

training, and experience to pre-doctoral and post-doctoral students and to scientists at the beginning of their careers who are interested in the oceans in human health research conducted under the NOAA initiative.

(Pub. L. 108-447, div. B, title IX, §903, Dec. 8, 2004, 118 Stat. 2933.)

#### REFERENCES IN TEXT

The Federal Advisory Committee Act, referred to in subsec. (b), is Pub. L. 92-463, Oct. 6, 1972, 86 Stat. 770, as amended, which is set out in the Appendix to Title 5, Government Organization and Employees.

### § 3103. Public information and outreach

#### (a) In general

The Secretary of Commerce, in consultation with other Federal agencies, and in cooperation with the National Sea Grant program, shall design and implement a program to disseminate information developed under the NOAA Oceans and Human Health Initiative, including research, assessments, and findings regarding the relationship between oceans and human health, on both a regional and national scale. The information, particularly with respect to potential health risks, shall be made available in a timely manner to appropriate Federal or State agencies, involved industries, and other interested persons through a variety of means, including through the Internet.

#### (b) Report

As part of this program, the Secretary shall submit to Congress an annual report reviewing the results of the research, assessments, and findings developed under the NOAA Oceans and Human Health Initiative, as well as recommendations for improving or expanding the program.

(Pub. L. 108-447, div. B, title IX, §904, Dec. 8, 2004, 118 Stat. 2934.)

### § 3104. Authorization of appropriations

There are authorized to be appropriated to the Secretary of Commerce to carry out the National Oceanic and Atmospheric Administration Oceans and Human Health Initiative, \$60,000,000 for fiscal years 2005 through 2008. Not less than 50 percent of the amounts appropriated to carry out the initiative shall be utilized in each fiscal year to support the extramural grant and traineeship programs of the Initiative.

(Pub. L. 108-447, div. B, title IX, §905, Dec. 8, 2004, 118 Stat. 2934.)

## CHAPTER 45—TSUNAMI WARNING AND EDUCATION

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### § 3201. Definitions

In this chapter:

(1) The term “Administration” means the National Oceanic and Atmospheric Administration.

(2) The term “Administrator” means the Administrator of the National Oceanic and Atmospheric Administration.

(Pub. L. 109-424, §2, Dec. 20, 2006, 120 Stat. 2902; Pub. L. 109-479, title VIII, §802, Jan. 12, 2007, 120 Stat. 3653.)

#### CODIFICATION

Pub. L. 109-424 and title VIII of Pub. L. 109-479 enacted substantially identical sections. This section is based on the text of section 802 of Pub. L. 109-479.

#### SHORT TITLE

Pub. L. 109-479, title VIII, §801, Jan. 12, 2007, 120 Stat. 3653, provided that: “This title [enacting this chapter] may be cited as the ‘Tsunami Warning and Education Act.’”

Pub. L. 109-424, §1, Dec. 20, 2006, 120 Stat. 2902, provided that: “This Act [enacting this chapter] may be cited as the ‘Tsunami Warning and Education Act.’”

### § 3202. Purposes

The purposes of this chapter are—

(1) to improve tsunami detection, forecasting, warnings, notification, outreach, and mitigation to protect life and property in the United States;

(2) to enhance and modernize the existing Pacific Tsunami Warning System to increase coverage, reduce false alarms, and increase the accuracy of forecasts and warnings, and to expand detection and warning systems to include other vulnerable States and United States territories, including the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico areas;

(3) to improve mapping, modeling, research, and assessment efforts to improve tsunami detection, forecasting, warnings, notification, outreach, mitigation, response, and recovery;

(4) to improve and increase education and outreach activities and ensure that those receiving tsunami warnings and the at-risk public know what to do when a tsunami is approaching;

(5) to provide technical and other assistance to speed international efforts to establish regional tsunami warning systems in vulnerable areas worldwide, including the Indian Ocean; and

(6) to improve Federal, State, and international coordination for detection, warnings, and outreach for tsunami and other coastal impacts.

(Pub. L. 109-424, §3, Dec. 20, 2006, 120 Stat. 2902; Pub. L. 109-479, title VIII, §803, Jan. 12, 2007, 120 Stat. 3653.)

#### CODIFICATION

Pub. L. 109-424 and title VIII of Pub. L. 109-479 enacted substantially identical sections. This section is based on the text of section 803 of Pub. L. 109-479.

### § 3203. Tsunami forecasting and warning program

#### (a) In general

The Administrator, through the National Weather Service and in consultation with other

relevant Administration offices, shall operate a program to provide tsunami detection, forecasting, and warnings for the Pacific and Arctic Ocean regions and for the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico region.

**(b) Components**

The program under this section shall—

(1) include the tsunami warning centers established under subsection (d);

(2) utilize and maintain an array of robust tsunami detection technologies;

(3) maintain detection equipment in operational condition to fulfill the detection, forecasting, and warning requirements of this chapter;

(4) provide tsunami forecasting capability based on models and measurements, including tsunami inundation models and maps for use in increasing the preparedness of communities, including through the TsunamiReady program;

(5) maintain data quality and management systems to support the requirements of the program;

(6) include a cooperative effort among the Administration, the United States Geological Survey, and the National Science Foundation under which the Geological Survey and the National Science Foundation shall provide rapid and reliable seismic information to the Administration from international and domestic seismic networks;

(7) provide a capability for the dissemination of warnings to at-risk States and tsunami communities through rapid and reliable notification to government officials and the public, including utilization of and coordination with existing Federal warning systems, including the National Oceanic and Atmospheric Administration Weather Radio All Hazards Program;

(8) allow, as practicable, for integration of tsunami detection technologies with other environmental observing technologies; and

(9) include any technology the Administrator considers appropriate to fulfill the objectives of the program under this section.

**(c) System areas**

The program under this section shall operate—

(1) a Pacific tsunami warning system capable of forecasting tsunami anywhere in the Pacific and Arctic Ocean regions and providing adequate warnings; and

(2) an Atlantic Ocean, Caribbean Sea, and Gulf of Mexico tsunami warning system capable of forecasting tsunami and providing adequate warnings in areas of the Atlantic Ocean, Caribbean Sea, and Gulf of Mexico that are determined—

(A) to be geologically active, or to have significant potential for geological activity; and

(B) to pose significant risks of tsunami for States along the coastal areas of the Atlantic Ocean, Caribbean Sea, or Gulf of Mexico.

**(d) Tsunami warning centers**

**(1) In general**

The Administrator, through the National Weather Service, shall maintain or establish—

(A) a Pacific Tsunami Warning Center in Hawaii;

(B) a West Coast and Alaska Tsunami Warning Center in Alaska; and

(C) any additional forecast and warning centers determined by the National Weather Service to be necessary.

**(2) Responsibilities**

The responsibilities of each tsunami warning center shall include—

(A) continuously monitoring data from seismological, deep ocean, and tidal monitoring stations;

(B) evaluating earthquakes that have the potential to generate tsunami;

(C) evaluating deep ocean buoy data and tidal monitoring stations for indications of tsunami resulting from earthquakes and other sources;

(D) disseminating forecasts and tsunami warning bulletins to Federal, State, and local government officials and the public;

(E) coordinating with the tsunami hazard mitigation program described in section 3204 of this title to ensure ongoing sharing of information between forecasters and emergency management officials; and

(F) making data gathered under this chapter and post-warning analyses conducted by the National Weather Service or other relevant Administration offices available to researchers.

**(e) Transfer of technology; maintenance and upgrades**

**(1) In general**

In carrying out this section, the National Weather Service, in consultation with other relevant Administration offices, shall—

(A) develop requirements for the equipment used to forecast tsunami, which shall include provisions for multipurpose detection platforms, reliability and performance metrics, and to the maximum extent practicable how the equipment will be integrated with other United States and global ocean and coastal observation systems, the global earth observing system of systems, global seismic networks, and the Advanced National Seismic System;

(B) develop and execute a plan for the transfer of technology from ongoing research described in section 3205 of this title into the program under this section; and

(C) ensure that maintaining operational tsunami detection equipment is the highest priority within the program carried out under this chapter.

**(2) Report to Congress**

(A) Not later than 1 year after January 12, 2007, the National Weather Service, in consultation with other relevant Administration offices, shall transmit to Congress a report on how the tsunami forecast system under this section will be integrated with other United States and global ocean and coastal observation systems, the global earth observing system of systems, global seismic networks, and the Advanced National Seismic System.

(B) Not later than 3 years after January 12, 2007, the National Weather Service, in con-

sultation with other relevant Administration offices, shall transmit a report to Congress on how technology developed under section 3205 of this title is being transferred into the program under this section.

**(f) Federal cooperation**

When deploying and maintaining tsunami detection technologies, the Administrator shall seek the assistance and assets of other appropriate Federal agencies.

**(g) Annual equipment certification**

At the same time Congress receives the budget justification documents in support of the President's annual budget request for each fiscal year, the Administrator shall transmit to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives a certification that—

(1) identifies the tsunami detection equipment deployed pursuant to this chapter, as of December 31 of the preceding calendar year;

(2) certifies which equipment is operational as of December 31 of the preceding calendar year;

(3) in the case of any piece of such equipment that is not operational as of such date, identifies that equipment and describes the mitigation strategy that is in place—

(A) to repair or replace that piece of equipment within a reasonable period of time; or

(B) to otherwise ensure adequate tsunami detection coverage;

(4) identifies any equipment that is being developed or constructed to carry out this chapter but which has not yet been deployed, if the Administration has entered into a contract for that equipment prior to December 31 of the preceding calendar year, and provides a schedule for the deployment of that equipment; and

(5) certifies that the Administrator expects the equipment described in paragraph (4) to meet the requirements, cost, and schedule provided in that contract.

**(h) Congressional notifications**

The Administrator shall notify the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives within 30 days of—

(1) impaired regional forecasting capabilities due to equipment or system failures; and

(2) significant contractor failures or delays in completing work associated with the tsunami forecasting and warning system.

**(i) Report**

Not later than January 31, 2010, the Comptroller General of the United States shall transmit a report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives that—

(1) evaluates the current status of the tsunami detection, forecasting, and warning system and the tsunami hazard mitigation program established under this chapter, including progress toward tsunami inundation mapping of all coastal areas vulnerable to tsunami and whether there has been any degradation of

services as a result of the expansion of the program;

(2) evaluates the National Weather Service's ability to achieve continued improvements in the delivery of tsunami detection, forecasting, and warning services by assessing policies and plans for the evolution of modernization systems, models, and computational abilities (including the adoption of new technologies); and

(3) lists the contributions of funding or other resources to the program by other Federal agencies, particularly agencies participating in the program.

**(j) External review**

The Administrator shall enter into an arrangement with the National Academy of Sciences to review the tsunami detection, forecast, and warning program established under this chapter to assess further modernization and coverage needs, as well as long-term operational reliability issues, taking into account measures implemented under this chapter. The review shall also include an assessment of how well the forecast equipment has been integrated into other United States and global ocean and coastal observation systems and the global earth observing system of systems. Not later than 2 years after January 12, 2007, the Administrator shall transmit a report containing the National Academy of Sciences' recommendations, the Administrator's responses to the recommendations, including those where the Administrator disagrees with the Academy, a timetable to implement the accepted recommendations, and the cost of implementing all the Academy's recommendations, to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Science of the House of Representatives.

**(k) Report**

Not later than 3 months after January 12, 2007, the Administrator shall establish a process for monitoring and certifying contractor performance in carrying out the requirements of any contract to construct or deploy tsunami detection equipment, including procedures and penalties to be imposed in cases of significant contractor failure or negligence.

(Pub. L. 109-424, § 4, Dec. 20, 2006, 120 Stat. 2903; Pub. L. 109-479, title VIII, § 804, Jan. 12, 2007, 120 Stat. 3654.)

CODIFICATION

Pub. L. 109-424 and title VIII of Pub. L. 109-479 enacted substantially identical sections. This section is based on the text of section 804 of Pub. L. 109-479.

CHANGE OF NAME

Committee on Science of House of Representatives changed to Committee on Science and Technology of House of Representatives by House Resolution No. 6, One Hundred Tenth Congress, Jan. 5, 2007. Committee on Science and Technology of House of Representatives changed to Committee on Science, Space, and Technology of House of Representatives by House Resolution No. 5, One Hundred Twelfth Congress, Jan. 5, 2011.

**§ 3204. National tsunami hazard mitigation program**

**(a) In general**

The Administrator, through the National Weather Service and in consultation with other