

1. SECURITY AND GEOPOLITICS

DEFENDING THE BORDERS OF RUSSIA: COMPARING RECENT MILITARY DEVELOPMENTS IN CRIMEA AND THE RUSSIAN ARCTIC

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ABSTRACT

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In 2014, Russia annexed Crimea and established a joint strategic command for the North. Both these events were culminations of a program of military reform launched in 2008, but also in turn demanded further reforms to Russian tactics and operational concepts as Crimea and the Arctic needed to be integrated into defense plans. Over the past four years, Russia has stood up multiple new units in these regions while training servicemen in anti-access area denial (A2AD) tactics to defend them. This paper assesses this process, finding more similarities than differences in the new Russian border defense concepts between these two very different regions.

KEY WORDS

Russia, Security, Arctic, Crimea, Northern Sea Route, Coastal Defense, A2AD, UAV, Cruise Missile, Russian Navy, Air Defense, Arctic Ocean, Black Sea, Tactics, Russian Military Modernization.

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When the opponent is Positioned, we must appear without Position.
As a result, we may focus while the opponent must divide.
Sun Tzu, *The Art of War*¹

Introduction

With a declining population and a massive landmass, the Russian Federation faces a substantial number of potential defense challenges. The annexation of Crimea and opening of the Northern Sea Route (NSR) through the Arctic add to these challenges by substantially lengthening the accessi-

ble Russian border. Strategically, annexing Crimea anathematizes Russia to the West; in parallel, a small population adjacent to a growing major power in the Far East forces Moscow to appease the People's Republic of China in Asia.

¹ Sun Tzu, *The Art of Strategy: A New Translation of Sun Tzu's Classic 'The Art of War'*, translated by R.L. Wing, Broadway Books, New York, 1988, p. 83.

Traditionally, Russia coped with the challenges of its massive size with superior mobilization capabilities and internal lines of communication: any aggressor attacking Russia could be led deep into the country and overwhelmed by superior numbers at a rather low cost relative to that of the enemy. Both these advantages are waning despite government efforts. Command-and-control (C2) reforms² and propaganda campaigns to improve the popular perception of the Russian Armed Forces have not dented political pressure to end conscription.

Crimea adds further responsibilities to an increasingly stretched Russian military: it is a detached peninsula connected to mainland Russia only in 2018 by a single bridge over the Strait of Kerch,³ a bridge which is already causing international diplomatic⁴ and military incidents⁵. On the other side of Russia, the opening of the NSR again exposes the isolation and remoteness of the Russian Arctic ports. The extremely long Russian Arctic coastline is becoming vulnerable to a potential seizure just as its value is increasing and the Russian military is busy elsewhere.

To buttress itself against these challenges, Russia has adopted a new tranche of anti-access area denial (A2AD) technology and tactics to retain control over these regions even without its traditional advantages. This paper examines both these trends; though Russia is experimenting with new defensive concepts across most of its territory, this paper will focus on Crimea and the Arctic coastline for brevity's sake as exam-

ples of two completely different challenges Russia must simultaneously address in the twenty-first century.

I. The New Edges of Russia

The dissolution of the Soviet Union rewrote the map of Eurasia and, and changed the geostrategic assumptions of the Russian Armed Forces. Not all lost territories carried the same significance. Russian diplomats fought far more contentiously for the retention of some bases in non-Russian post-Soviet space than for others. Among those contentious bases, none was more fraught than the Black Sea Fleet headquarters on the Crimean peninsula.

Russian legal opinion on the proper legal status of Crimea is not new, however, it is not relevant to the subject of this paper⁶. Although most agreements on Russian bases, still in effect in 2018 or concluded to allow a phased withdrawal of Russian military infrastructure from the former Soviet periphery, had been concluded by 1994,⁷ the final agreement on the basing of the Russian Black Sea Fleet on sovereign Ukrainian territory was only reached on 28 May 1997⁸. The agreement prohibited the modernization of the Black Sea Fleet and rapidly reduced its capabilities, falling from 894 total task elements in 1992 to 60 in 2007, most of them already in service for 25-30 years, while subsurface capabilities were reduced to only one operable

² "Voенно-prakticheskaya konferentsiya po itogam spetsoperatsii v Sirii," Kremlin.ru, 30 January 2018, <http://kremlin.ru/events/president/news/56750>.

³ "Putin otkryl Krymskiy most," RIA Novosti, 15 May 2018, <https://ria.ru/society/20180515/1520594992.html>.

⁴ "The Opening of the Kerch Bridge in Crimea," United States Department of State, 15 May 2018, <https://www.state.gov/r/pa/prs/ps/2018/05/282116.htm>.

⁵ "Ofitsial'naya rossiyskaya versiya intsidenta s ukrain-skimi katerami v rayone Kercheskogo proliva," BMPD Blog, 27 November 2018, <https://bmpd.livejournal.com/3430077.html>.

⁶ A useful primer on the official Russian justification why Crimea was only tenuously attached to Ukraine, and why therefore a simple referendum should be sufficient to annex the peninsula to the Russian Federation can be found in Vasilii Kashin, "Khrushchev's Gift: The Questionable Ownership of Crimea," *Brothers Armed: Military Aspects of the Crisis in Ukraine* edited by Colby Howard and Ruslan Pukhov, Centre for Analysis of Strategies and Technologies, Moscow, 2014, p. 1-21.

⁷ International Institute for Strategic Studies, *The Military Balance, 1994-1995*, Brassey's, 1994, p. 76-78.

⁸ Colonel O.A. Piven', "Chernomorskiy flot Rossii v Krymu itogi i perspektivy razvitiya," *Voennaya mysl'*, Issue 7, 2008, p. 2-11.

vessel⁹. Russian efforts to transfer some of the basing of the Black Sea Fleet from the diplomatically problematic situation at Sevastopol to the port of Novorossiysk on the coast of Russian Krasnodar Krai were only partially successful due to the limited capacity of the latter port¹⁰.

However, the 1997 treaty offered an informal understanding between Russia and Ukraine: though Ukraine may not be party to Russia-led security alliances such as the Collective Security Treaty Organization (CSTO), it would similarly remain aloof from Western-aligned groups, most especially the North Atlantic Treaty Organization (NATO)¹¹. Since the 2004 Orange Revolution in Ukraine, Moscow has watched Ukraine's increasing cooperation with the West with growing suspicion that this tacit agreement may no longer be valid. After the 2008 NATO Bucharest Summit's invitation of eventual membership to Ukraine (and Georgia),¹² Russian foreign policy adopted overt political and diplomatic actions to intervene¹³.

The pro-Russian Yanukovich Administration in Ukraine in power between 2010 and 2014 failed to fix Russia's perceived shortcomings in the arrangement over the Black

Sea Fleet basing other than its duration¹⁴. When in 2014 Ukraine tilted heavily toward the West in the wake of the Euromaidan Revolution, Russia took military action that resulted in the annexation of the peninsula but left the bulk of Ukrainian territory far more conducive to support future NATO activities. The effect on the net balance of Russian strategic depth is illustrated in Figure 1.

Figure 1 illustrates not only the potential peril of NATO-aligned Ukraine to Russian command and control in Moscow, but also the lengthening of the absolute border Russia must cover. If Russia considers Belarus an extension of its own security, as it is sometimes claimed, this border area increases further. However, Russian control of Crimea offers a similar security dilemma for Ukraine as well as improved Russian access to the Black Sea.

⁹ Ibid.

¹⁰ "V Novorossiyske torzhestvenno otmetili 24-yu godovshchinu so dnya obrazovaniya Novorossiyskoy voennoy morskoy bazy," Russian Ministry of Defense, 8 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12194730@egNews.

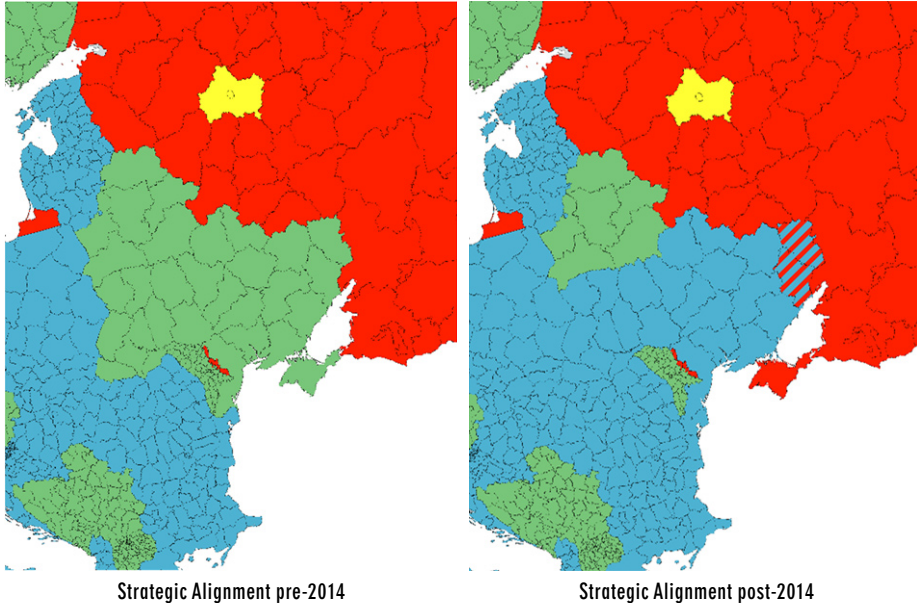
¹¹ A separate 1997 Treaty of Friendship, Cooperation, and Partnership between the Russian Federation and Ukraine similarly does not explicitly state this, but a general commitment to border inviolability and the non-use of force or threat of force or other methods of pressure is included in Article 3. *Dogovor o druzhbe, sotrudnichestve i partnerstve mezhdru Rossiyskoy Federatsiei i Ukrainoy*, <http://docs.cntd.ru/document/1902220>.

¹² Article 23, "Bucharest Summit Declaration," NATO, 3 April 2008, https://www.nato.int/cps/us/natohq/official_texts_8443.htm.

¹³ "Vnezhnepoliticheskaya deyatel'nost' Rossiyskoy Federatsii v 2008 godu," Russian Ministry of Foreign Affairs, 2008, p. 50.

¹⁴ Luke Harding, "Ukraine extends lease for Russia's Black Sea Fleet," *The Guardian*, 21 April 2010, <https://www.theguardian.com/world/2010/apr/21/ukraine-black-sea-fleet-russia>.

Figure 1. European strategic alignment on Russia's frontier before and after 2014. The disappearance of a Ukrainian neutral space brings a potentially NATO-friendly space far closer to Moscow (yellow) in another strategic direction. Belarus is colored a neutral green because, though a member of the Russia-aligned CSTO alliance, it retains an official policy of neutrality¹⁵ and has repulsed Russian attempts to place Russian units on its territory¹⁶



On the opposite side of Russia, the Arctic simultaneously poses a new challenge to Russian security. Historically, much of Russia's Arctic coast was closed by ice and was dismissed as strategically unimportant. Only when the First World War closed both the Baltic and Black Seas to Russian trade was the ice-free port of Murmansk in the High North built. Murmansk served as a vital supply pipeline to the West during both world wars¹⁷. During the Cold War, Murmansk and the larger Kola Peninsula

became an extremely militarized region as it offered the Soviet Navy the most uninhibited path to the North Atlantic Ocean¹⁸.

However, the rest of the Russian Arctic coast was militarily neglected not only due to difficult meteorological conditions but also the fact that it would be extremely difficult for hypothetical enemies to attack there. Only submarines could transit the NSR and sailors considered this an especially dangerous 'cruise'¹⁹. Climate change and the increasing NSR traffic have created the possibility of economic development for a long-neglected region comprising 65% of Russian territory²⁰. Official military publications meanwhile betray fear that the United States, Norway, and Canada will seize Rus-

¹⁵ Colonel S.L. Lemeshevskiy, "O nekotorykh voprosakh obespecheniya boennoy bezopasnosti Respubliki Belarus' v vozduzhnoy sfere," *Voennaya mysl'*, Issue 10, 2005, p. 39-43.

¹⁶ Alastair Macdonald, "Eyeing possible Polish U.S. base, Belarus says no Russian base, for now," *Reuters*, 31 May 2018, <https://www.reuters.com/article/us-belarus-eu/eyeing-possible-polish-u-s-base-belarus-says-no-russian-base-for-now-idUSKC-N11W339>

¹⁷ Alexander Hill, "Russian and Soviet Naval Power and the Arctic from the XVI Century to the Beginning of the Great Patriotic War," *Journal of Slavic Military Studies*, Issue 3, 2007.

¹⁸ Hugh Faringdon, *Strategic Geography: NATO, the Warsaw Pact, and the Superpowers*, 2nd edition, Routledge, New York City, 1989, p. 296.

¹⁹ Vice-Admiral R.A. Golosov, "Osvoenie Arktiki I podvodniy flot Rossii," *Voennaya mysl'*, Issue 3, 2006, p. 46-52.

²⁰ *Ibid.*

sian subsurface resource rights in the region²¹. By 2018, China too had joined the race into the NSR market, propagandizing the 'Polar Silk Road' to accompany its larger 'Belt and Road Initiative' of Eurasian integration²².

These forces have driven increased Russian military interest in defending the Arctic frontier²³ despite its remoteness and challenging demographic problems. In late 2014, to less Western attention than that given to the annexation of Crimea, Russia established a separate Arctic strategic command to coordinate defense in the polar region²⁴.

These two challenges appear different for a number of reasons: Crimea is a very small geographic area compared to the Arctic and features long-established infrastructure compared to the remote and neglected northern tundra. Furthermore, Crimea has a long history of major military installations whereas only Murmansk, Arkhangelsk, and Novaya Zemlya, all in the farthest western section of the Russian Arctic under the influence of the Gulf Stream, have any significant military history in the North. However, Russia has adopted surprisingly similar technological and increasingly tactical approaches to the defense of these two edges since 2014. Comparing these very different challenges offers therefore a glimpse into the broader trends of Russian military thinking in the recent years.

II. Rethinking Military Practice after the Soviet Union

The central defensive concept of the Soviet Union was the garrison state: all resources could be swiftly adjusted to wartime and a variety of in-place military assets could immediately spring into action. Further rearward assets formed subsequent echelons, and the reserves (i.e. the entire Soviet adult male population) were organized into yet more echelons. Popular hatred for this model of minimum-time bulk mobilization contributed to the collapse of the Soviet Union.

Russia initiated many reforms to the Russian Armed Forces after 2008 to address the changed global security environment²⁵ following decades of a willful neglect exacerbated by the demands of the Chechen Wars and the 2008 Georgian War. However, Russian officers had already written extensively on ways to rethink Russian defense after abandoning the Soviet model and the emergence of new borders to defend. In the years since 2008, many of these concepts have been demonstrated in the reforms to the Russian order of battle and military exercises.

In the Soviet era, units had been concentrated in peacetime overwhelmingly on the anticipated vectors of a crushing offensive. Some of these units were kept fully manned while in others manning could be substantially reduced but they were still fully equipped²⁶. Today's Russian units are more diffusely based, though with clear anchoring points. Figure 2 illustrates where Russian units are currently located based on how many services of the Russian Armed Forces have bases in each Russian region. Figure 3 presents the same information

²¹ Ibid.

²² "Chinese Arctic cargo ship sails from Arctic Circle to France," People's Daily, 3 September 2018, <http://en.people.cn/n3/2018/0903/c90000-9496670.html>.

²³ "Rukovodyashchii sostav Severnogo flota obsudit sposoby neytralizatsii ugroz bezopasnosti Rossii v Arktike," Russian Ministry of Defense, 12 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12207836@egNews.

²⁴ "Russia's Defense Ministry establishes Arctic Strategic Command," TASS, 1 December 2014, <http://tass.com/russia/764428>.

²⁵ See the various reports of the Swedish FOI agency to observe the development of Western perception of Russian military capabilities.

²⁶ International Institute for Strategic Studies, *The Military Balance, 1985-1986*, London, 1985, p. vii.

excluding strategic units such as strategic nuclear forces unlikely to participate in a limited conflict. As can be observed, the units' disposition forms a large horizontal "T" overlaid on the map in Figure 4.

Figure 2. How many services of the Russian Armed Forces (i.e. Ground Forces, Airborne Troops, Aerospace Force, Navy, Strategic Forces) possess a base in each region of the Russian Federation



Figure 3. How many services of the Russian Armed Forces possess a base in each region of the Russian Federation excepting the strategic forces (e.g. Strategic Rocket Forces, Long Range Aviation, etc.).



Figure 4. The general disposition of Russian units overlaid with a "T" to demonstrate the general scheme of the location of Russia's conventional forces in the 21st century. Units in the central region of Krasnoyarsk Krai are concentrated in the southern extreme of the region, reinforcing the motif. The two lines appropriately converge at Moscow



These figures show how Russia concentrates its conventional forces along its border areas, but most prominently in three regions:

1. The area around the major cities of Moscow and St. Petersburg aligned West
2. The North Caucasus
3. The Chinese border

This general arrangement is reflected in the consolidation of Russia's military districts in 2010, which reduced the total number of districts to four. Three – Western, Southern, and Eastern – correspond to those three concentration points, whereas the remainder comprises the vast Central Military District.

The Russian Ministry of Defense also distributes many press releases on its exercises every day. Though these are selective,²⁷ the frequency of reports in individual Russian regions offers another glimpse into the concentration of Russian military focus. Figure 5 maps the frequency of reported Russian military exercises over the entirety of the 2018 academic year (i.e. December 2017 – November 2018).

²⁷ For instance, the Russian Aerospace Forces claimed that the Eastern Military District alone conducted 9,000 strike missions during exercises over the course of the 2018 academic year. However, only several hundred at most of these were reported in individual press releases over that period. "V tekushchem godu aviatsiya VVO vypolnila bolee 9 tysyach bombometaniy, strel'b I puskov raket," Russian Ministry of Defense, 26 November 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12205572@egNews.

Figure 5. The number of exercises individually reported by the Russian Ministry of Defense over the course of the 2018 academic year, December 2017 – November 2018. Recall that this exercise year included the strategic-operational exercise Vostok-2018 located primarily but not exclusively in Zabaykalskiy Krai in the East



Figure 5 retains an emphasis on the three regions, though narrows the focus to some extent. Again, it should be emphasized that exercise activity in Krasnoyarsk Krai – the large vertical region in the center of Russia – was concentrated overwhelmingly in the southern extremity. With this metric, it appears that exercises are overwhelmingly concentrated near the fleet headquarters in the various corners of the country, including Crimea in the Southwest. It also suggests a relative absence of military coverage across the extensive if sparsely populated Arctic frontier.

However, these statistics and maps distract from the greater trend in Russian rethinking of defense of the borders. In the first years of the 21st century, the Russian Armed Forces faced a dire combination of increasing enemy military capabilities, an expanding field of potential adversaries as NATO expanded, a collapse in resources allocated for defense, and the inability to

apply the traditional Soviet solution of simply standing up more units across the anticipated vulnerability. This threat inspired two alternative evolutions in Russian defense thinking:

1. Transitioning defensive units from protecting individual high-priority objects to the defense of broader regions, and
2. Training individual units to defend (or attack) not fixed areas but a sequence of anticipated targets within an operational-level space²⁸.

Russia's military appears to have adopted both these ideas in practice: non-strategic military units have been reoriented not to defend vital military objects²⁹ but rather offer military solutions to problems in a wider area of responsibility in a sort of technology-enabled defense-in-depth.

²⁸ Major-General V.F. Pyrkovskiy and Colonel A.P. Korabel'nikov, "O novykh podkhodakh k sozdaniyu perspektivnoy protivovozdushnoy oborony Rossiyskoi Federatsii," *Voennaya mysl'*, Issue 2, 2007, p. 22-27.

²⁹ As they frequently officially did in the Soviet era.

The exceptions to this transformation appear to prove the rule. Russia's Strategic Rocket Forces (RVSN) are perhaps one of the most strategically necessary units of the country: they offer the most potential nuclear firepower in the event of a major war, and therefore simply must be defended so that they can remain viable in either negotiating a world-saving peace or executing a strategic nuclear operation. In standard exercises among these forces, they practice maneuvering their assets to launch pads while resisting enemy special operations forces (SOF) disruption³⁰ or overcoming other sabotage efforts such as minefields or chemical, biological, radiological, and nuclear (CBRN) weapons³¹ with organic anti-saboteur units³². Indeed, at the end of the 2018 academic year, Russian Strategic Rocket Forces (RVSN) Commander Colonel-General Sergei Karakev declared that his forces were now fully protected from potential air and sabotage attacks through a combination of improved tactical training and procurement of specialized technology.³³ The significance is an assumption of the RVSN's ability to defend itself during a broader conflict, relieving Russia's reduced operational-tactical forces from this task.

³⁰ Defined by the Russian term "diversionno-razvedyvatel'naya grupa" or "sabotage and reconnaissance group". "Pod Novosibirskom v usloviyakh nizkikh temperature avtonomnye puskovye ustanovki PGRK 'Yars' vyshli na marshruty boevogo patrolirovaniya," Russian Ministry of Defense, 4 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12206752@egNews.

³¹ For example, "Strategicheskie raketniki proveli polnuyu spetsial'nuyu obrabotku puskovykh ustanovok 'Yars'," Russian Ministry of Defense, 11 October 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12209107@egNews.

³² "Protivodiversionnye formirovaniya". "Raketnye komplekxy 'Yars' smenili pozitsii v khode takicheskikh zanyatiy," Russian Ministry of Defense, 12 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12207889@egNews.

³³ "Soedineniya RVSN zashchitshcheny ot lyubvykh ugroz s vozdukhа I diversiy," Russian Ministry of Defense, 21 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12209107@egNews.

By contrast, non-strategic Russian units have stood up organic Military Police units³⁴ and specialized "anti-terror" units³⁵ to counter attacks against key vulnerable objects, freeing the maneuver units to operate elsewhere. Maneuver units in turn have begun to use small, expendable unmanned aerial vehicles (UAVs) to identify enemies at very long distances,³⁶ the *Strelets* navigation system to coordinate small-unit counteractions,³⁷ and then destroy the enemy either through artillery³⁸ or friendly forces insertion³⁹. These tactics explain how Russia still exercises border control over an enormous country with far fewer troops than it possessed in the Soviet era.

The use of tactical ballistic missiles (TBMs), air- and sea-launched cruise missiles (ALCMs and SLCMs), and coastal defense missiles to rapidly strike identified high-priority targets complements these rapid-reaction tactics. These tactics are less novel than those outlined above but offer a consistent means to counter enemy large targets. Hypothetical targets

³⁴ "Vzvody voennoy politsii v 2019 godu poavyatsya v kazhdoy divizii I armii," Russian Ministry of Defense, 20 November 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12204886@egNews.

³⁵ "V VVO proshli vnezpnye proverki podrazdeleniy antiterrora," RIA Novosti, 5 October 2018, <https://ria.ru/20181005/1530024986.html>.

³⁶ "Motostrelki TsVO v Tuve unichtozhili uslovnogo protivnika v gornom ushchel'e," Russian Ministry of Defense, 9 October 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12199136@egNews.

³⁷ "V Tadzhikistane na ucheniyakh primenili sovremennye komplekxy razvedki, upravleniya I svyazi 'Strelets' I radiostrantsii 'Azart'," Russian Ministry of Defense, 20 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12196200@egNews.

³⁸ "Artileristy Baltiyskogo flota v khode planovogo ucheniya vypolnyayut strel'by po vnezapno poavlyayushchemusya uslovnomu protivniku," Russian Ministry of Defense, 3 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12193951@egNews.

³⁹ "'Terminatory' YuVO vperve otrabotali perebrosku aeromobil'nykh grupp v tyl uslovnogo protivnika," Russian Ministry of Defense, 11 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12207645@egNews.

publicly disclosed in these missile exercises include enemy command posts (or C2 nodes),⁴⁰ air defense sites,⁴¹ naval surface action groups (SAGs),⁴² submarines,⁴³ carrier strike groups (CSGs),⁴⁴ airbases,⁴⁵ and enemy cruise⁴⁶ and ballistic missiles.⁴⁷ These capabilities have given rise to the infamous “missile bubble” maps showing the potential range of deployed Russian assets from forward locations⁴⁸. These maps are of marginal utility as the missiles will be sea-

and air-launched in addition to the more cartographically-friendly ground-launched ones.

This combination of stand-off ranged missile capabilities and remote-controlled rapid-reaction tactics form the linchpin of modern Russian A2AD strategy. It offers sufficient flexibility for defending a large amount of territory while also offering options for precision strikes. Its key strength is that the same tactical concepts serve Russia well in likely offensive and defensive situations: units can use rapid-reaction capabilities to quickly isolate and destroy key targets ahead of a conventional advance in an offensive and respond to disparate attacks from an enemy in the event of horizontal escalation against Russia's vast borders during a separate conflict.

Because of this simplification, though Crimea and the Arctic appear to be opposites in the Russian manner of deploying capabilities and exercising forces, they are actually following a similar pattern of defensive buildup. The difference between them is one of geographical scale rather than tactics:

- Crimea is a geographically small area, commands strategic ports and airbases on its own territory, and forms the first line of defense against enemy missiles originating from the Black Sea region travelling toward Moscow.
- The Arctic frontier is enormous but of little strategic value on its own merit. Instead, it offers a vast relatively undefended area over which an enemy may launch missiles at Moscow or isolate Russian regions from friendly forces.

In both cases, the risks to the Russian Federation can be defined as the ability to strike Moscow during a local, regional, or

⁴⁰ "Raschyoti OTRK 'Iskander-M' raketnogo-soedineniya YuVO uchilis' unichtozhat' punkty upravleniya uslovnogo protivnika v Severnoy Osetii," Russian Ministry of Defense, 3 October 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12198044@egNews.

⁴¹ "V khode ucheniya v Zabaykal'e Raschyoti OTRK 'Iskander' VVO unichtozhili kompleksy PVO uslovnogo protivnika," Russian Ministry of Defense, 22 November 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12205143@egNews.

⁴² "Boevye raschyoty kompleksov 'Bereg,' 'Bal,' i 'Bastion' Chernomorskogo flota uspesшно otrazili ataku korabley uslovnogo protivnika," Russian Ministry of Defense, 6 October 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12198611@egNews.

⁴³ "Noveyshiy korvet 'Gromkiy' v khode gosudarstvennykh ispytaniy vpervye primenil protivolodchnyy kompleks 'Paket'," Russian Ministry of Defense, 7 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12207126@egNews.

⁴⁴ "Raketchiki-baltiysy proveli elektronnyye puski protivokorabel'nykh raketami po uslovnym tselyam v Baltiyskom more," Russian Ministry of Defense, 7 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12207214@egNews.

⁴⁵ "Raketchiki VVO na polevom zanyatii v Zabaykal'e unichtozhili polevoy aerodrome uslovnogo protivnika," Russian Ministry of Defense, 17 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12208398@egNews.

⁴⁶ "Boevaya aviatsiya YuVO otrazila massirovannyy raketnyy udar uslovnogo protivnika v nebe nad Krymom," Russian Ministry of Defense, 24 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12196745@egNews.

⁴⁷ "Istrebiteli MiG-31BM unichtozhili uslovnuyu ballisticeskuyu raketu v nebe Zabaykal'ya," Russian Ministry of Defense, 21 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12196447@egNews.

⁴⁸ Only one open-source example is Robbie Gramer, "This Interactive Map Shows the High Stakes Missile Stand-Off Between NATO and Russia," Foreign Policy, 12 January 2017, <https://foreignpolicy.com/2017/01/12/nato-russia-missile-defense-stand-off-deterrence-anti-access-area-denial/>.

large-scale war⁴⁹ and the threat to Russian territorial integrity⁵⁰.

To demonstrate this similarity in military concept albeit difference in geography, this paper will conclude with an overview of the ongoing Russian military deployments in Crimea and the Arctic. In both cases, missile units have been introduced to provide a broad range of offensive and defensive options with organic but separate point defense capabilities while relatively few maneuver units practice rapidly reacting to potential intrusions over potentially very long distances.⁵¹

III. Crimean Deployments

Even before its 2014 annexation into the Russian Federation, Crimea was a relatively militarized region. In 2014, 12% of Ukraine's Armed Forces were stationed in Crimea despite having only 5.6% of the Ukraine's total population⁵².

Though Western analysts during the Cold War thought Crimea an "unsinkable aircraft carrier" capable of projecting naval aviation into the Mediterranean Sea,⁵³ the Soviets considered Crimea too far away

to provide consistent cover of the region⁵⁴. Instead, Crimea's main military assets were its Black Sea port at Sevastopol and its position to protect against enemy's air and missile asset launches from the NATO members, Greece and Turkey, toward Moscow. Therefore, during the Soviet era, Crimea was home to a substantial amount of air defense⁵⁵ as well as the Black Sea Fleet.

The 1996 division of the Black Sea Fleet gave Russia control over only three of ten Crimean port facilities and two of six airfields while also limiting the ability to modernize assets technically stationed on sovereign Ukrainian territory⁵⁶. In addition, Russia retained a naval infantry brigade in Sevastopol. Almost immediately after the annexation, Russia began removing outdated technology, especially naval aviation⁵⁷ and submarines⁵⁸. Indeed, Russia added more submarines to the Black Sea Fleet than it can legally maintain in the sea according to the Montreaux Convention, requiring it to keep at least two of them permanently deployed in the Mediterranean Sea at all times⁵⁹.

These new ship deployments have enabled Russia to field an increased number of modernized sea-launched cruise missiles (SLCMs) into the Black Sea. SLCMs

⁴⁹ The three larger of four types of warfare anticipated by the Russian Federation in its 2014 military doctrine. Article 8, clauses e, zh, z, Kremlin, 25 December 2014, <http://static.kremlin.ru/media/events/files/41d527556bec8deb3530.pdf>. English text approved by Russian Embassy in the United Kingdom: <https://rusemb.org.uk/press/2029>.

⁵⁰ *Ibid*, Article 12, clause d.

⁵¹ Russian maneuver units still exercise for standard offensive tactics as well as larger defensive stands. These are generally practiced in modular training sessions and then are occasionally integrated into a comprehensive company- or battalion-level exercises aimed at standing up ad hoc tactical groups. It is beyond the scope of this paper to assess larger tactical concepts practiced by these units or whether individual units can conduct these traditional missions and rapid-reaction missions simultaneously. It should nevertheless be emphasized that the tactics indicated in this paper are not the exclusive focuses of the Russian Armed Forces today.

⁵² Anton Lavrov, "Russian Again: The Military Operation for Crimea," *Brothers Armed: Military Aspects of the Crisis in Ukraine*, edited by Colby Howard and Ruslan Pukhov, East View Press, Minneapolis, MN, p. 157-159.

⁵³ Faringdon, p. 199.

⁵⁴ Captain 1st rank V.V. Zaboriskiy, "Protivovozdushnaya oborona 5-y (Sredizemnomorskoy) eskadry VMF v 1970-1972 godakh," *Voennaya mysl'*, Issue 1, 2007, p. 59-71.

⁵⁵ "1st Air Defence Division," *Soviet Armed Forces, 1945-1991*, <http://www.ww2.dk/new/pvo/1dpvo.htm>.

⁵⁶ Dmitry Boltenkov, "History and Disposition of Russian Forces in Crimea," *Brothers Armed: Military Aspects of the Crisis in Ukraine*, edited by Colby Howard and Ruslan Pukhov, East View Press, Minneapolis, MN, p. 137.

⁵⁷ Vladimir Tuchkov, "V Krymu protilis' s Su-24," *Svobodnaya Pressa*, 2 October 2016, <http://svpressa.ru/war21/article/157729/>.

⁵⁸ Piven, p. 2-11.

⁵⁹ The currently two submarines in the Mediterranean, the *Kolpino* and *Veliky Novgorod*, have been there for almost 18 months at the time of writing. "Rossiya napravit v Sredizemnoe more dve podvodnye lodki s 'Kalibrami'," *VPK*, 28 August 2017, <https://vpk-news.ru/news/38623>.

are unregulated by the Intermediate-Range Nuclear Forces (INF) Treaty and therefore can extend into the medium- and interregional-range, such as the *Kalibr* missile⁶⁰. Shorter-range coastal defense missiles, such as the *Bal* and *Bastion* complexes have also been deployed in Crimea⁶¹.

However, the most attention-grabbing Russian deployment into Crimea has been a full division of state-of-the-art S-400 air defense complexes arranged in two regiments of two squadrons each in Feodosiya, Sevastopol, Yevpatoriya, and Dzhankoy⁶². Though the S-400 is designed to protect against even low-altitude and ballistic missile-speed threats across a 400-kilometer radius,⁶³ it is more vulnerable to shorter-range weapons and in particular from potential UAV strikes. The Crimean S-400s are therefore paired with shorter-range *Pantsir* complexes better suited to short-range point defense⁶⁴. These forces now regularly exercise repercussions of major missile bombardments of Crimea⁶⁵. Improved radars have also been installed in Crimea to increase units' capabilities to perceive and

engage threats both to the peninsula itself and Moscow⁶⁶.

These forces have in turn been complemented by the 22nd Army Corps to provide ground defense⁶⁷ while the naval infantry brigade is retained for amphibious operations⁶⁸. These units regularly exercise the use of UAVs to detect enemy positions⁶⁹ and landings⁷⁰ and increasingly use each other to play live opposition forces (OPFOR)⁷¹. These ground-based units will be augmented in 2019 by an Airborne Troops (VDV) unit to be operational in 2019⁷² that will likely form the core of offensive capabilities from the peninsula.

As a diplomatically contested region, key to strategic Russian defense, it is unsurprising that Crimea has been even more highly militarized since its 2014 annexation. In addition to the Armed Forces units referenced above, the Russian National Guard has rapidly introduced capabilities both

⁶⁰ "Poyavilos' video puska 'Kalibrov' s fregata 'Admiral Grigorovich'," *Izvestiya*, 16 August 2018, <https://iz.ru/778683/2018-08-16/poiavilos-video-puska-kalibrov-s-fregata-admiral-grigorovich>.

⁶¹ "Boevye raschyoty raketnykh kompleksov Chernomorskogo flota provodyat planovye trenirovki po ognevomu podazheniyu morskikh tseyel," Russian Ministry of Defense, 15 May 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12175534@egNews.

⁶² "Nebo Kryma prikrity polnost'yu," *Krasnaya Zvezda*, 3 December 2018, <http://redstar.ru/nebo-kryma-prikrity-polnostyu/>.

⁶³ "Raschyoty S-400 'Triumf' Yuzhnogo voennogo okruga zavershili poligonnye ispytaniya tekhniki pered zastupleniem na boevoy dezhurstvo v Krymu," Russian Ministry of Defense, 28 November 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12205984@egNews.

⁶⁴ "Dislotsirovannye v Krymu S-400 usiliat divizionom 'Pantsir-S1'," *Izvestiya*, 5 June 2018, <https://iz.ru/752080/2018-06-05/dislotsirovannye-v-krymu-s-400-usiliat-divizionom-pantsir-s1>.

⁶⁵ "Voennye v Krymu nauchatsya otrazhat' 'massirovanny raketnyy udar,'" *Izvestiya*, 6 June 2018, <https://iz.ru/752364/2018-06-06/voennye-v-krymu-nauchatsya-otrazhat-massirovannyi-raketnyi-udar>.

⁶⁶ Aleksandr Kruglov and Aleksey Ramm, "Nebo Kryma v bezopasnosti," *Izvestiya*, 3 April 2018, <https://iz.ru/725399/aleksandr-kruglov-aleksei-ramm/nebo-kryma-v-bezopasnosti>.

⁶⁷ "Oborona Sevastopolya. Kakie voyska styanuli v Krym za poslednie chetyre goda," *RIA Novosti*, 21 June 2018, <https://ria.ru/20180621/1523161086.html>.

⁶⁸ "Na Chernomorskom flote ryad zadach boevoy podgotovki vpervye vpolnen s primeneniem BLA," Russian Ministry of Defense, 26 November 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12205667@egNews.

⁶⁹ "V Krymu prokodyat artilleriyskie strel'by armeyskogo korpusa Chernomorskogo flota," Russian Ministry of Defense, 24 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12196667@egNews.

⁷⁰ "V Krymu nachalos' dvustoronnee rotnoe takticheskoe uchenie s motostrelkovymi podrazdeleniyami armeyskogo korpusa ChF," Russian Ministry of Defense, 15 August 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12191030@egNews.

⁷¹ "Podrazdeleniya armeyskogo korpusa Chernomorskogo flota podnyaty po uchebnyy trevoge v khode brigadnogo takticheskogo ucheniya," Russian Ministry of Defense, 1 October 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12197745@egNews.

⁷² "Pervyy v Krymu batal'on VDV poluchil boevoye znaniya," *TV Zvezda*, 4 December 2017, https://tvzvezda.ru/news/photo_gallery/content/201712041011-mp2q.htm/.

in the interior⁷³ and to defend the Strait of Kerch⁷⁴ to defend against both domestic unrest and other unconventional sabotage efforts.

Nevertheless, the elementary plan outlined above is clearly indicated by this short listing of the evidence: a combination of air defense and offensive missile assets augmented by rapid reaction-capable ground-based units offers Russia a number of sophisticated options to defend Crimea as well as use this edge as part of a broader defense of Moscow.

IV. Plans for the Arctic

Although Crimea has long been militarized and the Russian Armed Forces are rather returning than entering,⁷⁵ the Arctic has long been relatively dormant⁷⁶. The Russian Arctic is extremely remote and generally icebound, requiring special efforts to ensure winter provisioning for its isolated radar stations in the far North generally by October⁷⁷.

The Kola Peninsula, in the far Northwest of the Russian Federation, offers the only reliably ice-free ports in the Arctic and was highly militarized long ago. However, the Northern Fleet based there focused almost exclusively on trying to rush the GIUK gap to enter the North Atlantic Ocean. After developing a tactical framework for Arctic warfare in 1966, the Soviet military never

devised how to conduct land warfare, and despite changing technologies and attention its tactics remained focused toward threats from the west toward Murmansk in the early post-Soviet years⁷⁸. As mentioned above, Soviet submarines occasionally traversed the Northern Sea Route, but this was considered an especially dangerous mission⁷⁹. In the 1930s, the Soviet Union experimented with opening the Arctic to air transit, but this foundered with some high-profile catastrophes in the difficult and unpredictable Arctic weather⁸⁰.

However, matters have altered with global climate change and the increasing interest both in Arctic hydrocarbons⁸¹ and potential NSR commercial flow between Europe and China⁸². Accordingly, Russia has begun establishing permanent military units in the region⁸³ and regularly discussing the importance of the Arctic to future Russian

⁷³ Ilya Polonskiy, "Krym zashchitit Rosgvardiya," *Svobodnaya Pressa-Yug*, 29 September 2016, <http://yug.svpressa.ru/war21/article/140258/>.

⁷⁴ "Viktor Zolotov: Kerchenskiy most budet okhranyat' morskaya brigade Rosgvardii," *Pervyy Kanal*, 25 October 2017, https://www.1tv.ru/news/2017-10-25/335062-viktor_zolotov_kerchenskiy_most_budet_ohranyat_morskaya_brigada_rosgvardii.

⁷⁵ "Rossiya navodit poryadok v raketnykh bunkerakh Kryma," *Nezavisimaya*, 2 November 2016, http://www.ng.ru/armies/2016-11-02/100_obzor021116.html.

⁷⁶ Marek Dąbrowski, "Rosyjski apetyt na Arktykę," *Defence24.pl*, 19 August 2018, <https://www.defence24.pl/rosyjski-apetyt-na-arktyke-analiza>.

⁷⁷ "Na Tikhookeanskom flote zavershilsya severnyy zavoz," *RIA Novosti*, 11 October 2016, <https://ria.ru/20161011/1478936825.html>.

⁷⁸ Colonel A.A. Karpenko and Lieutenant-Colonel S.P. Lagutkin, "Osobennosti organizatsii oborony v severnykh rayonakh," *Voennaya mysl'*, Issue 3, 2001, p. 15-20.

⁷⁹ Golosov, p. 46-52.

⁸⁰ Boris E. Chertok, *Rockets and People Volume I*, NASA History Office, Washington, DC, 2005, p. 117-138.

⁸¹ Even in 2018, President Vladimir Putin continues to cite British Petroleum's investment in the Kara Sea as a productive example of UK-Russian cooperation during his annual press conference. "Bol'shaya press-konferentsiya Vladimira Putina," *Kremlin.ru*, Moscow, 20 December 2018, <http://kremlin.ru/events/president/news/59455>.

⁸² Zhang Yunbi and Zhang Yue, "Xi backs building of polar Silk Road," *China Daily*, 2 November 2017, http://www.chinadaily.com.cn/world/cn_eu/2017-11/02/content_34007511.htm.

⁸³ "Video: Russia Establishes Arctic Shamrock Base on Franz Josef Land," *Navy Recognition*, 29 August 2018, <https://www.navyrecognition.com/index.php/news/defence-news/2018/august-2018-navy-naval-defense-news/6468-video-russia-establishes-arctic-shamrock-base-on-franz-josef-land.html>.

prosperity,⁸⁴ technology,⁸⁵ and security⁸⁶. Russian Defense Minister Sergei Shoigu has highlighted the increased risk of competition and conflict in the Arctic to justify these buildups⁸⁷. Russian Security Council Secretary Nikolay Patrushev has conducted special meetings to reconfigure the Russian strategy for defending the region in the new global environment⁸⁸. New Russian defense technologies are being developed to operate in extreme cold,⁸⁹ including personnel equipment,⁹⁰ electronics insulation,⁹¹ main battle tanks,⁹² new methods for constructing airfields in the tundra,⁹³ and an in-

creased numbers of icebreakers⁹⁴.

A separate joint strategic command for the Northern region of Russia was established in 2014 (before the annexation of Crimea), but 2018 was a year of many transitions. A control center for collective air defense over the Northern region under the recently-established 45th Air Force and Air Defense Army was founded⁹⁵. Northern Fleet naval aviation resumed trans-Arctic flights⁹⁶. The *Perekop* training ship conducted its first circumnavigation of Eurasia,⁹⁷ including a passage of the NSR⁹⁸. The Northern Fleet also contributed OPFOR to the Asia-Pacific theater strategic-operational exercise *Vostok-2018* for the first time in history,⁹⁹ culminating in operations in the Bering Strait¹⁰⁰ and Sea of Okhotsk¹⁰¹ as well as amphibious exercises by the specialized Arctic Motor Rifle Brigade in the extremely remote Chukotka Autonomous Okrug on Russia's northeastern extrem-

⁸⁴ "Shoigu: Osvoenie Arktiki segodnya – eto garantiya nezavisimosti Rossii zavtra," VPK, 1 September 2017, <https://vpk-news.ru/news/38709>.

⁸⁵ "Voенно-morskaya akademiya nagrazhdена diplomom VIII mezhdunarodnogo foruma 'Arktika: nastoyashchee i budushchee'," Russian Ministry of Defense, 7 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12207240@egNews.

⁸⁶ "Rosgvardiya prinimaet uchastie v rabote VIII mezhdunarodnogo foruma 'Arktika: nastoyashchee i budushchee,'" Rosgvardiya, 6 December 2018, <http://rosgvard.ru/ru/news/article/rosgvardiya-prinimaet-uchastie-v-rabote-viii-mezhdunarodnogo-foruma-arktiki-nastoyashchee-i-budushchee>.

⁸⁷ "Shoigu zayavil ob ugroze konfliktov v Arktike," RIA Novosti, 31 August 2018, <https://ria.ru/20180831/1527572999.html>.

⁸⁸ "Nikolay Patrushev posetil Nenetskiy avtonomnyy okrug," Soviet Bezopasnosti Rossiyskoy Federatsii, 18 September 2018, <http://scrf.gov.ru/news/all-news/2470/>.

⁸⁹ "Kholod im ne strashen: na 'Armii-2018' predstavili superkompensatory dlya Arktiki," Flot.com, 23 August 2018, <https://flot.com/2018/ФОРУМАрмия49/>.

⁹⁰ "V Ryazanskom vyshem vozdušno-desantnom komandnom uchilishche razrabotali komplekt dlya vyzhivaniya v usloviyakh arkticheskogo kholoda," Russian Ministry of Defense, 21 August 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12192045@egNews.

⁹¹ "Dlya utepleniya arkticheskoy voennoy tekhniki predlozheni ispol'zovat' proverennyy na Yamale material," Voенное.рф, 16 August 2018, <https://военное.рф/2018/Арктика6/>.

⁹² Franz-Stefan Gady, "Russia to Test T-14 Armata Main Battle Tank in Arctic," *The Diplomat*, 11 September 2018, <https://thediplomat.com/2018/09/russia-to-test-t-14-armata-main-battle-tank-in-arctic/>.

⁹³ "Minoborony Rossii aprobiruet novye metody sozdaniya vzletno-posadochnykh polos v Arktike," Russian Ministry of Defense, 6 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12207028@egNews.

⁹⁴ "Tretiy atomnyy ledokol tipa 'Arktika' spustyat na vodu v mae 2019 goda," Flotprom.ru, 9 August 2018, <https://flotprom.ru/2018/БалтийскийЗавод8/>.

⁹⁵ "V Arktike vveli v story tsentr upravleniya armii VVS i PVO Severnogo flota," VPK, 26 July 2018, <https://vpk-news.ru/news/44023>.

⁹⁶ "Shoigu zayavil o vobnovlenii transarkticheskikh poletov Tu-142," *Izvestiya*, 31 August 2018, <https://iz.ru/783898/2018-08-31/shoigu-zaiavil-o-vozobnovlenii-transarkticheskikh-poletov-tu-142>.

⁹⁷ "Uchebnyy korabl' VMF Rossii 'Perekop' prybyl v Sankt-Peterburg posle unikal'nogo dal'nego pokhoda," Russian Ministry of Defense, 14 November 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12204039@egNews.

⁹⁸ "Perekop' otpravilsya v pervyye pokoryat' Severnyy morskoy put'," Flot.com, 9 August 2018, <https://flot.com/2018/Поход31/>.

⁹⁹ "Korabli Kol'skoy flotilii raznorodnykh sil v pervyye sovershili transarktichiy perekhod iz Barentseva moray v Beringovo i obratno," Russian Ministry of Defense, 17 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12208466@egNews.

¹⁰⁰ "Korabli Severnogo flota 'spacili' sudno v ramkakh manevrov 'Vostok-2018,'" RIA Novosti, 14 September 2018, <https://ria.ru/20180914/1528535229.html>.

¹⁰¹ "Korabli Severnogo flota nashli podlodki 'protivnika' v khode 'Vostoka-2018,'" RIA Novosti, 15 September 2018, <https://ria.ru/20180915/1528621525.html>.

ity¹⁰². Non-Armed Forces paramilitaries have similarly been conducting exercises to control the Russian Arctic frontier over the course of 2018¹⁰³.

Russian propaganda engines have begun disseminating messages of Russian strength in the North¹⁰⁴ to direct popular and military interest to what might otherwise be a bleak deployment, which was equally important¹⁰⁵. Russia has even increased investments in servicemen creature comforts along the new frontier¹⁰⁶.

Though Russia has presented these developments as unprecedented and novel, the basic model of how the Russian military has grown into its northern frontiers follows the same general formula as that demonstrated in Crimea. Russian actions have been unprecedented only inasmuch as they have not been carried out in the Arctic: Russia is expanding its conventional military activities and capabilities into a new, previously inaccessible region.

Russian ground-based air defense in the Arctic remains concentrated around the Kola Peninsula in the far West. Though it is still in the process of rearming to the

S-400,¹⁰⁷ this region has the advantage of using surface ships of the Northern Fleet to act as an additional air defense field at sea more broadly than in the smaller, enclosed Black Sea¹⁰⁸. Surface-to-surface ballistic missiles are of less utility in the Arctic, but the Russian Armed Forces stood up a unit of "Bastion" coastal defense missiles on Kotelniy Island in the Siberian Arctic in September 2018,¹⁰⁹ offering anti-ship missile coverage for a necessary chunk of the NSR. In the final assessment of Northern Fleet activities in 2018, Commander Admiral Nikolay Yevmenov devoted considerable attention to the increased role of missiles in Arctic security¹¹⁰.

While the missile infrastructure of the Arctic is still being built up, new radars are being deployed in the region to monitor Arctic air traffic. The *Sopka-2* radar on Wrangel Island in the far Northeast of the country has been the initial focal point of these developments,¹¹¹ though other sites and airfields are under construction¹¹².

¹⁰⁷ "Zenitchiki Severnogo flota pristupili k prakticheskim strel'bam na poligone Ashuluk," Russian Ministry of Defense, 26 October 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12201505@egNews.

¹⁰⁸ "Na Severnom flote nachalsya sbor komandnogo sostava PVO ob'edineniya," Russian Ministry of Defense, 7 November 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12202992@egNews.

¹⁰⁹ "Severnnyy flot vpervye primenil na ucheniyakh v Arktike beregovoy raketnyy kompleks 'Bastion'," Russian Ministry of Defense, 26 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12196944@egNews.

¹¹⁰ "Komanduyushchiy Severnym flotom rasskazal zhurnalistam ob osnovnykh itogakh deyatelnosti flota v 2018 godu," Russian Ministry of Defense, 14 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12208151@egNews.

¹¹¹ "V Arktike provedena trenirovka po obnaruzheniyu aviagruppy uslovnogo protivnika," Russian Ministry of Defense, 25 July 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12187440@egNews.

¹¹² "Dlya stroitel'stva aerodroma Severnogo flota na ostrove Zemlya Aleksandry v Arktike budet dostavleno bolee 13 tysyach ton gruzov," Russian Ministry of Defense, 25 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12196914@egNews.

¹⁰² "S arkticheskoy gruppirovkoy Severnogo flota provedeno uchenie po vysadke morskogo desanta i oborone poberezh'ya na Chukotke," Russian Ministry of Defense, 17 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12195848@egNews.

¹⁰³ "Rosgvardeytsy v ramkakh ucheniya v Arktike vpolnili zadachi po okazniyu sodeystviya pogranichnym organam FSB Rossii," Rosgvardiya, 12 April 2018, <http://rosgvard.ru/ru/news/article/rosgvardejcy-v-ramkax-ucheniya-v-arktike-vpolnili-zadachi-po-okazaniyu-sodeystviya-pogranichnym-organam-fsb-rossii>.

¹⁰⁴ "Russkiy Sever kuyot sil'nykh i nadyozhnykh," Krasnaya Zvezda, 24 September 2018, <http://redstar.ru/russkij-sever-kuyot-silnyh-i-nadyozhnyh/>.

¹⁰⁵ "Na Kamchatke vypushchen fotoal'bom, posvyashchenny vpolneniyu letchikami morskoy aviacii Tikhookeanskogo flota zadach v Arktike," Russian Ministry of Defense, 9 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12207319@egNews.

¹⁰⁶ "Podvodniki Severnogo flota prinyali uchastie v zapuske posledney telebashty tsifrovogo veshchaniya v Rossii," Russian Ministry of Defense, 23 December 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12209243@egNews.

The rapid-reaction small ground units in the Arctic have been less developed thus far. Various efforts are underway to improve capabilities in this regard. A pilot scheme to train for rapid-reaction Arctic tactics has shown signs of success in Kamchatka Krai, a high-altitude Pacific-facing region, where the Naval Infantry brigade has dramatically increased low-temperature aerial insertion¹¹³ and rapid-march tactics in Arctic conditions¹¹⁴ to respond to UAV-detected enemies.

The linchpin ground unit of the Arctic region is the aforementioned 80th Arctic Motor Rifle Brigade. Though based in Murmansk Oblast, it has been increasing its deployment capabilities across the Russian Arctic. In 2017, it exercised an amphibious landing in the Novosibirsk Islands¹¹⁵. In 2018, it deployed to Tiksi Bay¹¹⁶ and Chukotka amidst *Vostok-2018*¹¹⁷. This unit does not yet offer the same level of capabilities that the larger array of units in Crimea does for automatic defense, but offers the Russian General Staff an asset able to operate across a vast area of responsibility (AOR). To overcome the problem of such a large geographical area to cover, Russian bases in the Arc-

tic exercise organic capabilities to defend themselves from potential SOF insertion¹¹⁸.

The key difference between the Arctic and Crimea is the scale, not the tactics. Though the Arctic Brigade exercises to respond to crises with far larger units than the rapid reaction teams in Crimea, this reflects the need for the brigade to act across enormous distances. Crimea collectively has an army corps committed to its ground defense: in the event of a massive invasion, this corps would act with larger-scale tactics than those outlined above while other elements of the Southern Military District mobilized for the peninsula's relief. In the Arctic, similar reinforcements would have to be raised from somewhere along the distant great "T" of Russian force deployment shown in Figure 4.

Vostok-2018 appeared to include an enemy force (played by the Arctic Brigade) attempting to cut the Eastern Military District off from Chukotka and its radar stations. This effort was ultimately defeated by Red forces responding from the South also by amphibious insertion¹¹⁹. This likely reflects how the Russian General Staff imagines security calculations in the Arctic:

1. Small SOF attempts to take down radar stations must be repelled by isolated units because they cannot be rapidly reinforced without improbably advanced intelligence;
2. Conventional attack forces will need to be cut off from sea-based supply with company- or larger-scale tactical groups from the Arctic Brigade;
3. Large-scale conventional attack forces will require mobilization on brigade- or

¹¹³ "V VVO po itogam zimnego perioda obucheniya perevypolnena programma vozdušno-desantnoy podgotovki," Russian Ministry of Defense, 25 April 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12172849@egNews.

¹¹⁴ "Proyti ispytanie vulkanami," *Krasnaya Zvezda*, 26 November 2018, <http://redstar.ru/projti-ispytanie-vulkanami/>.

¹¹⁵ "Arkticheskie motostrelki SF razыgrali boy za vysadku desanta na ostrov Kotel'nyy arhipelaga Novosibirskikh ostrovov," Russian Ministry of Defense, 22 September 2017, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12143213@egNews.

¹¹⁶ "Arkticheskie motostrelki proveli uchenie po oborone morskogo poberezh'ya v Yakutii," Russian Ministry of Defense, 3 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12193891@egNews.

¹¹⁷ "S arkticheskoy gruppirovkoy Severnogo flota provedeno uchenie po vysadke morskogo desanta i oborone poberezh'ya na Chukotke," Russian Ministry of Defense, 17 September 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12195848@egNews.

¹¹⁸ "Voennosluzhashchie Severnogo flota otrabotali uslovnnoe otrazhenie zakhvata arkticheskoy bazy 'Severnyy klever'," Russian Ministry of Defense, 15 March 2018, http://деятельность.минобороны.рф/news_page/country/more.htm?id=12166795@egNews.

¹¹⁹ Nicholas J. Myers, "What Happened during Vostok 2018?," *Eurasia Daily Monitor*, 3 October 2018, <https://jamestown.org/program/what-happened-during-vostok-2018/>.

army-scale from the Russian force disposition "T".

Both, the second and third options would require at the very least one week for Russia to deploy a response force. The third option could also prohibit Russian conventional counteroffensives elsewhere in a broader theater of war, but an army-scale operation would likely imply that the enemy was also committing a substantial amount of force into the Arctic theater.

Conclusion

Russia may be researching and developing many futuristic military technologies, but its current forces have settled on a relatively coherent set of A2AD tactics. Missiles form the centerpiece of these capabilities, especially air defense and anti-ship but also surface-to-surface and air-based ones. To defend these platforms, smaller point-defense, anti-ballistic missile defenses and small-scale rapid-reaction ground units monitor a relatively large AOR within which they can take a decisive, pinpoint action.

From a distance, Crimea and the Arctic appear quite different in terms of strategic value and defensibility. However, the differences to Russian defensive tactics are more of scale than style. This scale difference can be quantified as follows: Crimea consists of 27,000 square kilometers the Russian Far North comprises 5,500,000 square kilometers. The Arctic AOR (at its most expansive definition) therefore represents 200 times as much territory as Crimea.

In that perspective, the difference between a platoon- or company-scale response team in Crimea to a brigade in the Arctic still reflects a very small rapid reaction unit. At the same time, more missiles are being introduced into the Arctic to offer a core offensive and defensive capability

along major nodes of the NSR with comparatively immediate response times.

This defensive style suits Russia because of its relative flexibility and cost effectiveness within a vast but sparsely-populated country with many potential vectors to attack its master C2 node in Moscow. It is not without its disadvantages, but it represents a major shift from the emphasis on quantity to quality in the post-Soviet re-imagination of Russian security.

If this trend continues, it should be expected that Russia will deploy ever more missiles into the Arctic to offer more options for the control over key nodes along the NSR. Ultimately, an additional rapid-reaction force will likely be added between the two current major units of the Arctic Motor Rifle Brigade in Murmansk Oblast and the 40th Naval Infantry Brigade in Kamchatka Krai; such a unit would probably be co-located with the new coastal defense missile unit in the Novosibirsk Islands, the radar station on Wrangel Island, or elsewhere in Chukotka Autonomous Okrug.

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