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Extract

Threat Assessment

**Developed to Support the Deep Strike Fire Support – Army,
Capabilities-Based Assessment (CBA)**

1. International Security Environment

China has the capability to directly compete with the United States and U.S. allies and to alter the rules-based global order in ways that support Beijing's power and form of governance over that of the United States. China's serious demographic and economic challenges may make it an even more aggressive and unpredictable global actor. Russia's ongoing aggression in Ukraine underscores that it remains a threat to the rules-based international order. Local and regional powers are also trying to gain and exert influence, often at the cost of neighbors and the world order itself. Iran will remain a regional menace with broader malign influence activities, and North Korea will expand its WMD capabilities while being a disruptive player on the regional and world stages.¹

Russia and the PRC pose different challenges. Russia poses an immediate threat to the free and open international system, recklessly flouting the basic laws of the international order today, as its brutal war of aggression against Ukraine has shown. The PRC, by contrast, is the only competitor with both the intent to reshape the international order and, increasingly, the economic, diplomatic, military, and technological power to advance that objective.²

2. Adversaries' Political and Military Advancements³

2.1. China. The most comprehensive and serious challenge to U.S. national security is the People's Republic of China's (PRC's) coercive and increasingly aggressive behavior to refashion the Indo-Pacific region and the international system to suit its interests and authoritarian preferences. The PRC's increasingly provocative rhetoric and coercive activity towards Taiwan are destabilizing, risk miscalculation, and threaten the peace and stability of the Taiwan Strait. The PRC has expanded and modernized nearly every aspect of the People's Liberation Army (PLA), with a focus on offsetting U.S. military advantages.

2.2. Russia. Russia's government seeks to use force to impose border changes and to reimpose an imperial sphere of influence. Its extensive track record of territorial aggression includes the escalation of its brutal, unprovoked war against Ukraine. Although its leader's political and military actions intended to fracture NATO have backfired dramatically, the goal remains.

¹ *Annual Threat Assessment of the U.S. Intelligence Community*, Office of the Director of National Intelligence, February 5, 2024

² *National Security Strategy*, President Joseph R. Biden, Jr., October 2022.

³ *2022 National Defense Strategy*, Secretary of Defense, October 27, 2022.

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Russia presents serious risks in key areas: nuclear; long range cruise missile threats; cyber and information operations; counterspace threats; chemical and biological weapons, undersea warfare, and extensive gray zone campaigns.

2.3. Iran. Iran is tacking actions to improve its ability to produce a nuclear weapon, even as it builds and exports extensive missile forces, uncrewed aircraft systems and advanced maritime capabilities. Iran undermines Middle East stability by supporting terrorist groups and military proxies, employing its own paramilitary forces, engaging in military provocations, and conducting malicious cyber and information operations.

2.4. North Korean. North Korea continues to expand it nuclear and missile capability to threaten the U.S. homeland, deployed U.S. forces, and the Republic of Korea (ROK) and Japan.

2.5. Global Terrorist. Global terrorist groups, including al-Qa'ida, Islamic State tin Iraq and Syria (ISIS), and they affiliates, have had their capabilities degraded, but some may be able to reconstitute them in short order.

2.6. Complex Escalation Dynamics: Rapidly Evolving Domains and Technologies. New or fast-evolving technologies and applications are complicating escalation dynamics and creating new challenges for strategic stability. These include counterspace weapons, hypersonic weapons, advanced CBW, and new and emerging payload and delivery systems for both conventional and non-strategic weapons. New applications of artificial intelligence, quantum science, autonomy, biotechnology, and space technologies have the potential to not just change kinetic conflict but to disrupt day-to-day supply chain and logistics operations.

2.7. Competitors' Gray Zone Activities⁴. The PRC employs cyber and space operations and economic coercion against the U.S. and its allies. Russia employs disinformation, cyber, and space operations, and irregular proxy forces in multiple countries. North Korea and Iran use similar if currently more limited means. Advanced missiles, uncrewed aircraft and cyber tools to military proxies allows competitors to threaten U.S. forces, allies, and partners, in indirect and deniable ways.

2.8. Climate Change. Increasing temperature, changing precipitation patterns, rising sea levels, and more frequent extreme weather conditions will affect basing and access while degrading readiness, installations, and capabilities. Insecurity and instability related to climate change my tax governance capacity in some countries while heightening tensions between others, risking new armed conflicts, and increasing demands for stabilization activities.

2.9. The COVID-19 pandemic continues to impact global supply chains and the U.S. defense industrial base. It also spotlights the costs and risks of future biological threats, whether natural or human-made for the DoD and the Joint Force.

⁴ Coercive approaches that may fall below perceived thresholds for U.S. military action.

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3. Russia's Armed Forces.⁵

3.1. Ground Forces and Airborne Troops. The land component of the Russian military includes both the Ground Forces and the Airborne Forces (Vozdushno-Desantnye Voyska (VDV), literally, air-landing forces). The Ground Forces are the larger of the two, consisting of 12 Army headquarters and approximately 40 brigade-sized formations across four military districts (Western, Southern, Central, Eastern).

3.1.1. Russia's VDV is an independent branch that serves as a reserve under the control of the Russian strategic leadership. The VDV is in some ways analogous to the U.S. Marine Corps: it is tailored for a certain kind of joint operation (in this case air delivery of combat troops) but has expanded into a more general-purpose rapid reaction force. The VDV is equipped with lightweight armored fighting vehicles designed for parachute or helicopter assaults but can replace these with the somewhat better protected fighting vehicles of the Ground Forces, if needed.

3.1.2. A sizable portion of Russian equipment stocks, including those in active units, has been substantially modernized since 2013. Where major platforms such as fighting vehicles are concerned, the overwhelming majority of the Russian Ground Forces is equipped with vehicles designed in the Cold War. The most modernized element of the Ground Forces is the artillery, which has benefited from large numbers of newer systems that were fielded at the very end of the Cold War and that have aged better than the designs of Russian tanks.

3.1.3. Russian Ground Forces place greater emphasis than NATO forces on ground-based fires, including at extended ranges. They also operate in ways to limit their vulnerability to adversary fire support; this reflects an understanding of high-end conventional combat that emphasizes the primacy of reconnaissance-strike capabilities.

3.1.4. The Ground Force air defense capabilities are noteworthy primarily in the number of systems fielded. The Air Force strategic SAMs are noteworthy because they are very capable. As of 2017, Russia had fielded over 21 divisions of its newest S400 (SA-21) SAM system. It had also fielded well over 700 launchers of its S300 (SA-10/20). These missile systems are designed to engage detected aircraft and even cruise missiles at very long ranges and operate as mobile elements of a network with a common operating picture of the airspace over the battlefield.

3.1.5. Russia's strategic forces include not only nuclear weapons and the delivery systems of the Russian nuclear triad, but also long-range conventional strike, national-level cyber, electronic warfare, space, and intelligence capabilities.

3.2. War in Ukraine.⁶ Most of Russia's deployable ground-combat forces remained committed to operations in Ukraine in late 2023. High casualty rates have kept most units below

⁵ *Trends in Russia's Armed Forces, An Overview of Budgets and Capabilities*, Keith Crane, Olga Oliker, Brian Nichiporuk, RAND Arroyo Center, 2019

⁶ *The Military Balance 2024*, The International Institute for Strategic Studies, London, February 2024.

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establishment strength. Shortages of replacement officers and the limited training time allotted to newly mobilized personnel significantly hampered the combat effectiveness of many units. Bullish statements by government and industry officials about recruitment and equipment production to support forces deployed in Ukraine in 2023 appeared to belie reality and presumably were intended primarily as propaganda for Russia's domestic audience.

3.2.1. Russia's invasion of Ukraine in 2022 demonstrated how war is a test not only of military force in the field, but also of the domestic systems, societies, and leaders. It has exposed cracks in the system and incompetence that have generated unease, criticism, and division within the country. Rivalries over influence and access to resources within the elite have intensified and sparked one of the biggest crises in contemporary Russian politics with the revolt of the Wagner Group

3.2.2. The formations added in 2023, along with plans to expand Russia's Ground Forces (SV), Airborne Forces (VDV) and Naval Infantry, suggest that Moscow has identified a lack of overall mass as a key issue for Russia's ground forces. Plans to revive large-scale formations predate the 2022 war. However, the Kremlin's ability to resource that expansion remains questionable, however, raising the prospect of a return to the 'hollow force' of the 1990s.

4. China's Armed Forces⁷.

4.1. People's Liberation Army (PLA). The PLA Army (PLAA) has approximately 975,000 active-duty personnel in combat units. The PLA is pursuing a number of advanced military capabilities with disruptive potential such as autonomous systems, hypersonic weapons, electromagnetic railguns, directed energy weapons, and counterspace capabilities.

4.1.1. The development of the PLAA's "new-type" operational forces reflects China's desire to plan and construct a force that is multifaceted, with capabilities for operations ranging from high-intensity conflict to security-stability operations. These forces stress the importance of ISR and leveraging information to enable future combat; they can conduct three-dimensional operations (Army aviation, air mobility, and airborne forces) and can operate in a severely degraded communications environment.

4.1.2. Operations emphasize engaging the enemy from much longer distances, place greater importance on protection and survivability, and emphasize the employment of cyber operations. Future PLAA units will be smaller, more modular, and less dependent on headquarters for resources. This new construct envisions generating combat power and effectiveness across warfighting functions, from smaller, more flexible units.

4.1.3. Armor and Infantry. The majority of the PLAA's armored and infantry units are organized as combined-arms brigades, but the PLAA maintains a few maneuver units organized into

⁷ *China Military Power, Modernizing a Force to Fight and Win*, Defense Intelligence Agency, 2019. *Military and Security Developments Involving the People's Republic of China 2023*, DoD Report to Congress.

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divisions. The combined-arms brigades vary in size and composition, containing up to 5,000 troops. Infantry units include motorized infantry (those equipped with trucks for transportation) as well as mechanized infantry units, which can be equipped with either wheeled or tracked armored infantry fighting vehicles. Equipment in PLAA infantry units varies and may include a mix of obsolete platforms from the 1960s up to some of the region's most modernized and capable platforms.

4.1.4. Artillery. Artillery is the key component of the PLAA's strike capability. Its primary function is supporting ground assault missions, and artillery accounts for more than one-third of the Army's operational unit strength. The current family of modernized systems emphasizes long-range deployment, firepower operations, and mobile warfare—the key attributes that the PLAA requires in its newest artillery systems.

4.1.5. Air Defense. PLAA air defense units comprise active-duty forces and reserve forces. Active-duty units provide air defense for the mobile forces. These units are equipped with a mix of tactical anti-aircraft missiles, anti-aircraft artillery, anti-aircraft gun and missile systems, and man-portable anti-aircraft missile systems. An extensive reserve anti-aircraft artillery force, comprising divisions and separate brigades, provides primarily area anti-aircraft artillery protection for China's urban areas and critical economic areas.

4.1.6. Electronic Countermeasures. Electronic countermeasure (ECM) units are equipped with a range of modern ground-based electronic warfare systems capable of targeting large portions of the electromagnetic spectrum. PLAA ECM units use HF/VHF/UHF, radar, and unmanned aerial vehicle (UAV)-borne jamming systems to support maneuver forces.

4.1.7. Special Operations Forces. Consistent with the PLAA's recent emphasis on information- and intelligence-driven operations, the PLAA's Special Operations Forces (SOF) have undergone substantial expansion. According to PLAA doctrine, SOF missions include “carrying out special reconnaissance, special sabotage, [and] harassment attacks; seizing and controlling key targets; guiding precision attacks; conducting rescues behind enemy lines; and dealing with border armed conflicts and unexpected events.”

4.1.8. Army Aviation. PLA Army Aviation comprises 13 brigades. These units are subordinate to corps-level units in the five theater commands. The PLA considers PLA Army Aviation a “new type” operational force and a priority for modernization. Since 2010, PLA Army Aviation has transformed from an auxiliary transport role to that of a main combat force and has increased its regiments to brigade echelon. Newly fielded and forthcoming helicopters combined with structural and operational changes under way in the PLAA indicate a pattern of development designed to mold a three-dimensional, new type Army Aviation force with all-weather day-or-night capability.

4.1.9. PLA Rocket Force (PLARF). The PLARF organizes, mans, trains, and equips the PRC's strategic land-based nuclear and conventional missile forces as well as associated support forces

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and missile bases. In 2020, the PLARF advanced its long-term modernization plans to enhance its “strategic deterrence” capabilities.

4.1.9.1. The PLARF continues to grow its inventory of road-mobile DF-26 intermediate-range ballistic missiles (IRBMs), which are capable of conducting both conventional and nuclear precision strikes against ground targets as well as conventional strikes against naval targets.

4.1.9.2. In 2020, the PLARF began to field its first operational hypersonic weapons system, the DF-17 hypersonic glide vehicle (HGV) capable medium-range ballistic missile (MRBM).

4.2. Logistics and Support. PLAA logistics and equipment support elements exist in active and reserve units. They provide field forces with all classes of supply and maintenance support as well as medical and technical support. These forces normally form support groups under logistics and equipment command posts. The PLAA also relies heavily on civil-military integration to supplement services provided by military logistics units.

4.3. Equipment.

4.3.1. Main Battle Tanks. The PLAA armored corps comprises a mix of older, obsolete tanks and a variety of more modern tanks. The PLAA is modernizing its armored units by fielding third-generation tanks with updated armor packages, larger-caliber cannons, improved fire-control systems, and advanced electronics and communications. The most capable of these tanks are the Type 96A and Type 99 main battle tank.

4.3.2. Armored Infantry Fighting Vehicles (AIFVs) and Armored Personnel Carriers (APCs). The PLAA has a large variety of wheeled and tracked AIFVs and APCs. Highlighted below are two of the PLAA’s most modern AIFVs.

4.3.3. ZBD-04A. The ZBD-04A is one of China’s newest tracked AIFVs. It is well armed with a 100-mm gun, a coaxial 30-mm cannon, and a 7.62-mm machinegun. It has a traditional layout, with the engine in the front right and the driver in the front left.

4.3.4. ZBL-09. The ZBL-09, often referred to as a “wheeled light tank,” is the PLA’s newest wheeled armored vehicle. It has an 8x8 configuration, a 105-mm gun, a 7.62-mm coaxial machinegun, a 12.7-mm machinegun on the right side of the turret, and six 76-mm grenade launchers on each side of the turret.

4.3.5. Artillery and Rockets. China continues to produce modern artillery systems aimed at advancing the mechanization of PLAA artillery while integrating information systems to increase lethality and precision. The primary systems are the PHL03 300-mm self-propelled (SP) multiple rocket launcher, the PLZ05 155-mm SP gun/howitzer, and two tracked and two wheeled 122-mm artillery systems.

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4.3.6. Air Defense. China has been fielding medium-range HQ-16 surface-to-air missiles (SAMs) with select air defense units in the PLAA as part of a comprehensive upgrade of its air defense capabilities. China manufactures its own variant of Russia's SA-15 and is fielding the system with PLAA air defense units supporting tracked armored forces. China also manufactures a domestically designed variant of the French Crotale tactical SAM system. China is fielding a modern domestically produced SP anti-aircraft gun system with select PLAA air defense units protecting larger maneuver units.

4.3.7. China's domestically designed and produced PGZ-04 integrated missile-gun anti-aircraft system is an upgraded version of the PGZ-95, equipped with more effective short-range SAMs. The system is fielded with many PLAA armored and mechanized units for close-range air defense protection of combat maneuver elements.

5. Iran's Armed Forces.⁸ Iran will continue to develop military capabilities that threaten US forces and US allies in the region. It also may increase harassment of US and allied warships and merchant vessels in the Persian Gulf, Strait of Hormuz, and Gulf of Oman.

5.1. Missile Force. Iran has a substantial inventory of close-range ballistic missiles (CRBMs), short-range ballistic missiles (SRBMs), and medium-range ballistic missiles (MRBMs) that can strike targets throughout up to 2,000 kilometers from Iran's borders, as far as Israel and southeastern Europe. Iran will deploy an increasing number of more accurate and lethal theater ballistic missiles, improve its existing missile inventory, and field new land-attack cruise missiles (LACMs). It will also pursue technical capabilities that could enable it to produce an ICBM.

5.2. Naval Forces. Iran has two naval forces, the Islamic Republic of Iran Navy (IRIN) and the Islamic Revolutionary Guard Corps Navy (IRGCN). The IRIN with about 18,000 personnel and is considered Iran's "blue water navy" with its larger and more traditional surface ships compared with the IRGCN. The IRIN operates the only Persian Gulf nation submarine force. The submarine force consists of 3 1990's Russian Kilo class attack submarines and has produced about 15 North Korean Yono-class midget submarines.

5.2.1. The IRGCN, with about 20,000 personnel, is tasked with protecting the Iranian littoral. The IRGCN aims to overwhelm an adversary's defenses by using small fast attack craft armed with guns, rockets, torpedoes, and missiles; coastal defense cruise missiles (CDCMs); naval mines; and maritime special operations forces to achieve tactical surprise. IRGCN units train to use hit-and-run attacks against larger enemy naval vessels using swarms of small boats. The IRGCN could also restrict access or even attempt to fully close the Strait of Hormuz.

5.2.2. Iran's naval forces will field increasingly capable platforms and weapons, including improved naval mines, faster and more lethal surface platforms, more-advanced anti-ship cruise

⁸ *Iran Military Power, Ensuring Regime Survival and Securing Regional Dominance*, Defense Intelligence Agency, 2019

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missiles (ASCMs), larger and more-sophisticated submarines, and new anti-ship ballistic missiles (ASBMs).

5.3. Air and Air Defense Forces. Iran's air and air defense capabilities are split primarily across three services: the Islamic Republic of Iran Air Force (IRIAF) and the Islamic Republic of Iran Air Defense Force (IRIADF), both under the *Artesh* (regular military forces), and the Islamic Revolutionary Guard Corps Aerospace Force (IRGCASF).

5.3.1. IRIAF. Iran acquired the majority of their U.S. aircraft during the 1960s and 1970s, which still constitute the most-capable platforms in the IRIAF today. Iran later acquired some Soviet-made aircraft during the early 1990s. The IRIAF operates multiple combat, transport, and tanker squadrons across 11 major fighter bases. The IRIAF operates a wide range of aircraft sourced from the United States, Russia, and China, including the U.S. F-14 Tomcat, F-4 Phantom II, and F-5 Tiger II; the Russian MiG-29 Fulcrum and Su-24 Fencer; and the Chinese F-7 Airguard.

5.3.2. IRGCASF. The IRGCASF is a relatively small force of around 15,000 personnel. It provides close air support and lift capabilities with military aircraft and helicopters as well as commercially owned aircraft. The IRGCASF is the primary operator of Iran's growing fleet of UAVs, although most Iranian military services employ them. The IRGCASF also maintains its own air defense assets and mission—conducted in parallel but coordinated with the IRIADF and KADHQ.

5.3.3. IRIADF. The IRIADF maintains and operates most of the country's air defense systems and has approximately 15,000 personnel. The IRIADF operates Iran's most capable air defense system, the SA-20c, which Russia sold to Iran in 2016. This system is highly mobile and designed to defend against aircraft, ballistic missiles, and cruise missiles. Iran is developing the long-range Bavar-373 SAM system, which it claims is more advanced than the Russian S-300.

5.3.4. Iran will modernize its integrated air defense system (IADS) with new air surveillance radars, surface-to-air missiles (SAMs), and command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) systems.

5.4. Ground Forces. Iran maintains two independent ground forces: the Islamic Republic of Iran Ground Force (IRIGF) under the *Artech* and the IRGC Ground Force (IRGCGF) under the IRGC.

5.4.1. IRIGF with approximately 350,000 soldiers serves as Iran's first line of defense against an invading force. The IRIGF consists of about 50 combat arms brigades, many of which are light infantry units with a sizable contingent of armored and mechanized infantry units. The IRIGF also has its own special operations units and several artillery groups for fire support. The IRIGF also has an Army Aviation (AA) component, called Islamic Republic of Iran Army Aviation (IRIAA), which serves as Iran's primary helicopter force, with about 90 percent of the helicopters in the Iranian ground forces.

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5.4.2. The IRGCGF is the largest component of the IRGC, with about 150,000 personnel. In addition to its conventional role of protecting Iranian territory against external threats, the IRGCGF along with the IRGC's paramilitary reserve component, the Basij, also have responsibilities to counter internal threats. The IRGCGF consists of primarily light infantry and commando units, evenly distributed around the country. Its artillery batteries employ towed- and self-propelled guns and multiple rocket launchers (MRLs) while its air defense groups mainly use Soviet-origin mobile anti-aircraft artillery. IRGCGF armored units use 1970s-era Soviet tanks and tracked vehicles, as well as pre-1979 U.S.-imported tanks. The IRGCGF also maintains special operations forces, called Saberin ("patient ones"). In 2016, the IRGCGF established its own AA component, transferring helicopters from the IRGCASF. The new unit provides the IRGCGF with its first organic helicopter support.

5.4.3. The ground forces will continue structural changes, including the creation of new rapid-response brigades, which could enable them to become more agile and effective in countering threats. Iran also will be able to buy modern main battle tanks after the UN embargo ends. Despite these goals, ongoing financial constraints and sanctions will challenge Iran's military modernization efforts. Tehran will be unable to meet all of its acquisition priorities and requirements in this environment.

6. North Korea's Armed Forces.⁹ The North Korean military, once considered a threat that would be confined to the 20th century, has never abandoned its ambition of dominating the peninsula and, if possible, reunifying it under Pyongyang's rule. North Korea's national security strategy has two main objectives: ensure the Kim regime's long-term security, which the leadership defines as North Korea remaining a sovereign, independent country ruled by the Kim family, and retaining the capability to exercise dominant influence over the Korean Peninsula.

6.1. Ballistic Missile Force. North Korea established a Strategic Force (previously known as the Strategic Rocket Forces) in 2012 and has described this organization as a nuclear-armed ballistic missile force. The Strategic Force includes units operating short-range (SRBM), medium-range (MRBM), intermediate-range (IRBM) ballistic missiles, and ICBMs, each of which North Korea has stated represents a nuclear-capable system class. North Korea also possesses space launch vehicles (SLV) which could reach the continental United States if configured as ICBMs.

6.2. Biological and Chemical Weapons.

6.2.1. North Korea has a longstanding biological warfare (BW) capability; additionally, its biotechnology infrastructure could be redirected to support a BW program. Pyongyang may consider the use of biological weapons during wartime or as a clandestine attack option.

6.2.2. North Korea has a chemical warfare (CW) program that could comprise up to several thousand metric tons of chemical warfare agents, and the capability to produce nerve, blister,

⁹ *North Korea Military Power, A Growing Regional and Global Threat*, Defense Intelligence Agency, information cutoff date, Sep 2021.

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blood, and choking agents. North Korea probably could employ CW agents by modifying a variety of conventional munitions, including artillery and ballistic missiles, along with unconventional, targeted methods.

6.3. Ground Forces.

6.3.1. Korean People's Army (KPA) Ground Forces—armor, infantry, and artillery—remain the core of North Korea's military power and the primary means by which Pyongyang threatens Seoul. The KPA ground units comprise 10 regular corps, 2 mechanized corps, 1 armored division, 4 mechanized divisions, and 1 artillery division plus numerous combat, combat support, and combat service support brigades and regiments.

6.3.2. The Ground Forces number about 1,000,000 active-duty soldiers, and another 150,000 are assigned to reserve units. Ground Forces operate thousands of long-range artillery and rocket systems along the entire length of the DMZ. These weapons include close-range mortars, guns, and multiple rocket launcher systems (MRLs) trained on South Korean military forces deployed north of Seoul, and longer-range self-propelled guns, rockets, and CRBMs that can reach Seoul and some points south of the capital. Collectively, this capability holds South Korean citizens and a large number of U.S. and South Korean military installations at risk.

6.4. Air and Air Defense Forces.

6.4.1. The Air Force's most capable combat aircraft are its few MiG-29 Fulcrum fighters procured from the Soviet Union in the late 1980s, its MiG-23 Flogger interceptors, its Su-25 Frogfoot ground-attack aircraft, and its Il-28 Beagle bombers. The majority of its aircraft are much older and less capable; the Air Force is one of the only air forces in the world that still operates MiG-21s, MiG-19s, MiG-17s, and MiG-15s.

6.4.2. The Air Force also maintains a large fleet of An-2 Colt aircraft, first produced in the 1940s, which are single-engine 10-passenger biplanes probably tasked with inserting SOF into South Korea but are also capable of supporting simple air-to-ground strike missions. The Air Force is rounded out with other Soviet-era transport aircraft, including helicopters that would be used for troop transport and limited ground attack.

6.4.3. The most common North Korean ground-based air defense artillery threat to aircraft (helicopters and fixed-wing aircraft) and unmanned aerial systems is very likely manually directed AAA and man-portable air defense systems (MANPADS). Manually directed systems will have limited ability to engage smaller targets, such as UAVs, in addition to poor ability to engage all targets at night and in inclement weather.

6.4.4. KPA ground-based AAA probably will rely heavily on medium-caliber (30-mm to 57-mm) AAA guns. Medium-caliber AAA guns maximize firepower (a combination of rate of fire and kinetic energy) by offering some of the highest rates of fire while being large enough to have sufficient terminal ballistics and lethality characteristics. The KPA also fields numerous 14.5-

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mm antiaircraft machineguns and domestically produced MANPADS (SA-7, SA-14, and SA-16). North Korea operates a variety of SAMs, mostly Soviet-era systems, including the SA-2, SA-3, SA-5, and SA-13.

6.4.5. The North is also developing or procuring a variety of UAVs, some of which have been used for reconnaissance missions over South Korea and which could be equipped with rudimentary armaments. North Korea is probably pursuing larger UAVs for a variety of military missions.

6.5. North Korean Navy.

7.5.1. The North Korean Navy is the smallest of the KPA's three conventional force services, with about 60,000 personnel. The Navy's primary mission is to defend North Korea's coastline and territorial waters from attack and to protect the approaches to North Korea's main ports. The Navy is also responsible for SOF insertion, coastal surveillance, and the protection and control of fisheries operations.

6.5.2. In wartime, the Navy will focus on antisurface warfare, mine warfare, and interdicting sea lines of communication to hinder the United States and UNC's ability to flow forces into the theater. North Korea's Navy would be constrained to a largely defensive role in a conflict, and it would face significant challenges attempting to operate against South Korea or the United States

6.5.3. North Korea has about 70 diesel-electric attack, coastal, and midget class submarines in service divided between both coasts. Many of the North's submarines are of older design and have limited endurance; however, they are sufficiently capable of using torpedoes and mines to threaten merchant ships and U.S. and allied navies operating near the Korean Peninsula

6.5.4. The most dramatic new development in the North Korean naval force was the debut of a ballistic missile-capable submarine and its associated SLBM, the Pukguksong-1 (translated as Polaris-1). North Korea conducted multiple flight tests of the developmental SLBM in 2016 and displayed it in a military parade in 2017. North Korea tested a second SLBM, called Pukguksong-3, in October 2019.

6.6. North Korea's Special Operations Forces (SOF).

6.6.1. SOF personnel are present at all echelons of the KPA (from brigade and division to corps) as well as the strategic-level 11th Corps, which controls a number of SOF brigades for strategic missions, including creating a "second front" in the rear area that disrupts and distracts from the main fight along the frontlines. SOF light infantry, sniper, and reconnaissance elements and air and naval SOF elements are present in many infantry divisions and the forward corps. The various SOF units comprise over 200,000 personnel organized into brigades of 3,000–5,000 members and separate regiments.

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6.6.2. North Korean SOF units are provided with the best available equipment, including weapons, explosives, incendiaries, chemical and biological agents, parachutes, aircraft, and communications equipment. Compared with the equipment of other worldwide SOF units, North Korea's equipment is rudimentary, and North Korean SOF probably lacks such sophisticated items as burst communications equipment, advanced signal-processing equipment, and specialized explosives.

6.6.3. SOF can be infiltrated by air using the An-2, which can support this operation by paradrop or by landing on a highway to debark personnel. Maritime infiltration can be accomplished by cushioned hovercraft, which could deliver over 7,000 SOF personnel to each of South Korea's coastlines, and by submarines, including Romeo class diesel-electric submarines and specially outfitted Sango class submarines, which are designed solely for coastal infiltration.