



Office of Science and Technology Policy
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U.S. Announces Plan for an Improved Tsunami Detection and Warning System

The Bush Administration today announced a plan to expand U.S. tsunami detection and warning capabilities as part of the Global Earth Observation System of Systems (GEOSS), the international effort to develop a comprehensive, sustained and integrated Earth observation system. The plan commits a total of \$37.5 million over the next two years.

“President Bush is committed to ensuring the safety and protection of U.S. lives and property through a system of monitoring and emergency response that will mitigate the effects of natural disasters, including earthquakes and tsunamis,” said John H. Marburger III, Science Advisor to the President and Director, Office of Science and Technology Policy. “This plan will enable enhanced monitoring, detection, warning and communications that will protect lives and property in the U.S. and a significant part of the world. Working through GEOSS and other international partners, The U.S. will continue to provide leadership in planning and implementing a global observation system and a global tsunami warning system, which will ultimately include the Indian Ocean,” Marburger said.

With this new investment, the National Oceanic and Atmospheric Administration (NOAA) will deploy 32 new advanced technology Deep-ocean Assessment and Reporting of Tsunami (DART) buoys for a fully operational tsunami warning system by mid-2007. In addition, the United States Geological Survey (USGS) will enhance its seismic monitoring and information delivery from the Global Seismic Network, a partnership with the National Science Foundation.

The new system will provide the United States with nearly 100% detection capability for a U.S. coastal tsunami, allowing response within minutes. The new system will also expand monitoring capabilities throughout the entire Pacific and Caribbean basins, providing tsunami warning for regions bordering half of the world’s oceans.

The United States has led the GEOSS effort since 2003 when the G-8 called for establishing a global observation system. The Bush Administration launched the GEOSS process by hosting the first Earth Observation Summit in July 2003. GEOSS now has 54 participating nations including India, Indonesia and Thailand. The GEOSS design for this new system is scheduled to be adopted at the Third Earth Observation Summit that will be held in Brussels this February. The United States developed a *Strategic Plan for the U.S. Integrated Earth Observation System*, which, like the GEOSS plan, focuses around nine societal benefit areas, including “Reduce loss

of life and property from disasters” and “Protect and monitor our ocean resources.” The U.S. strategic plan will serve as the U.S. component to the GEOSS implementation plan. For more information on GEOSS, visit <http://earthobservation.org>. For more information on the draft U.S. strategic plan, visit <http://iwgeo.ssc.nasa.gov>.

About the Office of Science and Technology Policy

Congress established OSTP in 1976 with a broad mandate to advise the President and others within the Executive Office of the President on the impacts of science and technology on domestic and international affairs. The 1976 Act also authorizes OSTP to lead an interagency effort to develop and to implement sound science and technology policies and budgets and to work with the private sector, state and local governments, the science and higher education communities, and other nations toward this end. The Director of OSTP serves as co-chair of the President’s Council of Advisors on Science and Technology and oversees the National Science and Technology Council on behalf of the President. For more information visit www.ostp.gov.

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FACT SHEET

U.S. PLAN FOR AN IMPROVED TSUNAMI DETECTION AND WARNING SYSTEM

Key Components to an ideal Tsunami Warning and Response System:

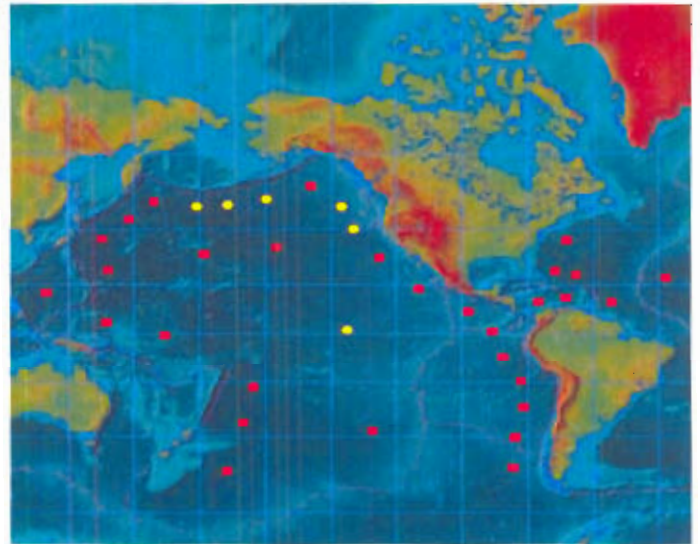
1. Risk Assessment
2. Detection
3. Warning
4. Response Plan
5. Ready Public
6. Situational Awareness
7. Lessons Learned

President Bush is acting to improve tsunami protection for the United States and the world:

- Adding deep-sea buoys and other sensors to enhance tsunami detection along the U.S. coast (Pacific, Atlantic, Caribbean, and the Gulf of Mexico).
- Working internationally to build a global warning system, including in the Indian Ocean.
- Improving seismic sensor data and infrastructure for better earthquake detection and warning, including in the Caribbean.
- Expanding research on tsunami forecasting.
- Improving response capacity with enhanced emergency warning systems, community response plans, and public education.

Improving U.S. protection from tsunamis:

- The Administration will commit \$37.5 million over the next two years to expand U.S. tsunami detection and monitoring capabilities
- The National Oceanic and Atmospheric Administration (NOAA) will deploy 32 new advanced-technology Deep-ocean Assessment and Reporting of Tsunami (DART) buoys for a fully operational enhanced tsunami warning system by mid-2007.
- The United States Geological Survey (USGS) will enhance its seismic monitoring and information delivery from the Global Seismic Network, a partnership with the National Science Foundation.
- These measures will provide the United States with nearly 100% detection capability for a U.S. coastal tsunami, allowing response within minutes.
- Expanded monitoring capabilities throughout the entire Pacific, Atlantic, and Caribbean basins will provide tsunami warning for regions bordering half of the world's oceans.



Yellow dots are existing DART system; Red dots are NOAA estimated DART system locations for an expanded Pacific, Caribbean, and Atlantic tsunami monitoring system.

How will the United States help improve protection around the world?:

- The United States will work to build a global tsunami warning system, with coverage that includes the Indian Ocean, through international bodies, including the Global Earth Observation System of Systems (GEOSS), the international effort to develop a comprehensive, sustained, and integrated Earth observation system.
 - GEOSS includes 54 participating nations, including India, Indonesia and Thailand.
 - The GEOSS plan focuses around nine societal benefit areas, including “Reduce loss of life and property from disasters” and “Protect and monitor our ocean resources.”
 - The G-8 called for establishing a global observation system in June 2003 and President Bush’s Administration launched the GEOSS process by hosting first Earth Observation Summit in 2003.
 - For more information on GEOSS, visit <http://earthobservation.org>
- The GEOSS implementation plan for this new global tsunami warning system is scheduled to be adopted at the Third Earth Observation Summit that will be held in Brussels this February.

Tsunami Warning System

Budget Summary

This proposal includes a total of \$24M for NOAA over a two year period to implement this proposal.

- \$18.1M for the Pacific Basin
- \$5.9M for Atlantic/Caribbean/Gulf.

The \$24M includes:

- \$13.8M for buoy procurement and installation,
- \$4.8M for inundation mapping and Tsunami Ready,
- \$1.5M for tidal and sea level gages, \$1.6M to upgrade seismometers,
- \$2.3M enhance warning coverage at NOAA's Tsunami Warning Centers.

NOAA estimates this network will cost approximately \$18-19M per year to operate and maintain starting in FY 07.

Deliverables:

- Procure 20 new DART Buoys
- Procure 38 new sea level monitoring/tide gauge stations
- Provide 24/7 warning coverage at the Pacific and Alaska Tsunami Centers (13 FTE)
- Upgrade 20 seismometers used to improve tsunami detection
- Expand Tsunami Ready program to improve community preparedness
- Begin Tsunami Inundation Mapping in the Caribbean/Atlantic/Gulf of Mexico

In FY 2006, NOAA will complete the following:

- Install 20 New Dart Buoys procured in FY 05
- Procure 12 new DART Buoys for installation in FY 07
- Procure 12 spare buoys for replacement purposes
- Add 3 redundant DART buoys in Alaska to insure continuity of data in harsh seas off Alaska
- Operate and maintain 38 new sea level monitoring/tide gauge stations
- Provide 24/7 warning coverage at the Pacific and Alaska Tsunami Centers (13 FTE)
- Operate and maintain 20 upgraded seismometers used to improve tsunami detection
- Expand Tsunami Ready program to improve community preparedness
- Continue Tsunami Inundation Mapping in the Caribbean/Atlantic/Gulf of Mexico

