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Russia's War in Ukraine: Military and Intelligence Aspects

Updated April 27, 2022

Congressional Research Service
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R47068

CRS REPORT
Prepared for Members and
Committees of Congress

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SUMMARY

R47068

April 27, 2022

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Russia's War in Ukraine: Military and Intelligence Aspects

Russia's renewed invasion of neighboring Ukraine in February 2022 marked the start of Europe's deadliest armed conflict in decades. After a steady buildup of military forces along Ukraine's borders since 2021, Russia invaded Ukraine on February 24, 2022, with Russian ground forces attacking from multiple directions.

Initially, Russian forces made gains along all lines of advance. However, Russian forces ran into effective and likely unexpected levels of Ukrainian resistance from the invasion's outset. In addition, many analysts and officials assess that during this first stage of the war the Russian military performed poorly overall and was hindered by specific tactical choices, poor logistics, ineffective communications, and command-and-control issues. The Ukrainian military, while at a quantitative and qualitative disadvantage in personnel, equipment, and resources, has proven more resilient and adaptive than Russia appeared to expect, including via the effective use of guerrilla tactics.

Over the course of the first several weeks of the war, Russian President Vladimir Putin and the Russian military had to adjust to various setbacks and other developments on the ground. With many of its advances stalled, in late March 2022, Russian defense officials announced that Russian military operations would focus on eastern Ukraine, including the regions of Donetsk and Luhansk (collectively known as the Donbas, where Russian-led separatists have been fighting since 2014) and that Russia would withdraw its forces around Kyiv and Chernihiv in the north.

Russia has been accused of repeated war crimes by Ukraine, nongovernmental organizations, the United Nations, multiple states, and the Biden Administration. Russian forces allegedly have targeted and bombed civilian targets, including a maternity hospital in Mariupol. Russian forces also have been accused of causing indiscriminate killings, particularly after the discovery of mass graves and apparently executed civilians following the Russian military's withdrawal from the Kyiv suburb of Bucha.

In the latest phase of the war, Russia has reconsolidated its forces in preparation for an offensive to surround and cut off Ukrainian forces in the Donetsk and Luhansk regions of eastern Ukraine. President Putin recalibrated his stated war aims to emphasize helping "the people in the Donbas, who feel their unbreakable bond with Russia." The southern coastal city of Mariupol (in the Donetsk region) has been a key target for the Russian military. At the same time, as Russia shifts forces and focus to the Donbas, Russian units in the southwest may be exposed and vulnerable to Ukrainian Armed Forces (UAF) counterattacks. It is unclear whether Russia has the necessary forces to achieve its recalibrated objectives, considering losses of personnel and equipment. The Russian military will likely rely increasingly on massed airpower and artillery to compensate for a lack of maneuver units.

Congress is likely to continue to track these developments closely, especially as it considers U.S. and international efforts to support Ukraine militarily and respond to events on the ground. For more, see CRS Report R47054, *Russia's 2022 Invasion of Ukraine: Related CRS Products*.

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Introduction

Russia's renewed invasion of neighboring Ukraine in February 2022 marked the start of Europe's deadliest armed conflict in decades. It also prompted intensive international efforts to respond to the war. Multiple Members of Congress have engaged with U.S. and international measures, including by supporting sanctions against Russia, providing assistance to Ukraine, and bolstering support to neighboring NATO countries. The immediate and long-term implications of the war are likely to be far-reaching, affecting numerous policy dimensions of concern to Congress.

This report addresses Russian and Ukrainian military and intelligence aspects of the war, which are of interest to many in Congress as Congress considers various legislative measures and conducts oversight of U.S. policy. It provides an overview of the conflict, including the run-up to the invasion, the performance and conduct of the Russian and Ukrainian militaries, possible Russian intentions, and recent developments on the ground. For other CRS products related to Russia's invasion of Ukraine, including U.S. policy dimensions, see CRS Report R47054, *Russia's 2022 Invasion of Ukraine: Related CRS Products*.

Prelude to Invasion: Military Buildup and Force Posture

In mid-October 2021, social media and news outlets began to report significant movement by Russian military forces, with limited Russian transparency, on or near the Ukrainian border and within Ukraine's occupied Crimea region. The buildup came after a sustained increase in Russia's permanent force posture on the Ukrainian border.[1] Since 2014, Russia has created two new Combined Arms Armies (CAAs), one in the Western Military District (20th CAA, headquartered in Voronezh) and one in the Southern Military District (8th CAA, headquartered in Rostov-on-Don and Novocherkassk) bordering Ukraine. Russia created these CAAs to oversee, coordinate, and manage command and control of units transported to the border. The 8th CAA also reportedly commands the separatist units in two Russia-controlled areas in eastern Ukraine (the so-called Donetsk and Luhansk People's Republics, or DNR/LNR).

Throughout December 2021, Russia continued to build up its forces in the region. Prior to the February 2022 invasion, Russia had mobilized between 150,000 and 190,000 personnel and 120 Battalion Tactical Groups (BTGs) on its border with Ukraine,[2] in Belarus, and in Ukraine's occupied Crimea region, according to U.S. government estimates.[3]

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[1] Michael Kofman, "Putin's Wager in Russia's Standoff with the West," *War on the Rocks*, January 24, 2022.

[2] Battalion Tactical Groups (BTGs) are ad hoc, task-specific formations designed to operate autonomously as combined arms formations. BTGs are built around infantry and armor units, with supporting air defense, artillery, and other units. BTGs comprise the higher readiness units of the Russian military and are staffed by professional (also known as contract) personnel. Each Russian regiment or brigade is intended to generate two BTGs. In August 2021, Russian Defense Minister Sergei Shoigu stated the Russian military had 168 BTGs. Lester W. Grau and Charles K. Bartles, *The Russian Way of War: Force Structure, Tactics and Modernization of the Russian Ground Forces* (Leavenworth, KS: Foreign Military Studies Office, 2016), pp. 34-40; Tass, "Russian Army Operates Around 170 Battalion Tactical Groups—Defense Chief," August 20, 2021; Sebastien Roblin, "Russian Battalion Groups Are Assembling Around Ukraine. What Is Putin Up To?"*19FortyFive*, December 17, 2021; Conflict Intelligence Team, "'Almost All Contract Soldiers Are Going to the Border:' Comments on Social Media Shed Light on Russian Troop Transfer," January 19, 2022.

[3] U.S. Mission to the Organization for Security and Cooperation in Europe, "U.S. Statement for the Vienna Document Joint PC-FSC Chapter III Meeting," February 12, 2022; Department of Defense, "Senior Defense Official Holds a Background Briefing," March 3, 2022, at https://www.defense.gov/News/Transcripts/Transcript/Article/2954139/senior-defense-official-holds-a-background-briefing/.

During this buildup, analysts and observers documented the movement of Russian units from across Russia toward Ukraine.[4] The 41st and 2nd CAAs moved from the Central Military District into Belarus and to Ukraine's northeast border with Russia; the 1st Guards Tank Army and the 6th CAA moved from the Western Military District to Ukraine's eastern border with Russia; the 49th and 58th CAAs moved from the Southern Military District to occupied Crimea and to Ukraine's southeast border with Russia; and the 35th and 36th CAAs (and elements of the 29th and 5th CAAs) moved from the Eastern Military District to Belarus (see **Figure 1**).[5] In addition, Russia deployed elite units—such as Russian Airborne (VDV), Naval Infantry, and *spetsnaz* (elite light infantry units used for reconnaissance and direct action)—around Ukraine's borders.[6]

These forces included the full range of Russian military capabilities, including artillery and support systems. The ground forces included air defense, artillery and rocket artillery, long-range precision missile systems (Iskander-M short-range ballistic missile [SRBM] systems), electronic warfare, support, and logistics units.[7] Additionally, by February 2022, Russia had mobilized large numbers of Aerospace Forces (VKS) fighter, fighter-bomber, and helicopter squadrons, which some observers believed would play a key role in the initial invasion.[8]

On February 21, 2022, Russian President Vladimir Putin announced that Russia would recognize the independence of the DNR and LNR. Russian recognition appeared to include the entire regions of Donetsk and Luhansk (collectively known as the Donbas), most of which had remained under Ukrainian control since Russia's first invasion of Ukraine in 2014, and not just territory controlled by DNR/LNR.

Shortly after February 21, Putin announced Russia would send "peacekeepers" into the DNR/LNR, claiming they were to defend against Ukrainian plans for invasion and sabotage attempts. These Russian charges had no basis in fact. Despite denials from Russian officials, Russia had spent months amassing a significant portion of its military capabilities around Ukraine.[9]

On February 24—following months of warning and concern from the Biden Administration, European allies, NATO, and some Members of Congress—Russia invaded Ukraine. Russia claimed its invasion was to conduct a "special military operation" to protect the civilian

[4] For more on the Russian military buildup, see CRS Insight IN11806, *Russian Military Buildup Along the Ukrainian Border*, by Andrew S. Bowen.

[5] Units from all 11 Combined Arms Armies (CAAs) and one Tank Army (as well as the 14th and 22nd Army Corps) were present on the borders of Ukraine in the run-up to the invasion. For more, see Konrad Muzyka, "Tracking Russian Deployments near Ukraine—Autumn-Winter 2021-22," Rochan Consulting, November 15, 2021; Dmitry Gorenburg and Michael Kofman, "Here's What We Know About Russia's Military Buildup near Ukraine," *Washington Post*, January 15, 2022.

[6] VDV include elite paratroop and air assault forces. VDV act as Russia's elite rapid response forces. For more on Russian military capabilities and structure see CRS In Focus IF11589, *Russian Armed Forces: Capabilities*, by Andrew S. Bowen; Christian Haimet, "Russian Troop Buildup Continues on Ukrainian Borders," *Janes IHS*, February 21, 2022.

[7] Michael R. Gordon and Max Rust, "Russian Buildup near Ukraine Features Potent Weapons Systems, Well-Trained Troops," *Wall Street Journal*, February 14, 2022.

[8] Russia's Aerospace Forces include the air force, air defense, and space defenses forces. Russia merged these organizations into the VKS in 2015. Julian E. Barnes, Michael Crowley, and Eric Schmitt, "Russia Positioning Helicopters, in Possible Sign of Ukraine Plans," *New York Times*, January 10, 2021; Tass, "Russia's Su-35S Fighter Jets Deployed in Belarus for Upcoming Drills-Ministry," January 26, 20212.

[9] Tara Copp, "They Could Go at Any Hour Now;' U.S. Official Warns of Larger Russian Invasion of Ukraine," *Defense One*, February 23, 2022.

population and to "demilitarize" and "de-Nazify" Ukraine; many observers understood the latter term as a false pretext for overthrowing the democratically elected Ukrainian government.[10]

Initial Invasion

On February 24, 2022, hours after Putin's televised address announcing a "special military operation," Russia invaded Ukraine with an air and missile attack, using precision-guided munitions (PGMs) against key targets. These early targets included logistics centers, naval installations, command and control centers, air defenses, and critical infrastructure.[11] In the opening stages of the attack, the Pentagon assessed that Russia launched over 100 SRBMs, including Iskander-M SRBMs, and air- and sea-launched cruise missiles.[12]

Some observers believe Russia's initial strategy was (or was intended) to achieve air superiority, degrade Ukrainian air defenses, and undermine the Ukrainian military's ability to coordinate defenses and counterattacks. This initial bombardment, however, was more limited in duration and scale than some analysts expected.[13] In particular, analysts noted that the Russian air forces (VKS) failed to conduct effective suppression of enemy air defense missions, either because of an unwillingness to act or because of a lack of capability. Russia's failure to degrade the Ukrainian air force and air defenses, as well as Ukrainian command and control capabilities, allowed the Ukrainian military to respond more successfully to Russia's invasion than most observers expected, both at the outset and subsequently.[14]

After the air assault, Russian ground forces attacked from multiple directions: north from occupied Crimea in the direction of Kherson; limited incursions west from DNR/LNR; from Russia's Belgorod and Kursk toward Ukraine's cities of Kharkiv and Sumy; and a strong two-pronged thrust toward the capital of Kyiv from Belarus (see **Figure 1**).[15]

[10] Audrius Rickus, "Baseless Claims of 'Denazification' Have Underscored Russian Aggression Since World War II," *Washington Post*, March 9, 2022.

[11] Isabelle Khurshudyan et al., "As West Unleashes Sanctions, Russian Military Pushes Toward Kyiv," *Washington Post*, February 24, 2022; Alex Kokcharov and John Raines, "Russia Begins 'Blitzkrieg' Invasion of Ukraine with Objective of Quick Victory; Intensive Fighting Likely Across Country," *Janes IHS*, February 25, 2022.

[12] RFE/RL, "Zelenskiy Says Ukraine Has Suffered 'Serious Losses' After Russian Air Strikes Pound Dozens of Targets," February 24, 2022; Thomas Newdick, "These Are the Standoff Missiles Russia Used to Open Its War Against Ukraine," *The Drive*, February 24, 2022.

[13] Michael Kofman and Jeffrey Edmonds, "Russia's Shock and Awe: Moscow's Use of Overwhelming Force Against Ukraine," *Foreign Affairs*, February 22, 2022.

[14] Some analysts speculate that this result was due to Ukraine's decision, possibly influenced by U.S. and Western intelligence, to activate and disperse most of its units from their permanent bases in preparation for a possible Russian invasion. Warren P. Strobel and Michael R. Gordon, "Biden Administration Altered Rules for Sharing Intelligence with Ukraine," *Wall Street Journal*, March 8, 2022.

[15] Nicholas Fiorenza, Huw Williams, and Thomas Bullock, "Ukraine Conflict: Russia Launches Multipronged Attack on Ukraine," *Janes IHS*, February 24, 2022.

Figure 1. Ukraine

Source: Congressional Research Service

Kyiv was an initial key Russian military target.[16] Led by elite, but comparatively lightly equipped, VDV, *spetsnaz*, and reconnaissance units, Russian forces advanced along the western side of Kyiv and reached the outskirts of the city within days.[17] In the early hours of the invasion, Russian VDV units conducted a risky air assault to seize the Antonov International Airport in Hostomel, on the outskirts of Kyiv.[18] Analysts have argued that the Russian attack to seize the airport was intended to allow the rapid introduction of follow-on VDV units to surround and seize the Ukrainian capital.[19] Ukrainian forces, however, responded and repulsed the attack, reportedly causing heavy Russian casualties and shooting down several helicopters.[20]

Initially, Russian forces made gains along all lines of advance.[21] Russia made the most progress in the south from occupied Crimea, reportedly imposing significant casualties on Ukrainian forces in the region. Russian forces advanced quickly toward Kherson (which they captured on March 2,

[16] Yuliya Talmazan et al., "Russian Troops Advance Within 20 Miles of Ukraine Capital, Pentagon Says," NBC News, February 24, 2022; Katie Bo Lillis, Natasha Bertrand, and Barbara Starr, "U.S. Officials Fear the Worst Is Yet to Come for Kyiv," CNN, March 1, 2022.

[17] Mark Galeotti, "Russian Airborne Forces Retool for an Expanded Role," *Janes IHS*, October 25, 2021.

[18] Haley Williams, Ainara Tiefenthaler, and Masha Froliak, "Russian Helicopters Attack an Airport Near Kyiv," *New York Times*, February 24, 2022.

[19] Mason Clark, George Barros, and Kateryna Stepanenko, "Russian Offensive Campaign Assessment," Institute for the Study of War, February 25, 2022.

[20] James Marson, "Putin Thought Ukraine Would Fall Quickly. An Airport Battle Proved Him Wrong," *Wall Street Journal*, March 3, 2022.

[21] CRS Insight IN11872, *Russia's Invasion of Ukraine: Military and Intelligence Issues and Aspects*, by Andrew S. Bowen.

2022) and eventually turned toward the Ukrainian coastal city of Mariupol.[22] Analysts argue that Russian advances in the south were successful in part because they involved some of Russia's most modern and professional units from the Southern Military District and had better logistical support than other units, due to rail access from Crimea.[23] In other regions, Russia made slow but initially steady progress, seeking to encircle rather than capture major urban centers such as Sumy, Kharkiv, and Chernihiv.[24] Logistics issues and other factors soon stalled most Russian advances.[25]

Russian forces ran into effective Ukrainian resistance from the invasion's outset.[26] Despite not announcing a general mobilization until February 25, after the invasion began, the Ukrainian military immediately hindered, deflected, and imposed costs on Russian forces in personnel and equipment. The Ukrainian military appeared to exploit numerous tactical and operational deficiencies of Russian forces (which were overextended in many cases), allowing the Ukrainian military to conduct ambushes and counterattacks. In addition, many analysts point to the role of significant security assistance from the United States and other Western countries (including weapons and equipment as well as military advice and training) in improving the Ukrainian military's capacity to defend against Russia's invasion.[27]

Analysis of Russia's Initial Military Performance

Despite Russian forces launching heavy attacks and advancing across Ukraine, the Russian military overall performed poorly during the initial phases of the invasion, surprising many observers and analysts.[28] Reports indicated that Russia's military and political leadership appeared surprised by the military's lack of progress and the level of resistance from Ukrainian forces.[29] As Director of National Intelligence Avril Haines stated to Congress in early March, "We assess Moscow underestimated the strength of Ukraine's resistance and the degree of internal military challenges we are observing, which include an ill-constructed plan, morale issues and considerable logistical issues."[30]

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[22] Michael Schwirtz and Richard Perez-Pena, "First Ukraine City Falls as Russia Strikes More Civilian Targets," *New York Times*, March 2, 2022.

[23] Michael Kofman and Ryan Evans, "Into the Third Week: Will Russian Forces Need to Pause?," *War on the Rocks*, March 14, 2022.

[24] Richard Perez-Pena, "Russia Batters and Encircles Ukrainian Cities, as Diplomacy Falters," *New York Times*, March 10, 2022.

[25] Bonnie Berkowitz and Artur Galocha, "Why Russia's Military Is Bogged Down by Logistics in Ukraine," *Washington Post*, March 30, 2022.

[26] Yaroslav Trofimov, "Ukrainian Forces Repel Russian Attack on Kyiv, Prepare for Next Assault," *Wall Street Journal*, February 26, 2022.

[27] Brett Forrest and Alan Cullison, "How Ukraine Blunted the Russian Advance," *Wall Street Journal*, March 6, 2022; CRS In Focus IF12040, *U.S. Security Assistance to Ukraine*, by Christina L. Arabia, Andrew S. Bowen, and Cory Welt. In addition to the significant levels of security assistance, Western training for the Ukrainian military, specifically Ukrainian special operations forces, has played a key role in defending against Russia's invasion. For more, see Andrew White, "Ukraine Conflict: Ukrainian Special Operations Forces in Focus," *Janes IHS*, March 4, 2022.

[28] Sam Jones, John Paul Rathbone, and Demetri Sevastopulo, "A Serious Failure': Scale of Russian Military Blunders Becomes Clear," *Financial Times*, March 12, 2022.

[29] Department of Defense, "Ukrainian Resistance, Logistics Nightmares Plague Russian Invaders," press release, March 1, 2022; Michael Schwirtz, "Proud Band of Ukrainian Troops Holds Russian Assault at Bay—for Now," *New York Times*, March 6, 2022.

[30] U.S. Congress, House Permanent Select Committee on Intelligence, *Worldwide Threats*, 117th Cong., March 8, 2022.

Some Russian forces invaded with apparently little preparation. Captured Russian soldiers and intercepted communications revealed that many units were unaware they were to invade Ukraine until shortly beforehand.[31] Reports also indicated that many in the Russian military were operating with poor morale, soon compounded by increasing casualties, poor leadership, and a lack of supplies.[32]

According to Russian law, conscripts cannot be used in combat operations unless Russia declares a national emergency and mobilization.[33] Nevertheless, on March 9, 2022, the Russian Ministry of Defense stated that conscripts had been involved in the invasion, contradicting Putin's claim that no conscripts would see combat.[34]

Russian units were operating with very little tactical sophistication and not as combined arms formations, leaving units exposed and unprepared for Ukrainian resistance, according to observers and analysts.[35] For example, elite but relatively lightly equipped units, such as VDV and *spetsnaz*, conducted operations they were not trained or equipped to conduct, such as advancing into urban areas, where they appeared to suffer heavy casualties due to the lack of heavy armored support. Additionally, armored units advanced without infantry support in numerous instances.[36] In another example, Russian National Guard (*Rosgvardiya*) units reportedly advanced alongside, and sometimes in front of, Russian military forces, apparently with little coordination.[37]

During the initial phases of the invasion, the Russian military appeared not to use many of the systems and capabilities it had amassed prior to the invasion. Observers noted little evidence of Russia conducting electronic warfare or using advanced intelligence, surveillance, and reconnaissance assets, such as unmanned aerial vehicles.[38] Additionally, despite having significant artillery, rocket artillery, and air capabilities, Russian forces appeared restrained in their use of these systems and capabilities during the initial phases of the invasion.[39] Some analysts speculated that this occurred because the Russian military underestimated the level of

[31] Luke Harding, "Demoralized Russian Soldiers Tell of Anger at Being 'Duped' into War," *Guardian*, March 4, 2022.

[32] Helene Cooper, Eric Schmitt, and Julian E. Barnes, "As Russia's Military Stumbles, Its Adversaries Take Note," *New York Times*, March 7, 2022.

[33] Currently, Russia states it is conducting a "special military operation."

[34] Sarah Dean and Rob Picheta, "Russia Admits Conscripts Have Been Fighting in Ukraine, Despite Putin's Previous Denials," CNN, March 9, 2022.

[35] Liz Sly and Dan Lamothe, "The War in Ukraine Isn't Working Out the Way Russia Intended," *Washington Post*, February 27, 2022; Jack Watling, "Just How Tall Are Russian Soldiers?" RUSI, March 11, 2022; Mark Galeotti, "Echoes of Afghanistan in Russian Soldiers' Poor Discipline in Ukraine," *Moscow Times*, April 1, 2022.

[36] Serguy Bobok and Frankie Taggart, "Russian Airborne Troops Land in Ukraine's Second City Kharkiv," *Moscow Times*, March 2, 2022; James Marson and Daniel Michaels, "Ukraine's Troops Fight War of Ambush and Skirmish Against Russian Invaders," *Wall Street Journal*, March 22, 2022; Mark Urban, "The Heavy Losses of an Elite Russian Regiment in Ukraine," BBC, April 2, 2022.

[37] Rosgvardiya units are key internal security troops, neither equipped nor trained for conventional combat and likely sent into Ukraine early in the invasion to prevent protests against any new pro-Russian Ukrainian leadership. See CRS In Focus IF11647, *Russian Law Enforcement and Internal Security Agencies*, by Andrew S. Bowen; Vladimir Sevrinovsky, "Refusing to Kill People Isn't a Crime:' The Russian National Guard Is Firing Officers Who Refuse to Join the War in Ukraine," *Meduza*, March 29, 2022; Tim Ripley, "Russian National Guard Deployed Across Ukraine," *Janes IHS*, April 4, 2022.

[38] Mark Pomerleau, "Russia's Lack of Electronic Warfare in Ukraine Puzzling to Experts," *Fedscoop*, March 8, 2022; Ander Eversden and Jaspreet Gill, "Why Hasn't Russia Used Its 'Full Scope' of Electronic Warfare?," *Breaking Defense*, March 28, 2022.

[39] Thomas Newdick, "A Rundown of Russia's Arsenal of Artillery That Could Wreak Havoc on Ukraine's Cities," *The Drive*, March 4, 2022.

Ukrainian resistance, and that it indicated an initial hesitation to inflict collateral damage on civilian targets.[40]

In particular, many analysts were surprised at the apparently limited role the VKS played at the outset of the invasion, beyond the initial bombardment.[41] Russian ground forces appeared to have limited air cover, with Russia primarily relying on Iskander-M SRBMs or air-launched cruise missiles launched from VKS bombers inside Belarus and Russia, especially to target Ukrainian infrastructure and other targets in western Ukraine (see **Figure 2**).[42] The Ukrainian air force continued to operate over western Ukraine, and its air defenses shot down Russian aircraft and challenged Russian air superiority.[43] Specifically, Ukrainian forces used Turkish-manufactured TB2 unmanned combat aerial vehicles in reconnaissance, targeting, and attack missions against Russian forces.[44]

[40] Helene Cooper and Eric Schmitt, "Russian's Assault in Ukraine Slows After an Aggressive Start," *New York Times*, February 25, 2022.

[41] Justin Bronk, "The Mysterious Case of the Missing Russian Air Force," RUSI, February 28, 2022; Phil Stewart and Idrees Ali, "What Happened to Russia's Air Force? U.S. Officials, Experts Stumped," Reuters, March 1, 2022.

[42] Reuters, "Ukrainian Official Says Missiles Launched from Belarus to Ukraine," February 27, 2022; Reuters, "Ukraine Says It Downed Missile Launched by Russian Bomber Flying over Belarus," February 27, 2022; Kyrylo Ovsyaniy, "A Source of Death:' Air Bases in Russia, Belarus, and Crimea Used in Moscow's Assault on Ukraine," RFE/RL, March 24, 2022.

[43] Media reports have documented the loss of Su-25 (SM/SM3), Su-30SM, and Su-34 fighters and fighter-bombers, as well as numerous Mi-8, Mi-24, Mi-35, Mi-28N, and Ka-52 helicopters. Jack Siminski, "What the Air Campaign in Ukraine Tells Us About the Current State of the Russian Air Force," *Aviationist*, March 4, 2022.

[44] Billy Perrigo, "Ukraine's Secret Weapon Against Russia: Turkish Drones," *Time*, March 2, 2022; Dave Phillips and Eric Schmitt, "Over Ukraine, Lumbering Turkish-Made Drones Are an Ominous Sign for Russia," *New York Times*, March 22, 2022.

Figure 2. Ukraine Airfields and Key Infrastructure

Sources: Congressional Research Service, *Janes IHS*.

The Russian military also appeared unprepared for many other critical aspects of the conflict. Observers documented Russian units operating without encrypted communications, often using civilian equipment to communicate.[45] The lack of encrypted communications hampered the Russian military's ability to coordinate its operations and allowed the Ukrainian military to listen and exploit intercepted information.[46]

The Russian military's logistics issues limited its offensives in almost all sectors.[47] Russian units appeared poorly supplied (for example, some captured Russian food reportedly was expired and inedible) and seemed to advance past available logistics support. Available logistics appeared too limited to sustain multiple simultaneous offensives.[48] For example, a 40-mile-long Russian supply convoy on its way to Kyiv stalled, which undermined Russian advances on the Ukrainian

[45] James Rands, "Doctrine, Tactics, and Technical Issues Underpin Russian Forces' Communication Woes," *Janes IHS*, March 29, 2022.

[46] Sergei Dobrynin and Mark Krutov, "Communication Breakdown: How Russia's Invasion of Ukraine Bogged Down," RFE/RL, March 19, 2022; Jack Detsch and Amy MacKinnon, "'The Ukrainians Are Listening': Russia's Military Radios Are Getting Owned," *Foreign Policy*, March 22, 2022; Alex Horton and Shane Harris, "Russian Troops' Tendency to Talk on Unsecured Lines Is Proving Costly," *Washington Post*, March 27, 2022.

[47] Alex Vershinin, "Feeding the Bear: A Closer Look at Russian Army Logistics and the Fait Accompli," *War on the Rocks*, November 23, 2021; Ryan Baker, "The Russian Invasion Has Some Logistical Problems. That Doesn't Mean It's Doomed," *Washington Post*, February 28, 2022.

[48] Polina Beliakova, "Russian Military's Corruption Quagmire," *Politico.eu*, March 8, 2022.

capital.[49] Moreover, the Ukrainian military appeared to prioritize ambushing Russian supply columns, exacerbating Russian logistics issues.[50]

Reported Russian Casualties

Estimates of Russian casualties vary widely and may not be considered reliable. Due to the continuing state of war, verifying exact numbers of Russian casualties is nearly impossible. Below are some of the estimates that had been mentioned in various press reports by the end of April 2022.

Russia: Officially, the Russian government stated in late March that 1,351 soldiers had died and another 3,850 had been wounded. On March 20, 2022, the pro-Kremlin newspaper *Komsomolskaya Pravda* appeared to publish Russian Ministry of Defense figures that listed 9,861 deaths. This figure remains unconfirmed, and the newspaper deleted the report and stated that it had been hacked.

United States: The U.S. government has largely declined to release specific estimates, but U.S. Under Secretary of State Victoria Nuland stated in an interview on March 29, 2022, that Russia had sustained "incredible" losses and "by our estimates, more than 10,000 Russians dead."

NATO: NATO estimated that anywhere from 7,000 to 15,000 Russian soldiers had been killed.

Ukraine: Ukraine estimated that it had killed over 20,000 Russian troops since the war began.

United Kingdom: On April 25, British Defense Secretary Ben Wallace told the British House of Commons an estimated 15,000 Russian military personnel had been killed.

Sources: Emily Rauhala et al., "Russia Could Have Lost as Many as 15,000 Troops in Ukraine War, NATO Official Estimates," *Washington Post*, March 24, 2022; RFE/RL, "Russia Says 1,351 of Its Soldiers Have Died in Ukraine, Well Below Western Estimates," March 25, 2022; Yury Baranyuk, "Russia 'Taking Incredible Losses' in Ukraine, Senior U.S. Official Says," RFE/RL, March 30, 2022; Anushka PAtil, "Roughly 15,000 Russian Troops Have Died Since the Start of the War, the U.K. Estimates," *New York Times*, April 25, 2022.

In addition, analysts have noted that the Russian military appears to have issues with command and control, both at the tactical and the operational levels. Russian commanders appeared unprepared for many aspects of the invasion, as evidenced by a lack of coordination among branches (such as VKS and *Rosgvardiya*) and between units.[51] Reporting indicates that communication problems compounded these command and control issues, contributing to higher-ranking officers moving closer to the frontlines.[52] This exposure reportedly has led to a significant number of casualties among high-ranking officers, and especially mid-ranking officers, who are crucial to tactical-level operations.[53] Additionally, reports indicate there was no overall Russian operational commander.[54] As a result, it appears each CAA and axis of advance was operating independently, with questionable levels of coordination.[55] Recently, reports indicate that General

[49] Bill Chappell, "Russia's 40-Mile Convoy Has Stalled on Its Way to Kyiv, a U.S. Official Says," NPR, March 1, 2022.

[50] Julian Borger, "The Drone Operators Who Halted Russian Convoy Headed for Kyiv," *Guardian*, March 28, 2022.

[51] Sam Cranny-Evans and Thomas Withington, "Russian Comms in Ukraine: A World of Hertz," RUSI, March 9, 2022.

[52] Compared with Western militaries, Russian commanders have smaller staffs to assist command and generally are closer to the frontlines, which makes casualties among Russian officers more likely. Many analysts, however, have been surprised by the number and ranks of officers killed. The high number likely indicates that problems forced Russian commanders to accept greater levels of exposure. Jack Detsch, "'Winging It': Russia Is Getting Its Generals Killed on the Front Lines," *Foreign Policy*, March 21, 2022.

[53] Some reports indicate that Ukrainian forces specifically targeted Russian commanders by exploiting their use of unsecured communications, possibly contributing to the high fatality rate. Alex Horton and Shane Harris, "Russian Troops' Tendency to Talk on Unsecured Lines Is Proving Costly," *Washington Post*, March 27, 2022.

[54] Katie Bo Lillis and Zachary Cohen, "Who Is Russia's Top Field Commander in Ukraine? The U.S. Isn't Sure." CNN, March 22, 2022; Helene Cooper and Eric Schmitt, "Russia's War Lacks a Battlefield Commander, U.S. Officials Say," *New York Times*, March 31, 2022.

[55] Reportedly, each CAA brought and set up its own headquarters structure rather than integrating under the command

Alexander Dvornikov, head of the Southern Military District, was given operational command of Russia's war to help streamline command and control.[56]

Analysis of Ukraine's Initial Military Performance

Many observers and analysts have been surprised and impressed by Ukraine's military resistance. Despite having a smaller military than Russia, and a quantitative and qualitative disadvantage in equipment and resources, the Ukrainian Armed Forces (UAF) have proven resilient and adaptive.[57] Analysts note the UAF has demonstrated greater flexibility than the Russian military and a willingness to adapt to changing conditions to exploit Russian missteps and weaknesses.[58] The UAF also has been benefiting from high levels of motivation and recruitment.[59]

Initially, the UAF traded space to draw Russian forces in, as Russian units advanced without sufficient convoy protection and logistical support. As Russian units advanced, Ukraine emphasized guerrilla strategies, such as hit and run or ambushes, to attack supply lines.[60] Ukraine also isolated Russian units in an effort to tire and deplete Russian forces. Ukraine leveraged key capabilities (such as the TB2 unmanned combat aerial vehicle for direct attack and targeting for artillery strikes), security assistance, and knowledge to stymie Russian advances and undermine Russian advantages, such as airpower.[61] Easily deployable weapons systems (including foreign and domestic anti-tank and anti-air systems) have been effective at stopping Russian forces and imposing losses in Russian personnel and equipment.[62] The UAF also appears to have adopted a diffuse command structure, allowing each operational command to coordinate and initiate operations according to local conditions.

Observers have been less clear on the state of Ukrainian losses, although most agree Ukraine has suffered significant personnel and equipment losses.[63] Ukraine has operated air defenses that play a crucial role in the conflict, especially around Kyiv, but documented losses of strategic air-defense systems have occurred. Other losses include tank, artillery, and rocket artillery systems. Although Ukraine has effectively exploited person-operated weaponry and guerrilla tactics against Russia, Ukrainian officials have pressed other countries to supply needed armor, artillery, and rocket artillery systems to enable Ukraine to conduct larger-scale counteroffensives against

of the Western or Southern Military Districts, as most analysts expected. Tim Ripley, "Russian Military Adapts Command and Control for Ukraine Operations," *Janes IHS*, March 7, 2022.

[56] Miriam Berger and Bryan Pietsch, "What to Know About Russia's Top Commander in Ukraine," *Washington Post*, April 10, 2022.

[57] CRS In Focus IF11862, *Ukrainian Armed Forces*, by Andrew S. Bowen.

[58] Nabih Bulos, "Ukraine's Army, Vastly Outgunned, Inflicts Losses on More Powerful Russian Forces," *Los Angeles Times*, March 9, 2022; Tim Judah, "How Kyiv was Saved by Ukrainian Ingenuity as Well as Russian Blunders," *Financial Times*, April 10, 2022.

[59] Stefanie Glinski, "In Ukraine, Refugees Flee West—and Volunteer Fighters Flood to the East," *Foreign Policy*, March 7, 2022.

[60] John Paul Rathbone, Roman Olearchyk, and Henry Foy, "Ukraine Uses Guerrilla Counter-Attacks to Take Fight to Russia," *Financial Times*, April 1, 2022.

[61] Dave Phillips and Eric Schmitt, "Over Ukraine, Lumbering Turkish-Made Drones Are an Ominous Sign for Russia," *New York Times*, March 11, 2022.

[62] Henry Foy and Ian Bott, "How Is Ukraine Using Western Weapons to Exploit Russian Weaknesses?," *Financial Times*, March 16, 2022.

[63] Sam Jones and John Paul Rathbone, "Russian Losses Mask Ukraine's Vulnerabilities," *Financial Times*, March 20, 2022.

the Russian military.[64] In addition, Ukraine will likely need logistics and supplies not only to replace losses but also to sustain continued combat operations.

Possible Russian Intentions and Expectations

Observers continue to speculate about Russia's initial objectives and plans in launching its offensive against Ukraine. Many analysts believe Russia's expectations were based on faulty assumptions that undermined Russia's conduct of the invasion.[65] If this is the case, these incorrect political assumptions possibly determined and imposed unrealistic objectives and timetables onto the Russian military. This in turn may partially explain the Russian military's unpreparedness and initial poor performance.[66]

On February 25, 2022, the Pentagon assessed that Russia had committed one-third of its available troops into Ukraine. U.S. officials and some analysts believe Russia's initial operation was to "decapitate" the Ukrainian government and rely on fast-moving, elite units to quickly seize key junctures, similar to Russia's seizure of Ukraine's Crimea region in 2014.[67] Some analysts speculate that Russia may have based such a strategy on assumptions that the Ukrainian military would be ineffective and the Ukrainian political leadership could be easily replaced.[68] As Central Intelligence Agency Director William J. Burns testified before the House Intelligence Committee in early March 2022, Putin "was confident that he had modernized his military and they were capable of a quick, decisive victory at minimal cost. He's been proven wrong on every count. Those assumptions have proven to be profoundly flawed over the last 12 days of conflict."[69]

Analysts speculate that Putin and other Russian policymakers may have held these faulty assumptions in part due to poor intelligence and a willingness by subordinates to convey only positive information to Russian decisionmakers.[70] Reportedly, several Russian intelligence and security officers have been arrested, which some analysts suspect occurred in response to the officers' poor or misleading provision of intelligence.[71] Additionally, many observers speculate a relatively small circle of advisers may have outsized influence on Putin and may have contributed

[64] William Booth, Emily Rauhala, and Michael Birnbaum, "What Weapons to Send to Ukraine? How Debate Shifted from Helmets to Tanks," *Washington Post*, April 9, 2022.

[65] Zach Beauchamp, "Why the First Few Days of War in Ukraine Went Badly for Russia," *Vox*, February 28, 2022; Jack Detsch and Amy MacKinnon, "How Putin Bungled His Invasion of Ukraine," *Foreign Policy*, March 18, 2022; Jack Watling and Nick Reynolds, "Operation Z: The Death Throes of an Imperial Delusion," RUSI, April 22, 2022.

[66] Michael Kofman and Ryan Evans, "11 Days In: Russia's Invasion Stumbles Forward," *War on the Rocks*, March 7, 2022; Isaac Chotiner, "The Russian Military's Debacle in Ukraine," *New Yorker*, March 11, 2022.

[67] Helene Cooper, "Pentagon Gives a Grim Assessment of the First Stages of the Russian Invasion," *New York Times*, February 24, 2022.

[68] Nick Reynolds and Jack Whatling, "The Plot to Destroy Ukraine," RUSI, February 15, 2022.

[69] U.S. Congress, House Permanent Select Committee on Intelligence, *Worldwide Threats*, 117th Cong., March 8, 2022.

[70] See Mark Galeotti, "The West Thinks Putin Is Russia's Spymaster. But Are the Spies Controlling Him?" *Guardian*, June 20, 2019; Todd Prince, "Eyeing Ukraine, Putin Huddles in a Tight, Hawkish Circle," RFE/RL, February 15, 2022; Henry Foy and John Paul Rathbone, "Intelligence Failures Hamper Russia's Ukraine Mission," *Financial Times*, March 1, 2022; David V. Gioe and Huw Dylan, "Putin's KGB Past Didn't Help Him with Intelligence on Ukraine," *Washington Post*, March 17, 2022; Julian E. Barnes, Lara Jakes, and John Ismay, "U.S. Intelligence Suggests That Putin's Advisors Misinformed Him on Ukraine," *New York Times*, March 30, 2022; Steve Holland and Andrea Shalal, "Putin Misled by 'Yes Men' in Military Afraid to Tell Him the Truth, White House and EU Officials Say," Reuters, March 31, 2022.

[71] Irina Borogan and Andrei Soldatov, "Putin Places Spies Under House Arrest," *CEPA*, March 11, 2022; Isaac Chotiner, "The Purges in Putin's Shrinking Inner Circle," *New Yorker*, March 22, 2022.

to potentially unrealistic assumptions.[72] Observers believe this circle includes Minister of Defense Sergei Shoigu, who may have overstated the Russian military's capabilities.[73]

Subsequent Developments: March-April 2022

Since early March 2022, Russian forces attempted to adapt to the reality of effective Ukrainian resistance. Analysts noted some changes in Russian military operations, including more coordination between units and a greater capacity to operate as combined arms formations, increased air support, and significantly higher levels of artillery and rocket artillery fire.[74] Russian forces made slow incremental advances but continued to suffer heavy losses in both personnel and equipment.[75] By March 7, 2022, U.S. officials believed Russia had committed "nearly 100 percent" of its available forces into Ukraine.[76] Observers also noted that the Russian VKS increased its number of sorties and operations, although most missions appeared to employ unguided weaponry rather than PGMs.[77] The increased sortie rate also meant heavier losses for the VKS, including some of its most advanced helicopter, fighter, and fighter-bombers.[78]

At this stage of the conflict, instead of concentrating on one area of operations, the Russian military appeared to continue multiple lines of advance.[79] In the north, Russian forces attempted to break through Ukrainian defenses around Kyiv, from both the northwest and the east. In the east, Russian forces surrounded Kharkiv and attacked toward Izyum. In the south, Russian forces conducted an offensive to seize Mykolaiv in the southwest and Mariupol in the southeast.[80] Each advance appeared to compete against the others for increasingly limited reinforcements, logistics, and air support. Gradually, most Russian offensives began to stall due to a number of factors, including continued logistics issues, mounting casualties and a lack of available reinforcements, and increasing Ukrainian counterattacks.[81]

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[72] Analysts have debated the balance between advisers providing false or misleading information to Putin and the leadership itself imposing unrealistic objectives and limitations onto the Russian government and military. Adam E. Casey and Seva Gunitsky, "The Bully in the Bubble," *Foreign Affairs*, February 4, 2022; Mark Galeotti, "The Personal Politics of Putin's Security Council Meeting," *Moscow Times*, February 22, 2022; Amanda Taub, "Putin Seems to Sideline Advisers on Ukraine, Taking a Political Risk," *New York Times*, March 1, 2022.

[73] Andrei Soldatov and Irina Borogan, "The Man Behind Putin's Military," *Foreign Affairs*, February 26, 2022; Thomas Grove, "Russia's Military Chief Promised Quick Victory in Ukraine, But Now Faces a Potential Quagmire," *Wall Street Journal*, March 6, 2022; Sam Cranny-Evans and Sidharth Kaushal, "The Intellectual Failures Behind Russia's Bungled Invasion," RUSI, April 1, 2022.

[74] Steven Erlanger, "After a Fumbled Start, Russian Forces Hit Harder in Ukraine," *New York Times*, February 28, 2022; Dan Lamothe, "Russia's Invasion Began with Precision Missiles, But Weapons Are Changing as Siege War Begins," *Washington Post*, March 1, 2022.

[75] Griff Witte et al., "After More Than Two Weeks of War, the Russian Military Grinds Forward at a Heavy Cost," *Washington Post*, March 11, 2022.

[76] Quint Forgey, "Putin Sends 'Nearly 100 Percent' of Russian Forces at Border into Ukraine," *Politico*, March 7, 2022.

[77] Alan Cullison and Alexander Osipovich, "Russian General Is Killed in Ukraine as Airstrikes Intensify," *Wall Street Journal*, March 11, 2022; Abraham Mahsie, "Air War Ramps Up in Russia-Ukraine Conflict as Russian PGMs Run Out," *Air Force Magazine*, March 21, 2022; Dan Lamothe, "Russian Air Force Action Increases Despite Flood of Antiaircraft Missiles into Ukraine," *Washington Post*, March 22, 2022.

[78] David Axe, "The Russian Air Force Is Losing Its Best Jets over Ukraine," *Forbes*, March 29, 2022.

[79] For specific tracking of the conflict, see Konrad Muzyka, "Ukraine Conflict Monitor," Rochan Consulting.

[80] *Financial Times*, "How Russia's Mistakes and Ukrainian Resistance Altered Putin's War," March 18, 2022.

[81] John Paul Rathbone, Sam Jones, and Daniel Dombey, "Why Russia Is Deploying More Troops to Ukraine," *Financial Times*, March 17, 2022; Andrew E. Kramer, "Ukraine's Troops Begin a Counteroffensive That Alters Shape

Throughout mid-March 2022, however, the Ukrainian military conducted effective counterattacks across most axes of advance, defeating repeated Russian offensives outside of Kyiv, outside of Kharkiv and Sumy, and in Mykolaiv.[82] Ukraine also attacked captured infrastructure, such as an airbase in Kherson and the port of Berdyansk, and destroyed key Russian assets.[83]

Russia has been accused of repeated war crimes by Ukraine, nongovernmental organizations, multiple states, and the Biden Administration.[84] Russian forces allegedly have targeted and bombed civilian targets, including by early April 2022 a maternity hospital and theater in Mariupol, regional administration offices in Mykolaiv, and a railway station in Kramatorsk. Russian forces also have been accused of indiscriminate killings, particularly after the discovery of mass graves and murdered civilians following the Russian military's withdrawal from the Kyiv suburb of Bucha.[85] Although it is not yet possible to tally the total number of Ukrainian civilians killed, dozens and sometimes hundreds of victims reportedly have been identified at various targeted locations or mass graves. Ukrainian officials say that in Mariupol, which has been under sustained attack, civilian deaths could number up to 20,000.[86]

Russian Shift in Objectives and Operations

Toward the end of March 2022, Russian offensives around Kyiv stalled. Ukrainian forces launched multiple sustained counteroffensives and pushed back Russian forces.[87] Observers noted that, after failing to achieve a decisive victory quickly, Russia was reevaluating its objectives and strategy toward achieving territorial gains in the south and east of Ukraine.[88] On March 25, the Russian Ministry of Defense held a press conference asserting that Russia had mostly met its initial objectives and would move on to the second phase of the operation, focusing on eastern

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of the Battle with Russia," March 24, 2022; Alex Horton, "Why Russian Troops Are Using Tree Branches for Camouflage in Ukraine," *Washington Post*, March 30, 2022; Stephen Fidler and Thomas Grove, "Behind the Front Lines, Russia's Military Struggles to Supply Its Forces," *Wall Street Journal*, April 1, 2022.

[82] Yaroslav Trofimov, "A Ukrainian Town Deals Russia One of the War's Most Decisive Routs," *Wall Street Journal*, March 16, 2022; Yaroslav Trofimov, "Ukrainian Counteroffensive near Mykolaiv Relieves Strategic Port City," *Wall Street Journal*, March 18, 2022; David Stern et al., "Ukraine Claims It Had Retaken Key Town Outside Kyiv, as Defenses Hold Against Fierce Russian Onslaught," *Washington Post*, March 22, 2022.

[83] Most analysts believe Ukraine launched Tochka-U short-range ballistic missile systems during the attacks on Kherson Airbase and the port of Berdyansk. Analysts cite this occurrence as another failure of the VKS to target and destroy such key strategic weapon systems. Joseph Trevithick and Tyler Rogoway, "Barrage Leaves Russian-Occupied Kherson Airbase in Flames," *The Drive*, March 15, 2022; Andrew Carey et al., "Ukrainians Claim to Have Destroyed Large Russian Warship in Berdyansk," CNN, March 25, 2022.

[84] International Criminal Court (ICC), *Statement of ICC Prosecutor, Karim A. A. Khan QC, on the Situation in Ukraine: Receipt of Referrals from 39 States Parties and the Opening of an Investigation*, March 2, 2022; Steve Holland, "U.S. Begins Collecting Material for Russia War Crimes Inquiry," Reuters, March 7, 2022

[85] Alan Cullison, "Russian Airstrike Hits Maternity Hospital in Ukrainian City of Mariupol," *Wall Street Journal*, March 10, 2022; Carlotta Gall and Andrew E. Kramer, "In Kyiv Suburb, 'They Shot Everyone They Saw,'" *New York Times*, April 3, 2022; Max Bearak and Louisa Loveluck, "In Bucha, the Scope of Russian Barbarity is Coming Into Focus," *Washington Post*, April 6, 2022; Carlotta Gall and Daniel Berehulak, "Bucha's Month of Terror," *New York Times*, April 11, 2022.

[86] Yuras Karmanau, Adam Schreck, and Cara Anna, "Mariupol Mayor Says Siege Has Killed More Than 10k Civilians," AP, April 12, 2022.

[87] Andrew E. Kramer, "In Kyiv Suburb, Ukrainian Military Claims a Big Prize," *New York Times*, March 29, 2022; John Paul Rathbone, Roman Olearchyk, and Henry Foy, "Ukraine Uses Guerrilla Counter-Attacks to Take Fight to Russia," *Financial Times*, March 31, 2022.

[88] Michael R. Gordon and Alex Leary, "Russia, Failing to Achieve Early Victory in Ukraine, Is Seen Shifting to 'Plan B,'" *Wall Street Journal*, March 20, 2022.

Ukraine, including the Donbas.[89] Russia soon announced it was withdrawing forces from around Kyiv and Chernihiv; analysts speculated that this was aimed at allowing the redeployment of units for further offensives in the east.[90] U.S. National Security Adviser Jake Sullivan stated on April 4, 2022, "Russia is repositioning its forces to concentrate its offensive operations in eastern and parts of southern Ukraine.... All indications are that Russia will seek to surround and overwhelm Ukrainian forces in eastern Ukraine."[91]

Observers have noted that Russia has redirected forces to support operations in the east to cut off Ukrainian military units in the Donbas.[92] On April 12, President Putin stated that Russia's "military operation will continue until its full completion" but said, "Our goal is to help the people in the Donbas, who feel their unbreakable bond with Russia."[93] The terrain favors Russian forces, with its advantages in armored and artillery units, and makes it more difficult for Ukrainian forces to conduct guerrilla-style attacks.[94]

Sinking of the Moskva

On April 13, 2022, the flagship of Russia's Black Sea Fleet, the Slava class missile cruiser *Moskva*, reportedly was struck by two Ukrainian R-360 Neptune anti-ship missiles. Initially, Russia denied the *Moskva* was hit by missiles, said it sunk in a storm after an accidental fire, and attempted to tow the heavily damaged cruiser back to port in Sevastopol; the damage was catastrophic, however, and the ship eventually sank. Reports indicate the Moskva was blockading Odessa and providing air defense support to Russian units in the southwest near Kherson when it was struck. The sinking provided a morale boost to Ukrainian forces and undermined Russian efforts to threaten an amphibious assault against Odessa, potentially freeing up Ukrainian forces defending the city to conduct counteroffensives against Russian forces near Kherson.

Sources: Brad Lendon, "Moskva Sinking: What Really Happened to the Pride of Russia's Fleet?" CNN, April 15, 2022; Adam Taylor and Claire Parker, "'Neptune' Missile Strike Shows Strength of Ukraine's Homegrown Weapons," *Washington Post*, April 15, 2022; Economist, "How Did Ukraine Destroy the Moskva, a Large Russian Warship," April 20, 2022; B. J. Armstrong, "The Russo-Ukrainian War at Sea: Retrospect and Prospect," *War on the Rocks*, April 21, 2022.

A key Russian military objective has been the coastal city of Mariupol, in the Donetsk region.[95] Russian forces gradually surrounded and advanced into Mariupol against stiff Ukrainian resistance.[96] Russia's effort to seize the city has benefited from Russia shifting operations away

[89] Konrad Muzyka, "Ukraine Conflict Monitor: March 25, 2022," Rochan Consulting, March 26, 2022.

[90] Jim Sciutto, "U.S. Intel Assess 'Major' Strategy Shift by Russia as It Moves Some Forces away from Kyiv," CNN, March 31, 2022; David Axe, "Ukraine's Best Tank Brigade Has Won the Battle for Chernihiv," *Forbes*, March 31, 2022; Anjali Singhvi et al., "How Kyiv Has Withstood Russia's Attacks," *New York Times*, April 2, 2022.

[91] White House, "Press Briefing by Press Secretary Jen Psaki and National Security Advisor Jake Sullivan," press briefing, April 4, 2022.

[92] The *Joint Forces Operation* (JFO) is Ukraine's term for its military operation against the Russian-controlled Donetsk and Luhansk People's Republics. Most analysts consider Ukrainian military forces in the JFO to be Ukraine's best units. Barbara Starr et al., "Russia Shifting Focus to Show a Victory by Early May in Eastern Ukraine, U.S. Officials Say," CNN, April 2, 2022.

[93] Anton Troianovski, "Putin Says Peace Talks Are at a 'Dead End' and Calls Atrocities in Bucha 'Fake,'" *New York Times*, April 12, 2022.

[94] Liz Sly and Dan Lamothe, "Battles May Be Tougher for Ukrainians as War Shifts to Wide-Open Terrain in East," *Washington Post*, April 9, 2022; Jack Watling, "Why the Battle for Donbas Will Be Very Different from the Assault on Kyiv," *Guardian*, April 9, 2022; Howard Altman, "Ukraine's Ability to Withstand Russian Artillery Critical to Fight for Donbas," *The Drive*, April 19, 2022.

[95] Alan Cullison, Brett Forrest, and Bojan Pancevski, "Russia Ramps Up Ukraine Attacks in Effort to Seize Strategically Key Port City," *Wall Street Journal*, March 10, 2022.

[96] Bermet Talant, "Why Is Mariupol So Important to Russian Forces?" *Guardian*, March 22, 2022.

from attempting to seize all of the Kherson region (which includes Mykolaiv).[97] After weeks of bombardment and fighting, Ukrainian military forces and large numbers of civilians were isolated in the Azovstal iron and steel plant.[98] On April 21, Putin announced that Russia had seized Mariupol and that Russian forces would not assault the Azovstal plant but would surround and seal it off, despite Ukrainian forces continuing to resist.[99] Reports of attacks on Azovstal have continued as Russian forces continue to seize total control of the city.[100]

Latest Phase of War

Russia has increased its use of long-range PGMs against targets in western Ukraine, but analysts have not seen indications of the VKS attempting to impose further air superiority beyond eastern Ukraine. Russia continues to conduct long-range PGM strikes against what Russian officials say are the Ukrainian defense industry and infrastructure targets in an attempt to cripple and undermine the Ukrainian military's long-term capability.

Russia's redeployment of forces away from Kyiv and toward eastern Ukraine likely indicates the Russian military's need to rest and resupply after using most of its combat-effective units. Analysts question whether Russia has enough combat-effective units to achieve its political objectives without a national mobilization, the calling up of reserves, and the further use of conscripts in combat.[101] Reports indicate Russia has been forced to deploy units from several foreign bases, including units from the 201st Military Base in Tajikistan, 7th Military Base in Russia-occupied Abkhazia (Georgia), and 4th Military Base in Russia-occupied South Ossetia (Georgia) to support operations in Ukraine.[102] Russia also reportedly has deployed private military companies to support operations, primarily to oversee and support Russian-led forces from the DNR/LNR.[103] Analysts speculate that Russia will continue, and likely increase, its use of indiscriminate bombing, using both airpower and missile strikes, to compensate for losses among ground forces, likely leading to continued civilian casualties and accusations of war crimes.

In the near term, Russia is likely to continue to reconsolidate its forces for an offensive to surround and cut off Ukrainian forces in the east.[104] U.S. officials have estimated that Russia has 85 BTGs in the Donbas and continues to move in key capabilities such as helicopters, artillery, and command and control assets.[105] On April 18, Ukrainian President Volodymyr Zelensky said

[97] Nick Paton Walsh et al., "Russia Could Be Losing Ground in Battle for Mykolaiv, But It Still Seeks to Crush What It Cannot Have," CNN, March 21, 2022.

[98] Ann M. Simmons and Daniel Michaels, "Mariupol, in Ruins, Still Looms Large for Russia and Ukraine," *Wall Street Journal*, April 19, 2022; Amy Mackinnon, "What the Fall of Mariupol Would Mean for the War," *Foreign Policy,* April 20, 2022.

[99] Bloomberg News, "Putin Calls off Storm of Mariupol with Ukraine Troops Surrounded," April 21, 2022; Reuters, "Ukraine's Military Says Russian Forces Are Trying to Storm Azovstal Plant," April 24, 2022.

[100] Michael Schwirtz, "Ukrainians in Mariupol's Steel Mill Are Holding On, Despite Intensifying Attacks, a Commander Tells the Times," *New York Times,* April 24, 2022.

[101] Department of Defense, "Senior Defense Official Holds a Background Briefing," press release, April 8, 2022; Economist, "Rob Lee on Why Attrition Will Be a Critical Factor in the Battle for the Donbas," April 23, 2022

[102] Digital Forensics Research Lab, "Additional Units from Georgian Breakaway Regions Join Russian Offensive," *Atlantic Council,* March 28, 2022.

[103] *Economist*, "Russia's Brutal Mercenaries Probably Won't Matter Much in Ukraine," April 9, 2022; Miriam Berger, "What Is the Wagner Group, the Russian Mercenary Entity in Ukraine?" *Washington Post,* April 9, 2022.

[104] Henry Foy, John Paul Rathbone, and Felicia Schwartz, "The Battle for Donbas: 'The Real Test of This War," *Financial Times,* April 24, 2022.

[105] Department of Defense, "Senior Defense Officials Hold a Background Briefing," press release, April 20, 2022.

Russia had begun its offensive in the Donbas after a barrage of Russian missile strikes across Ukraine.[106] U.S. officials, however, stated they believed Russia was conducting "shaping operations" to prepare for larger offensive operations.[107]

Russian forces have conducted slow and gradual probing attacks against Ukrainian forces, including the use of heavy artillery and rocket artillery to support operations.[108] Russia is likely concentrating on pressing Ukrainian forces south of Izyum and west from Severodonetsk toward Kramatorsk and Slovyansk, and north from southern Ukraine to either distract or surround the UAF.[109] Russia appears to be pushing north from Mariupol, as well as toward Zaporizhia.[110]

Analysts continue to debate whether Russia has enough combat capable forces to conduct a full encirclement and how available forces will dictate the extent of Russian offensives. Additionally, analysts note that Russian units have been reorganizing and attempting to improve persistent weaknesses demonstrated during the conflict, but the extent or ability of Russian forces to remedy these failures after significant losses is unclear.[111] Russian units continue to suffer from logistics issues, complicated by persistent Ukrainian counterattacks outside of Kharkiv targeting Russian supply lines.[112]

Ukraine has reinforced units in the Donbas and southwest in Mykolaiv, including fresh units from Odessa that were kept in reserve against a potential amphibious landing.[113] Benefiting from shorter internal supply lines, the UAF has conducted counterattacks outside Kharkiv and the southwest toward Kherson.[114] In Kherson and west of the Dnipro River, Russian units are exposed and reportedly have suffered significant casualties.[115] As Russia shifts forces and focus to the Donbas, Russian units in the southwest may be exposed and vulnerable to UAF counterattacks.[116]

Analysts continue to speculate on the composition and structure of Russian forces. Some units appear to be operating as independent BTGs, whereas others appear to be operating as larger formations, sometimes composed of multiple units after suffering heavy losses. Lester W. Grau and Charles K. Bartles, "Getting to Know the Battalion Tactical Group," RUSI, April 14, 2022.

[106] Hannah Allam et al., "Zelensky Says Russia Has Launched Offensive in Eastern Ukraine," *Washington Post*, April 18, 2022.

[107] Department of Defense, "Senior Defense Officials Hold a Background Briefing," press release, April 19, 2022.

[108] Ivana Saric, "Russia Seizes Eastern Ukraine City of Kreminna, Official Says," *Axios*, April 19, 2022; Christopher Miller and Paul Mcleary, "Heavy Weaponry Pours into Ukraine as Commanders Become More Desperate," *Politico*, April 25, 2022; Konrad Muzyka, "Ukraine Conflict Monitor: April 24, 2022," Rochan Consulting, April 25, 2022.

[109] Konrad Muzyka, "Ukraine Conflict Monitor: April 16-18, 2022," Rochan Consulting, April 19, 2022; Author correspondence with Michael Kofman.

[110] Yegor Maksimov, "The Whole Country Is United:' Fighting Intensified in Ukraine's Southeastern Zaporizhzhya Region," RFE/RL, April 24, 2022.

[111] Mark Galeotti, "The Interfering Tsar: Why Putin Is Ukraine's Best Hope of Victory," *The Times*, April 23, 2022.

[112] Emily Ferris, "Russia's Military Has a Railroad Problem," *Foreign Policy*, April 21, 2022.

[113] David Axe, "T-72's to the Resuce? Ukraine's 5th Tank Brigade Could Roll into Battle Any Day Now," *Forbes*, April 20, 2022.

[114] Oleksandr Kozhukar, "Kharkiv Shelling Kills 18, Injures Scores over Past Four Days, Zelensky Says," Reuters, April 17, 2022.

[115] On April 23, Ukraine's Ministry of Defense Intelligence Agency announced it had successfully struck a Russian command post of the 49th Combined Arms Army, killing multiple Russian officers, including two generals.

[116] Some reports indicate Russian forces may be reorganizing to advance north from Kherson toward Kryvyi Rih, but Ukrainian counterattacks and a lack of available maneuver units may undermine any further Russian advances and overextend supply lines.

Outlook

Few observers expect Russia to agree to a political settlement or cease-fire unless it believes it has realized enough territorial gains to achieve its revised objectives and present a victorious narrative to domestic audiences.[117] On April 22, 2022, Major General Rustam Minnekayev, the deputy commander of the Central Military District, said in an interview that Russia wanted to take full control of eastern and southern Ukraine, including a possible land bridge to Transnistria, a Russia-supported breakaway territory in Moldova.[118] Many observers believe this statement reflects larger Russian political objectives over the medium to long term, since Russian military force constraints prevent a serious offensive to capture Odessa and link up with Transnistria. Observers continue to speculate whether Russia has the military capabilities to achieve a decisive outcome or if the UAF will be able to fight Russian forces to a standstill.[119]

Some have speculated about the potential for Russia to use nuclear, chemical, or biological weapons if Russian policymakers perceive inadequate military advances or to demonstrate capability. Most analysts, however, believe the likelihood of Russia's use of nuclear weapons remains low. Central Intelligence Agency Director Bill Burns said the United States has not "seen a lot of practical evidence of the kind of deployments or military dispositions that would reinforce that concern."[120]

Ukraine continues to defend, and in some areas, push back Russian forces. As the conflict shifts to the Donbas, the UAF likely needs continued support to replace lost equipment and systems critical for a conventional conflict.[121] The conflict has consumed significant amounts of ammunition, and the UAF likely needs replenishment of small arms and artillery ammunition. Ukrainian leaders have continued to press western governments for prompt and expansive military assistance and supplies.

Observers continue to highlight the potential for further war crimes due to denials by Russian officials and an unwillingness to address accusations.[122] Satellite images have uncovered possible mass grave sites near Mariupol. One unit alleged to have participated in war crimes in the Kyiv suburb of Bucha was honored by President Putin for its actions in Ukraine.[123]

Congress is likely to continue to track these developments closely, especially as it considers U.S. and international efforts to support Ukraine militarily and respond to events on the ground.

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[117] Max Seddon and Henry Foy, "Vladimir Putin Abandons Hopes of Ukraine Deal and Shifts to Land-Grab Strategy," FT, April 24, 2022.

[118] Mary Ilyushina et al., "Commander Hints at Russian Ambitions Beyond Ukraine," *Washington Post*, April 22, 2022.

[119] Karen DeYoung, "Looming Ground Battle Is Crucial Phase in Ukraine, U.S. Officials Say," *Washington Post*, April 25, 2022.

[120] Central Intelligence Agency, "Director Burns' Remarks at Georgia Tech," press release, April 14, 2022; Kate O'Keeffe, "Zelensky Warns That Russia Could Use Nuclear, Chemical Weapons," *Wall Street Journal*, April 17, 2022; CRS Report R45861, *Russia's Nuclear Weapons: Doctrine, Forces, and Modernization*, by Amy F. Woolf.

[121] Such as tanks, infantry fighting vehicles, reconnaissance and surveillance systems, medium-range air defenses, and mobile artillery. CRS In Focus IF12040, *U.S. Security Assistance to Ukraine*, by Christina L. Arabia, Andrew S. Bowen, and Cory Welt.

[122] Jade McGlynn, "Russia's War Crime Denials Are Fuel for More Atrocities," *Foreign Policy*, April 23, 2022.

[123] Bryan Pietsch, "Putin Honors Brigade Accused of War Crimes in Bucha," *Washington Post*, April 19, 2022; Shawna Chen, "Satellite Images Reveal Another Mass Grave Site Near Mariupol," *Axios*, April 22, 2022.

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