CLASSROOM ACTIVITY

Tsunami Science: Reducing the Risk

The scientific data left in the wake of the horrific December 26, 2004 tsunami is proving invaluable to better prepare for future events. Meet the researchers at the crest of this relatively young science. Featured are the geologists, seismologists, and computer modelers of the U.S. Pacific Northwest, an area replete with geological and anthropological evidence of past tsunamis. Learn how the region is preparing for its inevitable next wave.

EXPLORING IN-DEPTH: THE SCIENTIFIC METHOD

Research scientists use the Scientific Method (see page two) to investigate the natural world. This feature is a good illustration of the how scientists formulate and test hypotheses.

As seismology is a relatively young science, researchers still have much to learn about tsunamis and how to predict their behavior. Watch the video "Tsunami Science: Reducing the Risk," and learn more about the techniques scientists are using to learn more about these phenomena.

- Describe the movement of tectonic plates that caused the Sumatra tsunami.
- What are some factors that affect a wave's height and shape?
- What makes detecting tsunamis so difficult? What are the challenges in studying and tracking tsunamis?
- How do scientists learn about a tsunami when there is no written record of it? What are the geological clues they look for?
- What do scientists hope to learn from computer and wave models of tsunamis?

RELATED LINKS FROM NASA

Tsunami: The Big Wave
http://observe.arc.nasa.gov/nasa/exhibits/tsunami/tsun_bay.html
Learn about what causes a tsunami and the wave dynamics that propel it through the ocean.

Teacher's Guides: Tsunami: The Big Wave
http://observe.arc.nasa.gov/nasa/education/teach_guide/tsunami.html
Model your own ocean waves with these easy-to-do hands-on activities for your classroom.

Subduction Zone, Shallow Depth Make Lethal Mix in Earthquake that Triggered Asian Tsunami
http://eobglossary.gsfc.nasa.gov//Newsroom/MediaAlerts/2005/2005010518148.html
This media alert from NASA's Earth Observatory details the tectonic activity behind the Sumatra tsunami, and the reasons why it was particularly devastating.

Views of Tsunami Damage from the International Space Station
http://www.nasa.gov/vision/space/workinginspace/iss_tsunami.html
This website features unique photos of the effects of the Sumatra tsunami, taken by the International Space Station's Expedition 10 crew.

The Space Place: MISR Watches Tsunami
http://spaceplace.jpl.nasa.gov/en/kids/misr_tsunami/index.shtml#
Learn how satellite imagery and detection technology is helping scientists learn more about tsunamis and their effects.