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# Competing with Russia Militarily

## Implications of Conventional and Nuclear Conflicts

In 2018, the National Defense Strategy formally codified the latest shift in U.S. threat perceptions, heralding Russia as one of the “principal priorities” for the U.S. Department of Defense. In this Perspective, we illuminate the implications of the United States and its NATO (North Atlantic Treaty Organization) allies participating in a conventional military confrontation with Russia in Europe and the associated risk of nuclear escalation.

This Perspective primarily draws on recently published RAND Corporation reports to identify strengths, weaknesses, and risks for the United States, NATO, and Russia in a large-scale war. It finds that although Russia does possess a number of key advantages in the early stages of a war that would pose serious challenges to a NATO response, its current ground force structure and posture do not ensure an obvious path to defeating NATO in an extended conflict and avoiding nuclear escalation. The Perspective also finds that there are opportunities for NATO to strengthen deterrence and shape Russian perceptions of NATO’s ability to respond militarily in advance of an possible crisis scenario; this could be accomplished by

addressing existing challenges posed by Russia in the Baltic theater.

Although regional conflict close to Russia's borders would pose serious challenges for the West, it would also be problematic for Russia beyond the initial period of war. A prolonged conflict between Russia and NATO could expose Russia's limitations in personnel, key military weapons and equipment, and strategic depth. The size of the Russian ground forces (nearly half of whom are conscripts) and the fact that they have been the slowest to modernize among all the services since 2011 could create challenges in seizing and holding a large amount of territory, particularly in the face of a NATO counterattack. Furthermore, the Russian military is only in the nascent stages of building a ready strategic reserve force that could be sent into combat with little preparation. Although geography is in favor of Russia in its ability to rapidly mass combat power just

across its borders, the location of the conflict would also mean that critical Russian military, political, and economic infrastructure would be at risk from NATO long-range conventional precision munitions from the outset of a war. Relatedly, the risk of deterioration over time of Russia's so-called anti-access/area denial (A2/AD) bubble could raise the probability of nuclear escalation as Moscow becomes increasingly vulnerable in a war. The possibility of a military confrontation devolving into such a scenario—in which outer defenses are worn down—is one that Russia has observed to some degree in every major conflict involving the U.S. military and its allies since 1991 and is arguably a strong deterrent against Russian aggression.

In the event that deterrence fails, this Perspective also finds a number of factors that could undermine NATO's ability to respond to a crisis. As repeated RAND wargames have shown, Russia could quickly overwhelm any or all of its Baltic neighbors (Estonia, Latvia, and Lithuania), which are not sufficiently supported by NATO allies to stop a concerted thrust into their territory. There are logistical bottlenecks that could disrupt the flow of forces to reinforce those in theater. There are also some questions as to NATO's ability to dismantle Russia's air defense network at an acceptable cost because of the density of long-range strategic surface-to-air missiles in Kaliningrad and Russia's Western Military District, as well as NATO's lack of key ground-based standoff munitions to effectively suppress Russian air defenses. Additionally, Russian electronic warfare, cyber, and counterspace capabilities would pose a threat to critical command, control, communications, computer, intelligence, surveillance, and reconnaissance (C4ISR) capabilities, without which a number of key NATO warfighting functions would be degraded. Russia could also exploit vulnerabilities in NATO infrastructure

## Abbreviations

A2/AD	anti-access/area denial
BTG	battalion tactical groups
C4ISR	command, control, communications, computers, intelligence, surveillance, and reconnaissance
EDI	U.S. European deterrence initiative
EW	electronic warfare
IADS	integrated air defense systems
ISR	intelligence, surveillance, and reconnaissance
NATO	North Atlantic Treaty Organization
NSNW	nonstrategic nuclear weapons
SEAD	suppression of enemy air defenses

to try to sap NATO's ability to conduct counteroffensive operations. Finally, local geography is advantageous to Russia because the country can use short lines of communication that will facilitate rapid movement of personnel, weapons, and equipment under the cover of air defenses and long-range munitions to slow down NATO force flows that move along much longer lines of communication.

These findings present a number of implications for NATO strategy and plans. Although the outer layer of Russian air and coastal defenses is relatively dense, it is neither unlimited nor impregnable. Holding these A2/AD assets at greater risk would likely raise the perceived costs for Russia in a possible conflict, thereby strengthening deterrence. Given the centrality of coastal and air defenses (and the capability to preemptively weaken Western air power) to Russian military strategy, standoff munitions, ground-based electronic warfare (EW), and air base hardening are among the options for NATO to reduce Russia's ability to impose obstacles to establishing NATO air superiority.

Next, ensuring the robustness of crucial C4ISR capabilities at all echelons against Russian EW would limit the effectiveness of a tool that Russia is counting on to reduce NATO's technological superiority. Improvements in logistics and rapid deployment capability under fire, as well as the presence of prepositioned equipment throughout the European theater, could reduce existing closure times of U.S. European deterrence initiative (EDI) units. Finally, NATO should be prepared for the possibility that attaining air superiority will prove infeasible, and that it will be necessary to fight the Russians without it. Investments in short-range air defense, medium-range air defense, and standoff antiarmor weapons would signal

NATO determination to carry on the fight even within the Russian A2/AD "bubble."

## **Conventional Military Confrontation with Russia**

Between the collapse of the Soviet Union in 1991 and the start of the Ukraine conflict in 2014, the United States and its NATO allies had largely discounted the possibility of a war with Russia, even as the alliance expanded into the boundaries of the former Soviet Union. Western threat perceptions of Russia have risen sharply in recent years, bolstered by its acts of military aggression, political interference, and efforts to expand its global influence.

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Russia's 2014 operations in Crimea and eastern Ukraine demonstrated Moscow's willingness to violate a state's territorial sovereignty. Russia's entrance as a major actor in the Syrian conflict in September 2015 raised questions of whether Russia was transitioning from a regional to a more global focus, enabled by military power-projection capabilities. In 2018, the National Defense Strategy formally codified the shift in U.S. threat perceptions, heralding Russia as one of the "principal priorities" for the U.S. Department of Defense. In this Perspective, we draw on RAND Corporation research and other works to illuminate the implications of a conventional military confrontation between NATO and Russia in Europe and the associated risk of nuclear escalation.

Currently, there are no indications that Russia seeks a major conventional conflict with the United States or other NATO members. Russia's overall military posture focuses on homeland defense and the ability to coerce or occupy states along its periphery. Such a posture, however, could quickly shift to an offensive footing should Russian leaders deem it essential. Although Russia has limited global power-projection capability, it can quickly bring decisive force to bear on its borders, especially from its Western and Southern Military Districts. As NATO members, the Baltic states in particular occupy a geographic space where Russia's local conventional military advantages could severely challenge U.S. security commitments. This scenario warrants careful examination because it presents the most stressing case for a NATO-Russia conventional confrontation.

Russia's ability to project and sustain forces for a large-scale conventional conflict beyond its immediate border is limited.<sup>1</sup> On the other hand, investments in

force posture, capabilities, and operational concepts allow Russia to achieve initial overmatch in its near-periphery, most acutely in the Baltics. Russia's integrated air defense system (IADS), high-volume fires, space-based and computer-network operations, and EW capabilities present challenges to the United States and NATO in defending against Russian attacks. U.S. and NATO rear-area and theater capabilities might prove vulnerable to attack by Russian long-range missiles or special forces operations.<sup>2</sup> Finally, major conventional conflict with Russia introduces risks for nonstrategic nuclear weapons (NSNW) use and further escalation. The need to avoid escalatory pressures might substantially constrain the ways in which NATO can employ its conventional forces against Russia. In short, conventional conflict with Russia, particularly in the Baltics, would present immense challenges for the United States and its NATO allies, all while under a looming nuclear shadow.

The following section examines implications of Russia's military posture and force-projection capabilities, then details the most stressing case for a U.S.-Russia conventional confrontation: a major great-power war in the Baltic states.

## Russian Military Posture and Force Projection Capabilities

A central question as the United States reorients its defense priorities toward great power competition is where and how such a conflict might occur. Recent U.S. and Russian literature on the probability of conflict has assessed that the likelihood of the outbreak of large-scale war is low. Official Russian strategic policy documents and senior

military officers consistently assert that in the near term there are few indicators that suggest such a scenario.<sup>3</sup> A 2017 RAND Arroyo Center study also projected the probability of interstate war to be quite low, relative to previous large-scale conflicts in the near- and long-term, even under alternative scenarios with conditions that make the risk of conflict overall much higher, such as a “global depression” scenario.<sup>4</sup> At the same time, recent Russian behavior in Georgia and Ukraine has fed concerns about European security and deterrence. In hypothesizing about future conflict, however unlikely, it is important to consider not only where and how Russia could realistically commit and sustain conventional forces, but also where U.S. and Russian interests collide to a degree that they would be willing to use military force to pursue them.

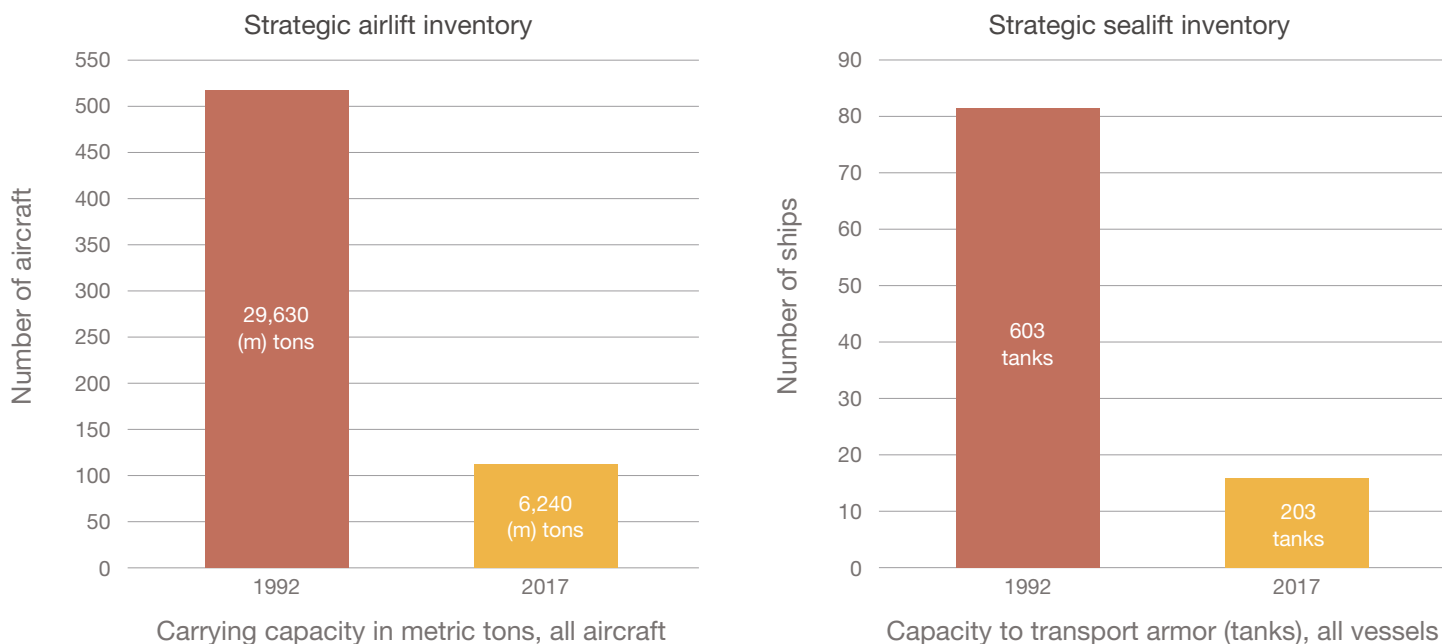
Russia’s ability to project and sustain large-scale conventional forces beyond its immediate neighborhood is relatively limited. Although Russia’s involvement in the Syria campaign represents its first significant strategic projection since the end of the Cold War, its modest scale and demonstrable logistical challenges make it a questionable proxy indicator for Russia’s performance in a larger conflict. RAND analysis of six notional scenarios found that Russia would experience significant force projection challenges because of low numbers of strategic lift assets (see Figure 1); a lack of allies beyond its near periphery, which would increase its vulnerability to overflight, transit, or port and airfield access restrictions during deployment; and a limited ability to secure and maintain lines of communication to support the demands of a major conventional conflict.<sup>5</sup>

As a result, Moscow today cannot realistically contemplate undertaking large-scale conventional operations at

significant distances from Russia’s borders. The changing disposition and structure of Russian ground forces offers one indication of where Moscow considers conflict most likely and what type of conflict that might be. Up until 2014, the Russian ground presence was distributed across the country relatively evenly, and its ground forces were transitioning to a smaller, more mobile, professional force intended to fight in local conflicts on Russia’s periphery.<sup>6</sup> Throughout the early 2000s, Russia’s political leadership and some senior military officers largely discounted the possibility of a large-scale, protracted war involving military and state mobilization.<sup>7</sup> Moreover, the mass draft mobilization army inherited from the Soviet Union demonstrated extremely poor performance in the wars in Chechnya and Georgia. As a result, Moscow decided to do away with the mobilization army concept and transition to a partially volunteer force with a brigade structure featuring permanently ready battalion tactical groups (BTGs) as the primary fighting element.<sup>8</sup>

But since the 2014 crisis in Ukraine, Russian force disposition and structure has undergone continued evolution. The forces in southwestern Russia have been augmented with both new force formations and existing ones that have been moved from central Russia to cover the borders with Ukraine and Belarus. Although Moscow could move these forces north for a contingency with NATO today, they are primarily concentrated along the entire border with Ukraine, where Russia is involved in an ongoing conflict (Figure 2). Furthermore, Moscow has initiated a partial return to the division structure, one that is better suited to engage in a conflict with much larger fronts. All but one of the new divisions formed (on the basis of existing brigades) are in the Western and Southern Military Districts.

FIGURE 1  
Comparative Analysis of Russian Organic Transport Capacity 1992–2017



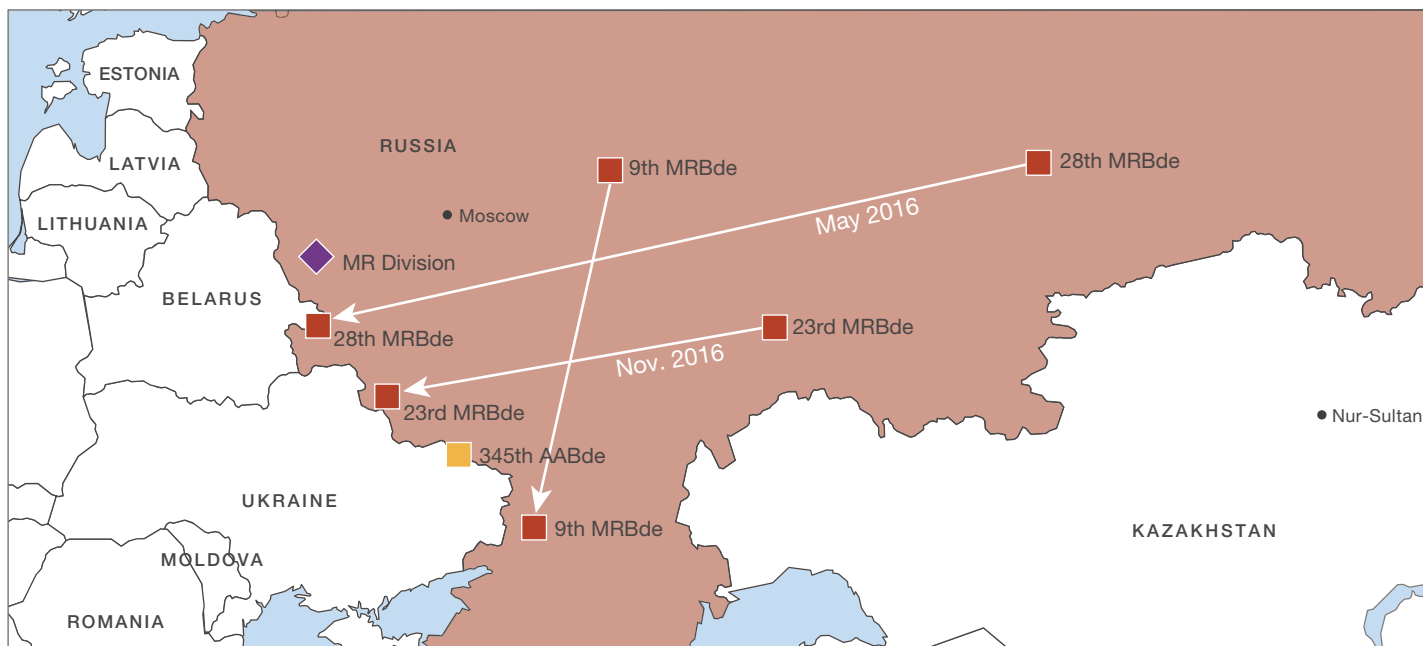
SOURCE: Connable et al., 2020.

Finally, legal and practical steps, some of which predate the Ukraine crisis, have been taken to begin to shore up the mobilization system, which suggests a desire to be prepared for a large-scale war. However, at present, Russia largely lacks a system of ready reserve forces, which would impair its ability to carry out a lengthy war or occupation.<sup>9</sup>

Despite these changes, the force structure of the Russian ground forces today is still largely a product of the 2008 reforms, which included personnel and tactical unit targets for 2020 that were based on an assessment of a low probability of large-scale war. According to a 2015 interview with the Chief of the Ground Forces, General-Colonel

Oleg Salyukov, by 2020 the Russian ground forces intended to field 300,000 troops, including 20,000 officers and 220,000 contract soldiers.<sup>10</sup> Using estimates by the International Institute for Strategic Studies and the Russian military analyst Igor Sutyagin, as well as our own analysis, as of 2018, there were approximately 270,000 to 280,000 officers and soldiers in the ground forces, an estimated 50 to 60 percent of whom are contract soldiers.<sup>11</sup> In terms of tactical units, as of early 2018 there were 79 contract-manned BTGs in the ground forces, with another 25 fielded in the airborne and the Northern Fleet.<sup>12</sup> (A motorized rifle BTG has approximately 700–900 troops.)

FIGURE 2  
Russian Changes in Force Disposition, 2014–2016



SOURCE: "Usilenie postoiannogo rossiiskogo voennogo prisutstviia na granitse s Ukrainoi," 2015; "V prigranichnoi zone Bryanskoi oblasti razvernuta motostrelkovaia brigada s Urala," 2016; "Rossiia perebrosit k zapadnym granitsam dve motostrelkovye brigady," 2016.

NOTE: Red squares indicate MRBde (motorized rifle brigade) locations; the purple diamond indicates the MR (motorized rifle) Division; and the yellow square indicates the 345th AABde (airborne assault brigade).

Table 1 shows a summary of ground forces personnel data, and Table 2 provides a breakdown of ground forces BTGs by military district.

Given the current balance of forces in the European theater, particularly on Russia's western and southern borders, RAND wargames and other research have repeatedly shown that Russian ground forces even at current force levels are likely capable of a rapid intervention and seizure of territory on Russia's border.<sup>13</sup> At the same time, based

on historical force sizes used in Soviet and Russian interventions, none of which were conducted with the expectation of a NATO response, the current size of the Russian ground forces and the absence of a ready reserve (at least in the near term), suggests a lack of capacity to sustain a protracted conflict, particularly against a peer or superior opponent.<sup>14</sup> Taken together, the evidence suggests that the Russian ground forces are intended and structured primarily for a rapid attack or to engage in a war in a non-NATO

TABLE 1  
Russian Ground Forces Personnel Data as of  
2018

	2015	2018 (estimated)	2020 (planned)
Total personnel	209,400	275,000	300,000
Officers	26,000	25,000	25,000
Contract soldiers	88,200	137,500	220,000
Conscripts	95,200	112,500	55,000
Percent contract soldiers	48	55	80
Ready Reserves	0	5,000	Unknown

SOURCES: Khudaleev, 2015; Sutyagin and Bronk, 2017; International Institute for Strategic Studies, *Military Balance*, 2018.

country within its perceived sphere of influence. Today, this sphere of influence is mostly confined to the former Soviet Union (excluding the Baltic states).

However, this assessment does not rule out the possibility that Russian leaders might undertake an attack on NATO territory adjacent to Russia's borders if they believed that the goals of such an offensive could be achieved quickly and that NATO countries would be deterred from reversing Russian gains. As Boston and Massicot (2017) note, "while Russia's overall strategic orientation is roughly akin to a defensive crouch, defensive reactions could well take a very offensive character at the direction of Russian leadership."<sup>15</sup> Pezard and Rhoades (2018) identified several possible "redlines" that might lead Moscow to seek political ends through military means, even against NATO. Either perceived or actual, these might include a disruption of

the strategic nuclear balance, external or externally driven internal threats to the Russian regime, future NATO enlargement, loss of influence in the near abroad, or some combination of those factors. Russia's own strategic documents acknowledge the possibility that a local conflict could expand and unexpectedly escalate to something much larger than initially anticipated. The latest version of the Russian Foreign Policy Concept notes, "Although a large-scale war, including nuclear war, between major powers remains unlikely, [major powers] face increased risks of being drawn into regional conflicts and escalating crises."<sup>16</sup> In 2016, the commander of the Southern Military District, General-Colonel Aleksandr Galkin, spoke to this issue in a speech before the Academy of Military Sciences:

An analysis of the development of the military-political situation and the existing threats to the Russian Federation allows one to assert that the outbreak of a large-scale war is unlikely. At the same time, the possibility for a direct clash with certain states—whose force structure foundations are built in the "mold" of [NATO]—remains. A scenario in which several local armed conflicts artificially and simultaneously break out on the borders of the Russian Federation cannot be ruled out.<sup>17</sup>

The type of war described by Galkin is not the sort of large-scale invasion scenario often envisioned in Western discussions of potential NATO-Russian conflict. Rather than a preplanned attempt to seize territory or undermine NATO, a war might result from Russian overreaction to events beyond its leaders' control. Such confrontations could take place in multiple areas and could even transpire outside Europe (as the brief crisis between Turkey and Russia in Syria hinted). However, a Russian attack on the

TABLE 2

## Breakdown of Russian Ground Forces Contract BTGs by Military District, 2018

	Total	Western Military District	Southern Military District	Central Military District	Eastern Military District
BTGs	79	17	21	21	20
Approximate personnel	53,250	12,750	15,750	15,750	15,000

SOURCE: Korabelnikov, 2018.

NOTE: Assumes an average BTG size of 750 troops.

Baltics, originating from any number of causes or misperceptions, would be the most plausible stressing scenario for the United States and NATO.

### The Baltics as a Highly Stressing Case

Despite certain limitations of the Russian ground forces, RAND wargames and other research have repeatedly shown that Russia can rapidly seize Baltic territory.<sup>18</sup> In dozens of RAND-run wargames involving a variety of players, strategies, and variations in initial starting conditions, the longest it took Russian forces to reach the outskirts of the capitals of Estonia and Latvia in a short-notice invasion was 60 hours.<sup>19</sup> To be sure, some have raised objections to a number of the theoretical assumptions and practical elements of the RAND wargames.<sup>20</sup> Nonetheless, walking through a Russian conventional attack is of interest as a “worst case” for NATO-Russia conventional conflict. It also is of practical interest because of the need to assure the Baltic states of the credibility of NATO security guarantees.

Russia benefits from two major advantages that allow it, should it choose, to achieve conventional military

superiority on NATO’s northeastern flank. The first advantage is that NATO’s forward ground force posture in the Baltics is insufficient to deny an initially low-cost *fait accompli*. The Baltic states themselves are small and possess only modest conventional military capabilities (there are, for instance, no main battle tanks in any of the three countries’ militaries). NATO’s Enhanced Forward Presence consists of only four battalions, predominantly light forces with little artillery support, scattered among all three Baltic states and Poland.<sup>21</sup> The EDI rotational armored brigade combat team and combat aviation brigade are typically distributed across the Atlantic Resolve area of operation, instead of consolidated near the Baltics.<sup>22</sup> Distance from the front, limited rail throughput, and inexperience with rapid deployment under fire will slow the rate at which these distributed units and U.S. prepositioned equipment would be able to reinforce the Baltic front from the Netherlands, Belgium, Germany, and Poland.

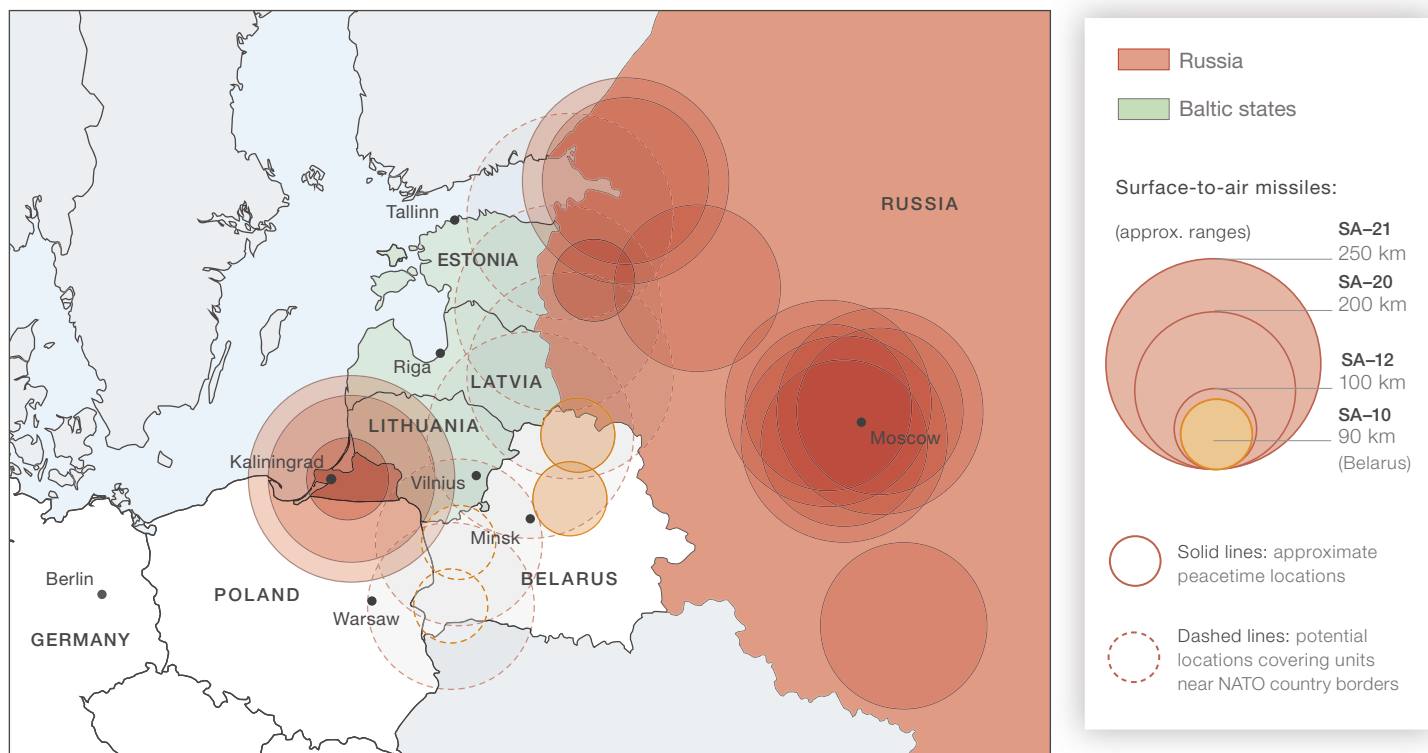
The United States has traditionally relied heavily on its ability to quickly achieve air dominance for decades as a means to offset enemies’ numerical advantages on the ground. Although combat aircraft can deploy more rapidly than ground units, a lack of ground power cannot be

compensated for through air power in this scenario, based on the evidence obtained in war games. Russia's ability to cover large swathes of Baltic territory with a dense IADS network (see Figure 3) would place NATO aircraft seeking to interdict advancing forces at great risk. Also, NATO lacks the key standoff munitions needed for effective

suppression of enemy air defenses (SEAD) and anti-armor interdiction.<sup>23</sup>

The second major advantage is that Russia benefits from favorable geography and short lines of communication. Much of Russia's population and military capability reside in the northwestern region adjacent to NATO. In

FIGURE 3  
Selected Air Defenses in Western Russia



SOURCE: Data from the International Institute for Strategic Studies.

NOTE: Orange circles depict Belarusian air defenses, which are integrated into the Russian network.

contrast, the most militarily capable NATO member states are separated by long distances made worse by intratheater mobility challenges and low force readiness. Shortfalls in key transportation assets, such as heavy equipment transporters and railcars, are exacerbated by limited NATO deconfliction capacity for simultaneous multinational transportation, potentially leading to contractual fratricide. Skepticism about Russian intentions or sclerotic bureaucracy might lead some countries to refuse or be slow to drop peacetime restrictions and policies governing the movement of military forces and supplies through or into their territory. These restrictions can extend deployment timelines by days or even weeks.<sup>24</sup> Such large and complex military movement, under currently limited NATO capabilities and experience, would most likely take months. Even so, during a conflict, Russia would not likely allow NATO and continental United States–based U.S. forces to mass in Poland unmolested, using kinetic or nonkinetic means to slow and attrit them.

To improve the alliance’s responsiveness, NATO defense ministers have adopted, in principle, former U.S. Secretary of Defense James Mattis’s ambitious goal of the “four thirties” standard, in which NATO member states commit to generate 30 ground battalions, 30 fighter squadrons, and 30 naval ships ready to deploy within 30 days by 2020.<sup>25</sup> But most countries in Europe face massive challenges in generating large numbers of forces ready for high-intensity, conventional combat. Numbers of main battle tanks in European militaries, for instance, are often only between one-tenth and one-fifth of the levels that they were at the end of the Cold War.<sup>26</sup> One recent RAND Arroyo Center analysis found that the three largest non-U.S. contributors to NATO—the United Kingdom, France,

and Germany—would struggle to field a single armored brigade each. They would not be able to field a full brigade for at least a month, they would have trouble sustaining them, and doing so would leave them with very little excess capacity beyond this requirement.<sup>27</sup>

Thus, without significant improvements in forward posture and deployment capabilities, NATO does not currently present a credible conventional deterrent should Russia choose to attack the Baltics. Correlation of forces at the onset of the conflict, however, represents only one of the issues NATO would face in a conventional conflict with Russia.

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## Characteristics of a Conventional Fight with Russia

RAND Arroyo Center research has found that Russia's ability to conduct a major conventional conflict against a peer adversary (for example, NATO or China) would be constrained by structural disadvantages such as the size of the Russian economy, available personnel, and other material factors.<sup>28</sup> However, in the short term, Russia would have potentially decisive advantages, including the ability to quickly mass combat power on its borders and heavily contest air, sea, and ground movement into the Baltics. RAND Arroyo Center analysis of past operations and open-source military writings predict that Russia would attempt to avoid close combat with NATO forces through reliance on air defense systems, long-range fires, and asymmetric responses. In addition, rear area and theater assets in NATO would be held at risk by Russian long-range missiles and special forces.<sup>29</sup> The latter issue would also apply to critical targets in Russia and along its periphery in a potential NATO aerospace attack.

### Threat from the Air in Initial Stages

Having observed U.S. and NATO operations for almost three decades, Russia fears a large-scale conventional "aerospace campaign" against its forces and territory early on in a great power conflict.<sup>30</sup> Russia's military is predominantly land-based, but Russian theorists predict that future warfare against major state adversaries will largely hinge on dominance in air and space, an area in which Russian military planners feel considerably outmatched by NATO. Although the Russian Aerospace Forces are much improved since their underwhelming performance against

Georgia in 2008, there is no question that they are both qualitatively and quantitatively inferior when compared with NATO. Rather than seizing air superiority for itself, Russia's strategy is to deny air superiority to potential adversaries.

Russia has therefore invested a large portion of its resources in developing a modern IADS.<sup>31</sup> This layered protection, consisting of shorter-range platforms organic to maneuver brigades as well as extended range systems in independent air defense brigades, can hold NATO helicopters, unmanned aerial systems, and fixed wing combat and reconnaissance aircraft at risk.<sup>32</sup> U.S. and NATO ground units, by contrast, having enjoyed uncontested airspaces for decades, do not currently have mobile, short-range air defenses capable of effectively covering maneuver units.<sup>33</sup> Without sustained air defenses from combat aircraft or on the ground, U.S. and NATO forces face the risk of generally unimpeded interdiction by Russian aircraft until the SEAD campaign reduces the threat from the Russian IADS and other fixed- and rotary-wing aircraft. In conjunction with harassment from the air, U.S. and NATO ground forces would face Russian ground forces largely intact because of NATO's limited stand-off antiarmor capabilities.<sup>34</sup>

### Heavy Emphasis on Massed Indirect Fires

Threats to U.S. and NATO forces from Russian air interdiction are further exacerbated by an atrophied capability to execute electronic emission discipline and camouflage, cover, concealment, decoy, and deception operations, particularly with regards to headquarters and logistics units.<sup>35</sup> Bolstered by improvements to its intelligence, surveillance, and reconnaissance (ISR) capabilities, such as drones,<sup>36</sup> Russian forces would take advantage of such

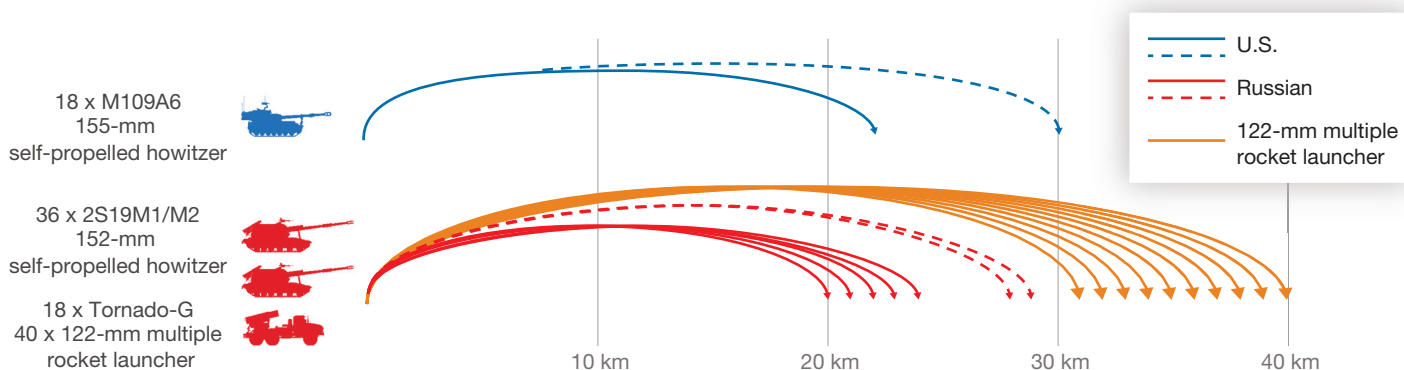
vulnerabilities through their ability to rapidly mass indirect fires using cannon and rocket artillery. Operationally, Russian units place a heavy emphasis on avoiding direct engagement, instead using maneuver forces to find and fix adversary forces and then massing fires to attrit them. Russia’s emphasis on both sheer volume and range leads to a stark overmatch in indirect fires capability, compared with the United States. In terms of the ammunition that can be expended in a one-minute barrage, brigades in the Russian army outgun their U.S. counterparts by a factor of approximately nine to one (see Figure 4 for a brigade-level comparison).<sup>37</sup> Though Russia has introduced additional precision guidance options for its artillery systems, trends in its engagements in Ukraine and Syria show a continued Soviet-era proclivity for high-volume, unguided barrages,

with precision-guided munitions reserved for high-value targets.<sup>38</sup>

### Contested Electronic Spectrum, Space, and Cyber Environments

Along with efforts to modernize ground forces, Russia has sought to improve its ability to conduct information, cyber, and counterspace operations. Russian armed forces employ a concept of “information confrontation” to organize most of the units responsible for computer-network operations, electronic warfare, and other information operations. *Information confrontation* emphasizes asymmetric, mostly nonkinetic means to inhibit an adversary’s exchange of information through obstruction, denial-and-deception, or destruction of communications infrastructure.<sup>39</sup>

FIGURE 4  
Indirect Fires, Brigade-to-Brigade Comparison



SOURCE: Boston and Massicot, 2017.

NOTE: This comparison graphic is normalized to the U.S. howitzers and compares ranges and maximum rates of fire for one minute of firing. Solid lines represent standard high-explosive ammunition; dotted lines represent extended-range high-explosive rounds.

The Russian General Staff divides information confrontation into *information-technical* measures, such as computer-network attacks and signals jamming, and *information-psychological* operations, such as computer-enabled or psychological warfare.<sup>40</sup> Although both of these have precedent in the Soviet period, the current effort to integrate them into military operations is a recent development. The Russian military claimed to integrate information confrontation capabilities in a military exercise for the first time in late 2016. This exercise involved electronic warfare and information operations troops, General Staff subdivisions, and information security specialists.<sup>41</sup>

Many Russian defense analysts view opposing militaries' increasing reliance on technologically sophisticated communications networks as a key vulnerability that they hope to exploit to substantial effect.<sup>42</sup> Offensive information confrontation manifests at the tactical and operational levels in the form of company- to battalion-sized electronic warfare formations. These are tasked with jamming opponents' communications, obtaining signals intelligence, assisting in kinetic targeting, and defending against precision-guided weapons. Russia's military has continuously honed its employment of electronic warfare units since the first Chechen conflict and enacted deeper reforms after the 2008 Georgia war. The Russian defense industry has significantly updated electronic warfare platforms over the past decade. Some of these modernized EW platforms have been observed in use in Ukraine and Syria.<sup>43</sup> The Russian military aims to establish stronger electronic warfare capabilities at lower echelons, primarily by creating interoperable battalions throughout combined-arms armies and improving those units' equipment.<sup>44</sup> It is unclear, however, how well these forces would

perform in direct confrontation against NATO forces, as they have been employed in combat almost exclusively against poorly resourced opponents, many of which used post-Soviet military systems familiar to Russian specialists. As for computer-network operations, only one case—during Russia's intervention in Ukraine—is known to have connected military specialists to a possible tactical, kinetic effect, when the exploitation of a mobile phone application used by Ukrainian artillery personnel possibly allowed for effective Russian counterbattery fire.<sup>45</sup> Throughout the conflict, Russian military psychological operations specialists have tried to undermine Ukrainian soldiers' morale through SMS messages disseminated by drones, but these operations have had no discernible battlefield impact.<sup>46</sup> U.S. and NATO maneuver forces in combat against Russian formations would likely face a greater threat from tactical and operational-level electronic warfare forces than computer-network attacks, though a dearth of open-source information and available case studies limits a more comprehensive assessment.

The lack of public information about the Russian military's counterspace capabilities permits only a tentative prediction of which capabilities NATO would face during conflict and how Russia would employ them. As of early 2018, the U.S. intelligence community assessed that Moscow seeks to advance and operationalize anti-satellite capabilities including directed-energy weapons and potentially dual-purpose satellites that could conduct offensive actions in space against an adversary's satellite network.<sup>47</sup> Moscow claims continued progress on the A-235 "Nudol" antisatellite missile, which aims to provide enhanced range (compared with previous technology) while enabling kinetic, non-nuclear strikes against adversary missiles and

satellites.<sup>48</sup> Additionally, Russia boasts of having ground-based EW platforms capable of disrupting an adversary's satellite links, such as the Krasukha-4 mobile jamming system that might have disrupted GPS signals between U.S. satellites and unmanned aerial systems platforms operating in Syria in early 2018.<sup>49</sup>

### Rear and Theater Areas No Longer a Sanctuary

Russia, unlike adversaries with which the United States has typically engaged, has the ability to conduct large-scale strikes on rear and theater areas, often from the sanctuary of its territory. Long-range air-to-surface and surface-to-surface missiles are easily capable of targeting German air and sea ports, storage sites, and assembly areas, as illustrated in Figure 5. Many of the countries of central and northern Europe, in other words, are not directly threatened by a Russian invasion but would be threatened with Russian missile strikes if they participated in the defense of NATO frontline states. Some key systems of note include the Kh-101 (a long-range air-launched cruise missile with a range of 2,500–4,000 kilometers), the Iskander (capable of both short-range ballistic missile and ground-launched cruise missile attacks at ranges up to 500 kilometers), and the SS-C-5, a coastal defense cruise missile with a range of up to 350 kilometers. Moscow has reported that its Iskander ballistic missile capability is in compliance with the Intermediate Nuclear Forces treaty, but the United States has accused Russia of deploying the SSC-8, a version of the Iskander launcher armed with a cruise missile with a range of greater than 500 kilometers.<sup>50</sup> Russian surface ships and submarines carry the Kalibr family of sea-launched cruise missiles, which can carry conventional or nuclear warheads and exist in variants with ranges between

a few hundred and thousands of kilometers.<sup>51</sup> Although Russia could disrupt NATO deployment or rear-area sustainment and command and control in the initial stages of a conflict, its magazine of long-range conventional strike capabilities might be limited, which would prevent Russia from maintaining sustained pressure over time. Despite this, infrastructure and installations might still be vulnerable to sabotage or other lower level means of attack by special forces or Russian-aligned personnel.

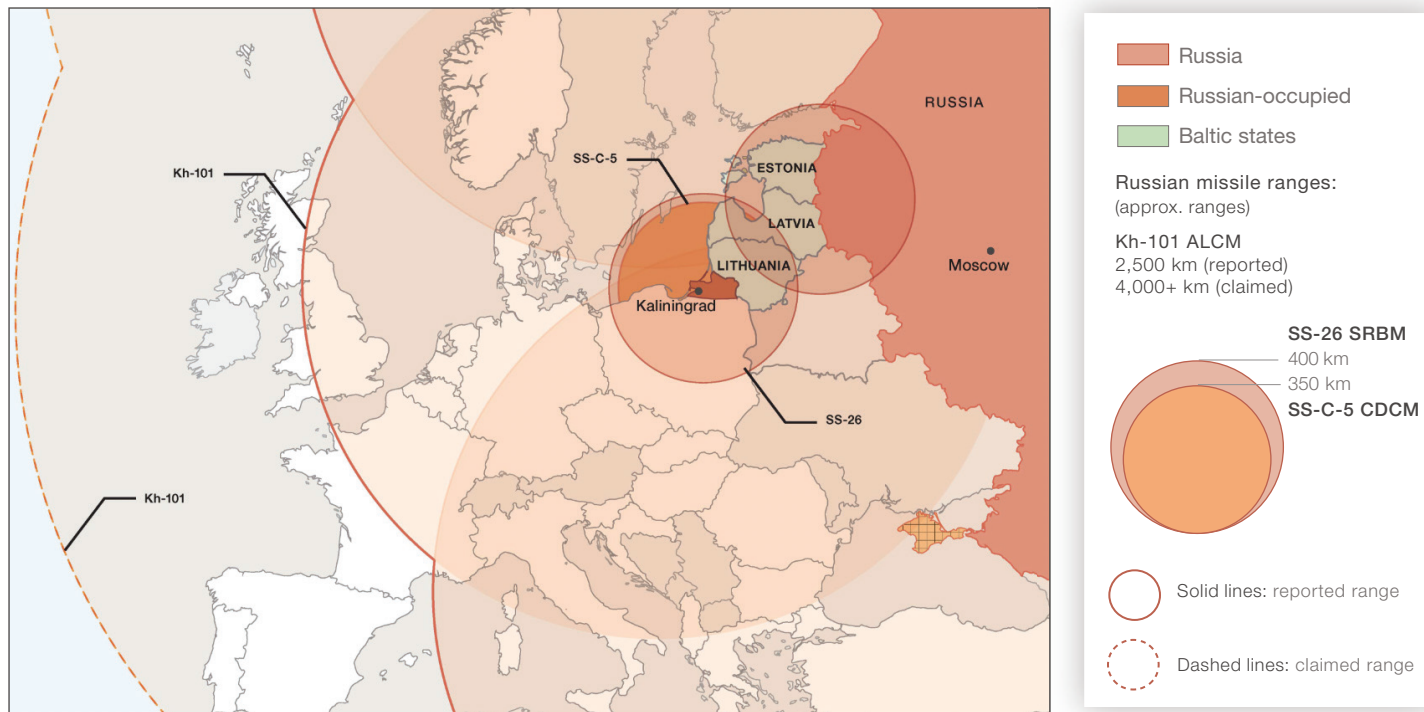
### The Nuclear Shadow

The possibility of escalation to nuclear use will cast a shadow over any military confrontation between Russia and NATO. The prospect of nuclear use, no matter how remote, will shape how NATO and Russia respond to each other's moves. The needs of escalation control will dictate how NATO can employ its conventional might against Russia, which boasts the world's most extensive arsenal of strategic nuclear weapons and NSNW. Unfortunately,

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The possibility of escalation to nuclear use will cast a shadow over any military confrontation between Russia and NATO.

FIGURE 5  
 Ranges of Selected Russian Surface-Strike Missiles



NOTE: ALCM = air-launched cruise missile; CDCM = coastal-defense cruise missile; SRBM = short-range ballistic missile.

nuclear escalation and use considerations are likely to severely constrain NATO's ability to exploit its conventional advantages to defeat Russia militarily.

Western observers disagree about the purpose of Russia's extensive arsenal of NSNW. During the Cold War, NATO contemplated limited employment of NSNW (including both "tactical" and "theater" weapons) as a means of offsetting the numerical superiority of Warsaw

Pact forces. In the post-Cold War environment, these roles were reversed: now Russia faces a much larger and better-armed NATO alliance. In the 1990s, Russian defense officials embraced limited nuclear use as a crutch to compensate for the inadequacies of the country's conventional forces. But it is not obvious how the Russian military environments employing its NSNW.

Western analysts often imagine that Russia will try to exploit NSNW in the same way NATO planned to during the Cold War. When “tactical” nuclear weapons were first introduced in the 1950s, there was considerable optimism in military and policy circles that these could be employed to defeat a Soviet invasion of Western Europe in the classical military sense—by physically destroying and disarming enemy forces while imposing only acceptable collateral damage. Although this view was briefly very influential, by the early 1960s it had fallen out of favor because of the increasingly obvious difficulties of tactical nuclear warfighting. Thornton Read, an American physicist, commented in 1962 that “tactical nuclear war is not an alternative to a conventional ground-holding ability for NATO, but a mechanism for carrying on punitive reprisals, as part of a bargaining strategy.”<sup>52</sup> Herman Kahn, a military strategist at RAND, concurred in his 1965 *On Escalation* that

almost every analyst is now agreed that the first use of nuclear weapons—even if against military targets—is likely to be less for the purpose of destroying the other’s military forces or handicapping its operations, than for redress, warning, bargaining, punitive, fining, or deterrence purposes.<sup>53</sup>

This attitude toward limited nuclear employment was influential within government circles as well. In July 1961, Thomas Schelling penned a memo, titled “Nuclear Strategy in the Berlin Crisis,” which enjoyed wide circulation within the Kennedy administration. In it, Schelling contended that “if nuclear weapons are introduced the main consequence will not be on the battlefield; the main consequence will be the increased likelihood and expectation of general

war.”<sup>54</sup> In short, limited nuclear use would serve a political purpose rather than a military one.

Western discussions of possible Russian limited nuclear use tend to assume that it will follow Schelling’s logic that the purpose of limited nuclear use is to convince the enemy “that the risk of general war is great enough to outweigh their original tactical objectives, but not so great as to make it prudent to initiate it pre-emptively.”<sup>55</sup> But it is not obvious from Russian doctrine or public statements that policymakers conceptualize limited nuclear use as what Schelling dubbed a “competition in risk-taking.” Instead, they might regard their NSNW as a usable military instrument that can be used to attain military objectives. This would be in keeping with what is known about Soviet-era planning for NSNW employment.<sup>56</sup> Moreover, achieving military objectives and coercive bargaining can complement each other. The case can also be made that the political efficacy of limited nuclear employment would be improved if it produced significant military benefits: as Bernard Brodie commented in 1964, “a demonstration use has to be militarily effective or it is likely to demonstrate the wrong things.”<sup>57</sup> In any case, NATO should take steps to minimize Russian perceptions that limited nuclear use could produce either exploitable military advantage or coercive political leverage.

A number of subject-matter experts have examined the nuclear dimension of a Russia-NATO conflict.<sup>58</sup> Their findings suggest that the Russians’ prospective nuclear weapons employment would not stem primarily from Moscow’s alleged “escalate to de-escalate” doctrine, but rather, that it would employ nuclear weapons to attain concrete military objectives, such as preventing NATO from destroying strategic assets located in or near the theater of operations that Russian leaders consider critical to their

national security, or to blunt NATO's ability to project military force into the Russian homeland. The low-yield nuclear "demonstrations" Westerners often envision as "escalate to de-escalate," meanwhile, are considered exotic by Russian military writers.<sup>59</sup>

Limited Russian nuclear attacks on NATO are credible not because of a "capability gap" in low-yield nuclear weapons, but rather because of a "vulnerability gap" in plausible targets for limited nuclear retaliatory strikes on Russia. Although NATO is vulnerable to Russian NSNW attacks on key military and infrastructure targets, almost all significant Russian military assets are located inside the Russian homeland, and, rhetoric aside, a NATO attack on Russian territory is liable to be much more escalatory than a Russian attack on targets in a non-nuclear NATO state such as Germany or Italy. A limited nuclear strike against the Russian homeland, irrespective of yield, is also liable to elicit retaliation against targets in the continental United States. Therefore, acquiring additional low-yield nuclear weapons is not accepted as a solution to this problem.

### What Role Do Nuclear Weapons Play in Contemporary Russian Military Planning?

Russia's status as a nuclear great power acts as an amplifier for Russia's limited conventional military capabilities in a sustained great power conflict. Recognizing this, Moscow has invested billions in recent years in maintaining, modernizing, and diversifying its nuclear arsenal.<sup>60</sup> Russian leaders are not glib about the possibility of nuclear war or the gravity of the decision to use nuclear weapons. They would probably only elect to use such weapons if the country were facing what they interpreted as an existential threat to their government.

Russian declaratory policy on nuclear weapons use follows a simple formula. In 2010, Moscow adopted a military doctrine stating that

the Russian Federation reserves the right for itself to use nuclear weapons in response to use against it and/or its allies of nuclear or other weapons of mass destruction, as well as in the case of aggression against the Russian Federation with conventional weapons when the very existence of the state is threatened.<sup>61</sup>

President Vladimir Putin quoted this doctrine in his March 1, 2018, speech introducing new nuclear weapons and characterized it as "concise, clear, and concrete."<sup>62</sup>

Unfortunately, public Russian doctrine is anything but clear or concrete on either the circumstances under which "the very existence of the state" would be so threatened that Russian leaders might resort to nuclear force or the way in which they might employ their weapons. The dearth of official statements about how Moscow might use its nuclear weapons—short of all-out strategic retaliation—has led to disputes among Western analysts about Russian doctrine. The inconsistency of Russian official statements on limited nuclear use and its NSNW has led some analysts to conclude that Russia does not actually have a coherent doctrine guiding policy.<sup>63</sup>

Much of this controversy revolves around the question of whether Russia plans to use its NSNW to "escalate to de-escalate." It should be emphasized that this phrase did not originate in the original Russian sources, which instead spoke of using threatened or actual nuclear use for the "de-escalation of aggression." This concept was articulated in a 1999 *Voennaia mysl'* (*Military Thought*) article, but the evidence that it was ever fully embraced by Russian

policymakers is mixed at best.<sup>64</sup> The Russian government openly broadened the conditions under which it might employ nuclear weapons at the turn of the century because of its extreme conventional weakness at that time. Since then, it has apparently tightened those conditions, given its revived conventional military capabilities, particularly the development of precision-strike weapons. But Western analysts generally agree that Russia plans for contingencies in which it might employ limited nuclear attacks for “coercive” purposes, even if these analysts disagree on whether these should be labeled “escalate to de-escalate.”<sup>65</sup>

Although the exact nature of Moscow’s plans to employ discriminate nuclear force is murky, it is readily apparent that Russian leaders attribute considerable importance to NSNW. Although the exact number of Russia’s NSNW is a closely kept secret, a commonly cited estimate is 2,000 warheads.<sup>66</sup> In recent years, Russia has invested considerable resources in new theater-range dual-capable delivery systems, including the Iskander-M short-range ballistic missile, the Kalibr family of cruise missiles, and the Kinzhal air-launched ballistic missile.<sup>67</sup> Russia’s willingness to risk flaunting the Intermediate Nuclear Forces Treaty by developing a banned ground-launched ballistic missile, the SSC-8, suggests that its leaders believe these systems are worth paying diplomatic and fiscal costs. This abundance of substrategic nuclear-capable systems gives Russia limited-use options far beyond the type of demonstration strikes typically envisioned by Western writers. As Brad Roberts observes, “On the basis of available evidence, there is no reason to believe that Russian leaders would cross the nuclear threshold easily. But once they crossed it, they would have options for diverse and continuous nuclear operations at the sub-strategic level that are truly unique.”<sup>68</sup>

## How Vulnerable Is NATO to Limited Nuclear Attack in a Conflict with Russia?

Western analysts have underappreciated the possibility that Russian NSNW could be employed for warfighting as opposed to brinkmanship.<sup>69</sup> But a case can be made that limited nuclear warfighting options might appear attractive to Russian decisionmakers during an extreme crisis. Russian defense theorists instead tend to envision limited nuclear use designed for military effect, which is consistent with what is known about Soviet planning for tactical nuclear weapons employment.<sup>70</sup> Because of the concentration of NATO military infrastructure at a small number of European sites, Russian planners might have credible military options for limited nuclear employment. Rather than a primarily symbolic “demonstration” strike, Russian leaders could employ a limited number of nuclear weapons to destroy NATO airbases and command, control, and intelligence facilities essential for mounting a conventional bombing campaign against Russia. Although Moscow would prefer to achieve this goal solely with conventional munitions, Russian military planners probably lack confidence that their stockpiles of conventional precision-guided missiles can be counted on to accomplish this mission while retaining significant reserves. Moscow only began large-scale procurement of conventional precision munitions relatively recently, and a combination of production bottlenecks and export sales constrains its ability to stockpile them in large quantities.<sup>71</sup>

The contemporary balance between NATO and Russia lacks these characteristics because of the asymmetry between the potential belligerents. NATO now extends to the Russian border, giving the Russians almost no strategic depth. Therefore, almost any NATO nuclear use, however

limited, would have to be against the Russian homeland. Although Russian forces in the territory of a NATO ally might be targeted, such targets might be difficult to localize and strike in an actual conflict because of rapid troop movement, limited situational awareness, and the complications imposed by Russian A2/AD systems for NATO ISR.<sup>72</sup> But more importantly, a nuclear attack on Russian forces in a country such as Estonia would be tantamount to nuking our allies to “save” them.

To be credible, limited nuclear options need to avoid being too escalatory. This requires an appropriate combination of weapon and target. Russia has a much larger number and diversity of NSNW than NATO, but more importantly, it has many more plausible targets for these weapons than NATO does. In practice, NATO’s conventional superiority to Russia depends on a limited number of high-value facilities, such as airbases, many of which are located on the territory of non-nuclear NATO allies such as Germany and Italy. Russian theater delivery systems, such as the SSC-8 and the Kinzhal, are ideal for targeting these “attractive nuisances” and would severely test attempts to protect them with theater missile defenses. Their destruction would leave NATO governments with the unappealing choice between nuclear attacks on the Russian homeland, which (limited or unlimited) would invite escalation to strategic nuclear war, or capitulating to Russian demands. The ability of NATO to wage a conventional war against Russia might be substantially eliminated after such attacks, thus radically improving the balance of forces for Moscow and enabling it to secure an otherwise unobtainable military victory over NATO.<sup>73</sup>

In addition to the escalation-control obstacle posed by the location of nearly all high-value Russian military targets within Russia proper, attractive targets for a limited

nuclear strike against Russia are difficult to identify. Russian military facilities tend to be either low-value or associated with the functioning of strategic nuclear forces or strategic air defenses. A low-yield nuclear attack on the former will not degrade Russian military capabilities to a meaningful degree, and *any* attack on the latter (including a conventional strike) invites strategic nuclear retaliation from Russia.<sup>74</sup> Because these targets are almost all inside Russia, they cannot be attacked without risking collateral damage to civilian populations.<sup>75</sup> Meanwhile, the United States and NATO have many high-value strategic assets, such as aircraft carriers, that Russia could target for symbolic purposes without causing undue collateral damage to civilians.

Because of this “vulnerability gap,” merely plugging the “capability gap” with new NATO low-yield nuclear weapons cannot be guaranteed to deter Russian limited nuclear use. Without appropriate targets, these weapons do not themselves enable credible limited nuclear employment options. Were U.S. leaders to respond to the Russian destruction of NATO airbases with its NSNW in a low-yield attack on Russian homeland targets, they could expect a response ranging from a tit-for-tat Russian nuclear attack against equivalent U.S. targets (possibly in the continental United States) to an all-out retaliatory strike (if the Russians interpreted the U.S. missile launch as an attempt at decapitation). In neither case does the U.S. attack improve the United States’ military or political position relative to Russia; therefore, the threat of it is far from a credible deterrent. Irrespective of any new NSNW that NATO acquires, there will still be a need to counter potential Russian perceptions that NSNW could be employed to usable military advantage. This requires measures to shield

NATO military infrastructure from nuclear attacks via hardening, defenses, redundancy, or all of the above.

## Conclusion

### Key Takeaways, Insights, Lessons Learned

Although the overall military power of the United States and the NATO alliance vastly outstrips that of Russia, a regional conflict close to Russia's borders would pose enormous challenges and could result in defeat for the West. Its relatively successful intervention in Syria notwithstanding, Russia's power-projection capabilities are modest compared with those of the Soviet Union, much less the contemporary United States. Around its periphery, however, Russia is a formidable adversary that enjoys considerable local overmatch against the easternmost NATO states. Although at present the Russian government appears to have little appetite to challenge NATO by exploiting this local advantage, the possibility that Russian leaders will be tempted to do so in the future cannot be ruled out.

Current Russian military capabilities have benefited from a decade of reform and modernization inaugurated by the 2008 war with Georgia. Although Moscow swiftly subdued the Georgians in that conflict, it revealed numerous inadequacies in Russian military equipment and practice. Transitioning away from the mass-mobilization draft army inherited from the Soviet Union, Russian officials evolved toward a smaller, more professional, dynamic force consisting substantially of contract soldiers. Moscow also expended considerable resources updating the Russian military's aging stockpile of weapons and military equipment. Russian successes in eastern Ukraine and its intervention in Syria show that these changes have been rather effective.

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The current Russian military boasts vastly greater capabilities than those of any adversary the United States has engaged with in combat in many decades.

The current Russian military boasts vastly greater capabilities than those of any adversary the United States has engaged with in combat in many decades. Moscow has fielded sophisticated (albeit untested) IADS that would complicate NATO efforts to secure air superiority. Russia could exploit the A2/AD bubble facilitated by these IADS to launch an air-supported ground invasion against NATO forces along its periphery. On the battlefield, Russia has continued the Soviet tradition of emphasizing massed indirect fires and various kinds of armor. Moscow also has a relatively limited arsenal of long-range strike weapons, including ballistic and cruise missiles, that can be employed in either a conventional or a nuclear role. Thanks to these strike capabilities, NATO rear and theater areas might offer little sanctuary from Russian attacks. Furthermore, Russia has modernized electronic warfare,

cyber, and counterspace capabilities tailored to undermine NATO's technical advantages.

The challenge of potential conflict with Russia is significantly exacerbated by Moscow's formidable nuclear arsenal. Moscow possesses the world's largest arsenal of NSNW. Even if these weapons are not used, they will play a considerable role in shaping a NATO-Russia war. Any conventional conflict with Russia will have to be fought in a way designed to limit the risk of nuclear escalation, which might constrain NATO from employing its full capabilities. For instance, NATO's SEAD/ destruction of enemy air defense campaign—needed to secure air superiority—might be treated as a highly escalatory threat by Moscow, eliciting an attack on the NATO facilities supporting it. Although there is little reason to believe that Russian leaders would take the decision to go nuclear lightly, if they did make such a decision, it appears that there are highly attractive countermilitary targets for NSNW such as airbases and command and control sites. The destruction of these could significantly diminish NATO's conventional advantages. Unfortunately, the acquisition of NSNW capabilities equivalent to those of Russia are not guaranteed to neutralize this problem: instead, Russian decisionmakers need to be convinced that limited nuclear use is unlikely to yield either military or political benefits.

Despite the advantages listed above, the Russian military would also face a number of challenges in a high-intensity conflict with the West. First, in the same way that nuclear deterrence might shape NATO war-planning efforts, Russia must also contend with the strategic nuclear capability of NATO. Second, the combination of a relatively small land force (nearly half of which is made up of conscripts) and the virtual absence of trained military reserves would constrain the Kremlin's ability to sustain operations

in a protracted war. Finally, modern military equipment and weapons, including long-range precision munitions, are neither deployed nor stockpiled in large quantities. As a consequence, despite its potential to swiftly seize territory in areas such as the Baltics, Russia, in addition to risking escalation to nuclear war, might struggle if the conflict drags on and NATO can bring its vastly larger resources to bear.

### Areas for Further Research

The military challenge posed by the potential Russian threat to NATO's eastern flank raises many issues that would benefit from additional research. These include potential Russian reactions to NATO's SEAD/ destruction of enemy air defense campaign directed against their IADS; the vulnerability of NATO's rear and theater areas to Russian long-range strikes; and the potential maritime component of a regional NATO-Russian conflict. The prospect of NATO-Russian conflict outside the Baltic region also deserves further study, as does comparative NATO and Russian competitiveness in a protracted war scenario. Russia's arsenal of NSNW and its potential employment of limited nuclear options also poses a vitally important puzzle for U.S. and NATO officials.

### Policy Implications

Our analysis in this Perspective suggests a number of possible policy implications. First, the addition of means to support suppression of Russia's outer western edge of air and coastal defense systems would increase the ability of NATO to more quickly establish air superiority in the event of a crisis. At the same time, the United States and NATO should be prepared for contingencies in which they

have to fight Russian forces without securing air superiority. Acquisition of additional medium-range air defenses and short-range air defenses could bolster NATO's ability to conduct operations within Russia's A2/AD bubble. Second, NATO should pursue reductions in deployment timelines through enhanced logistics capabilities to present a more-credible conventional deterrent against Russian aggression. Third, hardening C4ISR infrastructure against electronic attack would lessen the impact of Russian capability and ensure the information superiority of NATO throughout a conflict. Fourth, to raise the threshold for either conventional or nuclear attack on critical NATO infrastructure such as airbases, NATO should take steps to

reduce the vulnerability of these assets. These steps could include hardening, dispersal, redundancy, and active-defense systems. NATO should also, where practical, try to reduce reliance on unique, high-value facilities that could be targeted by Russian precision strike weapons. Finally, the overall military and economic superiority of NATO and Russia's lack of reserves makes Russia relatively vulnerable to protracted conflict. NATO should explore steps aimed at convincing Russian leaders that aggression against the alliance could elicit a campaign that exhausts Moscow's military and economic resources that would more than cancel out the gains from any conceivable fait accompli.

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<sup>71</sup> On Russian precision fires, see Radin et al., 2019, Appendix G.

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<sup>74</sup> Vladimir Putin emphasized this point in his March 1, 2018, speech, stating that the kind of limited U.S. nuclear strike on Russia postulated in the U.S. Nuclear Posture Review would elicit “instantaneous” nuclear retaliation from Russia. Putin, 2018.

<sup>75</sup> While Western analysts often postulate that Russian NSNW use would involve low-yield nuclear attacks designed to minimize collateral damage, it is not clear that Russian military planners try to limit harm to civilians. Some civilian casualties might even be a “bonus” from an escalation-control standpoint, because they could increase pressure on adversary political leaders to reduce the risk of escalation to general war, incentivizing them to capitulate. In any case, a militarily effective, limited nuclear strike with negligible collateral damage to noncombatants against significant NATO land targets is not necessarily physically realistic.

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## About This Perspective

*The research reported here was completed in June 2019, followed by security review by the sponsor and the Office of the Chief of Public Affairs, with final sign-off in May 2021.*

This Perspective documents research and analysis conducted as part of a project entitled *Comprehensive Strategy for Meeting Five Russian Challenges*, sponsored by the Office of the Deputy Chief of Staff, G-3/5/7, U.S. Army. The purpose of the project was to develop a strategy to assess the connections and interactions among the major problems and challenges the United States and NATO might face with Russia in a war or other hostile environment and provide policy options for decisionmakers.

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