

THE CLIMATE AND
SECURITY
ADVISORY GROUP



A RESPONSIBILITY TO PREPARE
STRENGTHENING NATIONAL AND HOMELAND
SECURITY IN THE FACE OF A CHANGING CLIMATE

ROADMAP AND RECOMMENDATIONS FOR THE U.S. GOVERNMENT

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CHAired BY

THE CENTER FOR
CLIMATE AND
SECURITY

in
partnership
with

**Elliott School of
International Affairs**

THE GEORGE WASHINGTON UNIVERSITY

Cover Photo:

An ominous cloud of smoke from the Waldo Canyon fire rises from the south behind the Air Force Academy's Cadet Chapel as cadets head for a briefing on evacuation procedures June 27, 2012
CAROL LAWRENCE/U.S. AIR FORCE.

CONTENTS

THE CLIMATE AND SECURITY ADVISORY GROUP (CSAG) MEMBERS | 5

EXECUTIVE SUMMARY AND TOPLINE RECOMMENDATIONS | 9

DETAILED RECOMMENDATIONS

I. ASSESS CLIMATE CHANGE RISKS TO NATIONAL AND HOMELAND SECURITY | 12

II. PREPARE FOR CLIMATE CHANGE RISKS TO NATIONAL AND HOMELAND SECURITY | 15

III. SUPPORT ALLIED AND PARTNER NATION RESILIENCE TO CLIMATE CHANGE RISKS | 19

APPENDIX A: RECOMMENDATIONS BY AGENCY | 22

DEPARTMENT OF DEFENSE | 22

NATIONAL SECURITY COUNCIL | 27

NATIONAL INTELLIGENCE COUNCIL | 28

DEPARTMENT OF HOMELAND SECURITY | 29

DEPARTMENT OF STATE | 31

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT | 33

U.S. MISSION TO THE UNITED NATIONS | 34

The Climate and Security Advisory Group (CSAG) is a voluntary, non-partisan group of U.S.-based military, national security, homeland security, intelligence and foreign policy 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 5 for a full list of participants. Organizational affiliations are listed for identification purposes only.

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EXECUTIVE SUMMARY AND TOPLINE RECOMMENDATIONS

A Responsibility to Prepare

Strengthening National and Homeland Security in the Face of a Changing Climate

In response to questions for the record from the Senate Armed Services Committee in early 2017, U.S. Secretary of Defense James Mattis stated:

“... climate change is a challenge that requires a broader, whole-of-government response. If confirmed, I will ensure that the Department of Defense plays its appropriate role within such a response by addressing national security aspects.”

In making that statement, Secretary Mattis joined a long list of defense, national security and intelligence leaders across Republican and Democratic Administrations that have recognized the significant and unprecedented national and homeland security risks posed by the changing climate. Changes in the climate pose direct threats, such as sea level rise and increased storm surges, which could inundate coastal military and civilian infrastructure. Dramatic changes in food, water and energy availability also increase the likelihood of instability and state failure across the globe. The gravity of these risks has been affirmed by a number of senior defense and intelligence leaders in the current Administration, including Secretary of Defense, Jim Mattis; Vice Chairman of the Joint Chiefs of Staff, General Paul Selva; Secretary of the Navy, Richard Spencer; Assistant Secretary of Defense for Energy, Installations and Environment, Lucian Niemeyer; Chief of the National Guard Bureau, General Joseph Lengyel; Assistant Secretary of the Army for Civil Works, R.D. James; Director of National Intelligence, Dan Coats; and at the time of writing, the nominees for Assistant Secretary Of The Navy For Installations, Energy, And The Environment (Mrs. Phyllis L. Bayer) and Assistant Secretary Of The Air Force For Installations, Environment, And Energy (Mr. John Henderson). Given the threats of climate change identified by our nation’s defense, national security and intelligence communities, a rise in destructive climate-driven impacts on the United States, and our increased capacity to foresee these risks, our government has a “Responsibility to Prepare” to meet future challenges at home and abroad.

To fulfill this responsibility - to save lives and money, strengthen security, and advance U.S. interests worldwide - the current Administration must expand efforts to reduce and manage the security risks of climate change and seize the strategic opportunities presented by such efforts. The Climate and Security Advisory Group (CSAG) recommends that the Administration do so through three lines of effort: **Assess**, **Prepare**, and **Support**.

I. ASSESS climate change risks to national and homeland security

Bottom line up front: Maintain and improve systems and processes for better understanding and assessing climate change risks to national and homeland security.

Topline recommendations:

- Continue to incorporate climate change dynamics into assessments of risks to critical military and civilian infrastructure.
- Expand efforts to assess risks and challenges that climate change poses to the U.S. military's missions, force readiness, and operational plans.
- Adopt a "whole-of-government" approach to meeting national security needs in response to climate change, leveraging capabilities across the Federal Government to support national security and homeland security assessments.
- Share information on climate and security risks across the U.S. national security enterprise and with critical domestic and international partners.
- Make climate information actionable by the broader national security enterprise by prioritizing analysis that supports planning processes, resource investments, and procurement decisions in strategically significant regions.

II. PREPARE for climate change risks to national and homeland security

Bottom line up front: Bolster the resilience of critical military and civilian infrastructure to climate change risks, and better organize and resource the U.S. government to manage those risks.

Topline recommendations:

- Incorporate climate change and national security assessments into U.S. government risk mitigation plans and investments for critical military and civilian infrastructure.
- Align military planning and intelligence community resources to prepare for climate change impacts to the global operating environment.
- Strengthen the leadership, authorities and policy resources required to robustly address climate and security issues across the U.S. national security enterprise.
- Build capacity across the interagency to strengthen the U.S. position in the Arctic.

III. SUPPORT allied and partner nation resilience to climate change risks

Bottom line up front: Maintain U.S. leadership by supporting allied and partner nation resilience to climate change risks in strategically-significant regions, and by reducing climate drivers of instability.

Topline recommendations:

- Strengthen allied and partner nation capabilities and adaptive capacity to destabilizing climate impacts.
- Support the reduction of climate change risks to regional and global security through strategic engagements and investments.

Below, we have detailed a program of practical actions focused on these three priorities that will enhance national and homeland security for the United States, reduce the enormous human and financial costs of future climate change, and do so in a way that will foster bipartisan support.

Signed,

The Climate and Security Advisory Group



Aerial photo of Naval Air Station Key West's Trumbo Point Annex, Florida (USA)
U.S. Navy photo by Mass Communication Specialist 3rd Class Cody R. Babin

I. ASSESS CLIMATE CHANGE RISKS TO NATIONAL AND HOMELAND SECURITY

Problem Statement

The risks of climate change to U.S. national and homeland security are dynamic and accelerating. The effects of a changing climate may manifest over years, such as global sea level rise or regional desertification, or they may develop suddenly and episodically, as did the devastating storms that battered the U.S. Caribbean, the Gulf Coast, and the Southeast in late summer 2017. Better data collection and modeling capabilities are increasing confidence in climate risk projections. Continuing and expanding investments that address the probability of events will be critical to understanding system interdependencies that could lead to catastrophic scenarios.

In order to prepare for the national and homeland security risks of a changing climate, the U.S. government must have robust and actionable assessments of those risks. These assessments must be developed continuously and routinely, due to the dynamic nature of the effects and risks of climate change, and must be focused on supporting specific actions that can be taken to mitigate those risks. Information from these initiatives and assessments must be widely shared across the U.S. government and with key domestic and international partners to ensure efforts are connected and aligned.

Recommendations

Bottom line up front: Maintain and improve existing tools and systems for assessing climate change risks to national and homeland security. *Specifically:*

Continue to incorporate climate change dynamics into assessments of risks to critical military and civilian infrastructure.

- The Secretary of Defense should direct an assessment of vulnerabilities to military installations and combatant commander requirements resulting from climate change over the next 20 years to be shared with the Armed Services Committees of the U.S. Congress. This assessment should include the financial impacts of lack of action, cost of adaptation measures, and possible scenarios for relocation of bases that adaptation measures will not protect
- The Secretary of Homeland Security should sponsor and encourage a greater emphasis on research regarding the near- and medium-term effects of climate change on U.S. critical infrastructure, disaster risk reduction, and disaster recovery and response.

Expand efforts to assess risks and challenges that climate change poses to the U.S. military's missions, force readiness, and operational plans.

- The Secretary of Defense should
 - create and expand programs devoted to climate change impacts on force readiness and their implications for the cost, frequency, and type of future missions.
 - assess the impact of climate risks on COCOM operational plans and COCOM theater security cooperation plans.
 - direct the military departments to assess the impact of climate change on readiness and training.
 - direct the Combatant Commands to assess the likelihood of changes to their mission requirements (e.g. expanded humanitarian assistance /disaster response) or emergent flashpoints (e.g. due to food shortages or dramatically increased migration) and prepare accordingly.
 - assess the potential impact on force availability for traditional missions due to increased operational tempo for humanitarian aid and disaster relief missions.
 - ensure the inclusion of scenarios that feature extreme weather events, sea level rise, and spread of infectious disease, among other climate risks, in regional wargames

Adopt a “whole-of-government” approach to meeting national security needs in response to climate change, leveraging capabilities across the Federal Government to support national security and homeland security assessments.

- The Secretaries of Defense and Homeland Security should support and actively leverage U.S. government civilian programs that provide climate assessment and planning resources applicable to national security and homeland defense.
- The Director of National Intelligence should support more robust assessments of climate change and its interrelated “threat multipliers” within the National Intelligence Priority Framework, as well as continue to include climate change implications for national security in the Annual Worldwide Threat Assessment.

- The Director of National Intelligence should increase the capacity for intelligence assessments on the security implications of climate change for the U.S. homeland, partner and fragile state stability, and U.S. supply chains and market access.
- The Secretary of Homeland Security should advance integration of the impacts of climate change into risk assessment, risk reduction, and loss estimation tools widely used by the Department of Homeland Security.

Share information on climate and security risks across the U.S. national security enterprise and with critical domestic and international partners.

- The Director of National Intelligence should commit to and expand information-sharing processes for climate and security issues with domestic and international partners.
- The Secretary of Homeland Security should support initiatives that ensure more comprehensive and actionable information about climate impacts is available to local, state, and tribal governments and the private sector.
- The Secretary of Defense and the Secretary of State should coordinate efforts to assess the security risks of climate change by establishing durable and user-friendly systems for sharing weather and climate services data.

Make climate information actionable by the broader national security enterprise by prioritizing analysis that supports planning processes, resource investments, and procurement decisions in strategically significant regions.

- The Secretary of Defense should ensure that the Geographic Combatant Commands (GCCs) can utilize research and intelligence about projected climate impacts, and that operationally usable models and other tools are transitioned to the strategic, operational, and readiness communities for applied use.
- The Director of National Intelligence should increase the understanding of factors linking climate events to outcomes of regional security concern, and support the provision of actionable intelligence on climate-security related risks, as well as relevant research conducted by agencies such as the National Oceanic and Atmospheric Administration, the Environmental Protection Agency, and the Department of Agriculture.
- The Administrator of the U.S. Agency for International Development (USAID) should encourage the further integration of climate and security variables into conflict prediction models utilized by USAID's Office of Conflict Mitigation and Management, with an emphasis on assessing climate-conflict linkages in geo-strategically significant regions (e.g. the Middle East and North Africa, Central Asia and the Indo-Pacific).
- The Secretary of Homeland Security should seek out intelligence on climate change impacts on certain fragile nations and regions that are likely to affect homeland security equities.



The Canadian Coast Guard Ship Louis S. St-Laurent makes an approach to the Coast Guard Cutter Healy in the Arctic Ocean, Sept. 5. The two ships are taking part in a multi-year, multi-agency Arctic survey that will help define the North American continental shelf. - U.S. Coast Guard Atlantic Area," photo by Petty Officer 3rd Class Patrick Kelley

II. PREPARE FOR CLIMATE CHANGE RISKS TO NATIONAL AND HOMELAND SECURITY

Problem Statement

The effects of climate change threaten the ability of the U.S. Government, including the U.S. Department of Defense, to execute its missions and secure its interests. Climate change risks to critical military and civilian infrastructure, to operations, and to strategic interests, span the domestic and international landscape. As Secretary of Defense James Mattis stated: “I will ensure that the department continues to be prepared to conduct operations today and in the future, and that we are prepared to address the effects of a changing climate on our threat assessments, resources, and readiness.”

More frequent and severe weather events are impacting critical infrastructure that military and national security organizations rely on to accomplish their missions. Projected sea level rise will affect DoD installations and surrounding communities, disrupting operations domestically and around the world. The impacts of climate change will increase impediments to training availability and environments, such as droughts that prevent live fire training because of wildfire risk, or frequent and consistent flooding on military installations.

In addition to making existing missions more difficult to execute, climate change effects will expand the types of missions for which our military is responsible. Defense support to civil authorities is becoming a more prominent component of domestic military operations, particularly to respond to more frequent and severe weather events. Humanitarian assistance and disaster relief missions are increasingly important responsibilities for military commanders around the world. Arctic ice is receding, opening previously inaccessible natural resources, shipping lanes, and tourism opportunities, with many countries eager to compete for claims and influence.

Recommendations

Bottom line up front: Bolster the resilience of critical military and civilian infrastructure to climate change risks, and better organize and resource the U.S. government to manage those risks. *Specifically:*

Incorporate climate change and national security assessments into U.S. government risk mitigation plans and investments for critical military and civilian infrastructure.

- The Secretary of Defense should
 - require risk mitigation plans for all vulnerable military installations, and consider the highest climate risk level projections when making infrastructure decisions and investments.
 - initiate long term planning for measures to sustain critical training ranges and installations in the face of climate change impacts.
 - direct the Chief of the National Guard Bureau to develop statewide training programs on climate preparedness and disaster risk reduction with an emphasis on training members of the National Guard and other key first responders.
 - create a planning framework and guidance for regional resilience around military installations to use in working with local communities, given that the resilience of those communities directly affects the resilience of bases.
 - require military construction to adhere to flood plain standards.
 - assess water availability against requirements at all military installations and prioritize water conservation measures at those installations with foreseeable shortfalls.
 - expand energy resilience efforts to protect critical missions at those installations most vulnerable to increased storm intensity.
- The Secretary of Defense and the Secretary of Homeland Security (for Coast Guard installations) should fold current and projected climate change impact analyses into the plans used to make decisions on routine assessments and investments.
- The Secretary of Defense and Secretary of Homeland Security should develop and expand programs that utilize tailored training, facilitated workshops, and other interpersonal interactions to increase the understanding and interest of DoD/DHS stakeholders in using available planning tools.
- The Secretary of Defense and the Secretary of Homeland Security should integrate climate change metrics and catastrophic weather event scenarios into their assessment planning and vulnerability ratings for their Critical Infrastructure Protection Plans.

Align military planning and intelligence community resources to prepare for climate change impacts to the global operating environment.

- The Secretary of Defense should request that analysis of how climate change factors may influence stability and conflict around the world be included in the Chairman of the Joint Chief's assessment(s) of the global operating environment.

- The Secretary of Defense should encourage the Commanders of Geographic Combatant Commands (GCCs) to address climate-security concerns as a strategic risk in Theater Campaign Plans and Theater Security Cooperation Plans, and incorporate the potential for climate shifts to contribute to instability in their deliberate and contingency planning processes.
- The Chairman of the Joint Chiefs of Staff should address the observed and projected security implications of climate change, where appropriate, in his input to the Secretary of Defense, National Security Council, and President on the formulation and implementation of strategic guidance, plans, and reviews.
- The Director of National Intelligence should ensure that vulnerability assessments and continuity of operation planning for strategic NNSA facilities that are critical to national security fully incorporate assessments of climate change impacts.

Strengthen the leadership, authorities and policy resources required to robustly address climate and security issues across the U.S. national security enterprise.

- The National Security Advisor should
 - encourage consideration of the full range of climate change projections and associated risks in all future national strategic documents, including the National Security Strategy.
 - initiate a replacement to the rescinded 2016 Presidential Memorandum on Climate Change and National Security in order to ensure a broad, interagency approach to enhancing U.S. preparedness for climate change risks to national security.
- The Secretary of Defense should
 - ensure full implementation of the DoD directive on climate change adaptation and resilience (DoDD 4715.21) and the DoD Climate Change Adaptation Roadmap.
 - support and build on the successes of the U.S. Navy Task Force Climate Change by directing the development of similar institutional models for addressing climate change in each of the other services, with the Marine Corps, Army, and Air Force addressing areas in line with their own equities, expertise and interest.
- The Secretary of Homeland Security should develop proposals for additional federal authorities and funding for pre-disaster risk reduction measures and post-disaster recovery response.
- The Secretary of State should
 - identify a mechanism for coordinating Mission Resource Requests relevant to the security impacts of climate change.
 - expand the scope, staffing, and resources of the Bureau of Conflict and Stabilization Operations (CSO), and other elements within the Department of State with a role in conflict avoidance and post-conflict stabilization, to include enhancing resilience to the effects of climate change as a principal means of reducing the risk of regional conflict and instability in regions of strategic interest to the United States.

- The Administrator of USAID should strengthen ties between its Office of Conflict Mitigation and Management and other elements of USAID and all relevant Department of State offices and bureaus, and focus attention on addressing climate-conflict dynamics in geo-strategically significant regions such as the Middle East and North Africa, Central Asia and the Indo-Pacific.

Build capacity across the interagency to strengthen the U.S. position in the Arctic.

- The Secretary of Defense should support robust funding in the President’s Budget Request, including in agency budgets outside the DoD, to adequately carry out national priorities in the Arctic and to build the force structure and infrastructure necessary to support complex operations in the Area of Responsibility.
- The Secretary of State should appoint a Special Representative for the Arctic Region, or create an Assistant Secretary of State for Arctic Affairs, and ensure that the position includes responsibility for issues related to climate change and national security.
- The Secretary of Homeland Security should develop an integrated DHS Arctic strategy to ensure that all department missions are aligned and coordinated in the changing operational environment.



U.S. troops unload shelter boxes during a humanitarian assistance and disaster relief operation in the village of Hula Banda, Indonesia, Oct. 11, 2009.

III. SUPPORT ALLIED AND PARTNER NATION RESILIENCE TO CLIMATE CHANGE RISKS

Problem Statement

Climate change is accelerating instability around the world and posing threats to regions that the U.S. views as key geostrategic environments. Increasingly severe and frequent weather events, such as storms and wildfires, are stressing regional and global water, food, and resource availability. Sea level rise and flooding, and subsequent land loss, will increasingly affect cities and regions, displacing millions of people and creating mass migration. Fragile states most vulnerable to climate impacts will struggle to meet basic needs, leading to humanitarian crises and increased risks of state instability and conflict, as well as creating opportunities for non-state actors that could pose threats to U.S. personnel or national security interests.

Though seemingly dire, this dynamic also presents the United States with an opportunity to expand its influence in these key geostrategic environments, and strengthen its position relative to adversaries. In this context, the United States must support the climate resilience of its allies, partner nations, and prospective partner nations in order to maintain regional and international security and to enhance its leadership and influence.

Recommendations

Bottom line up front: Maintain U.S. leadership by supporting allied and partner nation resilience to climate change risks in strategically-significant regions, and by reducing climate drivers of instability. *Specifically:*

Strengthen allied and partner nation capabilities and adaptive capacity to destabilizing climate impacts.

- The Secretary of Defense should
 - direct the Chief of the National Guard Bureau to include emphasis in the National Guard State Partnership Program, and other National Guard international engagement programs, on enhancing the capability of the militaries and other agencies of partner nations to reduce the risk of, and enhance their responses to, climate-related natural disasters.
 - encourage all Commanders of the Geographic Combatant Commands (GCCs) to increase engagement with partner nation militaries on military capacity building programs to support civilian government efforts to adapt to climate change, and mitigate impacts to military operations, operational energy, installations, and force readiness.
 - direct the Defense Security Cooperation Agency to provide the training, equipment, and other resources that will assist allied and partner nations in protecting key defense installations and infrastructure and provide assistance to civil authorities in disaster risk reduction and response actions.
- The Secretary of Defense and the Secretary of State should expand traditional security cooperation in strategically-significant regions to encompass climate change and security issues.
- The Secretary of Defense and the Secretary of State should coordinate to ensure that the security impacts of climate change are fully integrated in security assistance and security cooperation measures, including training and equipping, in order to strengthen the capacity of partner militaries to respond, particularly to support civil authorities in disaster risk and recovery.
- The Secretary of Defense, Secretary of State and Administrator of USAID should establish specific budget lines for developing climate-sensitive plans, tools and strategies to support conflict prevention programs in at risk countries and regions of strategic interest to the United States. direct the Defense Security Cooperation Agency to provide the training, equipment, and other resources that will assist allied and partner nations in protecting key defense installations and infrastructure and provide assistance to civil authorities in disaster risk reduction and response actions.

Support the reduction of climate change risks to regional and global security through strategic engagements and investments.

- The National Security Council should launch a Climate Security Indo-Pacific Initiative - a unified climate security plan that fully supports our national security, foreign policy and defense strategies in the Indo-Pacific region - including through enhancing the resilience of our military infrastructure in the region, and streamlining early warning information sharing for adjacent communities.
- The Secretary of Defense should demonstrate support for international efforts to address climate change risks by raising the profile of the issue at key intergovernmental security institutions, including at NATO, the ASEAN Defense Ministers Meetings, the African Union, and other security forums such as the Munich Security Conference, the Halifax International Security Forum, and the Arctic Security Forces Roundtable.

- The Secretary of State should
 - explore innovative ways of increasing international investments in climate change adaptation and mitigation in the Indo-Pacific, and other regions of core strategic interest to the United States, as a means of broadening alliances and partnerships, enhancing regional stability combating emerging threats, and fostering regional efforts on disaster risk reduction and response.
 - constructively reengage with key international forums aimed at addressing climate change risks, including by robustly reengaging the G7 Working Group on Climate and Fragility and the Paris Agreement.
- The U.S. Ambassador to the United Nations should support efforts by allied and partner nations to address the security implications of climate change at the United Nations Security Council (UNSC).
- The Administrator of USAID should ensure that climate change and security analysis is incorporated across USAID programming and that USAID offices are aware of and make use of resources like the Climate Change and Conflict Annex to the USAID Climate-Resilient Development Framework, the Conflict Assessment Framework, and the Water and Conflict Toolkit, as well as promoting capacity building through international exchanges.

APPENDIX A: RECOMMENDATIONS BY AGENCY

DEPARTMENT OF DEFENSE

Theme	Topline Recommendation	Recommendation
Assess	Continue to incorporate climate change dynamics into assessments of risks to critical military and civilian infrastructure.	The Secretary of Defense should direct an assessment of vulnerabilities to military installations and combatant commander requirements resulting from climate change over the next 20 years to be shared with the Armed Services Committees of the U.S. Congress. This assessment should include the financial impacts of lack of action, cost of adaptation measures and possible scenarios for relocation of bases that adaptation measures will not protect.
	Expand efforts to assess risks and challenges that climate change poses to the U.S. military's missions, force readiness, and operational plans	The Secretary of Defense should create and expand programs devoted to climate change impacts on force readiness and the corresponding likely type, frequency, and cost of future missions.
		The Secretary of Defense should assess the impact of climate risks on COCOM operational plans and COCOM theater security cooperation plans.
		The Secretary of Defense should direct the military departments to assess the impact of climate change on readiness and training.
		The Secretary of Defense should direct the Combatant Commands to assess the likelihood of changes to their mission requirements (e.g. expanded humanitarian assistance /disaster response) or emergent flashpoints (e.g. due to food shortages or dramatically increased migration) and prepare accordingly.
		The Secretary of Defense should assess the potential impact on force availability for traditional missions due to increased operational tempo for humanitarian aid and disaster relief missions.

Assess	Expand efforts to assess risks and challenges that climate change poses to the U.S. military’s missions, force readiness, and operational plans	The Department of Defense should ensure the inclusion of scenarios that feature extreme weather events, sea level rise, and spread of infectious disease, among other climate risks, in regional wargames.
	Adopt a “whole-of-government” approach to meeting national security needs, leveraging capabilities across the Federal Government to support national security and homeland security assessments.	The Secretaries of Defense and Homeland Security should support and actively leverage U.S. government civilian programs that provide climate assessment and planning resources applicable to national security and homeland defense.
	Share information on climate and security risks across the U.S. national security enterprise and with critical domestic and international partners.	The Secretary of Defense and the Secretary of State should coordinate efforts to assess the security risks of climate change by establishing durable and user-friendly systems for sharing weather and climate services data.
	Make climate information actionable by the broader national security enterprise by prioritizing analysis that supports planning processes, resource investments, and procurement decisions in strategically significant regions.	The Secretary of Defense should ensure that the Geographic Combatant Commands (GCCs) can utilize research and intelligence about projected climate impacts, and that operationally usable models and other tools are transitioned to the strategic, operational, and readiness communities for applied use.
Prepare	Incorporate climate change and national security assessments into U.S. government risk mitigation plans and investments for critical military and civilian infrastructure.	The Secretary of Defense should require risk mitigation plans for all vulnerable military installations, and consider the highest climate risk level projections when making infrastructure decisions and investments.

Prepare	Incorporate climate change and national security assessments into U.S. government risk mitigation plans and investments for critical military and civilian infrastructure.	The Secretary of Defense should initiate long term planning for measures to sustain critical training ranges and installations in the face of climate change impacts.
		The Secretary of Defense should direct the Chief of the National Guard Bureau to develop statewide training programs on climate preparedness and disaster risk reduction with an emphasis on training members of the National Guard and other key first responders.
		The Secretary of Defense should create a planning framework and guidance for regional resilience around military installations to use in working with local communities, given that the resilience of those communities directly affects the resilience of bases.
		The Secretary of Defense should require military construction to adhere to flood plain standards.
		The Secretary of Defense should assess water availability against requirements at all military installations and prioritize water conservation measures at those installations with foreseeable shortfalls.
		The Secretary of the Defense should expand energy resilience efforts to protect critical missions at those installations most vulnerable to increased storm intensity.
		The Secretary of Defense and the Secretary of Homeland Security (for Coast Guard installations) should fold current and projected climate change impact analyses into the plans used to make decisions on routine assessments and investments.
		The Secretary of Defense and Secretary of Homeland Security should develop and expand programs that utilize tailored training, facilitated workshops, and other interpersonal interactions to increase the understanding and interest of DOD/DHS stakeholders in using available planning tools.
		The Secretary of Defense and the Secretary of Homeland Security should integrate climate change metrics and catastrophic weather event scenarios into their assessment planning and vulnerability ratings for their Critical Infrastructure Protection Plans.

Prepare	Align military planning and intelligence community resources to prepare for climate change impacts to the global operating environment.	The Secretary of Defense should request that analysis of how climate change factors may influence stability and conflict around the world be included in the Chairman of the Joint Chief’s assessment(s) of the global operating environment.
		The Chairman of the Joint Chiefs of Staff should address the observed and projected security implications of climate change, where appropriate, in his input to the Secretary of Defense, National Security Council, and President on the formulation and implementation of strategic guidance, plans, and reviews.
	Strengthen the leadership, authorities and policy resources required to robustly address climate and security issues across the U.S. national security enterprise.	The Secretary of Defense should encourage the Commanders of Geographic Combatant Commands (GCCs) to address climate-security concerns as a strategic risk in Theater Campaign Plans and Theater Security Cooperation Plans, and incorporate the potential for climate shifts to contribute to instability in their deliberate and contingency planning processes.
		The Secretary of Defense should ensure full implementation of the DoD directive on climate change adaptation and resilience (DoDD 4715.21) and the DoD Climate Change Adaptation Roadmap.
Build capacity across the interagency to strengthen the U.S. position in the Arctic.	The Secretary of Defense should support and build on the successes of the U.S. Navy Task Force Climate Change by directing the development of similar institutional models for addressing climate change in each of the other services, with the Marine Corps, Army, and Air Force addressing areas in line with their own equities, expertise and interest.	
	The Secretary of Defense should support robust funding in the President’s Budget Request, including in agency budgets outside the DoD, to adequately carry out national priorities in the Arctic and build the force structure and infrastructure necessary to support complex operations in the Area of Responsibility.	
Support	Strengthen allied and partner nation capabilities and adaptive capacity to destabilizing climate impacts.	The Secretary of Defense should direct the Defense Security Cooperation Agency to provide the training, equipment, and other resources that will assist allied and partner nations in protecting key defense installations and infrastructure and provide assistance to civil authorities in disaster risk reduction and response actions.

Support	Strengthen allied and partner nation capabilities and adaptive capacity to destabilizing climate impacts.	The Secretary of Defense should direct the Chief of the National Guard Bureau to include emphasis in the National Guard State Partnership Program, and other National Guard international engagement programs, on enhancing the capability of the militaries and other agencies of partner nations to reduce the risk of, and enhance their responses to, climate-related natural disasters.
		The Secretary of Defense should encourage all Commanders of the Geographic Combatant Commands (GCCs) to increase engagement with partner nation militaries on military capacity building programs to support civilian government efforts to adapt to climate change, and mitigate impacts to military operations, operational energy, installations, and force readiness.
		The Secretary of Defense and the Secretary of State should expand traditional security cooperation in strategically-significant regions to encompass climate change and security issues.
		The Secretary of Defense and the Secretary of State should coordinate to ensure that the security impacts of climate change are fully integrated in security assistance and security cooperation measures, including training and equipping, in order to strengthen the capacity of partner militaries to respond, particularly to support civil authorities in disaster risk and recovery.
		The Secretary of Defense, Secretary of State and Administrator of USAID should establish specific budget lines for developing climate-sensitive plans, tools and strategies to support conflict prevention programs in at risk countries and regions of strategic interest to the United States.
	Support the reduction of climate change risks to regional and global security through strategic engagements and investments.	The Secretary of Defense should demonstrate support for international efforts to address climate change risks by raising the profile of the issue at key intergovernmental security institutions, including at NATO, the ASEAN Defense Ministers Meetings, the African Union, and other security forums such as the Munich Security Conference, the Halifax International Security Forum and the Arctic Security Forces Roundtable.

NATIONAL SECURITY COUNCIL

Topline

Theme

Recommendation

Recommendation

Prepare	Strengthen the leadership, authorities and policy resources required to robustly address climate and security issues across the U.S. national security enterprise.	The National Security Advisor should encourage consideration of the full range of climate change projections and associated risks in all future national strategic documents, including the National Security Strategy.
		The National Security Advisor should initiate a replacement to the rescinded 2016 Presidential Memorandum on Climate Change and National Security in order to ensure a broad, interagency approach to enhancing U.S. preparedness for climate change risks to national security.
		The National Security Advisor should designate a senior official within the NSC, as a lead on interagency efforts to address climate change impacts on national and homeland security.
Support	Support the reduction of climate change risks to regional and global security through strategic engagements and investments.	The National Security Council should launch a Climate Security Indo-Pacific Initiative - a unified climate security plan that fully supports our national security, foreign policy and defense strategies in the Indo-Pacific region - including through enhancing the resilience of our military infrastructure in the region, and streamlining early warning information sharing for adjacent communities.

NATIONAL INTELLIGENCE COUNCIL

Topline

Theme

Recommendation

Recommendation

Assess	<p>Adopt a “whole-of-government” approach to meeting national security needs, leveraging capabilities across the Federal Government to support national security and homeland security assessments.</p>	<p>The Director of National Intelligence should support more robust assessments of climate change and its interrelated “threat multiplier” associations within the National Intelligence Priority Framework, as well as continue to include climate change implications for national security in the Annual Worldwide Threat Assessment.</p>
		<p>The Director of National Intelligence should increase the capacity for intelligence assessments on the security implications of climate change for the U.S. homeland, partner and fragile state stability, and U.S. supply chains and market access.</p>
	<p>Share information on climate and security risks across the U.S. national security enterprise and with critical domestic and international partners.</p>	<p>The Director of National Intelligence should commit to and expand information-sharing processes for climate and security issues with domestic and international partners.</p>
	<p>Make climate information actionable by the broader national security enterprise by prioritizing analysis that supports planning processes, resource investments, and procurement decisions in strategically significant regions.</p>	<p>The Director of National Intelligence should increase the understanding of factors linking climate events to outcomes of regional security concern, and support the provision of actionable intelligence on climate-security related risks, as well as relevant research conducted by agencies such as the National Oceanic and Atmospheric Administration, the Environmental Protection Agency and the Department of Agriculture.</p>
Prepare	<p>Align military planning and intelligence community resources to prepare for climate change impacts to the global operating environment.</p>	<p>The Director of National Intelligence should ensure that vulnerability assessments and continuity of operation planning for strategic NNSA facilities that are critical to national security fully incorporate assessments of climate change impacts.</p>

DEPARTMENT OF HOMELAND SECURITY

Topline

Theme

Recommendation

Recommendation

Assess	Continue to incorporate climate change dynamics into assessments of risks to critical military and civilian infrastructure.	The Secretary of Homeland Security should sponsor and encourage a greater emphasis on research regarding the near and medium-term effects of climate change on U.S. critical infrastructure, disaster risk reduction, and disaster recovery and response.
	Adopt a “whole-of-government” approach to meeting national security needs, leveraging capabilities across the Federal Government to support national security and homeland security assessments.	The Secretaries of Defense and Homeland Security should support and actively leverage U.S. government civilian programs that provide climate assessment and planning resources applicable to national security and homeland defense.
		The Secretary of Homeland Security should advance integration of the impacts of climate change into risk assessment, risk reduction, and loss estimation tools widely used by the Department.
	Share information on climate and security risks across the U.S. national security enterprise and with critical domestic and international partners.	The Secretary of Homeland Security should support initiatives that ensure more comprehensive and actionable information about climate impacts is available to local, state, and tribal governments and the private sector.
	Make climate information actionable by the broader national security enterprise by prioritizing analysis that supports planning processes, resource investments, and procurement decisions in strategically significant regions.	The Secretary of Homeland Security should seek out intelligence on climate change impacts on certain fragile nations and regions that are likely to affect homeland security equities.

Prepare	Incorporate climate change and national security assessments into U.S. government risk mitigation plans and investments for critical military and civilian infrastructure.	The Secretary of Defense and the Secretary of Homeland Security (for Coast Guard installations) should fold current and projected climate change impact analyses into the plans used to make decisions on routine assessments and investments.
		The Secretary of Defense and Secretary of Homeland Security should develop and expand programs that utilize tailored training, facilitated workshops, and other interpersonal interactions to increase the understanding and interest of DOD/DHS stakeholders in using available planning tools.
		The Secretary of Defense and the Secretary of Homeland Security should integrate climate change metrics and catastrophic weather event scenarios into their assessment planning and vulnerability ratings for their Critical Infrastructure Protection Plans.
	Strengthen the leadership, authorities and policy resources required to robustly address climate and security issues across the U.S. national security enterprise.	The Secretary of Homeland Security should develop proposals for additional federal authorities and funding for pre-disaster risk reduction measures and post-disaster recovery response.
	Build capacity across the interagency to strengthen the U.S. position in the Arctic.	The Secretary of Homeland Security should develop an integrated DHS Arctic strategy to ensure that all department missions are aligned and coordinated in the changing operational environment.

DEPARTMENT OF STATE

Topline

Theme Recommendation Recommendation

Assess	Share information on climate and security risks across the U.S. national security enterprise and with critical domestic and international partners.	The Secretary of Defense and the Secretary of State should coordinate efforts to assess the security risks of climate change by establishing durable and user-friendly systems for sharing weather and climate services data.
Prepare	Strengthen the leadership, authorities and policy resources required to robustly address climate and security issues across the U.S. national security enterprise.	The Secretary of State should identify a mechanism for coordinating Mission Resource Requests relevant to the security impacts of climate change.
		The Secretary of State should expand the scope, staffing, and resources of the Bureau of Conflict and Stabilization Operations (CSO) and other elements within the Department of State with a role in conflict avoidance and post-conflict stabilization to include enhancing resilience to the effects of climate change as a principal means of reducing the risk of regional conflict and instability in regions of strategic interest to the United States.
	Build capacity across the interagency to strengthen the U.S. position in the Arctic.	The Secretary of State should appoint a Special Representative for the Arctic Region, or create an Assistant Secretary of State for Arctic Affairs, and ensure that the position includes responsibility for issues related to climate change and national security.
Support	Strengthen allied and partner nation capabilities and adaptive capacity to destabilizing climate impacts.	The Secretary of Defense and the Secretary of State should expand traditional security cooperation in strategically-significant regions to encompass climate change and security issues.
		The Secretary of Defense and the Secretary of State should coordinate to ensure that the security impacts of climate change are fully integrated in security assistance and security cooperation measures, including training and equipping, in order to strengthen the capacity of partner militaries to respond, particularly to support civil authorities in disaster risk and recovery.

Support	Strengthen allied and partner nation capabilities and adaptive capacity to destabilizing climate impacts.	The Secretary of Defense, Secretary of State and Administrator of USAID should establish specific budget lines for developing climate-sensitive plans, tools and strategies to support conflict prevention programs in at risk countries and regions of strategic interest to the United States.
	Support the reduction of climate change risks to regional and global security through strategic engagements and investments.	The Secretary of State should explore innovative ways of increasing international investments in climate change adaptation and mitigation in the Indo-Pacific, and other regions of core strategic interest to the United States, as a means of broadening alliances and partnerships, enhancing regional stability combating emerging threats, and fostering regional efforts on disaster risk reduction and response.
		The Secretary of State should constructively reengage with key international forums aimed at addressing climate change risks, including by robustly reengaging the G7 Working Group on Climate and Fragility and the Paris Agreement.

U.S. AGENCY FOR INTERNATIONAL DEVELOPMENT

Topline

Theme Recommendation Recommendation

Assess	Make climate information actionable by the broader national security enterprise by prioritizing analysis that supports planning processes, resource investments, and procurement decisions in strategically significant regions.	The Administrator of the U.S. Agency for International Development (USAID) should encourage the further integration of climate and security variables into conflict prediction models utilized by USAID’s Office of Conflict Mitigation and Management, with an emphasis on assessing climate-conflict linkages in geo-strategically significant regions (e.g. the Middle East and North Africa, Central Asia and the Indo-Pacific).
Prepare	Strengthen the leadership, authorities and policy resources required to robustly address climate and security issues across the U.S. national security enterprise.	The Administrator of USAID should strengthen ties between its Office of Conflict Mitigation and Management and other elements of USAID and all relevant Department of State offices and bureaus, and focus attention on addressing climate-conflict dynamics in geo-strategically significant regions such as the Middle East and North Africa, Central Asia and the Indo-Pacific.
Support	Strengthen allied and partner nation capabilities and adaptive capacity to destabilizing climate impacts.	The Secretary of Defense, Secretary of State and Administrator of USAID should establish specific budget lines for developing climate-sensitive plans, tools and strategies to support conflict prevention programs in at risk countries and regions of strategic interest to the United States.
	Support the reduction of climate change risks to regional and global security through strategic engagements and investments.	The Administrator of USAID should ensure that climate change and security analysis is incorporated across USAID programming and that USAID offices are aware of and make use of resources like the Climate Change and Conflict Annex to the USAID Climate-Resilient Development Framework, the Conflict Assessment Framework, and the Water and Conflict Toolkit, as well as promoting capacity building through international exchanges.

U.S. MISSION TO THE UNITED NATIONS

Topline

Theme

Recommendation

Recommendation

Support	Support the reduction of climate change risks to regional and global security through strategic engagements and investments.	The U.S. Ambassador to the United Nations should support efforts by allied and partner nations to address the security implications of climate change at the United Nations Security Council (UNSC).
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THE CLIMATE AND SECURITY ADVISORY GROUP

A RESPONSIBILITY TO PREPARE

Strengthening National and Homeland Security in the Face of a Changing Climate
Roadmap and Recommendations for the U.S. Government

Chaired by

THE CENTER FOR
CLIMATE AND
SECURITY

in
partnership
with

Elliott School of
International Affairs

THE GEORGE WASHINGTON UNIVERSITY