

ENV 280X – Stapleton Environmental & Risk Communication

The assignments related to the Canterbury Earthquakes will be completed in four phases.

In **Phase I**, students will be introduced to general public policy concepts, such as regulation, policy analysis, and policy evaluation. More specifically, students should also be familiar with: risk, hazard, precautionary principle, risk regulation, and risk assessment and management.

In **Phase II**, students will be assigned readings about the Canterbury Earthquakes to be completed outside of class. These readings should include:

- “The 2011 Christchurch earthquake and other recent earthquakes” (<http://www.teara.govt.nz/en/historic-earthquakes/page-13>);
- “New Zealand Earthquakes Linked, Say Experts” (<http://www.australiangeographic.com.au/news/2011/02/new-zealand-earthquakes-linked,-say-experts/>);
- “Quake Legislation Not Enough, Says Council” (<http://www.stuff.co.nz/the-press/news/christchurch-earthquake-2011/9933774/Quake-legislation-not-enough-says-Council>);
- “Uncharted Seismic Risk” (<http://www.nature.com/ngeo/journal/v4/n6/abs/ngeo1168.html>);
- “Rethinking Resilience: Reflections on the Earthquakes in Christchurch, New Zealand, 2010 and 2011” (<http://www.ecologyandsociety.org/vol18/iss4/art37/>).

Instructors may assign a graded reader response paper or an annotated bibliography as an incentive for students to complete the readings before class.

In **Phase III**, students will complete the in-class activity included below.

In **Phase IV**, students will be debriefed on the activity.

In-class Activity on Christchurch, New Zealand
Risk Assessment and Regulation in Christchurch, New Zealand

I. Reviewing the Case. Instructors should start the in-class activity with a review of the facts of the case: when did the earthquakes occur? why was the second one comparatively more destructive than the first? why were Christchurch residents – who live in a country covered by fault lines – taken by surprise?

Instructors should show visuals to illustrate the impact of the Christchurch quake.¹ Related discussion about the different types of hazards that earthquakes pose.

Students will then be required to answer the following questions on their own.

1. What actions can policymakers take to minimize the risks of earthquakes?
2. Based on the readings, what policies did the government have in place to manage risks posed by earthquakes?
3. Based on the readings, how would you evaluate the risk management of New Zealand earthquakes, prior to the Canterbury earthquakes?

[students should pair-and-share their responses; followed by a brief class discussion in which pairs are polled on their answers.]

II. Risk and Resilience. Students should work in groups of two or three to explore the GNS Science site, specifically the section on earthquakes (<http://www.gns.cri.nz/Home/Our-Science/Natural-Hazards/Earthquakes>), the Christchurch City Council site on Hazards (<http://www.ccc.govt.nz/thecouncil/policiesreportsstrategies/districtplanning/districtplanreview/ourdistractplanreview/naturalhazards.aspx>), and the CERA site (<http://cera.govt.nz/about-cera>). They should answer the following questions based on what they can find on these sites.

1. What actions, if any, are New Zealand policymakers taking to address the risk of earthquakes and their associated hazards?
2. What is the role of scientific expertise in policymaking for this issue area?
3. Based on the readings, how would you evaluate the risk management of New Zealand earthquakes, after the Canterbury earthquakes?

III. Personal Narratives. In their groups, students should explore the two websites dedicated to personal stories about the Canterbury Earthquakes:

QuakeStories (<http://www.quakestories.govt.nz/>); and

When My Home Shook (<http://whenmyhomeshook.co.nz/>).

[instructors may also want to screen a brief report on the stories: <http://tvnz.co.nz/national-news/chch-quake-survivors-stories-published-online-5447498> or one of the QuakeBox videos

¹ Possible sources: <http://www.christchurchquakemap.co.nz/february>;
<http://www.telegraph.co.uk/news/worldnews/australiaandthepacific/newzealand/8340205/Christchurch-earthquake-what-is-behind-the-quake.html>; <http://www.newscientist.com/blogs/shortsharpsscience/2011/02/the-unknown-fault-that-caught.html>; <http://www.brisbanetimes.com.au/christchurch-earthquake/>;
<http://www.theatlantic.com/infocus/2011/02/earthquake-in-new-zealand/100013/>.

<http://www.ceismic.org.nz/search?q=QuakeBox%20Videos>]. Students must then answer the questions below on their own [longer writing activity with the expectation that students will take information from the assigned readings as well as ideas generated in class and synthesize them in their response].

1. What are the political, economic, social, and environmental impacts of the Canterbury Earthquakes?
2. Consider the article, “Rethinking Resilience,” and the personal narratives that you have read/watched. Is Christchurch a resilient community? Explain your response.

[debriefing can occur after all students have completed writing. However, it might be better for instructors to allow students to turn in the assignment as they complete to take into account different work speeds for students in the class. After grading the activities at home, instructors can debrief the students after returning the papers. Debriefing may include reviewing final points from the in-class activity that were not already addressed in the previous class; debriefing should include a summary of student responses, touching upon trends and differences, and allowing time for follow up questions from students.]