2004 Asian Earthquake and Tsunami Disaster Project
Char Bezanson, January 2005

Time: 1-2 weeks, depending on products desired from each group.
Objectives. Students will have the opportunity to:

- Connect Earth Science to a significant real world event
- Think globally about earth events
- Recognize the importance of knowing something about earth science in the fields of international aid, foreign policy, and international development.
- Vice versa; recognize importance of foreign language/international awareness in science fields.
- Consider careers in related areas.

Synopsis of Project

Scenario:

A major disaster (the 2004 Asian Earthquake and Tsunami) occurs. We are employees of a unit of the United Nations responsible for coordinating disaster relief. This agency includes people with a variety of backgrounds in science, political science, languages, geography, economics, medicine, history, and other fields representing college majors and work experience. The agency needs to understand the situation in each country so that it can coordinate the work of various governments and NGO (non-governmental organizations) working in the affected area.

Students are divided into **Expert Groups** on four topics, (Economics, Health, Earth Science, Historical Context- there could be others) three or four students per group. Depending on class size, there will probably be two of each group. Topics will overlap; this isn't a problem. Using the internet, archived articles, and newsmagazine features, students research their topics.. Each group then summarizes what the group learned in an outline or written summary. Each student also rates themselves and their group members on their contributions to the group.

After several days of research and collaboration on the Expert Group topic, students write a summary of what they have learned. They turn this in with their resource folder and evaluation sheets.

Students are then reassigned to one of seven or eight **Country Groups**, based on the countries most affected by the disaster. In the scenario, these groups correspond to task forces that must determine what the situation is in each country and try to assess the current need for international assistance. Groups are assigned so that there is little or no overlap from the previous expert groups: each country group need someone with prior research on economics, health, earth science, and prior disasters.

Students research their country, using internet resources, especially the CIA World Factbook and ReliefWeb, the information coordination website of the United Nations. At a large-group roundtable discussion, each group presents what it has found about its assigned country. As a final product, each student writes an individual report summarizing findings and making recommendations for disaster assistance.

Expert Group Notes:

I started each group out with several articles from the BBC from the days just after the disaster, in order to give them an idea of the kind of information they might find. Students also received a Expert Group instruction sheet and a list of suggested references (Earth Science Links 1) I had students read and summarize at least two articles each, and share their articles with their expert group, before collaborating to write their group summary. On this section, students were graded equally on the following criteria:

1. Individual articles/resource summaries contributed to the group folder
2. The group summary (this is the only "group grade" that is the same for all students in a group)
3. Contribution Score. Each student rated themselves and the other group members on several items (Group Evaluation), including contributions to organization, amount of product, and attitude. Students also commented on ways their group worked together. Together with teacher observations, these reflections determined the score on this criterion.

Expert Group Research Topics

- Economic and Political effects
- Death and Disease
- Physical (Earth) Effects
- Historical Context

Country Group Notes:

I divided students into the following country groups:

- Indonesia
- Sri Lanka
- India
- Thailand
- Maldives
- Malaysia
- Somalia/Africa
- Myanmar (Burma)

Some countries had much more damage; some are much more open to Western journalists and aid groups. I chose groups with this in mind. For example, there is not much information available on Myanmar because of the political situation. For students who are easily distracted by excess information, this might be a good choice, although they may require some research assistance or help in interpreting the questions when it isn't obvious.

See student sheet (Country Research) for research questions. These are the resources we used for country research:

ReliefWeb is a website of the United Nations Office for the Coordination of Humanitarian Affairs. It provides disaster information to and about charities working around the world.
http://www.reliefweb.int/

USAID is the United States Agency for International Development, which provides economic and humanitarian assistance through the U.S. Government.
http://www.usaid.gov/

CIA- The World Factbook. This site tells all about a country, including statistics, government, and a map.
http://www.cia.gov/cia/publications/factbook/geos/se.html

Other notes:

I developed this unit immediately after the December 26 disaster, and used it on returning to school in January.Since I was teaching Plate Tectonics at the time of the disaster, and I couldn't reserve computer labs for all the times I wanted to use them, I interspersed work on this project with assignments dealing with mapping tectonic plates and with video material on tsunamis and earthquakes. I used a NOVA called The Big Wave and a Discovery Channel special that aired two weeks after the disaster; students were able to use notes from these videos as part of their research. I also encouraged them to read current newpaper and newsmagazines, which they did.

I will probably use the project again, but may have to modify it a bit after time passes. To many of my students, however, the "in-school" study of the disaster was very important, as they are not necessarily tuned in to the news at home. Several were not even aware that the disaster had happened when they returned to school in January.

Unit documents:

2004 Tsunami Unit Summary.pdf	this document
Expert Group.pdf	student instruction sheet
Country Research.pdf	student instruction sheet
Group Evaluations.pdf	student evaluation sheet
Earth Science Links 1.pdf	copy of reference website for expert group research

PDFs and maps:

BBC News: Countries Affected pdf	thumbnail sketches of affected countries
BBC News Natural Disasters pdf-	11 page pdf, general disaster information
BBC News Articles from week of disaster as "starter articles" for expert groups	
Tectonic Setting map.gif	map of the region and plates involved
Earthquake Map.tiff	political map of area
Tsunami usaid map.pdf	summary of dead, affected, and aid as of 1/5/05