

**Calendar No. 769**110<sup>TH</sup> CONGRESS  
2<sup>D</sup> SESSION**S. 2355****[Report No. 110–347]**

To amend the National Climate Program Act to enhance the ability of the United States to develop and implement climate change adaptation programs and policies, and for other purposes.

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**IN THE SENATE OF THE UNITED STATES**

NOVEMBER 14, 2007

Ms. CANTWELL (for herself, Mr. KERRY, Ms. KLOBUCHAR, and Mr. LAUTENBERG) introduced the following bill; which was read twice and referred to the Committee on Commerce, Science, and Transportation

JUNE 5, 2008

Reported by Mr. INOUE, with amendments and an amendment to the title  
[Omit the part struck through and insert the part printed in *italic*]

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**A BILL**

To amend the National Climate Program Act to enhance the ability of the United States to develop and implement climate change adaptation programs and policies, 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,*

1 **SECTION 1. SHORT TITLE.**

2       This Act may be cited as the “Climate Change Adap-  
3 tation Act”.

4 **SEC. 2. AMENDMENT OF NATIONAL CLIMATE PROGRAM**  
5 **ACT.**

6       Except as otherwise expressly provided, whenever in  
7 this title an amendment or repeal is expressed in terms  
8 of an amendment to, or repeal of, a section or other provi-  
9 sion, the reference shall be considered to be made to a  
10 section or other provision of the National Climate Pro-  
11 gram Act (15 U.S.C. 2901 et seq.).

12 **SEC. 2. AMENDMENT OF NATIONAL CLIMATE SERVICE ACT**  
13 **OF 2007.**

14       *Except as otherwise expressly provided, whenever in*  
15 *this title an amendment or repeal is expressed in terms of*  
16 *an amendment to, or repeal of, a section or other provision,*  
17 *the reference shall be considered to be made to a section or*  
18 *other provision of the National Climate Service Act of 2007*  
19 *(15 U.S.C. 2901 et seq.).*

20 **SEC. 3. FINDINGS.**

21       Section 2 (15 U.S.C. 2601) is amended to read as  
22 follows:

23 **“SEC. 2. FINDINGS.**

24       **“The Congress finds that—**

25               **“(1) climate change and related hazards affect**  
26       **public safety, environmental services and security;**

1 human health, agriculture, energy use, water re-  
2 sources, and other factors vital to national security  
3 and human welfare;

4 “(2) the present rate of advance of national ef-  
5 forts in research and development and the applica-  
6 tion of such advances is inadequate to meet the chal-  
7 lenges posed by observed and projected rates of cli-  
8 mate change and the increasing demand for infor-  
9 mation to guide planning and response across all  
10 sectors;

11 “(3) the United States lacks adequate research,  
12 infrastructure, and coordinated outreach and com-  
13 munication mechanisms to meet national climate  
14 monitoring, prediction, and decision support needs  
15 for adapting to and mitigating the impacts of cli-  
16 mate change and climate variability;

17 “(4) information regarding climate change and  
18 climate variability is not being fully disseminated or  
19 used, and Federal efforts have given insufficient at-  
20 tention to assessing and applying this information;

21 “(5) climate change and climate variability  
22 occur on a global basis making international co-  
23 operation essential for the purpose of sharing the  
24 benefits and costs of a global effort to understand  
25 and communicate these changes;

1        *Section 2 (15 U.S.C. 2601) is amended by adding at*  
 2   *the end thereof the following:*

3            “(6) ~~recent~~ *Recent* scientific reports by the  
 4        Intergovernmental Panel on Climate Change conclu-  
 5        sively found that climate change is occurring, and  
 6        that impacts from climate change can be expected in  
 7        even shorter time periods than had been previously  
 8        ~~predicted;~~ *predicted.*

9            “(7) ~~the~~ *The* Panel found that the resilience of  
 10       many ecosystems is likely to be exceeded this cen-  
 11       tury by an unprecedented combination of climate  
 12       change, associated disturbances such as flooding and  
 13       drought, and other global change drivers such as  
 14       land-use ~~change;~~ *change.*

15           “(8) ~~according~~ *According* to the Panel, approxi-  
 16       mately 20 to 30 percent of plant and animal species  
 17       assessed so far are likely to be at increased risk of  
 18       extinction if increases in global average temperature  
 19       exceed 1.5 to 2.5 degrees ~~Celsius;~~ *Celsius.*

20           “(9) ~~the~~ *The* Panel also found that the progres-  
 21       sive acidification of oceans due to increasing atmos-  
 22       pheric carbon dioxide is expected to have negative  
 23       impacts on marine shell-forming organisms, such as  
 24       corals, and their dependent ~~species;~~ *species.*

1           “(10) ~~the~~ *The* Panel found that coasts will be  
2       exposed to increasing risks, including coastal ero-  
3       sion, over coming decades due to climate change and  
4       sea-level rise, and that adaptation costs for vulner-  
5       able coasts are much less than the costs of ~~inaction~~;  
6       *inaction*.

7           “(11) ~~in~~ *In* its September, 2007, study entitled  
8       Evaluating Progress of the U.S. Climate Change  
9       Science Program: Methods and Preliminary Results,  
10      the National Academy of Sciences concluded that  
11      there is a tremendous need to improve the delivery  
12      of information to decision makers at the Federal, re-  
13      gional, and local levels on climate change impacts  
14      and to take such impacts into account in planning  
15      and in managing ~~resources~~; *resources*.

16          “(12) States and local communities may need  
17      Federal assistance in developing and implementing  
18      strategies to address the impacts of climate ~~change~~;  
19      *change*.

20          “(13) ~~in~~ *In* its August, 2007, report entitled  
21      Climate Change: Agencies Should Develop Guidance  
22      for Addressing the Effects on Federal Land and  
23      Water Resources, GAO-07-863, the Government  
24      Accountability Office found that the Federal Govern-  
25      ment is not providing the National Oceanic and At-

1       mospheric Administration and other Federal agen-  
 2       cies that are responsible for managing natural re-  
 3       sources with the proper tools or policy mandates to  
 4       take the impacts of climate change into account in  
 5       carrying out their responsibilities to manage public  
 6       ~~resources;~~ *resources*.

7               “(14) ~~the~~ *The* National Oceanic and Atmos-  
 8       pheric Administration, which plays a leading role in  
 9       the Federal Government’s Global Change Research  
 10      Program, has a key role to play both in predicting  
 11      impacts of climate change on natural resources and  
 12      in improving *data sharing and archiving of climate*  
 13      *change research results to facilitate* the delivery of in-  
 14      formation critical to adaptation and management to  
 15      end ~~users;~~ *and users*.

16              “(15) ~~the~~ *The* National Oceanic and Atmos-  
 17      pheric Administration has a key role to play in ad-  
 18      dressing the impacts of climate change on our Na-  
 19      tion’s coastal areas and ocean resources.”.

20   **SEC. 4. DEFINITIONS.**

21       Section 4 (~~15 U.S.C. 2903~~) is amended by striking  
 22   paragraphs (1) and (2) and redesignating paragraphs (3)  
 23   and (4) as paragraphs (1) and (2).

24       Section 4 (*15 U.S.C. 2903*) is amended—

1           (1) by redesignating paragraphs (4) through (8)  
2           as paragraphs (5) through (9), respectively; and

3           (2) by inserting before paragraph (5), as redesign-  
4           ated, the following:

5           “(4) COASTAL STATE.—The term ‘coastal state’  
6           has the meaning given that term by section 304((4)  
7           of the Coastal Zone Management Act of 1972 (16  
8           U.S.C. 1453(4)).”.

9   **SEC. 5. NATIONAL CLIMATE PROGRAM ELEMENTS.**

10   Section 5 (15 U.S.C. 2904) is amended—

11           (1) by striking “subsection (d)(9);” in sub-  
12           section (b)(1) and inserting “section 6;”;

13           (2) by striking subsections (e), (e), (f), and (g);  
14           and

15           (3) by striking subsection (d) and inserting the  
16           following:

17           “(e) PROGRAM ELEMENTS.—

18           “(1) IN GENERAL.—The Program shall in-  
19           clude—

20           “(1) a strategic plan to address the impacts of  
21           climate change within the United States; and

22           “(2) a National Climate Service to be estab-  
23           lished within the National Oceanic and Atmospheric  
24           Administration.”.

1        *Section 5 (15 U.S.C. 2904) is amended to read as fol-*  
 2 *lows:*

3        **“SEC. 5. NATIONAL CLIMATE PROGRAM.**

4            *“(a) ESTABLISHMENT.—There is hereby established a*  
 5 *National Climate Program in accordance with the findings*  
 6 *and purposes of this Act.*

7            *“(b) PROGRAM ELEMENTS.—*

8                    *“(1) IN GENERAL.—The Program shall include—*

9                    *“(1) a strategic planning process to address the*  
 10 *impacts of climate change within the United States;*  
 11 *and*

12                    *“(2) a National Climate Service to be established*  
 13 *within the National Oceanic and Atmospheric Ad-*  
 14 *ministration.*

15            *“(c) DUTIES.—The President shall—*

16                    *“(1) develop the 5-year plans described in section*  
 17 *9;*

18                    *“(2) define the roles in the Program of Federal*  
 19 *officers, departments, and agencies, including the De-*  
 20 *partments of Agriculture, Commerce, Defense, Energy,*  
 21 *Interior, State, and Transportation; the Environ-*  
 22 *mental Protection Agency; the National Aeronautics*  
 23 *and Space Administration; the Council on Environ-*  
 24 *mental Quality; the National Science Foundation;*  
 25 *and the Office of Science and Technology Policy; and*



1                   “(3) *provide for Program coordination.*”.

2   **SEC. 6. NATIONAL CLIMATE STRATEGY.**

3           The Act is amended by striking sections 6 through  
4 9 (15 U.S.C. 2905 et seq.) and inserting the following:

5   **“SEC. 6. NATIONAL STRATEGIC PLAN FOR CLIMATE**  
6                   **CHANGE ADAPTATION.**

7           “(a) **IN GENERAL.**—Not later than 2 years after the  
8 date of enactment of the Climate Change Adaptation Act,  
9 the President shall provide to the Congress a 5-year na-  
10 tional strategic plan to address the impacts of climate  
11 change within the United States, to implement such strat-  
12 egy for federally-managed resources and actions, and to  
13 provide information to and coordinate with State and local  
14 governments and nongovernmental entities to support  
15 similar efforts with respect to non-Federal natural re-  
16 sources. The President shall provide a mechanism for con-  
17 sulting with States and local governments, the private sec-  
18 tor, universities, and other nongovernmental entities in de-  
19 veloping the plan. The plan shall be updated at least every  
20 5 years.

21           “(b) **CONTENTS OF PLAN.**—The plan shall, at a min-  
22 imum—

23                   “(1) identify existing Federal requirements,  
24           protocols, and capabilities for addressing climate

1 change impacts on federally managed resources and  
2 actions;

3 “(2) identify measures to improve such capabili-  
4 ties and the utilization of such capabilities;

5 “(3) include protocols to integrate climate  
6 change impacts into Federal agency actions and  
7 policies; consistent with existing authorities;

8 “(4) address vulnerabilities and priorities iden-  
9 tified through the assessments carried out under the  
10 Global Change Research Act of 1990 and this Act;

11 “(5) establish a mechanism for the exchange of  
12 information related to addressing the impacts of cli-  
13 mate change with; and provide technical assistance  
14 to, State and local governments and nongovern-  
15 mental entities;

16 “(6) develop partnerships with State and local  
17 governments and nongovernmental entities to sup-  
18 port and coordinate implementation of the plan;

19 “(7) include implementation and funding strate-  
20 gies for short-term and long-term actions that may  
21 be taken at the national, regional, State, and local  
22 level;

23 “(8) establish a process to develop more de-  
24 tailed agency and department-specific plans;

1           “(9) identify opportunities to utilize remote  
 2           sensing and other geospatial technologies to improve  
 3           planning for adaptation to climate change impacts;  
 4           and

5           “(10) identify existing legal authorities and ad-  
 6           ditional authorities necessary to implement the plan.

7           “(c) ~~AGENCY-LEVEL STRATEGIES.—~~

8           “(1) ~~AGENCY PLANS.—~~Each department and  
 9           agency of the Executive Branch shall develop a de-  
 10          tailed plan, based on the national plan, for address-  
 11          ing climate change impacts with respect to such de-  
 12          partment or agencies policies and actions, within 1  
 13          year after the date that the plan is submitted under  
 14          subsection (b) and provide such plan to Congress.

15          “(2) ~~INTERIM ACTIVITIES.—~~Nothing in this  
 16          section shall be understood to prevent any Federal  
 17          agency or department to take climate change im-  
 18          pacts into account, consistent with its existing au-  
 19          thorities, until the plans are provided to Congress  
 20          and steps to implement such plans are taken.

21          “(d) ~~COORDINATION.—~~The President shall ensure  
 22          that the mechanism to provide information related to ad-  
 23          dressing the impacts of climate change to State and local  
 24          governments and nongovernmental entities is appro-  
 25          priately coordinated or integrated with existing programs

1 that provide similar information on climate change pre-  
 2 dictions.

3 “(e) **RELATIONSHIP TO OTHER AUTHORITIES.**—  
 4 Nothing in this section shall supersede any Federal au-  
 5 thority in effect on the date of enactment of the Climate  
 6 Change Adaptation Act.

7 “(f) **AUTHORIZATION OF APPROPRIATIONS.**—There  
 8 are authorized to be appropriated for each of fiscal years  
 9 2009 through 2013 \$10,000,000 to carry out this section.  
 10 **“SEC. 7. OCEAN AND COASTAL VULNERABILITY AND ADAP-  
 11 TATION.**

12 “(a) **COASTAL AND OCEAN VULNERABILITY.**—

13 “(1) **IN GENERAL.**—Within 2 years after the  
 14 date of enactment of the Climate Change Adaptation  
 15 Act, the Secretary of Commerce shall, in consulta-  
 16 tion with the appropriate Federal, State, and local  
 17 governmental entities, conduct regional assessments  
 18 of the vulnerability of coastal and ocean areas and  
 19 resources to hazards associated with climate change,  
 20 climate variability, and ocean acidification includ-  
 21 ing—

22 “(A) sea level rise;

23 “(B) fluctuation of Great Lakes water lev-  
 24 els;

25 “(C) increases in severe weather events;

1                   ~~“(D) storm surge;~~

2                   ~~“(E) rainfall;~~

3                   ~~“(F) flooding and inundation;~~

4                   ~~“(G) changes in sea ice;~~

5                   ~~“(H) changes in ocean currents impacting~~  
6                   ~~global heat transfer;~~

7                   ~~“(I) increased siltation due to coastal ero-~~  
8                   ~~sion;~~

9                   ~~“(J) shifts in the hydrological cycle;~~

10                  ~~“(K) natural hazards, including tsunami,~~  
11                  ~~drought, flood, and fire;~~

12                  ~~“(L) coral reef bleaching; and~~

13                  ~~“(M) alteration of ecological communities,~~  
14                  ~~including at the ecosystem or watershed levels;~~

15                  ~~“(2) UPDATES.—The Secretary shall update~~  
16                  ~~such assessments at least once every 5 years.~~

17                  ~~“(3) REGIONAL COASTAL AND OCEAN ASSESS-~~  
18                  ~~MENTS.—In preparing the regional coastal assess-~~  
19                  ~~ments, the Secretary shall take into account the in-~~  
20                  ~~formation and assessments being developed pursuant~~  
21                  ~~to the Global Change Research Program. The re-~~  
22                  ~~gional assessments shall include an evaluation of—~~

23                         ~~“(A) physical, biological, and ecological im-~~  
24                         ~~pacts, such as coastal erosion, flooding and loss~~  
25                         ~~of estuarine habitat, saltwater intrusion of~~

1           aquifers and saltwater encroachment, impacts  
2           on food web distribution, species migration, spe-  
3           cies abundance, and changes in marine patho-  
4           gens and diseases;

5           “(B) social impacts associated with threats  
6           to and potential losses of housing, communities,  
7           and infrastructure; and

8           “(C) economic impacts on local, State, and  
9           regional economies, including the impact on  
10          abundance or distribution of economically im-  
11          portant living marine resources.

12        “(b) COASTAL AND OCEAN ADAPTATION PLAN.—The  
13        Secretary shall, within 3 years after the date of enactment  
14        of the Climate Change Adaptation Act, submit to the Con-  
15        gress a national coastal and ocean adaptation plan, com-  
16        posed of individual regional adaptation plans that rec-  
17        ommend targets and strategies to address coastal and  
18        ocean impacts associated with climate change, ocean acidi-  
19        fication, sea level rise, and climate variability. The plan  
20        shall be developed with the participation of other Federal,  
21        State, and local government agencies that will be critical  
22        in the implementation of the plan at the State and local  
23        levels and shall take into account recommendations of the  
24        National Science Board in its January 12, 2007, report  
25        entitled Hurricane Warning: The Critical Need for a Na-

1 tional Hurricane Research Initiative and other relevant  
 2 studies, and not duplicate existing Federal and State haz-  
 3 ard planning requirements. The Plan shall recommend  
 4 both short- and long-term adaptation strategies and shall  
 5 include recommendations regarding—

6           “(1) Federal flood insurance program modifica-  
 7       tions;

8           “(2) areas that have been identified as high risk  
 9       through mapping and assessment;

10          “(3) mitigation incentives such as rolling ease-  
 11       ments, strategic retreat, State or Federal acquisition  
 12       in fee simple or other interest in land, construction  
 13       standards, and zoning;

14          “(4) land and property owner education;

15          “(5) economic planning for small communities  
 16       dependent upon affected coastal and ocean re-  
 17       sources, including fisheries;

18          “(6) coastal hazards protocols to reduce the  
 19       risk of damage to lives and property, and a process  
 20       for evaluating the implementation of such protocols;

21          “(7) strategies to address impacts on the most  
 22       vulnerable living marine resources;

23          “(8) proposals to integrate measures into the  
 24       actions and policies of the National Oceanic and At-  
 25       mospheric Administration;

1           “(9) a plan for additional research and develop-  
 2           ment of technologies and capabilities to address such  
 3           impacts;

4           “(10) plans to pursue bilateral and multilateral  
 5           agreements necessary to effectively address such im-  
 6           pacts;

7           “(11) partnerships with States and nongovern-  
 8           mental organizations;

9           “(12) methods to mitigate the impacts identi-  
 10          fied, including habitat restoration measures; and

11          “(13) funding requirements and mechanisms.

12          “(e) TECHNICAL PLANNING ASSISTANCE.—The Sec-  
 13          retary, through the National Oceanic and Atmospheric  
 14          Administration, shall establish a coordinated program to  
 15          provide technical planning assistance and products to  
 16          coastal States and local governments as they develop and  
 17          implement adaptation or mitigation strategies and plans.  
 18          Products, information, tools and technical expertise gen-  
 19          erated from the development of the regional coastal and  
 20          ocean assessments and the coastal and ocean adaptation  
 21          plans will be made available to coastal States for the pur-  
 22          poses of developing their own State and local plans.

23          “(d) COASTAL AND OCEAN ADAPTATION GRANTS.—

24                 “(1) IN GENERAL.—The Secretary shall provide  
 25          grants of financial assistance to coastal States with



1       federally approved coastal zone management pro-  
 2       grams to develop and begin implementing coastal  
 3       and ocean adaptation programs.

4           “(2) ALLOCATION OF FUNDS.—The Secretary  
 5       shall distribute grant funds under paragraph (1)  
 6       among coastal States in accordance with the formula  
 7       established under section 306(c) of the Coastal Zone  
 8       Management Act of 1972 (16 U.S.C. 1455(c)), ad-  
 9       justed in consultation with the States as necessary  
 10      to provide assistance to particularly vulnerable  
 11      coastlines.

12          “(3) MATCHING REQUIREMENT.—The Sec-  
 13      retary shall make grants under paragraph (1) on a  
 14      matching basis under which the ratio of Federal to  
 15      State funds is—

16                  “(A) 4 to 1 in the first fiscal year;

17                  “(B) 2.3 to 1 in the second fiscal year;

18                  “(C) 2 to 1 in the third fiscal year; and

19                  “(D) 1 to 1 thereafter.

20          “(e) AUTHORIZATION OF APPROPRIATIONS.—There  
 21      are authorized to be appropriated to the Under Secretary  
 22      of Commerce for Oceans and Atmosphere \$35,000,000 for  
 23      each of fiscal years 2009 through 2013 to carry out the  
 24      provisions of this section, of which \$25,000,000 shall be  
 25      available for grants under subsection (d) for each of such

1 fiscal years. Not more than 75 percent of the amount  
 2 available for grants under subsection (d) for any fiscal  
 3 year may be used for grants relating to coastal impacts.”.

4 **SEC. 6. NATIONAL CLIMATE STRATEGY.**

5 *The Act is amended—*

6 *(1) by redesignating section 9 as section 11; and*

7 *(2) by inserting after section 8 the following:*

8 **“SEC. 9. NATIONAL STRATEGIC PLAN FOR CLIMATE**  
 9 **CHANGE ADAPTATION.**

10 *“(a) IN GENERAL.—Not later than 2 years after the*  
 11 *date of enactment of the Climate Change Adaptation Act,*  
 12 *the President shall provide to the Congress a 5-year na-*  
 13 *tional strategic plan to address the impacts of climate*  
 14 *change within the United States. The President shall pro-*  
 15 *vide a mechanism for consulting with States and local gov-*  
 16 *ernments, the private sector, universities, and other non-*  
 17 *governmental entities in developing the plan. The plan shall*  
 18 *be updated at least every 5 years.*

19 *“(b) CONTENTS OF PLAN.—The plan shall, at a min-*  
 20 *imum—*

21 *“(1) identify existing Federal requirements, pro-*  
 22 *ocols, and capabilities for addressing climate change*  
 23 *impacts on federally managed resources and with re-*  
 24 *spect to Federal actions and policies;*

1           “(2) identify measures to improve such capabili-  
2           ties and the utilization of such capabilities;

3           “(3) include guidance for integrating the consid-  
4           eration of the impacts of climate change on Federally-  
5           managed resources, and in Federal actions and poli-  
6           cies, consistent with existing authorities;

7           “(4) address vulnerabilities and priorities identi-  
8           fied through the assessments carried out under the  
9           Global Change Research Act of 1990 and this Act;

10          “(5) establish a mechanism for the exchange of  
11          information related to addressing the impacts of cli-  
12          mate change with, and provide technical assistance  
13          to, State and local governments and nongovernmental  
14          entities;

15          “(6) recommend specific partnerships with State  
16          and local governments and nongovernmental entities  
17          to support and coordinate implementation of the  
18          plan;

19          “(7) include implementation and funding strate-  
20          gies for short-term and long-term actions that may be  
21          taken at the national, regional, State, and local level,  
22          taking into account existing planning and other re-  
23          quirements;

24          “(8) establish a process to develop more detailed  
25          agency and department-specific plans;

1           “(9) identify opportunities to utilize observations  
2           from both ground-based and remote sensing platforms  
3           and other geospatial technologies to improve planning  
4           for adaptation to climate change impacts;

5           “(10) identify existing legal authorities and ad-  
6           ditional authorities necessary to implement the plan;

7           “(11) identify existing high resolution elevation  
8           data and bathymetric data and develop a prioritized  
9           plan for filling existing gaps; and

10          “(12) include appropriate steps for partnerships  
11          with international organizations and foreign govern-  
12          ments on international activities to address climate  
13          change impacts, including the sharing of technical as-  
14          sistance and capacity-building expertise.

15          “(c) *INTERIM ACTIVITIES.*—Nothing in this section  
16          shall be understood to prevent any Federal agency or de-  
17          partment to take climate change impacts into account, con-  
18          sistent with its existing authorities, until the requirements  
19          of this section are implemented. Federal agencies are pres-  
20          ently encouraged to take climate change into account under  
21          all existing relevant authorities to the maximum extent  
22          practicable and consistent with those authorities.

23          “(d) *COORDINATION.*—The President shall ensure that  
24          the mechanism to provide information related to addressing  
25          the impacts of climate change to State and local govern-

1 *ments and nongovernmental entities is appropriately co-*  
 2 *ordinated or integrated with existing programs that provide*  
 3 *similar information on climate change predictions.*

4 “(e) *RELATIONSHIP TO OTHER AUTHORITIES.*—*Noth-*  
 5 *ing in this section shall supersede any Federal authority*  
 6 *in effect on the date of enactment of the Climate Change*  
 7 *Adaptation Act or create any new legal right of action.*

8 **“SEC. 10. OCEAN AND COASTAL VULNERABILITY AND ADAP-**  
 9 **TATION.**

10 “(a) *COASTAL AND OCEAN VULNERABILITY.*—

11 “(1) *IN GENERAL.*—*Within 2 years after the date*  
 12 *of enactment of the Climate Change Adaptation Act,*  
 13 *the Secretary of Commerce shall, in consultation with*  
 14 *the appropriate Federal, State, and local govern-*  
 15 *mental entities, coordinate and support regional as-*  
 16 *sessments of the vulnerability of coastal and ocean*  
 17 *areas and resources, including living marine re-*  
 18 *sources, to hazards associated with climate change,*  
 19 *and ocean acidification including—*

20 “(A) *variations in sea level including long-*  
 21 *term sea level rise;*

22 “(B) *fluctuation of Great Lakes water lev-*  
 23 *els;*

24 “(C) *increases in severe weather events;*

1                   “(D) natural hazards and events including  
2                   storm surge, precipitation, flooding, inundation,  
3                   drought, and fires;

4                   “(E) changes in sea ice;

5                   “(F) changes in ocean currents impacting  
6                   global heat transfer;

7                   “(G) increased siltation due to coastal ero-  
8                   sion;

9                   “(H) shifts in the hydrological cycle; and

10                  “(I) alteration of ecological communities,  
11                  including at the ecosystem or watershed levels.

12                  “(2) FACTORS.—In preparing the regional coast-  
13                  al assessments, the Secretary shall take into account  
14                  the information and assessments being developed pur-  
15                  suant to the Global Change Research Program. The  
16                  regional assessments shall include an evaluation of—

17                  “(A) observed and projected physical, bio-  
18                  logical, and ecological impacts, such as coastal  
19                  erosion, flooding and loss of estuarine habitat,  
20                  saltwater intrusion of aquifers and saltwater en-  
21                  croachment, coral reef bleaching, impacts on food  
22                  web distribution, impacts on marine habitat and  
23                  ecosystem productivity, species migration, species  
24                  abundance and distribution, and changes in ma-  
25                  rine pathogens and diseases;

1                   “(B) social and cultural impacts associated  
 2                   with threats to and potential losses of housing,  
 3                   communities, recreational opportunities, aes-  
 4                   thetic values, and infrastructure; and

5                   “(C) economic impacts on local, State, and  
 6                   regional economies, including the impact on  
 7                   abundance or distribution of economically im-  
 8                   portant living marine resources.

9                   “(3) UPDATES.—The Secretary shall update such  
 10                  assessments at least once every 5 years.

11                  “(b) COASTAL AND OCEAN ADAPTATION PLAN.—The  
 12                  Secretary shall, within 3 years after the date of enactment  
 13                  of the Climate Change Adaptation Act, submit to the Con-  
 14                  gress an agency-specific plan, as required by section 9(c).  
 15                  The plan shall include a national coastal and ocean adap-  
 16                  tation plan, composed of individual regional adaptation  
 17                  plans that recommend targets and strategies to address  
 18                  coastal and ocean impacts associated with climate change,  
 19                  ocean acidification, and sea level rise. The plan shall serve  
 20                  as the agency-specific plan. The plan shall be developed  
 21                  with the participation of other Federal, State, and local  
 22                  government agencies that will be critical in the implementa-  
 23                  tion of the plan at the State and local levels and shall take  
 24                  into account the results of the regional assessments to be  
 25                  conducted under subsection (a), the work of the Global

1 *Change Research Program, and recommendations of the Na-*  
2 *tional Science Board in its January 12, 2007, report enti-*  
3 *tled Hurricane Warning: The Critical Need for a National*  
4 *Hurricane Research Initiative and other relevant studies,*  
5 *and not duplicate existing Federal and State hazard plan-*  
6 *ning requirements. The Plan shall include both short- and*  
7 *long-term adaptation strategies and shall include, at a min-*  
8 *imum, recommendations regarding—*

9           “(1) *Federal flood insurance program modifica-*  
10       *tions;*

11           “(2) *areas that have been identified as high risk*  
12       *through mapping and assessment;*

13           “(3) *mitigation incentives such as rolling ease-*  
14       *ments, strategic retreat, State or Federal acquisition*  
15       *in fee simple or other interest in land, construction*  
16       *standards, infrastructure planning, and zoning;*

17           “(4) *land and property owner education;*

18           “(5) *economic planning for small communities*  
19       *dependent upon affected coastal and ocean resources,*  
20       *including fisheries;*

21           “(6) *coastal hazards protocols to reduce the risk*  
22       *of damage to lives and property, and reduce threats*  
23       *to public health and a process for evaluating the im-*  
24       *plementation of such protocols;*



1           “(7) strategies to address impacts on critical bio-  
2           logical and ecological processes, giving a priority to  
3           the most vulnerable natural resources and commu-  
4           nities;

5           “(8) proposals to integrate measures into the ac-  
6           tions and policies of the National Oceanic and Atmos-  
7           pheric Administration and other Federal agencies, as  
8           appropriate;

9           “(9) a plan for additional observations, research,  
10          modeling, assessment and information prod-  
11          ucts, environmental data stewardship, and develop-  
12          ment of technologies and capabilities to address such  
13          impacts;

14          “(10) a plan for data archive and access, and  
15          processes for sharing data and information for ad-  
16          dressing such impacts;

17          “(11) plans to pursue bilateral and multilateral  
18          agreements necessary to effectively address such im-  
19          pacts;

20          “(12) partnerships with States and nongovern-  
21          mental organizations;

22          “(13) methods to mitigate the impacts identified,  
23          including habitat protection and restoration meas-  
24          ures; and

25          “(14) funding requirements and mechanisms.

1       “(c) *TECHNICAL PLANNING ASSISTANCE.*—*The Sec-*  
 2 *retary, through the National Oceanic and Atmospheric Ad-*  
 3 *ministration and in coordination with other Federal agen-*  
 4 *cies with existing authorities concerning hazard mitigation*  
 5 *planning, shall establish a coordinated program to provide*  
 6 *technical planning assistance and products to coastal States*  
 7 *and local governments as they develop and implement ad-*  
 8 *aptation or mitigation strategies and plans. Products, in-*  
 9 *formation, tools and technical expertise generated from the*  
 10 *development of the regional coastal and ocean assessments*  
 11 *and the coastal and ocean adaptation plans will be made*  
 12 *available to coastal States for the purposes of developing*  
 13 *their own State and local plans.”.*

14 **SEC. 7. COASTAL AND OCEAN ADAPTATION GRANTS.**

15       *The Coastal Zone Management Act of 1972 (16 U.S.C.*  
 16 *1451 et seq.) is amended by added at the end the following:*

17 **“SEC. 320. CLIMATE CHANGE ADAPTATION PLANS.**

18       “(a) *GRANTS.*—*The Secretary shall provide*  
 19 *grants of financial assistance to coastal states with*  
 20 *federally approved coastal zone management pro-*  
 21 *grams to develop and begin implementing coastal and*  
 22 *ocean adaptation programs.*

23       “(b) *ALLOCATION OF FUNDS.*—*The Secretary*  
 24 *shall distribute grant funds under subsection (a)*  
 25 *among coastal States in accordance with the formula*

1        *established under section 306(c) of this Act, adjusted*  
 2        *in consultation with the States as necessary to pro-*  
 3        *vide assistance to particularly vulnerable coastlines.*

4                *“(c) PLAN CONTENT.—In order to receive finan-*  
 5        *cial assistance under this section, a plan must be ap-*  
 6        *proved by the Secretary, and be consistent with and*  
 7        *further the goals of the coastal and ocean adaptation*  
 8        *plan to be developed pursuant to section 10 of the Na-*  
 9        *tional Climate Service Act of 2007, and be consistent*  
 10       *with such State’s coastal management program.*

11               *“(d) STATE HAZARD MITIGATION PLANS.—*  
 12        *Plans developed by States pursuant to this section*  
 13        *shall be consistent with State hazard mitigation plans*  
 14        *developed under State or Federal law.”.*

15    **SEC. 8. AUTHORIZATION OF APPROPRIATIONS.**

16        *Section 11 (15 U.S.C. 2908), as redesignated by sec-*  
 17        *tion 6 of this Act, is amended—*

18                *(1) by inserting “(a) NATIONAL CLIMATE SERV-*  
 19        *ICE.—” before “There are authorized”; and*

20                *(2) by adding at the end thereof the following:*

21        *“(b) NATIONAL STRATEGY.—In addition to any other*  
 22        *funds otherwise authorized to be appropriated, there are au-*  
 23        *thorized to be appropriated for each of fiscal years 2009*  
 24        *through 2013 \$25,000,000 to carry out section 9.*

1       “(c) *COASTAL AND OCEAN ASSESSMENTS.*—*In addi-*  
 2       *tion to any other funds otherwise authorized to be appro-*  
 3       *priated, there are authorized to be appropriated to the Sec-*  
 4       *retary \$75,000,000 for each of fiscal years 2009 through*  
 5       *2013 to carry out section 10(a).*

6       “(d) *COASTAL AND OCEAN ADAPTATION PLAN.*—*In ad-*  
 7       *dition to any other funds otherwise authorized to be appro-*  
 8       *priated, there are authorized to be appropriated for each*  
 9       *of fiscal years 2009 through 2013 \$150,000,000, of which*  
 10       *75 percent shall be for State plans.”.*

Amend the title so as to read: “A bill to amend the National Climate Service Act of 2007 to enhance the ability of the United States to develop and implement climate change adaptation programs and policies, and for other purposes.”.



Calendar No. 769

110<sup>TH</sup> CONGRESS  
2<sup>D</sup> Session

**S. 2355**

[Report No. 110-347]

**A BILL**

To amend the National Climate Program Act to enhance the ability of the United States to develop and implement climate change adaptation programs and policies, and for other purposes.

JUNE 5, 2008

Reported with amendments and an amendment to the title