

Tsunamis

In class, we have looked at some of the basics associated with the generation of shock waves in the ocean. In this exercise, you will further explore information associated with tsunami waves, especially those associated with earthquake activity.

Please remember that your assignment should be typewritten (12 point type, double-spaced, 1 inch margins).

The following web site provides information about the general aspects of tsunami.

<http://www.ess.washington.edu/tsunami/general/physics/physics.html>

Explore the listed sections to answer the following questions.

1. List several different ways that tsunamis may be generated.
2. Tsunamis are often called "tidal waves". Why is this a misnomer?
3. Compare the typical wavelength and period of wind-driven waves with that for tsunamis.
4. How fast can tsunamis travel and over what distances do they maintain their energy?
5. What kind of earthquake is effective in generating tsunamis?
6. What happens to the speed and height of a tsunami as it approaches the shore?
7. What is "run-up"? How high can it be?

The following web site provides access to an article from the San Diego Union-Tribune published July 6, 2005. Read through the information and answer the following questions.

<http://www.signonsandiego.com/news/science/20050706-9999-lz1c06wave.html>

1. What is the tsunami risk for San Diego? Be specific! What kind of activity is capable of producing a tsunami wave in our region?
2. The article discusses a "worst case scenario". What is that worst case scenario in terms of size of the wave, death toll, and damages? What areas in San Diego County would most likely be affected?
3. What are some examples of tsunamis that have affected Southern California in the past 200 years?