Attacks Upon the United States, *The 9/11 Report* (St. Martin’s, 2004), Chapter 10: “Wartime,” pp. 465-484.

**Basic Textbooks and Essay Collections:**

Rick Bissell, *Preparedness and Response for Catastrophic Disasters* (CRC Press, 2013).

- Ira Helsloot, Arjen Boin, Brian Jacobs, Louise K. Comfort, eds., *Mega-Crises: Understanding the Prospects, Nature, Characteristics, and the Effects of Cataclysmic Events* (Charles C. Thomas Publishers, Ltd., 2012).
- Louise K. Comfort, Arjen Boin, and Chris C. Demchak, eds., *Designing Resilience: Preparing for Extreme Events* (University of Pittsburgh Press, 2010).
- William L. Waugh, Jr., and Kathleen Tierney, *Emergency Management: Principles and Practices for Local Government*, 2<sup>nd</sup> ed. (ICMA Press, 2008).
- Facing Hazards and Disasters: Understanding Human Dimensions* (National Academies Press, 2006).
- Havidan Rodriguez, Enrico L. Quarantelli, and Russell R. Dynes, eds., *Handbook of Disaster Research* (Springer, 2006).
- George D. Haddow and Jane A. Bullock, *Introduction to Emergency Management* (Butterworth Heinemann, 2003).
- David Alexander, *Principles of Emergency Planning and Management* (Oxford University Press, 2002).
- Ali Farazmand, ed., *Handbook of Crisis and Emergency Management* (Marcel Dekker, 2001).
- Kathleen J. Tierney, Michael Lindell, and Ronald W. Perry, *Facing the Unexpected: Disaster Response and Preparedness in the United States* (Joseph Henry Press, 2001).
- Ronald J. Daniels, Donald F. Kettl, and Howard Kunreuther, eds., *On Risk and Disaster: Lessons from Hurricane Katrina* (University of Pennsylvania Press, 2006).
- William L. Waugh, Jr., *Living With Hazards, Dealing With Disasters: An Introduction to Emergency Management* (M.E. Sharpe, 2000).
- Dennis S. Mileti, ed., *Disasters by Design: A Reassessment of Natural Hazards in the United States* (John Henry Press, 1999).
- Piers Blaikie, Terry Cannon, Ian Davis, and Ben Wisner, *At Risk: Natural Hazards, People's Vulnerability, and Disasters* (Routledge, 1994).
- Thomas A. Birkland, *Lessons of Disaster: Policy Change After Catastrophic Events* (Georgetown University Press, 2006).
- Eugenie L. Birch and Susan M. Wachter, *Rebuilding Urban Places After Disaster: Lessons from Hurricane Katrina* (University of Pennsylvania Press, 2006).

**Monday, September 5: Labor Day Holiday – No class session*****CATASTROPHIC DISASTERS***

(Monday, September 12)

**IF YOU HAVEN'T DONE SO ALREADY, PLEASE EMAIL (1) a brief letter about why you are taking the course, (2) your resume (or include a brief description of your educational and professional background in your letter), and (3) contact information.**

***Required Readings:***

Arnold M. Howitt and Herman B. “Dutch” Leonard, *Managing Crises: Responses to Large-Scale Emergencies* (CQ Press, 2009), “Prepared for the Worst? The Dilemmas of Crisis Management,” pp. 1-12.

Howitt and Leonard, “Systems Failure,” *Crisis/Response Journal*, Vol. 7, Issue 1 (June 2011), 22-25.

[http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/Systems%20Failure--CRJ%20June%202011.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/Systems%20Failure--CRJ%20June%202011.pdf)

Case study: Cheng (Jason) Qian, “China’s Blizzards of 2008” (Harvard Kennedy School, Ash Center for Democratic Governance) (available for download on the course website).

*Review from 1st week:* Case study: Esther Scott, “Hurricane Katrina,” in Howitt and Leonard, pp. 13-74.

***Discussion Questions:***

1. In retrospect, what steps should the US government, state and local governments, and private organizations have taken in advance as Hurricane Katrina loomed?
2. Could China have been better prepared for the blizzards?
3. What factors constrained their ability to take steps in advance?
4. How might the US’s post-Katrina, China’s post-blizzard, and Japan’s post-3.11 emergency responses be improved?

***Suggested Video:***

“China’s Blizzards of 2008” <https://www.youtube.com/watch?v=dB6EVeoKdOA>

***Suggestions for Further Reading***

Xiaoli Lu and Lan Xue, “Managing the Unexpected: Sense Making in the Chinese Emergency Management System,” *Public Administration*, Vol. 94, No. 2 (2016), pp. 414-429.

Charles Perrow, *Normal Accidents: Living with High-Risk Technologies* (Princeton University Press, 1999), pp. 3-31.

The White House, *The Federal Response to Hurricane Katrina: Lessons Learned* (February 2006). <http://library.stmarytx.edu/acadlib/edocs/katrinawh.pdf>

Herman B. “Dutch” Leonard and Arnold M. Howitt, “Katrina as Prelude – Testimony to the U.S. Senate Homeland Security and Governmental Affairs Committee, March 8, 2006,” *Journal of Homeland Security and Emergency Management* (2006) 3:2. [http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/katrina\\_prelude.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/katrina_prelude.pdf)

## ***EMERGENT CRISES***

(Monday, September 19)

### **First Written Assignment is due by class time.**

#### ***Required Readings:***

Case study: Pamela Varley, “SARS in Toronto,” in Howitt and Leonard, pp. 75-130.

Norimitsu Onishi, “As Ebola Grips Liberia’s Capital, A Quarantine Sows Social Chaos,” *NY Times* (August 28, 2014) [http://www.nytimes.com/2014/08/29/world/africa/in-liberias-capital-an-ebola-outbreak-like-no-other.html?smid=nytcore-ipad-share&smprod=nytcore-ipad&\\_r=0](http://www.nytimes.com/2014/08/29/world/africa/in-liberias-capital-an-ebola-outbreak-like-no-other.html?smid=nytcore-ipad-share&smprod=nytcore-ipad&_r=0)

Rick Gladstone, “Liberian Leader Concedes Errors in Response to Ebola,” *NY Times* (March 11, 2015) [http://www.nytimes.com/2015/03/12/world/africa/liberian-leader-concedes-errors-in-response-to-ebola.html?smid=nytcore-ipad-share&smprod=nytcore-ipad&\\_r=0](http://www.nytimes.com/2015/03/12/world/africa/liberian-leader-concedes-errors-in-response-to-ebola.html?smid=nytcore-ipad-share&smprod=nytcore-ipad&_r=0)

Sheri Fink, “Cuts at W.H.O. Hurt Response to Ebola Crisis,” *NY Times* (September 3, 2014) <http://www.nytimes.com/2014/09/04/world/africa/cuts-at-who-hurt-response-to-ebola-crisis.html?smid=nytcore-ipad-share&smprod=nytcore-ipad>

#### ***Discussion Questions:***

1. What challenges of operational capacity did Toronto’s SARS crisis create for the region’s public health and hospital systems? Were these similar or different from the Ebola epidemic in Liberia?
2. How did the SARS crisis affect non-health emergency responders?
3. What should jurisdictions outside the Toronto area have been doing as Toronto’s SARS crisis deepened?
4. What implications does Toronto’s experience with SARS have for jurisdictions preparing for future incidents of emergent infectious disease or contagious agents loosed by bioterrorists?
5. Does the Ebola epidemic have implications for developed nations or only for developing ones?

**Suggested Video/Movie Viewing:**

PBS Frontline, *The Zika Outbreak* <http://www.pbs.org/wgbh/frontline/investigation/the-zika-outbreak/>

*Contagion*, director Steven Soderbergh's 2011 film, presents a largely realistic portrait of what could happen if a highly lethal emergent infectious disease began to spread. Well worth seeing!

**Suggested Further Reading:**

Donald G. McNeil, Jr., "New Tools to Hunt Viruses," *NY Times* (May 27, 2013) <http://www.nytimes.com/2013/05/28/health/new-tools-to-hunt-new-viruses.html?src=xps>

W. Ian Lipkin, "The Real Threat of 'Contagion,'" *New York Times* (September 12, 2011) [http://www.nytimes.com/2011/09/12/opinion/the-real-threat-of-contagion.html?\\_r=1&scp=3&sq=soderbergh,%20contagion&st=cse](http://www.nytimes.com/2011/09/12/opinion/the-real-threat-of-contagion.html?_r=1&scp=3&sq=soderbergh,%20contagion&st=cse)

*The Future of Emergency Care: Emergency Medical Services at the Crossroads* (Institute of Medicine, National Academies of Science, 2007).

Karl E. Weick and Kathleen M. Sutcliffe, *Managing the Unexpected: Assuring High Performance in an Age of Complexity* (Jossey-Bass, 2011).

Frederick J. Manning and Lewis Goldfrank, eds., *Preparing for Terrorism: Tools for Evaluating the Metropolitan Medical Response System Program* (National Academies Press, 2002), Ch 5-6.

John Buntin, "Plague of Errors: Hospital Infection Rates are Rising," *Governing Magazine* (August 2005), pp. 24-29.

Gregory D. Koblentz, "Biological Terrorism: Understanding the Threat and America's Response," in Arnold M. Howitt and Robyn D. Pangi, eds., *Countering Terrorism: Dimensions of Preparedness* (MIT Press, 2003), pp. 97-173.

## ***THE GENESIS AND AFTERMATH OF CRISIS***

(Monday, September 26)

**Required Readings:**

Case study: Kirsten Lundberg, "Sinking of the Sewol: South Korea's 2014 Ferry Disaster" (A and B) (Harvard Kennedy School, Program on Crisis Leadership, 2015) (available for download on the course website).

CNN video reporting on Sewol ferry accident <http://www.cnn.com/2014/04/27/world/asia/south-korea-ferry-video/>

Edward Wong, "Hundreds Missing After Chinese Cruise Ship Sinks on Yangtze," *NY Times* (June 1, 2015) <http://www.nytimes.com/2015/06/02/world/asia/ship-reported-sunk-in-chinas-yangtze.html>

Edward Wong and Austin Ramzy, "China Keeps Lid on Information, as Hopes Dim in Yangtze Ship Disaster," *NY Times* (June 3, 2015).

<http://www.nytimes.com/2015/06/04/world/asia/hopes-dim-for-survivors-of-yangtze-cruise-ship-media-control.html>

Andrew Jacobs, “More Bodies Are Found as Yangtze Ship Is Lifted,” *NY Times* (June 5, 2015). <http://www.nytimes.com/2015/06/06/world/asia/yangtze-river-oriental-star-ship-captain-survivor-accounts.html>

Arjen Boin, Allan McConnell, and Paul ‘t Hart, eds., *Governing After Crisis: The Politics of Investigation, Accountability, and Learning* (Cambridge University Press, 2008), pp. 3-30. All but pages 12-13, 19-20, & 26-27 of this essay are available at the following site:

<https://books.google.com/books?id=HIXYacNFcLOC&printsec=frontcover#v=onepage&q&f=false>

### **Discussion Questions:**

1. How did actions taken long before the Sewol capsizing affect the likelihood of an accident?
2. What flaws in emergency preparedness and response did the Sewol capsizing reveal?
3. Why and how did this emergency turn into a crisis for the government?
4. What similarities and differences are there between the Sewol tragedy and the Oriental Star sinking in the Yangtze?

## **Part II: Crisis Decision Making**

### ***DECISIONS UNDER PRESSURE***

(Monday, October 3)

### **Required Readings:**

Case study: Jennifer Weeks, “Miracle on the Hudson” (A): Landing U.S. Airways Flight 1549” (Kennedy School of Government, 1966.0). Available for purchase at <http://case.hks.harvard.edu/miracle-on-the-hudson-landing-u-s-airways-flight-1549-a/>.

See an animation of U.S. Airways Flight 1549 and hear voice recordings from the cockpit and flight controllers at <http://www.youtube.com/watch?v=qiATqDUEP6k>

Gary Klein, *Sources of Power: How People Make Decisions* (MIT Press, 1999), Ch. 1, 3-5, 7, & 10; pp. 1-6, 15-74, 89-109, 147-158.

Erica Goode, “The Night the E.R. Staff Can Never Forget,” *New York Times* (August 16, 2012) [http://www.nytimes.com/2012/08/17/us/colorado-mass-shooting-tested-an-er-staff.html?\\_r=1](http://www.nytimes.com/2012/08/17/us/colorado-mass-shooting-tested-an-er-staff.html?_r=1)

Hiroko Tabuchi, “Videos Shed Light on Chaos at Fukushima as a Nuclear Crisis Unfolded,” *New York Times* (August 9, 2012) <http://www.nytimes.com/2012/08/10/world/asia/fukushima-videos-shed-light-on-chaos-in-nuclear-crisis.html>



**Discussion Questions:**

1. Was the situation that Capt. Sullenberger faced after Flight 1549's takeoff a "routine emergency" or a "crisis"?
2. Can we understand Capt. Sullenberger's performance in terms of Gary Klein's models of decision making?
3. How might organizations prepare their key personnel for situations like the one that confronted Capt. Sullenberger?

**Suggested Video and Further Reading:**

Documentary on the landing of US Airways 1549 and the rescue of the passengers:

<https://www.youtube.com/watch?v=5SL1A2d2e7M>

Daniel Kahneman, *Thinking, Fast and Slow* (Farrar, Straus, & Giroux, 2011), esp. 234-244.

Atul Gawande, *The Checklist Manifesto: How to Get Things Right* (Metropolitan Books, Henry Holt & Co., 2009) (The whole book is very worthwhile, but see the discussion of US Airways Flight 1549 on pp. 177-182.)

Daniel Kahneman and Gary Klein, "Conditions for Intuitive Expertise: A Failure to Disagree," *American Psychologist* (September 2009), 515-526.

Elkhonon Goldberg, *The New Executive Brain: Frontal Lobes in a Complex World* (Oxford University Press, 2009).

Max H. Bazerman and Don Moore, *Judgment in Managerial Decision Making*, seventh edition (John Wiley & Sons, 2008).

## ***THE DYNAMICS OF GROUP DECISION-MAKING***

(Monday, October 10)

**No class session because of Columbus Day Holiday – But there will be a class video posted (from a previous year of the course) that will focus on the following material:**

**Film Viewing:**

*Thirteen Days* (2000), directed by Roger Donaldson and starring Kevin Costner, is a reasonably historically accurate dramatization of the Cuban Missile crisis of 1962. It is easily rented on DVD, streamed in a number of internet locations, or borrowed from many public libraries. Please view this film **in advance of class** to get the story of the Cuban missile crisis.

**Required Reading:**

Herman B. Leonard and Arnold M. Howitt, "The Heat of the Moment," *Compass* (Fall 2004), pp. 18-23.

[http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/heat\\_moment.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/heat_moment.pdf)

**Discussion Questions:**

1. How well do you think the Ex Com functioned during the Cuban Missile Crisis?
2. Why was President Kennedy dissatisfied with the options initially presented to him for responding to the Soviet missiles in Cuba?
3. How did President Kennedy get his advisers to invent and assess other options?

**Suggested Further Reading:**

Graham Allison, “How It Went Down” [White House decision making to capture/kill Osama Bin Laden], *Time Magazine* (May 7, 2012), pp. 34-41.

Graham Allison and Philip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2<sup>nd</sup> ed. (Longman, 1999), see especially pp. 263-311 and 325-366.

Richard E. Neustadt and Ernest R. May, *Thinking in Time: The Uses of History for Decision Makers* (Free Press, 1986), pp. 1-16.

Diane Vaughn, *The Challenger Launch Decision: Risky Technology, Culture and Deviance* (University of Chicago Press, 1996).

Irving L. Janis, *Groupthink: Psychological Studies of Policy Decisions and Fiascoes*, 2<sup>nd</sup> ed. (Houghton Mifflin, 1982).

Robert F. Kennedy, *Thirteen Days: A Memoir of the Cuban Missile Crisis* (W.W. Norton, 1971), pp. 19-98, including Neustadt and Allison, “Afterword,” pp. 101-145.

Ernest R. May and Philip Zelikow, eds., *The Kennedy Tapes: Inside the White House During the Cuban Missile Crisis* (W.W. Norton, 2002).

***DEALING WITH NOVELTY, COGNITIVE BIAS, AND  
ORGANIZATIONAL BIAS***  
(Monday, October 17)

**2nd written assignment – due November 7 -- will be posted on the course website.**

**Required Readings:**

Howitt and Leonard, “Improving Performance: Dealing with Novelty and Cognitive Bias,” in Howitt and Leonard, pp. 407-412.

Joseph W. Pfeifer, “Understanding How Organizational Bias Influenced First Responders at the World Trade Center,” in Bruce Bongar, *et al.*, eds., *Psychology of Terrorism* (Oxford University Press, 2007), pp. 207-215. Available at

[http://books.google.com/books?id=GoJ-PI3rUkQC&pg=PA207&lpg=PA207&dq=joseph+pfeifer,+organizational+bias&source=bl&ots=3NIPqy0ytf&sig=AzR8U5PYAAnOCWCxPGzpBCTtaCA&hl=en&ei=01xHTNCMFYGclgfArcS1BA&sa=X&oi=book\\_result&ct=result&resnum=1&ved](http://books.google.com/books?id=GoJ-PI3rUkQC&pg=PA207&lpg=PA207&dq=joseph+pfeifer,+organizational+bias&source=bl&ots=3NIPqy0ytf&sig=AzR8U5PYAAnOCWCxPGzpBCTtaCA&hl=en&ei=01xHTNCMFYGclgfArcS1BA&sa=X&oi=book_result&ct=result&resnum=1&ved)

[=0CBYQ6AEwAA#v=onepage&q=joseph%20pfeifer%2C%20organizational%20bias&f=false](#)

Case study: “CDC Develops Its ‘Team B’: Keeping an Open Mind in an Emergency,” in Howitt and Leonard, pp. 421-442.

Case studies: Kirsten Lundberg, “Fears and Realities: Managing Ebola in Dallas” (Kennedy School of Government, 2055.0) and “Epilogue” (Kennedy School of Government, 2055.1). Available for purchase at:

<http://case.hks.harvard.edu/fears-and-realities-managing-ebola-in-dallas/> and <http://case.hks.harvard.edu/fears-and-realities-managing-ebola-in-dallas-epilogue/>

### ***Discussion Questions:***

1. CDC employed a variety of approaches to "Team B" at different times and under different circumstances. Which of these seemed most successful and helpful? Why?
2. What do you see as the key success factors (e.g., design of the mechanism, who it reports to, nature of its relationship to other parts of the organization, nature of the circumstances in which it is being employed) that would be likely to determine whether a Team B approach made a significant contribution to managing a crisis?
3. If you were designing a Team B mechanism for your organization, what would its characteristics be?
4. What explains the Dallas hospital's mistakes in recognizing Ebola when Eric Duncan first presented himself for care?
5. Once Ebola was diagnosed, to what extent were Texas health care and public health officials “protecting” themselves from being surprised by further novelty?

### ***Suggested Further Reading:***

Pierre Bérroux, Xavier Guihou, and Patrick Lagadec, “Rapid Reflection Forces Put to the Reality Test,” *Crisis/Response Journal* Vol. 4, Issue 2 (March 2008), pp. 38-40.

James Surowiecki, *The Wisdom of Crowds: Why The Many are Smarter than the Few and How Collective Wisdom Shapes Business, Economies, Societies, and Nations* (Random House, 2004).

US Government, “A Tradecraft Primer: Structured Analytic Techniques for Improving Intelligence Analysis (March 2009). (Available on the course website.)

## Part III: Coordination of Emergency Response

### ***THE CHALLENGES OF COORDINATION DURING EMERGENCIES: INCIDENT MANAGEMENT SYSTEMS I***

(Monday, October 24)

#### ***Required Readings:***

Case study: Susan Rosegrant, “The 1992 Los Angeles Riots,” in Howitt and Leonard, pp. 137-200.

Howitt and Leonard, “Structuring Crisis Response,” in Howitt and Leonard, pp. 131-136.

Case study: Pamela Varley, “The 9/11 Pentagon Emergency,” in Howitt and Leonard, pp. 234-274.

#### ***Discussion Questions:***

1. What coordination and jurisdictional problems did responders to the 1992 LA riots encounter? What factors made coordination so difficult?
2. Did the Pentagon emergency response encounter similar or additional problems of coordination?
3. To what extent and in what ways was the Incident Command System (ICS) an effective way of coping with these problems?
4. What prerequisite preparations were necessary for these results to occur?

#### ***Suggested Further Reading:***

US Department of Homeland Security, *National Response Framework*,  
<http://www.fema.gov/pdf/emergency/nrf/nrf-core.pdf>

Federal Emergency Management Agency, Information on National Incident Management System (NIMS), <http://www.fema.gov/national-incident-management-system>

Paul Knox Clarke, “Who’s in Charge Here? A Literature Review of Approaches to Leadership in Humanitarian Operations,” ALNAP  
<http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB8QFjAA&url=http%3A%2F%2Fwww.alnap.org%2Fnode%2F11976.aspx&ei=y2PVU97EO4utyASKgIH0AQ&usg=AFQjCNHdfO-26XBCbMV6NZLZaaUCLn1WOA&bvm=bv.71778758,d.aWw>

Alan V. Brunacini, *Fire Command: The Essentials of Local IMS*, 2<sup>nd</sup> ed. (National Fire Protection Association, 2002).

#### ***Other Kennedy School Case Studies on Incident Management Problems:***

In Howitt and Leonard:

- Esther Scott, “The Baltimore Tunnel Fire of 2001,” pp. 201-233.
- Kirsten Lundberg, “The Anthrax Crisis and the U.S. Postal Service,” pp. 337-378.

Susan Rosegrant, “The Shootings at Columbine High School: Responding to a New Kind of Terrorism”

Esther Scott, “The West Nile Virus Outbreak in New York City (B and Sequel)”

## ***INCIDENT MANAGEMENT SYSTEMS II***

(Monday, October 31)

### ***Required Readings:***

Video: BBC News, “Japan hit by tsunami after massive earthquake (March 11, 2011)

<https://www.youtube.com/watch?v=odMF4YhfZCc>

Case study: David W. Giles, “The Triple Catastrophe: Japan’s 03/11/11 Earthquake, Tsunami, and Nuclear Crisis” (Harvard Kennedy School, Program on Crisis Leadership, 2015) (available for download on the course website)

Case studies: Jennifer Weeks, ““Miracle on the Hudson’: Rescuing Passengers and Raising the Plane,” (B) and ““Miracle on the Hudson’: Epilogue” (C) (Kennedy School of Government, 1967.0 and 1967.1). Available for purchase at:

<http://case.hks.harvard.edu/miracle-on-the-hudson-rescuing-passengers-and-raising-the-plane-b/> and

<http://case.hks.harvard.edu/miracle-on-the-hudson-epilogue/>

Arnold M. Howitt, Haruo Hayashi, Hiromi Akiyama, David W. Giles, and Herman B. “Dutch” Leonard, “An Incident Management System for Japan?” *Crisis/Response Journal* Vol. 9, Issue 1 (2013), pp. 17-19.

[http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/IMS%20For%20Japan\\_017-019%20crj9%201%20Howitt-Japan\\_w%20Cover\\_FOR%20WEB.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/IMS%20For%20Japan_017-019%20crj9%201%20Howitt-Japan_w%20Cover_FOR%20WEB.pdf)

Nicholas B. Hambridge, Arnold M. Howitt, and David W. Giles, “Coordination in Crises: Implementation of the National Incident Management System by Surface Transportation Agencies,” Program on Crisis Leadership, Harvard Kennedy School (2015) (available for download on the course website).

### ***Suggested Video:***

“Japan’s Killer Quake,” on PBS’s NOVA (March 2011)

<https://www.youtube.com/watch?v=izV1FQWY04s>

### ***Discussion Questions:***

1. What coordination problems arose in Japan’s response to the earthquake, tsunami, and nuclear accident in 2011?
2. Would an IMS-like system in Japan have made a difference in the emergency response to the triple catastrophe? In what ways?
3. What coordination problems would have remained?
4. What does the Hudson River rescue say about the necessity and efficacy of incident management as a method of organizing emergency response? Is this a positive story from the point of view of NIMS advocates?
5. Is IMS inherently a *centralized* system of managing emergency response?
6. Is the idea of “emergence” (also called “self-organizing” response or “intelligent, decentralized adaptation”) consistent or inconsistent with the doctrine of IMS?

**Suggestions for Further Reading:**

- Herman B. “Dutch” Leonard and Arnold M. Howitt, “Organising Response to Extreme Emergencies: The Victorian Bushfires of 2009,” *Australian Journal of Public Administration*, Vol. 69, No. 4, pp. 372–386. Available at <http://www.hks.harvard.edu/content/download/67400/1242410/version/1/file/organizing+response+to+extreme+emergencies+2011+04+20+v11+%28with+final+edits%29+no+track.pdf>
- Donald Moynihan, “From Forest Fires to Katrina: Case Studies of Incident Command Systems,” IBM Business of Government series (2007). <http://www.businessofgovernment.org/sites/default/files/MoynihanKatrina.pdf>
- Arnold M. Howitt and Herman B. “Dutch” Leonard, “A Command System for All Agencies?” *Crisis/Response*, Vol 1, Issue 2 (Spring 2005). [http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/command\\_system.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/command_system.pdf)
- Steven Johnson, *Emergence: The Connected Lives of Ants, Brains, Cities, and Software* (Scribner, 2002).
- The Australasian Inter-service Incident Management System <https://training.fema.gov/hiedu/docs/cem/comparative%20em%20-%20session%2021%20-%20handout%2021-1%20aiims%20manual.pdf>

***IMS AND THE POLITICS OF CRISES***

(Monday, November 7)

**2nd written assignment is due by the beginning of class.****Required Readings:**

- Case study: David Giles, “The Deepwater Horizon Oil Spill: The Politics of Crisis Response (A) and (B)” (Kennedy School of Government, 1981.0 and 1982.0). Available for purchase at: <http://case.hks.harvard.edu/the-deepwater-horizon-oil-spill-the-politics-of-crisis-response-a/>  
and  
<http://case.hks.harvard.edu/the-deepwater-horizon-oil-spill-the-politics-of-crisis-response-b/>
- Juliette Kayyem, “The Game Changer,” *Boston Globe* (April 24, 2011) [http://www.boston.com/news/politics/articles/2011/04/24/the\\_game\\_changer/](http://www.boston.com/news/politics/articles/2011/04/24/the_game_changer/)
- Matt Flegenheimer, “Leaders in New York and New Jersey Defend Shutdown for a Blizzard That Wasn’t,” *NY Times* (January 28, 2015). [http://www.nytimes.com/2015/01/28/nyregion/new-york-blizzard.html?\\_r=0](http://www.nytimes.com/2015/01/28/nyregion/new-york-blizzard.html?_r=0)
- Review: Herman B. “Dutch” Leonard and Arnold M. Howitt, “The Heat of the Moment,” *Compass* (Fall 2004), pp. 18-23.

[http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/heat\\_moment.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/heat_moment.pdf)

### ***Discussion Questions:***

1. How did the politics of the Deepwater Horizon accident complicate the work of the incident management team?
2. How did the politics of the BP spill look to elected officials in Washington? In state capitals? In local governments?
3. Should IMS operations be insulated from politics?
4. Can they be?

### ***Suggested Readings:***

National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling*, Parts I and II

<https://www.gpo.gov/fdsys/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf>

Case study: Kirsten Lundberg, “The 2003 San Diego Firestorm,” in Howitt and Leonard, pp. 305-336.

Herman B. “Dutch” Leonard and Arnold M. Howitt, “Political Control and Operational Command: Building a Balanced Disaster Response System,” Supplemental testimony submitted to the U.S. Senate Homeland Security and Governmental Affairs Committee, March 22, 2006.

[http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/political\\_control.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/political_control.pdf)

National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, *Deep Water: The Gulf Oil Disaster and the Future of Offshore Drilling: Report to the President*, (Comprehensive Overview), January 2011:

<http://www.gpo.gov/fdsys/pkg/GPO-OILCOMMISSION/pdf/GPO-OILCOMMISSION.pdf>

National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling “Decision-making within the Unified Command” (Staff Working Paper No. 2):

<http://permanent.access.gpo.gov/gpo186/Working%20Paper.Unified%20Command.For%20Release.pdf>

US Coast Guard, “Incident Specific Preparedness Review (ISPR): BP Deepwater Horizon Oil Spill,” January 2011: <http://www.uscg.mil/foia/docs/DWH/BPDWH.pdf>

## **Part IV: Crisis Communication**

***CRISIS COMMUNICATION***  
(Monday, November 14)

**Required Readings:**

- Case study: Howard Husock, “The Hurricane Floyd Evacuation in Florida,” in Howitt and Leonard, pp. 283-304.
- Case study: David L. Tannenwald, “The Wenzhou Train Crash and Social Media,” (Harvard Kennedy School, Ash Center for Democratic Governance and Innovation, 2013) (Available for download on course website.)
- Barbara Reynolds and Matthew Seeger, *Crisis and Emergency Risk Communication: 2014 Edition* (US Department of Health and Human Services, Centers for Disease Control and Prevention, 2014) (This is a comprehensive guide to risk communication issues.)  
[http://emergency.cdc.gov/cerc/resources/pdf/cerc\\_2014edition.pdf](http://emergency.cdc.gov/cerc/resources/pdf/cerc_2014edition.pdf)
- Edward F. Davis III, Alejandro A. Alves and David Alan Sklansky, “Social Media and Police Leadership: Lessons From Boston,” Harvard Kennedy School, Program in Criminal Justice Policy and Management (March 2014).  
[http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/criminal-justice/ExecSessionPolicing/SocialMediaandPoliceLeadership-03-14.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/criminal-justice/ExecSessionPolicing/SocialMediaandPoliceLeadership-03-14.pdf)
- Nick Bilton, “Ferguson Reveals a Twitter Loop,” *NY Times* (August 27, 2014)  
<http://www.nytimes.com/2014/08/28/fashion/ferguson-reveals-a-twitter-loop.html?src=xps>
- Vindu Goel and Sydney Ember, “As Paris Terror Attacks Unfolded, Social Media Tools Offered Help in Crisis,” *NY Times* (November 14, 2015)  
[http://www.nytimes.com/2015/11/15/technology/as-paris-terror-attacks-unfolded-social-media-tools-offered-help-in-crisis.html?smid=nytcore-ipad-share&smprod=nytcore-ipad&\\_r=0](http://www.nytimes.com/2015/11/15/technology/as-paris-terror-attacks-unfolded-social-media-tools-offered-help-in-crisis.html?smid=nytcore-ipad-share&smprod=nytcore-ipad&_r=0)

**Discussion Questions:**

1. Could the Florida emergency management system have better handled the Hurricane Floyd evacuation? If so, how?
2. How can officials trying to communicate with the public cope with parallel reporting or competition from the news media and social media, both of which may be presenting information that conflicts with official messages?
3. Can emergency managers cope with the following dilemma? In the absence of crisis, the public isn't motivated to listen to information about emergency precautions or procedures. In the midst of crisis, the window of opportunity to provide information effectively is very narrow.
4. Can crisis managers *plan* for unanticipated public response – including unexpected action, inaction, or panic?

**Suggested Further Reading:**

- J. Brian Houston, et al., “Social Media and Disasters: A Functional Framework for Social Media Use in Disaster Planning, Response, and Research, *Disasters* 2014, 39(1): 1-22.



- Tokyo Metropolitan Government, *Disaster Preparedness Tokyo: Guide for Residents* <http://www.metro.tokyo.jp/ENGLISH/GUIDE/BOSAI/index.htm> (For browsing, not necessarily close reading.)
- David H. Slater, Nishimura Keiko, and Love Kindstrand, “Social Media, Information and Political Activism in Japan’s 3.11 Crisis,” [Expanded and updated version of “Social Media in Disaster Japan,” by the same authors, in Jeff Kingston, *Natural Disaster and Nuclear Crisis in Japan* (Routledge, 2012).]
- Robert R. Ulmer, Timothy L. Sellnow and Matthew Seeger, *Effective Crisis Communication: Moving From Crisis to Opportunity*, 2<sup>nd</sup> ed. (Sage Publications, 2010).
- Norman S. Hartman, “The Media & You: Survival Guide for Public Health Professionals” (National Public Health Information Coalition, 2009).  
<http://www.nphic.org/join/buy-our-media-relations-guide>
- Frances Edwards-Winslow, “Telling It Like It Is: The Role of the Media in Terrorism Response and Recovery,” in Juliette N. Kayyem and Robyn L. Pangi, eds., *First to Arrive: State and Local Response to Terrorism* (MIT Press, 2004), pp. 121-134. Also at <http://belfercenter.ksg.harvard.edu/files/role%20of%20the%20media.pdf>
- Peter Ruff and Khalid Aziz, *Managing Communications in a Crisis* (Gower, 2003).
- Joseph Scanlon, Suzanne Alldred, Al Farrell, and Angela Prawzick, “Coping with the Media in Disasters: Some Predictable Problems,” *Public Administration Review*, Vol. 45 (January, 1985), 123-133.
- Roger Kasperson and Peter Jan M. Stallen, *Communicating Risks to the Public: International Perspectives* (Kluwer, 1991).

## **LEADERSHIP AND CRISIS COMMUNICATION**

(Monday, November 21)

### **Required Readings:**

- Peter S. Goodman, “In Case of Emergency: What Not to Do,” *New York Times*, August 22, 2010. <http://www.nytimes.com/2010/08/22/business/22crisis.html?emc=eta1>
- Herman B. “Dutch” Leonard and Arnold M. Howitt, “Leading in Crises: Observations on the Political and Decision-Making Dimensions of Response,” in Ira Helsloot, *et al.*, eds., *Mega-Crises: Understanding the Prospects, Nature, Characteristics and Effects of Cataclysmic Events* (2012). (Available on course website.)
- Case study: Chelsea Lei, “Typhoon Morakot in Taiwan” (A, B, and C) (Harvard Kennedy School, Ash Center for Democratic Governance and Innovation) (Available for download on the course website)
- Case study: Taiya Smith, “Rudy Giuliani: The Man and His Moment” (Kennedy School of Government, 1681.0). Available for purchase at <http://case.hks.harvard.edu/rudy-giuliani-the-man-and-his-moment/>

Michael M. Grynbaum and David W. Chen, “Bloomberg Puts Soothing Aside as He Rushes to Bring Back City” (*NY Times*, November 16, 2012), <http://www.nytimes.com/2012/11/16/nyregion/bloomberg-chooses-results-over-hugs-as-city-rebounds.html?hpw>

Austin Ramzy, “At Quake Scene, Leader’s Dip in the Mud Gets Close Attention,” (*NY Times*, August 5, 2014) [http://sinosphere.blogs.nytimes.com/2014/08/05/at-quake-scene-leaders-dip-in-the-mud-gets-close-attention/?\\_php=true&\\_type=blogs&\\_r=0](http://sinosphere.blogs.nytimes.com/2014/08/05/at-quake-scene-leaders-dip-in-the-mud-gets-close-attention/?_php=true&_type=blogs&_r=0)

***Discussion Questions:***

1. Why did the Taiwan government’s response to Typhoon Morakot become so serious a political liability for President Ma and his administration? How could he have handled public communication more effectively?
2. What did Mayor Giuliani do during the 9/11 crisis that was so successful in relating to the people of New York City?
3. How was he able to respond to people’s needs during the crisis?
4. What do people in crisis need from their leaders?
5. How can leaders prepare themselves to fulfill these needs should a crisis arise?

***Suggested Further Reading:***

Rudolph W. Giuliani, *Leadership* (Hyperion, 2002).

Arjen Boin, Paul T’Hart, Allan McConnell, and Thomas Preston, “Leadership Style, Crisis Response and Blame Management: the Case of Hurricane Katrina,” *Public Administration*, Vol. 88, No. 3 (2010), pp. 706-723.

## **Part V: Improving Preparedness and Response**

## ***PREPAREDNESS PLANNING***

(Monday, November 28)

**Final assignment – due on December 19 -- will be posted on the course website**

### **Required Readings:**

Howitt and Leonard, “Anticipating Disaster: Event Planning,” in Howitt and Leonard, pp. 443-447.

Kim Severson, “Politicians, Protesters, Police: Charlotte Braces,” *New York Times* (August 9, 2012) <http://www.nytimes.com/2012/08/10/us/politics/charlottes-plans-for-democratic-convention-security-draw-criticism.html>

Case study: Read *at least two* of the following three case studies:

- David Tannenwald, “Protecting the WTO Ministerial Conference of 1999,” Howitt and Leonard, pp. 513-544.
- Esther Scott, “Security Planning for the 2004 Democratic National Convention,” Howitt and Leonard, pp. 567-610.
- David W. Giles, “Surviving the Surge: New York City Hospitals Respond to Superstorm Sandy” (Kennedy School of Government, 2064.0). Available for purchase at <http://case.hks.harvard.edu/surviving-the-surge-new-york-city-hospitals-respond-to-superstorm-sandy/>.

### ***Discussion Questions:***

1. How would you characterize the security planning process for the 1999 WTO meetings in Seattle? What, if anything, might have been done better?
2. To what extent were the problems that arose during the protests in Seattle the result of poor planning as opposed to operational shortcomings?
3. Was the planning process for the 2004 DNC in Boston an improvement over the Seattle process? In what ways, specifically?
4. How well would the security plan for the DNC have worked had there been a crisis? What is the rationale for your conclusion?
5. Were New York City’s hospitals deficient in planning for emergencies in the period before Superstorm Sandy? Why or why not?
6. What should the hospitals do in preparation for future severe storms?

### ***Suggested Further Reading:***

Robert J. Meyer, “Why We Under-Prepare for Hazards,” in Ronald J. Daniels, Donald F. Kettl, and Howard Kunreuther, eds., *On Risk and Disaster: Lessons from Hurricane Katrina* (University of Pennsylvania Press, 2006), pp. 153-173.

Frederick J. Manning and Lewis Goldfrank, eds., *Preparing for Terrorism: Tools for Evaluating the Metropolitan Medical Response System Program* (National Academy Press, 2002), Chapters 5-6.

Rebecca F. Denlinger, with Kristin Gonzenbach, “‘The Two-Hat Syndrome’: Determining Response Capabilities and Mutual Aid Limitations,” in Juliette N. Kayyem and Robyn L. Pangi, eds., *First to Arrive: State and Local Response to Terrorism* (MIT Press, 2004), pp. 193-205. Also at

<http://belfercenter.ksg.harvard.edu/files/two%20hat%20syndrome.pdf>

Steven A. Zyck and Randolph Kent, “Humanitarian Crises, Emergency Preparedness And Response: The Role Of Business And The Private Sector,” Humanitarian Policy Group (July 2014) <http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9078.pdf>

## **RESPONDING TO TERRORISM: BOSTON, PARIS, SAN BERNARDINO, ORLANDO**

### **Required Readings:**

Herman B. “Dutch” Leonard, Christine M. Cole, Arnold M. Howitt, and Philip B. Heymann, “Making Boston Stronger,” *ICSS Journal* 2 (2) (2014), pp. 15-23 (<http://icss-journal.newsdeskmedia.com/Making-Boston-stronger>)

Wikipedia (scan for a general overview of the attacks in Paris), "November 2015 Paris Attacks," [https://en.wikipedia.org/wiki/November\\_2015\\_Paris\\_attacks](https://en.wikipedia.org/wiki/November_2015_Paris_attacks)

Rory Mulholland and Gordon Rayner, "Dante's Inferno': Officer Gives Terrifying First Account of Police Assault on Bataclan Attackers," *The Telegraph* (November 18, 2015) <http://www.telegraph.co.uk/news/worldnews/europe/france/12000822/Paris-attacks-policeman-gives-first-account-of-Dantes-Inferno-scene-at-Bataclan-concert-hall.html>

Stacy Meichtry, Joshua Robinson, and Nick Kostov, "Behind François Hollande’s Snap Decision at Stade de France and the Unfolding Terror in Paris," *The Wall Street Journal* (November 15, 2015) <http://www.wsj.com/articles/behind-francois-hollandes-snap-decision-at-stade-de-france-and-the-unfolding-terror-in-paris-1447634427>

Richard Perez-Pena and Adam Goldman, "It Finally Clicked That This Wasn't an Exercise': Report Recounts San Bernardino Shooting," *NY Times* (September 9, 2016) <http://nyti.mes/2czAMDY>

Lizette Alvarez and Richard Perez-Pena, “Orlando Gunman Attacks Gay Nightclub, Leaving 50 Dead,” *NY Times* (June 12, 2016) <http://www.nytimes.com/2016/06/13/us/orlando-nightclub-shooting.html>

Timothy Williams and Michael Wilson, “Police Account of Decisions Made during Orlando Rampage Contains Crucial Gaps,” *NY Times* (June 13, 2016) <http://www.nytimes.com/2016/06/14/us/police-account-of-decisions-made-during-orlando-rampage-contains-crucial-gaps.html>

Scott Shane, “Homegrown Extremists Tied to Deadlier Toll than Jihadists in US Since 9/11,” *NY Times* (June 24, 2015) <http://www.nytimes.com/2015/06/25/us/tally-of-attacks-in-us-challenges-perceptions-of-top-terror-threat.html?smid=nytcore-ipad-share&smprod=nytcore-ipad>

Juliette Kayyem, “Why Keeping Us Safe from Terrorism is So Hard,” CNN (March 22, 2016) <http://www.cnn.com/2016/03/22/opinions/belgium-terrorism-kayyem/index.html>

### **Suggested Readings:**

Herman B. “Dutch” Leonard, Christine M. Cole, Arnold M. Howitt, and Philip B. Heymann, *Why Was Boston Strong? Lessons from the Boston Marathon Bombing* (Harvard Kennedy School, Program on Crisis Leadership, April 2014). This is a full-length version of the summary report in the required reading section. <http://www.hks.harvard.edu/content/download/67366/1242274/version/1/file/WhyWasBostonStrong.pdf>

Rick Barziel, Frank Straub, George Watson, and Rod Hoops, *Bringing Calm to Chaos: A Critical Incident Review of the San Bernardino Public Safety Response to the December 2, 2015, Terrorist Shooting Incident at the Inland Regional Center* (September 2016) <http://ric-zai-inc.com/Publications/cops-w0808-pub>

The National Commission on Terrorist Attacks Upon the United States, *The 9/11 Report* (St. Martin’s, 2004), Chapter 9: “Heroism and Horror,” pp. 400-464.

## ***RESPONDING TO NOVEL CHALLENGES***

(Monday, December 12)

### **Required Readings:**

Case study: David W. Giles, “On the Frontlines of a Pandemic: Texas Responds to 2009 Novel H1N1 Influenza A” (Kennedy School of Government, 1940.0). Available for purchase at <http://case.hks.harvard.edu/on-the-frontlines-of-a-pandemic-texas-responds-to-2009-novel-h1n1-influenza-a/>

Michael T. Osterholm, “The Next Contagion: Closer Than You Think,” *New York Times* (May 10, 2013) [http://www.nytimes.com/2013/05/10/opinion/the-next-contagion-closer-than-you-think.html?\\_r=0](http://www.nytimes.com/2013/05/10/opinion/the-next-contagion-closer-than-you-think.html?_r=0)

Case study: David W. Giles, “Gridlock in Texas (A): Evacuating the Houston-Galveston Region in Advance of Hurricane Rita” and “Gridlock in Texas (B): Evacuation Planning in the Houston-Galveston Region after Hurricane Rita” (Program on Crisis Leadership, Harvard Kennedy School) (both parts available for download on the course website).

**Discussion Questions:****H1N1 in Texas:**

1. To what extent was there payoff from the planning and attention that states had given to the possibility of pandemic flu in the years before H1N1 struck?
2. What capacities did the Texas public health system have to develop or enhance in responding to H1N1?
3. What lessons does the H1N1 experience provide in looking ahead to possible emergent infectious disease outbreaks?

**Gridlock in Texas (A):**

1. What factors made the evacuation of the Houston area so complicated?
2. How could state and local officials have better communicated with the public? Would that have made a difference in how the public responded to the situation?
3. What does this case reveal about the importance (and challenges) of inter-agency and inter-jurisdictional coordination?

**Gridlock in Texas (B):**

1. What were some of the key lessons learned from the Rita evacuation?
2. How were Ike and Rita similar? How were they different? Did the differences have implications for the effectiveness of the new evacuation plans?
3. How can risk be communicated effectively to the public, especially amidst a high degree of uncertainty and rapidly changing circumstances?

**Suggested Further Reading:**

Case study: David W. Giles, “Tennessee Responds to the 2009 Novel H1N1 Influenza A Pandemic” (Kennedy School of Government, 1941.0). Available for purchase at <http://case.hks.harvard.edu/tennessee-responds-to-the-2009-novel-h1n1-influenza-a-pandemic/>

Gillian K. SteelFisher, Robert J. Blendon, et al., “The Public’s Response to the 2009 H1N1 Pandemic,” *The New England Journal of Medicine*, Vol. 362:e65 (June 3, 2010).

***HIGH PERFORMANCE IN CRISIS RESPONSE***

(Monday, December 19)

**Final assignment due by the start of class****Required Readings:**

Case Study: “Ready in Advance: The City of Tuscaloosa’s Response to the 4.27.11 Tornado” (Kennedy School of Government, 2053.0). Available for purchase at <http://case.hks.harvard.edu/ready-in-advance-the-city-of-tuscaloosas-response-to-the-4-27-11-tornado/>.

Video of Tuscaloosa Tornado: <https://www.youtube.com/watch?v=mPcUDIXX2G4>

*Review:* Howitt and Leonard, “High Performance in Emergencies: Two Modes of Operation,” in Howitt and Leonard, pp. 611-end.

*Review:* Herman B. “Dutch” Leonard and Arnold M. Howitt, “Acting in Time against Disaster: A Comprehensive Risk Management Framework,” in H. Kunreuther and M. Useem, eds., *Learning from Catastrophes: Strategies for Reaction and Response* (Wharton School Press, 2010).

[http://www.hks.harvard.edu/var/ezp\\_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/Acting%20in%20Time%20Against%20Disaster.pdf](http://www.hks.harvard.edu/var/ezp_site/storage/fckeditor/file/pdfs/centers-programs/programs/crisis-leadership/Acting%20in%20Time%20Against%20Disaster.pdf)

### ***Discussion Questions:***

1. What do you see as the key drivers of those aspects of Tuscaloosa’s response that were successful? Of those that were less successful?
2. In what ways does the city’s structure for organizing response to a disaster conform to standard and traditional doctrines, structures, and procedures of the National Incident Management System? In what important ways does it seem to differ?
3. What wider lessons would you draw from this experience about preparation in advance and about response in the moment to large-scale risks?

### ***Suggested Further Reading:***

Arjen Boin and Paul t’Hart, “Organising for Effective Emergency Management,” *Australian Journal of Public Administration*, Vol. 69, No. 4 (December 2010), 357-371.

Louise K. Comfort, Arjen Boin, and Chris C. Demchak, eds., *Designing Resilience: Preparing for Extreme Events* ((University of Pittsburgh Press, 2010).