

113<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION

# H. R. 5309

To authorize and strengthen the tsunami detection, forecast, warning, research, and mitigation program of the National Oceanic and Atmospheric Administration, and for other purposes.

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## IN THE HOUSE OF REPRESENTATIVES

JULY 31, 2014

Ms. BONAMICI (for herself, Mr. ROHRABACHER, Ms. EDDIE BERNICE JOHNSON of Texas, Mr. SMITH of Texas, Mr. SCHRADER, and Mr. DEFazio) introduced the following bill; which was referred to the Committee on Science, Space, and Technology

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## A BILL

To authorize and strengthen the tsunami detection, forecast, warning, research, and mitigation program of the National Oceanic and Atmospheric Administration, and for other purposes.

1       *Be it enacted by the Senate and House of Representa-*  
2       *tives of the United States of America in Congress assembled,*

3       **SECTION 1. SHORT TITLE.**

4       This Act may be cited as the “Tsunami Warning,  
5       Education, and Research Act of 2014”.

1 **SEC. 2. REFERENCES TO THE TSUNAMI WARNING AND EDU-**  
2 **CATION ACT.**

3 Except as otherwise expressly provided, whenever in  
4 this Act an amendment or repeal is expressed in terms  
5 of an amendment to, or repeal of, a section or other provi-  
6 sion, the reference shall be considered to be made to a  
7 section or other provision of the Tsunami Warning and  
8 Education Act (33 U.S.C. 3201 et seq.).

9 **SEC. 3. EXPANSION OF PURPOSES OF TSUNAMI WARNING**  
10 **AND EDUCATION ACT.**

11 Section 3 (33 U.S.C. 3202) is amended—

12 (1) in paragraph (1), by inserting “research,”  
13 after “warnings,”;

14 (2) by amending paragraph (2) to read as fol-  
15 lows:

16 “(2) to enhance and modernize the existing  
17 United States Tsunami Warning System to increase  
18 the accuracy of forecasts and warnings, to maintain  
19 full coverage of tsunami detection assets, and to re-  
20 duce false alarms;”;

21 (3) by amending paragraph (3) to read as fol-  
22 lows:

23 “(3) to improve and develop standards and  
24 guidelines for mapping, modeling, and assessment  
25 efforts to improve tsunami detection, forecasting,

1 warnings, notification, mitigation, resiliency, re-  
2 sponse, outreach, and recovery;”;

3 (4) by redesignating paragraphs (4), (5), and  
4 (6) as paragraphs (5), (6), and (8), respectively;

5 (5) by inserting after paragraph (3) the fol-  
6 lowing:

7 “(4) to improve research efforts related to im-  
8 proving tsunami detection, forecasting, warnings, no-  
9 tification, mitigation, resiliency, response, outreach,  
10 and recovery;”;

11 (6) in paragraph (5), as so redesignated—

12 (A) by striking “and increase” and insert-  
13 ing “, increase, and develop uniform standards  
14 and guidelines for”; and

15 (B) by inserting “, including the warning  
16 signs of locally generated tsunami” after “ap-  
17 proaching”;

18 (7) in paragraph (6), as so redesignated, by  
19 striking “, including the Indian Ocean; and” and in-  
20 serting a semicolon; and

21 (8) by inserting after paragraph (6), as so re-  
22 designating, the following:

23 “(7) to foster resilient communities in the face  
24 of tsunami and other coastal hazards; and”.

1 **SEC. 4. MODIFICATION OF TSUNAMI FORECASTING AND**  
2 **WARNING PROGRAM.**

3 (a) IN GENERAL.—Subsection (a) of section 4 (33  
4 U.S.C. 3203) is amended by striking “Atlantic Ocean,  
5 Caribbean Sea, and Gulf of Mexico region” and inserting  
6 “Atlantic Ocean region, including the Caribbean Sea and  
7 the Gulf of Mexico”.

8 (b) COMPONENTS.—Subsection (b) of such section 4  
9 is amended—

10 (1) in paragraph (1), by striking “established”  
11 and inserting “supported or maintained”;

12 (2) in paragraph (4), by inserting “and safe-  
13 guarding port and harbor operations” after “com-  
14 munities”;

15 (3) in paragraph (7)—

16 (A) by inserting “, including graphical  
17 warning products,” after “warnings”;

18 (B) by inserting “, territories,” after  
19 “States”; and

20 (C) by inserting “and Wireless Emergency  
21 Alerts” after “Hazards Program”; and

22 (4) in paragraph (8), by inserting “and com-  
23 mercial and Federal undersea communications ca-  
24 bles” after “observing technologies”.

25 (c) TSUNAMI WARNING SYSTEM.—Subsection (c) of  
26 such section 4 is amended to read as follows:

1       “(c) TSUNAMI WARNING SYSTEM.—The program  
2 under this section shall operate a tsunami warning system  
3 that—

4               “(1) is capable of forecasting tsunami, includ-  
5 ing forecasting tsunami arrival time and inundation  
6 estimates, anywhere in the Pacific and Arctic Ocean  
7 regions and providing adequate warnings;

8               “(2) is capable of forecasting and providing  
9 adequate warnings in areas of the Atlantic Ocean,  
10 including the Caribbean Sea and Gulf of Mexico,  
11 that are determined—

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

14                       “(B) to pose significant risks of tsunami  
15 for States along the coastal areas of the Atlan-  
16 tic Ocean, Caribbean Sea, or Gulf of Mexico;  
17 and

18               “(3) supports other international tsunami fore-  
19 casting and warning efforts.”.

20       (d) TSUNAMI WARNING CENTERS.—Subsection (d)  
21 of such section 4 is amended to read as follows:

22       “(d) TSUNAMI WARNING CENTERS.—

23               “(1) IN GENERAL.—The Administrator shall  
24 support or maintain centers, as part of the National  
25 Centers for Environmental Prediction, to support

1 the tsunami warning system required by subsection  
2 (c). The Centers shall include—

3 “(A) the National Tsunami Warning Cen-  
4 ter, located in Alaska, which is primarily re-  
5 sponsible for Alaska, the continental United  
6 States, and the Caribbean;

7 “(B) the Pacific Tsunami Warning Center,  
8 located in Hawaii, which is primarily respon-  
9 sible for Hawaii and other areas of the Pacific  
10 not covered by the National Center; and

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

14 “(2) RESPONSIBILITIES.—The responsibilities  
15 of the centers supported or maintained pursuant to  
16 paragraph (1) shall include the following:

17 “(A) Continuously monitoring data from  
18 seismological, deep ocean, coastal sea level, and  
19 tidal monitoring stations and other data sources  
20 as may be developed and deployed.

21 “(B) Evaluating earthquakes, landslides,  
22 and volcanic eruptions that have the potential  
23 to generate tsunami.

24 “(C) Evaluating deep ocean buoy data and  
25 tidal monitoring stations for indications of tsu-

1           nami resulting from earthquakes and other  
2           sources.

3           “(D) To the extent practicable, utilizing a  
4           range of models to predict tsunami arrival  
5           times and flooding estimates.

6           “(E) Disseminating forecasts and tsunami  
7           warning bulletins to Federal, State, and local  
8           government officials and the public.

9           “(F) Coordinating with the tsunami haz-  
10          ard mitigation program conducted under section  
11          5 to ensure ongoing sharing of information be-  
12          tween forecasters and emergency management  
13          officials.

14          “(G) Making data gathered under this Act  
15          and post-warning analyses conducted by the  
16          National Weather Service or other relevant Ad-  
17          ministration offices available to researchers.

18          “(3) FAIL-SAFE WARNING CAPABILITY.—The  
19          tsunami warning centers supported or maintained  
20          pursuant to paragraph (1) shall maintain a fail-safe  
21          warning capability and ability to perform back-up  
22          duties for each other.

23          “(4) COORDINATION WITH NATIONAL WEATHER  
24          SERVICE.—The National Weather Service shall co-  
25          ordinate with the centers supported or maintained

1       pursuant to paragraph (1) to ensure that regional  
2       and local forecast offices—

3               “(A) have the technical knowledge and ca-  
4               pability to disseminate tsunami warnings for  
5               the communities they serve; and

6               “(B) leverage connections with local emer-  
7               gency management officials for optimally dis-  
8               seminating tsunami warnings and forecasts.

9               “(5) UNIFORM OPERATING PROCEDURES.—The  
10       Administrator shall—

11              “(A) develop uniform operational proce-  
12              dures for the centers supported or maintained  
13              pursuant to paragraph (1), including the use of  
14              software applications, checklists, decision sup-  
15              port tools, and tsunami warning products that  
16              have been standardized across the program sup-  
17              ported under this section;

18              “(B) ensure that processes and products of  
19              the warning system operated pursuant to sub-  
20              section (c)—

21                      “(i) reflect industry best practices;

22                      “(ii) conform to the maximum extent  
23                      practicable with internationally recognized  
24                      standards for information technology; and



1                   “(iii) conform to the maximum extent  
2                   practicable with other warning products  
3                   and practices of the National Weather  
4                   Service;

5                   “(C) ensure that future adjustments to  
6                   operational protocols, processes, and warning  
7                   products—

8                   “(i) are made consistently across the  
9                   warning system operated pursuant to sub-  
10                  section (c); and

11                  “(ii) are applied in a uniform manner  
12                  across such warning system; and

13                  “(D) disseminate guidelines and metrics  
14                  for evaluating and improving tsunami forecast  
15                  models.

16                  “(6) AVAILABLE RESOURCES.—The Adminis-  
17                  trator, through the National Weather Service, shall  
18                  ensure that resources are available to fulfill the obli-  
19                  gations of this Act. This includes ensuring super-  
20                  computing resources are available to run such com-  
21                  puter models as are needed for purposes of the tsu-  
22                  nami warning system operated pursuant to sub-  
23                  section (c).”.

1           (e) TRANSFER OF TECHNOLOGY; MAINTENANCE AND  
2 UPGRADES.—Subsection (e) of such section 4 is amended  
3 to read as follows:

4           “(e) TRANSFER OF TECHNOLOGY; MAINTENANCE  
5 AND UPGRADES.—In carrying out this section, the Admin-  
6 istrator shall—

7                   “(1) develop requirements for the equipment  
8 used to forecast tsunami, including—

9                           “(A) provisions for multipurpose detection  
10 platforms;

11                           “(B) reliability and performance metrics;  
12 and

13                           “(C) to the maximum extent practicable,  
14 requirements for the integration of equipment  
15 with other United States and global ocean and  
16 coastal observation systems, the global Earth  
17 observing system of systems, the global seismic  
18 networks, and the Advanced National Seismic  
19 System;

20                   “(2) develop and execute a plan for the transfer  
21 of technology from ongoing research conducted as  
22 part of the program supported or maintained under  
23 section 6 into the program under this section; and

1           “(3) ensure that the Administration’s oper-  
2           ational tsunami detection equipment is properly  
3           maintained.”.

4           (f) FEDERAL COOPERATION.—Subsection (f) of such  
5           section 4 is amended to read as follows:

6           “(f) FEDERAL COOPERATION.—When deploying and  
7           maintaining tsunami detection technologies under the pro-  
8           gram under this section, the Administrator shall—

9                   “(1) identify which assets of other Federal  
10           agencies are necessary to support such program; and

11                   “(2) work with each agency identified under  
12           paragraph (1)—

13                           “(A) to acquire the agency’s assistance;  
14                   and

15                           “(B) to prioritize the necessary assets.”.

16           (g) UNNECESSARY PROVISIONS.—Such section 4 is  
17           further amended by striking subsections (g) through (k).

18   **SEC. 5. MODIFICATION OF NATIONAL TSUNAMI HAZARD**

19                   **MITIGATION PROGRAM.**

20           (a) IN GENERAL.—Section 5 (33 U.S.C. 3204) is  
21           amended by striking subsections (a) through (d) and in-  
22           serting the following:

23                   “(a) PROGRAM REQUIRED.—The Administrator, in  
24           consultation with the Administrator of the Federal Emer-  
25           gency Management Agency and the heads of such other

1 agencies as the Administrator considers relevant, shall  
2 conduct a community-based tsunami hazard mitigation  
3 program to improve tsunami preparedness and resiliency  
4 of at-risk areas in the United States and the territories  
5 of the United States.

6 “(b) PROGRAM COMPONENTS.—The Program con-  
7 ducted pursuant to subsection (a) shall include the fol-  
8 lowing:

9 “(1) Technical and financial assistance to  
10 coastal States, territories, tribes, and local govern-  
11 ments to develop and implement activities under this  
12 section.

13 “(2) Integration of tsunami preparedness and  
14 mitigation programs into ongoing State-based haz-  
15 ard warning, resilience planning, and risk manage-  
16 ment activities, including predisaster planning, emer-  
17 gency response, evacuation planning, disaster recov-  
18 ery, hazard mitigation, and community development  
19 and redevelopment programs in affected areas.

20 “(3) Activities to promote the adoption of tsu-  
21 nami resilience, preparedness, warning, and mitiga-  
22 tion measures by Federal, State, territorial, tribal,  
23 and local governments and nongovernmental entities,  
24 including educational and risk communication pro-  
25 grams to discourage development in high-risk areas.

1           “(4) Activities to support the development of  
2 regional tsunami hazard and risk assessments, using  
3 inundation models that meet programmatic stand-  
4 ards for accuracy. Such regional risk assessments  
5 may include the following:

6           “(A) The sources, sizes, and histories of  
7 tsunami in that region.

8           “(B) Inundation models and maps of crit-  
9 ical infrastructure and socioeconomic vulner-  
10 ability in areas subject to tsunami inundation.

11           “(C) Maps of evacuation areas and evacu-  
12 ation routes.

13           “(D) Evaluations of the size of populations  
14 that will require evacuation, including popu-  
15 lations with special evacuation needs.

16           “(5) Activities to support the development of  
17 community-based outreach and education programs  
18 to ensure community readiness and resilience, in-  
19 cluding the following:

20           “(A) The development, implementation,  
21 and assessment of technical training and public  
22 education programs, including education pro-  
23 grams that address unique characteristics of  
24 distant and near-field tsunami.

1           “(B) The development of decision support  
2           tools.

3           “(C) The incorporation of social science re-  
4           search into community readiness and resilience  
5           efforts.

6           “(D) The development of evidence-based  
7           education guidelines.

8           “(6) Dissemination of guidelines and standards  
9           for community planning, education, and training  
10          products, programs, and tools, including standards  
11          for—

12                   “(A) mapping products;

13                   “(B) inundation models; and

14                   “(C) effective emergency exercises.

15          “(c) AUTHORIZED ACTIVITIES.—In addition to activi-  
16          ties conducted under subsection (b), the program con-  
17          ducted pursuant to subsection (a) may include the fol-  
18          lowing:

19                   “(1) Multidisciplinary vulnerability assessment  
20                   research, education, and training to help integrate  
21                   risk management and resilience objectives with com-  
22                   munity development planning and policies.

23                   “(2) Risk management training for local offi-  
24                   cials and community organizations to enhance un-  
25                   derstanding and preparedness.

1           “(3) Development of practical applications for  
2 existing or emerging technologies, such as modeling,  
3 remote sensing, geospatial technology, engineering,  
4 and observing systems.

5           “(4) Risk management, risk assessment, and  
6 resilience data and information services, including—

7               “(A) access to data and products derived  
8 from observing and detection systems; and

9               “(B) development and maintenance of new  
10 integrated data products to support risk man-  
11 agement, risk assessment, and resilience pro-  
12 grams.

13           “(5) Risk notification systems that coordinate  
14 with and build upon existing systems and actively  
15 engage decisionmakers, local and State government  
16 agencies, business communities, nongovernmental or-  
17 ganizations, and the media.

18           “(d) NO PREEMPTION.—

19               “(1) DESIGNATION OF AT-RISK AREAS.—The  
20 establishment of national standards for inundation  
21 models under this section shall not prevent States,  
22 territories, tribes, and local governments from desig-  
23 nating additional areas as being at risk based on  
24 knowledge of local conditions.

1           “(2) NO NEW REGULATORY AUTHORITY.—  
2           Nothing in this Act may be construed as estab-  
3           lishing new regulatory authority for any Federal  
4           agency.”.

5           (b) REPORT ON ACCREDITATION OF TSUNAMIREADY  
6 PROGRAM.—Not later than 180 days after the date of en-  
7 actment of this Act, the Administrator of the National  
8 Oceanic and Atmospheric Administration shall submit to  
9 the Committee on Commerce, Science, and Transportation  
10 of the Senate and the Committee on Science, Space, and  
11 Technology of the House of Representatives a report on  
12 which authorities and activities would be needed to have  
13 the TsunamiReady program of the National Weather  
14 Service accredited by the Emergency Management Accred-  
15 itation Program.

16 **SEC. 6. MODIFICATION OF TSUNAMI RESEARCH PROGRAM.**

17           Section 6 (33 U.S.C. 3205) is amended—

18           (1) in the matter before paragraph (1), by  
19           striking “The Administrator shall” and all that fol-  
20           lows through “establish or maintain” and inserting  
21           the following:

22           “(a) IN GENERAL.—The Administrator shall, in con-  
23 sultation with such other Federal agencies, State and ter-  
24 ritorial governments, and academic institutions as the Ad-  
25 ministrator considers appropriate, the coordinating com-



1 mittee under section 11(b), and the panel under section  
2 8(a), support or maintain”;

3           (2) by striking “and assessment for tsunami  
4 tracking and numerical forecast modeling. Such re-  
5 search program shall—” and inserting the following:  
6 “assessment for tsunami tracking and numerical  
7 forecast modeling, and standards development.

8           “(b) RESPONSIBILITIES.—The research program  
9 supported or maintained pursuant to subsection (a)  
10 shall—”;

11           (3) in subsection (b), as designated by para-  
12 graph (2)—

13           (A) by amending paragraph (1) to read as  
14 follows:

15           “(1) consider other appropriate research to  
16 mitigate the impact of tsunami, including the im-  
17 provement of near-field tsunami detection and fore-  
18 casting capabilities, which may include use of new  
19 generation Deep-ocean Assessment and Reporting of  
20 Tsunamis and National Oceanic and Atmospheric  
21 Administration supercomputer capacity to develop a  
22 rapid tsunami forecast for all United States coast-  
23 lines;”;

24           (B) in paragraph (3)—

1 (i) by striking “include” and inserting  
2 “conduct”; and

3 (ii) by striking “and” at the end;

4 (C) by redesignating paragraph (4) as  
5 paragraph (5); and

6 (D) by inserting after paragraph (3) the  
7 following:

8 “(4) develop the technical basis for validation of  
9 tsunami maps, numerical tsunami models, digital  
10 elevation models, and forecasts; and”; and

11 (4) by adding at the end the following:

12 “(c) PILOT PROJECT.—The Administrator may, pur-  
13 suant to subsection (b), develop a pilot project for near-  
14 field tsunami forecast development for the Cascadia region  
15 along the west coast of the United States using new gen-  
16 eration Deep-ocean Assessment and Reporting of  
17 Tsunamis, upcoming and existing cable networks, and new  
18 National Centers for Environmental Protection modeling  
19 capability.”.

20 **SEC. 7. GLOBAL TSUNAMI WARNING AND MITIGATION NET-**  
21 **WORK.**

22 Section 7 (33 U.S.C. 3206) is amended—

23 (1) by amending subsection (a) to read as fol-  
24 lows:

1       “(a) SUPPORT FOR DEVELOPMENT OF INTER-  
2 NATIONAL TSUNAMI WARNING SYSTEM.—The Adminis-  
3 trator shall, in coordination with the Secretary of State  
4 and in consultation with such other agencies as the Ad-  
5 ministrator considers relevant, provide technical assistance  
6 and training to the Intergovernmental Oceanographic  
7 Commission of the United Nations Educational, Scientific,  
8 and Cultural Organization, the World Meteorological Or-  
9 ganization of the United Nations, and such other inter-  
10 national entities as the Administrator considers appro-  
11 priate, as part of the international efforts to develop a  
12 fully functional global tsunami forecast and warning sys-  
13 tem comprised of regional tsunami warning networks.”;

14               (2) in subsection (b), by striking “shall” and  
15       inserting “may”; and

16               (3) in subsection (c)—

17                       (A) in paragraph (1), by striking “estab-  
18       lishing” and inserting “supporting”; and

19                       (B) in paragraph (2)—

20                               (i) by striking “establish” and insert-  
21       ing “support”; and

22                               (ii) by striking “establishing” and in-  
23       serting “supporting”.

1 **SEC. 8. TSUNAMI SCIENCE AND TECHNOLOGY ADVISORY**

2 **PANEL.**

3 (a) IN GENERAL.—The Act is further amended—

4 (1) by redesignating section 8 (33 U.S.C. 3207)

5 as section 9; and

6 (2) by inserting after section 7 (33 U.S.C.

7 3206) the following:

8 **“SEC. 8. TSUNAMI SCIENCE AND TECHNOLOGY ADVISORY**

9 **PANEL.**

10 “(a) DESIGNATION.—The Administrator shall des-  
11 ignate the Ocean Exploration Advisory Working Group  
12 within the Science Advisory Board of the Administration  
13 to serve as the Tsunami Science and Technology Advisory  
14 Panel to provide advice to the Administrator on matters  
15 regarding tsunami science, technology, and regional pre-  
16 paredness.

17 “(b) MEMBERSHIP.—

18 “(1) COMPOSITION.—The working group des-  
19 igned under subsection (a) shall be composed of no  
20 fewer than 7 members selected by the Administrator  
21 from among individuals from academia or State  
22 agencies who have academic or practical expertise in  
23 physical sciences, social sciences, information tech-  
24 nology, coastal resilience, emergency management,  
25 or such other disciplines as the Administrator con-  
26 siders appropriate.

1           “(2) FEDERAL EMPLOYMENT.—No member of  
2           the working group designated pursuant to subsection  
3           (a) may be a Federal employee.

4           “(c) RESPONSIBILITIES.—Not less frequently than  
5           once every 4 years, the working group designated under  
6           subsection (a) shall—

7           “(1) review the activities of the Administration,  
8           and other Federal activities as appropriate, relating  
9           to tsunami research, detection, forecasting, warning,  
10          mitigation, resiliency, and preparation; and

11          “(2) submit to the Administrator and such oth-  
12          ers as the Administrator considers appropriate—

13                 “(A) the findings of the working group  
14                 with respect to the most recent review con-  
15                 ducted pursuant to paragraph (1); and

16                 “(B) such recommendations for legislative  
17                 or administrative action as the working group  
18                 considers appropriate to improve Federal tsu-  
19                 nami research, detection, forecasting, warning,  
20                 mitigation, resiliency, and preparation.

21          “(d) REPORTS TO CONGRESS.—Not less frequently  
22          than once every 4 years, the Administrator shall submit  
23          to the Committee on Commerce, Science, and Transpor-  
24          tation of the Senate, and the Committee on Science,  
25          Space, and Technology of the House of Representatives

1 a report on the findings and recommendations received by  
2 the Administrator under subsection (c)(2).”.

3 **SEC. 9. REPORT ON IMPLEMENTATION OF TSUNAMI WARN-**  
4 **ING AND EDUCATION ACT.**

5 (a) IN GENERAL.—Not later than 1 year after the  
6 date of the enactment of this Act, the Administrator shall  
7 submit to Congress a report on the implementation of the  
8 Tsunami Warning and Education Act (33 U.S.C. 3201 et  
9 seq.).

10 (b) ELEMENTS.—The report required by subsection  
11 (a) shall include the following:

12 (1) A detailed description of the progress made  
13 in implementing sections 4(d)(6), 5(b)(6), and  
14 6(b)(4) of the Tsunami Warning and Education Act.

15 (2) A description of the ways that tsunami  
16 warnings and warning products issued by the Tsu-  
17 nami Forecasting and Warning Program established  
18 under section 4 of the Tsunami Warning and Edu-  
19 cation Act (33 U.S.C. 3203) can be standardized  
20 and streamlined with warnings and warning prod-  
21 ucts for hurricanes, coastal storms, and other coast-  
22 al flooding events.

23 **SEC. 10. AUTHORIZATION OF APPROPRIATIONS.**

24 Section 9 of the Act, as redesignated by section  
25 8(a)(1) of this Act, is amended to read as follows:

1 **“SEC. 9. AUTHORIZATION OF APPROPRIATIONS.**

2 “There are authorized to be appropriated to the Ad-  
3 ministrator to carry out this Act \$27,000,000 for each of  
4 fiscal years 2015 through 2017, of which—

5 “(1) not less than 27 percent of the amount ap-  
6 propriated for each fiscal year shall be for activities  
7 under the National Tsunami Hazard Mitigation Pro-  
8 gram under section 5; and

9 “(2) not less than 8 percent of the amount ap-  
10 propriated for each fiscal year shall be for the Tsu-  
11 nami Research Program under section 6.”.

12 **SEC. 11. OUTREACH RESPONSIBILITIES.**

13 (a) IN GENERAL.—The Administrator of the Na-  
14 tional Oceanic and Atmospheric Administration, in coordi-  
15 nation with State and local emergency managers, shall de-  
16 velop and carry out formal outreach activities to improve  
17 tsunami education and awareness and foster the develop-  
18 ment of resilient communities. Outreach activities may in-  
19 clude—

20 (1) the development of outreach plans to ensure  
21 the close integration of tsunami warning centers  
22 supported or maintained pursuant to section 4(d) of  
23 the Tsunami Warning and Education Act (33  
24 U.S.C. 3203(d)) with local Weather Forecast Offices  
25 of the National Weather Service and emergency  
26 managers;

1           (2) working with appropriate local Weather  
2 Forecast Offices to ensure they have the technical  
3 knowledge and capability to disseminate tsunami  
4 warnings to the communities they serve; and

5           (3) evaluating the effectiveness of warnings and  
6 of coordination with local Weather Forecast Offices  
7 after significant tsunami events.

8           (b) COORDINATING COMMITTEE OF THE NATIONAL  
9 TSUNAMI HAZARD MITIGATION PROGRAM.—

10           (1) IN GENERAL.—The Administrator shall con-  
11 vene a coordinating committee to assist the Adminis-  
12 trator in the conduct of the program required by  
13 section 5(a) of the Tsunami Warning and Education  
14 Act (33 U.S.C. 3204(a)).

15           (2) COMPOSITION.—The coordinating com-  
16 mittee shall be composed of members from each of  
17 the States at risk from tsunami, and any other such  
18 representatives as the Administrator considers ap-  
19 propriate to represent Federal, State, tribal, terri-  
20 torial, and local governments.

21           (3) SUBCOMMITTEES.—The Administrator may  
22 approve the formation of subcommittees to address  
23 specific program components or regional issues.

24           (4) RESPONSIBILITIES.—The coordinating com-  
25 mittee shall—



1 (A) provide feedback on how funds should  
2 be prioritized to carry out the program required  
3 by section 5(a) of the Tsunami Warning and  
4 Education Act (33 U.S.C. 3204(a));

5 (B) ensure that areas described in section  
6 4(e) of the Tsunami Warning and Education  
7 Act (33 U.S.C. 3203(e)) in the United States  
8 and its territories have the opportunity to par-  
9 ticipate in the program;

10 (C) provide recommendations to the Ad-  
11 ministrator on how to improve and continuously  
12 advance the TsunamiReady program, particu-  
13 larly on ways to make communities more tsu-  
14 nami resilient through the use of inundation  
15 maps and models and other hazard mitigation  
16 practices; and

17 (D) ensure that all components of the pro-  
18 gram required by section 5(a) of the Tsunami  
19 Warning and Education Act (33 U.S.C.  
20 3204(a)) are integrated with ongoing State-  
21 based hazard warning, risk management, and  
22 resilience activities, including—

23 (i) integrating activities with emer-  
24 gency response plans, disaster recovery,

- 1 hazard mitigation, and community develop-
- 2 ment programs in affected areas; and
- 3 (ii) integrating information to assist
- 4 in tsunami evacuation route planning.

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