



DoD & Climate Change Really? Yes, Really



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September 29, 2023

Why Does the Department of Defense Care About Climate Change?

“Climate change is a national security issue, and for the national security community, that declaration is not controversial — it's fact”

Deputy Defense Secretary
Kathleen Hicks

The U.S. national security community first listed climate change as a threat in 2008.



Aerial photography of Offutt Air Force Base, Neb., taken March 17, 2019, shows part of the base under water after the Missouri River flooded. (Tech. Sgt. Rachelle Blake/U.S. Army)

Climate Impacts to DoD Infrastructure

- Hurricane Michael caused an estimated \$4.7 billion in damage to Florida's Tyndall Air Force Base
 - More than 12 F-22 fighter aircraft sustaining damage
- Hurricane Florence caused around \$3.6 billion in damages to North Carolina's Marine Corps Base Camp Lejeune.



Climate Change is a Threat to National Security

“Climate change is an existential threat to our nation's security, and the Department of Defense must act swiftly and boldly to take on this challenge and prepare for damage that cannot be avoided.”

“We must take on these challenges as a team—from every corner of the Pentagon, on each of our installations and bases, across the federal government, and alongside our partners and allies.”

“We do not intend merely to adapt to the devastation of climate change. We will work with nations around the world to meet the threat. Tackling these challenges also presents an opportunity, because the bold steps we are taking are good for the climate and also good for our mission of defending the nation.”

Statement by Secretary of Defense Lloyd J. Austin III on the Department of Defense Climate Adaptation Plan

Oct. 7, 2021



Climate Risks & National Security

- 2010 Quadrennial Defense Review (QDR) Report
 - “Climate change and energy are two key issues that will play a significant role in shaping the future security environment”
 - https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2010.pdf?ver=vVJYRVwNdnGb_00ixFOUfQ%3d%3d
- 2014 Quadrennial Defense Review (QDR)
 - “The impacts of climate change may increase the frequency, scale, and complexity of future missions, including defense support to civil authorities, while at the same time undermining the capacity of our domestic installations to support training activities. Our actions to increase energy and water security, including investments in energy efficiency, new technologies, and renewable energy sources, will increase the resiliency of our installations and help mitigate these effects.
 - <https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2014.pdf?ver=tXH94SVvSQLVw-ENZ-a2pQ%3d%3d>

DoD Climate Assessment Tool (DCAT)

- Supports climate-informed decision-making to increase resilience against climate hazards while preserving operational capability and protecting systems essential to the DOD's success.
- DCAT looks across Eight Hazards and Five Epoch-Scenarios
 - Hazards: Drought, Riverine Flooding, Historical Extreme Conditions, Wildfire, Energy Demand, Extreme Temperature, Land Degradation, and Coastal Flooding
 - Epoch-Scenarios: Base Modeled, 2050 Lower, 2050 Higher, 2085 Lower, 2085 Higher
- Drought is the greatest hazard and increases with time; historical extremes are constant; and extreme temperature exposure will be increasingly important

DoD Policy Evolution

- 2014 Climate Change Adaptation Roadmap
 - "Among the future trends that will impact our national security is climate change," said Secretary of Defense Chuck Hagel. "Rising global temperatures, changing precipitation patterns, climbing sea levels, and more extreme weather events will intensify the challenges of global instability, hunger, poverty, and conflict. By taking a proactive, flexible approach to assessment, analysis, and adaptation, the Defense Department will keep pace with a changing climate, minimize its impacts on our missions, and continue to protect our national security."
- DoD Directive 4715.21, Climate Adaptation and Resilience, issued January 2016
 - <https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodd/471521p.pdf?ver=2018-09-25-081059-330>

DoD Climate Risk Analysis (DCRA)

Department of Defense Climate Risk Analysis

October 2021



To the National Security Council

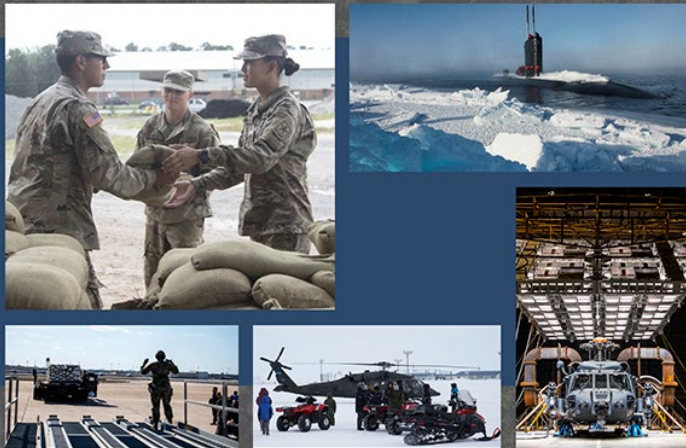


- Section I introduces key security implications of climate change to DoD, including DoD's role supporting whole-of-government and international efforts in concert with allies and partners.
- Section II reviews DoD climate policy and responsibilities, highlighting key documents.
- Section III presents a review of climate hazards, risks, and security implications. Sections on specific regions have been identified as Controlled Unclassified Information (CUI) and not releasable to the public. These sections were removed to allow this to be a publicly-releasable document.
- Section IV outlines how DoD will incorporate consideration of climate into relevant strategy, planning, and processes.
- Section V describes interagency scientific and intelligence products and experts, which could support future analyses of climate risk, as well as expected funding for exercises, wargames, analyses, and studies related to climate change.

Climate Adaptation Plan

Department of Defense Climate Adaptation Plan

September 1, 2021



To National Climate Task Force
and Federal Chief Sustainability Officer

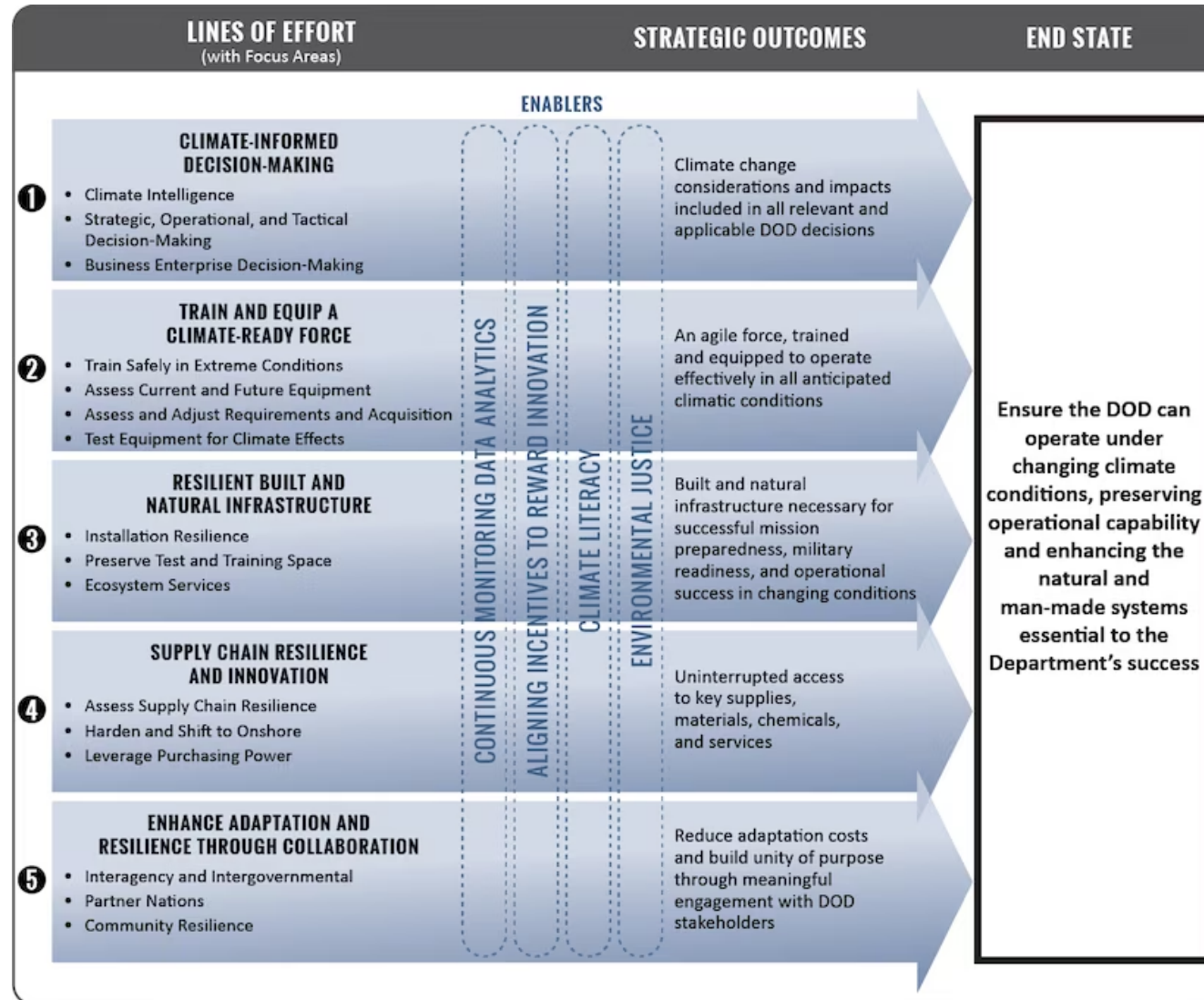


Five Priority Adaptation Actions:

- LINE OF EFFORT 1: Climate-Informed Decision Making
- LINE OF EFFORT 2: Train and Equip a Climate-Ready Force
- LINE OF EFFORT 3: Resilient Built and Natural Installation Infrastructure
- LINE OF EFFORT 4: Supply Chain Resilience and Innovation
- LINE OF EFFORT 5: Enhance Adaptation and Resilience Through Collaboration

<https://www.sustainability.gov/pdfs/dod-2021-cap.pdf>

Climate Adaptation Strategic Framework



LOE 3: Resilient Built and Natural Infrastructure

Focus Areas

- Installation Resilience: Engage all DoD Installations in a comprehensive installation assessment and resilience planning activity
- Preserve Testing and Training Space: Complete climate-informed natural resource plans. Work with surrounding communities to protect land near installations.
- Ecosystem Services: Enhance the management of DoD natural assets to preserve or expand ecosystem services

OUTCOME:

Built and natural infrastructure in place that is necessary for successful mission preparedness, military readiness, and operational success in changing conditions.

Meeting the Climate Challenge Fiscal Year (FY) 2023

	FY 2023 \$ in Thousands
Department of Army	725,648
Department of Navy	718,830
Department of Air Force	389,502
Office of the Secretary of Defense/Defense-Wide	1,221,575
Total	3,055,555

	FY 2023 \$ in Thousands
Installation Resilience and Adaptation	1,973,876
Operational Energy and Buying Power	247,095
Science and Technology	806,961
Contingency Preparedness	27,623
Total	3,055,555

https://comptroller.defense.gov/Portals/45/Documents/defbudget/FY2023/FY2023_Meeting_the_Climate_Challenge_J-book.pdf

Climate Adaptation Plan 2022 Progress Roadmap

Department of Defense

Climate Adaptation Plan 2022 Progress Report



- Improving the resilience of built and natural installation infrastructure is in progress across the Department.
- The DoD is engaging in comprehensive installation assessments including installation energy, water, and climate resilience, Integrated Natural Resource Management Plans, and through the Master Planning process.
- Expanded use of programs and partnerships, such as the Readiness and Environmental Protection Integration (REPI) Program, the Office of Local Defense Community Cooperation (OLDCC), and the Sentinel Landscapes Partnership, enhance natural infrastructure mission capabilities.

<https://media.defense.gov/2022/Oct/06/2003092213/-1/-1/0/2022-DOD-CAP-PROGRESS-REPORT.PDF>

REPI & Sentinel Landscape Partnership Program

- Readiness and Environmental Protection Integration (REPI) Program:
 - The Department of Defense's REPI Program preserves military missions by supporting cost-sharing agreements between the Military Services, other federal agencies, state and local governments, and private conservation organizations to avoid land use conflicts near military installations, address environmental restrictions that limit military activities, and increase resilience to climate change.
 - <https://www.repi.mil/>
- Sentinel Landscape Partnership Program:
 - A coalition of federal agencies, state and local governments, and non-governmental organizations that work with willing landowners and land managers to advance sustainable land use practices around military installations and ranges. Founded in 2013 by the U.S. Department of Agriculture, Department of Defense, and Department of the Interior, the partnership's mission is to strengthen military readiness, conserve natural resources, bolster agricultural and forestry economies, increase public access to outdoor recreation, and enhance resilience to climate change.
 - <https://sentinellandscapes.org/>

DoD Climate Resilience Workshop 2023

- Supporting Climate-Informed Decision-Making:
 - Enhancing climate literacy across internal DoD personnel and external partners
 - Integrating adaptation and resilience into planning processes
- Creating Resilient Built and Natural Infrastructure:
 - Incorporating built and natural infrastructure into natural resource plans to protect land near installations and preserve or expand ecosystems services
 - Providing DOD Climate Assessment Tool training and identifying tools to conduct risk and vulnerability assessments
- Enhancing Adaptation and Resilience Through Collaboration:
 - Incorporating stakeholder interests and priorities into resilience activities to promote common goals and preserve shared ecosystems
 - Highlighting the suite of DoD and other agency programs, funding, and tools available for climate adaptation and military installation resilience

<https://www.dodclimateworkshop.org/>

Tackling the Climate Crisis

“Since 2010, the Department of Defense has acknowledged that the planet’s changing climate has a dramatic effect on our missions, plans, and installations. Every year, we see the consequences of increasing incidents of flooding, drought, wildfires, and extreme weather events on our installations at home. Every year, our commanders and their Allies and partners conduct operations that result from instability in societies strained by desertification, the threat of adversary access to homelands through the Arctic, and the demands for humanitarian assistance worldwide.”

“We know first-hand the risk that climate change poses to national security because it affects the work we do every day.”

