

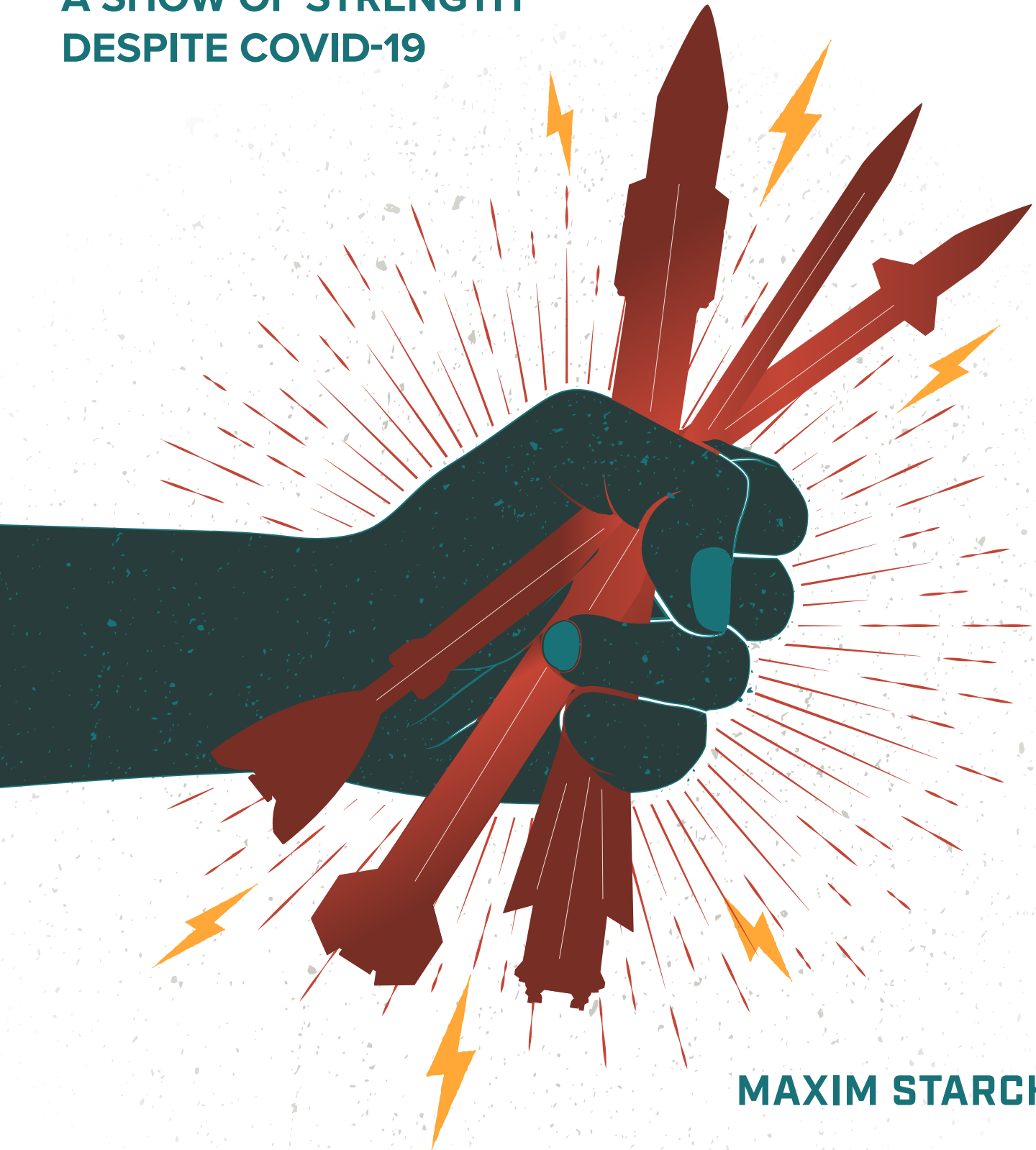


FOREIGN POLICY RESEARCH INSTITUTE

EURASIA PROGRAM

RUSSIA'S NUCLEAR ACTIVITY IN 2020:

**A SHOW OF STRENGTH
DESPITE COVID-19**



MAXIM STARCHAK

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RUSSIA'S NUCLEAR ACTIVITY IN 2020:

A Show of Strength Despite COVID-19

Maxim Starchak

May 2021

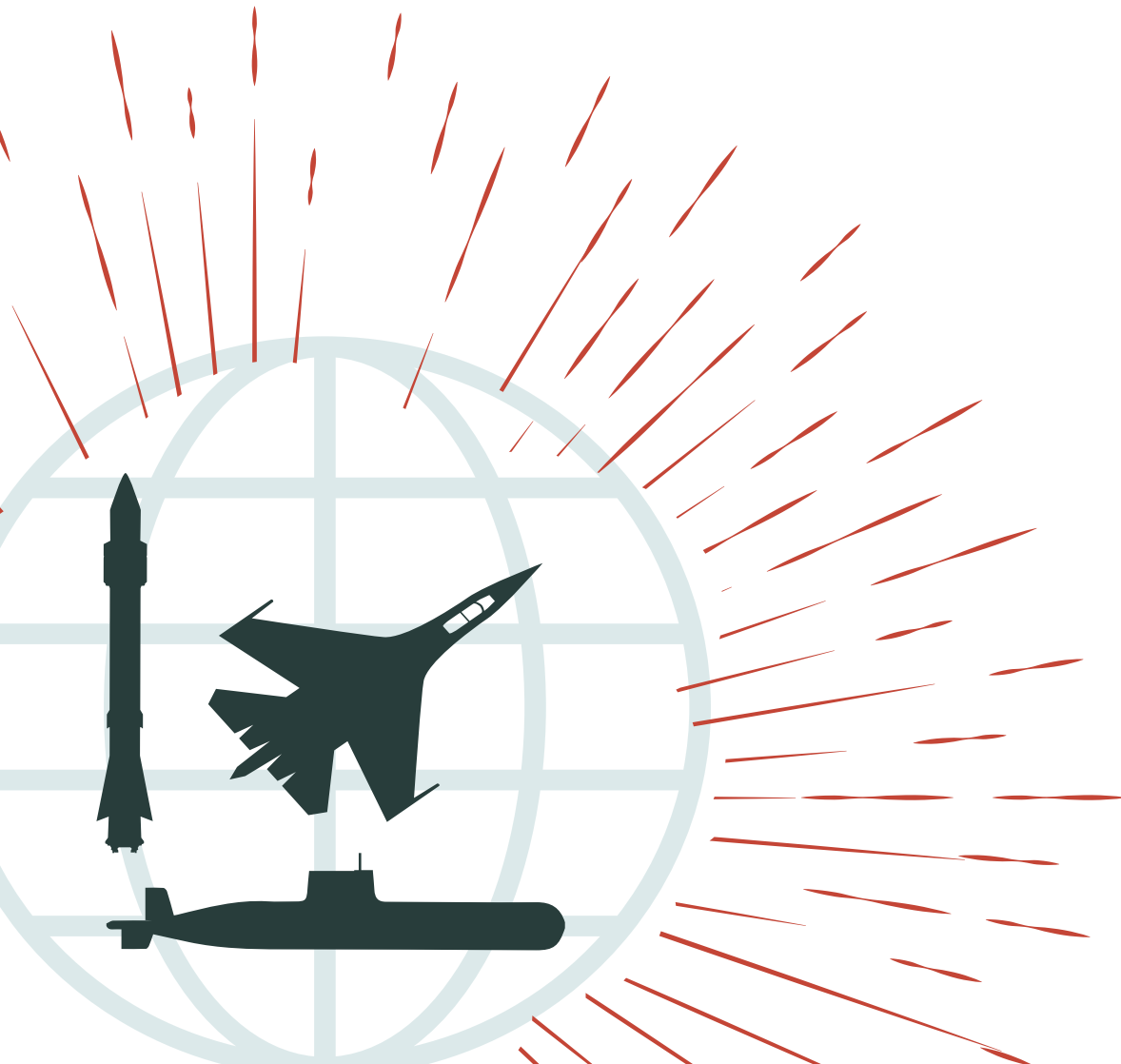
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Executive Summary

Since the collapse of the Soviet Union, the Russian Federation's powerful nuclear arsenal has stood as a cornerstone of its political and military influence. In 2020, despite the COVID-19 pandemic and related restrictions, Russia's strategic nuclear forces maintained a high degree of activity. The number of nuclear exercises and air and sea deterrence patrols was stable and not much different from 2019. The Russian strategic nuclear arsenal remains an integral tool of the Kremlin's pressure on rivals in Europe and North America.

This report continues the author's research on Russia's nuclear forces: Maxim Starchak, **"Russia's Nuclear Activity in 2019: Increasing Strength And Pressure,"** Atlantic Council, February, 16, 2021.

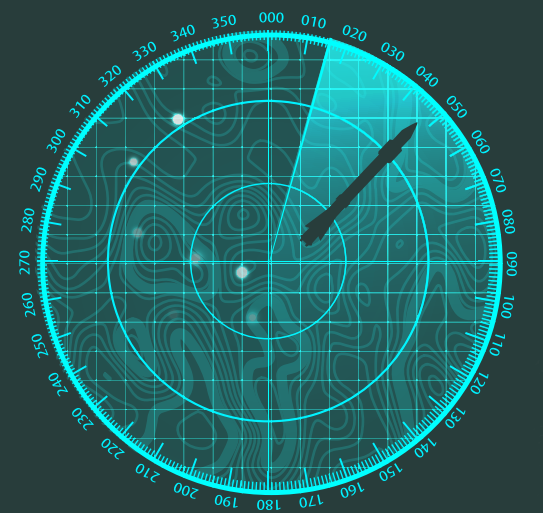


Introduction

The confrontation between the Russian Federation and the West remained a prevailing factor in global politics and international security in 2020. Despite continued Western criticism in the aftermath of Russia's 2014 annexation of Crimea, Russia has increased its military activity. In particular, confrontation with the West has caused an increase in Russian military exercises testing the readiness of the nuclear triad. The intensity and extent of such activity has returned to the Cold War level. Russia triggers fear and puts pressure on the West through drills featuring its nuclear delivery vehicles. Such demonstrations of force are intended to preserve Russia's status as a global power and its ability to pursue the policies that it deems appropriate.

While the COVID-19 pandemic had some impact on the scale of nuclear activity in 2020, it remains intense nonetheless. The consistent nature of nuclear activity demonstrates that nuclear weapons continue to serve as the backbone of Russian policy and that they will remain so regardless of potential obstacles.

Russia is one of only two countries in the world with a stockpile of nuclear weapons at such large scale. Russia's nuclear weapons play an important military and political role in its relations with the United States and the North Atlantic Treaty Organization (NATO). With regard to Russian relations with the West, the activity of Russian nuclear forces is extremely important for global security and needs to be monitored by the international community, experts, and politicians.



1. RUSSIA'S NUCLEAR POWER ON LAND

The Strategic Missile Forces (SMF) is a separate branch of the Russian Armed Forces and serves as the main component of the country's strategic nuclear forces. In 2020, the SMF controlled about 310 land-based missile systems^{<?>} or 58% of Russia's nuclear weapons. Activity of Russia's Strategic Missile Forces remained at a high level in 2020. Various divisions across the country regularly deployed the Topol, Topol-M, and Yars missile systems on combat duty. This level of activity stemmed from analysis by generals that the number of military trainings and exercises conducted in 2019 was optimal and made it possible to improve troop proficiency.^{<?>} In 2020, the number of exercises remained the same as in 2019: more than 200 exercises, with six of the twelve divisions participating in the SMF's largest exercises. While the exercises decreased in scope, the coronavirus lockdown did not prevent

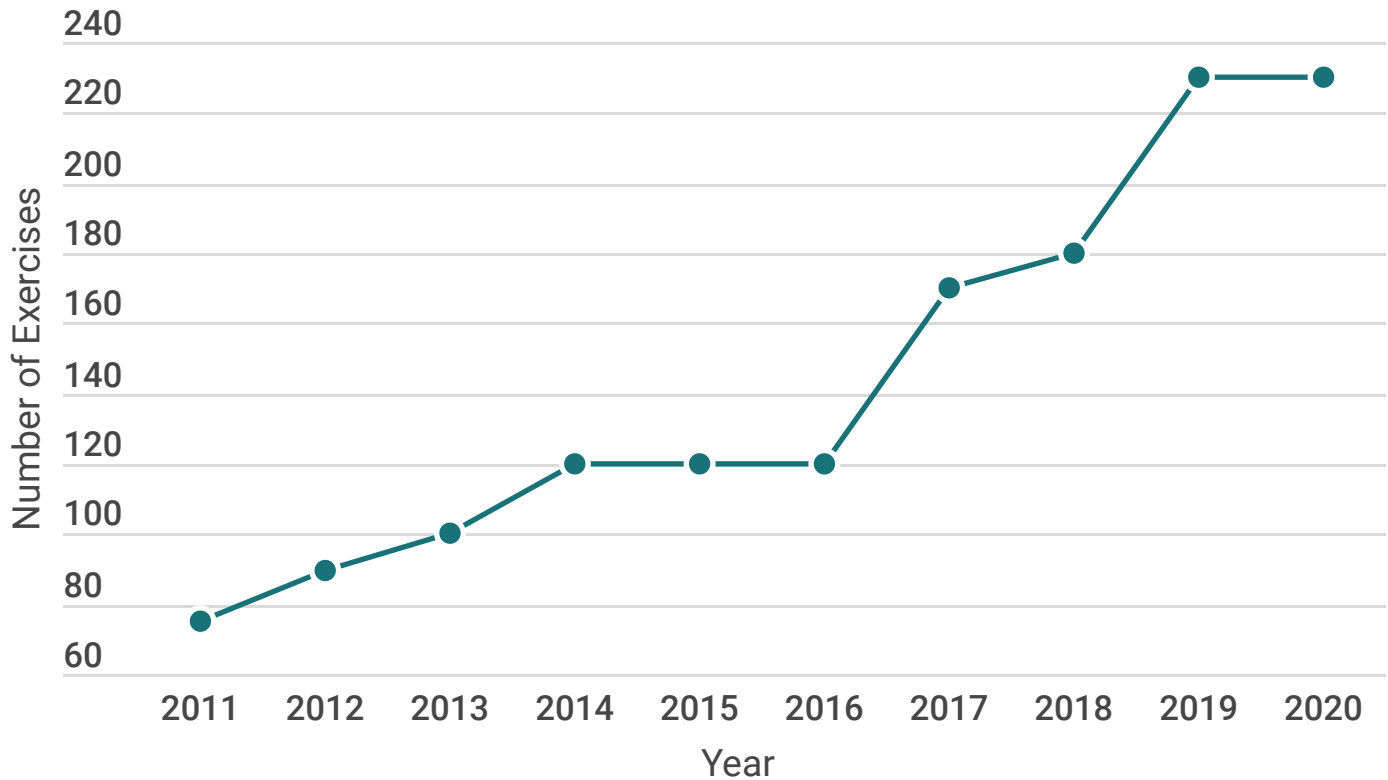
them from taking place.

Despite no change in the number of drills taking place, the pandemic limited the extent of the trainings. For example, in 2020, there were no large-scale trainings that simultaneously involved a large number of missile divisions across different regions, as had happened previously. Also, unlike in 2019, the SMF was not assigned unique or new tasks or new patrol areas. However, SMF divisions did follow a routine schedule. They conducted marches with missile systems and other weapons up to 100 kilometers. They drilled concealed change of field positions, camouflage of missile systems, and security in combat. They also held exercises simulating defense from a variety of different attacks. The number of military personnel involved in scheduled training and combat duty was cut to reduce the risk of coronavirus infection. At the beginning of the year, about 2,500

<?> Hans M. Kristensen and Matt Korda, "Russian Nuclear Forces, 2021," *Bulletin of the Atomic Scientists*, March 15, 2021, <https://thebulletin.org/premium/2021-03/nuclear-notebook-russian-nuclear-weapons-2021/>.

<?> "В 2020 году стратегические ракетчики планируют провести более 200 учений [In 2020, strategic missileman plan to conduct more than 200 exercises]," *Russian Defense Ministry*, January 2020, https://structure.mil.ru/structure/forces/strategic_rocket/news/more.htm?id=12269451.

Strategic Missile Force Exercises



Source: Russian Defense Ministry and the author's estimates

Note: The Russian Ministry of Defense does not always provide a concrete number of exercises performed in a given year, but rather approximates, using phrases like more than 200. Based on the author's understanding of Ministry of Defense reporting practices, he provides an estimate of the number of exercises conducted. The author does so by considering whether there was a reported increase in exercises from previous years as well as the practice in Ministry of Defense publications to provide statistics reflecting a number of exercises closest to the nearest 50.

servicemen took part in each of the major headquarters' exercises compared to the traditional 3,000-3,500 soldiers.^{<?>} This probably means that the minimum possible number of military personnel was used to accomplish the tasks assigned to the respective divisions. In March 2020, the Barnaul division used only

1,000 servicemen and about 150 units of equipment in its integrated checkout for combat readiness.^{<?>} There had never been so few participants in such a training.

At the beginning of the year, it was announced that the SMF's largest exercises would be held under the direction of the SMF's commander in

<?> «Ярсы» вышли на маршруты боевого патрулирования под Йошкар-Олой: видео [“Yars” went on combat patrol routes near Yoshkar-Ola: video], *TV Zvezda*, February 10, 2020, <https://tvzvezda.ru/news/20202131041-qmPLz.html>.

<?> «Командование РВЧН проверит перевооружаемую на «Ярсы» Барнаульскую дивизию [The Command of the Strategic Missile Forces will check the Barnaul division being re-equipped with “Yars”], *AVN-Interfax*, March 11, 2020. <https://www.militarynews.ru/story.asp?rid=1&nid=528471&lang=RU>.

the Irkutsk and Orenburg regions.^{<?>} However, in September and October, an exercise was held in the Irkutsk Region, during which 20 launchers for Yars strategic missile systems were put into combat sites. The SMF had planned to conduct a larger exercise involving 4,000 servicemen and 400 weapon units, but due to the coronavirus restrictions, the number of servicemen involved was cut by 1,000 and the number of weapon units by 100.^{<?>} In general, these reduced figures fit into the average values for such exercises.

The reduction in the number of servicemen who took part in the annual Victory Day Parades offers additional context for how the SMF handled the impact of the pandemic. In previous years,

approximately 13,000 servicemen and 250 vehicles from the SMF participated in the Victory Day Parades across 38 cities;^{<?>} in 2020, only 8,000 servicemen and 200 vehicles in 30 cities took part.^{<?>}

In addition, at the pandemic's peak, the SMF engaged in tasks not normally within their purview. For example, in March, the SMF held a special exercise on the implementation of epidemic control measures.^{<?>} In April and May, soldiers disinfected public transit stops, hospitals and polyclinics, pharmacies, kindergartens, and defense industry enterprises in Yoshkar-Ola and the Mari El Republic.

Moreover, in June, all SMF divisions held a special exercise on information

^{<?>} “В 2020 году стратегические ракетчики планируют провести более 200 учений [In 2020, strategic missileman plan to conduct more than 200 exercises],” *Russian Defense Ministry*, January 2020, https://structure.mil.ru/structure/forces/strategic_rocket/news/more.htm?id=12269451.

^{<?>} “В РВЧН впервые пройдёт командно-штабное учение с применением роботизированных комплексов [For the first time, the Strategic Missile Forces will hold a command-post exercise with the use of robotic systems],” *Russian Defense Ministry*, March 10, 2020, https://structure.mil.ru/structure/forces/strategic_rocket/news/more.htm?id=12080216; and “Минобороны РФ сообщает о выводе на полевые позиции почти 20 стратегических “Ярсов” на учениях в Сибири [The Russian Defense Ministry reports on the withdrawal of almost 20 strategic “Yars” to field positions during exercises in Siberia],” *AVN-Interfax*, September 30, 2020, <https://www.militarynews.ru/story.asp?rid=1&nid=538767&lang=RU>.

^{<?>} “Более 13 тысяч военнослужащих РВЧН примут участие в парадах Победы [More than 13 thousand SMF soldiers will take part in Victory parades],” *RIA Novosti*, May 9, 2016, <https://ria.ru/20160509/1429395505.html>; and “Военнослужащие РВЧН в День Победы примут участие в парадах и торжественных шествиях в 38 городах России [Military personnel of the Russian Strategic Missile Forces will take part in parades and solemn processions in 38 cities of Russia on Victory Day],” *Russian Defense Ministry*, April 24, 2017, https://syria.mil.ru/syria/peacemaking_briefs/brief.htm?id=12120013.

^{<?>} “Более 8 тысяч военнослужащих РВЧН примут участие в военных парадах в 30 городах России [More than 8 thousand SMF soldiers will take part in military parades in 30 cities of Russia],” *Russian Defense Ministry*, June 11, 2020, https://structure.mil.ru/structure/forces/strategic_rocket/news/more.htm?id=12296910@egNews.

^{<?>} Роман Бирюлин, Дмитрий Андреев [Roman Biryulin, Dmitry Andreev], “Стратегические ракетчики совершенствуют выучку [Strategic missileman improve their skills],” *Red Star*, May 22, 2020, <http://redstar.ru/strategicheskie-raketchiki-sovershenstvuyut-vyuchku/>.



RS-24 Yars missile system of the 39th Guards Missile Division during a command post exercise on September 29, 2017. (mil.ru)

exchange and practical implementation of measures to identify and assess radiation, chemical, and biological conditions. The exercise involved control points of all SMF formations from Tver to Irkutsk. <?> Given the coronavirus conditions, the SMF widely used the latest UTM-80M thermal vehicles for the first time. These vehicles are designed for

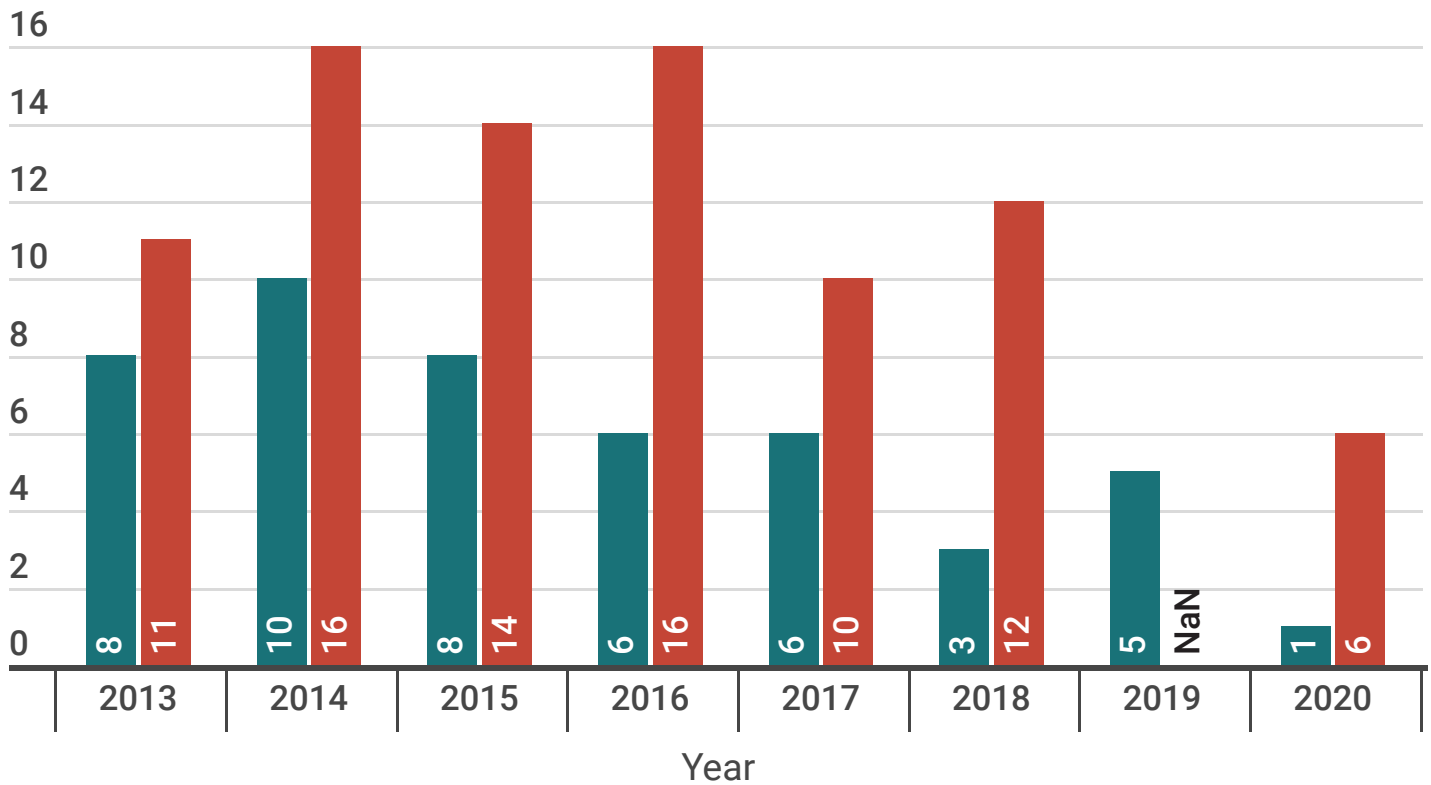
deactivation of equipment and launchers, decontamination, and disinfection. <?>

In evaluating the activity of the Strategic Missile Forces in addition to checking the combat readiness of missile divisions, it is important to consider the testing of missile systems. Six intercontinental ballistic missile (ICBM) launches were planned for 2020, with five of them to be launched

<?> “В РВСН пройдет специальное учение пунктов управления подсистемы ЕСВОП РВСН [The Strategic Missile Forces will hold a special training of the control points of the subsystem of the Unified System for Identifying and Assessing the Scales and Effects of the Strategic Missile Forces],” *Russian Defense Ministry*, June 24, 2020, https://structure.mil.ru/structure/forces/strategic_rocket/news/more.htm?id=12298838@egNews.

<?> “В Свердловской области проходит учение РВСН [In the Sverdlovsk region, the exercise of the Strategic Missile Forces takes place],” *Russian Defense Ministry*, July 27, 2020, https://structure.mil.ru/structure/forces/strategic_rocket/news/more.htm?id=12304106@egNews; and “Впервые на учении РВСН в Новосибирской области применялась новейшая техника войск РХБ защиты для спецобработки ПГРК «Ярс» [For the first time in the exercise of the Strategic Missile Forces in the Novosibirsk region, the latest equipment of the radiation, chemical and biological protection troops was used for special processing of Yars mobile missile systems],” *Russian Defense Ministry*, July 28, 2020, https://structure.mil.ru/structure/forces/strategic_rocket/news/more.htm?id=12304266@egNews.

ICBM launches (RS-12M Topol, RS-12M2 Topol-M, RS-24 Yars, UR-100NUTTKh)



Source: Russian Defense Ministry and the author's estimate

from the Plesetsk Cosmodrome.<?> The use of this spaceport means that the launches were primarily intended for missile training to test the combat readiness of the missile systems. However, only one launch took place, in December 2020, as part of a strategic nuclear triad exercise. Test launches are complex events involving military and nuclear

specialists from many organizations such as the Ministry of Defense, nuclear centers, and Roscosmos, the government space agency.<?> Coronavirus restrictions disrupted the interaction of decision makers from different regions. This conclusion is also supported by the record low number of all rocket launches in Russia. Roscosmos conducted only 17

<?> “Российские военные проведут шесть учебно-боевых пусков МБР в 2020 году [The Russian military will conduct six combat training launches of ICBMs in 2020],” *AVN-Interfax*, January 6, 2020, <https://www.militarynews.ru/story.asp?rid=1&nid=524877&lang=RU>.

<?> Roscosmos is a Russian State Corporation that manages the space industry and rocket and missile launches for civil and military purposes.



RT-2PM2 Topol-M (Wikimedia)

launches of Russian rockets in 2020—the lowest number since 1992.<?>

In 2020, the SMF's level of combat readiness dropped slightly. In 2020, plans called for a change in exercise intensity with a general tendency to keep the duration and number of exercise events at the same level.<?> That is, SMF divisions had to be more effective and perform more actions in an allotted time. They worked on reducing the amount of time

needed for deploying missile regiments on combat patrol routes.<?> However, the goal to increase intensity was postponed to 2021.<?> The reduction in the number of servicemen engaged in the execution of assigned tasks, decrease in the scope of training exercises, and reduction in the number of missile launches suggest a decrease in the combat readiness of the Strategic Missile Forces. However, this decline is likely temporary.

<?> “Россия установила антирекорд по числу космических пусков за год [Russia has made an anti-record for the number of space launches in a year],” *RIA Novosti*, December 30, 2020, <https://ria.ru/20201230/kosmos-1591495843.html>.

<?> “В 2020 году стратегические ракетчики планируют провести более 200 учений [In 2020, the strategic missile-man plan to conduct more than 200 exercises],” *Russian Defense Ministry*, January 2020, https://structure.mil.ru/structure/forces/strategic_rocket/news/more.htm?id=12269451.

<?> “На Военном совете ПВЧН подведены итоги учебного года [The Military Council of the Strategic Missile Forces summed up the results of the training year],” *Russian Defense Ministry*, November 23, 2020, https://structure.mil.ru/structure/forces/strategic_rocket/news/more.htm?id=12326164@egNews.

<?> Роман Бирюлин, Дмитрий Андреев [Roman Biryulin and Dmitry Andreev], “Ракетно-ядерный щит гарантирует суверенитет России [The nuclear missile shield guarantees Russia's sovereignty],” *Red Star*, December 16, 2020, <http://redstar.ru/raketno-yadernyj-shhit-garantiruet-suverenitet-rossii/>.



2. RUSSIA'S NUCLEAR POWER IN THE AIR

The Russian Air Force's Long-Range Aviation Command operates Russia's strategic missile carriers, a component of Russia's strategic nuclear forces in the air. In 2020, it had 68 strategic bombers, which accounted for 12% of Russia's nuclear weapons. In 2020, the crews of strategic missile carriers conducted about 17,500 flight hours,^{<?>} the lowest figure in recent years. The average flight time per crew was about 100 hours, a figure consistent with past years. The pandemic explains this disparity since not all crews performed their flights.

Nevertheless, the strategic bombers still acted intentionally in a manner that would prompt a response from countries' whose air defense identification zone (ADIZ) they entered. This activity includes noteworthy missions like the 16-hour flight of two Tu-

160 bombers over the neutral waters of the Barents Sea, Norwegian Sea, and Arctic Ocean in January.^{<?>} According to North American Aerospace Defense Command (NORAD), on January 31, 2020, bombers entered the Canadian ADIZ, an occurrence that has become an annual practice. This incursion occurred a few days after Deputy Director of Strategy at NORAD Jamie Clark declared that NORAD could not identify and track Russian long-range bombers until they got close enough to fire missiles on the continent.^{<?>} In addition, fighters do not always intercept Russian bombers, which^{<?>} confirms to the Russian long-range air force that the activity of strategic bombers in this region is poorly controlled. Russian forces may interpret the lack of effective response by NORAD as weakness, prompting further actions intended to provoke a response.

<?> "Сегодня исполняется 106 лет дальней авиации [Today marks 106 years of long-range aviation]," *Russian Defense Ministry*, December 23, 2020, <https://structure.mil.ru/structure/forces/vks/news/more.htm?id=12331417@egNews>.

<?> "Two Russian Tu-160 strategic bombers complete 16-hour flight above Arctic," *TASS*, February 1, 2020, <https://tass.com/defense/1115313>.

<?> "Russian bombers buzzed Canadian airspace: Norad," *CTV News*, January 31, 2020, <https://www.ctvnews.ca/canada/russian-bombers-buzzed-canadian-airspace-norad-1.4792142>.

<?> "Russian bombers buzzed Canadian airspace: Norad," *CTV News*.

Another mission of note is that of Russian Tu-95 bombers over the U.S. Navy's Camp Seadragon, located in the Arctic. The bombers deployed during U.S. military exercises on the ice of the Arctic Ocean on March 9.^{<?>} Even though such flights comply with international law, Vladimir Dzhabarov, First Deputy Chairman of the Federation Council Committee on Foreign Affairs, has stated that such flights tend to increase as global affairs grow more tense.^{<?>}

The increased activity of U.S. nuclear forces—activity which Russia always seeks to mirror—has become a source of aggravation for the Russian Military Space Forces. In May, U.S. Air Force B-1B and B-52H aircraft approached Russian airspace at close range five times, even venturing up to 10 kilometers from the border in one case. In response, on June 10, Russia took to the air with four Tu-95MS missile carriers that operated in two

groups comprising two aircraft each. Each group had one A-50 long-range airborne early warning and control aircraft. Two Su-35 fighters followed one of the groups.^{<?>} They flew 20 miles from the United States and conducted a simulated attack on American territory.^{<?>} A similar event took place in September when three American B-52H bombers flew over the Black Sea, and Russia responded by sending two Tu-160 planes to the British coast.

Most notably, in August 2018, Russia's Tu-160 appeared for the first time in Anadyr, the closest airfield to the United States, and returned annually. This kind of strategic bomber deployment demonstrates that Russia is close and that its airborne nuclear forces are actively involved in deterring the United States. Some reports suggest that in the exercise, Russian strategic bombers used new electronic countermeasure equipment to get as close to U.S. borders

<?> Kyle Mizokami, "Watch Russia Bombers Fly Over U.S. Submarines During Arctic Exercise," *Popular Mechanics*, March 12, 2020, <https://www.popularmechanics.com/military/navy-ships/a31446211/russia-bombers-us-submarines/>.

<?> "В Совфеде прокомментировали пролет бомбардировщиков ВВС США у границы [The Federation Council commented on the flight of US Air Force bombers near the border]," *RIA Novosti*, June 19, 2020, <https://ria.ru/20200619/1573181045.html>.

<?> Алексей Суконкин [Alexey Sukonkin], "Россия ответила на вызовы Вашингтона: бомбардировщики Ту-95МС пролетели в 20 милях от США [Russia responded to Washington's challenges: Tu-95MS bombers flew 20 miles from the United States]," *Federal News Agency*, June 12, 2020, <https://riafan.ru/1284342-rossiya-otvetila-na-vyzovy-vashingtona-bombardirovshiki-tu-95ms-proleteli-v-20-milyakh-ot-ssha>.

<?> "Российские Ту-95 отработали ядерный армагеддон по США [Russian Tu-95s have attacked of nuclear Armageddon on the United States]," *Avia.pro*, June 18, 2020, <https://avia.pro/news/rossiyskie-tu-95-otrabotali-yadernyy-armageddon-po-ssha>.

as possible by suppressing U.S. air and missile defense.^{<?>}

In past years, Russia demonstrated the capabilities of its Tu-160 bombers by conducting long-duration flights to Indonesia, Venezuela, and South Africa, simultaneously demonstrating its strategic partnership with these countries. Similar flights were planned for 2020,^{<?>} but because of the pandemic, they never took place. Instead, in September, Tu-160 crews conducted a record flight that covered about 20,000 kilometers in 25 hours and 25 minutes with three aerial refuelings. The aircraft flew over the neutral waters of the Arctic and Pacific Oceans, as well as the Kara, Laptev, East Siberian, Chukchi, and Barents Seas.^{<?>} This flight was meant as a demonstration for the United States, as the Tu-160 entered the American ADIZ several times.

In 2020, strategic missile carriers conducted 50 air patrol flights as part

of strategic deterrence, almost the same number as in the previous year. In November 2017, Chief of the General Staff of the Armed Forces of the Russian Federation Valery Gerasimov reported that Russia had increased the intensity of its strategic aviation flights to the level of the Soviet Union, though he included no data.^{<?>} Given that there are no stated goals to further intensify the activity of strategic bombers, Russia will likely strive to maintain the current level of patrols.

Another defining feature of Russian strategic missile carriers' activity is their interaction with foreign air forces. It is worth noting that Russian strategic missile carriers' exercise of power during the mass protests in Belarus. On September 22 and 24, two Tu-160 aircraft conducted two flights each along its southwestern, western, and northwestern borders. The Russian Ministry of Defense explained that the aircraft participated in joint military exercises with Belarus,

<?> “Российские стратегические бомбардировщики Ту-160 перебросили поближе к США и не просто так [Russian strategic bombers Tu-160 moved closer to the United States and it's for a reason],” *Avia.pro*, August 13, 2020, <https://avia.pro/news/rossiyskie-strategicheskie-bombardirovshchiki-tu-160-perebrosili-poblizhe-k-ssha-i-ne-prosto>.

<?> Тамара Астапенкова [Tamara Astapenkova], “Стратегический масштаб: в Минобороны анонсировали планы по дальним полетам ракетноносцев в 2020 году [Strategic scale: the Ministry of Defense announced plans for long-range flights of missile carriers in 2020],” *TV Zvezda*, December 21, 2020, <https://tvzvezda.ru/news/201912212131-AvQ-cl.html>.

<?> “Два российских стратегических бомбардировщика провели в воздухе больше суток, пролетов над Северным Ледовитым и Тихим океанами [Two Russian strategic bombers spent more than a day in the air, flying over the Arctic and Pacific Oceans],” *AVN-Interfax*, September 19, 2020, <https://www.militarynews.ru/story.asp?rid=1&nid=538124&lang=RU>.

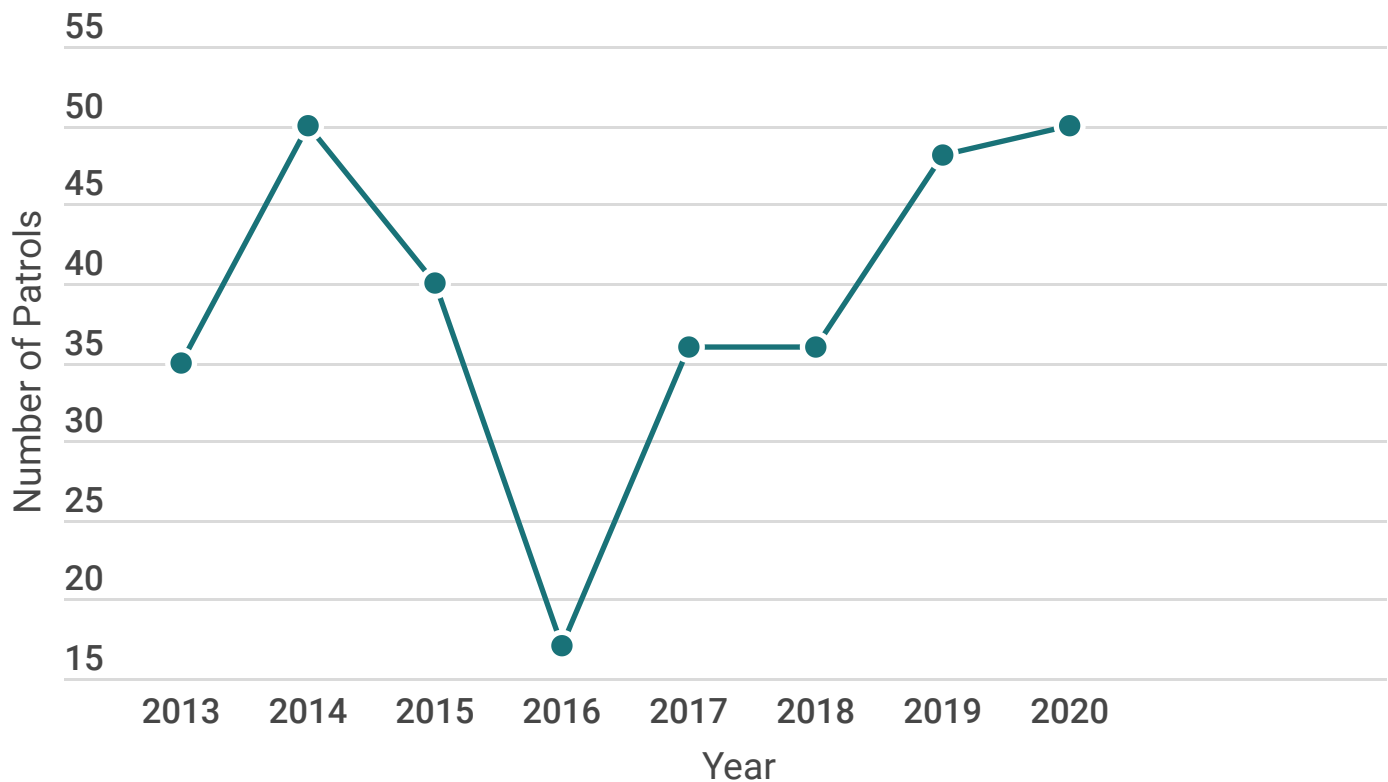
<?> He was probably talking about the average time spent in the air by each crew. See, “Два “стратера” Ту-160 в ходе учения перебазированы на аэродром на Чукотке рядом с границей с США [Two “strategic” Tu-160 during the exercise relocated to the airfield in Chukotka near the border with the United States],” *AVN-Interfax*, August 11, 2020, <https://www.militarynews.ru/story.asp?rid=1&nid=536158&lang=RU>.



Top: Joint exercises of Northern and Black Sea fleets. (kremlin.ru)

Bottom: President Putin's meeting with workers of Gorbunov Kazan Aviation Factory and Tu-160M pilots in 2018. (kremlin.ru)

Strategic Bomber Deterrent Patrols



Source: Russian Defense Ministry and the author's estimates

called *Slavic Brotherhood*.^{<?>} However, according to the aviation web portal *avia.pro*,^{<?>} the true purpose of the exercise was to train for potential nuclear strikes against Eastern Europe, the Baltic states, and Ukraine in response to NATO action

and Ukrainian provocation (according to Alexander Lukashenko, NATO began to build up its military forces near Belarus' western border and together with Ukraine demanded a re-run of the election in Belarus^{<?>}). Russian Tu-160 bombers in

<?> "Российские Ту-160 облетели западные границы Белоруссии [Russian Tu-160s flew around the western borders of Belarus]," *Moskovsky Komsomolets*, September 22, 2020, <https://www.mk.ru/politics/2020/09/22/rossiyskie-tu160-obleteli-zapadnye-granicy-belorussii.html>; and "Два стратегических бомбардировщика РФ второй раз за неделю пролетели вдоль границы Белоруссии - Минобороны РФ [Two strategic bombers of the Russian Federation for the second time in a week flew along the border of Belarus - the Ministry of Defense of the Russian Federation]," *AVN-Interfax*, September, 24, 2020, <https://www.militarynews.ru/story.asp?rid=1&nid=538359&lang=RU>.

<?> "Два российских Ту-160 одновременно отработали уничтожение Украины, Польши, Литвы и Латвии из воздушного пространства Белоруссии [Two Russian Tu-160s simultaneously attacked the destruction of Ukraine, Poland, Lithuania and Latvia from the airspace of Belarus]," *Avia.pro*, September 23, 2020, <https://avia.pro/news/dva-rossiyskih-tu-160-odnovremenno-otrabotali-unichtozhenie-ukrainy-polshi-litvy-i-latvii-iz>.

<?> Алексей Заквасин, Елизавета Комарова [Alexey Zakvasin and Elizaveta Komarova], "«Момент истины»: почему в Белоруссии заявили о «внешнем вмешательстве» со стороны Запада и Украины ["Moment of truth": why Belarus announced "external interference" from the West and Ukraine]," *RT*, August 17, 2020, <https://russian.rt.com/ussr/article/774395-lukashenko-ukraina-mitingi-vmeshatelstvo>.

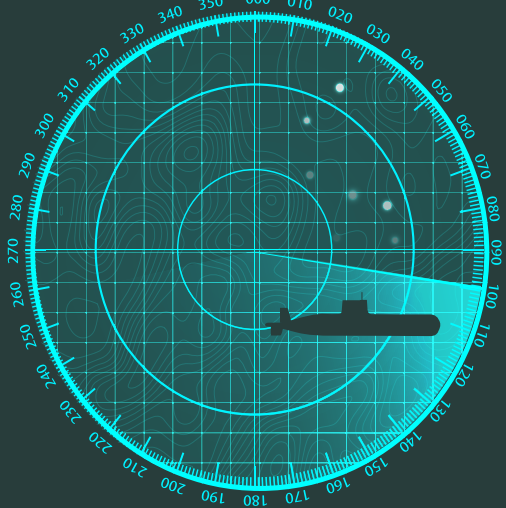
Belarusian air space, along the borders of Ukraine, Poland, Lithuania, and Latvia, demonstrated Russia's readiness to respond to the threat of a potential Western invasion of Russia and Belarus. Russia confirmed that it considers Belarus a true ally and that in a crisis—as is stipulated in its nuclear doctrine—Russia can use its nuclear forces for its defense.

The Russian SMF also demonstrated cooperation with the People's Liberation Army Air Force. At the end of December, Russian and Chinese strategic bombers conducted a joint air alert mission for the second time (the previous one took place in 2019). Two Russian Tu-160s and four Chinese Xian H-6K conducted a joint 10-hour patrol over the Sea of Japan and East China Sea.<?> Such repeated activities not only demonstrate the strategic partnership between Russia and China to the West, but also signal that Moscow and Beijing can respond to the joint activities of NATO in Europe with activities in the Indo-Pacific region—equally inconvenient for the United States. The involvement of foreign air forces in these operations only increases the level of confrontation between Russia and the West.

Despite some pandemic restrictions, Russian strategic aviation activity essentially remained at 2019 levels. This assertion is supported by the number of nuclear deterrence flights and by NATO data on Russian aircraft interceptions.<?> Sometimes, the purpose of these flights is to fly over military and strategic targets, but, other times, it is to collect data on the weaknesses of an enemy's air defenses. Increasingly, strategic bomber flights represent an exercise of power. The crews perform flights that demonstrate the full range of capabilities of strategic bombers and the depth of possible aircraft intrusion. Strategic bombers are a tool for the Kremlin's global interests in any region of the world. These actions make it clear that Russia will not tolerate pressure from the West.

<?> “Воздушно-космические силы России и Китая провели второе совместное воздушное патрулирование в Азиатско-Тихоокеанском регионе [The aerospace forces of Russia and China conducted the second joint air patrol in the Asia-Pacific region],” *Russian Defense Ministry*, December 22, 2020, <https://structure.mil.ru/structure/forces/vks/news/more.htm?id=12331318@egNews>.

<?> “NATO intercepts hundreds of Russian military jets in 2020,” *NATO*, December 28, 2020, https://www.nato.int/cps/en/natohq/news_180551.htm.



3. RUSSIA'S NUCLEAR POWER IN THE SEA

In 2020, the Naval Strategic Forces had 10 ballistic missile submarines (SSBN) with 160 missiles or 30% of Russia's nuclear weapons. Two submarine divisions in the Northern and Pacific Fleets control them. Just as in 2019, military representatives of NATO countries noted the high level of activity by Russian submarines in 2020. The Pentagon confirmed significant activity by the Russian Navy, primarily the submarine forces, through its publication of a map in an overview report that accompanied the budget proposal for fiscal year 2021.^{<?>} Admiral Tony Radakin, head of the Royal Navy, mentioned this activity when he said that Russia is "more active in the Atlantic – our backyard – than it has been for over 30 years."^{<?>}

Russian global patrol (as during the Cold War) returned in 2015. In 2016, according to Admiral Vladimir Korolev, Commander-in-Chief of the Russian Navy, combat patrol executed by Russian submarines reached the Cold War level: a cumulative total of 3,000 days.^{<?>} In 2020, submarine forces maintained that level. This figure was the same for five years with the exception of 2018. Before 2015, Russia operated only within its 200-mile economic zone.

Since Soviet times, the traditional zones for combat duty and patrols have been the Arctic and Atlantic Oceans, Mediterranean Sea, and Kamchatka region. According to Admiral Vyacheslav Popov, former Commander of the Northern Fleet, Russian vessels and submarines can defuse threats from these areas by

^{<?>} Joseph Trevithick, "New Pentagon Map Shows Huge Scale Of Worrisome Russian and Chinese Naval Operations," *The Drive*, February 10, 2020, <https://www.thedrive.com/the-war-zone/32145/new-pentagon-map-shows-huge-scale-of-worrisome-russian-and-chinese-naval-operations>.

^{<?>} Marc Nicol, "Britain's nuclear submarines become outnumbered as Russian vessels flood into the North Atlantic - as Putin reopens missile base near UK targets," *The Daily Mail*, October 20, 2020, <https://www.dailymail.co.uk/news/article-8876485/Britains-nuclear-submarines-outnumbered-Russian-vessels-flood-North-Atlantic.html>.

^{<?>} Tom Parfitt, "Russian sub patrols at Cold War levels, says navy chief," *The Times*, April 3, 2017, <https://www.thetimes.co.uk/article/russian-sub-patrols-at-cold-war-levels-says-navy-chief-9k72xqqdw>.

destroying the carriers of missiles, but not the missiles that have already been fired.<?>

The current commander of the Northern Fleet, Admiral Alexander Moiseyev, noted that the Russian submarine forces are unique, as they regularly not only navigate under the Arctic ice, including the circumpolar regions, but also conduct practical activities there involving missile armament.<?>

However, this activity does not have significant growth potential. Army Reserve Colonel Viktor Murakhovsky, Editor-in-Chief of *Arsenal Otechestva*, believes that there is a Russian naval presence off the coast of the United States, but not at a level sufficient for the Russian Navy.<?> The insufficient number of Russian SSBNs—and the New START Treaty—hinders an increase in their activity. In 2020, the Navy built only one strategic submarine of the

Borei-A class *Knyaz Vladimir*, although it was expected that there would be two of them. The limited and slow construction of strategic submarines, along with the withdrawal of the previous generation of submarines from the fleet, suggests that Russia has little opportunity to boost the activity of its SSBNs. Despite a desire for more submarines, the current level of activity is likely considered optimal and will be maintained.

It should be noted, however, that the spread of coronavirus has affected the naval nuclear forces' activity. In addition to combat simulations, all the fleets practiced responding to pandemics.<?> It is unclear if this training was of practical importance for whole Navy, but in July, the crew of the *Karelia* SSBN Delta-IV-class went into lockdown due to coronavirus spread on the vessel.<?> Since the coronavirus also

<?> “Адмирал оценил публикацию Пентагоном карты активности ВМФ России [The Admiral appreciated the publication of the Pentagon map of the Russian Navy activity],” *RIA Novosti*, February 12, 2020, <https://ria.ru/20200212/1564588681.html>.

<?> “Северный флот РФ сообщил о расширении географии походов подлодок [The Northern Fleet of the Russian Federation announced the expansion of the geography of trips of submarines],” *AVN-Interfax*, March 16, 2020, <https://www.militarynews.ru/story.asp?rid=1&nid=528688&lang=RU>.

<?> Александр Степанов [Alexander Stepanov], “Субмарины в теплых водах [Submarines in warm waters],” *Rossiyskaya Gazeta*, February 12, 2020, <https://rg.ru/2020/02/12/ssha-obespekoiilis-prisutstviem-rossijskih-korablej-u-svoih-beregov.html>.

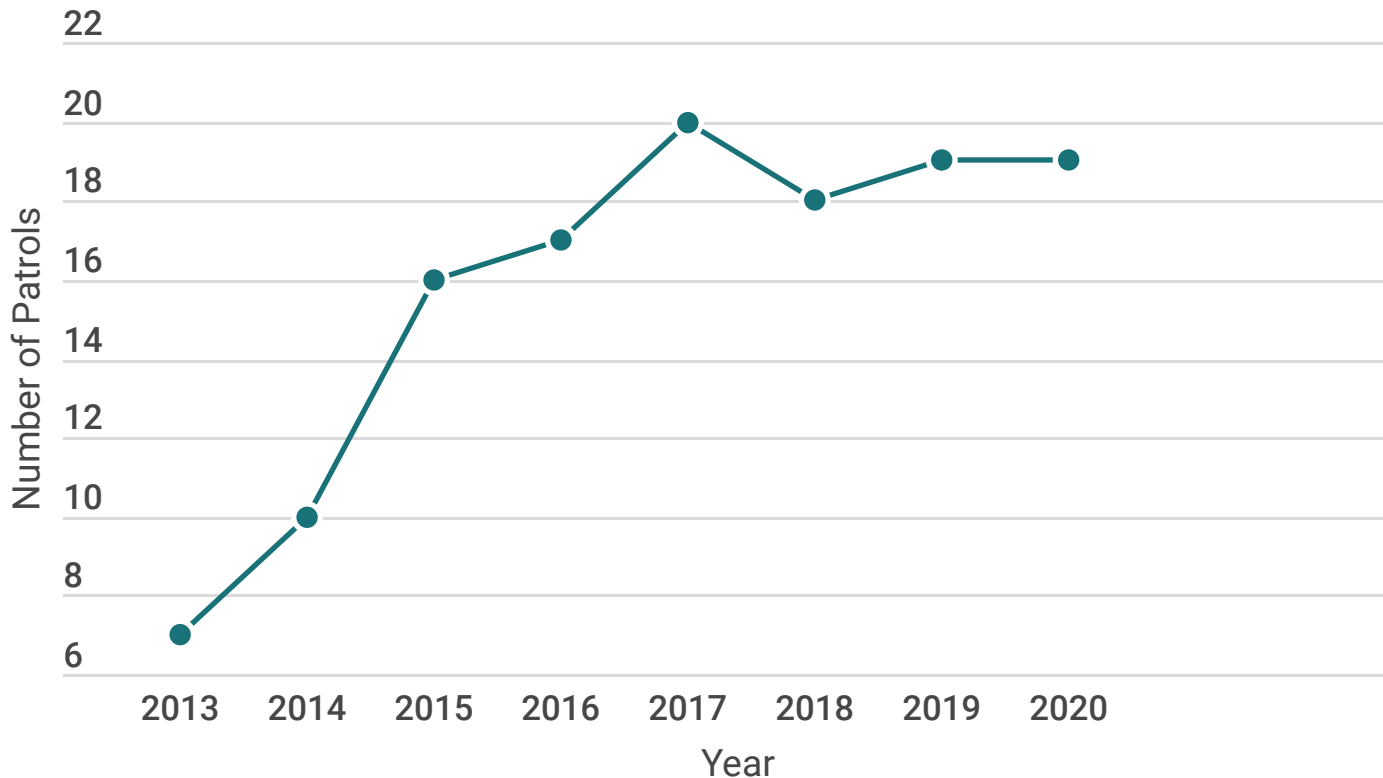
<?> “Силы Северного флота приведены в боевую готовность [The forces of the Northern Fleet are put on alert],” *SevPost*, July 17, 2020, <https://m.severpost.ru/read/98842/>.

<?> “В суде раскрылись детали скандала на российской атомной подлодке «Карелия» [The details of the scandal on the Russian nuclear submarine “Karelia” were revealed in court],” *Lenta.ru*, February 2021, <https://lenta.ru/news/2021/02/04/karelia/>.



Russian submarine *Yury Dolgorukiy* (K-535) in Severomorsk (mil.ru)

SSBN Deterrent Patrols



Source: Authors estimated data based on the Federation of American Scientists and the Russian Defense Ministry

affected the crews of other classes of submarines,^{<?>} the fleets probably had to spend time disinfecting the submarines and testing a lot of submariners. This could have delayed the formation of SSBN crews and the SSBN's entry into the sea. Despite this, Russia saw a consistent number (19) of nuclear deterrence patrols in 2019 and 2020.

When reviewing the nuclear triad's naval capabilities, it is important to evaluate both the Northern and Pacific fleets. The

large-scale gathering and mobilization of the Northern Fleet from July 7-11, which included strategic submarines, provides a useful example. The fleet forces trained to ensure combat stability of naval strategic nuclear forces and to locate and destroy submarines of a simulated enemy.^{<?>} However, the Pacific Fleet's strategic submarines saw more activity in 2020 than in the previous year. For example, in August, two Borei class nuclear-powered strategic submarines, *Alexander Nevsky*

<?> Thomas Nilsen, "Entire crew of nuclear submarine in coronavirus quarantine," *The Barents Observer*, March 28, 2020, <https://thebarentsobserver.com/en/security/2020/03/nuclear-submarine-crew-coronavirus-quarantine>.

<?> "На Северном флоте начались учения с участием более 30 кораблей [Exercises involving more than 30 ships have begun in the Northern Fleet]," *RT*, July 7, 2020, <https://russian.rt.com/russia/news/762189-severnyi-flot-ucheniya>.

and *Vladimir Monomakh*, drilled a simulated duel off the Kamchatka coast, during which the crews trained to attack and counterattack a submarine of a theoretical enemy with torpedoes.^{<?>} Such drills are regular and take place among multiple SSBNs and between SSBNs and cruise missile submarines (SSGNs).

In 2020, the Russian Pacific Fleet publicly announced for the first time that SSBNs *Vladimir Monomakh* and *Alexander Nevsky* had returned to their home stations from their sea missions.^{<?>} Given that the Northern Fleet has recently been raised to the status of a military district, the Russian Pacific Fleet is demonstrating to the domestic public that it is also active in nuclear deterrence and requires just as much attention, including through financial support. Of particular concern to the Pacific Fleet was the scheduled construction of a new Pacific submarine base in Vilyuchinsk that never occurred.

The Pacific Fleet can also tout its successful completion of a salvo practical missile-firing exercise as part of a nuclear forces drill on December 12, 2020. In this exercise, the *Vladimir Monomakh* launched four missiles towards the Chizha test range in the Arkhangelsk Region from a submerged position in the Sea of Okhotsk.^{<?>} This was the first time that the ballistic missile “Bulava” was fired from the Sea of Okhotsk. In 2019, Russian military experts were skeptical about the ability of the Pacific Fleet’s submarine forces to fire the Bulava from east to west.^{<?>} As if in response to this criticism, *Vladimir Monomakh* conducted a successful salvo firing exercise. The first time that four Bulava missiles were fired was in May 2018 from the *Yuri Dolgoruky* SSBN Borei-class located in the White Sea towards the Kura test range. The Pacific Fleet confirmed that its strategic submarines are of high combat readiness and are in no way inferior to the Northern Fleet’s SSBNs.

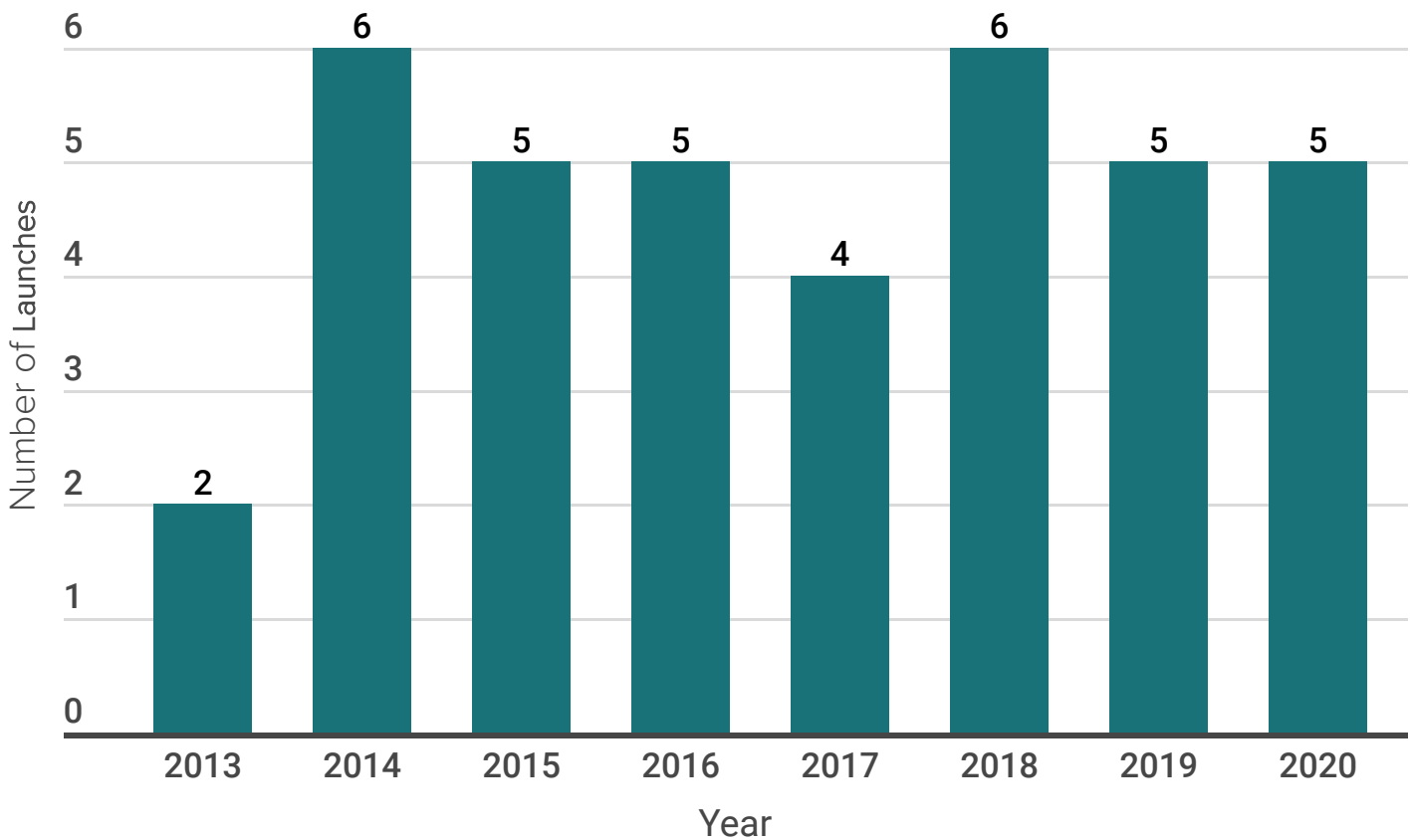
<?> “Атомные подводные крейсера ТОФ провели подводную торпедную дуэль у побережья Камчатки [Nuclear-powered submarines of the Pacific Fleet conducted an underwater torpedo duel off the coast of Kamchatka],” *Russian Defense Ministry*, August 4, 2020, https://function.mil.ru/news_page/country/more.htm?id=12305284@egNews.

<?> “Атомная субмарина “Александр Невский” вернулась на Камчатку из похода [The nuclear submarine “Alexander Nevsky” returned to Kamchatka from a campaign],” *AVN-Interfax*, September 24, 2020, <https://www.militarynews.ru/story.asp?rid=1&nid=538329&lang=RU>.

<?> “На Камчатке торжественно встретили экипаж атомного подводного крейсера «Владимир Мономах», успешно выполнивший залповый пуск ракет «Булава» [The crew of the nuclear-powered submarine “Vladimir Monomakh”, which successfully launched Bulava missiles, was solemnly welcomed in Kamchatka],” *Russian Defense Ministry*, December 21, 2020, <https://structure.mil.ru/structure/forces/navy/news/more.htm?id=12331173@egNews>.

<?> “Российскую «Булаву» признали критически небоеспособной [The Russian “Bulava” was recognized as critically unfit for action],” *Lenta.ru*, October 26, 2019, <https://lenta.ru/news/2019/10/26/bulava/>; and Иван Сафронов [Ivan Safronov], “Почему «Булава» не летает на запад, [Why the “Bulava” does not fly to the West],” *Vedomosti*, November 4, 2019, <https://www.vedomosti.ru/opinion/articles/2019/11/04/815392-bulava-letaet>.

SLBM launches (R29R, R29RMU2 Sineva, and R-30 Bulava)

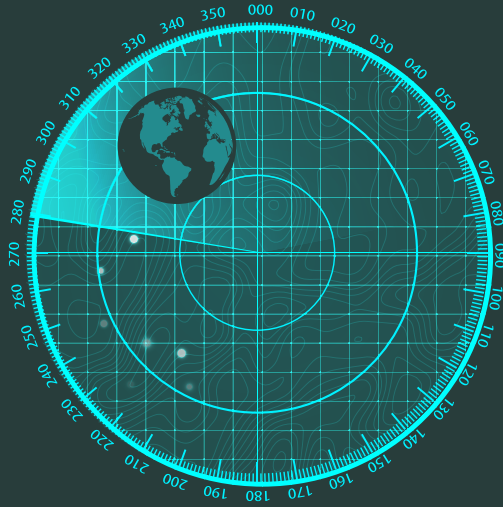


Source: Based on reports from the Russian Defense Ministry and Navy

In addition to the launch of the Bulava missile, the *Karelia* submarine launched the R-29RMU2 Sineva missile towards the Kuratestrange in Kamchatka on December 9. In total, there were five ballistic missiles launches from submarines in 2020. Such figures are consistent with the average launched annually.

The activity of Russia's strategic submarines in 2020 remained broadly the same as previous years. The coronavirus probably affected some crews and the timing of their formation, but it is unlikely to have contributed to a decrease in the overall activity of SSBNs at sea. Perhaps, the lower number of submariners

compared to other forces enabled better control of coronavirus community spread, which prevented the entire submarine force from being adversely affected. Also, unlike the SMF, the Strategic Submarines have greater consistency year after year in verifying the combat readiness of their missiles. Under difficult conditions caused by coronavirus restrictions, the submarine force carried out its second complex salvo launch in recent years—and performed it from a new range for the Bulava missile. Therefore, in 2020, the naval component of Russia's nuclear forces kept a high degree of combat readiness despite new challenges.



4. INFLUENCE ON THE WEST

Russia's nuclear activity is intended as a deterrent to the West. Russian President Vladimir Putin's words indicate how this might threaten NATO countries. Expressing dissatisfaction with NATO expansion, the growing number of military bases in Eastern Europe, and missile defense system development, he said that "seeing no positive developments, no one is ready to meet us halfway, we resumed the flights of our strategic aviation to remote areas." According to Russia's nuclear doctrine, Russia applies nuclear deterrence in response to the development of general-purpose forces by potential adversaries, including nuclear weapon delivery vehicles in Russia's neighboring territories, as well as the deployment of various strategic non-nuclear forces (from missile defense to hypersonic systems) by states that perceive Russia as a potential adversary. This underscores that nuclear weapons

are of paramount importance to Russia's national security and that they can be used in a variety of military scenarios. It is no surprise that Russia has intensified its nuclear activities since relations between Russia and the West are at their most strained since the end of the Cold War.

The activity of Russia's nuclear forces is also used as an instrument of pressure on NATO. This is a Cold War tactic: provoke your enemies, make them act, and watch their reactions. U.S. bombers have appeared periodically near Russia's borders, but Russian unease has grown since 2019 when six U.S. B-52Hs deployed to the United Kingdom's Fairford base and began conducting more frequent flights near Russia. In response, Colonel Franz Klintsevich, then-First Deputy Chairman of the Defense and Security Committee of the Federation Council, proposed to deploy Russian strategic bombers in states geographically close to the United

<?> Interview to German TV channel ARD, *Office of the President of Russia*, November 17, 2014, <http://en.kremlin.ru/events/president/transcripts/interviews/47029>.

States, namely Venezuela and Cuba.<?>

Russia conducts naval and air nuclear activity in proximity to the borders of NATO countries and other U.S. allies, but perceives similar activity by the United States as improper. According to Russian Deputy Minister of Defense Alexander Fomin, the activity of NATO air and naval forces in 2020 has increased significantly resulting in more situations that could lead to serious incidents.<?> Commander-in-Chief of the Russian Aerospace Forces Sergei Surovikin called the exercises of American B-52H strategic bombers next to Russia's borders hostile and provocative.<?> Carrying this judgment to its logical conclusion, we can conclude that Russia also provokes and risks international security when it conducts air and sea nuclear patrols near U.S. territory.

After the intensification of U.S. military activity near Russia's borders, the Russian military found it even easier to justify the activity of its strategic forces. Gerasimov

expressed dissatisfaction about the increased military activity of the United States and NATO that takes place 20-30 km from Russian borders,<?> and noted that Russia will respond accordingly. The presence of Russian strategic bombers in Chukotka will be permanent, the testing of air defense systems by strategic bombers will remain provocative, and submarine activity off the coast of the United States and other NATO countries will continue. Russian nuclear forces will seek to approach NATO's borders as close and as often as possible, which doubtlessly will lead to military tension. This dynamic not only poses a threat of uncontrolled military conflict, but it also threatens public safety. Despite Russian aircrafts' strict adherence with international rules, NATO criticizes Russian military aircraft for not transmitting a transponder code indicating their position and altitude, not filing a flight plan, and not communicating with air traffic controllers—all of which pose a potential risk to civilian airlines.<?>

<?> Валентина Романова [Valentina Romanova], "Не надо шутить с Россией: Как отбить у США желание посылать B-52 на Украину [Don't joke with Russia: How to discourage the US from sending B-52s to Ukraine]," *Inforuss*, September 19, 2020, <https://inforuss.info/ne-nado-shutit-s-rossiej-nazva/>.

<?> "Активность НАТО у границ России может привести к серьезным инцидентам - замминистра обороны [NATO activity near Russia's borders may lead to serious incidents-Deputy Defense Minister]," *AVN-Interfax*, December 27, 2020, <https://www.militarynews.ru/story.asp?rid=1&nid=543832&lang=RU>.

<?> "Главком ВКС назвал американские учения у границ России провокацией [The Commander-in-Chief of the Aerospace Forces called the American exercises near the borders of Russia a provocation]," *RIA Novosti*, September 11, 2020, <https://ria.ru/20200911/bombardirovshiki-1577093130.html>.

<?> "Генштаб сообщил о военной активности НАТО рядом с границами России [The General Staff reported on the military activity of NATO near the borders of Russia]," *RBC*, September 25, 2020, <https://www.rbc.ru/rbcfreenews/5f6e1dc69a79479dbe3586c1>.

<?> "NATO intercepts hundreds of Russian military jets in 2020," *NATO*, December 28, 2020, https://www.nato.int/cps/en/natohq/news_180551.htm.



President Putin observes Northern and Black Sea fleets, underway in the Black Sea. Various missiles were fired during the exercises, including Kalibr cruise missiles and the Kinzhal (Dagger) hypersonic air-launched ballistic missile. (January 2020, kremlin.ru)

According to Putin, the nuclear triad remains the most important and crucial factor guaranteeing Russia's military security, giving Russia flexibility and reducing other powers' ability to exert pressure.^{<?>} This belief motivates Russia's nuclear modernization and the nuclear triad's activity—showing that Russia will assert its interests. By maintaining a high level of military activity and by responding as loudly as possible, Russia shows how much importance it places on its nuclear forces and broadcasts this to the world. The high level of military activity is an asset that Russia can use to its advantage, which is why Putin suggested reducing military activity during the pandemic and complained that NATO refused to accept this idea.^{<?>}

By demonstrating its nuclear activity on land and in the sea and air, Russia exerts pressure and reminds the world that it is a global power. In this way, Russia draws on the Soviet experience during the Cold War. Demonstration of force through the development and activity of nuclear forces is intended provoke fear, put pressure on the United States, and encourage arms control negotiations aimed at addressing Russia's concerns: stopping ballistic missile defense, NATO's eastern expansion, and space militarization. However, with the collapse of the arms control system, Russia's nuclear activities remain unpredictable and potentially dangerous.

^{<?>} Meeting with senior Defence Ministry officials, heads of federal agencies and defence industry executives, Office of the President of Russia, November 10, 2020, <http://en.kremlin.ru/events/president/news/64392>.

^{<?>} Meeting with senior Defence Ministry officials, heads of federal agencies and defence industry executives, Office of the President of Russia.

Conclusion

Nuclear weapons are an asset for Russia. They are a great tool to put pressure on NATO countries and other U.S. allies, and serve as a way for Russia to demonstrate its power. The importance of its nuclear forces explains why Russia's nuclear activity in 2020 remained at a high level despite the COVID-19 pandemic. The Strategic Missile Forces refrained from conducting exercises that included multiple divisions simultaneously across several regions and reduced the number of servicemen participating. Because it was impossible to engage all crews, long-range aviation reduced the total number of flight hours. The pandemic also affected strategic submarines, but it had no significant effect on their activities. The nuclear triad has maintained a high level of readiness. According to the Ministry of Defense, the figures demonstrating the preparedness of nuclear forces achieved in 2019 and 2020 are optimal, and there is no need to further increase them because the rate of new weaponry deployment and introduction of new trained crews is low. The decline in nuclear activity is temporary, and after mass vaccination of military personnel, the indicator will return to normal levels.

There is nothing new about the activity of Russian nuclear weapons forces near the borders of NATO member states. These exercises are at a minimum needed to maintain the combat readiness of servicemen and equipment. However, the continued intensity of such activity and the lack of trust and communication between Russian military commanders and the West must be evaluated in the bigger picture of Russia's policy of confrontation. There is no reason to expect a decrease in nuclear activity without improving all aspects of relations between Russia and the West. In the absence of a new arms control mechanism and as the latest strategic weapons forces are delivered, nuclear weapons will remain an active mechanism in Russian foreign policy.



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In 2013-2014, he was coauthor and editor of PIR Center White Paper "Towards nuclear disarmament: NTP article VI and Implementation of the 2010 Review Conference Decisions." In 2014-2015, Executive Editor of the Conference Proceedings of III & IV Moscow Conference on International Security of the Ministry of Defence of Russian Federation. In 2010-2019, he was a permanent member of the Expert Council of the annual all-Russian essay competition on NATO-Russian relations of the NATO Information Office in Moscow and Information Centre for International Security.

Further Reading

With Russia playing an ever-larger role in global politics, understanding the drivers of Russian foreign policy is crucial. This series of papers examines the factors that shape Russian's relations with countries in its neighborhood and further afield. What are Russia's foreign policy goals? What tools has it used to try to achieve them? And to what extent is Russia attaining its aims? Drawing on scholars with deep regional expertise and based on fresh research, FPRI's Russia Foreign Policy Papers provide new insight into understanding Russia's international role.

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