

EXAMINING DHS'S MISPLACED FOCUS ON CLIMATE CHANGE

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BEFORE THE
SUBCOMMITTEE ON
OVERSIGHT AND
MANAGEMENT EFFICIENCY
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EXAMINING DHS'S MISPLACED FOCUS ON CLIMATE CHANGE

Wednesday, July 8, 2015

U.S. HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON OVERSIGHT AND
MANAGEMENT EFFICIENCY,
COMMITTEE ON HOMELAND SECURITY,
Washington, DC.

The subcommittee met, pursuant to call, at 10:12 a.m., in Room 311, Cannon House Office Building, Hon. Scott Perry [Chairman of the subcommittee] presiding.

Present: Representatives Perry, Duncan, Clawson, Carter, Loudermilk, Watson Coleman, Torres, and Thompson.

Mr. PERRY. Good morning, ladies and gentlemen.

The Committee on Homeland Security Subcommittee on Oversight and Management Efficiency will come to order.

The purpose of this hearing is to examine the Department of Homeland Security's rhetoric and actions regarding the subject of climate change and homeland security.

The Chair now recognizes itself for an opening statement.

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 of questionable effectiveness.

Considering all these threats and a myriad of others, I am shocked that the Department of Homeland Security continues to make climate change a top—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—strategic planning, budget, and operations. The QHSR was over 6 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. I wonder if the conclusion is based on fact or propaganda.

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—direct security risk—to the Nation.

Former DHS Secretary Janet Napolitano stated that climate change was one of the greatest challenges of our time. No doubt. DHS also implied that extreme weather conditions can lead to militant groups to become active. Are the American people to believe that the increased operation by ISIS or al-Qaeda or Khorasan or Boko Haram are due to hot weather or a shortage of water? Such assertions, to me, are ridiculous and, frankly, insulting.

The QHSR focus on climate change raises serious questions about this strategy and, candidly, the associated judgment therewith. 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 is utterly incomprehensible to highlight climate change while remaining 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 hope to hear from DHS witnesses with regard to activities on-going 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 boldly contrast with the President's efforts to broker a deal with Iran and his 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, and we appreciate the work they do in that vein. Ignoring the factual, very real, and true security risks facing

our Nation in order to satisfy political constituencies is irresponsible, to say the very least, and puts our Nation at grave risk.

Thus endeth the Chairman's statement.

[The statement of Mr. Perry follows:]

STATEMENT OF CHAIRMAN SCOTT PERRY

JULY 8, 2015

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 6 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 on-going 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.

Mr. PERRY. The Chairman now recognizes the Ranking Minority Member of the subcommittee, the gentlelady from New Jersey, Mrs. Watson Coleman, for any statement she may have.

Mrs. WATSON COLEMAN. Thank you, Mr. Chairman. I appreciate the opportunity to include Democratic Members' concerns with this hearing.

The title of this hearing presumes that Department of Homeland Security programs and DHS's coordination by the Executive Office of the President demonstrates a misplaced focus on security risks linked to climate change. Chairman McCaul's May 20 statement belittles these necessary efforts as "climate politics," and I strongly disagree with this assessment.

The DHS fiscal year 2016 budget request includes several important activities designated as responses to climate change, among other purposes, such as hazard mapping and risk analysis to support the National Flood Insurance Program; planning and implementation of physical measures to avoid or reduce damage associated with natural disasters; critical infrastructure assessments; and DHS State, local, and Tribal workshops to build their capacity, inform preparedness activities, and validate their capabilities.

Mr. Chairman, I recognize that today's hearings will probably not lead you and me to agree on the sources or implications of carbon that is released into our atmosphere by human activity. Nonetheless, to me, it is essential for DHS to pursue activities like those I described earlier, regardless of the Department's views on the sources of climate change.

In fact, last year, our colleagues in the Senate Homeland Security Committee held a hearing titled "Extreme Weather Events: The Cost of Not Being Prepared." At that hearing, Senator Johnson, who now chairs that committee, described the lack of investment in disaster mitigation as penny-wise and pound-foolish.

Mr. Chairman, we cannot afford to be penny-wise and pound-foolish when it comes to disaster mitigation. Events from New Jersey to the Gulf Coast have required the deployment of DHS capabilities, ranging from search-and-rescue, to humanitarian relief, to law enforcement assistance. Neither my constituents nor yours will soon forget the devastation of Hurricane Sandy, which cost \$67 billion in damages caused.

Beyond just weather and climate events, Mr. Chairman, social scientists, including some within the U.S. intelligence community, have indicated that weather changes across the globe may play a role in dislocating populations, intensifying violent conflict and crime, promoting disease transmission, and aggravating economic and social stresses that destabilize governments. These factors make populations more vulnerable to incitement by extremist elements and are squarely in the purview of the Department's most vital duties.

At the publication last month of Pope Francis' Encyclical Letter "On Care for Our Common Home," my Democratic colleague on the committee, Mr. Langevin of Rhode Island, noted the emphasis on the disproportionate impacts that climate change will have on the world's poor and those living in developing countries. Indeed, in the letter, the Pope noted, "it is foreseeable that once certain resources have been depleted the scene will be set for new wars." Pope

Francis adds that “the control of water may become a major source of conflict in this century.” He notes “the premature death of many of the poor in conflicts sparked by the shortage of resources.”

I welcome the testimony today from our distinguished witnesses, and look forward to hearing from the Department on its activities and the nexus between its core mission and climate change issues. I also welcome the testimony from Professor Levy, who has assessed the National security implications of climate shift for the National Intelligence Council.

Finally, Mr. Chairman, I know that many residents of your district acutely suffered in the events of September 11, 2001, an attack that also took the lives of 48 people from my own district. I take personal note in the fact that we have not had a similar situation since that time and since this Department has been created. I have no doubt that we will not, and should not, compete in our dedication to confront and disrupt violent extremism. I am confident that we share the commitment to mitigate each of the conditions which allow violent extremism to develop.

So I support the interest my colleagues in the Majority have demonstrated to countering violent terrorism wherever it rears its head. I look forward to the committee’s acting favorably on Ranking Member Thompson’s letter to Chairman McCaul, requesting that the committee hold hearings to address threats to homeland security from domestic terrorism, such as the shooting at Emanuel AME Church in Charleston and several suspicious church fires.

In closing, Mr. Chairman, I hope that this hearing will prove a fair discussion of the wide range of security risks posed by the climate phenomena, rather than an opportunity to play politics or otherwise misplace the focus of Congressional oversight.

With that, Mr. Chairman, I yield back my time, and I thank you.

Mr. PERRY. The Chair thanks the gentlewoman and is privileged to have the Ranking Member of the full committee present. I recognize Mr. Thompson for a statement.

Mr. THOMPSON. Thank you very much, Mr. Chairman. Thank you for holding this hearing. I appreciate the witnesses’ appearing today.

Today’s hearing title mischaracterizes the Department of Homeland Security’s programs that address security risks linked to climate change as “climate politics” and a “misplaced focus.” These Department programs and activities provide resources to address other National priorities, such as preparedness for and response to natural disasters.

After living through the effects of Hurricane Katrina on the Gulf Coast, not to mention the recent flooding in Texas and Oklahoma, I find it confusing that the Majority would see a misplaced focus in DHS’s efforts on hazard mapping and risk analysis to support the National Flood Insurance Program; producing physical measures to avoid or reduce damage associated with natural disasters; assessing the safety and security of critical infrastructure; and conducting workshops requested by State, local, and Tribal leaders, intended to build their preparation and response capabilities.

In addition to the relevance of the Department’s core disaster preparation and mitigation efforts as a response to climate change trends, an even-handed treatment of DHS’s response to climate

change would be to acknowledge assessments produced for the United States intelligence community over the past decades. These studies have provided ample evidence that trends in global climate act—as well as what the 2014 Quadrennial Homeland Security Review described—as threat multipliers, aggravating stresses abroad that can enable terrorist activity and violence such as poverty, environmental degradation, and social tensions.

For example, as the U.S. Institute of Peace has found, threats we face today from the extremist group Boko Haram first emerged and expanded during a period coinciding with major droughts in and around northern Nigeria.

Two months ago, the Chairman of this committee stated that the Obama administration, particularly the Department of Homeland Security, is placing more emphasis on climate change than on countering violent extremism (CVE). Despite the Chairman's unwarranted criticism of DHS's valuable initiatives related to climate change, I too have concerns about the Department of Homeland Security's approach to countering violent extremism.

I have asked the Chairman to hold hearings on the Department's approach to countering violent extremism and to receive testimony from the DHS Countering Violent Extremism Coordinator. I have also expressed the need to receive testimony on this topic to the Department of Homeland Security. However, rather than provide testimony, the Department has chosen to have a briefing in our committee's Classified space.

Unfortunately, to date, this committee has not received testimony in an open setting from the Department on what it is doing with regard to CVE. Consequently, the Department has not adequately afforded the Members of the committee with the opportunity to hear what it is doing on countering violent extremism.

With the surge in domestic terrorist activity, such as what was carried out in Charleston, South Carolina, on June 17, and the continuing threat from international terrorist groups, such as ISIL, it is important and well past time that this committee receives testimony from DHS, not outside entities, on CVE.

The Department can and must manage in ways that develop robust, versatile, and adaptable activities and capabilities to address the full spectrum of threats from both man-made and natural disasters to the American people and the homeland. In doing so, DHS leaders must work to find ways for the Department to make the fullest contribution to a whole-of-Government response to climate change phenomena, employing programs and systems also used to respond to drug trafficking, threats to transportation, and threats to infrastructure generally. Similarly, we can find ways to counter violent extremism that robs American lives, whether originating at home or abroad, by sharpening the same kind of smart and flexible management.

With that, Mr. Chair, I yield back.

Mr. PERRY. The Chair thanks the Ranking Member of the full committee.

Other Members of the subcommittee are reminded that opening statements may be submitted for the record.

We are pleased to have a distinguished panel of witnesses before us today on this important topic.

Let me remind the witnesses that their entire written statement will appear in the record. I will introduce each of you first and then recognize you for your testimony.

Mr. Thomas Smith is the acting assistant secretary for strategy, planning, analysis, and risk in DHS's Office of Policy. He is responsible for the development of DHS strategic planning and decision-making documents, including the Quadrennial Homeland Security Review. Mr. Smith joined DHS in July 2013. Prior to DHS, Mr. Smith served over 29 years as an engineer officer in the U.S. Army, and we thank him for his service to the Nation.

Mr. Roy Wright serves as FEMA's deputy associate administrator for mitigation. He is responsible for FEMA's risk analysis and risk reduction programs. Mr. Wright joined FEMA in 2007 and was appointed to the Senior Executive Service in 2013.

Mr. Robert Kolasky is the deputy assistant secretary for the Department of Homeland Security's Office of Infrastructure Protection. He assists the assistant secretary in addressing risk to the Nation's critical infrastructure. Mr. Kolasky has served in numerous positions at DHS and began his Federal service in 2008.

Thank you all for being here today.

The Chair now recognizes Mr. Smith for his testimony.

STATEMENT OF THOMAS P. SMITH, ACTING ASSISTANT SECRETARY FOR STRATEGY, PLANNING, ANALYSIS, AND RISK, OFFICE OF POLICY, U.S. DEPARTMENT OF HOMELAND SECURITY

Mr. SMITH. Well, good morning. Chairman Perry, Ranking Member Watson Coleman, 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, often referred to as the QHSR.

I am Thomas Smith, the acting assistant secretary for the Department's Office of Policy, Strategy, Plans, Analysis, and Risk. I joined the Department in the summer of 2013 and the Office of Policy last summer in 2014. Prior to that, I served a career in the United States Army for approximately 30 years.

First, please allow me to put the QHSR in context. First and foremost, the QHSR is a validation of the five enduring missions of the Department: Preventing terrorism and enhancing security; securing and managing our borders; enforcing and administering our immigration laws; safeguarding and securing cyber space; and strengthening National preparedness and resilience.

The first QHSR in 2010 articulated that homeland security is ultimately about managing the risk to the Nation posed by a wide range of threats and hazards. With the second QHSR, we comprehensively examined the homeland security strategic environment and identified strategic shifts in areas of on-going priority, with an emphasis on the Nation's long-term homeland security strategy.

With respect to 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 migration.

The experts involved in the second QHSR collectively identified that natural disasters, pandemics, and climate change are key drivers of change and risk to the homeland security environment, and each of these drivers may indirectly act as threat multipliers or stressors abroad that contribute to challenges in poverty and security and environmental degradation and social tensions that can enable terrorist activity and violence.

These drivers aggravate stressors that have the potential to cause severe consequences, examples including: More frequent and severe droughts and tropical storms in Mexico, Central America, and the Caribbean, which could increase population movements, both legal and illegal, toward or across the U.S. border; and higher temperatures that may change patterns of human, animal, and plant diseases, putting our workforce and the American public at a higher risk of illness.

Therefore, climate, just like pandemics and natural disasters, is a factor, but it is certainly not the only factor that impacts this strategic environment, threats, and hazards facing our homeland security.

In the second QHSR, a number of activities took place to understand the threats and hazards that affect the strategic environment analysis that we collectively called the Homeland Security Strategic Environment Assessment. This assessment characterized the risk, threats, current and future trends, and critical uncertainties in the time frame for 2015 to 2019 and beyond.

DHS sought input from industry, academia, and across the Federal, State, local, Tribal, and territorial governments, other stakeholders, all to ensure we had a comprehensive understanding of the homeland security strategic environment to make sure that priorities highlighted in the Quadrennial Review were risk-informed.

Under the umbrella of the Homeland Security Strategic Environment Assessment, the Office of Policy analyzed direct and indirect impacts of many risks, including climate change. The Department studies that analyzed and assessed trends and risks included the Homeland Security National Risk Characterization, which profiled steady-state and contingent homeland security risks; a current strategic environment report, which focused on an examination of current trends and drivers underpinning the homeland security strategic environment, spanning society, technology, the economy, the environment, and governance; and, finally, a future strategic environment report, which 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.

In conclusion, the best way to posture the Department effectively to address emerging threats and accomplish the Department's five enduring missions is to ensure that tough policy, strategy, and resource decisions are informed by considerations of the strategic environment with a clear sense of the associated risk and resource implications. It is through candid and thorough assessment of these risks that we will strengthen the security and the resilience of the United States.

I look forward to addressing your questions.

[The prepared statement of Mr. Smith follows:]

PREPARED STATEMENT OF THOMAS P. SMITH

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 Cyber Space; 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 on-going 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 time frame. 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.
- 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

¹USG 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.

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 inter-agency stakeholders; State, local, Tribal, and territorial governments; and our private-sector partners. DHS also employed IdeaScale and an on-line “Community of Practice” to solicit on-line 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 16 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 we will strengthen the security and resilience of the United States.

I look forward to addressing your questions.

Mr. PERRY. The Chair thanks you.

The Chair now recognizes Mr. Wright for his testimony.

STATEMENT OF ROY WRIGHT, DEPUTY ASSOCIATE ADMINISTRATOR, FEDERAL INSURANCE AND MITIGATION ADMINISTRATION, FEDERAL EMERGENCY MANAGEMENT AGENCY, U.S. DEPARTMENT OF HOMELAND SECURITY

Mr. WRIGHT. Good morning, Chairman Perry, Ranking Members Watson Coleman and Mr. Thompson, and other Members of the committee. I appreciate the opportunity to appear before you today.

My name is Roy Wright, and I am FEMA's deputy associate administrator for insurance and mitigation. So I lead the Federal Emergency Management Agency's mission responsibility over hazard mitigation planning, mitigation grants, the National Flood Insurance Program, and our work to help build community resilience across the Nation.

FEMA has an all-hazards mission, supporting our citizens and first responders to ensure as a Nation we continue to build, sustain, and improve our capabilities to prepare for, protect against, respond to, recover from, and mitigate all hazards. We are a consequence management agency.

Within the mitigation mission space, we are particularly attuned to understanding and managing risks, both current and future. These include a wide array of changes: Shifting demographics, aging infrastructure, and the prospect for increasing frequency and severity of extreme weather events.

Climate change is just one of many future risks but one that could significantly alter the types and magnitudes of hazards impacting communities and the emergency management professionals that serve them.

FEMA's attention to these evolving risks and their impact on the future of communities has a long history. In 1988, Congress passed the Robert T. Stafford Disaster Relief and Emergency Assistance Act. In its original form and through amendment in 1993, Congress instructed FEMA to address future risks and help ensure Federal taxpayer dollars are used responsibly and, in doing so, will substantially reduce the risk of future damage.

Through the Disaster Mitigation Act of 2000, which amended Stafford, Congress requires actions by communities in such a way that they plan for and address future risks.

In the regulations promulgated in 2002, State, local, and Tribal mitigation plans are now required and they need to include, “the probability of future hazard events” occurring in a given jurisdiction. The plans must also contain a mitigation strategy that speaks to reducing or avoiding the long-term vulnerabilities that the hazards pose to the future loss of life or property.

With more than \$260 billion worth of flood-related damage across the Nation since 1980, our attention to understanding our risks and doing something to reduce them must be unwavering.

Two specific ways I want to highlight this morning that FEMA is supporting this work:

First, building on our long-standing mission in the specific rebuilding experiences of Sandy, FEMA is supporting the policy development of Executive Order 13690 that establishes a Federal flood risk management standard. 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 after disasters.

Simply put, when investing Federal dollars to build or rebuild infrastructure across the country, we should not spend those dollars more than once on the same project. Unfortunately, we are too often in the position of paying for it twice.

Second, FEMA released an update to our State Mitigation Plan Review Guidance earlier this year. This guide updates FEMA’s policy that was last published in 2008 on planning for natural hazards.

State mitigation plans, which are updated every 5 years, are one of the conditions of eligibility for certain FEMA assistance, such as the Permanent Work Under Public Assistance and Hazard Mitigation Assistance project grants. States must provide an overview of all natural hazards that affect the State. States are then asked to consider the probability of future hazard events, including changing future conditions, development patterns, and population demographics.

This policy clarifies that the probability of future hazard events must include the effects of long-term changes in weather patterns and climate on the identified hazards. Further, the policy encourages States to take a holistic approach and include not only emergency management but also the sectors of economic development, land use, housing, health and social services, infrastructure, and natural and cultural resources into those plans.

Addressing future risks regardless of their cause is key to FEMA’s mission. We bring data to the table 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 disasters and are able to bounce back faster. That kind of economic vitality helps sustain and secure our Nation.

With that, I look forward to your questions.

[The prepared statement of Mr. Wright follows:]

PREPARED STATEMENT OF ROY WRIGHT

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 Nation-wide.

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 on-going 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 5 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.

Mr. PERRY. The Chair thanks Mr. Wright.

The Chair now recognizes Mr. Kolasky for his testimony.

STATEMENT OF ROBERT KOLASKY, DEPUTY ASSISTANT SECRETARY, INFRASTRUCTURE PROTECTION, NATIONAL PROTECTION AND PROGRAMS DIRECTORATE, U.S. DEPARTMENT OF HOMELAND SECURITY

Mr. KOLASKY. Thank you, Chairman Perry, Ranking Member Watson Coleman, Mr. Thompson, and distinguished Members of the subcommittee. I appreciate the opportunity to appear before you to discuss the National Protection and Program Directorate's efforts to secure the Nation's critical infrastructure and make it more resilient against all risk.

Risks to our critical infrastructure are wide-ranging, including acts of terrorism, other potential attacks by extremists, cyber threats, extreme weather, as well as impacts of aging or failing infrastructure. The Department of Homeland Security supports the preparedness efforts of critical infrastructure owners and operators to address these risks, with a particular focus on sharing information relating to securing infrastructure from man-made attacks.

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. To achieve this end, NPPD works with the Nation's owners and operators of critical infrastructure to address the risks they are most concerned about. This includes climate change.

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, including energy, transportation, water, and communications networks, often for an extended period of time. In 2012, Superstorm 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 here in the mid-Atlantic in 2012, tornados 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. On-going and future changes to the climate have the potential to compound those risks and have a major impact on infrastructure operations.

To address these potential changes, the Nation must take a long-term perspective. 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, promote mitigation in existing infrastructure, rather than rebuild or redesign infrastructure after incidents occur.

It isn't just us who believe this. The Nation's military and business leaders are on record recognizing the challenge of climate change and the importance of acting to improve our Nation's infrastructure resilience.

We take such advice seriously at DHS and within NPPD, and we are working in a measured manner, yet with urgency, to engage communities to better understand locality-based risk to critical infrastructure and to encourage smart adaptation activities. By leveraging our capabilities, 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, South Carolina, we are partnering with the newly-formed Charleston Resilience Network to help the region address chronic and long-term hazards. Rather than waiting for the next flood to occur, Charleston is proactively building a resilient community. It is improving their storm-water management system, and now, based on the work we have 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 focused on the impacts of climate change and other extreme weather. Through this work, we identified a number of vulnerabilities and core spending opportunities for proactive mitigation. With many of its transportation, electrical, and drinking-water assets vulnerable to sea-level rise, changing water temperature, and storm surge, the safety, economic prosperity, and quality of life of Maine residents could ultimately be at risk.

Our partners aren't debating the science, nor are they waiting to see what happens. Instead, they are planning for an uncertain future.

At DHS, 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. Such prudent long-

term planning in the face of uncertainty is the cornerstone of smart National and homeland security activities, and we must be a Department that addresses the risk of today while also preparing the country for the risks of the future.

In doing so, however, we remain mindful of the more immediate challenges facing the Nation in the form of extremists dedicated to attempting to commit acts of terrorism to the Nation's critical infrastructure, as well as cyber attacks. That is and will remain our priority and our focus.

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

[The prepared statement of Mr. Kolasky follows:]

PREPARED STATEMENT OF ROBERT KOLASKY

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 signifi-

cantly, 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. On-going 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 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 man-made 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

¹USGCRP (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.

²Technical 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.

of heavy rain and/or high tide. Within 2 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 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.

Mr. PERRY. The Chair thanks Mr. Kolasky.

The Chair now recognizes himself for 5 minutes for questioning and some other things.

I would like to start out with just some clarifications here based on some of the statements and testimony.

The question isn't whether the Department of Homeland Security should be prepared for the consequences of climate change, whatever causes it, or weather. We understand and recognize and acknowledge that, that the Department needs to be prepared to deal with that on behalf of the American people.

The question really is: Is it a core mission of the Department when there are so many other agencies that do this as their mission? We wonder, instead of the Department of Homeland Security spending taxpayer dollars and focus on this issue, shouldn't they just go to NOAA, shouldn't they just go to NASA, shouldn't they

just go to one of the myriad other agencies and say, “Hey, have you got this information, and, if you don’t, what would it take to get it?” as opposed to, “Let’s just come up with it ourselves.”

I have run a business. I am not an accountant, but I use an accountant. I mean, I could do my own books, I suppose, but it was more efficient for me to employ someone that that was their vocation, that was their expertise. So that is really the question.

Then, finally, I just find it curious that the horrific events that happened in South Carolina recently are being discussed as terrorism; meanwhile, the horrific events that occurred in Moore, Oklahoma, are somehow workplace violence. I find that interesting and curious in this context.

But I digress, so let me move on. I will start with Mr. Smith.

The Department has clearly been tracking its climate change adaptation efforts closely enough to issue a number of detailed reports and action plans on that over the past 3 years. Do you know how many full-time employees work on climate-change-related issues and DHS’s strategic planning efforts, how many individuals at DHS?

Mr. SMITH. So, Mr. Chairman, thank you.

Over the past 4 years, to produce those documents, I have an estimate in terms of dollar values, which could be converted by personnel—

Mr. PERRY. Full-time equivalent or something like that?

Mr. SMITH. Yes. It is a very limited number in the Office of Policy. Probably around—well, in the range of \$750,000 over the past 4 years to produce those reports. So, at different times, 2 to 4, using some of their capability as staff working on these climate adaptation reports.

Mr. PERRY. So do you know, in contrast, how many staff members have been committed to CVE efforts or ISIS or foreign-fighter travel?

Mr. SMITH. So I wouldn’t be able to put that, Mr. Chairman, in a specific number.

I would stop, though, at that point and just comment that, you know, as you described, we validate the missions of the Department, the cornerstone of preventing terrorism. This countering violent extremism, it cross-cuts through different parts of our operations. So it is not as easy to put a specific dollar value on the countering-violent-extremism number of personnel—

Mr. PERRY. Okay. So do you know what the ask was, what the budgetary ask was, for climate-change-related research, et cetera, last year, last budget cycle, versus CVE? Do you know that?

Mr. SMITH. I—

Mr. PERRY. If you don’t know that, do you know the current ask for those two items?

Mr. SMITH. I don’t have the dollar figures specifically for those items.

Mr. PERRY. So one of the reasons we have these questions is, per my records, \$16 million for climate change directly asked for by the Department, zero for countering violent extremism.

So when we are looking for transparency and are wondering—some folks are wondering why are we having this hearing, the American people want to know where their money is going and

how it is being prioritized. When nothing is asked for for countering violent extremism but \$16 million is asked for climate change, when we have a myriad of other agencies that do it, we wonder, is this the best use of our money? I think that is a reasonable question.

That having been said, let me ask you this. Why does the Department have numerous—I think 11—climate change documents but not one roadmap or other type of policy document for preventing foreign-fighter travel?

Mr. SMITH. Mr. Chairman, I think I would agree with parts of your opening statement which describe the significance of the threats we face. I mean, that is why the Secretary often tells us we have the most privileged job in Government. The men and women I work with and around work towards securing a safe and secure homeland, particularly against terrorism.

As to a document, it is foundational in the QHSR that the cornerstone mission is terrorism and identifies the significance of that. It works through—

Mr. PERRY. So, with all due respect, Mr. Smith, I want to abide by my time for the other Members on both sides. Just look at it from my perspective. This is what the Department has produced on climate change. You can see it is volumes. This is countering violent extremism.

Now, look, I didn't make this stuff up. This isn't Perry stuff. This is the Department stuff. It would lead one to believe that this is the priority, climate change is the priority; violent extremism is not the priority. I mean, you tell us, if you can, in the upcoming questioning how we are wrong.

With that, I will yield my time. At this point, I am going to turn to the Ranking Member, the gentlelady from New Jersey, Mrs. Watson Coleman.

Mrs. WATSON COLEMAN. Thank you, Mr. Chairman.

Thank you very much for your testimony, gentlemen.

I guess I am a little bit confused, because I am not certain that FEMA is doing anything different than it should be doing and would have been doing and had been doing and is now doing as a result of learning from things such as Hurricane Katrina and Hurricane Sandy.

Mr. WRIGHT. That is correct, ma'am. We have had a long-standing responsibility to look at these risks, both the ones that exist today and into the future.

Mrs. WATSON COLEMAN. Right.

Mr. WRIGHT. This is consistent with our mission over the last 30 years.

Mrs. WATSON COLEMAN. So the \$16 million that my Chairman refers to, I understand, really is in Mr. Kolasky's wheelhouse? Is that infrastructure assessments, critical infrastructure assessments, and workshops and information sharing and preparedness activities?

Mr. KOLASKY. My understanding of the \$16 million he refers to is \$10 million is in NPPD's budget and—

Mrs. WATSON COLEMAN. Is what?

Mr. KOLASKY. Six million dollars is in FEMA's budget. Ten million dollars in NPPD's budget and \$6 million in FEMA's budget.

Mrs. WATSON COLEMAN. Okay. All right. Out of a total Department budget of?

Mr. KOLASKY. Forty billion dollars.

Mrs. WATSON COLEMAN. Forty billion dollars.

Sixty billion dollars? Okay.

First of all, it concerns me that we are having this particular hearing and that we are spending our taxpayer money on trying to create some sort of political theater around this issue of your role in keeping our homeland safe, on any level, with regard to any issue.

Certainly, we know by our experiences, our observations, that communities have been devastated, that populations have been shifted, that vulnerabilities have been exacerbated with communities as a result of extreme weather patterns, flooding, rising sea levels, drought, too much or too little. Certainly, we have seen that some of these conditions have created fertile ground for people to take advantage of people who are most vulnerable.

So that kind-of says to me that we are where we should be in the Department of Homeland Security. Because whether or not it is protecting people from the natural occurrences, preparing communities to be better positioned should these occurrences come about, recognizing that we are expecting these things to happen more so than ever in the past, not only are we looking to protect the people from these dangers, we are also trying to protect our communities from the vulnerabilities of those who wish us harm.

So I am not quite sure where my colleagues on the other side of the aisle are assessing or quantifying your misallocation of priorities.

So I need you to tell me, in addition to the things that you are already doing in FEMA and the assessments that you already had to make in infrastructure, what is it, Mr. Smith, Mr. Wright, or Mr. Kolasky, that could suggest to anybody, either in Congress or anyplace else, that you are improperly utilizing resources and placing a greater priority on the implications of climate change and the security of the homeland? Tell me what you think could cause one to think that.

Mr. SMITH. Well, Ranking Member, thank you.

The first thing I would like to say is to affirm your perspective by which you asked that question, which is where the Department's priorities are focused. The Department's priorities are on those five enduring missions that I described in the statement. They are the foundation of what we do. It really addresses what we do with the \$40 billion writ large versus an individual program that you have heard described there.

So it is a little bit unclear to me how the perception is created that we don't have the proper priorities. I would just assure you that we do have those proper priorities. We are not considering climate change a mission of the Department. We consider it for its impact on the missions, statutory and validated by the QHSR.

Mrs. WATSON COLEMAN. I have been in these hearings—I love this committee, this Homeland Security Committee. I have been in here numerous times on cybersecurity issues. I have been here on lone-wolf issues. I have been here on risk associated with ISIL or somebody else attacking us on a wide range here. I have listened

to the Department respond to each one of the questions that has come to it about whether or not it is employing its resources in a manner taking into consideration the variety of risks associated with all of those occurrences.

Now, I am not going to suggest you are doing it all, because we are not doing it all. But it just seems to me—and I see that my time is up—it just seems to me that to haul you in here to discuss whether or not you are misapplying your priorities is a waste of taxpayers' money, when we have sufficient reason to believe that the impact of climate change on our people that live where they are drowning or where they are homeless or where they are injured or lost, as well as a possibility of extremists taking advantage of those vulnerabilities, it is real. It is not fabricated, it is not dreamland, it is real. We need to address it as such.

Thank you. I yield back my time.

Mr. PERRY. The Chair thanks the Ranking Member.

The Chair now recognizes the gentleman from South Carolina, Mr. Duncan.

Mr. DUNCAN. I want to thank the Chairman. I want to thank you for holding this hearing.

Thanks to the panelists for being here.

A team from Harvard University examined evidence recently from 240 scientific studies which show that today's temperatures are neither the warmest over the past millennium, nor are they producing the most extreme weather, in stark contrast to the claims of the environmentalists and in stark contrast to the claims of the administration.

They studied temperature proxies, tree ring data, ice core, seabed settlement data. The data shows that during the medieval warm period—that was between the 9th and 14th centuries—global temperatures significantly were higher than they are today.

So what caused that warming? Humans were present. Can you guys tell me why the Earth was warmer during the medieval times?

Mr. KOLASKY. I don't think any of us can speak to that. We aren't—

Mr. DUNCAN. Okay. But the Earth was warmer. The medieval warming period, based on the data provided, shows that grapes grew higher on the mountains, that the Earth was warmer.

Mr. KOLASKY. So one of the—

Mr. DUNCAN. You are not going to refute that, I hope.

Mr. KOLASKY. No, but one of the premises of this conversation and each of our statements is understanding risk. Risk is planning amidst uncertainty. I think all of us would tell you, as security professionals, as risk-management professionals, that we are not trying to predict or say exactly what is going to happen in the future. We are talking about the range of things that are a possibility. DHS is a contingency-based organization. We have the duty to think about what could happen and plan reasonably for doing so. That is what we are doing.

I would also like to reiterate that we are doing that because we are listening to, in my case, the infrastructure owners and operators, who are telling us they need to have this information to make smart decisions about future—

Mr. DUNCAN. Reclaiming my time, I believe the information has already been provided by a lot of other agencies. I think the redundancy is costing the American taxpayer a lot of their hard-earned dollars.

The Chairman held it up. These are other agencies that the Government is funding with American tax dollars. These are hard-working American people that are paying money to the Government, tax revenue, for redundancy.

The Earth has been warmer before, and it was warmer before fossil fuels, before the industrial revolution. This notion that man-made climate change is happening is, I think, wrong.

I think your priorities are wrong at the Department of Homeland Security. I think that we have threats of ISIS, we have cartels shooting at helicopters on the border, we have unaccompanied children coming into this country, we have illegal aliens murdering beautiful, innocent lives in San Francisco, we have a woman that had her head blown off in Los Angeles by someone. There are events after events going around the world that are true threats to the United States, folks that want to do great harm to Christians, want to do great harm to others. They want to come to this country and end the American way of life. That, for whatever reason, we are now spending our hard-earned dollars on climate science and this belief that that is one of the biggest threats to National security.

So I would ask you, the Department has released a number of documents in regards to climate change over the past 3 years. These documents have used serious language, such as, "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"—*Climate Action Plan*, 2013.

Does DHS leadership really believe that climate change is a primary cause of militant and terrorist groups? Mr. Smith, is that really what you guys believe?

Mr. SMITH. Representative, that is not what we believe. In those documents, which are focused on climate change impact on our mission, we describe that climate change can aggravate stressors such as poverty, such as food insecurity, such as causing population migrations, that for vulnerable populations with weak Government institutions, it may enable terrorist ideology to take hold. At no point would we want to say that it would be a primary factor.

Mr. DUNCAN. So do you believe that climate change is having an effect on migration patterns that are causing the unaccompanied children to flee north?

Mr. SMITH. No, that is—we don't associate the—

Mr. DUNCAN. I have seen some indication in reading documents that that is what you believe, as well, the Department, not you necessarily personally—

Mr. SMITH. Right.

Mr. DUNCAN [continuing]. That you believe that climate change is going to cause migration patterns to change, and that could have some impact on what we are seeing right now.

Let me ask you the final question. In your testimony, you identify—this goes to Robert. In your testimony, you identify terrorism, cyber threats, aging and failing infrastructure and components, cli-

mate change as the main threats to our National critical infrastructure.

Where do you rank climate change?

Mr. KOLASKY. We worked with our partners in the private sector and other levels of Government to identify five risks to critical infrastructure to—

Mr. DUNCAN. So where does climate change rank? No. 1? No. 2? No. 5?

Mr. KOLASKY. It was not one of the five primary risks. The five risks that were identified were acts of terrorism—this is in the National Infrastructure Protection Plan published in December 2013—acts of terrorism, cyber attacks, pandemics, aging infrastructure, and extreme weather.

We talk about climate change as something that could have an impact on those patterns, but the five primary risks we used to plan against critical infrastructure are those that I just stated.

Mr. DUNCAN. I appreciate that.

Mr. Chairman, thanks for this hearing.

Look, FEMA is part of Department of Homeland Security. I get that. FEMA should be preparing for natural disasters that occur and have occurred since the foundation of this country, even before. Hurricanes, tornados, floods happen. I get that.

But I would hope that we would reevaluate where we are spending the tax dollars that are earned by hardworking Americans. Because that is where the money comes from. It is not on the money tree out on West Lawn behind the Capitol. Because that tree in there, I have looked for it; it is not there.

Americans working every day, providing tax revenue to the Government and hoping that you are going to—the Department of Homeland Security—you are going to protect this country against ISIS, against cartels and drug trafficking, against any other threats like cybersecurity and all that. That is the true mission of Homeland Security. We don't want to see another 9/11. We don't want to see another cyber attack happen.

So I would continue to urge the Department to focus your resources on where the Americans really, I think, believe you need to focus those resources.

Mr. Chairman, thanks for the leniency, and I yield back.

Mr. PERRY. The Chair thanks the gentleman.

The Chair now is privileged to recognize the Ranking Member of the full committee, Mr. Thompson.

Mr. THOMPSON. Thank you, Mr. Chairman.

You know, we have heard a number of definitions about DHS's mission. When the Department was created, it was created to address natural disasters here at home but also to protect the homeland from terrorists.

One of the issues that people have not focused on is, if you look at who the bad people are in this country right now, they are not Muslims, they are not people who identify with the Islamic faith. They are these right-wing fanatics who go to churches, who go to other institutions and do harm to people. So, if you look at the statistical analysis of who the bad people are in the country or you talk to law enforcement, law enforcement will tell you that they are

more concerned, from a priority standpoint, with the growth of right-wing radicals in this country.

Now, that is part of the broad countering violent terrorism that we deal with here in this country. But the demographics say that the bad people in this country who are doing more harm and pose a greater threat are the people who live here right now who are lone wolves.

I appreciate the medieval history reference, but now I am trying to figure out, how does that identify with climate change, what we are dealing with right now?

Hurricane Katrina impacted my district tremendously. We had Hurricane Sandy—for which a number of Members of this committee voted against the relief for that community until we cowered them down and had a second vote and the relief came. So people talk about all these things, but when it comes to the reality of the facts, big difference.

We have to understand risk. We have to understand—we have to manage risk. Part of the management of risk is understanding what all these vulnerabilities are out here and how we address it. If climate change is one of those risks, we have to task the Department with coming up with an approach to manage it.

Now, you can't say to the people in California that drought is not a problem. You can't say to people in other parts of the country that wildfires are not a problem. You can't tell the homeowners who participate in the Flood Insurance Program that we shouldn't have a Flood Insurance Program. But you are tasked with the responsibility of making sure that the analysis associated with the Flood Insurance Program is, in fact, one that meets the standards and requirements from a risk perspective.

So here we go. Mr. Kolasky, with respect to the mission, how does climate change address the Office of Infrastructure Protection, in terms of analyzing risk?

Mr. KOLASKY. Sure. As I discussed, Mr. Thompson, climate change is one of the things that has the potential to impact the risk to critical infrastructure. Our contribution from an assessment perspective is to take the science from all the good science agencies, NOAA and others, and link the science to what the implications could be on the Nation's critical infrastructure.

We have the responsibility in the office to work across 16 critical infrastructure sectors and to understand, whether it be climate science, whether it be terrorist threat information, whether it be things related to cyber attacks, what are the things that can cause that infrastructure to fail?

There are other people in the intelligence community, in the climate science community, in other analytic shops that are doing the analysis of the problem. We are connecting that analysis to the infrastructure owners and operators, and then we are giving them tools to make smart decisions about what they should do about it.

Mr. THOMPSON. Thank you.

Mr. Wright, with respect to FEMA and its mission, everyone, when something bad happens, they want to know, where is FEMA?

Mr. WRIGHT. Uh-huh.

Mr. THOMPSON. Let's take the Flood Insurance Program. What impact would climate change have from an emergency prepared-

ness standpoint and the fiscal soundness of the Flood Insurance Program?

Mr. WRIGHT. So this is something that Congress asked us to look at, and we did a study to look at the impacts, really, over the next 70 years. As we look at it, we do see the areas of flood hazard continuing to grow. We see the number of the population impacted by that continuing to grow.

It comes from a couple of dimensions. Some of it is changes in these weather patterns. Some of it is also attributed just to changes in the built environment as more structures are built to house the next 10 million, 50 million, 70 million people in this country.

So, when we look at it, this does over the next decades have an impact on, what does it look like for us to have a fiscally sound Flood Insurance Program? So we are looking at these elements as part of some of the reform legislation that was passed over the last 3 years. We have a Congressionally-created advisory committee that is looking at this question of future risk, how that should be reflected in our analysis and ultimately be folded into the National Flood Insurance Program. I am expecting the report from that advisory committee later this year.

Mr. THOMPSON. Thank you.

I yield back, Mr. Chair.

Mr. PERRY. The Chair thanks the Ranking Member.

The Chair now recognizes the gentleman from Florida, Mr. Clawson.

Mr. CLAWSON. Thank you.

Thank you to you three for coming today. I really appreciate it.

These are topics that are important to my district because we have lots of coast. We are Marcos Island all the way north to Fort Myers. So flood maps mean something to us.

By the way, anything anybody can do to get that process so maps can be done sooner—you know, I know that is not the direct thing here, but, look, we have a lot of people, this is important to them, and we have just been waiting a long time to get some maps, because they want to be included in flood insurance or anything else. Sorry to divert a little bit, but I think you understand, Mr. Wright, what I am saying. Anything we can do here, I got a lot of people it is important to.

Mr. WRIGHT. I do. If I—just a couple moments on this, if I could, sir, to tell you that I share that commitment to make it happen faster.

I need to do it in two ways: (A), I need to make sure the technology is there and we do it in ways that collaborate and use the data. You have water management districts and stuff in Florida that don't exist in other parts of the country who have great data for us to use.

Mr. CLAWSON. I agree.

Mr. WRIGHT. The other side is to ensure that we give people due process under the law to review those maps. I have to hold those in tension together.

Mr. CLAWSON. Okay, I got you. But now that we have done the due process side and it has all been open, let's get going while I have still got a few hairs on the top of my head.

Mr. WRIGHT. Yes, sir.

Mr. CLAWSON. Let's get this done for the good of my constituents. We all want Government—we want our constituents to have confidence in Government and the money they are spending. Then we say, you all got to wait years and years and years and years for maps. Okay. Then give you more money after that.

You understand what I am saying? I have a hard time with that conversation back home, when the basics don't happen and then we want more money. I think you see where I am coming from.

Mr. WRIGHT. I do.

Mr. CLAWSON. Now, I have always—and, look, we have met with the top folks at FEMA off-line. We have a lot of confidence that they are managing their business or their organization on a year-over-year basis with some meaningful measurables. We appreciate that.

But it still feels to me like, okay, if I have a hurricane—and hurricanes have been going on forever, so let's leave that other debate that we get bogged down in, let's leave it aside for a minute and stay practical—our FEMA money is, you know, the calvary that goes out to the front line when the battle starts to, you know, bring reinforcements and to help us get things under control, God forbid, if there were ever a hurricane in my district, which we have had plenty.

I am not sure—it feels to me like the other kind of incremental money, whether it is climate change, workshops, or anything else that is being spent here, why doesn't that just belong in NOAA or somewhere else? It feels to me like FEMA is the calvary, not the prediction department.

Am I missing something here? So, when I saw all this money, I was like, I am not connecting—there must be some obvious dots that I am missing.

Mr. WRIGHT. So let me try to connect those dots.

We, FEMA, rely on NOAA, the U.S. Geological Survey, NASA, and other science agencies to provide us the core data. When we look at issues like hurricanes, we are dependent on the National Hurricane Center for the work that they do, and then that feeds forward.

So the work that FEMA does—we have talked a bit about the analysis of risk, like the flood maps, but you have mentioned some of the other kinds of elements. So, in this past year, we have set aside to do 75 exercises across the country. These are exercises that are done at kind of a watershed scale across multiple municipalities, working with a State, that says, when an event comes ashore, how are we going to respond? What does that integration look like?

So we look at these extreme events, because those are the points that actually stress the system. We spend our dollars there.

Mr. CLAWSON. To reclaim my time, that I like, right? Because you guys are coming; we are prepared before the storm, God forbid, hits my district.

Mr. WRIGHT. Yes, sir.

Mr. CLAWSON. Now, what I don't understand is where—climate change seems to be predictability. In this budget round, I went out

and asked for more money for NOAA so they would do better at this sort of thing. What has FEMA got to do with that?

Mr. WRIGHT. So NOAA's piece is they do the top-line science, which then we need to apply. So we take those elements and then use that related to discharges and changes in still-water levels when the surge comes in. They provide us the core science, and then we have to go through and actually map that against that statistical risk.

So you will see in the budget request this year to increase dollars to do that flood risk analysis. Much of that ties back to the flood insurance rate maps, but we use those same data to inform our response activities.

Mr. CLAWSON. That data come from NOAA.

Mr. WRIGHT. NOAA provides the top-line—

Mr. CLAWSON. Correct.

Mr. WRIGHT [continuing]. Science, and then we take and do the calculations on a jurisdiction-by-jurisdiction basis.

Mr. CLAWSON. So it sounds to me like we would have been doing that 20, 30 years ago, whether we were debating about climate change or not. Let's just be prepared for the next hurricane. All the chatter about whether it is climate change or not, I am just not sure how that helps my constituents. I would just like to be ready for the next hurricane and that be that, all right?

Mr. WRIGHT. I would share the sentiment, in that FEMA's principal concern is the consequence management side of this.

Mr. CLAWSON. I like that.

Mr. WRIGHT. I don't personally get into the debates that go on. What I will tell you is we have events that are occurring, they are wide-scale, and they are very expensive. We need to ensure that we are trying to reduce that risk and, more related, to ensure that we are pulling down the overall cost.

Mr. CLAWSON. Yeah, okay. I mean, as my final word, the more you all concentrate on execution and actually delivering the good, like a flood map or two and hurricane preparedness, and less on this debate, the better off we will all be. I think you can agree with that, right?

Mr. WRIGHT. Yes, sir.

Mr. CLAWSON. Thank you, sir.

Mr. PERRY. The Chair thanks the gentleman from Florida.

The Chair now recognizes the gentlelady from California, Mrs. Torres.

Mrs. TORRES. Thank you.

I want to piggyback, echo one comment, and that is regarding the maps, for a different reason. My district, we are eager to shift the cost of my homeowners to his homeowners, because we have already done the infrastructure improvements, that we no longer want to pay for flood insurance, because we are covered, right?

So the urgency of getting those maps preapproved and inspections of the infrastructure improvements in our communities is really important.

Mr. WRIGHT. Understood.

Mrs. TORRES. I want to thank the three of you for being here today. I want to apologize for the direction, the title of misguided—or misplaced focus on climate change. I think we might have found

the misplaced focus on climate change here, as we continue the dialogue of how much money is being spent on prevention.

As a former 9-1-1 dispatcher, I spent almost 18 years directing first responders where to go during disasters, whether they are man-made disasters or natural disasters. Listening to 9-1-1 calls for service from constituents during their most vulnerable time in their lives—those are critical times for the American people. So I want to thank you in advance. As a former mayor, also, you know, I had to call for disaster assistance in my community after a major earthquake had a huge impact in our community.

You know, countering violent extremists, that is a cross-Government mandate, just as climate change should be a cross-Government mandate. I am not here to debate that, although I will say that we continue to reinforce the border to the south in fear of the bogeyman while neglecting the real risk to the American people, and that is the next hurricane that is going to hit and take down a bridge, or that is the next flood that is going to impact our homeowners.

Katrina might have happened in Mr. Thompson's district, but, during that time, California had major fires. The drought is real. Whether we want to debate that the flood hazard is due to the fires, that is due to the water drought, people don't see that. Homeowners lost their homes. I lost my home to a fire. I can tell you that I can go to the local lumber yard and there was nothing available because all of that merchandise was going to his district to help rebuild his community.

So, when we talk about National security—and my district is impacted by the goods that come in through the ports. We are fast-tracking, because we desperately need these materials to rebuild our communities. What does that impact look like for public safety at the ports?

As a 9-1-1 dispatcher, when an incident happens, a natural incident happens, and I am directing our first responders into an area that has been impacted, who is looking and responding to those other calls for those local terrorists that are creating havoc in our communities?

I see the young man that murdered a CHP officer on the steps of my courthouse as a local terrorist. I see the incidents that happen at that church in South Carolina as a local terrorist. That is the focus of this committee.

I want to ask you, Assistant Secretary Smith, how would the Department's understanding of homeland security threats and risks be affected if the Department were to remove the analysis of climate events from its assessment of the Quadrennial Homeland Security Review?

Mr. SMITH. So thank you, and thanks for your compelling statements about, you know, your past experiences.

So, with regard to climate change, with regard to removing it from the QHSR, first, that would be out of step with our process, which intends to consider a range of uncertainties. We started out with almost 500 and worked them down through a very collaborative stakeholder thing. But it would not enable us to project potentially the size and scope of potential challenges at the border or even overseas, in terms of preparing the Nation for future threats.

Mrs. TORRES. On the issue of the \$16 million, in comparison—and I don't know what we spent on the Southern Border for security, but let's pretend for the sake of argument here that we spend \$10,000 to secure our Southern Border. The \$16 million, in comparison, would equal to \$3. So what are we doing here?

Mr. PERRY. The Chair thanks the gentlelady.

I am going to go for a brief second round for anybody that is interested. I have a couple of questions.

I know in the grand scheme of the DHS and the Government maybe \$16 million seem paltry, but where I come from \$16 million is a lot of money. It is real money. We have a duty, we have a responsibility in oversight in this job and in this committee, like all the others, and we are going to continue with that duty.

This is to Mr. Kolasky. In DHS's fiscal year 2016 budget request, there was \$10 million allotted for analysis of climate change impact on infrastructure. If I ask what is the intended use of that money, I hate to say it, but I think I am going to get some kind of long, rambling answer about we are going to study this and study that.

Go ahead. Answer the question, if you can, succinctly and——

Mr. KOLASKY. I hope that is not a statement of my eloquence, but I suspect it may be.

Mr. PERRY. It is not meant to be.

Mr. KOLASKY. So \$4½ million go to our Office of Cyber and Infrastructure Analysis, which is working on analysis on the impacts of drought, wildfires, extreme weather, and flooding on critical infrastructure.

Five-and-a-half million dollars go to our Office of Infrastructure Protection to do two additional regional resilience assessment programs, which looks at how impact of disaster to infrastructure could potentially impact the entire infrastructure system that underpins a community. We have a successful program where we have done 60 of those over the last several years.

Mr. PERRY. So are those disaster-related risks and mitigation, or is that climate-change-related mitigation and risk?

Mr. KOLASKY. Those are intended to look at the resilience of systems to disasters that they could be exposed to. The other parts that are related to climate change, in part, are the impacts of things like potential sea-level rise, potential change in temperature, or potential change in precipitation patterns. So it is not just the extreme weather event, but it is also some of the underlying conditions that may occur that would have impact on infrastructure operations.

Mr. PERRY. There is nowhere else to get that data?

Mr. KOLASKY. There is nowhere else to get that data in an integrated manner on the impacts to infrastructure. We are putting——

Mr. PERRY. Have you asked?

Let me ask you this: Did the Department not analyze the state of our critical infrastructure in the past? I know the answer is going to be “yes,” right?

Mr. KOLASKY. Yes.

Mr. PERRY. Of course they have, right?

So did NPPD coordinate with the Department of Transportation or the Federal Aviation Administration on this analysis to determine if any duplicative studies exist? Did you check?

Mr. KOLASKY. Yes. So, for example, right now, to do a scoping study, we have worked with an interagency process to look at potential exposure to infrastructure to extreme weather that involved the entire interagency process. We have a study that will be published by the RAND Institute in the next 2 months that will have been peer-reviewed by all of the science agencies as well as our partners in other critical infrastructure. They participated in providing support and reviewing to make sure we were not duplicating efforts.

Mr. PERRY. Okay. Thank you.

Now, on this issue, further on this issue, according to the GAO, there are no programs to monitor and independently validate the effectiveness and sustainability of Federal efforts in this regard.

So how will we ensure efficacy? How will success be measured and validated? You are going to spend \$10 million if you get your request—

Mr. KOLASKY. So, without knowing what “this regard” means in the GAO, we publish annually, we send to Congress annually a National annual report on the risks to the Nation’s critical infrastructure. We have published them and sent them up to Congress for the last 2 or 3 years, and we will continue to do it annually based on a statutory requirement from—

Mr. PERRY. Are there metrics in there that said, we spent \$10 million and this is what we got?

Mr. KOLASKY. There are metrics that talk about the degree to which we have increased the security resilience of the 16 critical infrastructure sectors.

Mr. PERRY. All right.

Moving on, last question for anybody that wants to answer it. In the 2014 QHSR, pandemics are mentioned as a trend associated with climate change. To that effect, can anybody provide any modern example of a pandemic being linked with climate change?

Mrs. TORRES. I have one.

Mr. PERRY. Okay.

Mrs. TORRES. We have a—our trees are being eaten up from the inside out by a mold that is increasingly growing because of climate change and because of the dry weather in California.

Mr. PERRY. I am not sure that classifies as “pandemic,” but I will accept your assessment there.

With that, I am just going to yield. I will recognize the gentlelady from New Jersey.

Mrs. WATSON COLEMAN. Thank you, Mr. Chairman.

First of all, I just kind of want to point out something, that you all don’t generate every one of your reports. You rely upon information coming from other places with specialties and expertise, and then you apply your assessment as it relates to what your role would or would not be in those situations.

Basically, what I have heard is that what you do you do anyway. Now that you recognize climate change as a multiplier or a possible impact on those things that you already do, it is something that you ought to take into consideration.

Mr. Smith, I wanted to talk to you about—I wanted to clear up something, and then I wanted to ask you a question.

You were asked whether or not you were concerned about, as a result of climate change, a shift in population and whether or not that created a possible threat of some sort. You specifically answered no. But then, in your testimony, you do kind of speak to the shift in population associated with tropical storms and droughts and the impact of those and the increase in immigrants arriving at the U.S. borders. So the question would be: What would be the impacts on some of the component agencies, like ICE and CBP?

The last thing I want you to answer: Are you aware of the impact of the northern migration of mosquitoes that is creating exposure to a disease called dengue? Is that in any way happening as a result of this change in climate? Does that have an impact on our health and well-being?

Thank you.

Thank you, Mr. Chairman.

Mr. SMITH. Thank you, Ranking Member. You have made a few comments, so I will try to work my way through each of those.

I think the first thing you brought up is the degree to which we rely on other Government agencies and academia and peer-reviewed documents. I think it is important to understand that, really, we work with that data and then apply Homeland Security expertise to assess risk. We do not do climate change research in the Department of Homeland Security. So that was the first point.

Thank you for giving me the opportunity to clarify the migration comment. Because I was answering a specific question about whether last summer's surge of unaccompanied alien children, adults, and family units—that we associated that with climate change as a threat multiplier. We do not. Our work that I have been exposed to—I am not in the current operations of the Department—talk about our potential factors for that and don't associate that surge with it.

More broadly, though, kind-of the methodology we applied to look at climate change and its impact on our mission comes to the conclusion that changes in weather, droughts, and other things cause populations to displace. With regard to those near our border, it could cause surges in what our ICE, Customs and Border Protection, Coast Guard, and other law enforcement personnel would be needed to be prepared to do to address those surges.

Then with regard to the other missions of the Department, those same population migration concerns can cause instability, can lead to it, as a factor, not the factor, in the instability of their institutions' ability and make them more susceptible to terrorism, ideology, things of that nature.

As to the last question on a very specific technical, you know, thought, I don't have an answer on that. If we can take that back and try to come back to you with an answer for that one.

[The information follows:]

“According to the World Health Organization, the geographic expansion of the Aedes mosquitoes that serve as reservoirs for dengue beyond tropical and subtropical countries has been reported since the 1970s. In the last 40 years, the range of Aedes mosquitoes have spread northward from South America to Central America, Mexico, the Caribbean as well as to southern and southeastern U.S. States and territories. Temperature is a known factor in the survival and expansion of the mosquito's

range and associated cases of dengue. Increased temperatures, humidity, and precipitation associated with global climate change might contribute to the northward expansion of *Aedes* mosquitos in areas with typically more temperate climates. A number of other factors, such as international trade and travel, population movement, urbanization, and discontinued use of DDT-containing pesticides might also drive the mosquitos' geographic spread. Improper water storage and waste disposal practices associated with poverty might also contribute to the spread of dengue. Nearly all dengue cases reported in the continental United States were acquired in another country by travelers or immigrants. Most cases of locally-acquired dengue among U.S. citizens are reported from Puerto Rico and the U.S. Virgin Islands. In the past 15 years, there have been three outbreaks of locally-acquired dengue in the United States outside its territories, including Florida (2009–2010), the Texas-Mexico border (2005), and Hawaii (2001). The outbreak in Hawaii was linked to the first case recently travelling to French Polynesia where the case was likely exposed to dengue. In U.S. territories where dengue is endemic, continued surveillance and control of the mosquito population is recommended to reduce the occurrence of dengue."

Mrs. WATSON COLEMAN. Thank you.

Mr. Chairman, I yield back.

Mr. PERRY. The Chair thanks the Ranking Member.

The Chair now recognizes the gentleman from South Carolina, Mr. Duncan.

Mr. DUNCAN. Thank you, Mr. Chairman.

You know, I guess the press and all will label me as a climate-change denier. I am not a climate-change denier. I am a man-made-climate-change denier, but I do believe the climate is changing. I just don't believe man has that much control over it.

Mr. Smith, the Department of Homeland Security is a Cabinet-level agency, correct? The Secretary is on the Cabinet?

Mr. SMITH. That is correct.

Mr. DUNCAN. So you work for the Secretary. So, ultimately, you guys work for the President of the United States, correct?

Mr. SMITH. That is correct.

Mr. DUNCAN. Okay.

So President Obama says that no challenge poses a greater threat to future generations than climate change. His words.

Do you believe that climate change is a larger threat to our National security than ISIS or other Islamic terrorist groups, particularly their ability to use social media to radicalize individuals in the United States? Do you believe climate change is a greater threat than Islamic terrorists?

Mr. Smith.

Mr. SMITH. No, that—no. Thank you. That is not the way we would characterize it. As I say, as a Department, our mission is preventing terrorism. So climate change, it is a stressor, it is a potential threat multiplier, but it is not the direct threat, from the perspective of the missions of the Department of Homeland Security.

Mr. DUNCAN. Okay. Okay.

So the 2014 QHSR, Homeland Security Review, neglects to mention nation-states such as Iran, Russia, and China, but it mentions climate change. The 2014 Quadrennial Defense Review touches on all three of these nation-states—Iran is the largest destabilizing actor in the world; Russia's violation of other neighbors' sovereignty, such as Ukraine; and China's arms buildup—as threats to our National security. But now the QHSR fails to mention those

three but mentions climate change. I think that is in direct repudiation of what you just said.

So where does all this rank—Iran, Russia, China, Islamic State, and climate change—when the QHSR neglects to mention these three states but mentions climate change? So how do you reconcile what you just said with that?

Mr. SMITH. So you have also made reference to several—I think the National Security Strategy, and there is a defense component to it and then the homeland security component. We look at the threats through the prism of our mission sets and intend to adequately prepare the Nation for threats of terrorism and all hazards. I would leave it at that.

Mr. DUNCAN. But your boss said that no challenge poses a greater threat to future generations than climate change.

Mr. Chairman, I go back to Mrs. Torres from California said that—she apologized for the “misplaced focus on climate change” title of the hearing. I think the title is apropos. I think that the priorities of the Department are misplaced.

You are spending taxpayer dollars on things that really, if you go by your boss, okay, but the American taxpayer, I believe, disagrees with you. I think that even the Quadrennial Defense Review may disagree with you.

So, Mr. Chairman, I thank you for the hearing, and I yield back.

Mr. PERRY. The Chair thanks the gentleman.

The Chair recognizes the gentlelady from California.

Mrs. TORRES. Thank you.

I also want to correct part of a statement that was made. I think the President in his speech said that climate change would perhaps be the greatest challenge that public safety personnel would have.

Given that we haven’t had funding for a new transportation bill, given the fact that we know that we need to build higher bridges, that we need to reinforce our infrastructure, we know that the storms are getting bigger and impacting more and more Americans, how much more funding would your Department need in order to fully assess the threat of climate change on the American people?

I know “climate change” is sort-of a, you know, four-letter word, you know, across the aisle. But we can call it anything that we want to call it, but we need to move forward with an agenda that ensures that we are looking at the specific issue that is causing a huge problem in our communities.

Mr. WRIGHT. I would highlight a couple items for you.

The attention to flood risk in the future and the evolution of that is one that was highlighted in the President’s budget request, to increase the investment that FEMA is making on an annual basis to \$400 million a year. This understands both our current risk as well as helping to inform how people will build in the future, which I think is an important element of this.

As the economic vitality of the country continues and we continue to grow and have additional populations, there are going to be sited somewhere. Much of these data begin to help inform communities so that they ensure that that future development happens outside of an area where they have a high hazard of flood or need flood insurance.

I would point to those elements from an analysis perspective as one of the ways that FEMA would play in that space.

Mrs. TORRES. Four hundred million dollars, that is only for flood analysis.

Mr. WRIGHT. That only deals with flood analysis on an annual basis.

Mrs. TORRES. What about earthquakes? What about fires? What about droughts?

Mr. WRIGHT. So this goes to the point in terms of which agencies have primary responsibility. So there is an Interagency Fire Center. I know you are very aware of that. We collaborate with them, but it is really the Departments of Interior and Agriculture, through the Forest Service, who take the lead on that.

But we pull those pieces in. I will highlight this, and I know that you guys are experiencing this in California right now. After the drought and the increased fire, kind-of, danger that is there, two things begin to happen. When rain does come, it doesn't absorb into the ground, and it creates flash floods. Then when the fires come, it creates a fire scar that ultimately is like a slick of asphalt, so when the next rain comes it exacerbates this. We have seen this throughout southern California.

We are working with folks as they do experience those fires to ensure that they have the right kind of information and insurance so that when the floods come behind that—it may just be an inch of rain. In some parts of the country, we wouldn't think that is very much, but an inch of rain coming in California right now, particularly right after a fire, can be devastating.

Mrs. TORRES. So, in regards to floods, your agency has identified bridges and certain infrastructure that needs immediate attention.

Mr. WRIGHT. We have highlighted areas by which the infrastructure doesn't provide the level of protection that it once did.

Mrs. TORRES. Where can I get that information?

Then I will yield my time.

Mr. WRIGHT. So we will do this in a collaboration with other agencies. On the levy side, I have a database that looks at about 36,000 miles of levy in the country. That is the first place I would highlight with you. Then we do it in collaboration with the work that goes on in infrastructure protection, as they work across all of the sectors. Collectively, we will work with you.

Mr. PERRY. The Chair thanks the gentlewoman from California and recognizes the gentleman from Florida, Mr. Clawson.

Mr. CLAWSON. So, Mr. Wright, before you leave today, let's you and I exchange telephone numbers, okay? We can be buddies.

Mr. WRIGHT. Absolutely.

Mr. CLAWSON. Anything to do with executing preparedness for the next hurricane, God forbid, and some maps would just be wonderful for us. In exchange for that, anything I can do to help you all, I am all ears too.

Mr. WRIGHT. We will exchange phone numbers. I will make a phone call before I get back to the office to see some of that move faster.

Mr. CLAWSON. I really appreciate that. Look, you know, we have a fair amount of confidence in what is going on here. If we could

just nail that down on the maps, it would make a whole lot of people in Florida a lot happier.

Now, I want to go back to Mr. Smith, just to make sure—just to change topics totally. Dengue fever or Chikungunya, outbreak all over the world. You know, you go to the monsoon season in India or Southeast Asia, at the end you are going to have big breakouts because you have pooling water. It is an urban, indoor, mosquito-based virus. Knocks old folks and young folks off their feet totally.

I am told that in Florida we don't have as much risk. I am always thinking about it, always talking about it, because it is big in the Caribbean, it is big in South America, because you have a lot of water that pools. I am told that in our case these sorts of mosquitoes, the big black ones, don't move from south to north because there is not as much pooling of water. Therefore, although I am concerned about it because I see the blood tests in the Keys that show a certain amount of penetration, it is not something that I have to be in south Florida overly concerned about. Dengue is not fun, dengue fever.

So I have two questions. No. 1 is: I think you would probably agree with what I just said as kind of a broad-based synopsis. No. 2: Is this even in your area, or is this totally managed by CDC? What goes on here with respect to Chikungunya and dengue?

Mr. SMITH. So I do believe that you are predominantly referring to expertise that resides in other agencies. To the extent to which we then take information and then we assess risk as to border security, you know, the flows across borders, both legal and illegal, what is inside of packaged goods and things like that, that is where we would consider it. Then there is always a resilience aspect of our population that is being worked, as well.

Mr. CLAWSON. So is dengue and Chikungunya—which, you know, they have a week gestation. You know, it takes the sickness a while to—do we do anything different in, you know, Miami International Airport or anywhere elsewhere where we have flights coming back from these countries? Do we have any sort of different screening process? I don't know.

Mr. SMITH. I would have to get back with you on that. I am sure there is some variation, expertise about local considerations. But it is a global, you know, market, so there are probably some standards across, and then there are some probably unique at different regional places. But I can get back with you.

[The information follows:]

“DHS Customs and Border Protection (CBP) Office of Field Operations (OFO) conducts passive surveillance on all passengers on international travel to the United States through our airports. This surveillance includes observing passengers for sickness that warrants further review by the Center for Disease Control. They do not have a specific protocol for Dengue fever and Chikungunya. CBP OFO is in regular communication with CDC and is prepared to implement increased protocols consistent with the need.”

Mr. CLAWSON. Yeah, I mean, my district, that is—you know.

Then, just secondarily, the second question is because of, as I understand it, less pooling water because we have more modern drainage, I understand it is less of a risk. But, look, we want to keep folks from getting it. I have had it, and it ain't fun.

Mr. SMITH. Okay.

Mr. CLAWSON. Thank you. I yield back.

Mr. PERRY. The Chair thanks the gentleman.

Just to make sure—none of us want the President to be misquoted here. So I am going to read the quote that I think everybody is referring to from the questioners today.

I quote: “I’m here today to say that climate change constitutes a serious threat to global security, an immediate risk to our National security.” Those remarks were made at the U.S. Coast Guard Academy graduation, May 20, 2015.

With that, I want to thank the witnesses. We appreciate your indulgence and your willingness to be in the hot seat here. Your testimony and your insight is valuable.

I thank the Members for their questions, as well.

The Members of the subcommittee may have some additional questions for the witnesses, and we will ask that you respond to these questions in writing.

Mr. PERRY. The first panel of witnesses are excused.

We will take a momentary break while we set up the second panel.

Thank you, gentlemen.

The Chair will now introduce our witness for the second panel. It seems like it will be a much more up-close and personal exchange, for better or worse.

Professor Marc Levy is the deputy director of the Center for International Earth Science Information Network at Columbia University. His research focuses on environmental security and other areas. He is also an adjunct professor in Columbia University’s School of International and Public Affairs.

Thank you very much for your indulgence. I noticed you were present throughout the last panel, as well. I would like to recognize you now for your testimony.

STATEMENT OF MARC A. LEVY, DEPUTY DIRECTOR, CENTER FOR INTERNATIONAL EARTH SCIENCE INFORMATION NETWORK, COLUMBIA UNIVERSITY

Mr. LEVY. Thank you. Good morning, Chairman Perry, Ranking Member Watson Coleman, and Members of the subcommittee. My name is Marc Levy. I am deputy director of CIESIN, 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 20 years, with a particular focus on climate change. I served as the lead author on the Intergovernmental Panel on Climate Change Fifth Assessment Report’s chapter on human security, and I have regularly provided advice to U.S. Government bodies on these questions.

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

Consider first threats to the homeland. Last year, a bipartisan commission analyzed the economic risks of climate change and found that the U.S. economy faces potential losses of tens of billions of dollars over the next 5 to 25 years as a result of increased storm damage, large-scale crop losses, and disruptions to the energy system. In addition, heat waves threaten to kill tens of thou-

sands of Americans per year. Some risks are with us right now already. In Alaska, climate change impacts are already rendering entire towns virtually unlivable.

If a group were to adopt the goal of inflicting these harms on the homeland, they would immediately jump to the top of our terrorist threat list.

If we look overseas, those charged with defending U.S. National security have concluded that extreme events from climate change are likely to create security problems that could require deployment of U.S. forces or provide openings for the expansion of influence of organizations and governments hostile to our vital interests.

The Defense Department labels climate change an immediate security threat. This view emerged rapidly and without partisan divisions. A 2003 Department of Defense study and a 2008 National Intelligence Assessment are among the key milestones. We are not alone; our allies see things the same way.

This is not mass hysteria. Three central developments explain this convergence.

First, a rapidly expanding set of scientific studies has examined the historical data and shown that there is a very strong statistical correlation between climate stress and political violence and instability. One example is in the upper-left corner of that slide.

Second, the climate stresses that have historically elevated security risks are now manifesting with higher frequency, greater magnitude, and even in new alarming forms. That is the second slide in the middle on the top.

Third, there are global changes underway that are making security more tenuous even before climate change enters the picture, so this multiplier effect is now more serious. For example, the number of partially democratic regimes, which are at very high risk of instability, is at an all-time historic high. That is the graph on the lower left. Food prices have jumped about 60 percent over the last decade and have stayed there. That is the middle bottom graph. Then uncertainty over the evolving balance of power is triggering more conflict over territory.

So all these things together are making the world more dangerous, and we are seeing signs of that danger. The graph on the lower right is showing the increase in violence around the world, instability over the last 10 years.

These overseas risks affect the homeland, too. 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.

So it is time to shift gears and move beyond understanding the threats and get about the task of mounting an effective response. This is where I think the administration should be doing more, not less.

A National Research Council study on climate and security recommended that the United States develop a whole-of-Government strategy for monitoring threats and for doing a series of regular stress tests. But the White House has not done this. In fact, if you look at what is publicly available in the press, it seems that we are moving backward in some ways. The CIA Center for Climate

Change was closed in 2012, and MEDEA, a program that enabled climate scientists to work with intelligence data, has also been shut down. In my view, MEDEA should be brought back.

So, in summary, a simple logic explains why DHS should incorporate climate change into its risk framework: Climate change is endangering Americans and disrupting our economy. It threatens to destabilize regions of high National interest. That same logic renders inexcusable the slow pace of meaningful action responding to that threat.

Thank you.

[The prepared statement of Mr. Levy follows:]

PREPARED STATEMENT OF MARC A. LEVY

JULY 8, 2015

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 20 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 United States, overseen by a bipartisan commission, found that the U.S. 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 U.S. 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 U.S. 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 U.S. 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 U.S. 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 U.S. intelligence community, which was released 2½ 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.

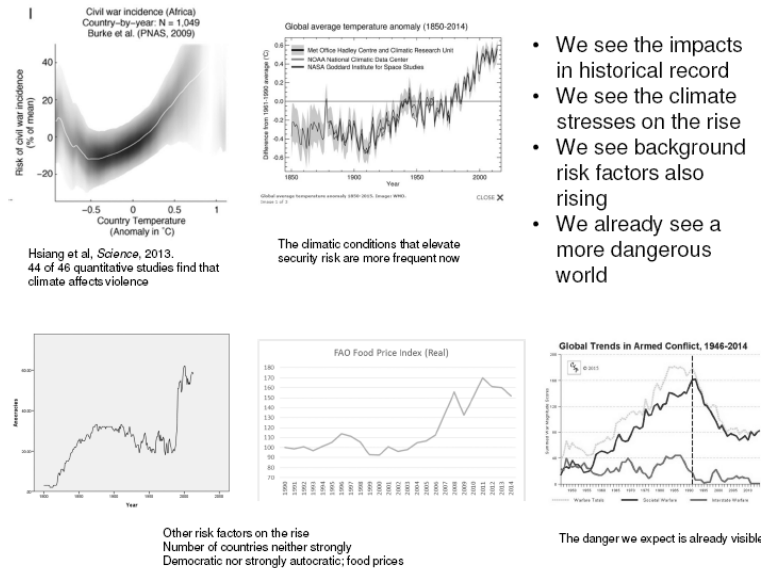
In this context, what the Quadrennial Homeland Security Review (DHS 2014) says about climate change is far too tame. Our knowledge of the threat is growing, the risks are rising, and Government responses are weak and uncoordinated. Someone should be ringing alarm bells.

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.

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Mr. PERRY. Thank you, Professor Levy.
The Chair now recognizes himself for a few moments of questioning.

Can you go back to a portion of your statement—I am sorry, I don't have the written text here, but you mentioned crop damage and something else. It was closer to the front, or the beginning of your statement. Can you refresh my memory?

Mr. LEVY. Sure. So this was a summary of the Risky Business—

Mr. PERRY. Right.

Mr. LEVY [continuing]. Study. The particular risks that they tried to itemize and quantify were losses from storm damage, crop losses, and disruptions to the energy system. That refers to the fact that there will be big swings in demand for electricity in different regions, different times, as the climate changes.

Mr. PERRY. Sure.

But you would also acknowledge—because I am looking at your different graphs and so on and so forth here. I mean, there has to be a cause-and-effect relationship. While there may be more crop damage now based on storms or natural events that may or may not have anything to do with climate change—may or may not, so I will acknowledge both sides—or storm damage or energy system utilization that has increased, but you also must acknowledge, or should, I would think, that there could be more crop damage because we can get more into an acre of ground than we ever have before. There may be more storm damage because we are more tightly compressed in urban centers. We have become more efficient. But the down side to that is, when these weather events occur, the damage is much more acute.

So it is not necessarily directly causal. Yes, it does happen, but it is not necessarily just because of climate change or the weather event alone. Is that fair to say?

Mr. LEVY. You are reflecting something that is genuine and relevant and true, which is that the damage that occurs in any one event is a function of the value of the assets that are exposed and the magnitude of the risk. So the damage can go up as a function of the value of the assets going up. That is certainly true. When you look at the historical data, you have to take that into account.

What is especially valuable about this Risky Business project is that they were only looking at the incremental risk from the effect of climate change, keeping the other things constant. So these risk estimates that they came up with are the risks only from the additional stress attributable to likely climate change.

Mr. PERRY. Okay.

You are a vocal proponent that climate change acts as a threat multiplier, particularly in respect to a rise in militant groups or terrorism.

What are the other threat multipliers? Where would you say climate change ranks in the panoply of threat multipliers?

Mr. LEVY. That is an excellent question. It is one of the—answering that question is one of the recurring recommendations on the part of virtually every organized group to assess this risk for the U.S. Government. It is one of the things that requires more investment, not less.

Some of the other multipliers include the spread of radical ideology; the growth of income inequality; the uncertainty about, you know, the shift in the balance of power geopolitically; the rise of globalization, which opens up access to markets and potentially creates grievances. There are a number of threats that we face, and they interact in complicated, potentially quite dangerous ways.

The ability to understand how to rank-order all of those threats is currently quite low. It is a very challenging task because they interact, and so, in any one case, what you see is the resultant of all of them acting together.

What has been done over the past 10 years is to isolate a small number of these threat multipliers and to ask the question, can we rule out the possibility that this one threat is not making any difference? Because one possibility is that all of this dangerous activity we see around the world is a function of all of those other threat multipliers and climate stress is not relevant.

The statistical work that has been done over the last several years has enabled us to say that climate stress is adding a significant additional set of stresses to that mix. If we were lucky enough to live in a world without that stress, the world would currently be less dangerous. The bigger question you are asking has not been fully answered.

Mr. PERRY. So this might be a little off, based on that answer, but, in your opinion, then, what is the direct motivator for Islamic terrorism?

Mr. LEVY. That is outside of my area of expertise. I can comment on how that question is factored into aggregate risk assessments, but I cannot comment on the direct motivator of an Islamic terrorist.

Mr. PERRY. The President, in his speech that I referenced earlier and at the end of the last panel, in his speech before the Coast Guard Academy on May 20, linked climate change, more specifically droughts, with the rise of Boko Haram.

Would you say that climate change was the primary cause of Boko—I am assuming you are familiar with Boko Haram.

Mr. LEVY. Yes.

In a particular case that has multiple causes, it is virtually impossible to identify a prime cause or even to rank-order the many different causes. Moreover, even if the drought in northern Nigeria was a major causal factor, that certainly does not mean that the many other things that are going on are irrelevant, and it doesn't take away any blame on the part of the people who chose to respond in the way that they did.

What we can say from the evidence is that, when you look at all of the dangerous things that are happening, all of the threats to regional stability around the world, climate is stressing that overall mix in a more dangerous direction. It doesn't mean that you can take any one of those dangerous events and attribute it, yes or no, to climate stress. It means that the overall mix is more dangerous than it would have been without it.

Mr. PERRY. Let me ask you this. This may be a little out of your wheelhouse too, but just based on your publications and your body of work, if I were to tell you that there is not one agency at DHS, there is not one office, so to speak, not one program office to coordinate activities countering violent extremism, would you consider that a weakness?

Mr. LEVY. Well, I think it would depend on what is going on in the rest of Government. So, I have thought a lot about your comparison over the morning between—

Mr. PERRY. I mean, we looked at—this is what the publications, the whole of publications are for one topic, on violent extremism, and this is the whole of publications on climate change. So based on that.

Mr. LEVY. So the question of how much focus, how many publications there should be on countering violent extremism within DHS is a function of what kind of coordination is going on in the rest of Government and what kind of coordination is taking place that maybe is not showing up in published documents. So that I cannot comment on that whatsoever.

I can say that the coordination to provide a response to the threats of climate-triggered security breakdowns within the U.S. Government is far below what every single expert body that has looked at the question has recommended.

Mr. PERRY. So—I am going to wrap up here, but I have one more.

Mrs. WATSON COLEMAN. Go ahead.

Mr. PERRY. So would you advise focusing—I mean, I know you are a proponent, but I just want to make sure I understand your position—focusing more on climate change at the expense of increasing CVE efforts, countering violent extremism?

Mr. LEVY. No, I would not. I—

Mr. PERRY. Okay. All right.

You know, I have looked at—you are well-published, I am sure well-read, well-respected, and involved in a whole host of things that I can't imagine how you get through your day. You look like you should be 150 years old based on your resume, et cetera, here.

I don't know if this is in your wheelhouse either, but if you are familiar with history, and somewhat recent history, World War II, there was a thing called the terror famine carried out by the Communist Russians in Ukraine and surrounding areas. Then there was an issue of the Kaytn massacre of Polish officials, which were denied by the Soviet Union for decades, decades upon decades, and not only denied by the Soviet Union and the Russians, but also that denial was upheld by experts and governments around the world, including this one.

My only reason to bring those things into light regarding this discussion is—you have a master's on advanced international studies and a bachelor's from Dartmouth in government, right? So you take the information from the climate scientists and you take information from political scientists, all that information, and you subliminate that and then put it back together and make some sense of it and put it in graphs for us to see, right?

But if that information is flawed, if it could be flawed, if it may be flawed, as the two examples that I gave—we walked around for the last 60 or 70 years thinking that the Russians didn't do this, that the Germans did, or the Russians didn't do it at all, and we were wrong. We were wrong.

So my only point is that, while you are compiling the information from all these different groups that we all have consensus on, it doesn't necessarily mean that it is correct.

With that, I yield to the gentlelady from New Jersey.

Mrs. WATSON COLEMAN. Thank you, Mr. Chairman.

Thank you, Mr. Levy.

When I read your testimony last night, it actually alarmed me. I was like, oh, my God, it is almost Armageddon here, calling for—or not doing the things that we need to do in order to protect ourselves.

I need to understand from you, what do you think—do you think that there is a high potential of radicalization of individuals here in our country based upon some of the factors that they see that have come about as a result of droughts and other situations caused by climate change in the world, across the sea? Do you think that that has in any way, shape, or form spurred on any of our young people to become radicalized?

Mr. LEVY. I am not aware of any evidence that that is the case.

I think that, on balance, the response of the U.S. Government to climate-related stresses within our own borders has been fairly good. We could do more, but I think the response is, for the most part, appropriate.

But where you get radicalization is more commonly where you have a very big threat, very big impacts on livelihoods and lives, and the Government is either doing nothing or they are actually making it worse. So you see this in many parts of the world. You have seen it, for example, in Syria over the last 8 years. When that happens, things can get very bad very fast.

I think in this country that particular linkage is something we probably don't have to worry a whole lot about, but, you know, I have always been surprised at how things unfold.

Mrs. WATSON COLEMAN. Do you have a sense of our vulnerability to diseases coming our way as a result of population shifting or migration of even other birds, bees, and whatever to our country as a result of—or just coming north or coming from wherever, wherever there are these sort of stresses on the environment in which they are native?

Mr. LEVY. So this is a question that is very relevant. It turns out to be a question that is hard to provide a specific predictive answer to. So the exact date by which dengue may become a significant disease in the United States, things like that are—the existing science does not really support that sort of thing.

But what we can do is point to large bodies of research that identify that the risk framework is radically changing because of the interaction of climatic stress and population movement and globalization, so that people who are charged with protecting Americans from major epidemics have to take into account the effect that climate change will have on those risks, because the likelihood that it will have a big effect is quite high, even if we can't point to a specific disease, a specific date.

An example is, if you look at historically the major global influenza pandemics, there is now growing evidence that there is a likelihood that the timing of those global pandemics of influenza were triggered by climatic anomalies. It has not been proven beyond a doubt, but the evidence is suggestive that that is a very strong possibility.

So that becomes a risk that we have to take into account when we think about what is the likelihood that our country could be hit with the consequences of a global flu pandemic.

Mrs. WATSON COLEMAN. So when you said—thank you.

When you said that the question here for us is not whether or not we are doing too much or our priorities are askew because there is too much emphasis on this issue, you said it is the exact opposite.

Were you speaking just with regard to the Department of Homeland Security, or are you speaking about Federal Government, you know, and its other departments?

Mr. LEVY. So I was speaking specifically about the functions that have been identified in some of these recent high-level studies which call for coordination, systematic risk assessment, and periodic stress-testing to be able to provide warning about likely high-magnitude threats.

Mrs. WATSON COLEMAN. So that is beyond just the one department.

Mr. LEVY. Exactly.

Mrs. WATSON COLEMAN. So my question to you: What would you recommend that we think about doing that would put us in a position to be more, sort-of, proactive and more able to assess these risks, to anticipate and to sort of assign and align?

Mr. LEVY. So are you speaking specifically about the Department or the Government as a whole?

Mrs. WATSON COLEMAN. I was actually speaking about the Government as a whole. Then my question would be: Do you see DHS as a coordinator of some of this? Because its function is to keep the homeland—its mission is to keep the homeland safe.

So, with that, that would be my only question—those two questions, actually.

Mr. LEVY. So, if you go back to the idea of a threat multiplier, the net risk comes about as climate stress interacts with a range of other things. In each place, the suite of those factors that combine are different and unique.

So what we need is an ability to do first-order estimates of how those things are interacting in places that are of vital interest and to anticipate how those interacting threats might unfold in a way that would make a big difference to us, and then to provide adequate warning to people that can take steps to either mitigate those risks or to respond to them after they unfold.

At present, there is no organized effort to do that for these climate security risks. We have people talking about the dangers; we don't have people acting on the recommendations.

So, within the purview of DHS, I think a very simple thing could be taking some of these recommendations and doing a survey of all the Government agencies that are responsible in some way for monitoring and assessing and warning about these risks, to see what they are doing to contribute to that need and see where the gaps can be filled most efficiently.

Mrs. WATSON COLEMAN. Okay. Thank you.

Thank you, Mr. Perry.

Mr. PERRY. The Chair thanks the gentlewoman, the Ranking Member from New Jersey.

With that, I also thank you, Professor. Sorry it was short, but I hope the whole thing was instructional. Your testimony and insight is valuable to us, as well.

I also thank the Members for their questions.

Members of the subcommittee may have some additional ones for the witness, and so we would ask you to respond with those in writing, if you could.

With that, pursuant to Committee Rule 7(e), the hearing record will be open for 10 days, without objection.

This subcommittee stands adjourned.

[Whereupon, at 12:13 p.m., the subcommittee was adjourned.]

