

Understanding Tsunamis: *Discussion Guide*

Overview

The tsunami that devastated parts of Asia on December 26, 2004, brought worldwide attention to a dangerous natural phenomenon. To give your students a scientific perspective on tsunamis and a geographic understanding of Asia, Discovery Education has prepared video resources and discussion topics to use in the classroom. Incorporating this material into your instruction will help you answer many questions students may have about this historic geological event.

Classroom Discussion

SCIENCE

Show the “How Tsunamis Are Formed” video segment. Discuss the following topics with your students:

- What is a tsunami?
- How does an earthquake cause a tsunami?
- What other tectonic phenomena do you think can trigger a tsunami?
- Tsunamis can move up to 500 miles per hour. What would account for such high speeds?
- Discuss why a tsunami in open water is barely perceptible but can reach great heights as it approaches land.

Writing Activities

1. Write about the relationship of plate tectonics to a tsunami. Explain how the same plate movement responsible for creating the Himalayas was responsible for the December 26, 2004, Asian tsunami.
2. Describe a tsunami’s force as it approaches land. Consider the relationship of wave height to water depth and how undersea structures and coastline configuration affect a tsunami’s intensity.

Academic Standards

The National Academy of Sciences provides guidelines for teaching science in grades K–12 to promote scientific literacy. To view the standards, visit this Web site:

<http://books.nap.edu/html/nses/html/overview.html#content>.

This discussion guide addresses the following national standards:

- Earth and Space Science: Structure of the earth system (grades 5-8); Energy in the earth system (grades 9-12)
- Physical Science: Motions and forces; Transfer of energy (grades 5-8); Interactions of energy and matter (grades 9-12)
- Science in Personal and Social Perspectives: Natural hazards; Risks and benefits (grades 5-8); Natural and human-induced hazards; Science and technology in local, national, and global challenges (grades 9-12)

SOCIAL STUDIES

Show the “Overview of Asia” video segment to your class. Consider the following discussion topics:

- **Geography.** Included are two maps: One shows the earthquake’s epicenter and Earth’s tectonic plates; the other has an overlay that allows you to display the plates as a transparency. Show where the tsunami began and how far it reached. What countries have been affected? Discuss the relevance of the plate boundaries to the location of the epicenter.
- **Government.** How has this major disaster affected India, a large country, and Sri Lanka, a small country? What is likely to happen in the Maldives, a country greatly dependent on tourism? What should a government do when faced with the devastation of a tsunami? How can foreign governments contribute to the relief effort?

Writing Activities

1. Review videos, photographs, and personal accounts from a variety of media sources covering the tsunami. Write a brief first-person essay that portrays your imagined experience of the tsunami.
2. Describe the long-term effects and consequences of a tsunami. Consider changes in physical geography, cultures, and national economies. Include local and global perspectives.
3. Write about how a tsunami warning system in the Indian Ocean might have changed the outcome of this disaster. What are some obstacles to establishing such a system? Explain why a warning system does not exist there now.

Academic Standards

The National Council for the Social Studies (NCSS) has developed national standards to provide guidelines for teaching social studies in the early grades, middle grades, and high school. To view the standards online, go to <http://www.socialstudies.org/standards/strands/>.

This discussion guide addresses the following thematic standards:

- People, Places, and Environments
- Individuals, Groups, and Institutions
- Power, Authority, and Governance
- Science, Technology, and Society
- Global Connections



Online Lesson Plan

Download a lesson plan on tsunamis at <http://school.discovery.com/lessonplans/programs/tsunami>.

How You Can Help

The following organizations are providing disaster relief. Visit their Web sites to find out how you can help.

International Federation of Red Cross and Red Crescent Societies

<http://www.ifrc.org/index.asp>

CARE USA

<http://www.careusa.org/>

Doctors without Borders

<http://www.doctorswithoutborders-usa.org/donate/index.cfm>

AmeriCares

<http://www.americaresfoundation.net/default.aspx>

UNICEF

<http://www.unicef.org/>

Christian Children's Fund

<http://www.christianchildrensfund.org/>

American Jewish Joint Distribution Committee

<http://www.jdc.org/>

Catholic Relief Services

<http://www.kintera.org/htmlcontent.asp?cid=41794>

Save the Children

<http://www.savethechildren.org/>

NetAid

<http://www.netaid.org/>

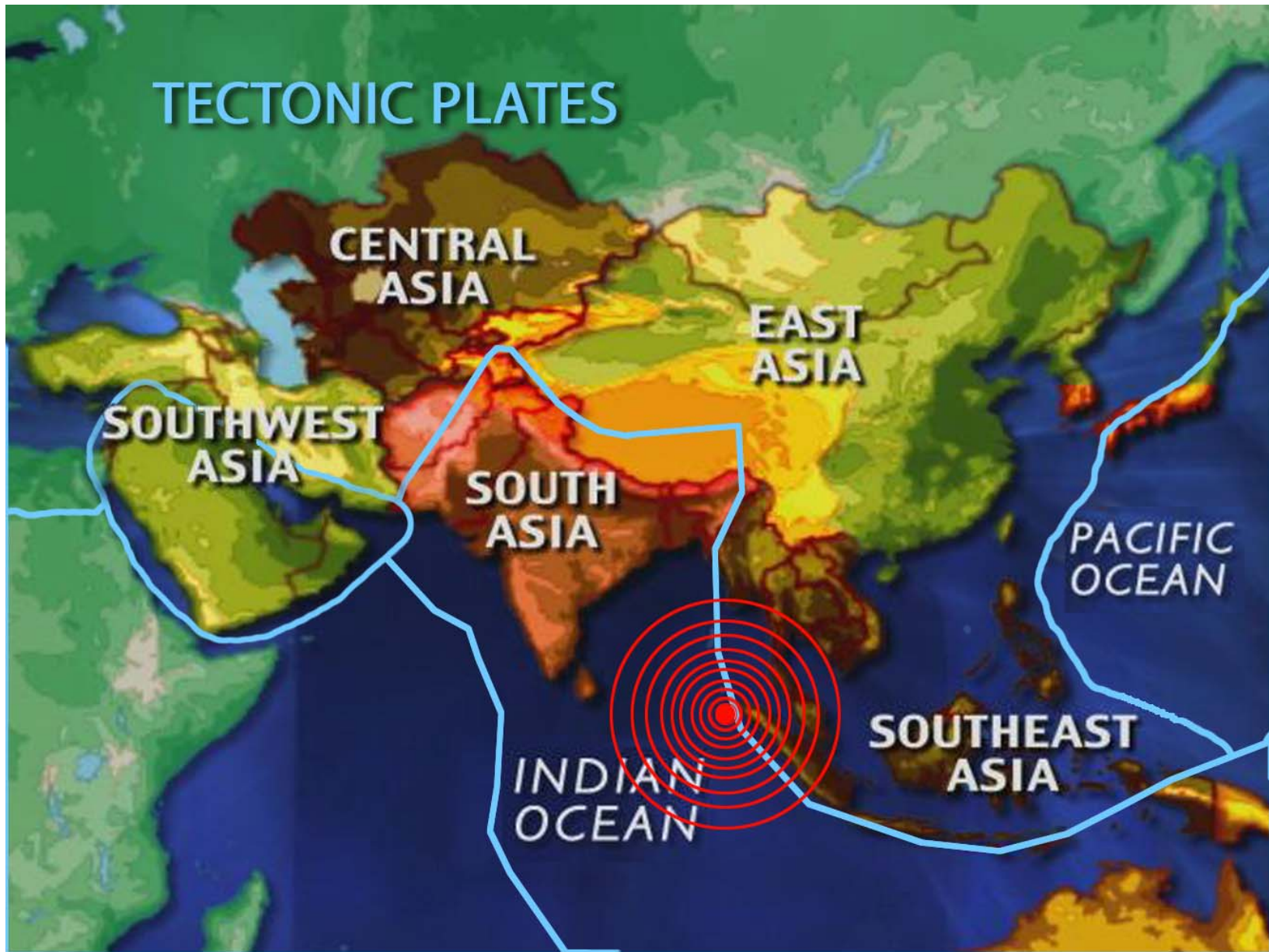
Direct Relief International

http://www.directrelief.org/sections/our_work/disaster_response.html?disasterad

Salvation Army

https://secure4.salvationarmy.org/donations.nsf/donate?openform&projectid=USN-USN_redshield





TECTONIC PLATES

