

DART (Deep Ocean Assessment and Reporting of Tsunamis) Diagram with an Inquiry Activity

Deep-ocean tsunameters have been developed for early detection, measurement and real-time reporting of tsunamis in the open ocean.

<http://www.pmel.noaa.gov/tsunami/Dart/>

The location of the tsunameters can be found under background.

Under mooring systems, a diagram explains how the tsunameter works.

Click on real-time data and data from 2003- 2005 can be found for the buoys. This program is now operated by NOAA's National Buoy Center.

<http://www.ndbc.noaa.gov/dart.shtml>

NOAA's DART detected a small tsunami generated by an earthquake near Adak, Alaska on November 17, 2003. The DART buoy was triggered by the earthquake at 9:45 PM (Alaska Standard Time) and captured the tsunami arrival at 10:50 PM.

<http://www.nws.noaa.gov/com/nwsfocus/fs120103.htm>

<http://www.noaaneews.noaa.gov/stories2003/s2136.htm>

Inquiry Activity Ideas Using Real-time Data

Students can make data tables after comparing the water columns for different times during the day at one location. Data can be graphed.

Students can make data tables by comparing the water columns at different locations for one time of day.

Students can locate the data for the buoy that detected the earthquake on November 17, 2003. The water columns for that day could be graphed.

Students can compare data from the buoys located off the coast of Washington (Cascadia Subduction Zone).

Students can compare the data from the buoys located along the Alaska-Aleutian Seismic Zone.

These analysis questions could be used for any of the graphing exercises.

1. What does the graph indicate about water column heights?

2. Are there any correlations between the buoy locations and water column height?
3. Are there any correlations between time of day and water column heights?
4. Did any of the other buoys detect the Alaskan earthquake?
5. Look at the data from around December 26, 2004. Were the tsunameters able to detect any small changes from the Indonesian event ?