



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute  
2007 Volume IV: The Science of Natural Disasters

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## **Making Waves: A Study of Earthquakes and Tsunami**

Guide for Curriculum Unit 07.04.08  
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This unit is designed for a twelfth-grade environmental studies curriculum. The goal of the unit is to provide students with a comprehensive understanding of plate tectonics and how they affect the occurrence of earthquakes and tsunamis around the world. Students will be made aware of how the Earth is divided into tectonic plates and how the plates move in different directions and at different speeds. They will familiarize themselves with the locations of plate boundaries and the effects that the different movements of these plates have on the occurrence of earthquakes and tsunamis. Students will become familiar with both seismic and ocean waves and how they are measured. Students will differentiate between the types of waves that cause earthquakes and tsunamis. In addition, they will examine why these waves travel at different speeds. Students will also investigate how the measurement and detection of waves are used to understand and mitigate disasters. To compare the severity of specific disasters that have occurred during our lifetime, students will perform case studies on a number of the earthquakes and tsunamis that have occurred around the world, examining the causes and effects of each.

(Recommended for Environmental Science, grade 12.)

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