

**STATEMENT OF**  
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**COMMANDER,**  
**UNITED STATES NORTHERN COMMAND**  
**AND**  
**NORTH AMERICAN AEROSPACE DEFENSE COMMAND**



**BEFORE THE**  
**SENATE ARMED SERVICES COMMITTEE**  
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## INTRODUCTION

Chairman McCain, Ranking Member Reed, and distinguished members of the Committee, thank you for the opportunity to appear before you today as the Commander of United States Northern Command (USNORTHCOM) and North American Aerospace Defense Command (NORAD). As the Commander of two unique but complementary commands, I am honored to lead a truly remarkable team of professionals and patriots committed to defending our nations against an ever-expanding array of threats. I am also deeply grateful for this Committee's support, especially in light of the wide range of threats and challenges addressed by USNORTHCOM and NORAD.

As USNORTHCOM and NORAD look to the future, it is increasingly necessary to assess the potential for seemingly far-flung events to unfold in ways that have a direct effect on our homeland defense missions. Adversaries such as North Korea continue to field advanced weapons systems, often at an unexpectedly rapid pace of development, while China and Russia have expanded their military presence into areas outside their traditional areas of operations. The long-term consequences of these developments remain to be seen, but in an environment in which the only constant is change, it is certain that defending our homelands increasingly relies on a modern, ready, and well-trained force, along with innovative thinking and close collaboration across borders, agencies, and boundaries.

## STRATEGIC ENVIRONMENT

The threats our nations face continue to evolve. An increasing number of foreign states are developing new ways to hold our homeland at risk in an effort to offset Western military advantages and limit our options in a crisis. Meanwhile, transnational criminal organizations continue their efforts to transport illicit goods and across our borders and engage in migrant

smuggling and human trafficking over sophisticated networks that exploit the physical and organizational gaps in our security apparatus.

## **NORTH KOREA**

Over the last year, Kim Jong Un's pace of weapons testing, defiance of international norms, and deliberate efforts to reduce our indications and warning have established North Korea as the most immediate strategic threat to the United States. I testified last year I was concerned Kim Jong Un's willingness to fail in public would eventually enable him to develop a viable weapon system that could threaten the continental United States. That development has continued at an extraordinarily rapid pace, and in 2017, North Korea successfully flight tested such an intercontinental ballistic missile on three occasions, demonstrating for the first time a credible capability to hold the United States at risk.

Kim Jong Un's possession of a viable intercontinental ballistic missile represents an obvious threat to the United States, and close collaboration with the intelligence community, the Missile Defense Agency, and fellow combatant commands remains essential to outpace North Korea's technological development and deception programs. I am grateful to the members of this Committee for your continued investment in the technology and capabilities necessary to defend the United States against a North Korean threat that is only increasing with time. Adding to the capabilities that provide advanced indications and warning of missile launches will continue to be a priority for USNORTHCOM as North Korea adds capability and capacity and improves its denial and deception programs.

## RUSSIA

With a full suite of delivery platforms and weapons systems capable of ranging targets throughout the United States and Canada, Russia remains the only existential air domain threat our two nations face. Russian leaders regularly exercise conflict with the United States and are investing heavily to modernize their forces and develop novel weapons to ensure their ability to hold the United States and Canada at perpetual risk.

Russian out-of-area flight activity has declined since the record levels we observed during the 2014 Ukraine crisis, but Russian heavy bombers continue to fly off our coastlines on a periodic basis, including the series of patrols that NORAD fighters intercepted near Alaska last April and May. Russia has also been cycling its aging bombers through a modernization program that enables them to carry a new generation of advanced cruise missiles that have been proven in combat against targets in Syria.

Russia also launched next-generation cruise missiles against targets in Syria from ships and submarines in 2016 and 2017 and is fielding stealthy new naval platforms, including the Severodvinsk-class guided missile submarine and new Dolgorukiy-class ballistic missile subs. Together, these advancements represent a significant investment by the Russian government in their strategic fleets that are likely to hold targets at risk in the United States and Canada for years to come.

## CHINA

China is pursuing a comprehensive military modernization program that includes a rapid expansion of its strategic forces intended to deter an attack from the United States by holding our homeland at risk. Over the last decade, China has supplemented its modest silo-based ballistic

missile force with dozens of road-mobile intercontinental ballistic missiles and operationalized its first class of ballistic missile submarines. As part of an effort to demonstrate global reach and influence, China's navy has developed a pattern of sending ships to "distant oceans," and in July of this year, we saw the first Chinese intelligence collection ship operate near the United States. This followed the transit of a small group of Chinese ships through the Aleutian Islands in September 2015, the first-ever instance of Chinese naval vessels operating in the Bering Sea.

## **IRAN**

Iran is not yet able to strike the United States with strategic weapons. Nonetheless, Tehran has expended significant resources on its ballistic missile, space launch, and civil nuclear capabilities and could develop an intercontinental ballistic missile relatively quickly if its leaders chose to do so. Currently, Iran retains the ability to conduct attacks in our homeland via covert operations and terrorist proxies.

## **THREAT NETWORKS**

Finally, foreign terrorist groups remain committed to attacking the United States, either directly or by inspiring homegrown violent extremists to act in their stead. Despite their recent territorial losses, ISIS leaders—along with their more patient counterparts in al Qa'ida—remain highly adaptive foes who are largely immune to traditional means of deterrence. I also remain concerned about the presence of Transnational Criminal Organizations and adaptive threat networks in the Western Hemisphere, which undermine the rule of law and create vulnerabilities that could be exploited by our adversaries. While there is no evidence of collaboration between Transnational Criminal Organizations with foreign terrorists, the illicit pathways established by

these groups could be leveraged by a variety of actors in ways that undermine our national security.

### **USNORTHCOM AND NORAD**

USNORTHCOM and NORAD are separate commands with common purpose, as USNORTHCOM defends the United States against land- and sea-based threats and intercontinental ballistic missiles, while NORAD defends the United States and Canada against threats in the air domain.

Established in the aftermath of the 9/11 attacks, USNORTHCOM is the U.S. geographic combatant command responsible for operations in North America, to include The Bahamas. For over 15 years, USNORTHCOM has defended the United States through the execution of no-fail missions such as intercontinental ballistic missile defense and defense support of civil authorities.

NORAD is the bi-national United States and Canadian command responsible for aerospace warning, aerospace control, and maritime warning in the United States and Canada. In May of this year, we will celebrate the 60<sup>th</sup> anniversary of NORAD's establishment and honor the proud legacy of a unique organization that has drawn its strength from the unbreakable bond between our nations. U.S. and Canadian personnel work side-by-side in the combined USNORTHCOM and NORAD headquarters and in each of the NORAD regions in the United States and Canada.

NORAD represents the gold standard for military collaboration, and its mission continues to be of vital importance to the defense of the United States and Canada as our adversaries continue to modernize their arsenals and develop advanced weapons systems, to include

upgraded bombers and advance cruise missiles capable of holding the United States and Canada at risk.

## **HOMELAND DEFENSE**

### **BALLISTIC MISSILE DEFENSE**

In light of the strategic threat presented by North Korea, defending the United States against intercontinental ballistic missiles remains USNORTHCOM's highest priority mission. The rapid advancement of the North Korean intercontinental ballistic missile is my primary focus, although I also continually monitor Iranian technology programs that could present a threat in the future.

I am confident the Ground-based Midcourse Defense system can currently defend the United States from the threats posed by North Korea, but we must take prudent steps to remain in a position of relative technological advantage. I support the Department of Defense's efforts to improve the ballistic missile defense enterprise, and I continue to prioritize improvements to the intercontinental ballistic missile defense sensor architecture to enhance system resiliency and target discrimination, followed by improvements to interceptor reliability and lethality, along with continued reassessment of our interceptor capacity.

As our adversaries develop and field more sophisticated intercontinental ballistic missiles, improved target discrimination will improve the likelihood of a successful engagement. Upgrades to our ability to distinguish re-entry vehicles from non-lethal missile components will significantly improve engagement efficiency while maintaining required effectiveness.

Improved discrimination capability will increase the likelihood of a successful intercept, and the Missile Defense Agency is developing additional radars such as the Long Range Discrimination Radar in Alaska and a persistent radar on Hawaii, both of which will provide



improved target discrimination and a more survivable sensor network. In November, the Missile Defense Agency emplaced the last of the 44 ground-based interceptors in our inventory, while continuing their important efforts to improve interceptor reliability in the fielded fleet while developing new variants for future deployment.

In light of the mounting challenges of defending the United States against intercontinental ballistic missile attack, I am grateful to the defense committees for approving the Department's FY17 above-threshold reprogramming and supporting the budget amendment that will increase the Ground-based Midcourse Defense system's capacity and capability. That investment in improved target discrimination and more reliable kill vehicles will improve our ability to defend the homeland. I will continue to work with my mission partners in the Missile Defense Agency, the intelligence community, and fellow combatant commands to identify and prioritize additional initiatives that will keep us on or ahead of the threat.

As part of that effort, USNORTHCOM supported the Office of the Secretary of Defense in updating the Missile Defense Review. This foundational review will provide overarching policy direction for the missile defense enterprise, and I support its near- and long-term initiatives to ensure we remain ahead of our adversaries. As the warfighter responsible for the defense of the United States, USNORTHCOM will continue to work with our fellow combatant commands to integrate offensive and defensive capabilities as part of coherent strategy to defeat the missile threats facing our nation.

## **AEROSPACE WARNING AND AEROSPACE CONTROL**

Since its establishment in May of 1958, NORAD has defended Canadian and U.S. airspace against an ever-evolving range of threats. Originally focused on preventing Soviet bombers from reaching targets inside the United States and Canada with nuclear gravity bombs,

this unique bi-national command has kept our airspace secure and monitored our maritime approaches while constantly looking to the future in order to adapt to new technologies and outpace emerging threats. From the Cold War, through the aftermath of 9/11, and into the modern era, Canadians and Americans have stood shoulder-to-shoulder in defense of our skies, our cities, and our citizens.

NORAD's original mission remains as important as ever, as seen on 20 April 2017, when United States F-22 Raptors and Canadian CF-18 Hornets conducted a textbook intercept of two Russian TU-95 BEAR-H bombers that had penetrated the North American Air Defense Identification Zone and the Canadian Air Defense Identification Zone. That safe and professional intercept was the direct result of constant planning, coordination, and training between various NORAD commands over the course of many years.

The ability to deter and defeat threats to our citizens, vital infrastructure, and national institutions starts with successfully detecting, tracking, and positively identifying targets of interest approaching and within U.S. and Canadian airspace. As part of an ongoing effort to defend the United States and Canada against a wide range of airborne threats—from modern strike aircraft and advanced air- and submarine-launched cruise missiles to small drones—NORAD planners continue to develop a modern three-phase Homeland Defense Design that links advanced sensors capable of detecting and tracking potential threats with weapons systems capable of neutralizing targets identified as hostile.

## **LOW RADAR CROSS SECTION THREATS**

This Homeland Defense Design will play an ever-more important role in defending the homelands against modern cruise missiles and other unmanned aerial systems. Small commercial drones, light aircraft, and advanced cruise missiles each present challenges to our air defense

systems due to their low radar cross sections and corresponding ability to evade detection by legacy radars. Whether those technologies are purpose-built or are unintentionally exploitable by bad actors, the potential threat from airborne platforms with small radar signatures will become commonplace in the coming years as advanced missile technology proliferates and commercial unmanned systems become ever more readily available. From a threat-assessment perspective, low radar cross section systems are of particular concern as they have the potential to hold our vital institutions and infrastructure at risk due to their ability to evade detection, tracking, identification, and, if necessary, engage targets identified as hostile.

### **CRUISE MISSILE DEFENSE**

Russia has prioritized the development of advanced cruise missiles capable of holding targets within North America at risk from distances not previously seen. These systems present an increasing threat to North America due to their long range, low radar cross section, and the limited indications and warnings likely to be seen prior to a combat launch. While the likelihood of a Russian kinetic strike against the United States and Canada is currently low, it is prudent to invest in advanced sensors and defensive weapons systems to protect our nations' vital assets.

I have confidence in the layered approach provided by overlapping air defense systems. However, I am concerned about the potential for those advanced cruise missiles, which can be launched from bombers or submarines at much greater ranges than legacy systems, to penetrate our air defense network due to their expanded range, low visibility, and limited radar cross section. The significantly improved range of these missiles has reduced the indications and warnings we are likely to receive prior to a combat launch, and their low radar cross section has required NORAD to adapt new tactics, techniques, and procedures to counter them.

We must continue to invest and innovate to stay ahead of this emerging threat, and we have made significant advancements as part of those ongoing efforts. To that end, I would like to thank the defense committees for fully funding the Department's request for funding the procurement of Active Electronically Scanned Array radars to significantly improve the ability of our fighter aircraft to detect and engage advanced cruise missiles. Active Electronically Scanned Array radars and the network of ground-based sensors integrated under the Homeland Defense Design will provide important improvements to our ability to counter an expanding set of airborne threats.

### **UNMANNED AERIAL SYSTEMS**

The proliferation of commercial unmanned aerial systems in United States and Canadian airspace poses a significant challenging for the Department of Defense, the Federal Aviation Administration, Transport Canada, and the law enforcement community. The rapid development of unmanned aerial systems technology is fueling the exponential growth of the civil unmanned aerial systems industry and making unmanned technology readily available for commercial and recreational users. There are a great many legitimate commercial and recreational opportunities for unmanned aerial systems operating in the domestic airspace system; however, the potential exists for unmanned aircraft to be used by persons or groups with nefarious intent, especially given that their relative slow speed, low altitude, and small size make them capable of evading detection and tracking.

In the near term, USNORTHCOM and NORAD will continue to support the whole-of-community effort to develop a comprehensive roadmap that aligns operational requirements and technology solutions with the necessary policy and authorities. I am grateful to the Committee for your support in providing the expanded authorities to address unmanned systems that present

threats to safety or security on and over Department of Defense installations. Those authorities enhance our ability to defend critical assets and facilities in the United States and provide needed legal authority to take action as necessary to defend personnel and vital assets. USNORTHCOM and NORAD support the Department of Homeland Security, and our private sector partners in exploring several emerging solutions, which include commercial off-the-shelf technologies specifically designed to provide point and area defense against unmanned aerial systems. These technologies provide potential tactical options for addressing unauthorized or threatening unmanned aerial systems operating in the vicinity of Department of Defense installations and vessels.

## **THE ARCTIC**

The Commander of USNORTHCOM is designated as the Department of Defense Advocate for Arctic Capabilities, responsible for collaborating with fellow Arctic stakeholders to identify the requirements and associated gaps for operating in a vast and enormously challenging region. The growing concerns regarding the increased number of nations competing for Arctic resources are well justified as diminishing sea ice provides opportunities for significantly expanded access to a region that had previously been inaccessible to all but a handful of northern nations. USNORTHCOM closely collaborates with U.S. Pacific Command, U.S. European Command, and other stakeholders to identify emerging and long-range challenges in this increasingly valuable region while conducting regular exercises and strategic planning sessions to better anticipate emerging and future mission requirements for the Arctic.

Over the past year, USNORTHCOM has sponsored a number of efforts to better understand the requirements for operating in the Arctic, to include exercises such as ARCTIC EDGE, which focuses on training, equipping, and developing tactics, techniques and procedures

for joint and combined exercises in an arctic environment. These exercises are also linked into strategic-level exercises and planning efforts by USNORTHCOM and our fellow combatant commands to validate requirements, identify capability gaps and seams, and rehearse mission tasks with a variety of mission partners and subordinate elements. The lessons learned from these endeavors then allow me, in my role as the Department of Defense Arctic Capabilities Advocate, to more effectively collaborate with other combatant commanders and the military Services to assess current and future needs.

For example, based on requirements gleaned from our exercises and ongoing assessments, USNORTHCOM previously advocated for enhanced communications capabilities such as upgrades to the Integrated Broadcast Service system and improved satellite communications provided by the Mobile User Objective System. These upgrades, which have been funded, will allow for longer duration missions and improved communications across the Arctic, which directly benefits our ability to detect and understand Russian behavior in the region. With similar objectives in mind, USNORTHCOM and NORAD also successfully advocated and received funding for the sustainment of the Alaska Radar System, as well as for joint exercises and training in Alaska that will sharpen our ability to respond to emergencies and conduct sustained operations in the region.

Assessing and planning for future needs in the Arctic continues to be a collaborative effort within the Department of Defense, across the United States government, and throughout the international community. In light of need for collaboration, the Arctic Capabilities Advocacy Working Group provides a forum for Department of Defense, interagency, and trusted international partners to identify requirements, capabilities, and shortfalls across the spectrum of Department of Defense Arctic operations. Finite budgets and demands from competing global

priorities compel us to identify prudent opportunities to invest in material and non-material capabilities that enable a wide range of contingency and emerging missions.

At present, we are primarily focused on improving fundamental operational capabilities that support domain awareness, communications, infrastructure, and sustainable presence in the Arctic. By focusing on scalable infrastructure, we can enable forces to operate freely with Arctic capable platforms and provide flexible response options.

## **DEFENSE SUPPORT OF CIVIL AUTHORITIES**

### **NATURAL DISASTERS**

USNORTHCOM's mission to support civil authorities with military-unique capabilities during the response phase of natural disasters was put to the test in 2017 as the command supported the Federal Emergency Management Agency and state, federal, and territorial officials in the aftermath of hurricanes Harvey, Irma, and Maria. The response force required to provide search and rescue, route clearance, medical evacuation and treatment, airlift, commodities distribution, and a host of other missions.

I want to acknowledge the strong cooperation and rapid responses provided by each of the military Services in response to USNORTHCOM requests for forces in support of FEMA mission assignments, and I am grateful to the thousands of Soldiers, Sailors, Airmen, and Marines who deployed in support of our fellow citizens during a time of great need. We are currently working with the Services, our interagency partners, and Department of Defense leaders to capture lessons learned from every phase of the response, and we will incorporate those lessons into future interagency training events and exercises. That training, along with the

relationships USNORTHCOM maintains with our active duty, reserve component, and civilian partners, is essential to our ability to provide rapid and effective support to lead federal agencies.

## **TRANSNATIONAL CRIMINAL NETWORKS**

The flow of illegal narcotics into the United States has led to a public health crisis that has killed thousands of Americans and inflicted lasting damage on our families and communities. The Transnational Criminal Organizations responsible for the influx of illegal narcotics employ sophisticated networks to transport and distribute their illicit products across international and jurisdictional boundaries, leaving violence and instability in their wake. As part of a collaborative interagency effort to stem the tide of illegal narcotics and other illicit goods into the United States, USNORTHCOM operates in support of civilian law enforcement and our international partners by leveraging our unique capabilities to plan, support, and conduct Counter Threat Network operations per the 2017 Unified Command Plan.

The cartels' disregard for borders and ability to rapidly adapt to changing conditions requires an equally flexible response and the ability to operate seamlessly over Unified Command Plan boundaries. In light of that reality, USNORTHCOM works hand in glove with U.S. Southern Command and U.S. Special Operations Command to illuminate and disrupt the threat networks and provide support to all lead federal agencies.

That fight has come at a high price for our partners, and the toll continues to mount as the Mexican government has implemented an assertive strategic effort to interdict the flow of drugs and precursor chemicals at its southern border. The united effort to counter such well-financed and brutal adversaries will continue to rely heavily on prudent investment in building partner capacity.



## THEATER SECURITY COOPERATION

In the complex and dynamic strategic environment facing our nation today, the successful defense of the United States is reliant on building and maintaining close ties with our North American neighbors. USNORTHCOM is proud to participate in Theater Security Cooperation with Mexico, Canada, and The Bahamas to build partner capacity and foster mutually beneficial security interests. Theater Security Cooperation is a critical enabling activity that provides training, collaboration, and resources that strengthens our collective defense and fosters closer military-to-military relationships between our components and their international counterparts.

### MEXICO

Mexico is an essential partner in the defense and security of North America. The relationships between USNORTHCOM and our partners in the Mexican Secretariats of National Defense (SEDENA) and Navy (SEMAR) continue to flourish. The military-to-military relationship starts at the tactical level and extends through the close ties between USNORTHCOM senior leadership and SEMAR and SEDENA. Further, Secretary of Defense Mattis has developed a close personal and working relationship with both Mexican Secretaries. Our enduring partnership with Mexico has paid significant dividends for both our nations' security, and continues to expand and evolve with every combined engagement.

The Mexican military has long been engaged in the fight against the drug cartels that have inflicted great harm on both our nations, and USNORTHCOM is proud to support our Mexican partners by providing equipment and training to reinforce those vital efforts in response to requests for assistance by the Mexican Government. USNORTHCOM's component commands are very active in supporting the desires of our partners to conduct security cooperation. As an example, in 2017, United States Marines from USNORTHCOM's Marine

Forces North provided small-unit training to over 1500 Mexican Marines to help prepare those troops for the fight against the cartels.

USNORTHCOM continues to evolve alongside our North American partners as we become increasingly interconnected in the defense and security of our continent. Over the past year, I joined Secretary of Defense Mattis in Mexico to meet with senior Mexican military leaders to discuss our mutual military interest. Additionally, USNORTHCOM was pleased to host our Mexican partners for a series of staff-level defense bilateral workshops, joint staff talks, and operational staff discussions.

Even as the Mexican armed forces continue the counter-narcotics fight in support of our combined law enforcement efforts, their leaders are undertaking concerted efforts to enable broader regional security and provide defense leadership throughout Latin America. These efforts by our Mexican partners continue to reinforce their own national security, while providing significant contributions to the security of North America as a whole.

USNORTHCOM looks forward to a lasting partnership with our neighbors.

## CANADA

The United States and Canada share the longest undefended international border in the world, and our collaborative relationship is one of the closest and most extensive in history. This relationship reflects a unique friendship, underpinned by common values, that has evolved over the course of the last century.

In May 2018, NORAD celebrates its 60th birthday defending the United States and Canada in the air domain. We continue to evolve this venerable relationship to keep pace with evolving threats to ensure our bi-national defense can deter, and if necessary, defeat potential future attacks. NORAD prioritizes interoperability and command and control through regular

operations, combined training and exercises, combined planning, information and intelligence sharing, and personnel exchanges to ensure we are capable of conducting operations together, across the spectrum of conflict.

A critical component of our operational defense framework is the tri-command relationship between USNORTHCOM, NORAD, and the Canadian Joint Operations Command. Together, we are working to further integrate our operational framework into an adaptive continental defense arrangement that can function across multiple domains to defend the United States and Canada that preserves each nation's ability to conduct unilateral national missions such as disaster response.

## **THE BAHAMAS**

The United States and The Bahamas, our closest maritime neighbor, share a strong bilateral relationship founded on a shared culture and common interests in security and trade. The Bahamian government is committed to close cooperation with the United States for law enforcement and maritime security and countering the networks used by criminal traffickers. The Bahamian government has made a significant investment in their military, and continues to expand their presence across the island chain to improve their maritime domain awareness and enhance their ability to counter illicit flows of narcotics and illegal immigration.

This year, The Bahamas will host TRADEWINDS 2018, a joint USNORTHCOM and U.S. Southern Command exercise involving multiple partner nations in the Caribbean Basin, and participants from Canada, France, the Netherlands and the United Kingdom focusing on countering transnational threat networks and humanitarian assistance and disaster response.

## CONCLUSION

Above all, I am proud to serve alongside the remarkable men and women of USNORTHCOM and NORAD as they stand guard over our homelands against a rapidly evolving and increasingly complex set of threats. Their proud histories and future successes are deeply rooted in a shared, unshakable commitment to protecting our citizens and defending our common values. Together with our allies and partners, I am confident we will continue to adapt, innovate, and fulfill the sacred responsibility of defending our great nations.

***“We have the watch”***