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EXAMINING DHS'S MISPLACED FOCUS ON CLIMATE CHANGE

UNITED STATES HOUSE OF REPRESENTATIVES, COMMITTEE ON HOMELAND SECURITY

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Committee on
HOMELAND SECURITY
Chairman Michael McCaul

Opening Statement

July 8, 2015

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**Statement of Subcommittee Chairman Scott Perry (R-PA)
Subcommittee on Oversight and Management Efficiency**

“Examining DHS’s Misplaced Focus on Climate Change”

Remarks as Prepared

Our nation is facing serious threats to our security. Thousands of foreign fighters have joined the ranks of ISIS to wage a global jihadi war. Hundreds of these fighters are returning to Europe and the United States, raising the risk of domestic terror attacks. Our cyber networks are under siege by foreign governments, “hacktivists”, and other groups. In the latest cyber-attack against the Office of Personnel Management, untold millions of current and former Federal employees’ information was stolen, including highly sensitive background information used for vetting security clearances. The threats we face are significant, numerous and on multiple fronts; yet, the recent reports of a 96 percent failure rate by airport screeners show that our security programs are vulnerable and ineffective. Considering all of these threats – and a myriad of others - I am outraged that the Department of Homeland Security (DHS) continues to make climate change a top priority.

Last year, one of Secretary Jeh Johnson’s first acts was to approve and sign the 2014 Quadrennial Homeland Security Review, known as the QHSR. This is the key document for DHS intended to guide strategic planning, budget, and operations. The QHSR was over six months late, in part to allow time for the Secretary to review it. According to the final document, “trends associated with climate change present major areas of homeland security risk.” The QHSR goes on to note how climate change and associated trends can act as “threat multipliers”; it includes examples of how weather changes may lead to increased illegal immigration and melting sea ice could lead to increased smuggling and trafficking. The QHSR concludes that climate change fundamentally will alter the homeland security strategic environment.

The rhetoric used in the 2014 QHSR largely parallels past strategic documents released by DHS under this Administration – including a Climate Change Adaptation Policy and Climate Change Action Plan. In these documents, DHS was bold enough to assert that climate change poses a direct security risk to the Nation. Former DHS Secretary Janet Napolitano stated that climate change was one of the “greatest

challenges of our time.” DHS also implied that extreme weather conditions can lead to “militant groups to become active.” Are the American people to believe that the increased operations by ISIS are due to hot weather or a shortage of water? Such assertions are ridiculous and, frankly, insulting.

The QHSR focus on climate change raises serious questions about this strategy. Last year, this Subcommittee voiced concern when the QHSR strategy was released – about how it failed to address threats from nation-state actors, such as Iran, China and Russia. With so many threats facing us, it’s utterly incomprehensible to include climate change, yet stay silent on foreign threats.

In Fiscal Year 2016, DHS requested over \$16 million on critical infrastructure analysis and FEMA workshops related to climate change – more than the Secret Service requested to improve its training facilities following the high profile breach of the White House last September. Yet in preparation for this hearing, even the Congressional Research Service was unable to ascertain the total amount being spent by DHS on climate change. In addition, the Government Accountability Office has reported that numerous federal offices and committees work on issues related to climate change. Given the lack of transparency with the budget, the American people have no assurance as to how their tax dollars are being spent. I want to hear from the DHS witnesses with regard to activities ongoing related to climate change and how taxpayer dollars are being spent.

At the Coast Guard Academy graduation in May, President Obama said that “climate change constitutes a serious threat to global security, an immediate risk to our national security.” Statements like these contrast with the President’s efforts to broker a deal with Iran and failure to call the enemy what it is – radical Islamist extremism, and show just how misplaced are the priorities of this Administration. DHS faces enormous challenges protecting our citizens from an array of global threats. Ignoring the true security risks facing our Nation in order to satisfy political constituencies is irresponsible and puts us at grave risk.

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**U.S. DEPARTMENT OF HOMELAND SECURITY
TESTIMONY FOR
ACTING ASSISTANT SECRETARY THOMAS P. SMITH
OFFICE OF POLICY – STRATEGY, PLANS, ANALYSIS, AND RISK
BEFORE THE
COMMITTEE ON HOMELAND SECURITY
SUBCOMMITTEE ON OVERSIGHT AND MANAGEMENT EFFICIENCY
U.S. HOUSE OF REPRESENTATIVES
WEDNESDAY JULY 8, 2015**

Chairman Perry, Ranking Member Watson Coleman, and Members of the Subcommittee; thank you for the opportunity to appear before you today to discuss our efforts to assess climate change as a risk within the 2014 Quadrennial Homeland Security Review.

I am Thomas Smith, Acting Assistant Secretary for DHS's Office of Policy – Strategy, Plans, Analysis and Risk (SPAR). I have been with DHS since July of 2013 and with SPAR since the summer of 2014. Prior to joining the Department, I served 29 years in the United States Army, culminating with an assignment as the Chief of Operations, Plans, and Training (G-3) for the Army Corps of Engineers. The mission of SPAR is to develop analytically driven, high-impact products that improve DHS and the homeland security enterprise's strategic direction, integration, and decision-making; design and refine DHS processes necessary for the strategic management of the Quadrennial Homeland Security Review (QHSR) missions; and to ensure DHS strategy, planning, and analysis have the intended, beneficial impact on homeland security activities.

First and foremost, the QHSR is a validation of the five enduring missions of the Department:

1. Prevent Terrorism and Enhance Security;
2. Secure and Manage Our Border;
3. Enforce and Administer Our Immigration Laws;

4. Safeguard and Secure Cyberspace; and
5. Strengthen National Preparedness and Resilience.

The first QHSR, published in 2010, articulated that homeland security is ultimately about managing the risk to the Nation posed by a range of threats and hazards. The second QHSR, published in 2014, comprehensively examines the homeland security strategic environment and identifies strategic shifts as well as areas of ongoing priority and renewed emphasis for the Nation’s long-term homeland security strategy. In developing the 2014 QHSR, the Office of Policy conducted a number of activities to understand threats and hazards, as well as the strategic environment we operate in – analyses collectively known as the Homeland Security Strategic Environment Assessment (HSSEA). The HSSEA characterizes those risks, threats, current and future trends, and critical uncertainties with the greatest potential to affect homeland security in the 2015-2019 timeframe. As part of this process, DHS sought input from industry, academia, and government¹ to provide a greater understanding of the homeland security strategic environment and to ensure that the priorities highlighted in the quadrennial review were risk informed. Experts involved in the HSSEA collectively identified natural disasters, pandemics, and climate change as key drivers of change to the homeland strategic environment.

As articulated in the 2014 QHSR, natural disasters, pandemics, and climate change and associated trends continue to present a major area of homeland security risk, and may indirectly act as “threat multipliers.” Each of these factors aggravates stressors abroad that can enable terrorist activity and violence, such as poverty, food insecurity, environmental degradation, and social tensions. Over time, these drivers have the potential to cause severe consequences:

- More frequent severe droughts and tropical storms, especially in Mexico, Central America, and the Caribbean, could increase population movements, both legal and illegal, toward or across the U.S. border.
- Melting sea ice in the Arctic may lead to new opportunities for shipping, tourism, and legal resource exploration, but may also lead to new routes for smuggling and trafficking, increased risk of environmental disasters, and illicit resource exploitation.

¹ USG Components included in the formation of the 2nd QHSR included: DHS, DOJ, DOS, DOD, HHS, Treasury, USDA, ODNI, Commerce, Education, DOE, EPA, Housing and Urban Development, DOI, DOT, GSA, Labor, VA, and SBA.

- Higher temperatures may change patterns of human, animal, and plant diseases, putting the workforce, plant and animal health, and the general public at higher risk of illness.
- Higher temperatures and more-intense storms may also damage or disrupt telecommunications and power systems, creating challenges for telecommunications infrastructure, emergency communications, and the availability of cyber systems.

The inclusion of climate change in the 2014 QHSR built upon previous findings from the first QHSR in 2010, which also recognized the potential disruptions caused by climate change. The first QHSR noted that climate change was expected to increase the severity and frequency of weather-related hazards, which could, in turn, result in social and political destabilization, international conflict, or mass migrations. This assessment was further validated through extensive engagement during the 2014 QHSR process, including outreach across the Department and with interagency stakeholders; state, local, tribal, and territorial governments; and our private sector partners. DHS also employed IdeaScale and an online “Community of Practice” to solicit online engagement from homeland security practitioners.

Under the umbrella of the HSSEA, the Office of Policy analyzed the direct and indirect impacts of climate change. The Department’s foundational research studies that analyzed and assessed current trends and risk included:

Homeland Security National Risk Characterization

The Homeland Security National Risk Characterization (HSNRC) is a profile of steady-state and contingent homeland security risks which considered and compared a variety of threats and hazards, including those stemming from natural disasters, adversarial threats, and accidental technological or human-caused hazards. The Risk Characterization identified those risks that have the potential to significantly impact the nation’s homeland security. The HSNRC identified the direct and indirect effects of climate change as a national risk. These risks included hurricanes, tornadoes, wildfires, and floods.

A significant amount of outreach was involved in developing the HSNRC. Elements such as data sources, methodology, and/or key results were shared with senior leadership and members of technical staffs from other governments, including the United Kingdom, Canada, Mexico, Australia, and New Zealand,

who also conduct national risk assessments. The methodology was also shared at professional society conferences such as the Association of Federal Enterprise Risk Management Annual Summit, the Institute for Operations Research and the Management Sciences Practitioner Conference, and the Society for Risk Analysis Annual Conference.

Current Strategic Environment 2012

The Current Strategic Environment (CSE) report provided a focused examination of current trends and drivers underpinning the homeland security strategic environment. It outlined important current trends and key statistics within sixteen homeland security strategic drivers that span society, technology, the economy, the environment, and governance. The CSE is the product of months of focused research and analysis of the current trends and key statistics. The CSE noted that while it is not appropriate to attribute any single extreme weather event to climate change, climate change can affect the likelihood of certain types of extreme events.

As part of analyzing the CSE, team members reached out to subject matter experts from outside the Department (including think tanks and universities) in order to find new trends and verify that identified trends were generally perceived to be correct.

Future Strategic Environment 2013

The Future Strategic Environment (FSE) report highlighted key uncertainties, influential drivers, and associated sets of strategic indicators relevant to the missions and operations of homeland security out to the year 2030. The key insights of the FSE stem from a structured process of data collection and analysis that leveraged structured discussion and decision working groups, and the qualitative judgement of a diverse body of participants and subject matter experts, including over 100 participants from across DHS, the Intelligence Community, and the broader U.S. Government. The FSE concluded that the effects of climate change were one of the top six areas of key uncertainties and challenges, and was particularly resistant to influence by the homeland security enterprise efforts.

FSE team members discussed elements of the future strategic environment with Federal partners in a variety of working meetings with the Departments of Agriculture, Defense, Health and Human Services, State, Treasury, Veterans

Affairs, and the Environmental Protection Agency. The results were also raised at the U.S. Department of Homeland Security's University Based Centers of Excellence Directors' Meeting and the National Center for Risk and Economic Analysis of Terrorism Events 10th Year Anniversary Celebration.

In addition to our own risk assessments and analysis efforts, DHS drew upon previous work conducted under Executive Order (E.O.) 13514, *Federal Leadership in Environmental, Energy, and Economic Performance*, and follow-on work, including: the *Climate Change Adaptation Report*, October 2010; the *Climate Change Adaptation Roadmap*, June 2012; and the *DHS Climate Action Plan*, September 2013. The work performed during the QHSR utilized and included work from these previous efforts to understand the impact of climate change on departmental missions. The 2012 *DHS Climate Change Adaptation Roadmap* fulfilled the Executive Order 13514 requirement for all Federal Agencies to reinforce and comply with the U.S. Government's efforts to develop a national climate change adaptation strategy and to meet Federal Requirements of reducing greenhouse gas emissions to integrate climate change adaptation into both the culture and operations of the Department.

In conclusion, the best way to posture the Department to effectively address emerging threats and accomplish the Department's five enduring missions is to ensure that tough policy, strategy, and resource decisions are informed by a consideration of the strategic environment, with a clear sense of the associated risk and resource implications. To disregard natural disasters, pandemics, and climate change would be ignoring how these factors may indirectly act as "threat multipliers"; and neglect our shared responsibility to strategically manage risk and build a more prepared, resilient Nation. It is through the thorough and candid assessment of these risks that that we will strengthen the security and resilience of the United States.

I look forward to addressing your questions.

STATEMENT

OF

ROY WRIGHT

DEPUTY ASSOCIATE ADMINISTRATOR FOR INSURANCE AND MITIGATION
FEDERAL EMERGENCY MANAGEMENT AGENCY
U.S. DEPARTMENT OF HOMELAND SECURITY

BEFORE

THE

HOUSE COMMITTEE ON HOMELAND SECURITY
SUBCOMMITTEE ON OVERSIGHT AND MANAGEMENT EFFICIENCY
U.S. HOUSE OF REPRESENTATIVES
WASHINGTON, D.C.

“EXAMINING DHS’S MISPLACED FOCUS ON CLIMATE CHANGE”

SUBMITTED BY:

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WEDNESDAY JULY 8, 2015

Introduction

Chairman Perry, Ranking Member Watson Coleman, and Members of the Subcommittee, I appreciate the opportunity to appear before you today. My name is Roy Wright. I am the Deputy Associate Administrator for Insurance and Mitigation at the Federal Emergency Management Agency (FEMA).

In my capacity, I oversee FEMA's work in hazard mitigation planning and grants, the National Flood Insurance Program (NFIP), and activities to help build community resilience across the Nation. These areas cover a vast mission space and an array of programs important to securing the nation against the many threats we face.

FEMA's mission is to support our citizens and first responders to ensure we, as a nation, continue to build, sustain, and improve our capability to prepare for, protect against, respond to, recover from, and mitigate all hazards. To continue to accomplish our mission in the years to come, FEMA is working collaboratively with stakeholders across the whole community to ensure the United States is preparing and planning for both current and future risks. These future risks include a wide array of changes, including shifting demographics, aging infrastructure, and the possibility for increases in number and severity of extreme weather events.

It is important to note that climate change is just one of many future risks we plan for, but one that could significantly alter the types and magnitudes of hazards impacting communities and the emergency management professionals serving them. Accordingly, consistent with FEMA's focus on enabling disaster risk reduction nationally, we are supporting state, local, and tribal governments with efforts to prepare for the impacts of climate change through adaptation, which means planning for the changes that are occurring and expected to occur.

The Stafford Act

The Stafford Act sets the statutory framework from which we manage our role in mitigation and address future risk. The Stafford Act stipulates that post-disaster mitigation activities must "substantially reduce the risk of future damage." This law mandates that FEMA address future risk and helps ensure federal taxpayer dollars are used responsibly given the possibility of changing conditions.

Additionally, the Stafford Act requires actions by communities to address future risk by requiring state, local and tribal governments to develop plans for hazards, risks and vulnerabilities in their respective jurisdictions. State, local and tribal mitigation plans are required to include the "probability of future hazard events" occurring in a given jurisdiction. Also, the plans must contain a mitigation strategy that speaks to reducing or avoiding the long-term vulnerabilities the hazards pose. Without this future look, a community cannot adequately prepare to mitigate against future loss of life and property.

The Stafford Act also requires future risk be considered when addressing minimum standards for public and private structures. Recipients of federal assistance must meet a certain threshold in terms of the standards and codes being employed during construction. Further, FEMA is

authorized to provide funding to applicants for eligible, feasible, and cost-effective activities that have the purpose of reducing or eliminating risks to life and property from flood hazards and their effects in accordance with Section 203, Pre-disaster Hazard Mitigation.

FEMA's Work to Reduce Future Risk

In accordance with our statutory requirements, FEMA is working closely with the emergency management community to adapt to a wide array of changing risks in order to build greater resilience in communities across the Nation.

The DHS Climate Action Plan, which carries out direction in the President's Executive Order, *Preparing the United States for the Impacts of Climate Change*, includes a focus on ensuring resilience to disasters. FEMA, along with every Department or Agency with relevant authorities, is directed to provide tools and data, facilitate climate resilient investments, and build climate adaptation knowledge and capacity nationwide.

Recently, we have also taken a series of steps to address the future risk of flooding. This is vital because we know that floods damage our public health and safety, as well as our economic prosperity. In fact, between 1980 and 2013, the United States suffered more than \$260 billion in flood-related damages.

Earlier this year, President Obama signed Executive Order 13690, *Establishing a Federal Flood Risk Management Standard and a Process for Further Soliciting and Considering Stakeholder Input*, as a flexible framework to increase resilience against flooding and help preserve the natural value of floodplains. This new resilience standard will help ensure taxpayer dollars are well spent on infrastructure that can better withstand the impacts of flooding and help communities bounce back faster from disasters. Since flooding is the most costly and commonly occurring hazard in the United States, the standard will protect both public and Federal investments.

Additionally, following Hurricane Sandy, FEMA worked with its federal partners through the Hurricane Sandy Rebuilding Task Force to ensure that all federally funded rebuilding projects undertaken as part of the recovery from Sandy meet a single government-wide flood risk reduction standard that takes into account the increased risk the region is facing from extreme weather events, sea level rise and other impacts of climate change.

FEMA is also working with our partners in federal, state, local, and tribal government to continue and expand our work in the area of mitigation by applying our existing statutes and authorities to incorporate future risk into ongoing plans, policies and procedures.

State Mitigation Plan Review Guide

In early March 2015, FEMA announced the release of the State Mitigation Plan Review Guide ("Guide"). Starting March 6, 2016, the Guide will be FEMA's official policy on the natural

hazard mitigation planning requirements from Title 44 Code of Federal Regulations Part 201, and federal regulations for state hazard mitigation plans, inclusive of the District of Columbia and five U.S. territories. The guide supports state, tribal, and local government mitigation planning to identify risks and vulnerabilities associated with natural disasters and establish a long-term strategy for protecting people and property in future hazards events. State mitigation plans are one of the conditions of eligibility for certain FEMA assistance, such as Public Assistance Categories C-G and Hazard Mitigation Assistance mitigation project grants. States are required to update the state mitigation plan every five years.

This guide asks states to consider the probability of future hazard events, including changing future conditions, development patterns, and population demographics. The Guide clarifies that the probability of future hazard events must include considerations of changing future conditions, including the effects of long-term changes in weather patterns and climate on the identified hazards. States must continue to provide an overview of all natural hazards that can affect the state, using maps where appropriate.

To better reduce risk and enhance resilience, the Guide encourages states to take a holistic approach and include not only emergency management, but also the sectors of economic development, land use and development, housing, health and social services, infrastructure, and natural and cultural resources in their planning process and mitigation program, where practicable. These hazard mitigation plans must be adopted by the highest elected official or designee in the state, in order to ensure to ensure a holistic, whole of community approach..

Conclusion

Addressing future risks, such as those posed by extreme weather events regardless of their cause, is key to our mission. Wherever possible, we bring data to bear and work with deference to state, local and tribal needs and priorities. By addressing future risks, state, local, tribal and territorial governments are best prepared for future extreme weather events and are able to bounce back faster at the individual and community level.

Thank you.

Statement for the Record

Deputy Assistant Secretary Robert Kolasky
Office of Infrastructure Protection
National Protection and Programs Directorate
Department of Homeland Security

“Examining DHS’ Misplaced Focus on Climate Change”

Before the
Committee on Homeland Security’s Subcommittee on Oversight and Management Efficiency
United States House of Representatives

July 8, 2015

Thank you, Chairman Perry, Ranking Member Watson Coleman, and other distinguished Members of the Subcommittee. I appreciate the opportunity to appear before you to discuss the National Protection and Programs Directorate’s (NPPD’s) efforts to secure the Nation’s critical infrastructure and make it more resilient against all risks.

Our daily life, economic vitality, and national security depend on critical infrastructure. Infrastructure provides essential services; it is the engine of commerce, the basis of trade, the key to functioning communities, but it is easily taken for granted. Often, it is only when an incident occurs—leading to a disruption in services we have come to expect—that most peoples’ attention is drawn to the importance of infrastructure itself.

Threats to our critical infrastructure are wide-ranging—including acts of terrorism, cyber threats, aging and failing infrastructure components, and climate change. The Department of Homeland Security supports the preparedness efforts of owners and operators to prevent, protect against, mitigate, respond to, and recover from incidents affecting critical infrastructure. NPPD is responsible for leading and coordinating the national effort to protect critical infrastructure from all hazards by managing risk and enhancing resilience through collaboration with the critical infrastructure community. To achieve this end, NPPD works with the Nation’s owners and operators of critical infrastructure as well as the communities that rely on that infrastructure to address all risks as part of our all-hazards approach to building critical infrastructure security and resilience.

Climate Change Threatens our Nation’s Security

According to the U.S. Global Change Research Program’s Third National Climate Assessment released last year, the United States will experience an increase in frequency and intensity of hurricanes, massive flooding, excessively high temperatures, wildfires, severe downpours, severe droughts, storm surge, and sea-level rise throughout the 21st Century. Extreme weather strains our resources, serves as a “threat multiplier” that aggravates stressors both at home and abroad, and destabilizes the lifeline sectors on which we rely. Higher temperatures and more intense storms can cause damage or disruptions that result in cascading effects across our communities.

Critical infrastructure is subject to a wide variety of natural phenomena, and is typically designed to withstand the weather-related stressors of a particular locality. But shifts in climate patterns increase the range and intensity of potential risks to our critical infrastructure. Most infrastructure being built today is expected to operate for 50 years or longer. Therefore, it is important to understand how climate change might affect these investments now and in the coming decades so that what we build today will withstand the hazards of the future. This requires forward planning that considers the risks and uncertainties associated with climate change, rather than reliance on models solely based on the past. It also means building awareness of how depletion or alteration of natural resources may impact infrastructure operations.

Over the past few years, we have seen how extreme weather can compromise critical infrastructure, often for extended periods of time. In 2012, Hurricane Sandy flooded shorelines and subways, resulting in billions of dollars of damage, leaving tens of thousands of individuals without transportation or power, and most significantly, resulting in loss of life. Storms like Sandy and Hurricane Katrina remain a primary concern for significant regions of the country. So too, however, do more localized incidents such as the derecho we faced in the Mid-Atlantic in 2012; tornadoes in the Oklahoma region; and, more recently, the significant riverine flooding in the State of Texas. The impact of drought conditions in California and the rest of the Southwest is currently stressing the ability of our infrastructure to operate and threatening the water supply and, ultimately, the related electricity and fuel supply.

Unfortunately, we do not anticipate this trend abating. The analysis of infrastructure exposure to extreme weather events we have conducted shows that rising sea levels, more severe storms, extreme and prolonged drought conditions, and severe flooding combine to threaten the infrastructure that provides essential services to the American public. Ongoing and future changes to the climate have the potential to compound these risks and have a major impact on infrastructure operations.

There are a number of examples of the risk of delays, disruptions, damage, and failure that the projected impacts of climate change pose to our critical infrastructure systems. Many of the Nation's busiest air and sea ports are located in low-lying coastal areas, making them particularly vulnerable to flooding as a result of rising sea levels. In the tri-state area of New York, New Jersey, and Connecticut, many transportation infrastructure facilities (including Newark and LaGuardia airports) lie within the range of current and projected 50-year coastal storm surges. In the Gulf Coast—home to several of the largest ports in the United States—the combination of relative sea level rise and more intense hurricanes and tropical storms could lead to significant disruptions and damage.¹

In addition, the increasingly interconnected nature of our critical infrastructure creates new vulnerabilities and opportunities for disruption across supply chains. Three years ago, high temperatures and high demand tripped a transformer and transmission line in Yuma, Arizona, starting a chain of events that shut down the San Onofre nuclear power plant, leading to a large-scale power outage across the entire San Diego distribution system. Efforts have been made to address the vulnerabilities that led to such outages, including enabling automated switching and distribution SCADA (supervisory control and data acquisition) systems to provide utilities

¹ USGCRP (2009). *Global Climate Change Impacts in the United States*. Karl, T.R., J.M. Melillo, and T.C. Peterson (eds.). United States Global Change Research Program. Cambridge University Press, New York, NY, USA.

with enhanced capabilities for remote monitoring, and the ability to proactively address outages. However, additional progress is needed to secure our interrelated systems in the face of varied threats.²

These examples reinforce that the Nation must take a long-term perspective and account not only for risks based on previous experiences, but also consider evolving threats and hazards, including those caused by extreme weather that are linked to change in climate. Intergovernmental agencies and the scientific community, including the Intergovernmental Panel on Climate Change and the U.S. Global Change Research Program, warn that extreme weather may occur with increasing frequency. While it is always wise to consider future conditions, it is even more important for critical infrastructure. Infrastructure built now will be expected to operate under future stressor conditions, whatever they may be. As a result, it is a prudent investment to incorporate resilience into asset and system design and promote mitigation in existing infrastructure, rather than rebuild or redesign infrastructure after incidents occur.

DHS Actions to Ensure the Threat of Climate Change is Appropriately Addressed

The majority of the Nation's infrastructure is owned and operated by the private sector. NPPD works with owners and operators primarily on a voluntary basis to understand manmade threats and natural hazards, to share information on these threats and hazards, and promote best practices, training, and tools to help mitigate risks. By leveraging our core capabilities, such as information and data sharing, capacity development, vulnerability assessments, and situational awareness, NPPD is effectively using its skills and resources to build the Nation's resilience to extreme weather. Specifically, let me highlight two community-level engagements:

- In Charleston, SC, we are partnering with the newly formed Charleston Resilience Network to help the region address chronic and long-term hazards. We know from our work that the Charleston downtown area floods during periods of heavy rain and/or high tide. Within two hours of high tide, much of the storm water infrastructure fills with seawater, inhibiting drainage of storm water. When high tide and a storm converge, downtown Charleston begins to flood. Couple that with the fact that the average seasonal rainfall is projected to increase 1 to 1.5 inches over the next 35 years, and the continued prevalence of heavy, 24-hour rainfall events in the region, and we can predict with fair certainty that Charleston will experience chronic flooding. Rather than waiting for the next flood to occur, Charleston is proactively building a resilient community. They are improving their storm water management systems, and now, based on the work we performed in the area, they have launched a public-private partnership to address chronic and episodic hazards.
- In the Casco Bay region of Maine, NPPD recently conducted a Regional Resilience Assessment Program (RRAP) focused on climate change. This year-long program which included workshops, assessments, open-source research, and subject matter expertise interviews with federal, state and local officials as well as

² Technical Report to the U.S. Department of Energy in Support of the National Climate Assessment (February 2012). [*Climate Change and Infrastructure, Urban Systems, and Vulnerabilities*](#). Oak Ridge National Laboratory.

critical infrastructure operators helped the community identify areas of risk associated with the impacts of climate change. The assessment culminated in a table top exercise, the first ever focused on the consequences of climate change. Through this exercise, Casco Bay residents identified a number of vulnerabilities and corresponding opportunities for proactive mitigation. . With many of its transportation, electrical, and drinking water assets vulnerable to sea-level rise, change in water temperature, and storm surge, the safety, economic prosperity and quality of life of Maine residents could ultimately be at stake. As a result of this exercise, the region is exploring ways to proactively address these challenges.

Our partners aren't debating the science, nor are they waiting to see what happens; instead they are planning for an uncertain future. They are establishing their governance structures, actively engaging the private sector to jointly fund initiatives, and taking action to build resilience into their infrastructure, their planning, and their community. We are doing what we can to support these initiatives, while recognizing that this is just a small component of our overall mission.

Balancing Risks to Critical Infrastructure

The threats associated with climate change are just one of the many risks facing our national infrastructure. While we are here today to discuss the effects of climate change, we continue our efforts to secure all areas of our critical infrastructure from the many threats that face them. From preventing terrorism to safeguarding and securing cyberspace, reducing the risks to critical infrastructure must be a balance. Our focus remains on working with owners and operators of critical infrastructure to protect the Nation's infrastructure from all hazards.

Waking up every day with the job to ensure the security of the American people, and the availability of electricity, water, communications, transportation and financial networks, we must consider all hazards that could threaten our communities and ways of life. Working with the private sector and community leaders to plan for the impacts of climate change is essential. Long-term planning in the face of uncertainty is the cornerstone of risk management and we must address the risks of today while also preparing the country for the risks of the future.

Thank you for your time this morning. I look forward to any questions.

**House Committee on Homeland Security
Subcommittee on Oversight and Management Efficiency
Hearing on “Examining DHS’s Misplaced Focus on Climate Change”
July 8, 2015**

Testimony of

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Good morning Chairman Perry, Ranking Member Watson Coleman, and members of the Subcommittee. My name is Marc Levy, and I am Deputy Director of the Center for International Earth Science Information Network, which is a unit of the Earth Institute at Columbia University. I appear before you in my personal capacity.

I have been studying the interactions between environmental change and national security for over twenty years, with a particular focus on climate change. I served as a lead author on the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report’s chapter on Human Security (Adger et al 2014) and have regularly provided expert advice to U.S. government bodies.

I will show that the premise of this hearing is backwards. The Department of Homeland Security (DHS) is not doing *enough* to prepare the country for security threats from climate change.

Consider threats to the homeland.

Last year a careful analysis of the economic risks that climate change poses for the US, overseen by a bipartisan commission, found that the US economy faces potential losses of tens of billions of dollars over the next 5-25 years as a result of increased storm damage, large-scale crop losses, and disruptions to the energy system (Risky Business Project 2014). In addition, heat waves

threaten to kill tens of thousands Americans per year. The US National Climate Assessment found similar dangers looming. Some risks are with us now: in Alaska climate change impacts are already rendering entire towns virtually unlivable (Melillo, Richmond and Yohe 2014).

A group that adopted the goal of inflicting such harm on the homeland would immediately jump to the top of our terrorist threat list.

Those charged with defending US national security abroad have also converged around a view that extreme events from climate change are likely to create security problems that could require deployment of US forces or provide openings for the expansion of influence of organizations and governments hostile to our vital interests.

This view emerged rapidly and without partisan divisions, with a 2003 DoD study (Schwartz and Randall 2003) and a 2008 National Intelligence Assessment (Fingar 2008) key initial milestones. Since 2009 every National Threat Assessment by the Director of National Intelligence has pointed to climate change as a major security threat. The Department of Defense (2014) has identified climate change as an immediate threat. A complete list of U.S. government assessments of climate-security risks can be found at <http://climateandsecurity.org/resources/u-s-government/>.

The speed and depth of the transformation in our thinking that I have outlined is analogous to the way George Kennan's famous "Long Telegram" came to reorient US foreign policy after WWII around the strategic goal of containing Soviet expansionism. In both cases initial skepticism gave way to both the strength of the logic and the power of the evidence that unfolding events provided.

We are far from alone. Our allies see things the same way (American Security Project 2014). The most recent IPCC report says that "human security will be progressively threatened as the climate changes" (Adger et al 2014, p. 758). A G7-commissioned study concludes categorically that "Climate change is a global threat to security in the 21st century" (Rüttinger et al 2015).

This is not mass hysteria. Three central developments explain the remarkable convergence.

1. A rapidly expanding set of scientific studies has examined the historical data and shown that climate stress is very strongly statistically associated with political violence and instability (Hsiang et al 2013).
2. The climate stresses that historically have elevated security risks are manifesting with higher frequency, higher magnitudes, and even in new alarming forms (McElroy and Baker 2012).
3. There are global changes underway that are making security more tenuous even before climate change enters the picture, making the incremental effect of climate stress more dangerous. For example, the number of partially democratic regimes, which are at very high risk of instability, is at an all-time high (Goldstone et al 2010, Center for Systemic Peace 2014). Food prices, also a major risk factor, have jumped about 60% above their long-term average (Bellemare 2014, Food and Agricultural Organization 2015). And uncertainty over the evolving balance of power is triggering more conflict over territorial access and control (Mead 2014).

These risks affect the homeland. Terrorist organizations are more likely to succeed where weak governments have low authority. The loss of such authority can be accelerated by the dynamics associated with climatic stress (NRC 2013, 75-96).

It is now time to shift gears and focus on the hard task of mounting an effective response. And this is where the administration is failing to meet the challenge.

Consider some core recommendations made by a National Research Council (2013) study on climate and security, carried out at the request of the US intelligence community, which was released two and half years ago.

- Improve the ability to quantify the risk of disruptive climate events, including single extreme climate events as clusters and sequences of events (7).
- Improve understanding of the conditions under which climate impacts lead to security breakdowns (8).
- Develop a whole-of-government strategy for monitoring threats linked to climate change (10).

Establish a system of regular “stress testing” to identify potential problems concerning the ability of countries and global systems to manage disruptive climate events (11).

The need for an operational capability to understand and respond to climate-triggered security problems abroad was identified as far back as a 2003 in a DoD study (Schwartz and Randall 2003).

But the White House has not responded. In fact, if one examines publicly accessible information it seems that we are moving backwards in some critical areas. The CIA’s Center for Climate Change was closed in 2012 (Broder 2012), and MEDEA, a program that enabled university scientists to work with intelligence data to deepen understanding of the security aspects of climate change, has since also shut down (McDonnell 2015). In my view, it is imperative that MEDEA be reinstated.

In this context, what the Quadrennial Homeland Security Review (DHS 2014) says about climate change is far too tame. Our knowledge of the threat is growing, the risks are rising, and government responses are weak and uncoordinated. Someone should be ringing alarm bells.

In summary, the reason DHS is obligated to incorporate climate change into its risk framework is simple: climate change is endangering Americans and disrupting our economy. It threatens to destabilize regions of high national interest. This logic justifies all the high-level statements about climate as a national security threat. The same logic renders inexcusable the slow pace of meaningful action.

References

- Adger, W.N., J.M. Pulhin, J. Barnett, G.D. Dabelko, G.K. Hovelsrud, M. Levy, Oswald Spring, and C.H. Vogel (2014) "Human security" in: *Climate Change 2014: Impacts, Adaptation, and Vulnerability*. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Field, C.B., V.R. Barros, D.J. Dokken, K.J. Mach, M.D. Mastrandrea, T.E. Bilir, M. Chatterjee, K.L. Ebi, Y.O. Estrada, R.C. Genova, B. Girma, E.S. Kissel, A.N. Levy, S. MacCracken, P.R. Mastrandrea, and L.L. White (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, pp. 755-791.
- American Security Project (2014) "The Global Security Defense Index on Climate Change," <http://globalsecuritydefenseindex.org> (accessed February 25, 2015).
- Bellemare, Marc F. 2014, "Rising Food Prices, Food Price Volatility, and Social Unrest," *American Journal of Agricultural Economics* doi: 10.1093/ajae/aau038
- Broder, John (2012) "C.I.A. Closes Its Climate Change Office," *New York Times* (online) <http://green.blogs.nytimes.com/2012/11/20/c-i-a-closes-its-climate-change-office/>, accessed July 1, 2015.
- Center for Systemic Peace (2015) "Global Conflict Trends" <http://www.systemicpeace.org/conflictrends.html> (accessed June 3, 2015).
- Fingar, Thomas (2008), "National Intelligence Assessment on the National Security Implications of Global Climate Change to 2030," Statement for the Record, House Permanent Select Committee on Intelligence (June 25).
- Food and Agriculture Organization (2015) "FAO Food Price Index," <http://www.fao.org/worldfoodsituation/foodpricesindex/en/> accessed February 25, 2015.
- Goldstone, Jack A., et al. (2010) "A global model for forecasting political instability." *American Journal of Political Science* 54.1, 190-208.

Hsiang, S. M., Burke, M., & Miguel, E. (2013). "Quantifying the influence of climate on human conflict," *Science* 341(6151)

Maliniak, Daniel; Susan Peterson; Ryan Powers; and Michael J. Tierney (2015) "The Best International Relations Schools in the World" *Foreign Policy* <http://foreignpolicy.com/2015/02/03/top-twenty-five-schools-international-relations/>.

McDonnell, Timothy (2015) "The CIA Is Shuttering a Secretive Climate Research Program," *Mother Jones* (May 21) <http://www.motherjones.com/environment/2015/05/cia-closing-its-main-climate-research-program>, accessed July 1 2015.

McElroy, Michael and D. James Baker (2012), "Climate Extremes: Recent Trends with Implications for National Security," available at www.environment.harvard.edu/climate-extremes.

Mead, Walter Russel (2014) "The Return of Geopolitics" *Foreign Affairs* (May/June) 93:3, 69-79.

Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds. (2014) *Climate Change Impacts in the United States: The Third National Climate Assessment*. U.S. Global Change Research Program, 841 pp. doi:10.7930/J0Z31WJ2.

National Research Council (2013) *Climate and Social Stress: Implications for Security Analysis*. Committee on Assessing the Impacts of Climate Change on Social and Political Stresses, J.D. Steinbruner, P.C. Stern, and J.L. Husbands, Eds. Board on Environmental Change and Society, Division of Behavioral and Social Sciences and Education. Washington, DC: The National Academies Press.

Risky Business Project (2014) *Risky Business: The Economic Risks of Climate Change in the United States*, www.riskybusiness.org.

Rüttinger, Lukas; Dan Smith; Gerald Stang; Dennis Tänzler, and Janani Vivekananda (2015) "A New Climate for Peace: Taking Action on Climate and Fragility Risks," Independent report commissioned for G7 members, available at <http://www.newclimateforpeace.org/>.

Schwartz, Peter and Doug Randall (2003) “An Abrupt Climate Change Scenario and Its Implications for United States National Security,” available at http://www.climate.org/PDF/clim_change_scenario.pdf.

U.S. Department of Defense (2014) *Climate Adaptation Roadmap*, www.acq.osd.mil/ie/download/CCARprint_wForeword_c.pdf

U.S. Department of Homeland Security (2014) *The 2014 Quadrennial Homeland Security Review*.