VADM Dennis McGinn, USN, Ret.
Member, Advisory Board, The Center for Climate & Security

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Subcommittee on Defense

Climate Change and National Security
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Thank you, Chairwoman McCullom, Ranking Member Calvert, and distinguished Members of the Subcommittee, for the opportunity to testify today on the critical impact of climate change on national security. My views are based on over thirty-five years of service to our Nation in the United States Navy, as a former Assistant Secretary of the Navy for Energy, Installations and Environment, and as a senior executive intimately familiar with issues of energy and the environment.

So, based on my national security expertise, I can testify unequivocally that climate change is a national security issue, and it is in our national interest to address it.

A little more than a year ago, I joined dozens of fellow security experts – many of them retired flag officers like myself – in developing and issuing a report called the Climate Security Plan for America. This report includes dozens of recommendations that I would commend to your attention, and it is based on two fundamental principles. First, that in order to make a real difference in addressing the security risks posed by climate change, climate security must be an articulated priority of the President, communicated plainly to both the American people and to the Federal agencies tasked to respond to the threat. Second, climate impacts must be integrated into the considerations of security actors throughout the government, not simply as a separate category of action but as a risk that informs programs and priorities throughout the agencies.

In a related report, A Security Threat Assessment of Global Climate Change, the Center for Climate and Security's National Security, Military and Intelligence Panel concluded that we run the risk of catastrophic security consequences at home and abroad if we do not urgently and significantly reduce greenhouse gas emissions - reaching, at the very least, net-zero emissions by 2050 to avoid those consequences.

I could not have asked for a better response to these warnings and recommendations than the one President Biden has made, declaring in Executive Order 14008 (Tackling the Climate Crisis at Home and Abroad) that climate change is an essential element of foreign policy and national security and setting the climate agenda for DoD and other Federal agencies. In his Interim National Security Strategic Guidance, President Biden states that we must be able to "meet challenges not only from great powers and regional adversaries, but also from violent and criminal non-state actors and extremists, and from threats like climate change, infectious disease, cyberattacks and disinformation that respect no national borders."

This attention to climate threats and other global challenges is not inconsistent with traditional priorities but is aligned and integrated with them. China's posture in Asia and around the world, for example, is informed by growing water scarcity and food insecurity in Asia, coupled with the need to feed the world's most populous nation. They make economic choices to invest in renewable energy and electric vehicles because they see the direction the world is going and the opportunity that presents. Similarly, Russia's posture in the Arctic is inextricably linked to the receding ice and increased access to the region. They see both opportunity and threat to their north.

In fact, Congress has repeatedly acknowledged the security impacts of climate change, such as when it declared climate change to be a direct threat to U.S. national security in 2017. The pragmatic, bipartisan approach Congress has taken on this issue in recent years has been extremely important.

On March 4, Secretary Austin highlighted climate change as a DoD priority in a memo to the Department, stating:

> *"We face a growing climate crisis that is impacting our missions, plans, and capabilities and must be met by ambitious, immediate action. In line with the President's direction, we will elevate climate as a national security priority, integrating climate considerations into the Department's policies, strategies, and partner engagements. We will incorporate climate risk assessments into our war-gaming, modeling, and simulation, and we will bolster mission resilience and deploy solutions that optimize capability and reduce our own carbon footprint. Where possible, we will seek to lead the way for alternative climate-considered approaches for the country."*

This is a logical progression from statements Secretary Mattis made during the last Administration. Mattis stated that "the *effects of a changing climate — such as increased maritime access to the Arctic, rising sea levels, desertification, among others — impact our security situation." He added, "Climate change can be a driver of instability and the Department of Defense must pay attention to potential adverse impacts generated by this phenomenon,"* adding that *"…climate change is impacting stability in areas of the world where our troops are operating today."*

The common thread is a recognition of the threat that both Secretaries understand: recognition that climate change will increasingly drive instability around the world; recognition that the opening Arctic will create new dimensions in great power competition; recognition that extreme weather will create both readiness challenges and humanitarian crises that DoD will have to manage. It is a recognition that we must prepare for this change, and that dealing with climate change aligns with the Department's mission. Just as tactical commanders would not consider engaging in an operation without weather reports and intelligence, our strategic approach must incorporate the effects of climate change, which are reshaping global dynamics in multiple ways.

Climate change is different from traditional military threats, because it is not like having a specific enemy, a rapid and well-defined response timeline, or a clearly located crisis region to which we are responding. Climate change has the potential to create more frequent, intense and widespread natural and humanitarian disasters due to typhoons, flooding, drought, disease, crop failure and the consequent migration of large populations. These climate-driven severe weather events will magnify existing tensions in critical regions, overwhelm fragile political, economic and social structures, causing them to fracture and fail. The predictable result: much greater frequency and intensity of regional conflict and direct threats to U.S. interests and national security.

For example, climate change didn't cause the Syrian civil war, but by making extreme drought more likely in a land whose reliance on agriculture made it vulnerable to drought, it increased the likelihood of significant internal displacement and certainly helped to amplify tensions.

In addition to the geopolitical stress it applies, climate change is having a direct impact on readiness and installations. I oversaw all Navy installations, and I can tell you that our base commanders know that we don't have the luxury of waiting to be inundated before shoring up our facilities. Our commanders are working to reduce the risk of current investments by incorporating resilience and placing new facilities away from risk. Our planning is changing, and it makes more sense to invest in risk reduction now than to wait and pay for repairs after the fact.

This is clear when we look at the increasing impact of extreme weather. In October 2018, for example, Tyndall AFB suffered more than $5 billion in damages from Hurricane Michael, with 484 buildings destroyed or damaged beyond repair. In September 2018, Camp Lejeune suffered $3.6 billion in damages, with more than 400 buildings demolished. The full recovery of both bases is still years away. Six months later, Offutt AFB in Nebraska, the home of U.S. Strategic Command, suffered more than $1 billion in damages and severe mission impacts due to serious flooding incidents.

Severe storms and associated flooding are far from the only impacts the military has suffered. Wildfire risks, increased by extreme drought, have driven evacuations of military installations such as the Marine Corps Mountain Warfare Training Center (2018); Naval Air Station Point Mugu (2018); Vandenberg AFB (2016); and Camp Pendleton (2014), all in California. Heat- related illnesses and deaths during training have increased dramatically in the last decade.

A 2019 DOD study examined 79 mission critical military installations and found that two-thirds faced climate risks, with flood and drought being the most common. In subsequent assessments, each service identified sites vulnerable to climate risks: the Marine Corps identified 10 sites including Camp Pendleton and Camp Lejeune and the Navy 16 including Naval Base San Diego and Naval Air Station Key West, the Air Force's top 10 included six sites in Florida including Tyndall AFB and MacDill AFB; and

the Army's top 10 all identified desertification as the primary risk and were mostly sites in the southwestern United States such as Yuma Proving Ground in Arizona and Fort Bliss, Texas.

In the face of these threats, Congress has been an important partner in the effort to address the climate impacts on national security. In the past few years, Congress has, on a bipartisan basis, passed multiple measures in a series of National Defense Authorization Acts focused on improving installation resilience to climate change and on planning for future challenges – particularly in the Arctic. Just two months ago, the Fiscal Year 2021 NDAA again included multiple climate change measures, including directing DoD to update its climate change strategy, last updated in 2014.

The Administration will soon deliver a Fiscal Year 2022 budget request for your consideration that will, by all reports, have an increased emphasis on climate change. As you consider the request and develop the Defense Appropriations Act, particularly as you look at any increased resources that address the climate threat, I recommend you consider the following.

- Taking climate threats into account doesn't always cost more money. Sometimes it involves choices as simple as siting a building on higher ground, away from floodplains, or ensuring regional planning and wargames incorporate future climate scenarios. It will involve informing decisions with the best possible science and projections. The bottom line, though, is that DoD must incorporate climate as a consideration throughout the enterprise.

- Increased investments in predictive and intelligence systems will help the Department to prepare for these threats, and hopefully in some cases avoid them. While climate stresses can be a source of instability in different regions of the world, it is in our interest to anticipate conflict and act to head it off, but we need to ensure we have the tools that will help us do so.

- A greater investment in resilience is necessary and is aligned with mission. Even with current conditions, our readiness and installations are impacted by climate. When Tyndall AFB was leveled by Hurricane Michael, it not only damaged the buildings, it damaged multiple F-22s that were unable to evacuate because of their maintenance status. Climate risks put our people, our missions, our facilities and our assets at risk. Congress should consider increases in funding for pragmatic, preventative measures to increase DoD's resilience and to prepare it for unavoidable climate impacts. Ultimately, failing to prepare will cost more.

- While we must be resilient to near-term climate challenges we cannot change, the longer term security threats of climate change are driven by greenhouse gas emissions. As I highlighted above, the Center for Climate and Security published a Security Threat Assessment of Global Climate Change last February, looking at the consequences of 2-degree and 4-degree warming scenarios. The security implications of these scenarios were catastrophic, and the only way to avoid them was to achieve net-zero emissions as soon as practical - by 2050 at the latest. DoD need not be the only part of that solution, but it can and should lead by example, increasing efficiency and using zero-emissions energy sources where appropriate. Frankly, most of these measures are yet again aligned with mission. We all want to achieve greater efficiency and reduced logistics requirements.

In closing, while the military has understood for many years the threat that climate change poses, the Biden Administration has significantly elevated its priority and the attention it is receiving. However, to realize this ambition and to ensure it is resilient to the climate challenges ahead, DoD will need your support.