



# DHS Climate Action Plan

SEPTEMBER 2013



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## LETTER FROM THE SECRETARY

One of the underlying principles of “resilience” is the ability to adapt. The Department of Homeland Security’s (DHS) approach to mitigating the effects of climate change is built upon the principle of adapting. In an age with increasing frequency of extreme weather events, building resilience to the effects of climate change will undoubtedly make the Nation safer and stronger.

Therefore, I am pleased to approve and publish the 2013 DHS Climate Action Plan (CA Plan). This CA Plan builds upon the original DHS Climate Change Adaptation Roadmap signed in 2012 and was developed in accordance with Executive Order (E.O.) 13514, Federal Leadership in Environmental, Energy and Economic Performance (October 2009). The CA Plan reinforces the U.S. Government’s efforts to develop a national climate change adaptation strategy and further articulates the Department’s role in implementing critical aspects of the President’s Climate Action Plan announced by President Obama on June 25, 2013.

Pursuant to the original E.O., DHS created a planning process to better understand the implications climate risks pose to the Nation and DHS missions. With 240,000 employees across 22 Components operating thousands of programs and hundreds of mission-essential functions, the Department’s mission is to build resilience against all hazards that may impact the Nation. Part of that entails taking key steps to integrate climate change planning initiatives into DHS business processes. DHS is doing this by considering the future impacts of climate change within programs that serve the public, protect critical infrastructure, and secure the Nation’s economy.

In developing a keener understanding of how a changing climate and extreme weather are affecting the Nation’s strategic landscape, DHS is starting at the community level to assess risk, thereby allowing us to better manage risks to the Nation’s security. It is my belief this CA Plan takes us a step closer to becoming a more secure and resilient nation.

Climate change is one of the greatest challenges of our time. By engaging today, the Department can more effectively address potential vulnerabilities, minimize critical uncertainties, and provide invaluable support to the Nation in adapting to climate change tomorrow.

Yours very truly,

*Janet Napolitano*

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# EXECUTIVE SUMMARY

## HISTORY OF CLIMATE CHANGE ADAPTATION (CCA) AT DHS AND FRAMING THE ADAPTATION STRATEGY

According to reports released in January 2013 by the National Oceanic and Atmospheric Administration (NOAA) the United States will see rising temperatures, shifting precipitation patterns, and increasing extreme weather events. In the coming years, DHS recognizes climate change as a complex challenge with strategic and far reaching implications for the Department and the Homeland Security Enterprise it serves. This includes the state, local, tribal, territorial (SLTT), Federal, nongovernmental, and private-sector entities, as well as individuals, families, and communities who share a common national interest in the safety and security of America and the American population.

In 2012, DHS published the DHS Climate Change Adaptation (CCA) Roadmap to satisfy the requirements of Executive Order (E.O.) 13514, Federal Leadership in Environmental, Energy, and Economic Performance, to meet Federal requirements of reducing greenhouse gas emissions, and to integrate CCA into both the culture and operations of the Department.

In 2013, President Obama published two additional climate policy documents prompting DHS to update its CCA Roadmap document. This document, DHS' Climate Action Plan (CA Plan), synchronizes the Department's climate adaptation strategy with the unified Federal effort outlined in The President's Climate Action Plan (June 2013). It also takes into consideration the advances made by the National Preparedness Presidential Policy Directive (PPD-8), the Critical Infrastructure Security and Resilience Presidential Policy Directive (PPD-21), and the U.S. Coast Guard's Arctic 2013 Strategy. Further, the CA Plan is intended to inform a broader audience on the Department's CCA efforts, recognizing the vital role the whole community plays in preparing the Nation for the consequences of a changing climate.

### Did You Know?

The term "resilience" refers to the ability to adapt to changing conditions and withstand and rapidly recover from disruption due to emergencies.

## ALIGNING WITH THE PRESIDENT'S CLIMATE ACTION PLAN

The most pressing reason for the CA Plan is to support implementation of the President's Climate Action Plan, a landmark commitment by the U.S. Government to address the risks posed by climate change. The portion of the President's Plan directly applicable to the Department's mission and initiatives falls under "**Building Stronger and Safer Communities and Infrastructure**" under Section I, "Preparing the United States for the Impacts of Climate Change."



President Obama and New Jersey Governor Christie assess damage wrought by Superstorm Sandy. *Courtesy of the White House*



In alignment with the President’s Plan, the DHS CA Plan supports the many states, cities, and communities that are already planning and preparing for the impacts of climate change. Promoting on-the-ground planning and resilient infrastructure will be at the core of our work to strengthen America’s communities. Such initiatives include:

- a. Directing Agencies to Support Climate-Resilient Investment
- b. Establishing a State, Local, and Tribal Leaders Task Force on Climate Preparedness
- c. Supporting Communities as they Prepare for Climate Impacts
- d. Boosting the Resilience of Buildings and Infrastructure
- e. Rebuilding and Learning from Hurricane Sandy

## DHS IS TAKING ACTION

DHS has a responsibility to help protect the Nation. To ensure that DHS is taking the right steps to ensure everything from community resilience to border protection there is a checks and balances system in place to ensure the Department is working in line with their 5 key missions (see [DHS Missions](#), page 11). To enable this system, Congress prescribed a process called the [Quadrennial Homeland Security Review \(QHSR\)](#). The reviews, which are conducted by DHS and reported back to Congress, are done to ensure that the Department is following a viable homeland security strategy, including an outline of priority mission areas, not simply for DHS, but for the Homeland Security Enterprise as a whole. In the case of climate change, there are new potential threats to the Nation.



Memphis TN—Neighborhood flooding following the cresting of the Mississippi River. *Courtesy of FEMA*



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# HISTORY OF DHS CLIMATE CHANGE ADAPTATION

*[T]he Department of Homeland Security is evaluating the challenges of changing conditions in the Arctic and along our Nation's borders.*

*—The President's Climate Action Plan*



## PURPOSE

*Evaluate agency climate change risks and vulnerabilities to manage the effects of climate change on the agency's operations and mission in both the short and long term.*

—Executive Order 13514, section 8(i)

In 2009, the President issued E.O. 13514 which required federal agencies to incorporate climate change initiatives into their business practices.<sup>1</sup>

In June 2012, pursuant to the President's E.O. 13514, DHS published the CCA Roadmap to outline a strategy to assess the threats, vulnerabilities, and potential consequences of climate change to DHS' mission to protect the Nation.

The President's Climate Action Plan announced by President Obama in June 2013, takes the Nation's commitment to climate change further, by making a pledge by the United States to fight climate change, a growing threat to the security and resilience of our Nation.

This 2013 DHS CA Plan reflects and expands on the strategic insight gained by DHS since the CCA Roadmap was issued. It is also intended to assist DHS with implementing more risk-based decision making in the operational planning process. The CA Plan identifies short and long term actions to ensure Departmental missions and operations are resilient in the face of a changing climate. DHS is therefore engaged in an ongoing effort examining the risks posed by climate change to successful execution of any of its 5 core missions (See DHS Missions. page 11).

## AUDIENCE

The intended audiences of the DHS CA Plan are the American public, stakeholders from across the SLTT, regional, and Federal governments, the private sector, nongovernmental organizations that partner in executing the various missions of DHS, and the Department's employees, particularly program managers where CA Plan and mission capabilities intersect. In other words, climate change adaptation is a whole community effort.



President Obama delivers climate change speech at Georgetown University. *Courtesy of NOAA*

The members of these audiences are critical to DHS' ability to execute and accomplish its mission. Mission execution at DHS is often a whole community effort, requiring stakeholders from across the Nation.

<sup>1</sup> For more information see Appendix I: Framing Guidance for a history of climate change action by DHS.



# **CLIMATE CHANGE— A NATIONAL OVERVIEW**



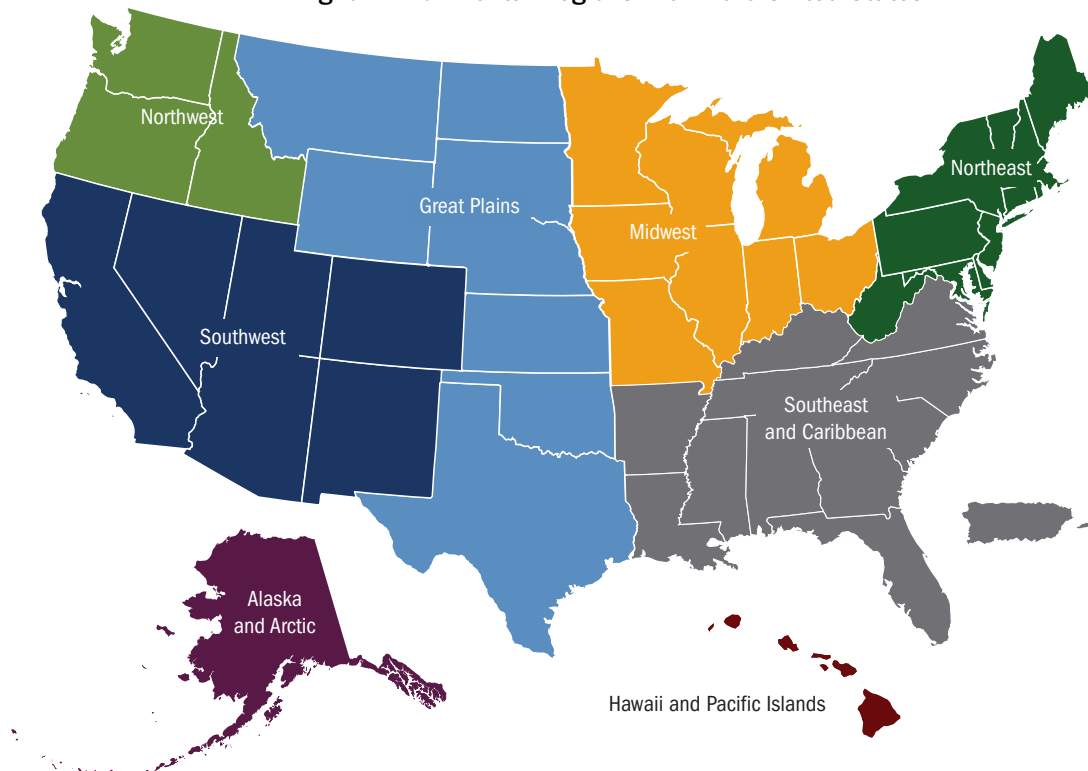
As the impacts of climate change place increasing stress on global and national economic security and safety systems, this issue will continue to absorb the attention of the Nation's leaders. Meanwhile, America is increasingly responding to natural events, requiring large amounts of capital for response and recovery efforts at the local, regional, and Federal levels.

Future, simultaneous shocks to both global and national economic systems could trigger the perfect storm with negative consequences. This is noted in the February 2013 report by the Government Accountability Office (GAO) "Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks" which added climate change risks to the list of significant economic risks facing the Federal government. GAO also cautioned that the fiscal exposure presented by climate change would require a unified Federal Government approach with strong leadership to manage related risks. Further, in April 2013, GAO issued "Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers" which recommended a unified Federal approach to assist local stakeholders with risk management and resilience investments. Persistent global economic fragility combined with existing budgetary constraints will continue to strain government spending at all levels.

### Did You Know?

To demonstrate the importance of climate change impacts, in February of 2013 the Government Accountability Office (GAO) issued "[Limiting the Federal Government's Fiscal Exposure by Better Managing Climate Change Risks](#)" which added climate change risks to the list of significant risks facing the Federal government. GAO cited infrastructure owned by the Government and Federal programs for disaster response (e.g., disaster aid) as two key risk areas. GAO also cautioned that the fiscal exposure presented by climate change would require a unified Federal Government approach with strong leadership to manage related risks. Further, in April 2013 GAO issued "[Climate Change: Future Federal Adaptation Efforts Could Better Support Local Infrastructure Decision Makers](#)" which recommended a unified federal approach to assist local stakeholders with risk management and resilient investments.

**Eight Environmental Regions within the United States**



**Figure 1.** Click on any of the 8 Environmental Regions to view future climate projections.



Faced with uncertainty about the likely effectiveness and fiscal risk of unintended consequences of any proposed intervention and adaptation, policy-makers may wait for more detailed analyses and data regarding the precise timing, manifestation or impact of future climatic changes in their local environments.

However, society, and infrastructure are at risk today, and there is a need to act now. There are both an imperative and statutory requirements that compel concerted and direct action now and into the future.

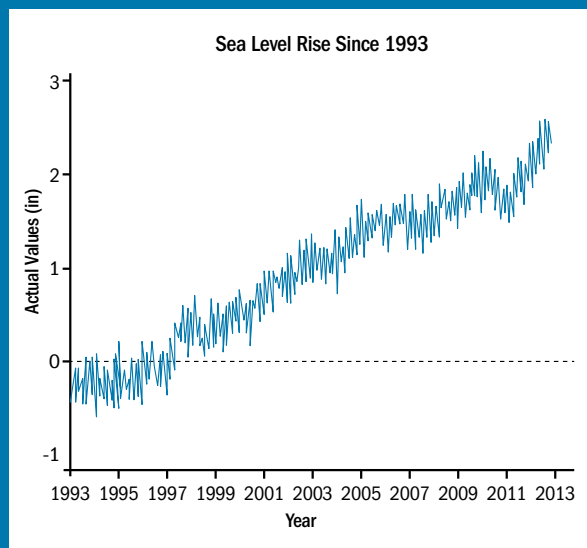
In the past, scientists have accumulated data and developed complex models to predict future climate change. Once considered an issue for a distant future; today, climate change has moved firmly into the present. Past environmental data should no longer be the sole basis for future predictions. Fiscal uncertainty coupled with changing climatic conditions will be a challenge to us all. DHS recognizes the challenges faced by communities and regions as the Nation comes to grips with the realities of climate change (Figure 1). To begin to address the clear and present threat to communities posed by climate change, DHS is developing and will provide decision support tools and risk analysis processes. These tools will deliver recommended measures that communities can implement to become climate ready and resilient.

Climate change impacts are certain to increase in this century, requiring significant effort to adapt in order to mitigate significant and costly social, economic and environmental changes in systems with high value to society (Figure 2). DHS has developed a comprehensive adaptation strategy aimed at responding to new climate conditions, thereby reducing harm or taking actions to address new opportunities. The threat of serious impacts makes the timing of adaptation efforts particularly critical. Considering the range and severity of climate change risk, it is increasingly clear that capacity currently available for adaptation needs to be strengthened. There is a growing recognition that a new collaborative national effort is needed to support adaptation at the national and regional levels.

Climate change will intersect with many social and environmental stresses. For example, many U.S. citizens live near the coast or close to rivers where commercial activities on the water contribute significantly to the Nation's economy. Planning decisions and mitigation strategies on how and where to build will be complicated by this combination (i.e., concentrated populations and commercial activity). Further, uncertainties exist as to what sea level rise means to local, state and Federal agencies involved in coastal planning and management.

## Sea Level Rise: A Climate Change Challenge

In the past, climate scientists have accumulated data and developed complex models to predict climate change. One such tool assesses sea level rise. For example, following Hurricane Sandy, NOAA, in partnership with the Federal Emergency Management Administration (FEMA), the U.S. Army Corps of Engineers (USACE), the U.S. Global Change Research Program (USGCRP), and the Council on Environmental Quality (CEQ) created a set of map services and related tools to help communities, residents, and other stakeholders consider risks from future sea level rise in planning for reconstruction following Hurricane Sandy. Even if current storm patterns remain the same in the future, sea level rise will increase the impact of coastal flooding during storms. (Source: NOAA, [www.geoplatform.noaa.gov](http://www.geoplatform.noaa.gov))



**Figure 2.** Monthly global sea level from 1993 through early 2013 compared to 1993-2012 average, based on AVISO data. Adapted from Figure 2.1(x) in BAMS State of the Climate in 2012. Courtesy of NOAA



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# UNDERSTANDING CLIMATE CHANGE RISK—WHY DHS CARES

*The danger from climate change is real, urgent, and severe. The change wrought by a warming planet will lead to new conflicts over refugees and resources; new suffering from drought and famine; catastrophic natural disasters; and the degradation of land across the globe. The United States will therefore confront climate change based upon clear guidance from the science, and in cooperation with all nations—for there is no effective solution to climate change that does not depend upon all nations taking responsibility for their own actions and for the planet we will leave behind.*

—National Security Strategy 2010



## DHS MISSIONS AND CLIMATE CHANGE

DHS cares about climate change because of the risk it poses to its missions and activities. DHS conducted an analysis of climate impacts revealing the threats were real and severe. Since many DHS programs depend on whole community stakeholders, DHS stakeholder partners should also consider how climate change impacts their operations. This is especially true in the areas of critical infrastructure and emergency management.

The Quadrennial Homeland Security Review (QHSR) establishes DHS' 5 Missions. They are:

1. **Preventing terrorist attacks:** Prevent the unauthorized acquisition or use of chemical, biological, radiological, or nuclear materials, and manage risks to critical infrastructure, key leadership, and events.
2. **Securing and managing our borders:** Effectively control U.S. air, land and sea borders, safeguard lawful trade and travel, and disrupt and dismantle transnational criminal organizations.
3. **Enforcing and administering our immigration laws:** Strengthen and effectively administer the immigration system and prevent unlawful immigration.
4. **Safeguarding and securing cyberspace:** Create a safe, secure, and resilient cyber environment and promote cybersecurity knowledge and innovation.
5. **Ensuring resilience to disasters:** Mitigate hazards, enhance preparedness, ensure effective emergency response, and rapidly recover from disasters.

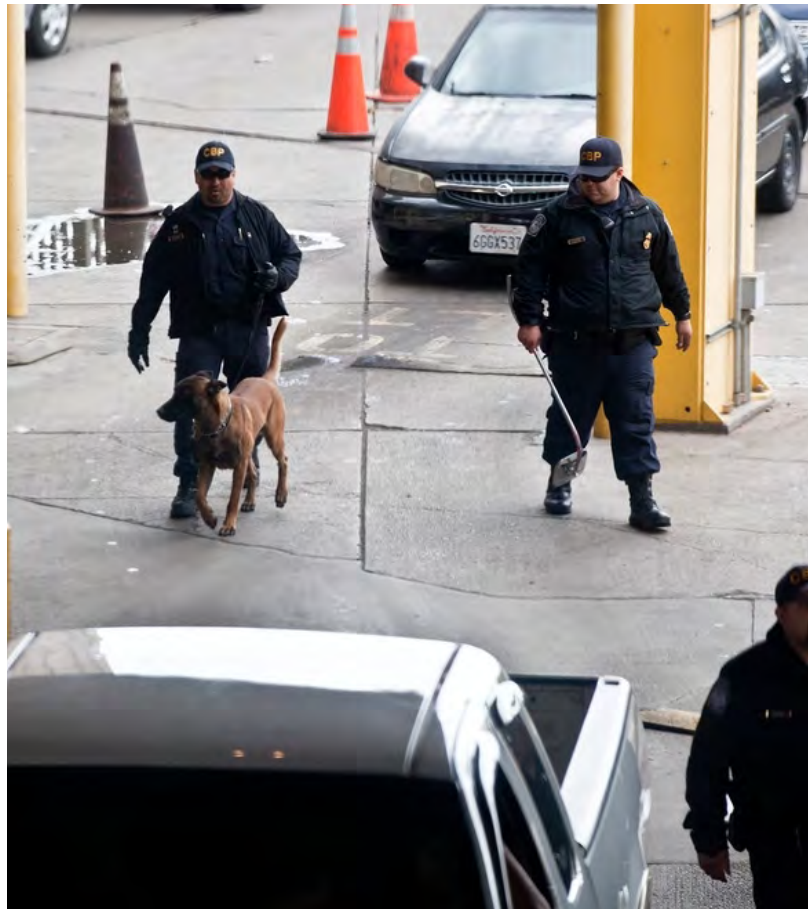
What follows is a summary of the possible effects of climate change on DHS' 5 Missions.

### Mission 1: Preventing Terrorism and Enhancing Security

Indirectly, climate change acts as a “threat multiplier,” aggravating stressors abroad such as poverty, environmental degradation, and social tensions, resulting in conditions that could enable terrorist activity and violence. More extreme weather conditions in parts of the world with limited ability to provide state aid create opportunities for militant groups to become active in their communities.

### Mission 2: Securing and Managing our Borders

More severe droughts and tropical storms, especially in Mexico, Central America, and the Caribbean, could increase population movements (both legal and illegal) across the U.S. border. Melting sea ice in the Arctic may lead to new opportunities for shipping, tourism, and resource exploration, but the increase in human activity may require a significant increase in operational capabilities in the region in order to safeguard lawful trade and travel and to prevent exploitation of new routes for smuggling and trafficking. In addition, higher temperatures may change patterns of human, animal, and plant diseases, putting members of the DHS workforce at points of entry under increased strain and at higher risk of illness.



Climate Change could affect global migration patterns. *Courtesy of CBP*



### Mission 3: Enforcing and Administering our Immigration Laws

The U.S. may need to prepare for more frequent, short-term, disaster-driven migration, such as mass migration. This could result in changes to DHS legal authorities, policies, procedures, and operations.

### Mission 4: Safeguarding and Securing Cyberspace

As cyber and communication networks become an increasingly integral part of government, business, and private life, system vulnerabilities may create new opportunities for attack or disruption. Higher temperatures and more intense storms may cause damage or disruptions to telecommunications and power systems, creating challenges for telecommunications infrastructure, emergency communications, and cybersecurity. Strains to DHS facilities, national power systems, and telecommunications networks could impact the ability of the Department to carry out each of its missions.

### Mission 5: Ensuring Resilience to Disasters

More intense storms, frequent heavy precipitation, heat waves, drought, extreme flooding, and higher sea levels could significantly change the types and magnitudes of hazards impacting communities and the emergency management professionals serving them at both SLTT, and Federal levels. As coastal regions become increasingly populated and developed, more frequent or severe storms will demonstrate the need for enhanced preparedness, along with increasing the requirements for emergency services and response and recovery capacity. Continuity of operations, delivery of services, and emergency response might be challenged and made increasingly complex by damages or disruptions to the interconnected energy and infrastructure networks. In addition, programs and standards across the Department often rely on data from historical records that may not accurately project future risks as the climate changes. This may lead to inadequate preparedness for future disasters.



Damage caused by Superstorm Sandy. *Courtesy of Thinkstock.com*

## The Economics of Climate Change

The U.S. experienced a string of weather-related disasters in 2011 and 2012 exceeding \$1 billion each. According to NOAA, there were a total of 14 disasters in 2011 exceeding a billion each—a record-breaking figure.

Economically, according to a report issued by Munich Re, the world's largest risk reinsurer, two-thirds of the insured natural catastrophe losses in the past 30 years occurred in North America (*Severe Weather in North America*, October 2012). Weather-related occurrences increased 4.5 times during that period. There were approximately 3,200 weather-related catastrophe events in the United States costing nearly \$1.15 trillion, insured losses of \$560 billion, and the highest cost of all 19,940 deaths. Further, the amount of catastrophe-exposed property is increasing. For example, there is now \$10 trillion of insured property along the hurricane-prone Gulf and Atlantic Coasts. A vast majority of the property is within three feet of the average high-tide. Further, there has been nearly a 3.5 time increase in the number of Presidentially-declared disasters since 1950. Hurricane Sandy, which occurred in October 2012, is the costliest natural disaster in terms of overall losses to property and life.

### U.S. 2012 BILLION-DOLLAR WEATHER AND CLIMATE DISASTERS



**Figure 3.** In 2012, there were 11 domestic weather and climate disaster events that resulted in 377 deaths and financial losses exceeding \$110 billion. *Courtesy of NOAA*



## DHS-SPECIFIC ACTIONS TO MITIGATE FOR RISK

DHS will be a driving force in preparing the Nation to mitigate the consequences of a changing climate for the purpose of protecting human health and the environment.

Following the release of the 2010 National Security Strategy, which recognized the threat posed by climate change as “real, urgent, and severe,” DHS immediately established the DHS Climate Change Adaptation (CCA) Task Force to conduct an analysis of climate change risk to DHS missions. The Task Force’s findings showed that risks posed or exacerbated by a changing climate—such as intensifying and more frequent extreme weather events, natural disasters, degradation of our Nation’s critical infrastructure and key resources, and sea ice change in the Arctic—directly and indirectly affect core homeland security missions. This CA Plan showcases 36 actions the Department is undertaking efforts to address the risks to our missions and prepare the Nation for climate change.

The 36 actions coalesce around four main focus areas that guide the Department as it prepares for a changing climate in both the near and long term:

- 1. Departmental Actions:** These actions address issues Departmental in scope requiring coordination by multiple Components and are designed to enhance CCA communication with stakeholders. Actions include identifying key gaps requiring further analysis and decision support, integrating CCA into long-range planning efforts across DHS, improving interagency collaboration, enhancing internal Departmental activities, and advancing key actions to achieve the vision of The President’s Climate Action Plan.
- 2. Critical Infrastructure Resilience:** These actions will enhance the security and resilience of the Nation’s critical infrastructure in the face of a changing climate. The actions also support the Nation’s critical infrastructure owners/operators and SLTT decision-makers as they adapt and plan for the consequences of climate change.
- 3. Resilience to Disasters:** These actions incorporate climate change considerations into routine and catastrophic event planning for the future, facilitate and incentivize risk reduction in pre- and post-disaster programs, and promote training and educating the whole community on the CA Plan.

- 4. Safe, Secure, and Environmentally Responsible Maritime Activity in the Arctic Region:** These actions reflect the U.S. Coast Guard’s Arctic Strategy, released in May 2013. It highlights three strategic objectives for the coming years—Improving Awareness, Modernizing Governance, and Broadening Partnerships.



Scientists assess the effects of global warming on the polar ice cap.  
*Courtesy of Thinkstock.com*



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# NEAR TERM IMPLEMENTATION ACTIONS (FY 2014–FY 2015)

*Climate change represents a complex homeland security challenge with strategic implications for the Department. The risks posed or exacerbated by a changing climate—such as intensifying and more frequent extreme weather events, natural disasters, and sea ice changes in the Arctic—may either directly or indirectly affect core homeland security missions.*

—DHS Climate Change Adaptation Roadmap



The following actions address implementation activities that will be executed during fiscal year (FY) 2014 and FY 2015. The actions enhance communications with stakeholders, support partnership development, identify gaps requiring further analysis, and provide decision support tools for stakeholders. These actions also integrate climate change adaptation (CCA) into near term planning efforts at DHS, improving interagency collaboration and enhancing internal Departmental activities.

## COMMUNICATIONS ACTIONS

### **Establish the Department's strategic communications plan for its work on CCA.**

Implementing this CA Plan and effectively pursuing CCA planning will require engagement with stakeholders and a forward-leaning posture to shape public communication. The Office of Public Affairs (OPA) will create a CCA strategic communications plan that will provide a framework for how the Department discusses its adaptation efforts in the public and media, and will enable consistent communication on DHS' CCA efforts. The plan will include both individual component talking points and Frequently Asked Questions (FAQ) directed at distinct audiences to assist in better understanding the issue.

**Launch a DHS public-facing CCA section on the DHS.gov website.** OPA will further its work in creating a Strategic Communications Plan by developing a public-facing CCA website. Core messaging from the Public Affairs Guidance, Strategic Communications Plan, and component talking points will be contained on the site. FAQs designed for specific stakeholders will be included, such as public and non-profit entities qualifying for Public Assistance funding from the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Applicable DHS programs, such as Science and Technologies' (S&T) online tools for enhancing the resilience of the built environment, will also be publicly available on the website. Links to relevant tools and resources from other Federal agencies will be listed on the website.

### **DID YOU KNOW?**

2012 was the warmest year on record in the continental U.S. *Source: NOAA*

### **Implement a Department-wide CCA education plan.**

As established in E.O. 13514, CCA and sustainability practices are inherently linked as a joint set of activities that together help diminish the rate or severity of climate change and manage the impacts. The Management Directorate (MGMT) and the Office of Health Affairs (OHA) will implement a CCA education plan that will facilitate consideration of climate change risks in relevant operations and mission-related discussions across DHS.

### **Ensure that the emergency management workforce understands future risk considerations and how they may affect program implementation.**

FEMA will develop targeted training and information resources to help emergency management staff better understand connections between climate change and emergency management programs and functions. FEMA will also increase its internal communications to employees regarding CCA and provide increased opportunities for education and training related to future risks associated with climate change.



Alice Hill (left), Chair of the DHS CCA Executive Steering Committee, educates employees on climate change impacts on missions. *Courtesy of DHS*



## EXTERNAL OUTREACH AND PARTNERSHIP DEVELOPMENT ACTIONS

### **Support the Council on Environmental Quality (CEQ) in conducting a Federal Level Exercise on CCA.**

The DHS Executive Steering Committee, in collaboration with FEMA, will plan, design, and conduct a Senior Leadership Exercise (SLE) to further examine roles and responsibilities of departments and agencies in establishing a unified federal approach to CCA. The SLE will use the most current National Climate Assessment data as the standard for identifying the impacts of climate change to the Nation, and accurately assess the potential impacts of climate change to U.S. Government missions. The SLE will help inform E.O. 13514 implementation efforts by CEQ, such as planning requirements for departments and agencies, as well as serve as a model for future SLTT CCA exercises.

### **Host a summit to promote building codes adoption.**

The DHS CCA Executive Steering Committee will co-sponsor a building codes summit with the National Institute of Building Sciences (NIBS), the National Institute of Standards and Technology (NIST) and relevant partners. The structural integrity of buildings across the United

States will be a primary defense to prevent fatalities, injuries, and property damaged during the next major catastrophe. More people will be injured or killed as a result of structural debris, such as shattering glass, than the hazards themselves. Through adoption of modern building codes, the safety of the Nation and capability to rapidly recover will be strengthened. The Committee, in conjunction with NIBS and NIST, will host a one-day summit convening key stakeholders (e.g., private insurers, builders, local authorities) to promote adoption and enforcement of current building codes, including those addressing wildland-urban interface areas.

### **Promote appropriate building standards and practices.**

DHS will promote climate-ready building standards for critical infrastructure and construction practices. Best practices will be validated with partners to the greatest extent possible including those relating to mitigating risks in wildland-urban interface zones. These best practices are intended to inform decisions and not be prescriptive. Further, FEMA will explore options for updating floodplain management standards as well as the provision of guidance and incentives for communities that implement standards that enhance future resilience.

### **Integrate CCA into the Department's engagement agenda with SLTT partners.**

As the Department's lead agent for engagement with elected and appointed SLTT partners, the Office of Intergovernmental Affairs will provide updates on CCA and the Department's efforts as an agenda item for discussion in FY 2014 with the State Homeland Security Advisors and key local officials. This will enable collaboration between FEMA, OHA, OPA and USCG as well as other DHS components, and SLTT partners on adaptation issues of mutual concern.

### **Actively engage the private sector regarding CCA planning.**

The responsibility for homeland security is shared among a wide range of partners, especially private sector partners. The DHS Private Sector Office (PSO) will engage the Homeland Security Enterprise's private sector stakeholders in the implementation of the CA Plan by infusing adaptation planning into existing private sector engagement mechanisms, such as the [Private Sector Resources Catalog](#).



Building resiliently to withstand the effects of climate change.  
*Courtesy of FEMA*



Health preparedness and resilience are critical components for a community's ability to recover from the weather effects of climate change.  
*Courtesy of FEMA*

**Adopt a whole community approach to building partnerships.** Through recent surveys, the DHS Office of Infrastructure Protection (DHS/IP) found varied levels of CCA awareness, understanding, and concern. As a result of the findings, DHS/IP will develop and implement a strategy to engage in a systematic and coordinated public-private sector dialogue with the infrastructure community. This strategy will promote and consistently identify CCA as a planning issue meriting serious attention throughout the interdependencies. The goal will be to create a venue for coordination and collaboration among the whole community by leveraging the existing partnership framework to organize, inform, and communicate to the critical infrastructure community the implications of climate change and the need to partner to enhance mitigation and planning.

## HEALTH AND INTERNATIONAL OUTREACH ACTIONS

**Proactively evaluate SLTT climate change medical first responder disaster preparedness activities and ensure DHS has the capacity to provide appropriate response without compromising the Department's mission.** When SLTT partners' capacities to respond to disasters are challenged by the magnitude or consequences of disasters, DHS and other agencies are called on to augment their resources. The Office of Health Affairs (OHA) will facilitate the integration of climate change related hazards into SLTT emergency medical services disaster preparedness activities. Understanding that catastrophic incidents will occur, and that a "new normal" of climate and weather extremes

may emerge, OHA will also work with the operational components' medical staff to support the policies, training, and requirements that emerge from climate altering conditions.

### **Incorporate relevant information on climate change into biosurveillance analysis and coordinate dissemination of this information to a broader Federal audience to improve situational awareness.**

Monitoring how climate change impacts may worsen conditions that influence or contribute to bio-threats is an important part of the Department's biosurveillance activities. OHA's National Biosurveillance Integration Center will seek to improve situational awareness of climate change impacts and data that affect biosurveillance activities by coordinating with key interagency partners.

### **Coordinate a Departmental review of the effects of climate change on mass migration.**

Changes in the climate are already causing migration and displacement throughout the world and could lead to mass migration to the United States as impacts of climate change become more severe. This has potential implications for customs enforcement and border protection, as well as immigration services and humanitarian protection. To better anticipate these issues, U.S. Customs and Border Protection (CBP), U.S. Immigration and Customs Enforcement (ICE), U.S. Citizenship and Immigration Services (USCIS), and USCG will conduct an assessment that considers the projected influx of applications, border crossings, and related operational impacts from the Caribbean and abroad. The adequacy of current migration related authorities and operations to address this projected influx will also be examined.



## ANALYSIS AND DECISION SUPPORT ACTIONS

### **Integrate CCA into complex event modeling by collaborating with regional and SLTT climate research groups for data to support accurate forecasts of hazards affected by climate change.**

Climate change may create risks that are more regional in nature and require resources from a larger community of partners, demanding joint approaches for managing them. Science & Technology will coordinate with the National Protection and Programs Directorate, the National Oceanic and Atmospheric Administration, and stakeholder organizations to help refine the input data used to support complex event modeling, hazard identification, and risk assessment processes to improve analytical results.

### **Create a Decision Support Planning template to inform risk decisions at the operational level for all stakeholders using U.S. Global Change Research Program (USGCRP) data.**

Through stakeholder engagement, DHS will develop risk-based tools enabling critical infrastructure and emergency management stakeholders to make risk-informed decisions in dealing with climate change. The project will commence with a pilot study to gather the requirements and convert USGCRP's scientific data and climate projections into actionable information for use in risk assessments at the system, municipal and regional levels.

## POLICY, STRATEGY, AND PLANNING ACTIONS

### **Plan to mitigate impacts of climate change on DHS facilities.**

Ensuring the resilience of DHS facilities is critical to sustaining operations. The Management Directorate will lead an effort to assess and develop mitigation strategies to address potential impacts of climate change, including the risk of floods. While risk avoidance is preferable, DHS mitigation efforts may be an economically more feasible option in many instances. Upon completion of the effort, a process will be implemented by DHS and shared with interagency stakeholders as lessons learned.

**Incorporate climate change considerations into DHS policies, programs, planning and operations to inform, inspire, initiate, and implement policy and programmatic changes.** DHS will reflect consideration of CCA impacts as a component of the all hazards

approach to critical infrastructure security and resilience in the update to the National Infrastructure Protection Plan. DHS will continue to ensure broad coordination and collaboration on CCA activities across its planning and operations and to support the implementation of risk-informed policy. Further, the DHS CCA Policy will be updated to reflect the CA Plan.

### **Ensuring accountability for implementation of Near and Long Term Actions.**

To track progress, an implementation plan will be created that identifies operational milestones for all Near and Long Term Actions. The implementation plan, known as the *Playbook*, will assist in ensuring progress is being made. During the first quarter of FY 2014, the DHS CCA Director Group (DG) will host a half-day summit to walk through all proposed milestones. Meeting participants will include operational action owners, component performance experts, and DG members. Further, DHS staff responsible for implementing actions from this document or those involved in programs incorporating CCA considerations will have performance goals adopted, as appropriate, into their respective Employee Performance Plans in FY 2014 and following.



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# LONG TERM IMPLEMENTATION ACTIONS

*“The cost of these events can be measured in lost lives and lost livelihoods, lost homes, lost businesses, hundreds of billions of dollars in emergency services and disaster relief. In fact, those who are already feeling the effects of climate change don’t have time to deny it—they’re busy dealing with it.”*

*– President Barack Obama’s speech on Climate Change, June 25, 2013, Georgetown University*



The following actions, many of which may have short term goals, will require more time for full implementation. The overarching themes of analysis and decision support, health, infrastructure resilience and disaster response are addressed. However, the final series of actions relate to effective operations by the USCG in the Arctic. These implementation actions are drawn from the USCG Arctic Strategy published in May of 2013.

## ANALYSIS AND DECISION SUPPORT ACTIONS

**Understand the current science of climate change and how climate change may impact critical infrastructure.** Identify and fill knowledge gaps through research and development by studying impacts, adaptive strategies and future trends. To understand the risk landscape for climate change, DHS is developing a repository of climate change and infrastructure related science, studies, data, analysis, strategies and tools. This effort will assist DHS in determining whether current research meets the needs and challenges of decision makers in the infrastructure field. While DHS will not directly fulfill these science-focused needs, it can serve as an important conduit between owners and operators and the science community.

**Develop risk-based adaptation strategies and best practices for climate change to inform and aid the critical infrastructure community with planning and decision-making.** The DHS Office of Infrastructure Protection will develop a series of collaborative studies to identify risk characteristics, appropriate adaptation strategies and best practices for SLTT entities and owners and operators to consider as they make investment decisions. These studies will leverage historical best practices, where available.

**Incorporate future risk considerations into disaster scenarios.** Working with climate science partners, FEMA will identify future risk issues and information resources for use in developing and/or updating catastrophic event scenarios. This action will focus on providing appropriate, scientifically defensible linkages between climate change, future risks, and planning for emergency management operations. In particular, DHS will engage with USGCRP and NOAA to better understand how climate change may impact future disaster scenarios and develop materials appropriate for use in training and exercise development.

### DID YOU KNOW?



The DHS/IP Regional Resiliency Assessment Program (RRAP) actively engages the Nation's critical infrastructure owners and operators and SLTT partners as they adapt and plan for the consequences of climate change. Climate risks are considered through RRAP site assessments, subject matter expert-led interviews, and discussion-based exercises. For example, RRAP projects conducted in regions along the East Coast have addressed storm surge inundation of critical transportation, electric power, and communications assets that can have cascading effects far beyond the region of study.



Tuscaloosa, AL tornado aftermath in 2011. *Courtesy of FEMA*



**Develop approaches to incorporate CCA into pre- and post-disaster programs.** FEMA will continue developing methods of incorporating future flood risks (e.g., sea level rise) into cost-benefit analysis. These methodologies will enable coastal areas to include projects addressing future flood risks, such as structural acquisition and elevation projects. FEMA will also examine whether the same method may be used for other flood mitigation projects in coastal areas that are at risk for future sea level rise. Further, FEMA will conduct global cost effective analysis in the 100-year Special Flood Hazard Areas to indicate if acquisitions or elevations of structures may be cost effective.

**Update risk assessment products and develop risk communication strategies to include appropriate future risk information.** FEMA will improve the accuracy and availability of risk information and where feasible within program authorities, explore options for incorporating future risk information into relevant products. FEMA will also develop tools for communicating future risks to targeted audiences and build on existing communications, outreach, and programs that promote individual and community preparedness, to integrate consideration of climate change impacts, where appropriate. The Threat Hazard Identification Risk Assessment is an example of one such program. It is used by emergency managers from across the country in assessing a jurisdiction's threats and hazards.

### DID YOU KNOW?

NOAA, in partnership with FEMA and the U.S. Army Corps of Engineers, has created a set of map services to help communities, residents, and other stakeholders consider risks from future sea level rise in planning for reconstruction following Superstorm Sandy. *Source [USGRCP Report](#)*

## HEALTH AND INTERNATIONAL OUTREACH ACTIONS

**Work with the U.S. Department of Health and Human Services (HHS), U.S. Department of Agriculture (USDA), DoD and other Federal partners to ensure that adverse effects of climate change on health are incorporated into the Community Health Resilience Initiative.** OHA will expand its work with HHS to create and continually update a Community Health Resilience Guide and toolkit for external stakeholders to include

climate risks to health. By understanding the impacts across the public and private sectors and planning accordingly, the Nation will be better prepared. Health resilience requires participation by a wide array of key stakeholders both inside and outside of the health fields, and a strong focus at the SLTT levels among healthcare, public health, and other government, business, non-profit, and community organizations. As climate change is anticipated to have a significant impact on national, community, and individual health resilience over the next several decades, DHS will need to ensure a "whole health resilience" framework is developed.

**Promote improved employee health and mission effectiveness through the identification and implementation of protective practices and facilitation of a multi-year strategic implementation plan for employee resiliency programs.** Climate change will affect the physical and mental health of the DHS workforce and their families. Critical to border security is the health security of the DHS employees who are tasked with protecting our borders. As the environment changes, people will be at a greater risk of threats to their health and mental well-being. These threats may include increased heat-related illness and death, infectious diseases, respiratory illnesses, and vector borne illnesses. The DHS workforce will need to draw from a variety of skill sets to effectively address climate change prevention and preparedness, including DHS Together Employee Resilience programs and Occupational Health mitigation efforts.

**Integrate CCA considerations into international agreements (particularly for Canada, Mexico, Central America, and the Caribbean).** Similar to many other risks, the impacts of climate change do not adhere to international boundaries. OHA and the Office of International Affairs (OIA) will integrate CCA considerations into their approaches when crafting international agreements and protocols, particularly for the border nations where direct and indirect consequences from climate change could affect the United States.

## ARCTIC ACTIONS

The 10 actions outlined in this section were derived from U.S. Coast Guard's Arctic Strategy and have a 10-year horizon for implementation. The strategy is available in its entirety at [www.uscg.mil](http://www.uscg.mil).

**Ensure effective coordination and information sharing.**

No one nation, department, or agency can attain Maritime Domain Awareness (MDA) in isolation. MDA requires a collaborative network of partners drawing upon their cumulative authorities, capabilities, and experience.

**Enhance collection, fusion, and analysis of maritime information and intelligence.**

The Federal government seeks to identify and intercept threats long before they pose a risk to national or allied interest. MDA allows DHS to identify and assess potential threats in order to improve functional and operational decision-making. Automated or autonomous monitoring enables focus of limited resources on the greatest risks and threats.

**Increase presence to improve awareness.**

Effective maritime presence is essential to improving awareness and ensuring safe, secure, and environmentally responsible maritime activity in Arctic waters. Presence enables the USCG to respond to vessels in distress, save lives, prevent attacks, protect against pollution, and enables adequate enforcement of vessel routing regimes and compliance with safety, security, and environmental laws and treaties. Moreover, front-line maritime forces generate valuable surveillance that enhances MDA. Effective presence requires the right assets and capabilities to be in the right places.

**Inform domestic and international governance.**

Effective governance incentivizes mariners to comply with appropriate safety, security, and environmental standards. Clear, consistent, inclusive governance involves shared values, supportable standards, and balanced regimes of enforcement and discretion. USCG will inform and sustain effective governance both domestically and internationally.

**Safeguard the marine environment.**

The Arctic is sensitive ecologically and increasing human activity in Arctic waters will pose additional risk of pollution. USCG will identify best practices that protect and promote environmental resilience in the Arctic.

**Preserve living marine resources.**

Fisheries and biomass integrity in the Arctic are extraordinarily sensitive and presently changing. USCG will seek to deter illegal fishing and influence international enforcement regimes.

**Protect U.S. Sovereignty and Sovereign Rights.**

Consistent with domestic and international law, the U.S. Government exercises all lawful claims of sovereignty, sovereign rights, and jurisdiction in the Arctic Region. Among these sovereign rights are duties relating to freedom of navigation and overflight. USCG will exercise

and assert U.S. sovereignty where necessary, ensuring freedom of navigation and integrity of sovereign borders.

**Develop and promote USCG as an expert resource for partners.**

As interest in the Arctic continues to grow, USCG must be positioned to advance U.S. priorities in the region. USCG will focus its efforts both internally and externally. Internally, the Service will examine and adapt to ensure frameworks, competencies, and resources address distinct regional challenges. Externally, USCG will continue to partner across sectors to build knowledge, capacity, and resilience.

**Leverage domestic and international partnerships as force multipliers.**

No single agency or nation has the sovereignty, capacity, or control over resources necessary to meet all emerging challenges in the Arctic. A strong network of partnerships is required to deliver the platforms, people, and protocols necessary to secure the region against transnational threats, facilitate legitimate commerce, and protect the environment. USCG will seek out new areas of mutual interest to build strategic partnerships that promote innovative and affordable solutions, and enhance burden-sharing throughout the region.

**Support a national approach for Arctic planning.**

The cross-cutting nature of Arctic issues requires collaborative and coordinated solutions. USCG will support whole-of-government efforts for Arctic planning and operations. By integrating operational capabilities, reducing redundancies, and leveraging authorities across all levels of governance, USCG will improve unity of command and unity of effort.



1917

2005

A summer-time comparison of the Pederson Glacier in Alaska. Courtesy of NOAA



# HOW YOU CAN GET INVOLVED





## LEARN MORE/GET ENGAGED

Climate change is happening. While we may not be able to point to any particular weather event and conclusively say it is due to climate change, the increased frequency and devastation of extreme weather indicates that the climate is changing and will continue to do so.

What can you do to prepare for climate change? First and foremost, educate yourself on the issues. Gaining knowledge of what climate change means to you is an important start. Learn what your community and state are doing to prepare. What are the risks that you may be exposed to and how can you lessen their impact on you, your family and neighbors? Listed below are a few links and ideas that may be useful in beginning your journey to resilience.

1. **See what the Federal Government is doing on climate change:**

<http://www.whitehouse.gov/administration/eop/ceq/initiatives/resilience>

<http://www.epa.gov/climatechange/impacts-adaptation/fed-programs.html>

2. **See if your state has a Climate Action Plan:**

<http://www.georgetownclimate.org/state-action>

<http://www.c2es.org/us-states-regions/policy-maps/climate-action-plans>

3. **To learn more about what cities are doing, visit:**

<http://www.icleiusa.org/action-center/planning/climate-action-planning>

<http://www.c2es.org/us-states-regions/policy-maps/adaptation>

4. **FEMA's Smartphone App contains disaster safety tips, an interactive emergency kit list, emergency meeting location information, and a map with open shelters and open FEMA Disaster Recovery Centers:**

<http://www.fema.gov/smartphone-app>



Middletown, N.J.—Volunteers aid homeowners deeply affected by Hurricane Sandy to recover and rebuild their flood-damaged homes. Courtesy of FEMA

# ACRONYM LIST

<b>BAMS</b>	Bulletin of the American Meteorological Society
<b>CBP</b>	U.S. Customs and Border Protection
<b>CCA</b>	Climate Change Adaptation
<b>CEQ</b>	Council on Environmental Quality
<b>CIRWG</b>	Community and Infrastructure Resilience Working Group
<b>DG</b>	Director Group
<b>DHS</b>	Department of Homeland Security
<b>DoD</b>	Department of Defense
<b>DRG</b>	Domestic Resilience Group
<b>EO</b>	Executive Order
<b>ESC</b>	Executive Steering Committee
<b>FAQs</b>	Frequently Asked Questions
<b>FAV</b>	Food, Agriculture and Veterinary Branch
<b>FEMA</b>	Federal Emergency Management Agency
<b>FY</b>	Fiscal Year
<b>GAO</b>	Government Accountability Office
<b>HHS</b>	U.S. Department of Health and Human Services
<b>HSA</b>	Homeland Security Advisor
<b>HSE</b>	Homeland Security Enterprise
<b>I&amp;A</b>	Office of Intelligence and Analysis
<b>ICE</b>	U.S. Immigration and Customs Enforcement
<b>IMO</b>	International Maritime Organization
<b>IND</b>	Improvised Nuclear Device
<b>IP</b>	Infrastructure Protection
<b>MDA</b>	Maritime Domain Awareness
<b>MGMT</b>	Management
<b>NBIC</b>	National Biosurveillance Integration Center
<b>NCA</b>	National Climate Assessment
<b>NCADAC</b>	National Climate Assessment and Development Advisory Committee
<b>NFIP</b>	National Flood Insurance Program
<b>NHSS</b>	National Health Security Strategy
<b>NIBS</b>	National Institute of Building Sciences
<b>NIST</b>	National Institute of Standards and Technology
<b>NOAA</b>	National Oceanic and Atmospheric Administration
<b>NPPD</b>	National Protection and Programs Directorate

<b>NSS</b>	National Security Strategy
<b>OHA</b>	Office of Health Affairs
<b>OIA</b>	Office of International Affairs
<b>OPA</b>	Office of Public Affairs
<b>PLCY</b>	Office of Policy
<b>PPD</b>	Presidential Policy Directive
<b>PSO</b>	Private Sector Office
<b>QHSR</b>	Quadrennial Homeland Security Review
<b>RRAP</b>	Regional Resiliency Assessment Program
<b>S&amp;T</b>	Science and Technology
<b>SFHA</b>	Special Flood Hazard Areas
<b>SLE</b>	Senior Leadership Exercise
<b>SLTT</b>	State, Local, Tribal and Territorial
<b>SNRA</b>	Strategic National Risk Assessment
<b>USACE</b>	U.S. Army Corps of Engineers
<b>USCG</b>	U.S. Coast Guard
<b>USCIS</b>	U.S. Citizenship and Immigration Services
<b>USDA</b>	U.S. Department of Agriculture
<b>USGCRP</b>	U.S. Global Change Research Program



# APPENDIX I: FRAMING GUIDANCE

*[W]e know that no single weather event is caused solely by climate change. Droughts and fires and floods, they go back to ancient times. But we also know that in a world that’s warmer than it used to be, all weather events are affected by a warming planet. The fact that sea level in New York, in New York Harbor, are now a foot higher than a century ago—that didn’t cause Hurricane Sandy, but it certainly contributed to the destruction that left large parts of our mightiest city dark and underwater.*

—President Barack Obama’s speech on Climate Change, June 25, 2013, Georgetown University

Following the President’s issuance of E.O. 13514 in October 2009 requiring federal agencies to support the U.S. Government’s efforts to develop a national climate change adaptation (CCA) strategy, and the subsequent release of the National Security Strategy of 2010 recognizing the threat posed by climate change as “real, urgent, and severe”, DHS immediately established the DHS Climate Change Adaptation Task Force (CCA Task Force) to conduct an analysis of climate change risk to DHS missions. The CCA Task Force findings showed the projected impacts of climate change to national security

and resilience, including DHS missions, operations, and infrastructure. In December 2010, Secretary Napolitano issued Department-wide guidance on CCA implementation based on the final recommendations of the CCA Task Force. This guidance laid the foundation for governance, leadership, policy, education, and whole community engagement for DHS on this issue. The documents that influenced the CA Plan are reflected below in Figure 4.



**Figure 4.** Strategic guidance coordinates the Federal climate change response and sets the foundation for the DHS CCA and related Department-wide initiatives.

Pursuant to the National Security Strategy of 2010 and E.O. 13514, and in alignment with Secretary Napolitano's December 10, 2010 CCA Implementation Guidance and DHS CCA Policy, DHS began drafting the CCA Roadmap in 2011. Using a risk-informed approach and best available science, the Roadmap examined the threats, vulnerabilities, and potential consequences of climate change to the DHS mission space while considering the short, medium, and long term implications for the Department. To better inform the Roadmap writing effort and to integrate climate change into the Department's long-range planning, in August of 2011.

DHS conducted a two-phase CCA Senior Leadership Exercise. The outcomes of the exercise helped to define roles and responsibilities of DHS components in preparing the Nation for climate change, and to educate DHS leadership on the implications of climate change for homeland security. The Department published the CCA Roadmap in June of 2012 to satisfy the requirements of E.O. 13514. The Roadmap also established the foundation for integrating CCA into both the culture and operations of DHS marking a commitment to continue to learn, assess, and adapt to a changing climate.

## FRAMING GUIDANCE FOR THE CLIMATE ACTION PLAN

Since the release of the DHS CCA Roadmap in 2012, DHS' CCA efforts have aligned with a number of new policies and strategic guidance. Notably, the CA Plan synchronizes the Department's CCA strategy with the unified Federal effort outlined in The President's Plan. It also takes into consideration the tactical advances made by the National Preparedness Presidential Policy Directive 8 (PPD-8), the Critical Infrastructure Security and Resilience Presidential Policy Directive (PPD-21), and the U.S. Coast Guard's Arctic Strategy released in 2013. Finally, future iterations of the CA Plan will align to and synchronize with upcoming departmental guidance, such as QHSR 2014 and the FY 2016–FY 2020 Future Year Homeland Security Program.

## ALIGNING WITH THE PRESIDENT'S CLIMATE ACTION PLAN

The most pressing reason for the update of the Roadmap is to help implement the vision of The President's Climate Action Plan. Announced by President Obama on June 25, 2013, it represents a landmark commitment by the

U.S. Government to address the risks posed by climate change. Several of the most important actions in this CA Plan stem from the President's Plan, including the promotion of building codes and a decision support tool. For example, the promotion of modern building codes will help create a stronger America as more injury and death results from structural debris (e.g., shattered glass) than the hazards themselves. Further, a Decision Support Tool will attempt to provide a user-friendly framework—one that allows critical infrastructure stakeholders, for instance—to make risk-informed decisions based upon projected climate impacts. Information will be derived from the best available science, such as that provided by the U.S. Global Change Research Program (USGCRP) and the soon to be released National Climate Assessment 2014.



Bellevue, NE—The flooding Missouri river captures more land around the Bellevue Bridge. Access roads to the Marina are impassable. Courtesy of FEMA



Bellevue, NE—The flooding Missouri river captures more land around the Bellevue Bridge. Access roads to the Marina are impassable. Courtesy of FEMA

## PRESIDENTIAL POLICY DIRECTIVES 8 AND 21

The community resilience actions in this CA Plan are greatly influenced by PPDs 8 and 21. PPD-8 signed by the President on March 30, 2011, articulates a system for national preparedness; one that resulted in the creation of the first National Preparedness Goal. PPD-8 is designed to ensure that when the Nation's emergency response capabilities are stressed, we are prepared. Further, it required the first Strategic National Risk Assessment (SNRA) to assist the homeland security enterprise with placing emphasis on the greatest risks threatening the security and resilience of the Nation. The SNRA identifies floods as the most commonly occurring hazard—one of the hazards most exacerbated by climate change. This is just one example of PPD-8's importance when considering climate change as a 'threat multiplier' to national security.

Similarly, PPD-21, released concurrently with President Obama's State of the Union address on February 12, 2013, emphasizes the importance of ensuring the Nation's critical infrastructure is resilient to all threats and hazards. It expands the national goal for critical infrastructures from simple "protection" to "security and resilience." This policy reflects the emerging consensus that critical infrastructure failures, whatever the cause, impose unacceptable losses

to the American public and economy—proving a threat to national security. The actions outlined in the CA Plan articulate DHS' strategy to support the Nation's critical infrastructure owners and operators and SLTT decision-makers as they adapt to and plan for the consequences of climate change. Through the all hazards resilience approach created by PPD-8 and PPD-21, climate risks are being added to risk analytics for incorporation into DHS programs and planning—most notably in national preparedness and critical infrastructure protection.

## THE ARCTIC STRATEGY

On May 21, 2013, the USCG, the maritime component of DHS, released its 10-year Arctic Strategy. Operating in the Arctic is not a new venture for the USCG; however, adapting to climate change in the region requires a fresh approach that includes foresight, focus, and clear priorities.

The effects of climate change can be seen clearly in the U.S. Arctic Region. The rate of temperature increase is surpassing every other region on the planet. Satellite observations over time show decreasing multi-year ice, and increasing open water during the Arctic summer. The lowest sea ice extent on record occurred in September of 2012. Consequently, coastal villagers are experiencing dramatic environmental changes making their communities more prone to storm surges, diminishing permafrost, and coastal erosion. Furthermore, economic development, in the forms of resource extraction, adventure tourism, and trans-Arctic shipping create further operational challenges in the region.

To address these climactic issues, the U.S. Coast Guard's Arctic Strategy outlines three strategic objectives for the Coast Guard in the coming years—improving awareness, modernizing governance, and broadening partnerships. These objectives are directly reflected in the actions included in this CA Plan.

### Did You Know?

In 2012, with the region experiencing unprecedented change and breaking several records, the Arctic continued to warm at about twice the rate of the lower 48 States. Sea ice shrank to its smallest "summer minimum" extent since satellite records began 34 years ago.

Source: [2012 NOAA Report](#)



# APPENDIX II: GOVERNANCE

*[H]omeland security is meant to connote a concerted, shared effort to ensure a homeland that is safe, secure, and resilient against terrorism and other hazards where American interests, aspirations, and way of life can thrive.*

—DHS Quadrennial Homeland Security Review Report: A Strategic Framework for a Secure Homeland, February 2010

In accordance with Secretary Napolitano’s Implementation Guidance, the Department established a governance structure for CCA planning in 2011. The initial structure consisted of a standing Executive Steering Committee (ESC) to provide leadership guidance and oversight of a “One DHS” CCA effort, and a Director Group to provide tactical support to the ESC. In 2013, the Community and Infrastructure Resilience Working Group (CIRWG) was established to augment the standing governance structure on high priority and time sensitive CCA objectives. Acting as a senior-level strike team, the CIRWG provides agility and near-term results on the Department’s most pressing CCA issues.

## EXECUTIVE STEERING COMMITTEE

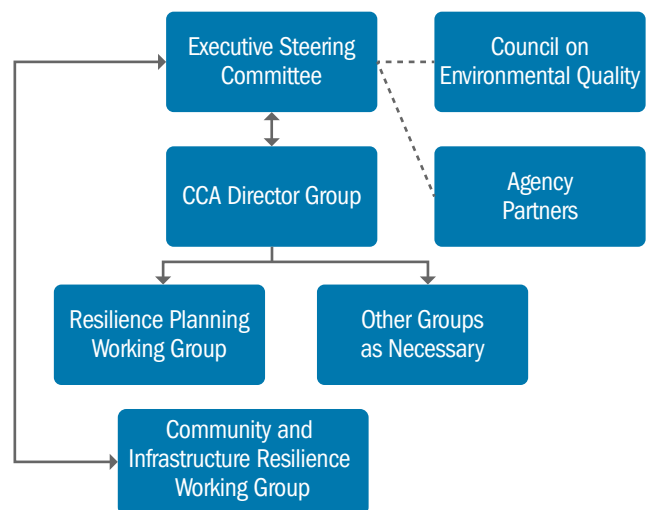
The ESC is a “One DHS” body led by the Senior Counselor to the Secretary and is chartered to:

- ▶ Serve as the primary oversight body for CCA at DHS;
- ▶ Identify objectives for DHS’ multi-year CCA strategy; and
- ▶ Oversee implementation of the CA Plan.

## CCA DIRECTOR GROUP

The Director Group (DG) is chaired by the Director of Resilience Policy. Officially recognized in the ESC charter, the Director Group serves as its tactical arm tasked with day-to-day implementation of the CA Plan. Since its creation, the DG has:

- ▶ Executed several priority actions in both FY 2012 and FY 2013;
- ▶ Created a compendium of resilience programs for which to incorporate CCA planning – a key item from E.O. 13514; and
- ▶ Crafted public affairs guidance and a draft communications strategy.



**Figure 5.** The CCA Governance structure ensures coordination and accountability for the DHS CCA actions.

## COMMUNITY AND INFRASTRUCTURE RESILIENCE WORKING GROUP

The CIRWG is an intra-departmental body made up of senior representatives. Although initially focused on issues related to Sandy recovery efforts, the CIRWG is now responsible for:

- ▶ Supporting the ESC on the integration of CCA into DHS' community and infrastructure resilience-related strategies, plans, business processes, programs, and operations as a key strategic driver;
- ▶ Coordinating and spurring action on community and infrastructure resilience-related activities under the CA Plan in order to ensure demonstrable progress, as well as seeking additional opportunities to innovate and address gaps in existing plans;
- ▶ Identifying research projects and needs to support the relevant CA Plan actions; and
- ▶ Ensuring a common understanding of DHS' purpose in this area and the broad steps that components must take individually and in coordination to achieve the desired outcomes.





