

THE CLIMATE AND  
SECURITY  
ADVISORY GROUP

# CHALLENGE ACCEPTED

A PROGRESS REPORT ON  
THE CLIMATE SECURITY PLAN FOR AMERICA  
AND RECOMMENDATIONS FOR THE WAY AHEAD

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# THE CLIMATE AND SECURITY ADVISORY GROUP

*The Climate and Security Advisory Group (CSAG) is a voluntary, non-partisan group of U.S.-based security experts from a broad range of institutions. The CSAG is chaired by the Center for Climate and Security in partnership with the George Washington University's Elliott School of International Affairs. See page 4 for a full list of signatories of this document. Organizational affiliations are listed for identification purposes only.*

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## Cover Photo:

U.S. Army Corps of Engineers Buffalo District contractor Ryba Marine Construction Co. repairs 750 feet of the north end of the Buffalo Harbor north breakwater, Buffalo, NY, September 10, 2021.

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# EXECUTIVE SUMMARY AND TOP RECOMMENDATIONS

The Center for Climate and Security released the Climate and Security Plan for America (CSPA) in September 2019.<sup>1</sup> It proposed non-partisan and ambitious policy recommendations for the U.S. Government. More than two years since the release, sufficient time has passed to assess the U.S. Government's progress across the plan's four pillars (described below), and to recommend additional measures.

## **Pillar 1. Demonstrating Leadership:**

### **Make Climate Change a Vital National Security Priority**

*Assessment:* The U.S. Government has made outstanding progress in implementing the recommendations in this section, from the prioritization of climate security through an Executive Order on the seventh day of the Biden Administration to the selection and appointment of climate champions in key security posts to rejoining the Paris Agreement.

#### *Recommendations Going Forward:*

- **Resource Ambition:** Ensure funding for the climate related efforts outlined in the plans published by or pending from the Department of Defense (DoD), Department of State (State), US Agency for International Development (USAID), the Intelligence Community (IC), the Department of Homeland Security (DHS) and other elements of the national security establishment.
- **Maintain Momentum:** Continue integrating climate into security strategy and plans.
- **Emphasize Transparency:** Publish metrics against which the Administration is managing its climate security efforts.

## **Pillar 2. Assessing Climate Risks:**

### **Take Advantage of Unprecedented Foresight About Climate Change**

*Assessment:* We recognize significant progress by the U.S. Government in implementing the recommendations, particularly with the publication of the National Intelligence Estimate<sup>2</sup> and the DoD Climate Risk Analysis in 2021.<sup>3</sup> In addition, Congress enacted some requirements aligned with our recommendations, such as requiring development of Military Installation Resilience Plans in 2020<sup>4</sup> and Mission Impact Assessments in 2021,<sup>5</sup> and establishing the Climate Security Advisory Council for the Intelligence Community in 2019.<sup>6</sup>

### *Recommendations Going Forward:*

- **Improve Forecasting of Climate Disasters:** Invest in improvement of Earth system science, data collection and climate forecasting models, including at the seasonal and sub-seasonal timeframes.
- **Integrate Analysis of Climate Hotspots:** Develop approaches to regularly assess, monitor and reevaluate the most important climate security hotspots, particularly over the next twenty years.
- **Execute Congressional Direction:** Follow through with installation resilience plans and mission impact analyses directed by Congress.
- **Integrate Climate Data Into Crisis Watch Centers:** The U.S. Intelligence Community and the United Nations should ensure their existing watch centers have the resources and personnel needed to anticipate and identify potential climate security crises before they occur.
- **Develop Climate-Informed Wargames:** Ensure that future wargames and tabletop exercises reflect our climate future.
- **Make Forecasts Accessible:** Improve both access to and understanding of climate forecasts across the security enterprise.

### **Pillar 3. Supporting Allies and Partners:**

#### **Reinforce U.S. National Security and Compete on the World Stage by Bolstering Climate Resilience Abroad**

*Assessment:* The current Administration has most certainly raised the climate banner in a variety of engagements with other nations and multilateral organizations. The Leaders Climate Summit in April 2021, COP26, and other fora have given the U.S. government many opportunities to show its prioritization of this issue. To date, those engagements have not included equal attention to the security impacts of climate change, however. Integration of climate stresses into regional strategies within the Department of State, the Department of Defense, USAID and the Intelligence Community remains nascent.

### *Recommendations Going Forward:*

- **Mainstream Climate Security within the State Department:** Incorporate climate impacts into agency strategies and policies, including Integrated Country Strategies.
- **Prioritize Climate Resilience in Development Efforts:** Follow through with the commitments made at COP26 and through USAID.
- **Leverage U.S. Military Leadership on Climate and Resilience:** Incorporate climate change into international military engagements.
- **Provide Climate Assistance:** Incorporate climate into security assistance and training programs.

#### **Pillar 4. Preparing for and Preventing Climate Impacts:** **Build Resilience to Climate Change Risks and Reduce Their Scale and Scope**

*Assessment:* In the original CSPA, many of the recommended actions in this pillar were long-term in nature. As such, they have not been fully realized. There has been progress in key investments for domestic climate resilience and military ranges, but we believe the U.S. government has missed opportunities to increase resources for enhancing the climate resilience of military installations and facilities, as well as other critical security infrastructure. Our new recommendations in this pillar are split into sections on “prepare” and “prevent,” as drawn from CCS’s Responsibility to Prepare and Prevent framework.<sup>7</sup>

##### *Recommendations Going Forward:*

- **Invest in Security Infrastructure:** Increase funding for military and other security infrastructure to bolster resilience.
- **Create a National Adaptation Plan:** Initiate an overarching plan ensuring that federal investments and activities contribute to future resilience.
- **Start Executing Resilience Plans:** Develop and fund projects that address the most important gaps identified in Military Installation Resilience Plans required by Congress.
- **Prepare to Respond:** Anticipate required changes driven by increasingly frequent disasters.
- **Prepare for the Opening Arctic:** Increase investments in capabilities for the High North.
- **Prepare for Extreme Heat:** Increase understanding of and capability to deal with heat extremes beyond the current environment.
- **Train to Prepare:** Develop training programs to ensure federal employees understand how to characterize and respond to climate security risks.
- **Prevent Catastrophic Outcomes:** Significantly reduce emissions and prevent the worst impacts of climate change. Here DoD and the federal government can lead by example, emphasizing those strategies that will catalyze emissions reductions across the entire economy and support cornerstone industries necessary for transformation.

#### **Conclusion**

As we look at the progress made to date, and the very long way there is to go, we recognize the clear priority that has been placed by the current Administration on climate change in general, and the clear priority placed on climate security and resilience by both the Administration and Congress. In that context we emphasize that now is the time to turn words into deeds and plans into action. Those deeds and actions must also be commensurate with the climate threat - a threat that is rising with each passing year.

## INTRODUCTION

In late 2019, the Center for Climate and Security (CCS)<sup>8</sup>-led Climate Security Advisory Group (CSAG), a group of sixty-four senior U.S. military, national security and intelligence experts, including eight retired four-star generals and admirals, published A Climate Security Plan for America (CSPA).<sup>9</sup> These leaders went well beyond recognizing that climate change is a national security issue. They recommended an urgent, ambitious, and comprehensive plan to both “prepare the nation for the unavoidable impacts of climate change” through robust adaptation measures and “prevent future security scenarios that impose catastrophic consequences” by significantly reducing greenhouse gas emissions. The plan recognizes that climate change is reshaping the world in which we live and changing not only global security threats, but the very capacity of the United States and its allies and partners to respond to them.

This Progress Report is titled “Challenge Accepted” to reflect President Biden’s ambitious prioritization of climate security issues, and the fact that there is considerable work left to be done. Congress and the Trump Administration also made progress in the year before President Biden took office. This assessment incorporates those accomplishments as well.

To paraphrase Winston Churchill, we are at the end of the beginning of the climate security challenge. Since the beginning of this century and across multiple Administrations of both parties, the Department of Defense, the Intelligence Community, and others have acknowledged and assessed the risks to national and international security posed by climate change. In 2008, the National Intelligence Council released the first National Intelligence Assessment (NIA) on climate change, projecting risks out to 2030.<sup>10</sup> The Department of Defense incorporated climate change into its Quadrennial Defense Reviews in 2010 and 2014, labeling climate change a “threat multiplier.”<sup>11</sup> In 2017, a Republican-led Congress declared climate change a direct threat to national security in legislation signed by the President,<sup>12</sup> kicking off many years of bipartisan legislation expanding the requirements and authorities of the Department of Defense and others to assess and respond to the challenges and impacts of climate change on national and international security.

This is the context in which the CSAG national security experts issued the Climate Security Plan for America in 2019. The report includes recommendations under four pillars: Demonstrate Leadership; Assess Climate Risks; Support Allies and Partners; and Prepare for and Prevent Climate Security Impacts. The CSPA is the frame through which we assess progress, though the U.S. Government has taken other actions that were not part of the original report. The second half of this new report outlines recommendations for the next three years - including actions recommended in the 2019 report that are as yet unfulfilled.

Ultimately, we hope to see the U.S. security establishment move more aggressively and comprehensively from words to deeds and from plans to execution. As is described in each of the following sections, the U.S. government has made important progress, but it has considerable work left to do.

# **THE PROGRESS REPORT**



President Joe Biden attends the opening session of the U.N. Climate Change Conference COP26, Monday, November 1, 2021, at the Scottish Event Campus in Glasgow, Scotland. The White House / Flickr

## I. DEMONSTRATING LEADERSHIP

### Making Climate Change a Vital National Security Priority

The most foundational recommendation in the Climate Security Plan for America (CSPA) was making climate change an articulated priority of the President. President Biden has embraced that principle with enthusiasm, and has repeatedly stated that he seeks to make climate change “a core national security priority.” The President named former Secretary of State Kerry as his “climate envoy” with a seat on the National Security Council, and Secretary Kerry has repeatedly emphasized the security threat posed by climate change.

The CSPA also stated that climate change effects must be integrated into the security considerations of multiple federal agencies, not as an isolated issue, but as “a risk that informs and affects the security priorities with which these agencies wrestle on a daily basis.” In other words, asking if climate change is a bigger threat than traditional security priorities is the wrong question. Instead, leaders in both the Administration and in Congress should assess how climate change affects the behavior of peer competitors, rogue nations, and non-state malign actors, and how it affects global stability and the capability and capacity of our own military forces and those of our allies and partners.

Seven days after his term began, President Biden signed Executive Order (EO) 14008, *Tackling the Climate Crisis at Home and Abroad*, which called it an essential element of national security.<sup>13</sup> EO 14008 articulated a strategic climate policy which directed multiple subsequent actions and planning: a National Intelligence Estimate, a Department of Defense (DoD) Risk Analysis, agency Climate Adaptation Plans and other key planning documents and assessments. Further, in the President’s *Interim National Security Strategic Guidance* (March 2021), he sent the clear signal that DoD, the State Department (State), the Intelligence Community (IC), and other security agencies must incorporate climate change and other transnational crises into their strategies and plans.<sup>14</sup>

Senior officials across the security enterprise have prioritized climate risks in their portfolios, and, as we recommended, climate advisors have been appointed in influential roles. President Biden gave Special Envoy Kerry a seat on the National Security Council, giving climate an important voice in this critical forum. Moreover, the National Security Council now has a Senior Director for Climate and Energy with a Director for Climate Security as a direct report.



The President has shown leadership on climate on the international stage, rejoining the Paris Agreement, raising the profile of climate change in international fora such as the United Nations Security Council, and joining the Group of Friends on Climate and Security at the UN. The decision to host an international summit on climate ambition 100 days into his term is a step we did not anticipate, but certainly credit as part of this effort.

In summary, the President has shown leadership on the impacts of climate change on national security and his Administration reflects this leadership. While not every recommendation was executed precisely as we worded it, we credit the U.S. government's progress and prioritization of climate security during the last year.

<b>Demonstrating Leadership: Making Climate Change a Vital National Security Priority</b>			
<b>CSPA Section</b>	<b>Recommendation</b>	<b>Progress Highlights</b>	<b>Assessment (✓=Satisfied; +=Progress; O=No Known Progress)</b>
1.1	<i>Announce the Plan:</i> Establish Climate Security as a vital national security priority and announce a Climate Security Plan for America, enshrined in a newly-created National Strategy Directive, to combat the threat.	<i>Executive Order 14008, Tackling the Climate Crisis at Home and Abroad</i> , establishes climate change as a national security priority and directs a series of specific and concrete actions to address this security challenge.	✓
1.2	<i>Appoint the Plan's Standard-Bearer:</i> Create a new White House Office on Climate Security, led by a senior White House official reporting directly to the President, to be responsible for its implementation.	<i>Executive Order 14008, Tackling the Climate Crisis at Home and Abroad</i> , established the White House Office of Domestic Climate Policy, which is led by the National Climate Advisor, as well as a National Climate Task Force to advise the White House. In addition, the White House created the Special Envoy for Climate (John Kerry) and created a Senior Director for Climate and Energy at the National Security Council (Melanie Nakagawa).	✓
1.3	<i>Acknowledge Climate Change as a Vital National Security Priority:</i> Ensure climate security is identified as a vital priority in the National Security Strategy and all other national strategic documents.	<i>White House Interim National Security Strategic Guidance</i> emphasizes climate change as a security threat. In addition, <i>Executive Order 14008</i> calls climate change an essential element of foreign policy and national security.	✓
1.4	<i>Appoint Climate Security Champions Throughout the Government:</i> Nominate Cabinet officials and nominate or appoint other leaders within national security agencies and the Executive Office of the President who understand the security risks posed by climate change and will make the Climate Security Plan for America a high priority.	In their Senate confirmation hearings, key cabinet officials, including specifically security positions such as the Secretary of Defense (SecDef) and the Director of National Intelligence (DNI), showed commitment to treating climate change as a security concern. At the White House Leaders Summit on Climate (April 22-23, 2021), SecDef Austin, DNI Haines, and US Ambassador to the United Nations Thomas-Greenfield participated in a climate security session <a href="#">panel</a> .	✓
1.5	<i>Elevate climate security leadership at the Department of Defense:</i> Appoint a Senior Director for Climate Security within the Office of the Secretary of Defense.	DoD <a href="#">created</a> a Senior Advisor for Climate to the Secretary of Defense and established a Climate Working Group to coordinate DoD climate activities.	✓



1.6	<i>Elevate climate security leadership at the Department of State:</i> Create a Bureau of International Climate Security, headed by an Assistant Secretary of State for International Climate Security, reporting directly to the Under Secretary of State for Arms Control and International Security Affairs.	While the Presidential Envoy on Climate is resident at State, that does not meet the intent of this recommendation, which is to mainstream climate considerations within regional diplomacy and strategies.	○
1.7	<i>Elevate climate security leadership in the Intelligence Community:</i> Appoint a Senior Director for Climate Security in the Office of the Director of National Intelligence (ODNI) to drive government-wide intelligence assessments of climate change impacts on national security, and appoint a National Intelligence Officer (NIO) for Climate and Security within the National Intelligence Council (NIC).	ODNI has <a href="#">created</a> a National Intelligence Manager (NIM) position to cover global issues, including climate change. Appointed by the DNI, NIMs serve as the principal substantive advisors on all or specified aspects of intelligence related to designated countries, regions, topics, or functional areas. NIMs provide a single voice to policymakers to orient and guide collection and analytic activities to satisfy customers' information needs.	✓
1.8	<i>Elevate climate security leadership at the Department of Homeland Security (DHS):</i> Appoint a Senior Advisor for Climate Security within the Office of the Secretary of Homeland Security.	DHS has <a href="#">announced</a> an Advisory Council on climate, and a <a href="#">Climate Change Action Group</a> , but no specific senior advisor on climate security has been appointed.	○
1.9	<i>Elevate climate security leadership at the Department of Energy:</i> Appoint a Senior Director for Climate Security within the Office of the Secretary of Energy	While there are multiple positions that have climate and climate security-related duties, and climate is clearly a focus of the Secretary, a climate security position has not been established.	○
1.10	<i>Elevate climate security leadership at the Departments of Agriculture, Commerce, Health and Human Services, and Interior, as well as the Environmental Protection Agency:</i> Appoint senior climate and security advisors within each of these offices.	While there are multiple positions that have climate and climate security-related duties, and climate has been emphasized within the missions of these agencies, climate security positions have not been established.	○
1.11	<i>Demonstrate climate security leadership at the U.S. Mission to the United Nations:</i> Direct the US Ambassador to the United Nations to work to make Climate Security a priority at the U.N., and appoint a senior U.S.-UN official to lead the effort.	This focus has been <a href="#">emphasized</a> both by the US Ambassador to the UN and by the Special Envoy in <a href="#">remarks</a> to the UN Security Council. In addition, the US <a href="#">joined</a> the UN Group of Friends on Climate and Security.	✓
1.12	<i>Demonstrate climate security leadership at other key international security institutions:</i> Direct department and agency leaders to place climate security high on the international security agenda.	US officials have prioritized climate security at multiple fora. Some examples include NATO, the <a href="#">ASEAN Summit</a> , the high-level <a href="#">climate security panel</a> at the White House Leaders Summit on Climate, and the <a href="#">Munich Security Conference</a> .	✓
1.13	<i>Re-establish climate leadership on the world stage:</i> Announce the intention to remain in the Paris Agreement on climate change.	President Biden <a href="#">rejoined</a> the Paris Agreement on his first day in office.	✓



Coast Guard aircrews conducted overflights following Hurricane Delta to assess damages and identify hazards, October 10, 2020. Coast Guard News / Flickr.

## 2. ASSESSING CLIMATE RISKS

### Taking Advantage of Unprecedented Foresight About Climate Change

The second pillar of the CSPA focuses on ensuring that leaders have the information they need to take decisive, effective action. Though climate change poses unprecedented risks, the world also has unprecedented foresight – a combination that led us to conclude we have a Responsibility to Prepare for and Prevent climate impacts.<sup>15</sup> Advanced climate modeling can project the implications of a range of greenhouse gas emission levels on risks such as sea level rise, rainfall variability, wildfires, effects on biodiversity, marine and terrestrial ecosystems and functions, and disease distribution.

Foresight does not automatically translate to action, however. In order to leverage these models for national security insights, the U.S. government must have the personnel, policies, programs, and systems in place to conduct robust and actionable climate risk assessments.

The CSPA recommended that the Intelligence Community prioritize intelligence assessments on climate security and create a Climate Security Watch Center. Congress took a step in this direction in the FY2020 National Defense Authorization Act (NDAA) when it established the Climate Security Advisory Council to strengthen collaboration between the U.S. government's scientific agencies and the Intelligence Community on climate security risks. Another small step forward occurred in 2021 when the CIA launched a new analytic center focused on technology and global problems such as pandemics and climate change.<sup>16</sup>

The CSPA also called for comprehensive climate vulnerability assessments and resilience plans for both military and civilian infrastructure. Congress directed DoD to incorporate resilience into its installation master plans through a provision in the FY2020 NDAA. While the DoD has promised those plans, they have not yet produced them.

In compliance with Section 103 of EO 14008, the DoD developed a Climate Risk Analysis to assess the strategic impacts of climate change on DoD equities around the world. Taking this to a more granular level, in the FY2022 NDAA, Congress directed DoD to conduct mission impact assessments. We look forward to seeing these analyses reflected in future modeling, simulation, and wargaming.

While not specified in the CSPA, we recognize that federal agencies have published Climate Adaptation Plans, in accordance with Section 211 of EO 14008, that set roadmaps for each agency to leverage foresight in support of their respective missions in a climate-changed environment.

<b>Assessing Climate Risks: Taking Advantage of Unprecedented Foresight About Climate Change</b>			
<b>CSPA Section</b>	<b>Recommendation</b>	<b>Progress Highlights</b>	<b>Assessment (✓=Satisfied; +=Progress; O=No Known Progress)</b>
2.1	<i>Prioritize Intelligence Assessments on Climate Security:</i> Create an interagency Climate Security Crisis Watch Center in the Office of the Director of National Intelligence (ODNI).	Progress has been made, in part through the <a href="#">Fiscal Year 2020 National Defense Authorization Act</a> , which created the Climate Security Advisory Council within ODNI. EO 14008 also required a <a href="#">National Intelligence Estimate</a> on climate threats, which was completed in October 2021.	+
2.2	<i>Comprehensively Assess the Vulnerabilities of Critical Infrastructure:</i> Conduct Climate Security Infrastructure Assessments with supporting prioritized action plans.	Congress passed a requirement in the <a href="#">Fiscal Year 2020 National Defense Authorization Act</a> that requires military installation resilience plans to be integrated into DoD's installation master plans and has reinforced this requirement in both the FY 2021 and FY 2022 NDAA's, but DoD compliance with those requirements has not yet been forthcoming. In addition, DoD and other agencies have promulgated Climate Adaptation Plans.	+
2.3	<i>Expand Efforts to Assess Risks that Climate Change Poses to the U.S. Military Mission:</i> Conduct Climate Security Mission Impact Assessments.	DoD published a <a href="#">Climate Risk Analysis</a> to provide an initial assessment. Congress requires more detailed Mission Impact Assessments in the Fiscal Year 2022 NDAA.	+
2.4	<i>Call for a Climate Security Crisis Watch Center at the United Nations:</i> Enhance the capacity of the international community to anticipate climate security risks.	In December 2021, the US voted in favor of a UNSC resolution on climate security that would have, among other things, required data sharing and a comprehensive study on climate security risks. The resolution failed due to a veto from Russia.	O
2.5	<i>Initiate a Climate Security Research Agenda:</i> Support robust climate change research at the Federal science agencies and ensure security requirements inform future climate research priorities.	The National Science Foundation made recommendations in a late 2021 <a href="#">report</a> on directions for research on climate change and human security. In addition, the National Academy of Sciences produced a <a href="#">report</a> making a related recommendation - for the USGCRP to focus on climate threats and security over the next decade. We hope that future reports will more explicitly solicit risks and requirements from the security community.	+





USAID partners with countries across sub-Saharan Africa to reduce vulnerabilities to climate change and making economies and livelihoods more resilient, 2019. Will Baxter / USAID Africa / Flickr.

### 3. SUPPORTING ALLIES AND PARTNERS

## Reinforcing U.S. National Security and Compete on the World Stage by Bolstering Climate Resilience Abroad

Climate change vulnerabilities in other countries can affect U.S. national security directly and indirectly — whether by straining the governments and military capabilities of key allies and partners, by creating openings for malign non-state actors, or by contributing to drivers of conflict and instability. Even developed countries are likely to need more assistance to adapt and build resilience in the coming years, as communities barely have time to recover from one shock before the next one hits.

There are realpolitik reasons for the United States to help other countries with climate resilience and adaptation. First, it helps make the case to countries facing the brunt of climate change effects without being responsible for a significant portion of carbon emissions, that the United States has their backs. Instead of just urging countries to make greater commitments in cutting emissions, the United States can and should act as a partner to assist countries in managing climate change effects. Second, if the United States does not lead, it leaves the playing field open for competitors such as China to step in.

With Executive Order 14008, *Tackling the Climate Crisis at Home and Abroad*, the Biden Administration set the right tone, asserting that climate change was an essential element of national security and foreign policy. Through requirements in that document, other executive orders, and subsequent announcements, the Administration has made it clear it plans to engage the international community on climate issues. For example, foreign development assistance is increasingly seen through a climate lens. The new draft climate strategy from USAID, coupled with U.S. commitments during COP26 indicate that the Administration plans to make significant new investments abroad to improve the resilience of other nations, especially those particularly vulnerable to the impacts of climate change.

The administration has also made climate-induced forced migration a focus. In addition to publishing a separate Executive Order on this issue (EO 14013, *Rebuilding and Enhancing Programs to Resettle Refugees and Planning for the Impact of Climate Change on Migration*),<sup>17</sup> documents such as the DoD Climate Risk Analysis and the National Intelligence Estimate have highlighted the topic.

<b>Supporting Allies and Partners: Reinforcing U.S. National Security and Competing on the World Stage by Bolstering Climate Resilience Abroad</b>			
<b>CSPA Section</b>	<b>Recommendation</b>	<b>Progress Highlights</b>	<b>Assessment (✓=Satisfied; +=Progress; O=No Known Progress)</b>
3.1	<i>Demonstrate International Leadership Through Ambitious Regional Engagement:</i> Develop high-level Regional Climate Security Plans.	Executive Order 14008, <i>Tackling the Climate Crisis at Home and Abroad</i> directs security agencies to integrate climate into regional strategies. These are not always made public, and it is difficult to fully assess execution based on public information.	O
3.2	<i>Help Prevent Climate-Driven Fragility and Conflict:</i> Create a Climate Security Conflict Prevention Framework for State and USAID.	USAID published a climate strategy that accomplishes much of the intent of this recommendation. State has yet to publicly release a similar strategy, though State's Bureau of Conflict and Stabilization Operations has indicated it is integrating climate considerations into its work.	+
3.3	<i>Engage Allied and Partner Militaries on Climate Resilience:</i> Create a Security Forces Climate Engagement Plan.	DoD has announced some ad-hoc climate security cooperation with specific countries, such as sharing its Defense Climate Assessment Tool with Japan and South Korea. However, there is significant progress needed to fully incorporate climate security measures into DoD and State Department security assistance and cooperation programs.	O
3.4	<i>Significantly Increase Strategic International Investments in Climate Resilience:</i> Direct the Secretary of State to find innovative means of supporting strategic climate resilience investments.	At COP26, the Biden Administration made a commitment to increase international contributions for adaptation and resilience - up to \$3 billion annually by 2024. We look forward to that commitment becoming a reality.	+
3.5	<i>Invest in Energy Innovation:</i> Provide significant funding for the Mission Innovation initiative to complement climate resilience investments.	The Biden Administration has pledged to prioritize and take a leadership role in Mission Innovation. It also launched the First Movers Coalition at COP 26, a public-private partnership between the U.S. government and private companies, focused on the most difficult to decarbonize industries.	+





When an event such as flooding is detected or predicted, a voice recording is sent to the mobile phones of registered users in the areas at risk. EWS 1294 is a free mobile phone service supported by the United Nations Development Programme as part of a four-year project to strengthen climate information and early warning systems in Cambodia. 2019. **UNDP Climate**.

## 4. PREPARING FOR AND PREVENTING CLIMATE IMPACTS

### Build Resilience to Climate Change Risks and Reduce Their Scale and Scope

This pillar reflects the culmination of earlier sections; its recommendations for executing climate security policy require the leadership, analysis, and collaboration with allies and partners previously outlined. Given that the Biden Administration is just one year into its tenure, it is unsurprising that many of these recommendations remain outstanding “to-do” items. It takes time to get key political appointees responsible for implementation in place. Moreover, the first budget request fully developed by the Administration (rather than an edited version of the previous Administration’s draft budget) is unlikely to be appropriated by Congress until late 2022. Finally, the failure of Congress to enact timely appropriation acts for FY 2022, relying instead on a series of short-term Continuing Resolutions, adversely impacted the pace and scale of the implementation of planned actions in federal agencies.

The first several recommendations in this pillar of the CSPA are focused on investments in resilience. The capstone recommendation is to launch a Climate Security Infrastructure Initiative, announcing major new investments in both critical civilian and military infrastructure. The Infrastructure Investment and Jobs Act (IIJA), passed by Congress and signed by the President in late 2021,<sup>18</sup> is partially responsive to this recommendation. It included investments in improving the climate resilience of transportation infrastructure and upgrades to the electric grid, but did not include investments in climate resilience for military installations. This was a missed opportunity, but Congress can rectify it in the annual appropriations process by incorporating and coordinating investments in military construction, facilities sustainment, and other resilience measures through programs such as the Energy Resilience and Conservation Investment Program (ERCIP) and the Readiness and Environmental Protection Integration Program.

Congress has also required the Pentagon to incorporate specific resilience measures into building standards, design, and siting. As a result, every new facility construction project will improve the resilience of the military enterprise.

Beyond infrastructure, the CSPA's recommendations direct the U.S. government to prepare for new threats and missions. For example, it calls for the creation of a new National Arctic Security Policy – recognizing the risks posed by the intersection of a more accessible Arctic due to climate change and the increased regional presence of Russia and China. Since publication of the CSPA, each of the military departments have issued their own Arctic strategies, setting the stage for a holistic, climate change-informed National Arctic Security Policy. More broadly, the CSPA calls for, and Administration and Congressional directives require, all Combatant Commands to incorporate climate change into their preparations and planning for their respective regions. The original CSPA also recommends an expansion of the Defense Threat Reduction Agency (DTRA) mission to explicitly incorporate climate change threats. Addressing emerging threats is in DTRA's mandate already, but there is no indication that the agency has begun addressing climate change.

Finally, the CSPA recommends a Climate Security Prevention Policy, calling for reduced emissions to allow the United States to avoid catastrophic future security effects. Without question, today's emissions will drive tomorrow's security challenges, just as historical emissions are driving the climate changes we see today.

While comprehensive progress to cut emissions requires action across the entire economy, it is clear that to reflect and to remain consistent with this broader principle, the entire federal government, including DoD, will need to lower emissions. The Biden Administration is focused on this goal at every level, from federal budgets to regulatory levers to global diplomacy. In December 2021, the President signed Executive Order 14057, Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability, which is designed to use the purchasing power of the federal government to drive demand for renewable energy technologies.<sup>19</sup>

<b>Preparing for and Preventing Climate Impacts: Build Resilience to Climate Change Risks and Reduce Their Scale and Scope</b>			
<b>CSPA Section</b>	<b>Recommendation</b>	<b>Progress Highlights</b>	<b>Assessment (✓=Satisfied; +=Progress; O=No Known Progress)</b>
4.1	<i>Strengthen Security Infrastructure:</i> Launch a Climate Security Infrastructure Initiative to both bolster the climate resilience of our critical civilian and military infrastructure and help prevent future climate security scenarios that impose unacceptable consequences.	Increases in funding for resilient infrastructure in the FY22 budget request, for example, in the Department of Homeland Security's Building Resilient Infrastructure Communities (BRIC) program and in select DoD accounts. But such increases are not yet at the scale that CSPA called for.	+
4.2	<i>Sustain Military Training Range Lands:</i> Increase the climate resilience of the military's training range lands to ensure long term availability and capability to support current and future training and weapon systems.	This is an ongoing effort by the Department of Defense, and recent increases in the REPI program budget reflect both the will and ability to make substantive progress.	+
4.3	<i>Protect Ongoing Defense Investments:</i> Require that new defense investments incorporate climate resilient building standards, and that existing infrastructure is retrofitted for climate resilience.	Congress imposed this requirement in the <a href="#">Fiscal Year 2020 National Defense Authorization Act</a> and strengthened those requirements in both the FY 2021 and FY 2022 National Defense Authorization Acts.	✓



4.4	<i>Facilitate Robust Civilian-Military Collaboration on Climate Change Resilience:</i> Create a Civil-Military Climate Partnership.	Considerable progress has been made in this area under the Readiness and Environmental Integration (REPI) program and in other programs such as the Defense Community Infrastructure Program (DCIP), in requirements that Installation Master Plans include a resilience component within input from defense communities and others, and in expanding the scope of the Sentinel Landscapes Partnership to include addressing resilience, but much remains to be done, and the scope of and funding for these programs needs to be increased and expanded to key supporting infrastructure such as the Strategic Road and Railroad networks and strategic sea and airports needed to support DoD deployments.	+
4.5	<i>Protect the Homeland:</i> Produce a Climate Security Strategy for Critical Infrastructure that prepares for worst-case scenarios.	The Department of Homeland Security has published a comprehensive <a href="#">strategy</a> to guide agency operations and to focus them on this challenge. It does not meet the full intent of the recommendation to develop a national infrastructure strategy.	+
4.6	<i>Prioritize Climate Change Threat Reduction:</i> Expand the Mandate of the Defense Threat Reduction Agency (DTRA).	There is currently no indication that DTRA has expanded its mission to include climate change threats, but public information is limited	○
4.7	<i>Prepare for Expanded Activity in the Arctic:</i> Create a National Arctic Security Policy and establish a National Arctic Security Council to implement it.	The National Security Council is developing a National Arctic Strategy, which would address the key part of this recommendation. In addition, an important step forward is the <a href="#">establishment of the DoD Arctic Security Center</a> . The FY2022 NDAA requires the development of a National Arctic Strategy by the Defense Department as well.	+
4.8	<i>Prepare for a Changing Battlefield:</i> Direct the Combatant Commands (COCOMs) to include climate change risks in their planning processes.	Section 103 of EO 14008 imposes this requirement, and the DoD Climate Risk Analysis provides a list of specific planning documents that need to incorporate climate considerations to comply. This is important validation, but not yet execution, of this recommendation.	+
4.9	<i>Train to Prepare:</i> Develop training programs to ensure federal employees understand how to characterize and respond to climate security risks.	Climate literacy was a key priority articulated across federal agency adaptation plans. However, more work is needed to integrate climate literacy and technical climate competence into key training programs.	+
4.10	<i>Prevent Catastrophic Futures:</i> Embrace an economy-wide Climate Security Prevention Policy to reduce greenhouse gas emissions at a scale necessary for avoiding catastrophic security consequences.	The Administration's ambition is clear through its prioritization of this issue, and the right tone has been set, but there is a long way to go to achieve the reductions in US-generated emissions and in global emissions that would allow us to avoid the worst climate-driven security consequences. Congressional opposition to the ambitious efforts needed to make the necessary impact has been a key impediment. The Administration and Congress need to work together to accomplish this objective.	○

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**LOOKING FORWARD:**  
TRANSLATING WORDS INTO DEEDS



President Joe Biden, joined by Special Envoy for Climate John Kerry, Secretary of the Treasury Janet Yellen and Director of the National Economic Council Brian Deese, attends the Leaders Summit on Climate Thursday, April 22, 2021, in the East Room of the White House. **Adam Schultz / The White House**

While the U.S. government has made progress across the CSPA's four pillars, it is uneven. Although the Biden Administration has demonstrated strong leadership and prioritized climate change as a security issue, there is much to be done to translate its words into deeds. If this assessment's summary is "challenge accepted," then its overarching recommendation going forward is "moving from plans to action." Using the same pillars as the original Climate Security Plan for America, these recommendations focus on the concrete progress we believe is needed over the next three years.

## I. DEMONSTRATING LEADERSHIP

The Biden Administration has emphasized the importance of climate change through the individual senior leaders it has selected for key positions across federal agencies. Now the Administration must demonstrate its collective organizational leadership to develop, refine, and fund the plans and programs needed to address the security effects of climate change.

## Recommendations:

### **I(a) Resource Its Ambition: Ensure funding for the climate-related efforts outlined in the plans published by or pending from the DoD, State, USAID, the IC, DHS and other elements of the national security establishment.**

It is said that strategy without resources is hallucination. The climate security efforts articulated in agency plans will require significant and sustained funding to become reality. It will take leadership across the Administration and throughout the agencies, as well as support from Congress, to translate a prioritization of climate risks into the specific programs, budgets, and other concrete actions to adequately address those risks.

Our recommendation is focused primarily on generating new resources for these climate security efforts, not renaming existing efforts as “climate” programs. Of course, agencies can make progress by integrating climate considerations into existing efforts that do not require significant funding increases, such as updated building codes for new construction. However, it is insufficient, for example, to characterize operational improvements to aircraft engines as “climate” improvements simply because aircraft will improve their fuel efficiency, when investments are already being made to increase operational effectiveness. Highlighting the climate benefits of ongoing programs is important, but new resources are necessary to respond to the climate crisis.

### **I(b) Maintain Momentum: Continue integrating climate into security strategy and plans.**

The Biden Administration has issued a series of important executive orders and other directives and strategies that highlight the importance of climate security - noting, for example, that climate change is an essential element of national security and foreign policy. The critical role that climate change plays in national security was reflected in risk assessments, strategies and plans published over the last year.

Going forward, the Administration needs to continue reflecting climate risks in national security strategy documents, conveying the role they play as a global threat that shapes other challenges, including competition with potential adversaries such as China and Russia and threats from malign non-state actors.

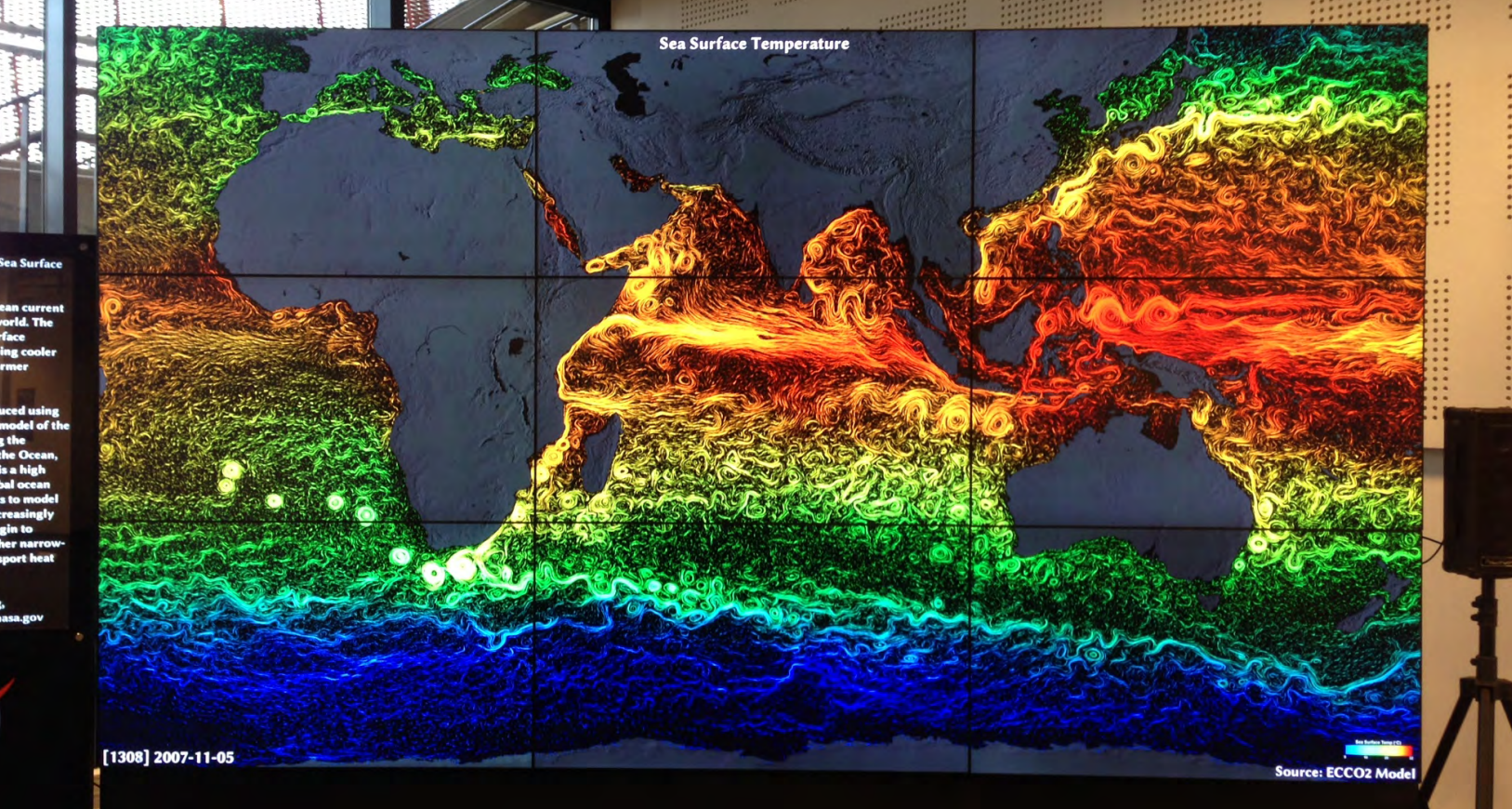
### **I(c) Emphasize Transparency: Publish metrics against which the Administration is managing its climate security efforts.**

The Administration should publish performance measures that agencies will use to determine how well they are implementing their climate adaptation plans and achieving their objectives.

Similarly, it should publish metrics on how it is measuring progress addressing climate change risks to security across other domains, such as investments by international financial organizations like the World Bank and the International Monetary Fund or improvements in critical civilian infrastructure to reduce extreme weather impacts.

Progress against these measures should be published at least annually, so the public can see how the Administration is assessing its own progress and where it needs to improve.





NASA's Hyperwall shows the sea surface temperature at the U.S. Center at the 19th Session of the Conference of the Parties to the UN Framework Convention on Climate Change (COP19) in Warsaw, Poland, on November 19, 2013. **U.S. Department of State**

## II. LEVERAGING FORESIGHT

Looking at future climate risks at different time intervals and at various geographic scales enhances the ability of the United States to assess security trends and possibilities in different regions. This enables national security agencies to better prepare for and build resilience to expected future conditions. It also allows policymakers to identify opportunities to make changes today to minimize future climate security risks.

### Recommendations:

#### **II(a) Improve Forecasting of Climate Disasters: Invest in improvement of Earth system science data collection and climate forecasting models, including at the seasonal and sub-seasonal timeframes.**

Given the critical role forecasting and the data supporting such forecasting play in helping the U.S. Government prepare for extreme weather, natural disasters and other climate impacts, it should increase its efforts in developing new data and advanced models that will support pre-disaster responses and strategies. Specifically, efforts should be pursued in: (1) seasonal-to-sub-seasonal forecasting which serves as a bridge between weather and climate to provide a wide temporal scale useful for tactical, operational, and strategic planning; (2) wildfire forecasting that draws on

existing and more refined data such as soil and atmospheric moisture as well as intensity and direction when a fire starts; and (3) ecological forecasting that examines how climate change is affecting both human systems and natural ecosystems and how the interactions between these systems affect security.

**II(b) Integrate Analysis of Climate Hotspots: Develop approaches to regularly assess, monitor, and reevaluate the most important climate security hotspots, particularly over the next twenty years.**

The IC's National Intelligence Estimate on climate change identified 11 countries and three regional arcs of concern for climate vulnerability over the next twenty years. This is a good start, and the Administration should regularly assess and monitor these regions, and evaluate whether additional ones should be added to the list. The IC should also develop indicators to gauge when climate vulnerabilities transform into climate security hotspots. The Administration should develop strategies and plans to address the forecasted climate security stressors in these countries and regions well ahead of the development of climate security crises. Moreover, the Administration should monitor how these risks compound others such as nuclear proliferation.

**II(c) Execute Congressional Direction: Follow through with Congressionally-directed installation resilience plans and mission impact analyses.**

In recent years, Congress has included provisions in the annual National Defense Authorization Act (NDAA) that require DoD to conduct analyses assessing its vulnerability to various climate impacts and to take actions to reduce those impacts. DoD has not yet made progress on the requirement enacted in the FY 2020 NDAA to integrate installation resilience plans into each Installation Master Plan.<sup>20</sup> In addition, the FY2022 NDAA includes a provision requiring mission impact assessments, looking at how climate change impacts, readiness, training, testing and operations.<sup>21</sup>

Further, DoD has not taken full advantage of the new Congressionally-provided authorities for maintaining and enhancing the climate resilience of military installations, ranges, and related civilian infrastructure. Nor has it leveraged authorities to address the climate resilience of strategic transportation networks assets, including air and sea ports necessary to deploy and sustain U.S. forces and associated equipment and supplies. DoD needs to be responsive to these new authorities and should: a) request the funding required to identify and implement corrective and adaptive measures with regard to military installation resilience; b) implement through guidance and regulations the new authorities enacted by Congress as soon as possible; and c) propose new authorities as required in its annual DoD legislative program.

**II(d) Integrate Climate Data Into Crisis Watch Centers: The Intelligence Community and the United Nations should ensure their existing watch centers have the resources, personnel and training needed to anticipate and identify potential climate security crises before they occur.**

This proposal is an evolution from the original CSPA, in which we recommended creating climate-specific watch centers in both the Intelligence Community (CSPA 2.1) and the United Nations (CSPA 2.4). Given the climate security dynamics at the UN and the increasing intersection of climate shocks with existing security risks, we now recommend the robust integration of efforts to continually assess current and future climate stresses and the security risks they amplify within existing watch center mechanisms. This will require additional personnel and resources, including mechanisms to robustly integrate climate data streams.

## **II(e) Develop Climate-Informed Wargames: Ensure that future wargames and tabletop exercises reflect our climate future.**

The President's Executive Order on Tackling the Climate Crisis at Home and Abroad and the FY2022 National Defense Authorization Act (NDAA) require the Department of Defense to integrate climate change into its wargaming exercises. As DoD does so, it should consider so-called "worst case" climate scenarios in its planning. Many climate-related extreme weather events are hitting harder and earlier than scientists initially projected, and 2021 brought a range of unprecedented shocks—such as the December 2021 wildfires in Colorado—that are redefining our climate baseline. Other agencies such as the State Department, the Office of the Director of National Intelligence, USAID, and the Department of Homeland Security should also regularly conduct climate-related scenarios and tabletop exercises to facilitate planning. The intelligence community in particular should examine the less certain but high impact long term scenarios such as the potential collapse of the Thwaites Glacier in Antarctica. The National Security Council should also consider convening a government wide climate security exercise focused on the homeland.

## **II(f) Make Projections Accessible: Improve both access to and understanding of climate projections across the security enterprise.**

The Administration should ensure that appropriate security experts throughout the government both have access to relevant climate change forecasts and the climate literacy skills to use them. Regional and country experts need to understand how climate change forecasts will affect national and international dynamics. Infrastructure planners should have access both to projections and the means and technical climate knowledge and literacy needed to develop measures to adapt. At the same time, U.S. scientific agencies need to learn more about the requirements of their customers across the government so they can provide more actionable data and information. Agencies should consider filling leadership positions with people that have a wide range of climate-relevant expertise, to include climate science. The Administration should also ensure the interagency is fully leveraging the coordinating bodies it has at its disposal to build cross-sectoral climate security collaboration between the U.S. scientific agencies and the national security community. This includes the soon-to-be-launched National Academies Climate Security Roundtable,<sup>22</sup> the Climate Security Advisory Council,<sup>23</sup> and the re-instated Climate Change and National Security Working Group.<sup>24</sup> The Administration should also explore opportunities to leverage the U.S. Global Change Research Program to both inform climate security assessments of risks abroad and lay the groundwork for a national resilience plan that sets the stage for climate security at home.

## **II(g) Leverage the Private Sector: Survey and Incorporate Emerging Private Sector Observation and Forecasting Capabilities**

Since the original CSPA was published in 2019, private investment in Earth observation systems and application products has expanded significantly. This investment has resulted in new space-based and in situ data collection systems that are being deployed on shorter time scales, advancing technical capabilities, and producing new, operational data sets many of which complement or address gaps in government systems. In parallel, private sector climate services are also advancing and can be leveraged to forecast climate disasters, identify climate hotspots and create resilience plans. The Administration should monitor and integrate, where appropriate, private sector capabilities into its forecasting and planning efforts.





Sailors transport supplies in response to Hurricane Dorian in the Bahamas. Sept. 7, 2019.  
U.S Navy photo / Mass Communication Specialist 3rd Class Katie Cox

### III. SUPPORTING ALLIES AND PARTNERS

The climate security picture is multidimensional and manifests differently in every corner of the globe. The United States' bilateral and multilateral relationships with its allies and partners are critical elements of U.S. national security; therefore, the United States needs to work closely with those partners to address the security implications of climate change.

Engaging allies and partners is critical if the United States is to make progress against its climate change goals and targets. Supporting their efforts through security cooperation and assistance programs will enhance collaboration as well as provide perspectives and technical approaches that the United States can use to enhance its own climate security.

## Recommendations:

### **III(a) Mainstream Climate Security within the State Department: Incorporate climate impacts into agency strategies and policies, including Integrated Country Strategies.**

The State Department needs to be a central actor in addressing climate security challenges around the world and at the forefront of making climate change an essential element of foreign policy, per Executive Order 14008. That means more than negotiations on emissions reductions and minor commitments on adaptation funds, and extends to incorporating climate stresses and dynamics into the full range of the nation's foreign policy strategies. Secretary of State Antony Blinken has been outspoken and clear on the importance of this issue, and we are now looking forward to more integration of climate concerns across the Department's operations at national, regional, and country team levels. To that end, State/Policy Planning, the Special Envoy for Climate, and the Bureau of Oceans and International and Scientific Affairs should work with the regional assistant secretaries to ensure they have the analytic tools and personnel needed to bring a climate lens to their work on a regular basis.

In the State Department's Climate Adaptation and Resilience Plan, published in October 2021, the Department asserted it would: "Integrate climate adaptation and resilience into agency strategies and policies, including the Joint Strategic Plan, applicable bureau strategies, Integrated Country Strategies, Bureau Resource Requests, the IT Strategic Plan, and the Enterprise Data Strategy," but the rest of the plan focused largely on operational and infrastructure issues.<sup>25</sup> While those issues are important, we seek follow through on this commitment to address climate security issues across the full range of Department of State planning and program execution, including its security assistance programs and activities.

One key example of incorporating climate change into policies and strategies would be to update the U.S. Strategy to Prevent Conflict and Promote Stability<sup>26</sup> so that it incorporates climate change, building on the robust, data-driven models for understanding state fragility and risks of conflict. A revised strategy should incorporate climate change risks to provide explicit guidance to U.S. government development practitioners on how to climate-proof fragility and conflict interventions.

### **III(b) Prioritize Climate Resilience in Development Efforts: Follow through with the commitments made at COP26 and through USAID.**

The Administration should follow through on the President's Emergency Plan for Adaptation and Resilience (PREPARE), announced at COP26, which aims to provide \$3 billion annually in climate assistance by 2024 to those most vulnerable to climate change.<sup>27</sup> As USAID and State lead this new initiative, they should integrate environmental peacebuilding and climate security principles into its implementation, to ensure adaptation programming does not inadvertently exacerbate local competition or instability. While this program can and should provide sustainable development that minimize emissions, these nations are particularly vulnerable to climate stress, and USAID should prioritize the commitments in its draft climate strategy to provide climate resilience to 500 million people by 2030.

### **III(c) Leverage U.S. Military Leadership on Climate and Resilience: Incorporate climate change into international military engagements.**

The Department of Defense should incorporate climate security considerations into regular military-to-military engagements with U.S. allies and partners. This can and should be part of Combatant Command partnerships and in

the overall security cooperation enterprise providing assistance and expertise to partner militaries on climate resilience and adaptation. U.S. climate-related military assistance will help the United States build ties where its adversaries might try to gain influence.

The DoD should revive the Defense Environmental International Cooperation (DEIC) program and take other actions within existing authorities such as conducting joint security training exercises on these issues with partner militaries to support these engagements. The DoD should also request additional authorities if deemed necessary in order to provide the full range of climate security, adaptation, and disaster response capabilities. In addition, as was recently recommended by the Senate, the DoD should work with the Department of State's Political-Military Affairs office to incorporate climate resilience into International Military Education and Training (IMET) programs.

NATO's increased focus on climate change and its implications on security provides another opportunity to prepare for climate change, ensuring that alliance militaries are resilient to climate impacts, and prepared for regional crises and instability driven by climate stress. The United States should encourage and support a similar focus on these issues in other bilateral or multilateral security relationships.

The Chief of the National Guard Bureau should emphasize climate security in the National Guard State Partnership Program, enhancing the capabilities of allied and partner militaries to respond to climate-driven natural disasters.

### **III(d) Provide Climate Assistance: Incorporate climate into security assistance and training programs.**

The DoD and the State Department should fully integrate the security impacts of climate change in security assistance and security cooperation programs measures, including training and equipping, in order to strengthen the capacity of allied and partner militaries to identify and respond to the security impacts of climate change, including providing support to civil authorities in disaster risk and response activities.

Along these lines, the Defense Security Cooperation Agency should also provide training, equipment and other resources to assist allies and partners in making their military installations and forces more resilient to climate change.

Finally, the President should call for an expansion of the scope of security assistance and foreign military sales to include climate security-related assistance, include a legislative proposal to create a climate security training program modelled on the existing International Military Education and Training (IMET) program in order to provide relevant climate security training to civilian officials of key foreign civilian agencies as well as enhanced funding for and expanded authorities in both the Title 22 security assistance and Title 10 security cooperation contexts.





Damaged ceiling of hangar 5 at Tyndall Air Force Base, 2019 – a result of Hurricane Michael. Tailor Irvine / Tampa Bay Times

## IV. RESPONSIBILITY TO PREPARE FOR UNAVOIDABLE CHANGES

The Climate Security Plan for America included an extensive set of recommendations outlining steps the Administration should take to prepare for the unavoidable impacts of climate change on national security. By their very nature, many of them were long term goals. Rome wasn't built in a day, and climate resilience won't be built in a year. Yet we are already seeing the increasing implications of climate on security, and long term efforts need to be initiated in the near term to ensure military capacity and critical infrastructure are protected from its impacts.

### Recommendations:

#### **IV(a) Invest in Security Infrastructure: Increase funding for military and other security infrastructure to bolster resilience.**

In the original Climate Security Plan for America, we advocated for significant new investments in military and security infrastructure to promote resilience. We continue to recommend significant new investments focused on vulnerable regions. As we have seen in recent extreme weather events, newer infrastructure is significantly more resilient. Moreover, new infrastructure that follows the updated building codes directed by Congress will be even more resilient. New construction, therefore, will in and of itself increase the resilience of military installations and other critical facilities.

Such an approach would be a departure from recent trends. Ten years ago in Fiscal Year 2012, before sequestration was imposed, the military construction budget was over \$12 billion. In Fiscal Year 2021, the comparable figure was \$8 billion - itself a \$2 billion increase over the previous year. The Army alone has seen a decrease from \$4 billion to roughly \$1 billion in the same time span. Congress took a major step forward in Fiscal Year 2022, boosting the overall

budget by \$7 billion - an 85% increase. Continuing this upward trend would not only provide important mission facilities but over time would significantly increase the resilience of these installations.

Increased investment alone is insufficient, however, as the new infrastructure must be based on resilient building codes. DoD, responding in part to Congressional direction, has updated building codes in recent years. At places like Tyndall Air Force Base, the Air Force is rebuilding the hurricane-devastated base with an eye toward future resilience. We believe that all Federal investments - not just DoD construction - need to require resilient standards that reflect regional climate threats over the projected life of new construction.

#### **IV(b) Create a National Adaptation Plan: Initiate an overarching plan ensuring that federal investments and activities contribute to future resilience.**

The President should direct the Department of Homeland Security to develop an overarching National Adaptation Plan to ensure resilient federal investments and activities and to further incentivize resilience at the state and local levels.

The federal agency adaptation plans published and partially funded in 2021 are impressive. However, the absence of a comprehensive national climate adaptation plan, coordinated across all levels of government and across the government-private sector divide, is a remaining gap. Given the increasing number of billion-dollar disasters that the United States has faced in recent years, it needs concrete, shared resilience goals and a framework for prioritizing risk reduction in federal, state, and local investments. Such a plan could also inform risk reduction in private sector investments. The national plan should outline incentives for state and local governments to adopt resilient building codes and land-use practices, and to make investments that are resilient to future climate-driven extremes.

#### **IV(c) Start Executing Resilience Plans: Develop and fund projects that address the most important gaps identified in Military Installation Resilience Plans required by Congress.**

In meeting the responsibility to prepare, the Federal government should make sure it doesn't merely admire problems or posit solutions that will be put on shelves. Resilience projects should be developed that compete well with other infrastructure initiatives and are appropriately funded.

When the Navy developed the Shipyard Infrastructure Optimization Plan, for example, it proposed \$20 billion of projects over 20 years, and one of the first projects it sought to fund was a resilience project - raising the flood walls around a drydock at the Norfolk, VA shipyard. That project was designed to protect the multi-billion dollar submarines maintained there, and competed well against many projects that were not focused on resilience.

As the DoD completes installation resilience plans and integrates them into the bases' master plans, it needs to ensure funding for the top priority projects. One way to ensure this is to create an analog to the Energy Resilience and Conservation Investment Program (ERCIP) that has a broader focus than just energy. ERCIP is managed by the Office of the Secretary of Defense, and a parallel resilience program could be as well, supplementing the investment budgets of the Military Departments and addressing the top priority resilience investments across the Department.

Of course, existing programs will be important too, to include ERCIP, the Readiness and Environmental Protection Integration program which is particularly useful in protecting both installations and ranges, and community infrastructure programs like the Defense Community Investment Program. Each of these have seen significant increases in recent years and should continue to be robustly funded.

#### **IV(d) Prepare to Respond: Anticipate required changes driven by increasingly frequent disasters.**

Given the trend for increasing numbers of billion-dollar disasters, tracked domestically by the National Oceanic and Atmospheric Administration, but manifesting across the globe, the Defense Department specifically and the Federal government more generally, need to ensure they have the capability to respond when needed.<sup>28</sup>

At DoD, that means planning for a future where requirements and frequency increase for Humanitarian Assistance and Disaster Relief internationally and Defense Support of Civil Authorities domestically. The DoD should assess its force structure and determine at what point it may need increased capability to meet these ever-increasing requirements. The DoD should conduct simulations and exercises to examine at which point the diversion of warfighting capabilities to these operations becomes an unacceptable drain on readiness, and what changes to both force structure and doctrine will minimize those impacts while still ensuring the ability to respond to national emergencies.

#### **IV(e) Prepare for the Opening Arctic: Increase investments in capabilities for the High North.**

The warming and increasing accessibility of the Arctic is one of the clearest manifestations of climate change. Russia and China have both committed significant resources to expand their influence in this region, and the United States cannot cede the Arctic to their influence.

In our original report, we called upon the Administration to issue a National Arctic Security Policy and to create an organizational structure to support its execution. In fact, we are pleased to see that the National Security Council has spent the last year developing a new Arctic Strategy. In addition, over the last two years each of the Military Departments have developed their own Arctic strategies. Now is the time to turn those plans into action.

Specifically, the United States should invest in building a deep-water port along the Alaskan western or northern coast that can support military as well as maritime search and rescue missions; the Coast Guard should field additional ice breakers; Navy shipbuilding requirements should incorporate the ability to operate in sub-zero conditions; and the DoD, the Intelligence Community, and NOAA should launch additional satellites to improve capability for communications, weather, and awareness across the Arctic. New research should be funded to understand how to increase domain awareness, the impact of thawing permafrost on infrastructure, and operations in regions with limited satellite coverage.

We applaud the creation of the Ted Stevens Arctic Security Studies Center in Alaska, and think a companion Arctic Security Research Center, focused on Arctic security science and engineering, would be an excellent complement.

These capabilities should also be leveraged not only to support the armed forces, but also to assist indigenous and other domestic populations in the High North.

In addition, the United States is the only Arctic nation whose most senior Arctic diplomatic official (below Secretary of State) is not of Ambassador rank. This undermines our stature in international Arctic fora and should be rectified.

#### **IV(f) Prepare for Extreme Heat: Increase understanding of and capability to deal with heat extremes beyond the current environment.**

In the coming decades climate change will make extreme heat events more likely in multiple regions. Extreme heat

increases the threats of droughts, wildfires, and melting permafrost. Elevated temperatures combined with high humidity will worsen extreme weather events and associated impacts such as sustained high winds, inland flooding, and coastal storm surge (especially when combined with projected rises in sea levels).

For DoD personnel, elevated temperatures will affect readiness by adversely affecting individual health and reduce available training days, particularly at installations where 90-degree days are already common. Elevated heat will also affect living and working conditions.

DoD needs to create a comprehensive strategy to address heat and its effects on the natural environment and on individuals and their ability to perform non-combat and combat duties. The plan should address prevention measures, such as work/rest cycles, education of personnel on the dangers/signs of heat stress/stroke, what existing treatments need to be updated and refined within medical units, and what new processes, technology and equipment might be available or are planned to reduce heat exposure and its consequences.

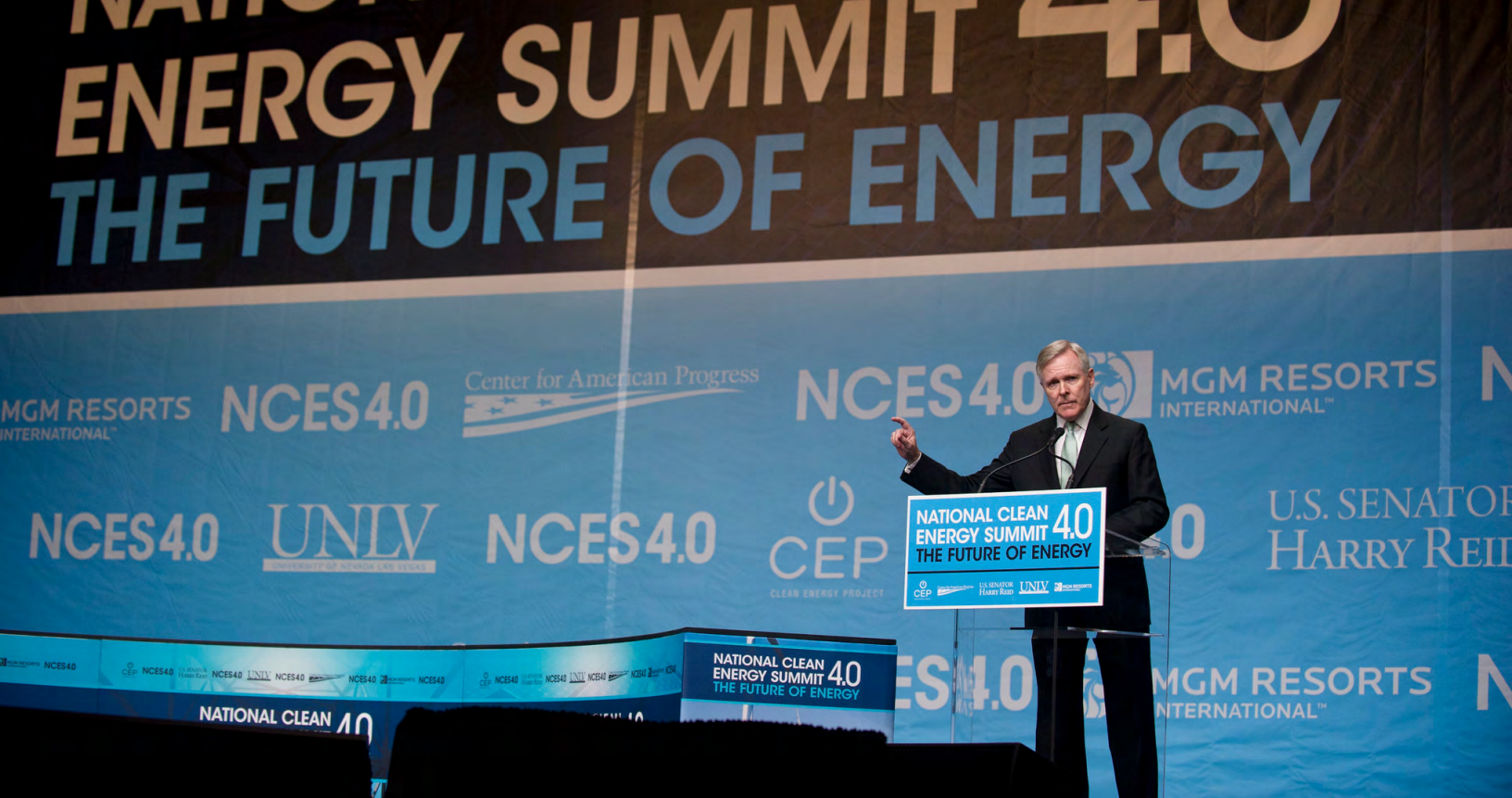
#### **IV(g) Train to Prepare: Develop training programs to ensure federal employees understand how to characterize and respond to climate security risks.**

As we highlighted in the original CSPA, many of the civilian and military personnel who are required to address climate change risks are not fully trained on how to assess and respond to them. This training gap is just beginning to be recognized. In recent years, climate security electives have emerged in professional military education programs. In recent Congressional report language, the Senate Armed Services Committee directed DoD to incorporate climate security themes into both professional military education and training for those selected to become installation commanders. In addition, throughout the Climate Adaptation Plans issued by federal agencies, the theme of “climate literacy” has emerged.

These are important signals and initial steps. We recommend the development of comprehensive training programs for planners, regional engineers, policy analysts and other personnel to be able to incorporate scientific assessments appropriately into decision-making processes.

In addition, National Guard troops and other first responders who will increasingly be called upon to respond to domestic and international climate-linked disasters should have training requirements that address, at a minimum, response to the kinds of disasters most likely in their local regions.





Secretary of the Navy delivers the keynote address at the National Clean Energy Summit 4.0. Las Vegas, Aug. 30, 2011.  
U.S. Navy / Chief Mass Communication Specialist Sam Shavers.

## V. RESPONSIBILITY TO PREVENT AVOIDABLE CATASTROPHES

While there are climate challenges that are unavoidable and for which we must prepare regardless of global action on emissions reduction, those emissions reductions will shape the security risks of the second half of the 21st century. In other words, today's global emissions will drive tomorrow's security challenges, just as historical emissions are shaping the climate changes we see today. In response, the CSPA recommended a Climate Security Prevention Policy, calling for reduced emissions to allow the United States to avoid catastrophic future security effects. As the Center for Climate and Security indicated in its Security Threat Assessment of Global Climate Change, achieving net zero emissions as soon as practical is necessary to avoid catastrophic future climate-driven security challenges.<sup>29</sup>

While comprehensive progress will incorporate the entire global economy, it is clear that there are important contributions to this goal that will be catalyzed through federal action, whether that be regulatory, budgetary, diplomatic or operational. The Biden Administration has prioritized emissions reductions, and the Special Envoy for Climate has engaged in aggressive diplomacy to encourage nations to make greater commitments to reduce emissions.

In October 2021, President Biden signed Executive Order 14057, Catalyzing Clean Energy Jobs and Industries Through Federal Sustainability. This document sets aggressive targets for Federal Sustainability<sup>30</sup> with the intent of both reducing emissions directly and more significantly, catalyzing broader economy-wide action through its buying power. In particular, that means driving increased demand for carbon pollution free electricity and for electric vehicles. As the largest electricity user in the federal government, and as the federal agency with the largest non-tactical vehicle fleet other than the U.S. Postal Service, DoD has a leading role to play in this catalytic strategy.

Simple math dictates that military emissions reductions alone are not the solution to climate security challenges, but they can catalyze a larger and broader impact that will have a much more significant impact.

Moreover, there are significant benefits to DoD missions achieved through emissions reductions, whether they are budget savings achieved through increased efficiency or the long-term power purchase agreement authorities that Congress has authorized for renewable energy projects; or the resilience benefits achieved through on-site renewable energy capability. Electric vehicles promise reduced operations and maintenance costs and could provide the ability to improve mission assurance by offloading electric power to critical facilities when there is a power outage. Further, DoD plans and investments should be influenced by the desire to remain compatible with allied and partner nations' systems, which are moving toward electrification. These approaches can and will improve mission capability, but their climate benefit will be based on what they catalyze - support to increase the capacity of these industries and promulgate their benefits across the economy.

Finally, new R&D in zero-emissions technologies will have long-term benefits. The Department of Energy is seeing major increases in funding that could revolutionize energy production, transmission, and storage. DoD research has a long history of driving broad commercial and societal benefits through initiatives such as GPS and the Internet. DoD R&D at DARPA and the Services has the potential to reduce emissions through breakthroughs in small modular nuclear reactors, microgrids, battery technologies, alternative fuels, and efforts to transform aircraft and heavy vehicles to run on electric power. As in the past, DoD innovations have the power to transform beyond the DoD itself.

Though the CSAG, made up of security experts, does not suggest a specific emissions reduction strategy, we do believe that DoD has the ability not only to lead by example, but to catalyze broader change that will, in turn, address the security implications central to its mission.

## ENDNOTES

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THE CLIMATE AND  
SECURITY  
ADVISORY GROUP

# CHALLENGE ACCEPTED

A PROGRESS REPORT ON  
**THE CLIMATE SECURITY PLAN FOR AMERICA  
AND RECOMMENDATIONS FOR THE WAY AHEAD**

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