

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 is the official web site for tsunami information for San Diego County. Read the information regarding "Tsunami Facts." Next, click on the link titled "Tsunami - How to Survive this Hazard on California's Coast" and read the information provided.

http://www.sdcounty.ca.gov/oes/disaster_preparedness/oes_jl_tsunami.html

1. For the State of California, when was the most significant local tsunami generated? What section of coast did it most effect and how large was the run-up?
2. Since 1812, how many tsunamis has California experienced? Of these, how many were considered destructive?
3. San Diego's greatest tsunami risk comes from locally generated tsunamis. What types of activity can be responsible for generating these locally generated tsunamis?
4. Thus far, the largest locally generated tsunami to have affected San Diego occurred in 1862. What caused this event and how large was the run-up?