Threats to U.S. Vital Interests

Assessing Threats to U.S. Vital Interests

Because the United States is a global power with global interests, scaling its military power to threats requires judgments with regard to the importance and priority of those interests, whether the use of force is the most appropriate and effective way to address the threats to those interests, and how much and what types of force are needed to defeat such threats.

This *Index* focuses on three fundamental, vital national interests:

- Defense of the homeland;
- Successful conclusion of a major war that has the potential to destabilize a region of critical interest to the U.S.; and
- Preservation of freedom of movement within the global commons: the sea, air, outer space, and cyber-space domains through which the world conducts business.

The geographical focus of the threats in these areas is further divided into three broad regions: Asia, Europe, and the Middle East.

Obviously, these are not America's only interests. Among many others are the growth of economic freedom in trade and investment, the observance of internationally recognized human rights, and the alleviation of human suffering beyond our borders. None of these other interests, however, can be addressed principally and effectively by the use of military force, and threats to them would not necessarily result in material damage to the foregoing vital national interests. Therefore, however important these additional American interests may be, we do not use them in assessing the adequacy of current U.S. military power.

There are many publicly available sources of information on the status, capabilities, and activities of countries with respect to military power. Perhaps the two most often cited as references are *The Military Balance*, published annually by the London-based International Institute for Strategic Studies,[1] and the "Annual Threat Assessment of the U.S. Intelligence Community."[2] The former is an unmatched resource for researchers who want to know, for example, the strength, composition, and disposition of a country's military services. The latter serves as a reference point produced by the Office of the Director of National Intelligence (ODNI).

Comparison of our detailed, reviewed analysis of specific countries with both *The Military Balance* and the ODNI's "Annual Threat Assessment" reveals two stark limitations in these external sources.

- *The Military Balance* is an excellent, widely consulted source, but is primarily a count of military hardware, often without context in terms of equipment capability, maintenance and readiness, training, manpower, integration of services, doctrine, or the behavior of competitors—those that threaten the national interests of the U.S. as defined in this *Index*. Each edition of *The Military Balance* includes topical essays and a variety of focused discussions about some aspect of a selected country's capabilities, but there is no overarching assessment of military power referenced against a set of interests, potential consequences of use, or implications for the interaction of countries.
- The ODNI's "Annual Threat Assessment" omits many threats, and its analysis of those that it does address is limited. Moreover, it does not reference underlying strategic dynamics that are key to the evaluation of threats and that may be more predictive of future threats than is a simple extrapolation of current events.

Threat Categories

Behavior	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Capability	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL

We suspect that this is a consequence of the U.S. intelligence community's withholding from public view its very sensitive assessments, which are derived from classified sources and/or result from analysis of unclassified, publicly available documents with the resulting synthesized insights becoming classified by virtue of what they reveal about U.S. determinations and concerns. The need to avoid the compromising of sources, methods of collection, and national security findings makes such a policy understandable, but it also causes the ODNI's annual threat assessments to be of limited value to policymakers, the public, and analysts working outside of the government. Consequently, we do not use the ODNI's assessment as a reference, given its quite limited usefulness, but trust that the reader will double-check our conclusions by consulting the various sources cited in the following pages as well as other publicly available reporting that is relevant to challenges to core U.S. security interests that are discussed in this section.

Measuring or categorizing a threat is problematic because there is no absolute reference that can be used in assigning a quantitative score. Two fundamental aspects of threats, however, are germane to this *Index*: the threatening entity's desire or intent to achieve its objective and its physical ability to do so. Physical ability is the easier of the two to assess; intent is quite difficult. A useful surrogate for intent is observed behavior because this is where intent becomes manifest through action. Thus, a provocative, belligerent pattern of behavior that seriously threatens U.S. vital interests would be very worrisome. Similarly, a comprehensive ability to accomplish objectives even in the face of U.S. military power would be of serious concern to U.S. policymakers, and weak or very limited abilities would lessen U.S. concern even if an entity behaved provocatively vis-à-vis U.S. interests. It is the combination of the two—behavior and capability—that informs our final score for each assessed actor.

Each categorization used in this *Index* conveys a word picture of how troubling a threat's behavior and set of capabilities have been during the assessed year. The five ascending categories for observed behavior are:

- Benign,
- Assertive,
- Testing,
- Aggressive, and
- Hostile.

The five ascending categories for physical capability are:

- Marginal,
- Aspirational,
- Capable,
- Gathering, and
- Formidable.

As noted, these characterizations—behavior and capability—form two halves of an overall assessment of the threats to U.S. vital interests.

The most current and relatable example of this interplay between behavior and capability is Russia's brutal assault on Ukraine. Throughout its buildup of forces along its border with Ukraine during 2021, Russia consistently downplayed observers' concerns that its actions were a prelude to war. Regardless of its protestations, however, one could not dismiss the potential for grievous harm that was inherent in Russia's forces and their disposition. Russia's behavior, combined with the military capability it had deployed in posture and geographic position, belied its official pronouncements.

The same thing can be said about China, Iran, and North Korea. Each country typically rejects observers' concerns that its military activities, posturing, and investments threaten the interests of neighbors and distant competitors like the U.S., but no rational country can ignore the potential inherent in the forces these countries are fielding, the investments they are making in improving and expanding their capabilities, and the pattern of behavior they exhibit that reveals regime preferences for intimidation and coercion over diplomacy and mutually beneficial economic interaction.

It is therefore in the core interest of the United States to take stock of the capabilities and behaviors of its chief adversaries as it considers the status of its own military forces.

We always hold open the potential to add or delete from our list of threat actors. The inclusion of any state or non-state entity is based solely on our assessment of its ability to present a meaningful challenge to a critical U.S. interest during the assessed year.

Endnotes

1. For the most recent of these authoritative studies, see International Institute for Strategic Studies, *The Military Balance 2023: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2023), https://www.iiss.org/publications/the-military-balance (accessed June 7, 2023).
2. See Office of the Director of National Intelligence, "Annual Threat Assessment of the U.S. Intelligence Community," February 6, 2023, https://www.odni.gov/files/ODNI/documents/assessments/ATA-2023-Unclassified-Report.pdf (accessed June 7, 2023). Issued before 2021 as "Worldwide Threat Assessment of the US Intelligence Community," or WWTA.

China

Bryan Burack and Andrew J. Harding

The People's Republic of China (PRC) represents the greatest military threat facing the U.S. today. The 2022 National Security Strategy frames the PRC as "America's most consequential geopolitical challenge" and "the only competitor with both the intent to reshape the international order and, increasingly, the economic, diplomatic, military, and technological power to do it."[1] The 2022 National Defense Strategy adds that:

> The comprehensive and serious challenge to U.S. national security is the PRC's coercive and increasingly aggressive endeavor to refashion the Indo-Pacific region and the international system to suit its interests and authoritarian preferences. The PRC seeks to undermine U.S. alliances and security partnerships in the Indo-Pacific region, and leverage its growing capabilities, including its economic influence and the People's Liberation Army's (PLA) growing strength and military footprint, to coerce its neighbors and threaten their interests. 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. This is part of a broader pattern of destabilization and coercive PRC behavior that stretches across the East China Sea, the South China Sea, and along the Line of Actual Control [with India]. The PRC has expanded and modernized nearly every aspect of the PLA, with the focus on offsetting U.S. military advantages. The PRC is therefore the pacing challenge for the Department [of Defense].[2]

In recent years, the PRC has been acting more aggressively in the Indo-Pacific, particularly with regard to its territorial disputes in the South China Sea, in the East China Sea, along the China–India border, and in the Taiwan Strait.

The Communist Party of China (CCP) held its 20th Party Congress from October 16 to 22, 2022. General Secretary Xinping's report "focused on intensifying and accelerating the People's Liberation Army's modernization goals over the next five years, including strengthening its 'system of strategic deterrence.'"[3] According to the DOD's 2022 report on *Military and Security Developments Involving the People's Republic of China*:

> The military dimensions of the Report to [the] 20th Party Congress focused on intensifying and accelerating the People's Liberation Army's modernization goals, to include deploying PLA forces on a "regular basis and in diversified ways." In order to achieve the PLA's 2027 centenary goal, the 20th Party Congress set objectives "to provide new military strategic guidance, establish a strong system of strategic deterrence, increase the proportion of new-domain forces (most likely cyberspace and space) with new combat capabilities, speed up the development of unmanned, intelligence combat capabilities, and promote the development and application of the network information system."[4]

The DOD report further reflects that, among other notable developments:

- In 2021, the People's Liberation Army Navy (PLAN) "resumed series construction of the JIANGKAI II class frigate."[5]

- "[D]omestically built aircraft and a wide range of UAVs [unmanned aerial vehicles]" continue to modernize the People's Liberation Army Air Force (PLAAF).[6]

- "In 2021, the PLARF [People's Liberation Army Rocket Force] launched approximately 135 ballistic missiles for testing and training. This was more than the rest of the world combined, excluding ballistic missile deployment in conflict zones."[7]

- In 2021, "the PRC continued building three solid-fueled intercontinental ballistic missile (ICBM) silo fields, which will cumulatively contain at least 300 new ICBM silos."[8]

- "[T]he PRC's operational nuclear warhead stockpile has surpassed 400," and "[i]f China continues the pace of its nuclear expansion, it will likely field a stockpile of about 1500 warheads by its 2035 timeline."[9]

- The ability to deny U.S. access to areas around China or to deny that ability of U.S. forces to operate within range of Chinese weapons, often referred to as anti-access/area denial (A2/AD) capabilities, is credible within the First Island Chain and increasingly projecting into the Philippine Sea and Pacific Ocean.[10]

- Deployment of the DF-17 hypersonic glide vehicle (HGV) "will continue to transform the PLA's missile force."[11]

- China is increasingly interested in counterspace capabilities that can "deter and counter third-party intervention during a regional military conflict."[12]

The CCP is still heavily influenced by Marxist-Leninist ideology.[13] As neatly summarized by Australian expert John Garnaut, "[t]he key point about Communist Party ideology—the unbroken thread that runs from Lenin through Stalin, Mao and Xi—is that the party is and always has defined itself as being in perpetual struggle with the 'hostile' forces of Western liberalism."[14] Today, "[f]or the first time since Mao we have a leader [in Xi Jinping] who talks and acts like he really means it."[15]

The CCP's ideology consistently animates it to invest in military capabilities and activities that pose substantial challenges to U.S. interests. Moreover, with a GDP of over $18 trillion—second only to that of the U.S.—China has the economic foundations to sustain an unprecedented military modernization effort while advancing efforts to dominate critical next-generation technologies and supply chains that are vital to the health of the U.S. economy and the U.S. military. From crucial minerals to pharmaceuticals, renewables, artificial intelligence, and missile technology, China is a global economic power and the largest trading partner of a majority of global capitals.

In short, China has become "the greatest external threat America has faced since the collapse of the USSR."[16]

Threats to the Homeland

With more than 2 million active military personnel, the People's Liberation Army remains one of the world's largest militaries, and its days of largely obsolescent equipment are in the past.[17] In March 2023, China announced a draft defense budget of $224.79 billion, an increase of 7.2 percent, marking the eighth consecutive year of single-digit increases.[18] The PRC defense budget has increased each year for more than two decades, "sustaining [China's] position as the second-largest military spender in the world."[19] From the late 1990s to the mid-2010s, China's official defense budget increased by double-digit percentages nearly every year.[20]

Reporting has been inconsistent, however, and it is estimated that China spends more on defense than it officially acknowledges.[21] This spending has been complemented by improvements in Chinese military training and, in 2015, the largest reorganization in the PLA's history.[22] The PLA has lost 300,000 personnel since those reforms, but its overall capabilities have increased as newer, much more sophisticated systems have replaced older platforms.[23]

PLA Army. The PLA Army (PLAA) is no longer automatically in charge of war zones or higher headquarters functions. This is due to the 2015 reorganization that established separate ground forces headquarters and bureaucracy; previously, the ground forces had been the default service providing staffs and commanders. At the same time, the PLAA has steadily modernized its capabilities,

incorporating both new equipment and a new organization. The PLAA currently "has approximately 975,000 active-duty personnel in combat units" and is the PLA's "primary ground fighting force."[24] The force is increasingly equipped with modern armored fighting vehicles, air defenses, both tube and rocket artillery, and electronic support equipment.

PLAA brigades participate in annual exercises, including STRIDE-2021, and joined the ZAPAD/INTERACTION-2021 exercise, the first specialty exercise conducted by the PLAA in 2021 that included combined training with the Russian military on Chinese soil. ZAPAD/INTERACTION-2021 included "theoretical and systems training, weapon swaps, and a culminating exercise to further understanding and cooperation between the two militaries."[25]

PLA Navy. Between 2015 and 2020, the PLAN "surpassed the U.S. Navy in numbers of battle force ships (meaning the types of ships that count toward the quoted size of the U.S. Navy)."[26] Today, according to the U.S. Department of Defense:

> The PLAN is the largest navy in the world with a battle force of approximately 340 platforms, including major surface combatants, submarines, aircraft carriers, ocean-going amphibious ships, mine warfare ships, and fleet auxiliaries. In 2021, the PLAN's overall battle force shrank due to the transfer of 22 early flight JIANGDAO clad corvettes to the China Coast Guard. This figure does not include 85 patrol combatants and craft that carry anti-ship cruise missiles (ASCMs). The PLAN's overall battle force is expected to grow to 400 ships by 2025 and 440 ships by 2030.[27]

The PLAN has fielded increasingly sophisticated and capable multi-role ships. Multiple classes of surface combatants are now in series production, including the Type 055 cruiser and the Type 052C and Type 052D guided missile destroyers, each of which fields long-range surface-to-air missile (SAM) and anti-ship cruise missile systems, as well as the Type 054 frigate and Type 056 corvette.

The PLAN has similarly been modernizing its submarine force. Since 2000, it has consistently fielded between 50 and 60 diesel-electric submarines, but the age and capability of the force have been improving as older boats, especially 1950s-vintage *Romeo*–class boats, have been replaced with newer designs. These include a dozen *Kilo*–class submarines purchased from Russia and domestically designed and manufactured *Song* and *Yuan* classes. All of these are believed to be capable of firing both torpedoes and anti-ship cruise missiles.[28] The Chinese have also developed variants of the *Yuan*, with an air-independent propulsion (AIP) system that reduces the boats' vulnerability by removing the need to use noisy diesel engines to recharge batteries, and are "expected to produce a total of 25 or more YUAN class submarines by 2025."[29]

The PLAN has been expanding its amphibious assault capabilities as well. The PLA Marine Corps (PLANMC), for example, is China's counterpart to the U.S. Marine Corps. According to the DOD:

> The PLANMC is still in the process of completing expansion requirements set forth by the CMC under PLA reform in 2016. Serving as the PLAN land combat arm, the PLANMC continued to evolve throughout 2021 and is receiving equipment and training necessary to become the PLA's preeminent expeditionary force, as directed by Xi Jinping. All six PLANMC maneuver brigades have achieved initial operating capability (IOC); three brigades are assessed to be fully mission capable. Two other PLANMC brigades—the aviation brigade and special operations brigade, are IOC and Full Operational Capability (FOC), respectively. The aviation brigade will likely not achieve FOC status until at least 2025 and likely beyond, based on the current pace [at which] the brigade is receiving new helicopters, fully trained flight crews, and support equipment.[30]

To move this force, the Chinese have begun to build more amphibious assault ships, including Type 071 amphibious transport docks.[31] Each can carry about 800 naval infantrymen and move them to shore by means of four air-cushion landing craft and four helicopters.

Supporting these expanded naval combat forces is a growing fleet of support and logistics vessels. The 2010 PRC defense white paper noted the accelerated construction of "large support vessels." It also noted specifically that the navy is exploring "new methods of logistics support for sustaining long-time maritime missions."[32] These include tankers and fast combat support ships that

extend the range of Chinese surface groups and allow them to operate for more prolonged periods away from main ports. Chinese naval task forces dispatched to the Gulf of Aden have typically included such vessels.

The PLAN has also been expanding its naval aviation capabilities, the most publicized element of which has been the growing Chinese carrier fleet. This currently includes not only the *Liaoning*, purchased from Ukraine over a decade ago, but a domestically produced copy, the *Shandong*, that completed its first exercise in 2021.[33] Both of these ships have ski jumps for their air wing, but the Chinese are also building several conventional takeoff/barrier landing (CATOBAR) carriers (like American or French aircraft carriers) that will employ catapults and therefore allow their air complement to carry more ordnance and/or fuel.[34] It is expected that the PRC's second domestically built carrier, the *Fujian*, will be operational by 2024.[35]

The PLAN's land-based element is modernizing as well, with a variety of long-range strike aircraft, anti-ship cruise missiles, and unmanned aerial vehicles (UAVs) entering the inventory. In addition to more modern versions of the H-6 twin-engine bomber (a version of the Soviet/Russian Tu-16 Badger), the PLAN's Naval Aviation force has added a range of other strike aircraft to its inventory. These include the JH-7/FBC-1 Flying Leopard, which can carry between two and four YJ-82 anti-ship cruise missiles, and the Su-30 strike fighter.

PLA Air Force. The PLA Air Force (PLAAF) and PLA Aviation together form Asia's largest air force and the world's third largest. Of its more than 2,800 aircraft, 2,250 are combat aircraft, including fighters, strategic bombers, tactical bombers, multi-mission tactical, and attack aircraft.[36] The force has shifted steadily from one that is focused on homeland air defense to one that is capable of power projection, including long-range precision strikes against both land and maritime targets. The DOD's 2022 report on Chinese capabilities notes that:

> [T]he PLAAF is seeking to extend its power projection capability with the development of a new H-20 stealth strategic bomber, with official PRC state media stating that this new stealth bomber will have a nuclear mission in addition to filling conventional roles. The PLAAF is also developing new medium-[range] and long-range stealth bombers to strike regional and global targets. PLAAF leaders publicly announced the program in 2016, however it may take more than a decade to develop this type of advanced bomber.[37]

The PLAAF currently has 1,800 fighters, more than 800 of which are fourth-generation fighters that are comparable to the U.S. F-15, F-16, and F-18.[38] They include the domestically designed and produced J-10 as well as the Su-27/Su-30/J-11 system, which is comparable to the F-15 or F-18 and dominates both the fighter and strike missions.[39]

China has made progress on two fifth-generation stealth fighter designs. The J-20, the larger of the two aircraft and resembling the American F-22 fighter, has been operationally fielded. Prospective upgrades may include increasing the number of air-to-air missiles, installing thrust-vectoring engine nozzles, and adding super-cruise capability through the installation of higher-thrust WS-15 engines.[40] The J-31, which is currently not operational, appears to resemble the F-35, but with two engines rather than one. The production of advanced combat aircraft engines remains one of the greatest challenges to Chinese fighter design.

The PLAAF is also deploying increasing numbers of H-6 bombers, which can undertake longer-range strike operations including operations employing land-attack cruise missiles. Although the H-6, like the American B-52 and Russian Tu-95, is a 1950s-era design copied from the Soviet-era Tu-16 Badger bomber, the latest versions (H-6K) are equipped with updated electronics and engines and are made of carbon composites. In addition, China is developing the H-20, a flying wing–type stealth bomber that is probably similar to the U.S. B-2.[41]

Equally important, the PLAAF has been introducing a variety of support aircraft, including airborne early warning (AEW), command and control (C2), and electronic warfare (EW) aircraft. These systems field state-of-the-art radars and electronic surveillance systems that allow Chinese air commanders to detect potential targets, including low-flying aircraft and cruise missiles, more quickly and gather additional intelligence on adversary radars and electronic emissions. China's combat aircraft are also increasingly capable of undertaking mid-air refueling, which allows them to conduct

extended, sustained operations, and the Chinese aerial tanker fleet, which is based on the H-6 aircraft, has been expanding.

At the biennial Zhuhai Air Show, Chinese companies have displayed a variety of unmanned aerial vehicles that reflect substantial investments and research and development efforts. The surveillance and armed UAV systems include the Xianglong (Soaring Dragon) and Sky Saber systems. The DOD's 2019 report on Chinese capabilities stated that China had "successfully tested the AT-200, which it claims is the 'world's first large cargo UAV,'" and further specified that "[t]his drone can carry up to 1.5 tons of cargo and… may be especially suited to provide logistic support to PLA forces in the South China Sea."[42] Chinese UAVs have been included in various military parades over the past several years, suggesting that they are being incorporated into Chinese forces, and the DOD's 2022 report on Chinese capabilities states that "[t]he PLAAF is rapidly catching up to Western air forces and continues to modernize with the delivery of domestically built aircraft and a wide range of UAVs."[43]

The PLAAF is also responsible for the Chinese homeland's strategic air defenses. Its array of surface-to-air missile batteries is one of the world's largest and includes the Russian S-300 (SA-10B/SA-20) and its Chinese counterpart, the Hongqi-9 long-range SAM. The S-400 series of Russian long-range SAMs, delivery of which began in 2018, mark a substantial improvement in PLAAF air defense capabilities, as the S-400 has both anti-aircraft and anti-missile capabilities.[44] China has deployed these SAM systems in a dense, overlapping belt along its coast, protecting the nation's economic center of gravity. Key industrial and military centers such as Beijing are also heavily defended by SAM systems.

China's airborne forces are part of the PLAAF. The 15th Airborne Corps has been reorganized from three airborne divisions to six airborne brigades in addition to a special operations brigade, an aviation brigade, and a support brigade. These forces have been incorporating indigenously developed airborne mechanized combat vehicles for the past decade, giving them more mobility and a better ability to engage armored forces.

PLA Rocket Force. Chinese nuclear forces are the responsibility of the PLA Rocket Force, one of three new services created on December 31, 2015. China's nuclear ballistic missile forces include land-based missiles with a range of 13,000 kilometers that can reach the U.S. and CSS-4 and submarine-based missiles that can reach the U.S. when the submarine is deployed within missile range. The DOD "estimates that the PRC's operational nuclear warheads stockpile has surpassed 400."[45] The PLARF "ICBM arsenal consists of approximately 300 ICBMs, including fixed and mobile launchers capable of launching unitary and multiple reentry vehicles."[46]

The PRC became a nuclear power in 1964 when it exploded its first atomic bomb as part of its "two bombs, one satellite" effort. China then exploded its first thermonuclear bomb in 1967 and orbited its first satellite in 1970, demonstrating the capability to build a delivery system that can reach the ends of the Earth. China chose to rely primarily on a land-based nuclear deterrent instead of developing two or three different basing systems as the United States did.

Unlike the United States or the Soviet Union, China chose to pursue only a minimal nuclear deterrent and fielded only a small number of nuclear weapons: 100–150 weapons on medium-range ballistic missiles and approximately 60 ICBMs. Its only ballistic missile submarine (SSBN) conducted relatively few deterrence patrols (perhaps none),[47] and its first-generation submarine-launched ballistic missile (SLBM), the JL-1, if it ever attained full operational capability had limited reach. The JL-1's 1,700-kilometer range makes it comparable to the first-generation Polaris A1 missile fielded by the U.S. in the 1960s.

After remaining stable for several decades, China's nuclear force became part of Beijing's two-decade modernization effort. The result has been both modernization and expansion of the Chinese nuclear deterrent. The core of China's ICBM force is the DF-31 series, a solid-fueled, road-mobile system, along with a growing number of longer-range, road-mobile DF-41 missiles that are now in the PLA operational inventory. The DOD's 2022 report on China's capabilities states that the PRC is now "fielding the DF-41, China's first road-mobile and silo-based ICBM with MIRV capability."[48] China's medium-range nuclear forces have similarly shifted to mobile, solid-rocket systems so that they are both more survivable and more easily maintained.

Imagery analysts at several think tanks have discovered at least three fields of silos under

construction in western China.[49] Each field appears to contain around 100 silos, indicating that China could dramatically expand its land-based nuclear deterrent component. In 2021 alone, "the PLARF launched approximately 135 ballistic missiles for testing and training, more than the rest of the world combined excluding ballistic missile employment in combat zones."[50] DOD assesses that as China constructs new nuclear facilities, it "intends to use this infrastructure to produce nuclear warhead material for its military in the near term." Two CFR-600 sodium-cooled fast breeder nuclear reactors are being constructed at Xaipu, for example, and each is "capable of producing enough plutonium for dozens of nuclear warheads annually."[51]

Notably, the Chinese are also expanding their ballistic missile submarine fleet. According to the DOD:

> Over the past 15 years, the PLAN has constructed twelve nuclear submarines—two SHANG I class SSNs (Type 093), four SHANG II class SSNs (Type 093A), and six JIN class SSBNs (Type 094). Equipped with the CSS-N-14 (JL-2) submarine-launched ballistic missile (SLBM) (7,200KM), the PLAN's six operational JIN class SSBNs represent the PRC's first credible sea-based nuclear deterrent.[52]

In addition, each of China's JIN–class SSBNs "is equipped to carry up to 12 JL-2 or JL-3 SLBMs."[53]

There is some possibility that the Chinese nuclear arsenal now contains land-attack cruise missiles. The CJ-20, a long-range, air-launched cruise missile carried on China's H-6 bomber, may be nuclear-tipped, although the evidence that China has pursued such a capability is admittedly limited. China is also believed to be working on a cruise missile submarine that, if equipped with nuclear cruise missiles, would further expand the range of its nuclear attack options.[54]

As a result of China's modernization efforts, its nuclear forces appear to be shifting from a minimal deterrent posture, suited only to responding to an attack and then only with limited numbers, to a more robust but still limited deterrent posture. The PRC will still likely field fewer nuclear weapons than either the United States or Russia, but it will field a more modern and diverse set of capabilities than India, Pakistan, or North Korea, its nuclear-armed neighbors, are capable of fielding. If there are corresponding changes in doctrine, China will have at least limited nuclear options from which to choose in the event of a conflict.

This assessment changes, however, if the missiles going into the newly discovered silos are equipped with MIRVs (multiple independently targetable reentry vehicles). With five MIRVs atop each missile, for example, 300 new ICBMs would have some 1,500 warheads—equivalent to the U.S. and Russian numbers allowed under New START. Even with fewer than 300 ICBMs, the new SLBMs and new bombers would enable China, within a few years, to field as large a nuclear force as the United States or Russia are capable of fielding.

In addition to strategic nuclear forces, the PLARF has responsibility for medium-range and intermediate-range ballistic missile (MRBM and IRBM) forces. These include (among others) the DF-21 MRBM, which has a range of approximately 1,500 kilometers, and the DF-26 IRBM, which has a range of approximately 3,000 kilometers and is "capable of conducting precision conventional or nuclear strikes against ground targets as well as conventional strikes against naval targets."[55] It is believed that Chinese missile brigades equipped with these systems may have both nuclear and conventional responsibilities, making any deployment from garrison much more ambiguous from a stability perspective. The expansion of these forces also raises questions about the total number of Chinese nuclear warheads.

While it is unclear whether they are nuclear-armed, China's hypersonic glide vehicles also pose a growing threat to the United States and its allies. Hypersonic glide vehicles are slower than ICBMs—Mach 5 for a hypersonic vehicle as opposed to Mach 25 for an ICBM warhead—but are designed to maneuver during their descent, making interception far more difficult. During a Chinese test in August 2021, a hypersonic vehicle apparently went into orbit.[56] This creates a fundamentally different threat, as a fractional orbital bombardment system (FOBS) could allow attacks from southern trajectories—that is, from over the South Pole—or even the placement of warheads in orbit, which would make them almost impossible to intercept. Even without a nuclear warhead, an orbiting hypersonic vehicle could do enormous damage to a city or a military facility such as an air base or an ICBM

silo. Because of the strategic instability that FOBS programs would introduce, neither the U.S. nor the Soviet Union ever pursued them.

PLA Strategic Support Force. The PLA's major 2015 reorganization included creation of the PLA Strategic Support Force (PLASSF). Strategic space, cyber, electronic, information, communications, and psychological warfare missions and capabilities are centralized under the PLASSF.[57] Previously, these capabilities had been embedded in different departments across the PLA's General Staff Department and General Armaments Department. By consolidating them into a single service, the PLA has created a Chinese "information warfare" force that is responsible for offensive and defensive operations in the electromagnetic and space domains.

The PLASSF has an estimated 175,000 personnel.[58] The SSF Space Systems Department handles most PLA space operations and operates at least eight bases.[59] The PLA views space superiority as critical for winning "informatized warfare" and likely considers it a deterrent and countermeasure against any possible U.S. military interventions during a regional military contingency.[60] The SSF Network Systems Department implements the PLA's "Three Warfares" concept, "which comprises psychological warfare, public opinion warfare, and legal warfare," and "is the only publicly known organization in the PLA that performs psychological warfare operations."[61]

Chinese network warfare forces are known to have conducted a variety of cyber and network reconnaissance operations as well as cyber economic espionage. In 2014, the U.S. Department of Justice charged PLA officers from Unit 61398, then a unit in the General Staff Department's 3rd Department, with the theft of intellectual property and implanting of malware in various commercial firms.[62] Members of that unit are thought also to be part of Advanced Persistent Threat-1, a group of computer hackers believed to be operating on behalf of a nation-state rather than a criminal group. In 2020, the Department of Justice charged several PLA officers with one of the largest breaches in history: stealing the credit ratings and records of 147 million people from Equifax.[63]

The PRC has been conducting space operations since 1970 when it first orbited a satellite, but its space capabilities did not gain public prominence until 2007 when the PLA conducted an anti-satellite (ASAT) test in low Earth orbit against a defunct Chinese weather satellite. The test became one of the worst debris-generating incidents of the space age: Many of the several thousand pieces of debris that were generated will remain in orbit for more than a century.

Equally important, Chinese counter-space efforts have been expanding steadily. The PLA not only has tested ASATs against low Earth orbit systems, but also is believed to have tested a system designed to attack targets at geosynchronous orbit (GEO) approximately 22,000 miles above the Earth.[64] Because many vital satellites are at GEO, including communications and missile early-warning systems, China's ability to target such systems constitutes a major threat. In early 2022, China's Shijian-22 towed a dead Chinese satellite into a "graveyard" orbit above the GEO belt.[65] This was officially touted as a servicing operation, but the ability to attach one satellite to another and then tow it also has potential military implications.

The creation of the PLASSF, incorporating counter-space forces, reflects the movement of counter-space systems, including direct-ascent ASATs, out of the testing phase to fielding with units. In 2018, for example, the U.S. National Air and Space Intelligence Center (NASIC) noted that "China has military units that have begun training with anti-satellite missiles."[66]

Threat of Regional War

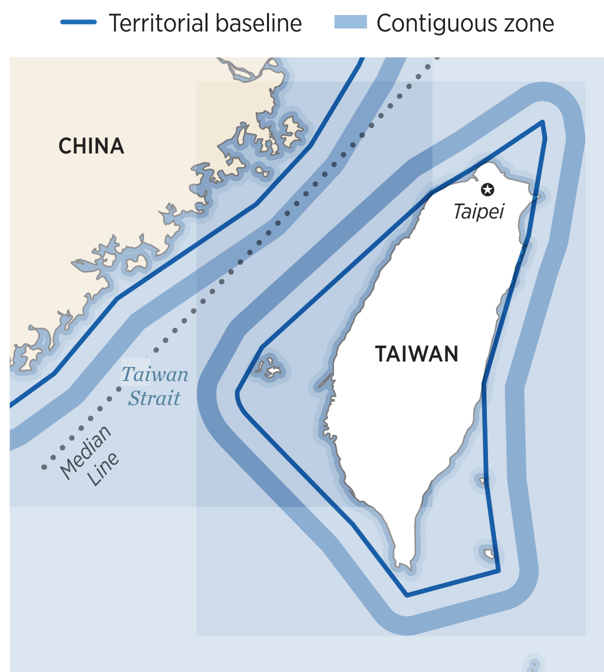
Three issues, all involving China, threaten American interests and embody the "general threat of regional war" noted at the outset of this section: the status of Taiwan, the escalation of maritime and territorial disputes, and border conflict with India.

Taiwan. China's escalating efforts to change the status quo in the Taiwan Strait constitute the greatest risk of conflict between China and the United States. China's long-standing threat to end Taiwan's de facto independence and ultimately to bring Taiwan under the authority of Beijing—by force if necessary—is also a threat both to a major American security partner and to the American interest in peace and stability in the Western Pacific.

While China's use of force against Taiwan could take a variety of forms, the possibility of an amphibious invasion has fueled speculation over when such a contingency would most likely occur. Congressman Mike Gallagher (R–WI), chairman

MAP 4

Maritime Boundaries in the Taiwan Strait



SOURCE: "America and China Spar over the Taiwan Strait," *The Economist*, June 23, 2022, https://www.economist.com/china/2022/06/23/america-and-china-spar-over-the-taiwan-strait (accessed September 8, 2023).

of the House Select Committee on the Strategic Competition Between the United States and the Chinese Communist Party, has argued that "the U.S. military is entering into a 'window of maximum danger,'" more commonly known as the "Davidson Window."[67] This is a reference to former U.S. Indo-Pacific Command (USINDOPACOM) Commander Admiral Philip Davidson's statement during testimony before the Senate Armed Services Committee in 2021 that China is "accelerating [its] ambitions to supplant the United States" and that "I think the threat [to Taiwan] is manifest during this decade, in fact, in the next six years."[68] Separately, CIA Director William Burns has stated that Xi has instructed the PLA "to be ready by 2027 to invade Taiwan," although he has also assessed that Xi and the PLA "have doubts today about whether they could accomplish that invasion."[69] In April 2023, USINDOPACOM Commander Admiral John Aquilino stated that everyone is still "guessing" when China will invade.[70]

Tensions across the Taiwan Strait have worsened as a result of Beijing's efforts to pressure and isolate Taiwan's democratically elected government. Beijing has suspended most direct government-to-government discussions with Taipei and is using a variety of inducements to deprive Taiwan of its remaining diplomatic partners.

Beijing has also undertaken significantly escalated military activities directed at Taiwan. For example:

- China has dramatically escalated aerial activity around Taiwan and incursions into Taiwan's self-declared air defense identification zone, repeatedly setting records over recent years.
- In 2021, China sent more than 150 aircraft into Taiwan's ADIZ over four days, a record at that time.[71]
- Total Chinese aerial incursions into Taiwan's ADIZ increased from 380 aircraft in 2020 to 960 in 2021 and 1,727 in 2022.[72]
- China used U.S. House Speaker Nancy Pelosi's August 2022 visit as a pretext to increase the quantity and provocativeness of aerial incursions around Taiwan, with a historic record of 446 aircraft entering Taiwan's ADIZ and more than 300 of those 446 aircraft crossing the median line of the Taiwan Strait. Chinese aircraft had last crossed the median line in September 2020 with 48 aircraft involved that month.[73]
- China's August 2022 military provocations also saw a peak in naval activity, with as many as 14 PLAN vessels operating around Taiwan simultaneously; the declaration of "exercise zones" surrounding Taiwan, which interfered with shipping and air traffic; and the launch of conventional ballistic missiles, long-range rockets, and short-range missiles from mainland China, some of which flew over Taiwan or landed in Japan's Exclusive Economic Zone (EEZ)—seemingly a rehearsal for the blockade of Taiwan.[74]

- In April 2023, China again escalated to new historic records of military activity around Taiwan, allegedly in response to the transit of Taiwan's President through the United States, although such routine travel stops had not drawn similar responses in the past. On the final day of these "exercises," a dozen Chinese warships and 91 Chinese aircraft—a new record for a single day—practiced "joint shock and deterrence and island closure and control," essentially another rehearsal for a blockade.[75]

- Chinese fighters, along with airborne early warning aircraft, have increased their exercises southwest of Taiwan, demonstrating a growing ability to conduct flexible air operations and reduced reliance on ground-based control,[76] and have undertaken sustained joint exercises to simulate extended air operations, employing both air and naval forces including aircraft carrier operations.[77] Such exercises have focused increasingly on denying U.S. and allied forces use of the Bashi Channel, a strategic corridor through the First Island Chain between Taiwan and the Philippines that would be essential in a Taiwan contingency.[78]

Chinese leaders from Deng Xiaoping and Mao Zedong to Xi Jinping have consistently emphasized the importance of ultimately reclaiming Taiwan. The island—along with Tibet—is the clearest example of a geographical "core interest" for the Chinese Communist Party, seen as essential for its claim to unchallenged rule. China has never renounced the use of force against Taiwan and continues to employ political warfare against Taiwan's political and military leadership.

For the Chinese leadership, the failure to effect unification, whether peacefully or by using force, would reflect fundamental political weakness. CCP leaders therefore believe that they cannot back away from the stance of having to unify the island with the mainland, and the island remains an essential part of the PLA's "new historic missions," shaping its acquisitions and military planning.

It is widely posited that China's A2/AD strategy—the deployment of an array of overlapping capabilities, including anti-ship ballistic missiles (ASBMs), submarines, and long-range cruise missiles, satellites, and cyber weapons—is aimed largely at forestalling American intervention in support of friends and allies in the Western Pacific including Taiwan. By holding at risk key American platforms and systems (for example, aircraft carriers), the Chinese seek to delay or even deter American intervention, thereby allowing them to achieve a fait accompli. The growth of China's military capabilities is specifically oriented toward countering America's ability to assist in the defense of Taiwan.

Moreover, China's efforts to reclaim Taiwan are not limited to overt military means. The "three warfares" highlight Chinese political warfare methods, including legal warfare/lawfare, public opinion warfare, and psychological warfare. The PRC employs such approaches to undermine both Taiwan's will to resist and America's willingness to support Taiwan. The Chinese goal would be to "win without fighting"—to take Taiwan without firing a shot or with only minimal resistance before the United States could organize an effective response.

Escalation of Maritime and Territorial Disputes. The PRC and other countries in the region see active disputes over the East and South China Seas as matters of territorial sovereignty, not as differences regarding the administration of international common spaces. As a result, there exists the threat of armed conflict between China and American allies, including Japan and the Philippines, as well as nascent American security partners such as Vietnam and Indonesia.

China has escalated maritime and territorial disputes for both economic and geopolitical reasons, steadily expanding its maritime power, including its merchant marine and maritime law enforcement capabilities, and acting to secure its "near seas" as a Chinese preserve. Because its economic center of gravity is now in the coastal region, China has had to emphasize maritime power to defend key assets and areas. China increasingly depends on the seas for its economic well-being. The ability to apply pressure in disputed areas also offers China a useful geopolitical tool against rival claimant states that complements Beijing's other means of coercion and inducement such as its Belt and Road incentives. This toolset has contributed to a lack of pushback against China's effort to achieve hegemony in the Indo-Pacific, including from countries that are directly affected by China's territorial aggression.

In both the East China Sea and the South China Sea, China has sought to exploit "gray zones," gaining control incrementally and deterring others

MAP 5

Two Pacific Island Chains

JAPAN
Pacific Ocean
SOUTH KOREA
CHINA
NORTHERN MARIANA ISLANDS
BURMA
TAIWAN
FIRST ISLAND CHAIN
20°N
LAOS
SECOND ISLAND CHAIN
VIETNAM
THAILAND
Philippine Sea
CAMBODIA
GUAM
South China Sea
PALAU
Yap (MICRONESIA)
BRUNEI
MALAYSIA
140°E
0°
INDONESIA
PAPUA NEW GUINEA
100°E

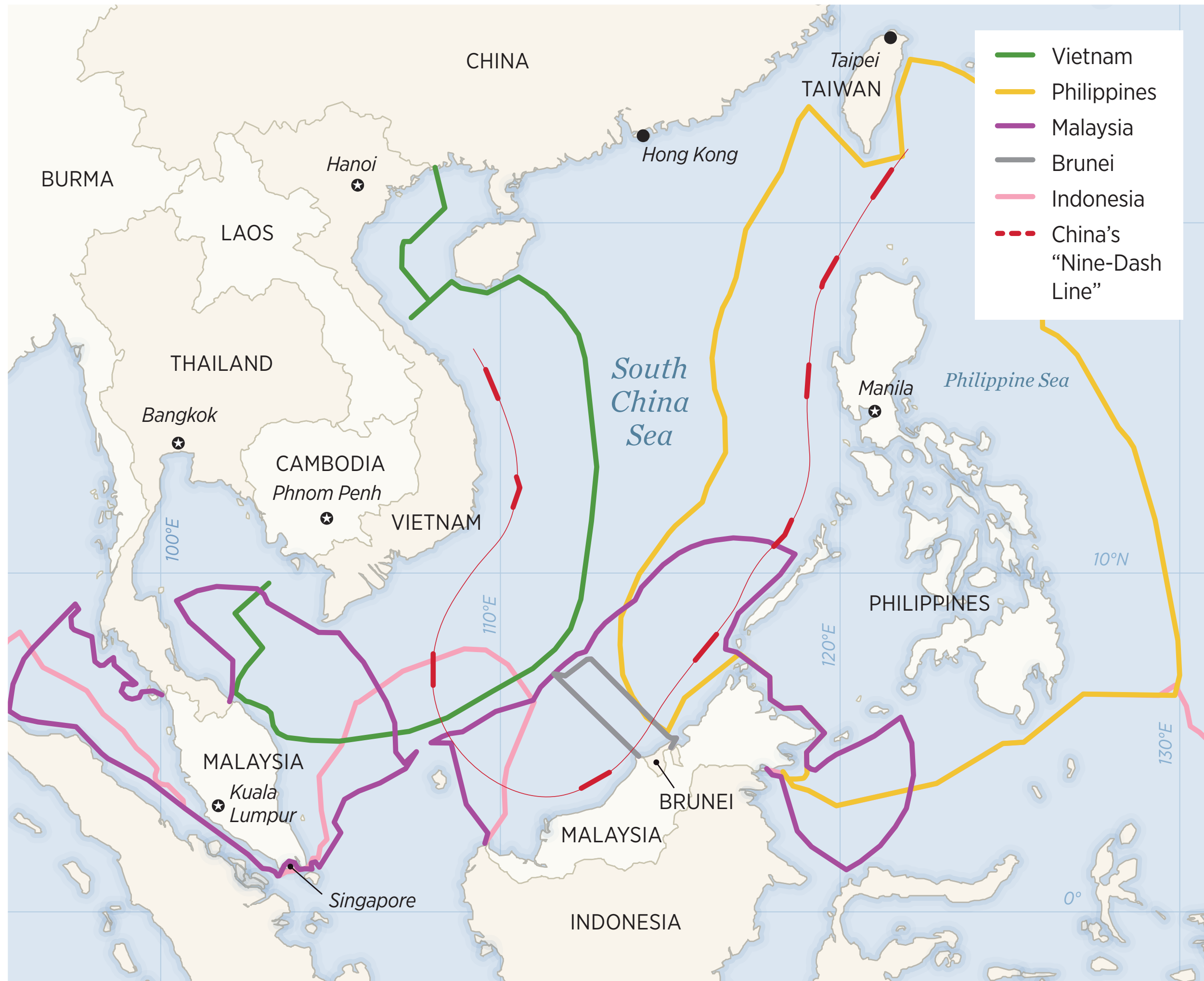
SOURCE: Heritage Foundation research.

without resorting to the lethal use of force. It uses military and economic threats, bombastic language, and legal warfare (including the employment of Chinese maritime law enforcement vessels) as well as military bullying. Chinese paramilitary-implemented, military-backed encroachment in support of expansive extralegal claims could lead to an unplanned armed clash.

In the East China Sea, China has intensified its efforts to assert claims of sovereignty over the Senkaku Islands of Japan. Beijing asserts both exclusive economic rights within the disputed waters and recognition of "historic" rights to dominate and control those areas as part of its territory.[79] Chinese fishing boats (often believed to be elements of the Chinese maritime militia) and Chinese Coast Guard (CCG) vessels have been encroaching steadily on the territorial waters within 12 nautical miles of the uninhabited islands, including in 13 instances in just the first five months of 2023.[80] China first deployed a naval unit (as opposed to the CCG) within the contiguous zone of the Senkakus between 12 and 24 miles from shore in 2016.[81] Meanwhile, the CCG has routinized incursions within 12 miles of

MAP 6

Exclusive Economic Zone (EEZ) Claims in the South China Sea



SOURCE: Center for Strategic and International Studies, Asia Maritime Transparency Initiative, "Maritime Claims of the Indo-Pacific," https://amti.csis.org/maritime-claims-map/ (accessed September 9, 2023).

heritage.org

Senkaku features. In 2022 and 2023, the CCG set successive records for time lingering within this area: 72 hours in December 202, and more than 80 hours in April 2023.[82]

In 2013, Beijing unilaterally declared an ADIZ over the East China Sea.[83] Part of a broader pattern of using intimidation and coercion to assert expansive extralegal claims of sovereignty and/or control, China has gone on to use the ADIZ as a pretext for attempts to restrict lawful air travel over the East China Sea. For example:

- In June 2016, a Chinese fighter made an "unsafe" pass near a U.S. Air Force RC-135 reconnaissance aircraft in the East China Sea area.
- In March 2017, Chinese authorities warned the crew of an American B-1B bomber operating in the area of the ADIZ that they were flying illegally in PRC airspace, and the Chinese Foreign Ministry "urged the U.S. and other countries to respect its declared airspace."[84]

- In May 2018, the Chinese intercepted a U.S. Air Force WC-135, also over the East China Sea.[85]

- From late 2017 through 2018, Chinese vessels targeted U.S. aircraft with "blinding laser attacks" more than 20 times according to media reports citing U.S. Indo-Pacific Command.[86]

- In June 2022, a Chinese fighter jet released chaff and flares into the engines of an Australian plane.[87]

- On December 21, 2022, a PLAN J-11 fighter pilot performed an unsafe maneuver while intercepting another U.S. Air Force RC-135, coming within 20 feet of the RC-135's nose and forcing it to engage in evasive maneuvers.[88]

- On February 6, 2023, China used a laser device to blind the crew of a Philippine Coast Guard ship.[89]

- On May 26, 2023, a PRC J-16 fighter pilot performed an aggressive maneuver while intercepting a U.S. Air Force RC-135 aircraft. The RC-135 was forced to fly through its jet wake after the J-16 flew "directly in front of the [RC-135's] nose."[90]

China has asserted an illegal territorial claim to virtually the entire South China Sea, which overlaps with Bruneian, Philippine, Malaysian, Vietnamese, Indonesian, and Taiwanese claims.[91] Various of the South China Sea claimant states' proposed boundaries overlap, and this has generated long-standing political and diplomatic disagreements, but China's actions to advance its territorial ambitions and restrict other claimants' use of the area are unparalleled and have repeatedly resulted in confrontation.

The most significant development in the South China Sea since Xi Jinping assumed leadership of the Chinese Communist Party has been China's reclamation and militarization of seven artificial islands or outposts. In 2015, Xi promised President Obama that China had no intention of militarizing the islands. That pledge has never been honored.[92]

According to the DOD's 2021 annual report on the Chinese military, "[n]o substantial land has been reclaimed at any of the outposts since the PRC completed its extensive artificial manipulation in the Spratly Islands in late 2015, after adding more than 3,200 acres of land to the seven features it occupies in the Spratlys."[93] This could be taken to suggest that the process has been completed. In fact, as described by Admiral Aquilino in his March 2022 posture statement to the Senate Committee on Armed Services:

> [T]he PLA has deployed anti-ship cruise missiles, surface-to-air missiles, and jamming equipment to its artificial Spratly Islands features since 2018 and flown aircraft from those locations since 2020. The PLA has emplaced expansive military infrastructure in the SCS by building aircraft hangars sufficient to accommodate multiple fighter brigades, protective shelters for surface-to-air and anti-ship missiles, and significant fuel storage facilities.[94]

The DOD's 2022 report on the Chinese military reflects that:

- The "advanced anti-ship and anti-aircraft missile systems and military jamming equipment" on these islands are "the most capable land-based weapons systems deployed by any claimant in the disputed South China Sea to date";

- "From early 2018 through 2021, the PRC regularly utilized its Spratly Islands outposts to support naval and coast guard operations in the South China Sea"; and

- "In mid-2021, the PLA deployed an intelligence-gathering ship and a surveillance aircraft to the Spratly Islands during U.S.–Australia bilateral operations in the region."[95]

In November 2022, the Chinese coast guard deployed an inflatable boat to cut the tow line of and retrieve debris from a Chinese rocket launch that a Philippine boat was towing.[96] Most recent examples include the aforementioned blinding of a Philippine coast guard vessel and interception of an U.S. Air Force aircraft in the South China Sea.

China–Vietnam tensions have flared sporadically in the South China Sea in recent years. In 2020, CCG vessels rammed and sank Vietnamese fishing boats twice near the disputed Paracel Islands.[97] More recently, Chinese vessels have interfered

MAP 7

Chinese Fault Lines

China–India Border. The Line of Actual Control represents one of the world's longest disputed borders and has been the site of several standoffs between the Chinese and Indian militaries in recent years, including a border crisis in 2020 that resulted in the first casualties from hostilities at the border in more than 40 years.

East China Sea. China claims the disputed Senkaku/Diaoyu Islands, which are currently administered by Japan. In recent years, Chinese aircraft and naval vessels have entered the airspace and territorial sea around the islands with growing frequency.

Taiwan. The sovereignty of Taiwan remains unsettled. The People's Republic of China disputes this status and regularly conducts provocative military maneuvers near Taiwan.

South China Sea. The South China Sea hosts several territorial disputes between China and Taiwan and its Southeast Asian neighbors. China's unlawful claims in the sea and attempts to restrict freedom of navigation there have also produced tensions with the U.S., which has sent aircraft and naval vessels through the South China Sea to signal its objections to the nature of China's claims. This has resulted in a number of confrontations between Chinese and U.S. vessels.

SOURCE: Heritage Foundation research.

repeatedly with Vietnamese energy exploration blocks. One instance in May 2023 involved a 14-vessel fleet of CCG and paramilitary ships.[98] Vietnam has also protested China's decision to create additional administrative regions for the South China Sea, one centered on the Paracels and the other centered on the Spratlys.[99] This is part of Beijing's "legal warfare" efforts, which employ legal and administrative measures to underscore China's claimed control of the South China Sea region. For this reason, conflict often occurs around Chinese enforcement of unilaterally determined and announced fishing bans.[100]

Given that the United States shares a defense alliance with the Philippines, tensions between Beijing and Manila are the most likely to prompt American involvement in these disputes. There have been several volatile incidents between the two parties since the 1990s. The most contentious occurred in 2012 when a Philippine naval ship operating on behalf of the country's coast guard challenged private Chinese poachers in waters around Scarborough Shoal. The resulting escalation left Chinese government ships in control of the shoal after the U.S. helped to broker an agreement by which both sides agreed to withdraw from the standoff site. The Philippines complied; China did not.

Following the Scarborough Shoal crisis, the Philippines successfully challenged Beijing in the Permanent Court of Arbitration regarding its rights under the U.N. Convention on the Law of the Sea (UNCLOS). The tribunal found that many of China's claims in the South China Sea were unlawful. China has nevertheless ignored the ruling, and the ongoing presence of the Chinese Coast Guard around Scarborough Shoal remains a source of tension.[101]

In March and April 2021, a similar dispute arose around Whitsun Reef in the Spratlys. The presence of more than 200 Chinese fishing boats, among them known assets of China's maritime militia,[102] sparked protests from Manila. After a stay of a few weeks, which Beijing claimed was necessary because of the poor weather, most of the ships departed. The unprecedented gathering of fishing boats and maritime militia could be yet another attempt to establish a more permanent presence in the Philippines' EEZ.

The Philippines began to publicize instances of Chinese aggression at sea in 2023. In February, the Philippines condemned the CCG for "dangerous maneuvers and the use of a military-grade laser on members of the Philippine Coast Guard," who were "undertaking a mission in support of the regular rotation and resupply mission for the BRP Sierra Madre in Ayungin [Second Thomas] Shoal, the Philippines' permanent presence on the feature."[103] The Philippine Coast Guard released photo evidence of the laser incident, which reportedly temporarily blinded Philippine crewmen. In all of these cases, tensions have been exacerbated by rising Chinese nationalism.

In the event of armed conflict between China and the Philippines or between China and Japan, either by design or as the result of an accidental incident at sea, the U.S. could be required to exercise its treaty commitments.[104] In recent years the U.S. government has clarified that its treaty obligations to Japan and the Philippines extend to disputed territories claimed by China. The risk of an incident escalating and involving the U.S. is a growing threat, particularly in the East and South China Seas, where naval as well as civilian law enforcement vessels from both China and the U.S. operate in what the U.S. considers to be international waters. If China ultimately tries to assert its authority by declaring an ADIZ over the entire South China Sea as some have speculated it might, its action could further increase tensions.[105]

Border Conflict with India. The possibility of armed conflict between India and China, while currently remote, poses an indirect threat to U.S. interests because it could disrupt the territorial status quo and raise nuclear tensions in the region. A border conflict between India and China could also prompt Pakistan to add to regional instability by trying to take advantage of the situation.

Long-standing border disputes that led to a Sino–Indian war in 1962 have again become a flashpoint in recent years. In April 2013, the most serious border incident between India and China in more than two decades occurred when Chinese troops settled for three weeks several miles inside northern Indian territory on the Depsang Plains in Ladakh. A visit to India by Chinese President Xi Jinping in September 2014 was overshadowed by another flare-up in border tensions when hundreds of Chinese PLA forces reportedly set up camps in the mountainous regions of Ladakh, prompting Indian forces to deploy to forward positions in the region. This border standoff lasted three weeks until both sides agreed to pull their troops back to previous positions.

MAP 8

Disputed Borders Between India and China

Western Sector. Aksai Chin, a barren plateau that was part of the former princely state of Jammu and Kashmir, has been administered by the Chinese since they seized control of the territory in the 1962 Sino–Indian border conflict. One of the main causes of that war was India's discovery of a road China had built through the region, which India considered its territory.

Middle Sector. The Middle Sector, where the Indian states of Uttarakhand and Himachal Pradesh meet the Tibet Autonomous Region, is the least contentious of the three main disputed "sectors," with the least amount of territory contested. It is also the only sector for which the Chinese and Indian governments have formally exchanged maps delineating their respective claims.

Eastern Sector. China claims nearly the entire Indian state of Arunachal Pradesh, which Beijing calls South Tibet. The McMahon Line, which has served as the de facto Line of Actual Control since 1962, was established in 1914 by the British and Tibetan representatives and is not recognized by China. The U.S. recognizes Arunachal Pradesh as sovereign Indian territory.

SOURCE: Heritage Foundation research.

In 2017, Chinese military engineers were building a road to the Doklam plateau, an area claimed by both Bhutan and China, and this led to a confrontation between Chinese and Indian forces, the latter requested by Bhutanese authorities to provide assistance. The crisis lasted 73 days. Both sides pledged to pull back, but Chinese construction efforts in the area have continued.[106] Improved Chinese infrastructure not only would give Beijing the diplomatic advantage over Bhutan, but also could make the Siliguri corridor that links the eastern Indian states with the rest of the country more vulnerable.

In June 2020, the situation escalated even further. Clashes between Indian and Chinese troops using rocks, clubs, and fists led to at least 20 Indian dead and (as the Chinese authorities later admitted) at least four Chinese killed in the Galwan Valley area of Ladakh.[107] In the years since then, dozens of rounds of negotiations between China and India have resulted in at least partial de-escalation and pullback from several standoff sites in Ladakh. However, both sides maintain elevated forward-deployed forces all along the Line of Actual Control in Ladakh, and at two sites there has been no de-escalation agreement. India claims it is engaged in the largest peacetime military deployment to one of its borders in its modern history.[108]

India also claims that China occupies more than 14,000 square miles of Indian territory in the Aksai Chin along its northern border in Kashmir, and China lays claim to more than 50,000 square miles of India's northeastern state of Arunachal Pradesh. The latter dispute is closely related to China's ongoing efforts to control Tibetan Buddhism and the presence in India of the Tibetan government in exile and spiritual leader of Buddhists worldwide, the Dalai Lama.

Threats to the Commons

Critical U.S. sea, air, space, and cyber interests are at stake in the international commons. These interests include an economic interest in the free flow of commerce and the military use of the commons to safeguard America's own security and contribute to the security of its allies and partners.

Washington has long underwritten the security of the Indo-Pacific's common areas, and this in turn has supported the region's remarkable economic development. However, China is taking increasingly aggressive steps—including the construction of islands atop previously submerged features—to advance its own interests and is pursuing expanded military access and basing globally. Two things are clear: China and the United States do not share a common conception of international space and China is actively seeking to undermine American predominance in securing international common spaces.

Dangerous Behavior in Maritime and Airspace Common Spaces. The aggressiveness of the Chinese navy, maritime law enforcement forces, and air forces in and over the waters of the East China Sea, South China Sea, and Taiwan Strait, coupled with ambiguous, extralegal territorial claims and assertion of control in these areas, poses an incipient threat to American and overlapping allied interests. Chinese military writings emphasize the importance of establishing dominance of the air and maritime domains in any future conflict.

Although the Chinese may not yet have sufficient capacity to prevent the U.S. from operating in local waters and airspace, the ability of the U.S. to operate within the First Island Chain at acceptable costs in the early stages of a conflict has become a matter of greater debate.[109] A significant factor in this calculus is the fact that China has "fully militarized at least three of several islands it built in the disputed South China Sea, arming them with anti-ship and anti-aircraft missile systems, laser and jamming equipment and fighter jets in an increasingly aggressive move that threatens all nations operating nearby."[110] China also has been intensifying its challenges to long-standing rivals Vietnam and the Philippines and has begun to push toward Indonesia's Natuna Islands and into waters claimed by Malaysia.

It is unclear whether China is yet in a position to enforce an air defense identification zone (ADIZ) consistently, but the steady two-decade improvement of the PLAAF and PLAN naval aviation will eventually yield the necessary capabilities. Chinese observations of recent conflicts, including wars in the Persian Gulf, the Balkans, Afghanistan, and now Russia's war against Ukraine, have emphasized the growing role of airpower and missiles in conducting "non-contact, non-linear, non-symmetrical" warfare.[111] This growing parity, if not superiority, constitutes a radical shift from the Cold War era when the U.S. and its allies clearly would have dominated air and naval operations in the Pacific.

China also has begun to employ nontraditional methods of challenging foreign military operations in what Beijing regards as its territorial waters and airspace. It has employed lasers, for example, against foreign air and naval platforms, endangering pilots and sailors by threatening to blind them.[112]

Chinese military aircraft have increasingly performed dangerous intercepts of American and allied aircraft in international airspace, especially since 2022.

- In June 2022, a Chinese fighter jet released chaff and flares into the engines of an Australian plane.[113]

- On June 3, 2022, in the Taiwan Strait, China further escalated its aggressive conduct when the "PLAN LUYANG III DG 132 (PRC LY 132) executed maneuvers in an unsafe manner" by crossing the USS *Chung-Hoon*'s bow twice, "violat[ing] maritime 'Rules of the Road,' of safe passage in international waters" and forcing the *Chung-Hoon* to slow "to avoid a collision."[114]

- On December 21, 2022, a PLAN J-11 fighter pilot performed a similarly unsafe maneuver while intercepting another U.S. Air Force RC-135, coming within 20 feet of the plane's nose and "forcing the RC-135 to take evasive maneuvers to avoid a collision."[115]

- Most recently, on May 26, 2023, a PRC J-16 fighter pilot performed "an unnecessarily aggressive maneuver" while intercepting a U.S. Air Force RC-135 aircraft, flying "directly in front of the nose of the RC-135" and "forcing the U.S. aircraft to fly through its wake turbulence."[116]

Expanding Global Military Footprint. As China expands its naval capabilities, it will be present farther and farther away from its home shores. In 2017, as part of this effort, it established its first formal overseas military base pursuant to an agreement with the government of Djibouti. In the years since then, China's overseas military infrastructure has continued to expand. China has laid the groundwork for a second, undeclared military base in Cambodia, is in the process of creating logistics facilities and other military construction around the world, and controls a number of dual-use commercial facilities that could support power projection in future contingencies. The U.S. Intelligence Community reportedly has concluded that China plans to "build a global military network that includes at least five overseas bases and 10 logistical support sites by 2030."[117]

In 2019, China and Cambodia reportedly signed a secret agreement providing for the PLA's use of Cambodia's Ream Naval Base.[118] While officials from both countries publicly deny plans for a Chinese base,[119] governments and public reportage have confirmed that work continues toward a significant PLA presence at Ream.[120] The 2022 DOD report on Chinese capabilities reflects that "[t]he PRC's military facility at Ream Naval Base in Cambodia will be the first PRC overseas base in the Indo-Pacific."[121] Since June 2022, China has financed significant development of Ream, including multiple new piers and buildings, dredging of the harbor to support larger ships, and site development for further construction.[122] The U.S. Treasury Department has sanctioned Chinese state-owned Union Development Group, among other reasons, for the potential militarization of nearby Dara Sakor airport.[123]

China is also pursuing or already operating additional facilities abroad for explicit military purposes. Chinese paramilitary units have operated from a base near the Afghan border in Tajikistan since at least 2016,[124] and the Tajik government reportedly has offered to transfer ownership of the facility to China in return for further military construction and aid.[125] As part of an effort to secure a military presence in the Atlantic, China has made inroads through the potential development of a naval facility in Equatorial Guinea[126] and a purported joint training facility with Gabon.[127] According to the Defense Department's 2022 report on Chinese capabilities, China "has likely considered Myanmar [Burma], Thailand, Singapore, Indonesia, Pakistan, Sri Lanka, United Arab Emirates, Kenya, Equatorial Guinea, Seychelles, Tanzania, Angola, and Tajikistan among other places as locations for PLA military logistics facilities."[128]

China is also leveraging its extensive network of commercial ports developed under Xi Jinping's Belt and Road Initiative (BRI), both for present overseas military operations and for potential future basing. Chinese firms, overwhelmingly state-owned, have participated in the development of at least 200 ports globally and have an ownership or operating interest in 95 ports.[129] According to the DOD:

> Currently, the PRC uses commercial infrastructure to support all of its military operations abroad, including the PLA's presence in other countries' territories, such as at its base in Djibouti. Some of the PRC's BRI projects could create potential military advantages, such as PLA access to selected foreign ports to pre-position the necessary logistics support to sustain naval deployments in waters as distant as the Indian Ocean, Mediterranean Sea, and Atlantic Ocean to protect its growing interests.[130]

In Sri Lanka, for example, Chinese military vessels have visited Chinese-developed commercial ports in both Colombo and Hambantota in recent years. U.S. intelligence agencies believe that since 2021, China has been building an undisclosed military facility in Abu Dhabi's Khalifa port, where Chinese state-owned shipping giant Cosco operates a terminal.[131]

Increased Military Space Activity. One of the key force multipliers for the United States is its extensive array of space-based assets. Through its various satellite constellations, the U.S. military can track opponents, coordinate friendly forces, engage in precision strikes against enemy forces, and conduct battle-damage assessments so that its munitions are expended efficiently.

Because the American military is expeditionary—meaning that its wars are fought far from the homeland—its reliance on space-based systems is greater than that of many other militaries. Consequently, it requires global rather than regional reconnaissance, communications and data transmission, and meteorological information and support. At this point, only space-based systems can provide this sort of information on a real-time basis. No other country is capable of leveraging space as the U.S. does, and that is a major advantage. However, this heavy reliance on space systems is also a key American vulnerability.

China aims to be "a broad-based, fully capable space power" and is "second only to the U.S. in the number of operational satellites."[132]It fields an array of space capabilities, including its own BeiDou/Compass system of navigation and timing satellites, and has claimed a capacity to refuel satellites.[133] Additional investments have focused on "intelligence, surveillance, and reconnaissance (ISR), satellite communication, satellite navigation, and meteorology, as well as human spaceflight and robotic space exploration."[134] It has four satellite launch centers. China's interest in space dominance includes both accessing space and denying opponents the ability to do the same. As one Chinese assessment notes, space capabilities "provided 70 percent of battlefield communications, more than 80 percent of battlefield reconnaissance and surveillance, and 100 percent of meteorological data" for American operations in Kosovo, and "98 percent of precision-guided weapons were guided with space-based information."[135] In fact, "[i]t may be said that America's victory in the Kosovo War could not [have been] achieved without fully exploiting space."[136]

To this end, the PLA has been developing a range of anti-satellite capabilities that include both hard-kill and soft-kill systems. The former include direct-ascent kinetic-kill vehicles (DA-KKV) such as the system famously tested in 2007, but they also include more advanced systems that are believed to be capable of reaching targets in mid-Earth orbit and even geosynchronous orbit.[137] The latter include anti-satellite lasers for either dazzling or blinding purposes.[138] This is consistent with PLA doctrinal writings, which emphasize the need to control space in future conflicts. "Securing space dominance has already become the prerequisite for establishing information, air, and maritime dominance," says one Chinese teaching manual, "and will directly affect the course and outcome of wars."[139]

Orbital threats are growing as well. The Shijian-17 satellite has a robotic arm that can physically redirect satellites. In January 2022, the Shijian-21 "moved a derelict BeiDou navigation satellite to a high graveyard orbit above GEO."[140]

It should also be noted that soft-kill attacks need not come only from dedicated weapons. The case of Galaxy-15, a communications satellite owned by Intelsat Corporation, showed how a satellite could disrupt communications simply by always being in "switched on" mode.[141] Before it was finally brought under control, it had drifted through a portion of the geosynchronous belt, forcing other satellite owners to move their assets and juggle frequencies. A deliberate such attempt by China (or any other country) could prove far harder to handle, especially if conducted in conjunction with attacks by kinetic systems or directed-energy weapons.

Most recently, China has landed an unmanned probe at the lunar south pole on the far side of the Moon. This is a major accomplishment because the probe is the first spacecraft ever to land at either of the Moon's poles. To support this mission, the Chinese deployed a data relay satellite to Lagrange Point-2, one of five points where the gravity wells of the Earth and Sun "cancel out" each other, allowing a satellite to remain in a relatively fixed location with minimal fuel consumption. While the satellite itself may or may not have military roles, the deployment highlights that China will now be using the enormous volume of cis-lunar space (the region between the Earth and the Moon) for various

deployments. This will greatly complicate American space situational awareness efforts by forcing the U.S. to monitor a vastly greater area of space for possible Chinese spacecraft. The Chang'e-5 lunar sample retrieval mission in 2020 and China's recent landing on Mars underscore the PRC's effort to move beyond Earth orbit to cis-lunar and interplanetary space.

Cyber Activities and the Electromagnetic Domain. As far back as 2013, the Verizon Risk Center identified China as the "top external actor from which [computer] breaches emanated, representing 30 percent of cases where country-of-origin could be determined."[142] Given the difficulties of attribution, country of origin should not necessarily be conflated with perpetrator, but forensic efforts have associated at least one Chinese military unit with cyber intrusions, albeit many years ago.[143] The Verizon report similarly concluded that China was the source of 95 percent of state-sponsored cyber espionage attacks.

Since the 2015 summit meeting between Chinese President Xi Jinping and U.S. President Barack Obama, during which the two sides reached an understanding to reduce cyber economic espionage, Chinese cyber actions have shifted. Although the overall level of activity appears to be unabated, the Chinese seem to have moved toward more focused attacks mounted from new sites.

China's cyber espionage efforts are often aimed at economic targets, reflecting China's much more holistic view of both security and information. Rather than creating an artificial dividing line between military security and civilian security, much less information, the PLA plays a role in supporting both aspects and seeks to obtain economic intellectual property as well as military electronic information.

This is not to suggest that the PLA has not emphasized the military importance of cyber warfare. Chinese military writings since the 1990s have emphasized a fundamental transformation in global military affairs. Future wars will be conducted through joint operations involving multiple services, not through combined operations focused on multiple branches within a single service, and will span outer space and cyberspace in addition to the traditional land, sea, and air domains. Outer space and cyberspace will be of special importance because the introduction of information technology into all areas of military operations has caused the goal of warfare to move beyond establishing material dominance (characteristic of industrial-age warfare) to include establishing information dominance.

Consequently, according to PLA analysis, future wars will most likely be "informationized local wars." That is, they will be wars in which information and information technology will be both widely applied and a key basis of victory. The ability to gather, transmit, analyze, manage, and exploit information will be central to winning such wars: The side that is able to do these things more accurately and more quickly will be the side that wins. This means that future conflicts will no longer be determined by platform-versus-platform performance and not even by system against system: Conflicts are now clashes between rival systems of systems.[144]

Chinese military writings suggest that a great deal of attention has been focused on developing an integrated computer network and electronic warfare (INEW) capability. This would allow the PLA to reconnoiter a potential adversary's computer systems in peacetime, influence opponent decision-makers by threatening those same systems in times of crisis, and disrupt or destroy information networks and systems by cyber and electronic warfare means in the event of conflict. INEW capabilities would complement psychological warfare and physical attack efforts to secure "information dominance," which Chinese military writings emphasize as essential for fighting and winning future wars.

It is essential to recognize, however, that the PLA views computer network operations as part of information operations, or information combat. Information operations are specific operational activities that are associated with striving to establish information dominance. They are conducted in both peacetime and wartime with the peacetime focus on collecting information, improving its flow and application, influencing opposing decision-making, and effecting information deterrence.

Information operations involve four mission areas:

- **Command and Control Missions.** The ability of commanders to control joint operations by disparate forces is essential to the success of information operations. Command, control, communications, computers, intelligence, surveillance, and reconnaissance structures

therefore constitute a key part of information operations by providing the means for collecting, transmitting, and managing information.

- **Offensive Information Missions.** These are intended to disrupt the enemy's battlefield command and control systems and communications networks as well as to strike the enemy's psychological defenses.
- **Defensive Information Missions.** Such missions are aimed at ensuring the survival and continued operation of information systems. They include deterring an opponent from attacking one's own information systems, concealing information, and combating attacks when they do occur.
- **Information Support and Information-Safeguarding Missions.** The ability to provide the myriad types of information necessary to support extensive joint operations and to do so on a continuous basis is essential to their success.[145]

Computer network operations are integral to all four of these overall mission areas. They can include both strategic and battlefield network operations and can incorporate both offensive and defensive measures. They also include protection not only of data, but also of information hardware and operating software.

Finally, computer network operations will not stand alone; they will be integrated with electronic warfare operations as reflected in the phrase "network and electronics unified." Electronic warfare operations are aimed at weakening or destroying enemy electronic facilities and systems while defending one's own.[146] Techniques include jamming and anti-jamming technologies that deny space-based communications, radar systems, and GPS navigation.[147] The combination of electronic and computer network attacks will produce synergies that affect everything from finding and assessing the adversary to locating one's own forces, weapons guidance, logistical support, and command and control. The creation of the PLASSF is intended to integrate these forces and make them more complementary and effective in future "local wars under informationized conditions."

Conclusion

China presents the United States with its most comprehensive and daunting national security challenge across all three areas of vital American national interests: the homeland; regional war (including potential attacks on overseas U.S. bases as well as against allies and partners); and international common spaces. China is challenging the U.S. and its allies at sea, in the air, and in cyberspace. It has sparked deadly confrontations on its border with India and poses a standing and escalating threat to Taiwan.

The Chinese military is no longer a distant competitor for the U.S. China has begun to field indigenous aircraft carriers and advanced missile technology. It is rapidly expanding its nuclear arsenal and conducting live-fire exercises and mock blockades around Taiwan. If current trends persist, the gap between the Chinese and U.S. militaries is likely to narrow further, and the possibility that China might surpass U.S. capabilities in some fields is no longer implausible.

This *Index* assesses the overall threat from China, considering the range of contingencies, as "aggressive" for level of provocative behavior and "formidable" for level of capability.

Threats: China

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Behavior		✓			

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
Capability	✓				

Endnotes

1. "National Security Strategy," The White House, October 2022, pp. 11 and 23, https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf (accessed July 18, 2023).
2. U.S. Department of Defense, *2022 National Defense Strategy of the United States of America Including the 2022 Nuclear Posture Review and the 2022 Missile Defense Review*, p. 4, https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-NATIONAL-DEFENSE-STRATEGY-NPR-MDR.PDF (accessed July 18, 2023).
3. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. III, https://media.defense.gov/2022/Nov/29/2003122279/-1/-1/1/2022-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF (accessed July 18, 2023). The report was released on November 29, 2022. News release, "2022 Report on Military and Security Developments Involving the People's Republic of China ," U.S. Department of Defense, November 29, 2022, https://www.defense.gov/News/Releases/Release/Article/3230516/2022-report-on-military-and-security-developments-involving-the-peoples-republi/ (accessed July 18, 2023).
4. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 5.
5. Ibid., pp. VI and 50.
6. Ibid., p. VII.
7. Ibid., pp. VII, 64, and 65.
8. Ibid., pp. VII and 64.
9. Ibid., pp. IX and 94.
10. Ibid., pp. VIII and 81.
11. Ibid., pp. VIII and 83.
12. Ibid., pp. IX and 64.
13. Matt Pottinger, Matthew Johnson, and David Feith, "Xi Jinping in His Own Words," *Foreign Affairs*, November 30, 2022, https://www.foreignaffairs.com/china/xi-jinping-his-own-words (accessed July 19, 2023).
14. John Garnaut, "John Garnaut Takes a Deep Look at What Drives China and 'What Australia Needs to Know About Ideology in Xi Jinping's China," Interest.c.nz, January 20, 2019, https://www.interest.co.nz/opinion/97675/john-garnaut-takes-deep-look-what-drives-china-and-what-australia-needs-know-about (accessed July 19, 2023).
15. Ibid.
16. James J. Carafano, Michael Pillsbury, Jeff M. Smith, and Andrew J. Harding, eds., "Winning the New Cold War: A Plan for Countering China," Heritage Foundation *Special Report* No. 270, March 28, 2023, p. 5, https://www.heritage.org/sites/default/files/2023-03/SR270_0.pdf.
17. International Institute for Strategic Studies, *The Military Balance 2023: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2023), p. 209.
18. Liu Xuanzun, "China's 2023 Defense Budget to Rise by 7.2%, a 'Reasonable, Restrained' Increase amid Global Security Tensions," *Global Times*, March 5, 2023, https://www.globaltimes.cn/page/202303/1286643.shtml (accessed July 19, 2023).
19. U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022*, p. XII.
20. Richard A. Bitzinger, "China's Double-Digit Defense Growth," *Foreign Affairs*, March 19, 2015, https://www.foreignaffairs.com/articles/china/2015-03-19/chinas-double-digit-defense-growth#:~:text=China%20has%20done%20it%20again.%20In%20early%20March%2C,rise%20by%2010.1%20percent%2C%20to%20roughly%20%24145%20billion (accessed July 19, 2023).
21. Matthew P. Funaiole, Brian Hart, and Bonnie S. Glaser, "Breaking Down China's 2020 Defense Budget," Center for Strategic and International Studies *Commentary*, May 22, 2020, https://www.csis.org/analysis/breaking-down-chinas-2020-defense-budget (accessed July 19, 2023).
22. Joel Wuthnow and Phillip C. Saunders, *Chinese Military Reform in the Age of Xi Jinping: Drivers, Challenges, and Implications*, National Defense University, Institute for National Strategic Studies, Center for the Study of Chinese Military Affairs, *China Strategic Perspectives* No. 10, March 2017, *passim*, https://ndupress.ndu.edu/Portals/68/Documents/stratperspective/china/ChinaPerspectives-10.pdf (accessed July 19, 2023).
23. Daniel Gearin, "PLA Force Reductions: Impact on the Services," Chapter 9 in *Chairman Xi Remakes the PLA: Assessing Chinese Military Reforms*, ed. Phillip C. Saunders, Arthur S. Ding, Andrew Scobell, Andrew N.D. Yang, and Joel Wuthnow (Washington: National Defense University Press, 2019), pp. 327–343, https://ndupress.ndu.edu/Portals/68/Documents/Books/Chairman-Xi/Chairman-Xi.pdf (accessed July 19, 2023).
24. U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022*, pp. 6 and 47.
25. Ibid., p. 48.
26. Ronald O'Rourke, "China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress," *Congressional Research Service Report for Members and Committees of Congress* No. RL33153, updated May 15, 2023, p.2, https://crsreports.congress.gov/product/pdf/RL/RL33153/267 (accessed July 25, 2023).

27. U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022*, p. 52.

28. Dennis Gormley, Andrew S. Erickson, and Jingdong Yuan, "A Potent Vector: Assessing Chinese Cruise Missile Developments," *Joint Force Quarterly* No. 75 (4th Quarter 2014), pp. 98–105, https://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-75/jfq-75_98-105_Gormley-et-al.pdf (accessed July 19, 2023).

29. U.S. Department of Defense, "Military and Security Developments Involving the People's Republic of China," *U.S. Department of Defense*, 2022, pp. 52–53.

30. Ibid., p. 56. Punctuation as in original.

31. U.S. Department of Defense, Defense Intelligence Agency, *China Military Power: Modernizing a Force to Fight and Win*, 2019, p. 70, https://www.dia.mil/Portals/110/Images/News/Military_Powers_Publications/China_Military_Power_FINAL_5MB_20190103.pdf (accessed July 19, 2023).

32. Section II, "National Defense Policy," in People's Republic of China, Ministry of National Defense, White Paper, *China's National Defense in 2010*, March 2011, http://eng.mod.gov.cn/publications/2021-06/23/content_4887922.htm (accessed July 19, 2023).

33. Kristin Huang, "Shandong Aircraft Carrier Group Concludes South China Sea Exercise," *South China Morning Post*, May 2, 2021, https://www.scmp.com/news/china/military/article/3131977/shandong-aircraft-carrier-group-concludes-south-china-sea (accessed July 19, 2023).

34. Franz-Stefan Gady, "China's New Aircraft Carrier to Use Advanced Jet Launch System," *The Diplomat*, November 6, 2017, https://thediplomat.com/2017/11/chinas-new-aircraft-carrier-to-use-advanced-jet-launch-system/ (accessed July 19, 2023).

35. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 55.

36. Ibid., pp. VI–VII and 59.

37. Ibid., p. 60. Punctuation as in original.

38. Ibid., p. 59.

39. International Institute for Strategic Studies, *The Military Balance 2022: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2022), pp. 260–261.

40. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, pp. 59–60.

41. Ibid., pp. 60 and 150.

42. U.S. Department of Defense, Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2019*, p. 58, https://media.defense.gov/2019/May/02/2002127082/-1/-1/1/2019_CHINA_MILITARY_POWER_REPORT.pdf (accessed July 19, 2023).

43. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. VII.

44. Franz-Stefan Gady, "Russia Delivers 1st S-400 Missile Defense Regiment to China," *The Diplomat*, April 3, 2018, https://thediplomat.com/2018/04/russia-delivers-1st-s-400-missile-defense-regiment-to-china/ (accessed July 19, 2023).

45. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. IX.

46. Ibid., p.65.

47. Andrew S. Erickson and Michael S. Chase, "China's SSBN Forces: Transitioning to the Next Generation," Jamestown Foundation *China Brief*, Vol. 9, Issue 12 (June 12, 2009), http://www.jamestown.org/single/?no_cache=1&tx_ttnews[tt_news]=35120#.U5G0OSjb5NQ (accessed July 19, 2023).

48. U.S. Department of Defense, *Military and Security Developments Involving the People's Republic of China 2022*, p. 94.

49. Brad Lendon, "China Is Building a Sprawling Network of Missile Silos, Satellite Imagery Appears to Show," CNN, updated July 2, 2021, https://www.cnn.com/2021/07/02/asia/china-missile-silos-intl-hnk-ml/index.html (accessed July 20, 2023); Matt Korda and Hans Kristensen, "China Is Building a Second Nuclear Missile Silo Field," Federation of American Scientists, July 26, 2021, https://fas.org/blogs/security/2021/07/china-is-building-a-second-nuclear-missile-silo-field/ (accessed July 20, 2023); and Shannon Bugos and Julia Masterson, "New Chinese Missile Silo Fields Discovered," *Arms Control Today*, September 2021, https://www.armscontrol.org/act/2021-09/news/new-chinese-missile-silo-fields-discovered (accessed July 20, 2023).

50. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 65.

51. Ibid., p. 96.

52. Ibid., p. 53.

53. Ibid., p. 94.

54. For more information on China's cruise missile program, see Dennis M. Gormley, Andrew S. Erickson, and Jingdong Yuan, *A Low-Visibility Force Multiplier: Assessing China's Cruise Missile Ambitions* (Washington: National Defense University Press, 2014), http://ndupress.ndu.edu/Portals/68/Documents/Books/force-multiplier.pdf (accessed May 23, 2022). Published by the NDU Press for the Center for the Study of Chinese Military Affairs, "established as an integral part of the National Defense University's Institute for National Strategic Studies on March 1, 2000."

55. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 64.

56. Chandelis Duster, "Top Military Leader Says China's Hypersonic Missile Test 'Went Around the World,'" CNN, updated November 18, 2021, https://www.cnn.com/2021/11/17/politics/john-hyten-china-hypersonic-weapons-test/index.html (accessed July 20, 2023).
57. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, pp. 45 and 67.
58. International Institute for Strategic Studies, *The Military Balance 2023*, p. 243.
59. U.S. Department of Defense, Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022, p. 70.
60. Ibid., p. 72.
61. Ibid., p. 69.
62. Press release, "U.S. Charges Five Chinese Military Hackers for Cyber Espionage Against U.S. Corporations and a Labor Organization for Commercial Advantage," U.S. Department of Justice, May 19, 2014, https://www.justice.gov/opa/pr/us-charges-five-chinese-military-hackers-cyber-espionage-against-us-corporations-and-labor (accessed July 20, 2023).
63. Press release, "Chinese Military Personnel Charged with Computer Fraud, Economic Espionage and Wire Fraud for Hacking into Credit Reporting Agency Equifax," U.S. Department of Justice, February 10, 2020, https://www.justice.gov/opa/pr/chinese-military-personnel-charged-computer-fraud-economic-espionage-and-wire-fraud-hacking (accessed July 20, 2023).
64. For a description of orbits and their characteristics, see Dean Cheng, "Space 201: Thinking About the Space Domain," in *2018 Index of U.S. Military Strength*, ed. Dakota L. Wood (Washington: The Heritage Foundation, 2018), pp. 73–82, https://www.heritage.org/sites/default/files/2017-10/2018_IndexOfUSMilitaryStrength-2.pdf.
65. Andrew Jones, "China's Shijian-21 Towed Dead Satellite to a High Graveyard Orbit," *SpaceNews*, January 27, 2022, https://spacenews.com/chinas-shijian-21-spacecraft-docked-with-and-towed-a-dead-satellite/ (accessed July 20, 2023).
66. National Air and Space Intelligence Center, "Competing in Space," December 2018, p. 21, https://media.defense.gov/2019/Jan/16/2002080386/-1/-1/1/190115-F-NV711-0002.PDF (accessed July 20, 2023).
67. Press release, "Gallagher Outlines Vision to Deter CCP Invasion of Taiwan," Office of Congressman Mike Gallagher, October 18, 2022, https://gallagher.house.gov/media/press-releases/gallagher-outlines-vision-deter-ccp-invasion-taiwan (accessed July 21, 2023).
68. Testimony of Admiral Philip S. Davidson, USN, Commander, United States Indo-Pacific Command, in stenographic transcript of *Hearing to Receive Testimony on United States Indo-Pacific Command in Review of the Defense Authorization Request for Fiscal Year 2022 and the Future Years Defense Program*, Committee on Armed Services, U.S. Senate, March 9, 2021, p. 48, https://www.armed-services.senate.gov/imo/media/doc/21-10_03-09-2021.pdf (accessed July 21, 2023).
69. Hope Yen, "CIA Chief: China Has Some Doubt on Ability to Invade Taiwan," Associated Press, February 23, 2023, https://apnews.com/article/russia-ukraine-taiwan-politics-united-states-government-eaf869eb617c6c356b2708607ed15759 (accessed July 21, 2023).
70. Mike Brest, "US Commander Dismisses 2027 Estimate for Chinese Invasion of Taiwan: 'Everyone's Guessing,'" *Washington Examiner*, April 18, 2023, https://www.washingtonexaminer.com/policy/defense-national-security/us-commander-dismisses-2027-estimate-chinese-invasion-of-taiwan (accessed July 21, 2023).
71. BBC News, "Record Number of China Planes Enter Taiwan Air Defence Zone," *BC News*, October 5, 2021, https://www.bbc.com/news/world-asia-58794094 (accessed July 21, 2023).
72. Agence France-Presse, "China's Warplane Incursions into Taiwan Air Defence Zone Doubled in 2022," *The Guardian*, January 1, 2023, https://www.theguardian.com/world/2023/jan/02/chinas-warplane-incursions-into-taiwan-air-defence-zone-doubled-in-2022 (accessed July 21, 2023).
73. Bonny Lin, Brian Hart, Matthew P. Funaiole, Samantha Lu, Hannah Price, and Nicholas Kaufman, "Tracking the Fourth Taiwan Strait Crisis," Center for Strategic and International Studies, China Power Project, updated May 16, 2023, https://chinapower.csis.org/tracking-the-fourth-taiwan-strait-crisis/ (accessed July 21, 2023).
74. Brent Sadler, "Beijing Telegraphs Its Intentions with Recent Military Exercises Around Taiwan," Heritage Foundation *Commentary*, May 5, 2023, https://www.heritage.org/asia/commentary/beijing-telegraphs-its-intentions-recent-military-exercises-around-taiwan.
75. Bonny Lin, Brian Hart, Samantha Lu, Hannah Price, and Matthew Slade, "Tracking China's April 2023 Military Exercises Around Taiwan," Center for Strategic and International Studies, China Power Project, updated May 11, 2023, https://chinapower.csis.org/tracking-chinas-april-2023-military-exercises-around-taiwan/ (accessed July 21, 2023).
76. Reuters, "Taiwan Air Force Scrambles Again to Warn off Chinese Jets," Al Jazeera, March 16, 2020, https://www.aljazeera.com/news/2020/03/taiwan-airforce-scrambles-warn-chinese-jets-200317003712908.html (accessed July 21, 2023).
77. Kristin Huang, "Chinese Air Force's Drill 'Aimed at Signaling Deterrent Around Taiwan,'" *South China Morning Post*, April 2, 2020, https://www.scmp.com/news/china/military/article/3077997/chinese-air-forces-drill-aimed-signalling-deterrent-around (accessed July 21, 2023).
78. Alastair Gale, "On Basco Island South of Taiwan, U.S. Military Prepares for Conflict With China," *The Wall Street Journal*, April 24, 2023, https://www.wsj.com/articles/on-basco-island-south-of-taiwan-u-s-military-prepares-for-conflict-with-china-f7c5c8bc (accessed July 21, 2023).

79. See Chapter 10, "The South China Sea Tribunal," in Tufts University, The Fletcher School, *Law of the Sea: A Policy Primer*, https://sites.tufts.edu/lawofthesea/chapter-ten/ (accessed July 21, 2023).
80. Matthew M. Burke and Keishi Koja, "China, Japan Coast Guards Face off for 13th Time This Year Near Disputed Islands," *Stars and Stripes*, May 11, 2023, https://www.stripes.com/theaters/asia_pacific/2023-05-11/china-coast-guard-instrusion-senkaku-10081278.html (accessed July 21, 2023).
81. Ankit Panda, "Japan Identifies Chinese Submarine in East China Sea: A Type 093 SSN," *The Diplomat*, January 16, 2018, https://thediplomat.com/2018/01/japan-identifies-chinese-submarine-in-east-china-sea-a-type-093-ssn/ (accessed July 21, 2023); Howard Wang, "China vs. Japan: Is the East China Sea Showdown Back on?" *The National Interest*, The Buzz Blog, June 7, 2019, https://nationalinterest.org/blog/buzz/china-vs-japan-east-china-sea-showdown-back-61492 (accessed July 21, 2023); and Ankit Panda, "China Patrol Ships Sustain Presence Near Senkaku Islands: Report," *The Diplomat*, June 10, 2019, https://thediplomat.com/2019/06/china-patrol-ships-sustain-presence-near-senkaku-islands-report/ (accessed July 21, 2023).
82. Matthew M. Burke and Keishi Koja, "Chinese Coast Guard's Record Stay Near Senkakus Draws More Complaints from Japan," *Stars and Stripes*, April 3, 2023, https://www.stripes.com/theaters/asia_pacific/2023-04-03/chinese-coast-guard-senkaku-islands-9687986.html (accessed July 21, 2023).
83. Press Statement, "Statement on the East China Sea Air Defense Identification Zone," U.S. Department of State, November 23, 2013, https://2009-2017.state.gov/secretary/remarks/2013/11/218013.htm (accessed July 21, 2023).
84. Jason Le Miere, "China Claims U.S. Military Plane 'Illegally' Entered Chinese Air Defense Zone," *Newsweek*, March 24, 2017, http://www.newsweek.com/china-claims-us-military-plane-illegally-entered-chinese-air-defense-zone-573711 (accessed July 21, 2023).
85. Hans Nichols and Courtney Kube, "Two Chinese Fighter Jets Intercept U.S. Plane over East China Sea, Officials Say," NBC News, updated May 18, 2017, http://www.nbcnews.com/news/us-news/two-chinese-fighter-jets-intercept-u-s-plane-officials-say-n761931 (accessed July 21, 2023).
86. Jesse Johnson, "U.S. Military Pilots in East China Sea Targeted in Laser Attacks," *The Japan Times*, June 22, 2018, https://www.japantimes.co.jp/news/2018/06/22/asia-pacific/u-s-military-pilots-east-china-sea-targeted-laser-attacks/ (accessed July 21, 2023).
87. Brad Lendon, "Chinese Fighter Jet 'Chaffs' Australian Plane Near South China Sea, Canberra Alleges," CNN, updated June 7, 2022, https://www.cnn.com/2022/06/05/australia/australia-china-plane-intercept-intl-hnk-ml/index.html (accessed July 25, 2023).
88. News release, "USINDOPACOM Statement on Unsafe Intercept of U.S. Aircraft over South China Sea," U.S. Indo-Pacific Command, December 29, 2022, https://www.pacom.mil/Media/News/News-Article-View/Article/3256219/usindopacom-statement-on-unsafe-intercept-of-us-aircraft-over-south-china-sea/ (accessed July 25, 2023).
89. Press Statement, "U.S. Support for the Philippines in the South China Sea," U.S. Department of State, February 13, 2023, https://www.state.gov/u-s-support-for-the-philippines-in-the-south-china-sea-3/ (accessed July 21, 2023).
90. News release, "USINDOPACOM Statement on Unprofessional Intercept of U.S. Aircraft over South China Sea." U.S. Indo-Pacific Command, May 30, 2023, https://www.pacom.mil/Media/News/News-Article-View/Article/3410337/usindopacom-statement-on-unprofessional-intercept-of-us-aircraft-over-south-chi/ (accessed July 25, 2023).
91. Press Statement, "Sixth Anniversary of the Philippines–China South China Sea Arbitral Tribunal Ruling," U.S. Department of State, July 11, 2022, https://www.state.gov/sixth-anniversary-of-the-philippines-china-south-china-sea-arbitral-tribunal-ruling/ (accessed July 21, 2023).
92. See, for example, Center for Strategic and International Studies, Asia Maritime Transparency Initiative, "An Accounting of China's Deployments to the Spratly Islands," May 9, 2018, https://amti.csis.org/accounting-chinas-deployments-spratly-islands/ (accessed July 21, 2023).
93. U.S. Department of Defense, Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2021*, p. 104, https://www.globalsecurity.org/military/library/report/2021/2021-prc-military-security-developments.pdf (accessed July 21, 2023).
94. Admiral John C. Aquilino, U.S. Navy, Commander, U.S. Indo-Pacific Command, statement on "U.S. Indo-Pacific Command Posture" before the Committee on Armed Services, U.S. Senate, March 10, 2022, p. 7, https://www.armed-services.senate.gov/imo/media/doc/INDOPACOM%20Statement%20(ADM%20Aquilino)%20_SASC2.PDF (accessed July 21, 2023).
95. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, pp. 113–114.
96. Niharika Mandhana, "How Beijing Boxed America Out of the South China Sea," *The Wall Street Journal*, March 11, 2023, https://www.wsj.com/articles/china-boxed-america-out-of-south-china-sea-military-d2833768 (accessed July 21, 2023).
97. Khanh Vu, "Vietnam Protests Beijing's Sinking of South China Sea Boat," Reuters, April 4, 2020, https://www.reuters.com/article/us-vietnam-china-southchinasea/vietnam-protests-beijings-sinking-of-south-china-sea-boat-idUSKBN21M072 (accessed July 21, 2023), and "Chinese Vessel Rams Vietnamese Fishing Boat in S. China Sea," *The Maritime Executive*, June 14, 2020, https://www.maritime-executive.com/article/report-chinese-vessel-rams-vietnamese-fishing-boat-in-s-china-sea (accessed July 21, 2023).
98. Francesco Guarascio, "Cluster of Chinese Vessels Spotted near Russian Rig off Vietnam—Ship Monitors," Reuters, May 10, 2023, https://www.reuters.com/world/asia-pacific/cluster-chinese-vessels-spotted-near-russian-rig-off-vietnam-ship-monitors-2023-05-10/ (accessed July 21, 2023).

99. Reuters, "Vietnam Protests Beijing's Expansion in Disputed South China Sea," April 19, 2020, https://www.reuters.com/article/us-vietnam-china-southchinasea/vietnam-protests-beijings-expansion-in-disputed-south-china-sea-idUSKBN2210M7 (accessed July 21, 2023). To illustrate further just how contentious these disputes between Vietnam (and other countries) and China are Vietnam has banned the release of an American movie, *Barbie*, because it includes a scene in which China's long-held nine-dash-line claim to all of the South China Sea is shown. See Dan Ladden-Hall, "'Barbie' Movie Dragged into Diplomatic Mega-Spat," Daily Beast, July 3, 2023, https://www.thedailybeast.com/barbie-movie-dragged-into-diplomatic-mega-spat (accessed July 21, 2023).
100. Tam Anh, "Vietnam Rejects China's Illegal Fishing Ban," *VnExpress International*, April 29, 2021, https://e.vnexpress.net/news/news/vietnam-rejects-china-s-illegal-fishing-ban-4270611.html (accessed July 21, 2023).
101. Andreo Calonzo, "Philippines Slams China's 'Dangerous' Move in Disputed Sea," Bloomberg, updated May 3, 2021, https://www.bloomberg.com/news/articles/2021-05-03/philippines-dials-up-protest-on-china-s-dangerous-sea-maneuver?sref=InMWfBxD (accessed July 21, 2023), and Reuters and Bloomberg, "Philippines Foreign Minister Issues Expletive-Laced Tweet over South China Sea Dispute," *The Straits Times*, updated May 4, 2021, https://www.straitstimes.com/asia/se-asia/philippines-slams-china-for-dangerous-manoeuvre-in-disputed-south-china-sea (accessed July 21, 2023).
102. Center for Strategic and International Studies, Asia Transparency Initiative, "Caught on Camera: Two Dozen Militia Boats at Whitsun Reef Identified," April 21, 2021, https://amti.csis.org/caught-on-camera-two-dozen-militia-boats-at-whitsun-reef-identified/ (accessed July 21, 2023).
103. News release, "PH Protests CN Coast Guard Use of Military-Grade Laser, Dangerous Maneuvers Against PCG near Ayungin," Office of the President of the Philippines, February 14, 2023, https://pco.gov.ph/news_releases/ph-protests-cn-coast-guard-use-of-military-grade-laser-dangerous-maneuvers-against-pcg-near-ayungin/ (accessed July 21, 2023).
104. Although it has long been a matter of U.S. policy that Philippine territorial claims in the South China Sea lie outside the scope of American treaty commitments, the treaty does apply in the event of an attack on Philippine "armed forces, public vessels or aircraft in the Pacific." Mutual Defense Treaty Between the United States and the Republic of the Philippines, August 30, 1951, Article V, http://avalon.law.yale.edu/20th_century/phil001.asp (accessed July 21, 2023). In any event, Article IV of the treaty obligates the U.S. in case of such an attack to "meet the common dangers in accordance with its constitutional processes." Regardless of formal treaty obligations, however, enduring U.S. interests in the region and perceptions of U.S. effectiveness and reliability as a check on growing Chinese ambitions would likely spur the U.S. to become involved.
105. Kelvin Chen, "China to Set up ADIZ in South China Sea," *Taiwan News*, May 5, 2020, https://www.taiwannews.com.tw/en/news/3928503 (accessed July 21, 2023).
106. Joel Wuthnow, Satu Limaye, and Nilanthi Samaranayake, "Doklam, One Year Later: China's Long Game in the Himalayas," War on the Rocks, June 7, 2018, https://warontherocks.com/2018/06/doklam-one-year-later-chinas-long-game-in-the-himalayas/ (accessed July 21, 2023).
107. BBC News, "Ladakh: China Reveals Soldier Deaths in India Border Clash," February 19, 2021, https://www.bbc.com/news/world-asia-56121781 (accessed July 21, 2023).
108. ANI [Asian News International], "PM Modi Sent Army to LAC, Rahul Didn't, Says Jaishankar," *Hindustan Times*, February 21, 2023, https://www.hindustantimes.com/india-news/pm-modi-sent-army-to-lac-rahul-didn-t-says-jaishankar-101676975300232.html (accessed July 21, 2023).
109. Gregory B. Poling, "The Conventional Wisdom on China's Island Bases Is Dangerously Wrong," War on the Rocks, January 10, 2020, https://warontherocks.com/2020/01/the-conventional-wisdom-on-chinas-island-bases-is-dangerously-wrong/ (accessed July 20, 2023), and J. Michael Dahm, "Beyond 'Conventional Wisdom': Evaluating the PLA's South China Sea Bases in Operational Context," War on the Rocks, March 17, 2020, https://warontherocks.com/2020/03/beyond-conventional-wisdom-evaluating-the-plas-south-china-sea-bases-in-operational-context/ (accessed July 20, 2023).
110. Associated Press, "U.S. Admiral Says China Has Fully Militarized Islands," *Politico*, March 20, 2022, https://www.politico.com/news/2022/03/20/china-islands-militarized-missiles-00018737 (accessed July 20, 2023).
111. "Building an Active, Layered Defense: Chinese Naval and Air Force Advancement," interview with Andrew S. Erickson, U.S. Naval War College, by Greg Chaffin, National Bureau of Asian Research, September 10, 2012, https://www.nbr.org/publication/building-an-active-layered-defense-chinese-naval-and-air-force-advancement/ (accessed July 20, 2023).
112. Patrick M. Cronin and Ryan D. Neuhard, "Countering China's Laser Offensive," *The Diplomat*, April 2, 2020, https://thediplomat.com/2020/04/countering-chinas-laser-offensive/ (accessed July 20, 2023).
113. Lendon, "Chinese Fighter Jet 'Chaffs' Australian Plane Near South China Sea, Canberra Alleges."
114. News release, "USINDOPACOM Statement on Unsafe Maritime Interaction," U.S. Indo-Pacific Command, May 30, 2023, https://www.pacom.mil/Media/News/News-Article-View/Article/3415952/usindopacom-statement-on-unsafe-maritime-interaction/ (accessed July 20, 2023).
115. News release, "USINDOPACOM Statement on Unsafe Intercept of U.S. Aircraft over South China Sea."
116. News release, "USINDOPACOM Statement on Unprofessional Intercept of U.S. Aircraft over South China Sea."
117. John Hudson, Ellen Nakashima and Liz Sly, "Buildup Resumed at Suspected Chinese Military Site in UAE, Leak Says," *The Washington Post*, April 26, 2023, https://www.washingtonpost.com/national-security/2023/04/26/chinese-military-base-uae/ (accessed July 20, 2023).

118. Jeremy Page, Gordon Lubold and Rob Taylor, "Deal for Naval Outpost in Cambodia Furthers China's Quest for Military Network," *The Wall Street Journal*, updated July 22, 2019, https://www.wsj.com/articles/secret-deal-for-chinese-naval-outpost-in-cambodia-raises-u-s-fears-of-beijings-ambitions-11563732482?mod=e2tw (accessed July 20, 2023).
119. Shaun Turton and Bopha Phorn, "Cambodia Breaks Ground on China-Funded Ream Naval Base Expansion," *Nikkei Asia*, June 8, 2022, https://asia.nikkei.com/Spotlight/Hun-Sen-s-Cambodia/Cambodia-breaks-ground-on-China-funded-Ream-Naval-Base-expansion (accessed July 20, 2023).
120. Ellen Nakashima and Cate Cadell, "China Secretly Building Naval Facility in Cambodia, Western Officials Say," *The Washington Post*, June 6, 2022, https://www.washingtonpost.com/national-security/2022/06/06/cambodia-china-navy-base-ream/ (accessed July 20, 2023), and Jack Brook and Phin Rathana, "Cambodia Reveals Air Defense Plans Near China-Funded Naval Base," *Nikkei Asia*, April 1, 2023, https://asia.nikkei.com/Politics/Defense/Cambodia-reveals-air-defense-plans-near-China-funded-naval-base (accessed July 20, 2023).
121. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 145.
122. RFA staff, "Satellite Photos Show Expansion of Chinese-Funded Naval Base in Cambodia," Radio Free Asia, February 22, 2023, https://www.rfa.org/english/news/southchinasea/cambodia-naval-base-02222023085732.html (accessed July 20, 2023), and Andrew Salerno-Garthwaite, "China's Secret Naval Base in Cambodia, Through Satellite Imagery," Naval Technology, March 14, 2023, https://www.naval-technology.com/features/chinas-secret-naval-base-in-cambodia-through-satellite-imagery/ (accessed July 20, 2023).
123. Press release, "Treasury Sanctions Chinese Entity in Cambodia Under Global Magnitsky Authority," U.S. Department of the Treasury, September 15, 2020, https://home.treasury.gov/news/press-releases/sm1121 (accessed July 20, 2023).
124. Gerry Shih, "In Central Asia's Forbidding Highlands, a Quiet Newcomer: Chinese Troops," *The Washington Post*, February 18, 2019, https://www.washingtonpost.com/world/asia_pacific/in-central-asias-forbidding-highlands-a-quiet-newcomer-chinese-troops/2019/02/18/78d4a8d0-1e62-11e9-a759-2b8541bbbe20_story.html (accessed July 20, 2023), and Reid Standish, "From a Secret Base in Tajikistan, China's War on Terror Adjusts to a New Reality," Radio Free Europe/Radio Liberty, October 14, 2021, https://www.rferl.org/a/tajikistan-china-war-on-terror-afghan/31509370.html (accessed July 20, 2023).
125. Reid Standish, "Tajikistan Approves Construction of New Chinese-Funded Base as Beijing's Security Presence in Central Asia Grows," Radio Free Europe Radio Liberty, updated October 28, 2021, https://www.rferl.org/a/tajikistan-approves-chinese-base/31532078.html (accessed July 20, 2023).
126. Michael M. Phillips, "China Seeks First Military Base on Africa's Atlantic Coast, U.S. Intelligence Finds," *The Wall Street Journal*, updated December 5, 2021, https://www.wsj.com/articles/china-seeks-first-military-base-on-africas-atlantic-coast-u-s-intelligence-finds-11638726327 (accessed July 20, 2023).
127. Hudson, Nakashima, and Sly, "Buildup Resumed at Suspected Chinese Military Site in UAE, Leak Says."
128. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 144.
129. Isaac B. Kardon, "China's Overseas Base, Places, and Far Seas Logistics," Chapter 3 in *The PLA Beyond Borders: Chinese Military Operations in Regional and Global Context*, ed. Joel Wuthnow, Arthur S. Ding, Phillip C. Saunders, Andrew Scobell, and Andrew N.D. Yang (Washington: National Defense University Press, 2021), pp. 77 and 93, https://ndupress.ndu.edu/Portals/68/Documents/Books/beyond-borders/990-059-NDU-PLA_Beyond_Borders_sp_jm14.pdf (accessed July 20, 2023).
130. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 144.
131. Hudson, Nakashima, and Sly, "Buildup Resumed at Suspected Chinese Military Site in UAE, Leak Says," and Gordon Lubold and Warren P. Strobel, "Secret Chinese Port Project in Persian Gulf Rattles U.S. Relations With U.A.E.," *The Wall Street Journal*, updated November 19, 2021, https://www.wsj.com/articles/us-china-uae-military-11637274224 (accessed July 20, 2023).
132. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 89.
133. Xinhua, "China Announces Success in Technology to Refuel Satellites in Orbit," June 30, 2016, http://www.china.org.cn/china/Off_the_Wire/2016-06/30/content_38784419.htm (accessed July 20, 2023).
134. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 88.
135. Dean Cheng, The PLA's Interest in Space Dominance," statement in transcript of hearing, *China's Space and Counterspace Programs*, U.S.–China Economic and Security Review Commission, 114th Cong., 1st Sess., February 18, 2015, p. 45, https://www.uscc.gov/sites/default/files/transcripts/February%2018%2C%202015_Transcript.pdf (accessed July 20, 2023).
136. Mei Lianju, *Space Operations Teaching Materials* (Beijing, PRC: Academy of Military Sciences Publishing House, 2013), p. 65.
137. See, for example, Brian Weeden, *Through a Glass, Darkly: Chinese, American, and Russian Anti-Satellite Testing in Space*, Secure World Foundation, March 17, 2014, https://swfound.org/media/167224/through_a_glass_darkly_march2014.pdf (accessed July 20, 2023).
138. Ian Easton, "The Great Game in Space: China's Evolving ASAT Weapons Programs and Their Implications for Future U.S. Strategy," Project 2049 Institute, 2009, pp. 4–5, https://project2049.net/wp-content/uploads/2018/05/china_asat_weapons_the_great_game_in_space.pdf (accessed July 20, 2023).

139. Mei Lianju, *Space Operations Teaching Materials*, p. 69.

140. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, p. 93.

141. Peter B. de Selding, "Runaway Zombie Satellite Galaxy 15 Continues to Pose Interference Threat," Space.com, October 15, 2010, http://www.space.com/9340-runaway-zombie-satellite-galaxy-15-continues-pose-interference-threat.html (accessed July 21, 2023). Article "provided by *SpaceNews*."

142. Verizon, *2013 Data Breach Investigations Report*, pp. 21–22, https://www.researchgate.net/publication/289254657_2013_Verizon_Data_Breach_Investigations_Report (accessed July 21, 2023). See also Elise Ackerman, "New Verizon Security Report Finds a Growing Number of Attacks by China's Hacker Army," *Forbes*, April 23, 2013, https://www.forbes.com/sites/eliseackerman/2013/04/23/new-verizon-security-report-finds-a-growing-number-of-attacks-by-chinas-hacker-army/#11429f622c49 (accessed July 21, 2023), and Lucian Constantin, "Verizon: One in Five Data Breaches Are the Result of Cyberespionage," *PC World*, April 23, 2013, http://www.pcworld.com/article/2036177/one-in-five-data-breaches-are-the-result-of-cyberespionage-verizon-says.html (accessed July 21, 2023).

143. Mike Lennon, "Unit in China's PLA Behind Massive Cyber Espionage Operation: Report," *Security Week*, February 19, 2013, https://www.securityweek.com/cyber-unit-chinas-pla-behind-massive-cyber-espionage-operation-report (accessed July 21, 2023). For the full report, see Mandiant, *APT1: Exposing One of China's Cyber Espionage Units*, https://www.mandiant.com/sites/default/files/2021-09/mandiant-apt1-report.pdf (accessed July 21, 2023).

144. Bai Bangxi and Jiang Lijun, "'Systems Combat' Is Not the Same as 'System Combat,'" *China National Defense Newspaper*, January 10, 2008, cited in Dean Cheng, "U.S.–China Competition in Space," testimony before the Subcommittee on Space, Committee on Science, Space, and Technology, U.S. House of Representatives, September 27, 2016, p. 2, https://docs.house.gov/meetings/SY/SY16/20160927/105387/HHRG-114-SY16-Wstate-ChengD-20160927.pdf (accessed July 21, 2023). See also hearing, *Are We Losing the Space Race to China?* Subcommittee on Space, Committee on Science, Space, and Technology, U.S. House of Representatives, 114th Cong., 2nd Sess., September 27, 2016, https://www.hsdl.org/c/abstract/?docid=796740 (accessed July 21, 2023).

145. Guo Ruobing, *Theory of Military Information Security* (Beijing, PRC: National Defense University Publishing House, 2013), pp. 12–21.

146. Tan Rukan, *Building Operational Strength Course Materials* (Beijing, PRC: Academy of Military Sciences Publishing House, 2012), p. 204.

147. U.S. Department of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2022*, pp. 92–93.

Russia

The Heritage Defense Team

On February 24, 2022, Russia launched its second invasion of Ukraine. Employing a force of nearly 200,000 troops replete with armor, rocket and conventional artillery, and combat aircraft, President Vladimir Putin ordered a "special military operation" to seize Ukraine, destabilize if not overthrow its government, and neutralize its military. Contrary to the expectations of many, however, Russia failed to win a quick victory and is now mired in an ongoing war with no prospect of complete victory. In addition to the tremendous losses borne by both sides, the war has depleted the military inventories of Western countries that continue to provide material support to Ukraine.

The assault on Ukraine is irrefutable proof that Putin's Russia is a profound threat to the U.S., its interests, and the security and economic interests of its allies, particularly in Europe but also more broadly given the reach of Russia's military and the destructive ripple effect its use is having across countries and regions of special importance to the United States. Today, Ukraine is in ruins, the war continues (thus illustrating the expanse of Russia's military inventory), and Putin's anger with Europe has intensified because Europe's aid to Ukraine has prevented a Russian victory.

From the Arctic to the Baltics, Ukraine, and the South Caucasus, and increasingly in the Mediterranean, Russia continues to foment instability in Europe. Despite its economic problems and its losses in Ukraine, Russia continues to prioritize its military and funding for its military operations abroad. Russia remains antagonistic to the United States both militarily and politically, and its efforts to undermine U.S. institutions and the NATO alliance continue unabated.

Destruction of the Nordstream 1 and 2 pipelines and Europe's transition away from Russian energy sources have seriously degraded Russia's energy position in Europe. Nevertheless, Russia continues to use energy along with espionage, cyberattacks, and information warfare to exploit vulnerabilities in an effort to divide the transatlantic alliance and undermine faith in government and societal institutions. Russia's losses in energy sales to Europe have been mitigated by higher prices for energy in general throughout 2023 and increases in sales to non-European countries including India and China.

Overall, Russia possesses significant conventional and nuclear capabilities and remains the principal conventional threat to European security. Its aggressive stance in theaters from Ukraine and Georgia to the Balkans and Syria continues to encourage destabilization and threaten U.S. interests.

Military Capabilities. Assessing the state of Russia's conventional military capabilities is unusually challenging because of the war in Ukraine, Russian efforts to mobilize additional manpower, and Russia's efforts to bring armaments formerly in storage into frontline service. According to the International Institute for Strategic Studies (IISS):

- Among the key weapons in Russia's inventory are 339 intercontinental ballistic missiles (ICBMs); 1,800 main battle tanks; 4,150 armored infantry fighting vehicles; more than 5,350 armored personnel carriers; and more than 4,458 pieces of artillery.

- The navy has one aircraft carrier (undergoing extensive refit); 51 submarines (including 11 ballistic missile submarines); three cruisers; 11 destroyers; 16 frigates; and 128 patrol and coastal combatants.

- The air force has 1,153 combat-capable aircraft.
- The army has approximately 550,000 soldiers, including 100,000 conscripts.
- There is a total reserve force of 1,500,000 for all armed forces.[1]

Russia's failure to take Kyiv in the early stages of its second invasion led to significant losses among its best forces. For example, casualty rates among some Russian Spetsnaz units reportedly have reached 90 percent–95 percent.[2] Russia also has suffered significant losses of tanks and other military hardware as a result of its assault on Ukraine but can be expected to rebuild its military and replace the destroyed tanks and other equipment with newly developed modern versions, not the old Soviet hardware. According to one recent analysis:

> The Russian military has recognized its subpar performance and in January Chief of the General Staff Valery Gerasimov responded with another round of reforms. Under his new plan, an army corps will be added in Karelia, on Finland's border, to counter the country's entry into NATO. The Gerasimov reforms will also see the re-establishment of two military districts—Moscow and St. Petersburg—which were merged in 2010 to become part of the Western Military District. Gerasimov also said Russia would add three motorized rifle divisions in Ukraine as part of combined arms formations in the occupied Kherson and Zaporizhzhia regions.[3]

In recent years, Russia has increasingly deployed paid private volunteer troops trained at Special Forces bases and often under the command of Russian Special Forces in order to avoid political blowback from military deaths abroad. It has used such volunteers in Libya, Syria, and Ukraine because they help the Kremlin to "keep costs low and maintain a degree of deniability," and "[a]ny personnel losses [can] be shrouded from unauthorized disclosure."[4] The most infamous such mercenary unit, the Wagner Group, now numbers as many as 50,000 fighters, but 80 percent (40,000) of its forces used in Ukraine are reportedly drawn from prisons, and they have taken heavy casualties.[5]

In July 2016, Putin signed a law creating a National Guard (Rosgvardia) with a total strength, both civilian and military, of 340,000 controlled directly by him.[6] He created this force, which is purportedly responsible for "enforcing emergency-situation regimes, combating terrorism, defending Russian territory, and protecting state facilities and assets," by amalgamating "interior troops and various law-enforcement agencies."[7]

Rosgvardia has been involved in the war in Ukraine. In March 2022, Rosgvardia Director Viktor Zolotov stated that "'National Guard units are not only involved in the fight against [the so-called Ukrainian] nationalists, [but] also fight to ensure public order and security in liberated localities, guard important strategic facilities, [and] protect humanitarian aid convoys.'" Specifically, Rosgvardia was sent to seize control of various Ukrainian cities.[8] Putin's signature on a March 27, 2023, decree removing the upper age limit for National Guard members serving in parts of Ukraine is a telling indicator of heavy Russian casualties and the unreliability of some Guard units.[9]

The Russian economy rebounded during the latter part of the COVID-19 pandemic,[10] but after Moscow invaded Ukraine again in February 2022, Western sanctions had a significant effect on the economy.[11] A surge in energy prices helped to cushion the Russian economy from the worst effects of the sanctions, but the World Bank expects the Russian economy to have contracted by 4.5 percent in 2022 and to continue contracting in 2023 with inflation remaining high. The long-term outlook for Russia's economy is bleak, as restrictions on the import of Western technology hamper productivity growth.[12] The economic recession could affect Russia's ability to fund its military operations and will make the long-run choice between guns and butter increasingly stark. Nevertheless, it would be unwise to underrate Russia's ability to find ways to continue to sustain and rebuild its military power, even if by ever more hand-to-mouth methods.

In 2022, Russia spent $86.4 billion on its military—9.2 percent more than it spent in 2020–2021—and remained one of the world's top five nations in terms of defense spending.[13] Much of Russia's military expenditure has purportedly been directed toward modernization of its armed forces, but their poor performance in Ukraine indicates that at least some of this expenditure was wasted, stolen,

or poorly used. The U.S. Intelligence Community notes that Russia "retains the ability to deploy naval, long-range bomber, and small general purpose air and ground forces globally" but that heavy losses in Ukraine "and the large-scale expenditures of precision-guided munitions during the conflict have degraded Moscow's ground and air-based conventional capabilities and increased its reliance on nuclear weapons."[14]

From 2010 to 2019 (the most recent year for which data are publicly available), close to 40 percent of Russia's total military spending was on arms procurement.[15] Russia spent 4.1 percent of its GDP on defense in 2022, a significant increase from 2021's 3.7 percent.[16] This is likely to increase as combat losses and consumption of war matériel in Ukraine continue to mount.

In early 2018, Russia introduced its new State Armament Program 2018–2027, a $306 billion investment in new equipment and force modernization. According to the IISS, the program continues its predecessor's emphasis on modernization, but some of its aims are more modest than they were.[17] The extent to which modernization efforts are affected by the Russo–Ukraine war cannot yet be known, but while the war will increase Russia's need to replace destroyed forces with modernized equipment, it will also reduce Russia's ability, both financially and technologically, to make the necessary investments. Defense expenditures and investments in modernization programs are likely to remain high, especially as they are enabled by historically high energy revenues, but Russia's ability to rebuild after the war will be challenged, though certainly not eliminated.

Russia has prioritized modernization of its nuclear capabilities and in 2021 claimed that its nuclear trifecta was more than 89 percent of the way through its modernization from the Soviet era.[18] However, by the end of 2022, modernization had reached only 91 percent of the arsenal.[19]

Russia has been planning to deploy the RS-28 (Satan 2) ICBM as a replacement for the RS-36, which is being phased out in the 2020s.[20] In June 2022, Putin announced that the missile had been "successfully tested" and, "with nuclear capability, will be deployed by the end of 2022." Alexei Zhuravlyov, a member of the Russian State Duma, boasted "that the [RS-28] would reduce the United States to 'nuclear ashes' if they 'think Russia should not exist.'"[21] Russia was able to carry out only one test of the RS-28 in 2022, but in spite of "myriad problems," the missile is reportedly in operational production.[22]

In April 2020, the Kremlin stated that it had begun state trials for its T-14 Armata main battle tank in Syria.[23] After a series of delays, Russian troops allegedly will receive more than 40 Armata tanks in 2023.[24] The T-14 reportedly debuted in Ukraine in April 2023, but according to British military intelligence, the initial tranche of T-14s were in poor condition, and their deployment in Ukraine was primarily for propaganda purposes.[25] There are serious doubts that the T-14 will ever be produced in significant numbers.[26] Aside from the T-14 Armata, Russia has reportedly stepped up production of its T-90M and T-72B3 tanks, although the IISS reports that at the end of 2022, only 100 T-90Ms and 250 T-72B3s had been deployed, and the Oryx database of Russian equipment destroyed in Ukraine reports that 19 T-90Ms and 303 T-72B3s were destroyed or abandoned.[27]

Russia's fifth-generation Su-27 fighter has fallen short of expectations, particularly with regard to stealth capabilities. In May 2018, the government cancelled mass production of the Su-27 because of its high costs and limited capability advantages over upgraded fourth-generation fighters.[28] As a result, only 30 Su-27s, in two variants, have been deployed.[29] In July 2021, Russia premiered the prototype for its Su-75 LTS Checkmate, which purportedly will be "the world's second single-engine fighter plane to incorporate the most sophisticated radar-evasion and command systems."[30] The only other plane in this category is the F-35. But there are serious doubts about the Su-75's design and, given the delays that plagued other advanced Russian aircraft, Russia's ability to build the Su-75 at the promised cost and according to the promised schedule.[31]

In December 2019, Russia's sole aircraft carrier, the *Admiral Kuznetsov*, caught on fire during repair work.[32] The carrier was scheduled to begin sea trials in 2022,[33] but the addition of a propeller-rudder system, hull repairs, and an assortment of delays in other maintenance work have caused the trials to be delayed until 2024.[34] The carrier finally left dry dock in February 2023, but repairs continue, and the ship reportedly lacks a crew.[35] In May 2019, reports surfaced that Russia is seeking to begin

construction of a new nuclear-powered aircraft carrier in 2023 for delivery in the late 2030s, but the procurement's financial and technological feasibility remains questionable.[36]

Following years of delays, the *Admiral Gorshkov* stealth guided missile frigate was commissioned in July 2018. According to one report, the Russian Navy is expected to add 10 new *Gorshkov*–class frigates and 14 *Steregushchiy*–class corvettes by 2027. At the end of 2022, only two *Gorshkov*–class frigates and six *Steregushchiy*–class corvettes had been deployed.[37] In January 2023, Russia used one of its *Gorshkov*–class frigates as the launching platform for a Zircon hypersonic cruise missile from the western Atlantic.[38] Russia reportedly is making significant upgrades to its nuclear-powered battle cruiser *Admiral Nakhimov* as well, but these modernizations have been postponed to 2024, and there are significant doubts about whether Russia's shipyards possess the necessary technical and financial capacity to complete the project.[39]

In November 2018, Russia sold four *Admiral Grigorovich*–class frigates to India, which should take delivery of all four by 2026.[40] The ships had been intended for the Black Sea Fleet, but Russia found itself unable to produce a replacement engine following the imposition of sanctions after its 2014 invasion of Ukraine. Currently, only three *Admiral Grigorovich*–class frigates are in service.[41]

Russia's naval modernization continues to prioritize submarines. In June 2020, the first Project 955A Borei-A ballistic-missile submarine, the *Knyaz Vladimir*, was delivered to the Russian Northern Fleet as an addition to the three original Project 955 Boreis.[42] Russia reportedly will construct a total of 10 Borei-A class submarines; five have been delivered, but not all may be operational.[43] Russia also has a further six Delfin–class ballistic missile submarines and has deployed two Yasen-M class cruise missile submarines.[44]

The *Laika*–class submarines (previously called *Khaski*) are planned fifth-generation stealth nuclear-powered submarines. They are to be armed with Zircon hypersonic missiles, which have a reported speed of from Mach 5 to Mach 6.[45] According to a Russian vice admiral, these submarines will be two times quieter than current subs.[46] Construction of the first *Laika* was scheduled for the end of 2030, but whether Russia can afford the production costs is unclear.[47]

Russia also continues to upgrade its diesel electric *Kilo*–class subs.[48] It reportedly inducted the first improved Project 6363 *Kilo*–class submarine into its Pacific Fleet in November 2019[49] and has deployed 10 of these vessels, although their operational status is unclear.[50] According to one assessment, "the submarine class lacks a functioning air-independent propulsion system, which reduced the boats' overall stealth capabilities."[51] Russia's most recent Maritime Doctrine, published in July 2022, explicitly identifies the U.S. as Russia's main national security threat and strongly implies that the Russian navy will continue to focus on developing assets that can threaten the U.S.[52]

Russian logistics remain an area of serious weakness. The RAND Corporation has noted that Russian airlift capacity in 2017 was a mere one-fifth of what it had been in 1992, just after the collapse of the Soviet Union,[53] and Russia has lost additional lift capacity in Ukraine.[54]

Even more serious may be the lack of attention to logistics and supply that the Russian military has demonstrated in Ukraine. The U.K.'s Royal United Services Institute describes the initial Russian assault on Kyiv in 2022 as "a bad plan...executed poorly," in considerable part because the plan made no provision for resupply. As in other areas, Russian logistics capabilities can be impressive at the high end, but Russia is not always able to integrate these capabilities into larger operations or work as effectively across larger formations.[55]

The same is true of high-end systems such as the S-500 surface-to-air missile system. This system has been plagued by repeated delays. Design development purportedly was completed in 2011, but full production has been delayed until 2025. The most impressive aspect of the S-500 system is its range; a 2018 test struck a target almost 300 miles away, and the system is purportedly capable of attacking low-orbit satellites. Russia appears to be delaying introduction of the S-500 system so that it can keep production lines open for export versions of the S-400 system, which points to the ongoing budgetary challenges facing its forces.[56] Even Russia's touted hypersonic Kinzhal missiles have underperformed in Ukraine.[57]

Russia's counterspace and countersatellite capabilities are formidable. According to the U.S. Intelligence Community:

Russia continues to train its military space elements, and field new antisatellite weapons to disrupt and degrade U.S. and allied space capabilities. It is developing, testing, and fielding an array of nondestructive and destructive counterspace weapons—including jamming and cyberspace capabilities, directed energy weapons, on-orbit capabilities, and ground-based ASAT capabilities—to target U.S. and allied satellites.[58]

With respect to cyber capabilities, the Intelligence Community assesses that "***Russia will remain a top cyber threat as it refines and employs its espionage, influence and attack capabilities. Russia views cyber disruptions as a foreign policy lever to shape other countries' decisions.***"[59]

Military Exercises. Russian military exercises, especially snap exercises, have masked real military operations in the past. In March 2022, Air Force General Tod D. Wolters, then Commander, U.S. European Command (EUCOM), testified that "Russia maintains a large conventional force presence along NATO's borders and conducts snap exercises to increase instability."[60] Concerns were heightened and eventually validated when Russia used such exercises in the spring and fall of 2021 to position forces close to Ukraine's borders with Russia and Belarus—forces that it ultimately used to invade Ukraine.

Russia's snap exercises are conducted with little or no warning and often involve thousands of troops and pieces of equipment.[61] In February 2022, just before Moscow's second invasion of Ukraine, Russia and Belarus held joint snap exercises with 30,000 combat troops and special operations forces, fighter jets, Iskander dual-capable missiles, and S-400 air defense systems.[62] In September 2022, Russia held joint military exercises with China and several other nations in Russia's Far East and the Sea of Japan.[63] Like all such exercises, this one served a variety of purposes, from projecting strength and showing off Russian allies to displaying hardware for sale and signaling Russian interest in a region.[64]

Russian Losses in Ukraine. The scale of Russian equipment losses in Ukraine is considerable. While no final accounting is possible, the open-source Oryx database has documented the destruction, damage, or capture of 1,937 Russian tanks, 838 armored fighting vehicles, and 2, 317 infantry fighting vehicles, along with much other equipment.[65] These losses, along with the potentially even more significant losses of Russian officers and crews, have brought an increase in U.S. and allied security that has been achieved at a remarkably low proportionate cost in U.S. assistance. Nevertheless, as summarized by General Christopher Cavoli of EUCOM in his 2023 posture statement:

> Russia remains a formidable and unpredictable threat that will challenge U.S. and European interests for the foreseeable future. Russian air, maritime, space, cyber, and strategic forces have not suffered significant degradation in the current war. Moreover, Russia will likely rebuild its Army into a sizeable and more capable land force, all while suspending its implementation of the Treaty on Conventional Forces in Europe, as it has done since 2007.[66]

The war in Ukraine has demonstrated substantial weaknesses in the Russian armed forces and has significantly reduced Russia's short-term ability to threaten U.S. and European interests in Europe, but it has also demonstrated the depth of Russia's stocks of equipment, munitions, and supplies and the willingness of Putin's government to continue to invest soldiers and treasure in the war, which is well into its second year.

Threats to the Homeland

Russia is the only state adversary in the Europe region that possesses the capability to threaten the U.S. homeland with both conventional and nonconventional means. Although there does not currently appear to be a strong likelihood that Russia will use its nuclear capabilities against the United States directly, Putin "casts the war [in Ukraine] as an inevitable confrontation with the United States, which he accuses of threatening Russia by meddling in its backyard and enlarging the NATO military alliance," and CIA Director William Burns has said that "none of us can take lightly the threat posed by a potential resort to tactical nuclear weapons or low-yield nuclear weapons" in Ukraine.[67]

Russia's most recent National Security Strategy does not mention NATO directly, but it does claim that the U.S. is planning to deploy medium-range and short-range missiles in Europe—a possibility that NATO firmly denies. The same document also clearly states that Russia will use every means at

its disposal to achieve its strategic goals. Among its "basic concepts" is "ensuring national security—the implementation by public authorities in cooperation with civil society institutions and organizations of political, legal, military, socio-economic, informational, organizational and other measures aimed at countering threats to national security."[68]

The most recent Russian military doctrine, which Putin signed in December 2014, specifically emphasizes the threat allegedly posed by NATO and global strike systems.[69] A 2020 doctrinal paper seemingly expanded the circumstances that Russia regards as justifying nuclear weapons use, and Russia's rhetoric depicts it as inhabiting a harsh and Manichean world in which only the possession of nuclear weapons prevents it from being attacked and destroyed.[70]

Strategic Nuclear Threat. Russia possesses the largest arsenal of nuclear weapons (including short-range nuclear weapons) among the nuclear powers: a total inventory of 5,899 as of March 28, 2023.[71] It is one of the few nations with the capability to destroy many targets in the U.S. homeland and in U.S.-allied nations as well as the capability to threaten and prevent free access to the commons by other nations.

Russia has both intercontinental-range and short-range ballistic missiles and a varied arsenal of nuclear weapons that can be delivered by sea, land, and air. It also is investing significant resources in modernizing its arsenal and maintaining the skills of its workforce, and "modernization of Russia's strategic nuclear triad is expected to remain a priority" under the new state armament program.[72] Admittedly, an aging nuclear workforce could impede this modernization, but modern weapons and equipment still allegedly constitute 91 percent of Russia's nuclear triad.[73]

Russia relies on its nuclear arsenal to ensure its invincibility against any enemy, intimidate European powers, and deter counters to its predatory behavior in its "near abroad," primarily in Ukraine, where it uses the threat of nuclear attack to deter other countries from supporting Ukraine's defense, but also in the Baltic States.[74] This arsenal serves both as a deterrent to large-scale attack and as a protective umbrella under which Russia can modernize its conventional forces at a deliberate pace, but Russia also needs a modern and flexible military to fight local wars such as those against Georgia in 2008 and the renewed offensive against Ukraine that began in 2022.

Under Russian military doctrine, the use of nuclear weapons in conventional local and regional wars would be deescalatory because it would cause an enemy to concede defeat. In April 2022, for example, "Russia's Foreign Minister said...that if the U.S. and Ukraine's other Western allies continue to arm the country as it battles Moscow's invading forces, the risk of the war escalating into a nuclear conflict 'should not be underestimated.'"[75] General Cavoli discussed the risks presented by Russia's nuclear weapons in his 2023 EUCOM posture statement:

> Russia retains a vast stockpile of deployed and non-deployed nuclear weapons, which present an existential threat to the U.S. Homeland, our Allies, and partners, and is failing to comply with several ... legal obligations under the New START Treaty. President Putin's dangerous nuclear rhetoric introduces strategic uncertainty.[76]

Putin's June 2020 executive order, "Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence," outlines four scenarios in which Russia would use nuclear weapons:

> 19. The conditions specifying the possibility of nuclear weapons use by the Russian Federation are as follows:
>
> a) arrival of reliable data on a launch of ballistic missiles attacking the territory of the Russian Federation and/or its allies;
> b) use of nuclear weapons or other types of weapons of mass destruction by an adversary against the Russian Federation and/or its allies;
> c) attack by adversary against critical governmental or military sites of the Russian Federation, disruption of which would undermine nuclear forces response actions;
> d) aggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy.[77]

Russia's reliance on nuclear weapons is based partly on their small cost relative to the cost of

conventional weapons, especially in terms of their effect, and on the government's inability to attract sufficient numbers of high-quality servicemembers. In other words, Russia sees its nuclear weapons as a way to offset the lower quantity and quality of its conventional forces.

Just as it is doing to deter Western support for Ukraine, Moscow has repeatedly threatened U.S. allies in Europe with nuclear deployments and even preemptive nuclear strikes.[78] The Russians justify their aggressive behavior by pointing to deployments of U.S. missile defense systems in Europe. In the past, these systems were not scaled or postured to mitigate Russia's advantage in ballistic missiles and nuclear weapons to any significant degree, but laser-armed Strykers arrived in Europe in 2021, the U.S. deployed Patriot missile defense systems to Poland in March 2022, and NATO leaders reaffirmed their commitment to full development of NATO ballistic missile defense at the Madrid Summit in July 2022.[79]

Russia continues to violate the Intermediate-Range Nuclear Forces (INF) Treaty, which bans the testing, production, and possession of intermediate-range missiles.[80] Russia first violated the treaty in 2008 and then systematically escalated its violations, moving from testing to producing to deploying the prohibited missile into the field. Russia fully deployed the SSC-8 cruise missile in violation of the INF Treaty early in 2017 and has deployed battalions with the missile at the Kapustin Yar missile test site in southern Russia, at Kamyshlov near the border with Kazakhstan, in Shuya east of Moscow, and in Mozdok in occupied North Ossetia.[81] In March 2023, Putin announced that Russia would deploy tactical nuclear weapons to Belarus, which had relinquished its nuclear weapons to Russia in the 1990s in exchange for security guarantees.[82]

In December 2018, in response to Russian violations, the U.S. declared Russia to be in material breach of the INF Treaty, a position with which NATO allies were in agreement.[83] The U.S. provided its six-month notice of withdrawal from the INF treaty on February 2, 2019, and officially withdrew from the treaty on August 2.[84] In 2023, the U.S. declared Russia noncompliant with the New START Treaty and denounced Moscow's invalid suspension of that treaty.[85]

Russia's sizable nuclear arsenal remains the only threat to the existence of the U.S. homeland emanating from Europe and Eurasia. Although the potential for use of this arsenal remains low, the fact that Moscow continues to threaten Europe with nuclear attack demonstrates that this substantial nuclear capability will continue to play a central strategic role in shaping both Russian military and political thinking and the level of Russia's aggressive behavior with respect to other countries.

Threat of Regional War

Many U.S. allies regard Russia as a genuine threat. At times, as seen in Russia's war against Ukraine, this threat is a military one. At other times, it involves less conventional tactics such as cyberattacks, exploitation of Russia's status as a source of energy, and propaganda. Today, as in the days of Imperial Russia, Moscow uses both the pen and the sword to exert its influence. Organizations like the Collective Security Treaty Organization (CSTO) and Eurasian Economic Union (EEU), for example, embody Russia's attempt to bind regional capitals to Moscow through a series of agreements and treaties.

The Russian war against Ukraine has blunted Moscow's ability to employ some of these tactics: Europe, for example, is moving away from dependence on Russian energy. But considerable portions of the Third World see Russia through anti-Western eyes and are therefore untroubled by—or even approve of—its actions.

Russia's terrorist attacks in Europe itself, including the 2018 poisoning of Russian GRU defector Sergei Skripal with nerve agents in Salisbury, U.K., and the likely responsibility of Russian agents for the death of 14 people in the U.K. alone, have received less attention than they deserve.[86] So has Russia's responsibility for other forms of transnational repression, including its abuse of international legal cooperation mechanisms.[87] Finally, Russia's alleged responsibility for the attacks that destroyed the Nordstream 1 and 2 pipelines in October 2022 points again to Moscow's willingness to use force in minimally deniable ways that are profoundly destabilizing and threatening to its neighbors.

Russia also uses espionage to damage U.S. interests. In February 2022, the U.S. expelled 12 officials from Russia's mission to the United Nations. According to the U.S. Mission to the U.N., the officials had "abused their privileges of residency in the U.S. by engaging in espionage activities that are adverse

to our national security."[88] In March 2022, Brussels, where the headquarters of NATO is located, expelled 21 Russian diplomats for "alleged threats and posing threats to security."[89] According to one report, Russian spies are becoming harder to track because they infiltrate companies, schools, and governments.[90]

Expulsions are not a permanent solution because "Russia tends to send back new spies to replace the ones who have left."[91] Though the expulsion of an estimated one-half of all Russian spies in Europe in the aftermath of Russia's re-invasion of Ukraine will have dealt a blow to Russian capabilities, the fact that such spying occurs is further evidence of Russia's willingness to use whatever means it feels is necessary to achieve its objectives.[92] Russia also has sought to leverage its relations with its limited number of partners, including Nicaragua and Venezuela in the Western Hemisphere, to increase its intelligence collection capabilities.[93]

Pressure on Nordic, Central, and Eastern Europe. Moscow poses a security challenge to members of NATO that border Russia. Until recently, a conventional Russian attack against a NATO member was thought unlikely, but Russia's assault on Ukraine and threats against NATO members that support Ukraine raise the specter of a possible larger conflict involving NATO.

Russia continues to use cyberattacks, espionage, and propaganda to sow discord among NATO member states and undermine the alliance. After decades of Russian domination, the countries of Central and Eastern Europe factor Russia into their military planning and foreign policy formulation in a way that is simply unimaginable in many Western European countries and North America. Estonia and Latvia have sizable ethnic Russian populations, and there is concern that Russia might exploit this as a pretext for aggression—a view that is not without merit in view of Moscow's irredentist rhetoric, use of this as a rationale to justify its invasion of Ukraine in 2014 and 2022, and similar exploitation of this approach in the lead-up to its 2008 attack on Georgia.

The assessments of the three Baltic States are instructive. The Estonian Foreign Intelligence Service, for example, concludes that:

> The only existential threat to the security of our region, including Estonia's sovereignty, stems from Russia. A military attack against Estonia is unlikely in 2023, as the Russian Armed Forces units based near the Estonian border are engaged in hostilities in Ukraine. At the same time, Russia's foreign policy ambitions driven by the Kremlin's belligerence and imperialism have significantly increased the security threat.[94]

According to Lithuania's *National Threat Assessment 2023*:

> The sanctions that weaken Russia's economy will not impede the regime's ability to prioritise the funding of increased military needs at the expense of public welfare. Nevertheless, the war against Ukraine will diminish the Russian military threat in the Baltic Sea Region only temporarily….
>
> Russia justifies its expansionist policy by employing a historical narrative based on various manipulations of the Soviet victory against the Nazi Germany. This narrative promotes the Kremlin regime's fictitious claims about exclusive interests in the post-Soviet region, whereas its aggressive policy and military actions are justified by the need to protect Russia's influence[95]

In words that still ring true today, Lithuania's *National Threat Assessment 2019* states that Russia "exploits democratic freedoms and rights for its subversive activity" and "actually promotes its aggressive foreign policy" while "pretending to develop cultural relations" in Lithuania.[96]

Latvian authorities describe the propaganda used by Russia against Ukraine in similar terms:

> The task of war propaganda was…to artificially create an image of an "external enemy" for Russian society. Primarily, it was the imaginary "Nazi (in some cases also "fascist") regime" in Kyiv. In other cases, it was NATO, the USA, Great Britain, or the Baltic States. In some cases, it was more convenient for Russian propaganda subjects to use the term "Anglo-Saxons" to describe their "external enemy."[97]

Although the Russian assault on Ukraine badly damaged Russia's "so-called 'compatriot' policy,

which was previously the cornerstone of Russia's 'soft' power,"[98] by reducing Russia's attractiveness to ethnic Russians in Latvia, Latvia still assesses that "Russia in 2022 once again confirmed its status as an aggressor and its unfulfilled superpower ambitions."[99]

In March 2017, General Curtis Scaparrotti, then Commander, U.S. European Command, and NATO Supreme Allied Commander Europe, characterized Russian propaganda and disinformation as an extension of Russia's military capabilities: "The Russians see this as part of that spectrum of warfare, it's their asymmetric approach."[100] That assessment remains true. As General Cavoli has recently pointed out, disinformation is one of the "range of tools" that Russia employs "to advance its foreign policy objectives to coerce neighboring states, divide the Alliance, and expand its global influence."[101]

Russia has sought to use disinformation to undermine NATO's Enhanced Forward Presence (eFP) in the Baltics. A disinformation campaign named Ghostwriter, for example, has been ongoing since 2017. In 2020, hackers "fabricated an interview with U.S. Army Europe commander Lt. Gen. Christopher Cavoli, which was published on a website notorious for spreading disinformation and was then picked up by other sites," alleging that he had made "statements about a lack of preparedness for [NATO's Defender Europe-20] exercise among Polish and Baltic militaries."[102] In 2022, according to the government of Lithuania, "Ghostwriter…significantly decreased its activity against NATO states."

> It is likely that the decrease in cyber-enabled information operations in Lithuania is temporary and related to redirected effort towards Ukraine, which has been a target of numerous Ghostwriter attacks in recent years. Nonetheless, attempts to gather Lithuanian citizens' data indicate likely plans to target Lithuania in the future attacks.[103]

U.S. troops stationed in Poland for NATO's eFP have been the target of similar Russian disinformation campaigns.[104] In 2020, "Russian-sponsored actors released a forged letter online where Polish Brigadier General Ryszard Parafianowicz appeared to criticize openly the American presence in his country during the US-led exercise Defender-Europe 20."[105] As noted, a fabricated interview with General Cavoli published online was similarly meant to undermine NATO's reputation among the public.[106] As one report put it, "Russia's state propaganda channels RT and Sputnik remain very keen to exploit to the maximum any incidents involving eFP personnel, and to repeat the Kremlin's anti-NATO and anti-eFP narrative."[107]

In February 2022, the Baltics and Poland together urged the largest social media companies to restrict Russian disinformation about the war in Ukraine from "spreading across [their] platforms." The Baltic States also banned a number of Russian and Belarusian channels that allegedly were disseminating propaganda to justify Moscow's war.[108] In March 2022, the EU's Council of Europe banned Russian state media outlets RT and Sputnik.[109]

Most important of all, Russia has repeatedly demonstrated a willingness to use military force to change the borders of Europe. Vladimir Putin rose to power in Russia because of his role in Russia's second war against Chechnya in 1999. In 2008, under Putin, Russia attacked Georgia. When Kremlin-backed Ukrainian President Viktor Yanukovych failed to sign an Association Agreement with the EU in 2013, street demonstrations led to his ouster early in 2014. Russia responded by sending troops, aided by pro-Russian local militia, to occupy the Crimean Peninsula under the pretext of "protecting Russian people." This led to Russia's annexation of Crimea, the first forcible annexation of territory in Europe since World War II.[110]

Russia's annexation effectively cut Ukraine's coastline in half, and Russia claimed rights to underwater resources off the Crimean Peninsula.[111] Russia deployed 30,000 troops to Crimea and embarked on a major program to build housing, restore airfields, and install new radars on the peninsula.[112] In May 2018, Russia inaugurated the first portion of a $7.5 billion, 11.8-mile bridge connecting Russia with Kerch in occupied Crimea.[113] The effect on Ukraine's regional economic interests can be seen in the fact that 30 percent of the cargo ships that served Mariupol could not clear the span, depriving Ukraine of the revenue that it would have derived from associated port activity and the export and import of goods.[114] In December 2019, Russia completed a new rail bridge over the Kerch Strait that the EU condemned as "yet another step towards a forced integration of the illegally annexed peninsula."[115] The U.S., for its part, regularly protested

Russia's illegal restriction of Black Sea freedom of navigation.[116]

Russia invaded Ukraine in February 2022 with the goal of bringing the entire nation under Putin's control. Though Ukrainians defeated Russia's attempt to seize the capital and large swathes of central Ukraine, Russia rapidly occupied one-fifth of the country, an area that includes most of Ukraine's industrial sector, its port cities on the Black Sea, and the major transport corridors for grain exports. In September 2022, Russia held fake referenda in occupied portions of Ukraine, claiming that the results justified its annexations.[117]

Control of Crimea allows Russia to use the Black Sea as a platform from which to launch and support naval operations along the Ukrainian coastline as part of Moscow's renewed offensive against Ukraine.[118] Russia also has been using the naval base at Sevastopol for operations in the Eastern Mediterranean, but Turkey's closure of the Bosphorus Strait to military traffic in late February 2022 in response to Russia's war against Ukraine has ended this option, at least temporarily.[119] Before Turkey closed the Strait, the Black Sea fleet had received six *Kilo* diesel submarines and three *Admiral Grigorovich*–class frigates equipped with Kalibr-NK long-range cruise missiles.[120] Kalibrs have a range of at least 2,500 kilometers, placing cities from Rome to Vilnius within range of Black Sea–based cruise missiles.[121] In April 2022, in a significant operational and symbolic loss for Russia, Ukrainian forces sank the *Moskva* guided missile cruiser, which had been the flagship of Russia's Black Sea Fleet.[122]

In Moldova, Russia supports the breakaway enclave of Transnistria, where another frozen conflict festers to Russia's advantage. According to the Congressional Research Service:

> Russia stations about 1,500 troops in Transnistria, most of whom are reportedly local residents; Moldova formally accepts a few hundred of these personnel as peacekeepers. In 2018, the U.N. General Assembly passed a resolution calling on Russia to withdraw its troops from Moldova "unconditionally and without further delay."…
>
> A conflict resolution process formally operates in a "5+2" format under the chairpersonship of the Organization for Security and Cooperation in Europe (OSCE), with the OSCE, Russia, and Ukraine as mediators and the EU and the United States as observers.… The EU also supports conflict management through an EU Border Assistance Mission, which has sought to help Moldova and Ukraine combat transborder crime and facilitate trade. Since 2022, the Mission has contributed to refugee crisis management and assisted the EU's efforts to establish alternative land routes for Ukrainian exports.[123]

Russia continues to occupy 12 percent of Moldova's territory. On January 22, 2019, in an effort to enhance its control of the breakaway region, Russia opened an office in Moscow for the Official Representation of the Pridnestrovian Moldavian Republic in the Russian Federation.[124] In February 2022, a few weeks before Russia's second invasion of Ukraine, Russian armed forces staged military drills in Transnistria. Concerns that Russian troops stationed in Transnistria could be mobilized for the war in Ukraine persist.[125]

Russia's other major ally in Europe is Serbia. Balkan politics are exceptionally complicated, but Russia's goal in the Balkans is clear: to create difficulties for NATO and the EU in the region by supporting Serbia's position on Kosovo.[126] While Russia has not deployed large-scale military forces to Serbia and is unlikely to do so, it does cultivate Balkan paramilitary groups and encourage cooperation between the Wagner Group and Serbia. In essence, Moscow wants to ensure that the frozen conflict in the Balkans, like the one in Moldova, does not thaw to Russia's disadvantage.[127]

Russia's major outpost in Europe, Kaliningrad, also remains a strategic challenge. Russia's permanent stationing of Iskander missiles in Kaliningrad in 2018 occurred a year to the day after NATO's eFP deployed to Lithuania.[128] Russia reportedly has deployed tactical nuclear weapons, the S-400 air defense system, and P-800 anti-ship cruise missiles to Kaliningrad.[129]

Russian missile deployments are not limited to Kaliningrad. Russia has outfitted a missile brigade in Luga, Russia, just 74 miles from the Estonian city of Narva, with Iskander missiles.[130] It also has deployed Iskanders to the Southern Military District at Mozdok near Georgia, and Russian military officials have reportedly asked manufacturers to increase the missiles' range and improve their

accuracy.[131] Russia has been firing Iskanders with "mystery munitions," described as "decoys meant to trick air-defense radars and heat-seeking missiles," at targets in Ukraine.[132] It also deployed Iskander missiles, as well as the S-400 air defense system, to Belarus in 2022, and Belarusian officials have stated that these systems are operational.[133]

Nor is Russia deploying missiles only in Europe. Russia announced plans to deploy additional missile systems on Paramushir and Matua, two islands in the northern portion of the Kuril Island chain claimed by Japan, in September 2019;[134] announced the deployment of S-300V4 air defense missile systems on Iturup in December 2020;[135] deployed Bastion coastal defense missile systems to Matua in December 2021;[136] conducted military drills on the Kuril Islands that involved more than 3,000 troops and hundreds of pieces of army equipment in March 2022;[137] and announced its deployment of the Bastion coastal missile system on the Kuril Islands in December 2022.[138]

Russia represents a real and potentially existential threat to NATO member countries in Nordic, Central, and Eastern Europe. In addition to its aggression in Georgia and Ukraine, support for Transnistria, and outpost in Kaliningrad, Russia has threatened countries that provide support to Ukraine. It also has threatened Finland and Sweden because of their desire to join NATO.[139] As long as the war in Ukraine continues, Russia is not likely to seek conventional conflict on other fronts, but it will continue to use nonlinear means in an effort to pressure and undermine the NATO alliance and any non-NATO country that opposes Moscow's political objectives.

Militarization of the High North. Because nationalism is on the rise in Russia, Vladimir Putin's Arctic militarization strategy is popular among the population. For Putin, the Arctic is an area that allows Russia to flex its muscles without incurring any significant geopolitical risk.

Russia is also eager to promote its economic interests in the region. Half of the world's Arctic territory and half of the Arctic region's population are located in Russia. It is well known that the Arctic is home to large stockpiles of proven but unexploited oil and gas reserves, most of which are thought to be located in Russia. In particular, Russia hopes that the Northern Sea Route (NSR) will become one of the world's most important shipping lanes.

According to one report, "[t]he Kremlin's dominance due to its unique topography and overwhelming military presence has made it impregnable in the Arctic."[140] Additionally, "Russian hardware in the High North area includes bombers and MiG31BM jets, and new radar systems close to the coast of Alaska."[141] In February 2023, Admiral Daryl Caudle, head of U.S. Fleet Forces Command, stated that "Russia now has six bases, 14 airfields, 16 deep-water ports, and 14 icebreakers built" in the region and "dominate[s] the Arctic geography and possess[es] the corresponding ability to dominate in capability and infrastructure."[142]

According to U.S. Second Fleet Commander Vice Admiral Dan Dwyer, Russia's new maritime doctrine, released in July 2022, shows that Moscow is "prioritizing the Arctic as its most important maritime direction, pledging to protect these waters 'by all means.' This includes increasing attention on the Arctic littorals as well as the introduction of new missile capabilities...to focus on its bastion of the Northern Fleet." Previously, "the Arctic was their number three priority. The Atlantic was their number one priority. Now Russians realize that the Arctic is the key to their economy and to their defense as they see the receding of the Arctic ice cap."[143]

Russia has staged a series of statement activities in the Arctic. In 2007, for example, Artur Chilingarov, then a member of the Russian Duma, led a submarine expedition to the North Pole and planted a Russian flag on the seabed. Later, he declared that "[t]he Arctic is Russian."[144] In March 2021, three Russian ballistic missile submarines punched through the Arctic ice near the North Pole.[145] In August 2022, during the Northern Fleet's Barents Arctic exercise, a corvette based in Kaliningrad sailed to the White Sea in the Arctic where it fired a Kalibr cruise missile at a target on the coast.[146]

In May 2017, Russia announced that its buildup of the Northern Fleet's nuclear capacity is intended "to phase 'NATO out of [the] Arctic.'"[147] In June 2022, Russia withdrew from a nuclear safety program in the Arctic region, raising concerns in the West "about a new period of heightened nuclear risks."[148] Russia also has stationed a floating nuclear power plant on the northern coast of Siberia at the town of Pevek. It will provide energy for a number of resource extraction projects including gold and

tin mines. Russia's state-owned nuclear company Rosatom is seeking to build four additional floating reactors in the vicinity by 2030.[149]

Although the Arctic region has been an area of low conflict among the Arctic powers, Russia's war against Ukraine and probing activities in the Arctic raise questions about whether that will remain true. It was recently reported, for example, that Russian fishing vessels with military radio equipment have docked in the Faroe Islands, which are strategically located just below the Arctic Circle between the coast of Iceland and Scotland in the United Kingdom, more than 200 times since 2015, likely conducting espionage.[150] NATO is a collective security organization that is designed to defend the territorial integrity of its members. Six NATO members (Canada, Denmark, Finland, Iceland, Norway, and the United States) are Arctic countries, and all six have territory above the Arctic Circle.[151]

Because Russia is an Arctic power, its military presence in the region is to be expected, but it is also a matter of serious concern because of Russia's pattern of aggression. In the Arctic, sovereignty equals security. Respecting national sovereignty in the Arctic would ensure that the chances of armed conflict in the region remain low. Because NATO is an intergovernmental alliance of sovereign nation-states built on the consensus of its members, it has a role to play in Arctic security. In the words of NATO Secretary-General Jens Stoltenberg:

> Russia's military build-up is the most serious challenge to stability and Allied security in the High North.… A strong, firm and predictable Allied presence is the best way to ensure stability and protect our interests. We cannot afford a security vacuum in the High North. It could fuel Russian ambitions, expose NATO, and risk miscalculation and misunderstandings.[152]

In March 2017, a decree signed by Putin gave the Federal Security Service (FSB), which controls law enforcement along the Northern Sea Route, an Arctic shipping route linking Asia and Europe as well as additional powers to confiscate land "in areas with special objects for land use, and in the border areas."[153] Russia's Arctic territory is included within this FSB-controlled border zone. The FSB and its subordinate coast guard have added patrol vessels and have built up Arctic bases, including a coast guard base in Murmansk that was opened in December 2018.[154]

The Russian National Guard, which reports to Putin, is likewise taking on an increased role in the Arctic and is now charged with protecting infrastructure sites that are deemed to be of strategic importance, including a new liquefied natural gas (LNG) export terminal at Sabetta that was opened in December 2017.[155] In April 2021, shareholders of Novatek, Russia's second-largest natural gas producer, "approved external financing of $11 billion for the Arctic LNG 2 project, which [was] expected to start production of [LNG] in 2023."[156] In December 2022, Novatek announced that despite sanctions, it is still seeking to begin gas production at the site in December 2023.[157]

In May 2018, Putin issued a presidential degree setting a target of 80 million tons shipped across the NSR by 2024.[158] In 2022, 34 million tons of goods, mostly oil and gas, were shipped by way of the NSR. Despite the impact of sanctions, Russia has announced new investments in ice monitoring systems and the deepening of shipping channels for a new Arctic oil terminal along the NSR.[159]

Russia also has been investing in military bases in the Arctic. Its Arctic Trefoil base on Alexandra Land Island, commissioned in 2017, can house 150 soldiers for up to 18 months.[160] Old Soviet-era facilities have been reopened, and more that are currently mothballed could be refurbished if necessary.[161] All of the land forces from many Russian bases on the Kola Peninsula have been sent to Ukraine to fight in a war that "has taken a toll on both Russian Arctic readiness and its deployable assets."[162] Nevertheless, Russia has continued to make steady progress on basing improvements in the region.

> [Satellite images] demonstrate continued work on the radar stations at the Olenegorsk site, on the Kola Peninsula in northwest Russia, and at Vorkuta, just north of the Arctic circle. They also appear to show work moving ahead to complete one of five Rezonans-N radar systems at Ostrovnoy, a site located by the Barents Sea, near Norway and Finland in Russia's west. The Rezonans-N systems are claimed by Russian officials to be able to detect stealth aircraft and objects.

> Three new radomes, the weatherproof enclosures used to protect radar antennas, were completed this year at the Tiksi air defense site, in the far northeast.... There are also improvements to a runway and parking apron at Nagurskoye air base—Russia's northernmost military facility—and runway improvements at "Temp" air base, on Kotelny Island, in the northeast of the country.[163]

In 2017, Russia activated a new radar complex on Wrangel Island.[164] In 2019, it announced plans to lay a nearly 8,000-mile fiber-optic cable across its Arctic coast, linking military installations along the way from the Kola Peninsula through Vladivostok.[165] Construction of the cable began in August 2021 and is due to be completed in 2026.[166]

Air power in the Arctic is increasingly important to Russia, which has 14 operational airfields in the region along with 16 deep-water ports, "a new command, and roughly 50 icebreakers...some of which are nuclear powered."[167] Russia briefly paused long-range bomber and submarine patrols across the Arctic following its invasion of Ukraine but restarted them in November 2022.

According to Royal Canadian Air Force Lieutenant General Alain Pelletier, Deputy Commander, North American Aerospace Defense Command (NORAD), Russia's "activities are not only limited to the long-range aviation. Russia uses its submarines now both on the Atlantic coast and the Pacific coast to actually demonstrate its strategic capabilities and to present a threat to North America."[168] During joint exercises with China in September 2022, at least four Russian and three Chinese naval vessels sailed in a single formation within the U.S. exclusive economic zone (EEZ) about 75 nautical miles off Kiska Island in the Alaskan Aleutians in "Moscow and Beijing's second joint patrol in 12 months."[169]

In November 2022, Russia launched the *Yakutia*, the fourth Project 22220 nuclear-powered icebreaker.[170] Russia's fleet of icebreaker and ice-capable ships is around 10 times the size of the U.S. fleet.[171]

Russia also has invested heavily in developing drones capable of operating in the High North. According to a Finnish unmanned aircraft specialist:

> In 2019, state sources announced the existence of another UAV [unmanned aerial vehicle] able to remain in-flight for four days in the Arctic without the need to rely on jammable satellite-based navigation. In 2021, Radar MMS introduced a heavy lift cargo drone capable of working at –70 degree Celsius. It is also documented that Russia is using underwater unmanned drones (UUVs), with some, such as the nuclear-powered Poseidon, developed particularly for Arctic waters."[172]

Russia's Northern Fleet "is made up of 26 submarines, 10 surface combatant ships, 16 patrol and coastal vessels, eight mine warfare/mine countermeasure ships, and eight amphibious platforms, plus fighter jets, anti-submarine aircraft and air defense systems."[173] One U.S. ally believes that Russia will seek a more consistent presence in the Barents Sea and Atlantic Ocean through lengthened submarine patrols.[174]

Though Russia's development of its military capabilities in the Arctic region continues, the likelihood of armed conflict remains low. However, physical changes in the region mean that the posture of interested nations will continue to evolve. It is clear that Russia intends to exert a dominant influence. As summarized by a U.S. Department of State official:

> [The U.S. has] concerns about Russia's military buildup in the Arctic. Its presence has grown dramatically in recent years with the establishments of new Arctic commands, new Arctic brigades, refurbished airfields and other infrastructure, deep water ports, new military bases along its Arctic coastline, an effort to establish air defense and coastal missile systems, early warning radars, and a variety of other things along the Arctic coastline. We've seen an enhanced ops [operations] tempo of the Russian military in the Arctic, including last October one of the largest Russian military exercises in the Arctic since the end of the Cold War. So there is some genuine and legitimate concern there on the part of the United States and our allies and partners about that behavior in the Arctic.[175]

Destabilization in the South Caucasus. The South Caucasus sits at a crucial geographical and cultural crossroads and has been strategically

important, both militarily and economically, for centuries. Although the countries in the region (Armenia, Georgia, and Azerbaijan) are not part of NATO and therefore do not receive a security guarantee from the United States, they have participated to varying degrees in NATO and U.S.-led operations. This is especially true of Georgia, which aspires to join NATO.

Russia views the South Caucasus as part of its natural sphere of influence and stands ready to exert its influence by force if necessary. In August 2008, Russia invaded Georgia, coming as close as 15 miles to the capital city of Tbilisi. A decade later, several thousand Russian troops occupied the two Georgian regions of South Ossetia and Abkhazia.

Russia has sought to deepen its relationship with the two occupied regions. In 2015, it signed so-called integration treaties with South Ossetia and Abkhazia that, among other things, call for a coordinated foreign policy, creation of a common security and defense space, and implementation of a streamlined process for Abkhazians and South Ossetians to receive Russian citizenship.[176] The Georgian Foreign Ministry criticized the treaties as a step toward "annexation of Georgia's occupied territories,"[177] both of which are still internationally recognized as part of Georgia. In January 2018, Russia ratified an agreement with the de facto leaders of South Ossetia to create a joint military force—an agreement that the U.S. condemned.[178]

South Ossetia's former leader, Anatoli Bibilov, had planned to hold a referendum to decide whether the region should join Russia on July 17, 2022, but his successor, Alan Gagloev, has cancelled the plebiscite as "premature."[179] Russia's "creeping annexation" of Georgia has left towns split in two and families separated by military occupation and the imposition of an internal border (known as "borderization").[180] In May 2020, the U.S. embassy in Tbilisi reported that Russian-led security forces were continuing to erect unauthorized fences and reinforcing existing illegal "borderization" efforts near a number of Georgian villages.[181]

Russia maintains a sizable military presence in Armenia based on an agreement that gives Moscow access to bases in that country at least until 2044.[182] The bulk of Russia's forces, consisting of 3,500 soldiers, dozens of fighter planes and attack helicopters, 74 T-72 tanks, and an S-300 air defense system, are based around the 102nd Military Base.[183] Russia and Armenia have also signed a Combined Regional Air Defense System agreement. Despite the election of Prime Minister Nikol Pashinyan in 2018 following the so-called Velvet Revolution, Armenia's cozy relationship with Moscow remains unchanged.[184] Armenian troops even deployed alongside Russian troops in Syria to the dismay of U.S. policymakers.[185]

Another source of regional instability is the Nagorno–Karabakh conflict, which began in 1988 when Armenia made territorial claims to Azerbaijan's Nagorno–Karabakh Autonomous Oblast.[186] By 1992, Armenian forces and Armenian-backed militias had occupied 20 percent of Azerbaijan, including the Nagorno–Karabakh region and seven surrounding districts. A cease-fire agreement was signed in 1994, and the conflict has been described as frozen since then. In 2020, major fighting broke out along the front lines. After six weeks of fighting and 7,000 killed, Azerbaijan liberated its internationally recognized territory, "which had been under Armenian occupation since the early 1990s."[187]

The conflict ended on November 9, 2020, when Armenia and Azerbaijan signed a Russian-brokered cease-fire agreement.[188] Azerbaijan had won a decisive victory, recovering most of the land taken by the Armenians in the first conflict. As part of the nine-point cease-fire plan, nearly 2,000 Russian peacekeeping soldiers were deployed to certain parts of Nagorno–Karabakh that are populated largely by ethnic Armenians. Russia remained the primary influencer in the region, serving as sole mediator for the Nagorno–Karabakh conflict and providing a peacekeeping force, yet maintained a least three military bases in Armenia and sold arms to both sides of the conflict.

By mid-2022, it was clear that two significant factors had affected the military situation on the ground. First, Azerbaijan developed strong defense ties with Turkey and Israel in the decade preceding the cease-fire. The billions of dollars in sophisticated weapons and technology acquired from Israel[189] and advanced military training received from Turkey have contributed to Azerbaijan's military superiority in the South Caucasus.[190] The Azerbaijan–Israel-Turkey "troika" has been a disruptor within the Russian sphere of influence.

Second, since Vladmir Putin's invasion of Ukraine, Russia's dominance in the South Caucasus has diminished significantly. To sustain its war effort in the face of significant losses:

The Russian military redeployed elements of the 15th Separate Guards Motorized Rifle Brigade—Russia's only dedicated peacekeeping brigade—from Nagorno-Karabakh to Ukraine in March 2022. Ukraine's General Staff reported that Ukrainian forces severely degraded the 15th Separate Guards Motorized Rifle Brigade, killing about 800 and wounding about 400 soldiers of the brigade's 1,800 soldiers that deployed to Ukraine as of June 2022. Russia will likely lose military influence in other post-Soviet states since Moscow has redeployed elements of permanently stationed Russian forces from Russian bases in Kyrgyzstan, occupied Georgia (Abkhazia and South Ossetia), and Tajikistan to fight in Ukraine.[191]

For decades, Russia has viewed the South Caucasus as a vital theater and has used military aggression, economic pressure, and the stoking of ethnic tensions to exert influence and control, usually to promote outcomes that are at odds with U.S. and NATO interests. It is certain that Russian influence in the region will continue, but current factors on the ground have caused its power to decline, at least temporarily.

Increased Activity in the Mediterranean. Russia has had a military presence in Syria for decades, but in September 2015, it became the decisive actor in Syria's civil war by saving Bashar al-Assad from being overthrown and strengthening his hand militarily, thus enabling government forces to retake territory lost during the war. Although conflicting strategic interests cause the relationship between Assad and Putin to be strained at times, Assad still needs Russian military support to take back Idlib province, a goal that he and Putin probably share.[192] Russia's Hmeymim Air Base is located close to Idlib, making it vulnerable to attacks from rebel fighters and terrorist groups, and Moscow instinctively desires to protect its assets. Though Assad's only goal is to restore sovereignty over all of Syria, Russia's main focus is maintaining its position in the region. Moscow therefore leverages its support for Assad to achieve that end.

In January 2017, Russia signed an agreement with the Assad regime to "expand the Tartus naval facility, Russia's only naval foothold in the Mediterranean, and grant Russian warships access to Syrian waters and ports.... The agreement will last for 49 years and could be prolonged further."[193] Russia reportedly is reinforcing its naval group in the Mediterranean Sea with warships and submarines armed with Kalibr cruise missiles.[194] In May 2021, the Voice of America reported that Russia is expanding its navy base at Tartus and "planning to construct a floating dock to boost the port's ship repair facilities."[195] Russia maintains 2,500 troops in Syria.[196]

The agreement with Syria also includes upgrades to the Hmeymim Air Base at Latakia, including repairs to a second runway.[197] Russia is extending one of its two runways by 1,000 feet, which would "allow the base to support more regular deployments of larger and more heavily-laden aircraft."[198] In May 2021, Russia declared the ability to operate nuclear-capable bombers from Hmeymim as a result of recent airfield upgrades.[199]

Russia deployed the S-400 anti-aircraft missile system to Hmeymim in late 2015.[200] It also has deployed the Pantsir S1 system. "The two systems working in tandem provide a 'layered defense,'" according to one account, "with the S-400 providing long-ranged protection against bombers, fighter jets, and ballistic missiles, and the Pantsir providing medium-ranged protection against cruise missiles, low-flying strike aircraft, and drones."[201] Russia currently operates out of Hmeymim on a 40-year agreement and continues to entrench its position there, as demonstrated by its recent building of reinforced concrete aircraft shelters.[202]

Russian pilots have occasionally acted dangerously in the skies over Syria. In May 2017, for example, a Russian fighter jet intercepted a U.S. KC-10 tanker, performing a barrel roll over the top of the KC-10.[203] That same month, Russia stated that U.S. and allied aircraft would be banned from flying over large areas of Syria pursuant to a deal made by Russia, Iran, and Turkey. The U.S. responded that the deal does not "preclude anyone from going after terrorists wherever they may be in Syria."[204]

The U.S. and Russia have a deconfliction hotline to avoid midair collisions and incidents, but incidents have occurred on the ground as well as in the air, although not nearly as often. From March 2022 to May 2023, Russian aircraft violated deconfliction protocols more than 80 times, including by flying over U.S. troops more than 24 times.[205] In February 2022, U.S. F-16 fighter jets and other coalition aircraft escorted three Russian aircraft in eastern Syria when the Russians flew into coalition-restricted

airspace.[206] Another notable incident occurred in November 2022 when Russia fired an SA-22 Pantsir surface-to-air missile against a U.S. MQ-9 Reaper drone over Syria. The missile passed within 40 feet of the drone, which was damaged when the missile detonated.[207]

In October 2018, Egyptian President Abdel Fattah al-Sisi signed a strategic cooperation treaty with Russia.[208] In November 2018, hoping to solidify its relations with Egypt, Russia approved a five-year agreement for the two countries to use each other's air bases.[209] Since then, Egypt and Russia have expanded their ties to include tourism, energy, political coordination, and military support.[210] Leaked intelligence reports detail a plan under which Egypt would secretly produce and deliver 40,000 rockets along with gunpowder to Russia, although it is believed that this plan has not yet been implemented.[211]

Russia remains active in Libya. Wagner units reportedly "are mostly present in the eastern region, specifically at al-Khadim air base near al-Marj city as well as in the cities of Sirte and al-Jufrah in the central region...where the majority of Wagner's fighters and most valuable assets, including its advanced air defense systems and fighter jets, are believed to be located."[212] The Wagner Group, a private military company with direct ties to President Putin, aided the failed efforts of Khalifa Haftar's Libyan National Army to take control of the capital beginning in 2018. Today, Wagner uses its presence in Libya as a "forward base for its activities in the Sahel region, particularly Chad and Niger," and "has managed to build spheres of influence with local communities and smuggling networks in the southern border regions of Libya, where the group has helped provide weapons and at times extraction technologies for gold or other precious metals."[213]

Russia has stepped up its military operations in the Mediterranean significantly, often harassing and/or shadowing U.S. and allied vessels. Russia has used its Mediterranean capabilities to support its war against Ukraine. For instance, its Mediterranean Task Force of 10 to 15 vessels served as "a latent naval capability in the eastern Mediterranean," facilitating a rapid scaling-up of Russia's presence as the invasion [of Ukraine] approached."[214] Some allies believe that, notwithstanding its actions in Ukraine, Russia will remain an active presence in the Mediterranean. According to one assessment:

> [T]here will be a major reverberation in the Mediterranean, and we will have to deal with it for a long time. Because this is where Moscow's sources of supply are, because North Africa is an area that the Russians want to destabilise and we must move to prevent this. From the coastal states to the Sahel, Russian activity is known and will manifest itself with greater intensity in the coming years.[215]

The Balkans. Security has improved dramatically in the Balkans since the 1990s, but violence based on religious and ethnic differences remains a possibility. These tensions are exacerbated by sluggish economies, high unemployment, political corruption, and the malign influence of Russia and China. As General Cavoli has noted:

> Russia continues to fan existing ethnic tensions to impede Euro-Atlantic alignment and integration. The PRC has emerged as an alternative for economic and defense cooperation. PRC loans and investment in the Western Balkans focus on large-scale transportation, energy, and information infrastructure, which contribute further to disruption in the region.[216]

Russia's interests in the Western Balkans are at odds with the desire of the U.S. and its European allies to encourage closer ties between the region and the transatlantic community.

> Russia seeks to sever the transatlantic bond forged with the Western Balkans...by sowing instability. Chiefly Russia has sought to inflame preexisting ethnic, historic, and religious tensions. Russian propaganda magnifies this toxic ethnic and religious messaging, fans public disillusionment with the West, as well as institutions inside the Balkan nations, and misinforms the public about Russia's intentions and interests in the region.[217]

Senior members of the Russian government have alleged that NATO enlargement in the Balkans is one of the biggest threats to Russia.[218] NATO now includes four Balkan countries: Albania and Croatia, both of which became member states in April 2009; Montenegro, which became NATO's 29th member state in June 2017; and

North Macedonia, which became NATO's 30th member state in March 2020.

Russia stands accused of being behind a failed plot to break into Montenegro's parliament on election day in 2016, assassinate its former prime minister, and install a pro-Russian government. In May 2019, two Russian nationals who were believed to be the masterminds behind the plot were convicted in absentia along with 12 other individuals for organizing and carrying out the failed coup.

> The presiding trial judge, Suzan Mugosa, said on May 9 that [Eduard] Shishmakov and [Vladimir] Popov "pursued a joint decision to make intentional attempts to contribute significantly to the carrying out of the planned criminal actions with the intention to seriously threaten the citizens of Montenegro, to attack the lives and bodies of others, and to seriously threaten and damage Montenegro's basic constitutional, political, and social structures in order to stop Montenegro from joining the NATO alliance."[219]

After Russia annexed Crimea, the Montenegrin government backed European sanctions against Moscow and even implemented its own sanctions. Nevertheless, Russia has significant economic influence in Montenegro and in 2015 sought unsuccessfully to gain access to Montenegrin ports for the Russian navy to refuel and perform maintenance. Russia is the largest investor in Montenegro, and the loss of Russian (as well as Ukrainian) tourists in 2022 hurt the Montenegrin economy.[220] Russian citizens, however, have been able to enter Montenegro overland from Serbia, and as of February 2023, 13,000 Russians had settled in Montenegro since the onset of the war.[221] Montenegro's responses to the war against Ukraine include closing its air space to Russian flights and hosting a significant number of Ukrainian citizens, equivalent to around 5 percent of the population, making it a nation that has accepted one of the largest numbers of Ukrainian refugees per capita.[222]

In March 2022, after Russia's second invasion of Ukraine, the Montenegrin government joined European sanctions on Russia, albeit "without specifying what they were."[223] Montenegro's aid to Ukraine has included ammunition, spare parts for Mi-8 helicopters, and mortars as well as such non-lethal assistance as body armor, helmets, and meals.[224]

Russian cyberattacks against Montenegro include one in August and September 2022 that "crippled online government information platforms and put Montenegro's essential infrastructure, including banking, water and electricity power systems, at high risk."[225] Russia also seeks to sow discord and bolster its influence and narratives by means of intelligence gathering, elite capture, and control of vital media channels, usually through the nation's dominant Serbian media market.[226] In September 2022, Montenegro expelled six Russian spies and "revoked residence permits and banned entry to 28 foreign citizens it accused of spreading 'malign influence' in the interest of unidentified foreign services."[227]

In March 2023, Montenegro's President Milo Djukanovic stated that Western neglect was partly to blame for Russian influence in the region: "The European Union in the past 10 years didn't know what to do with the Western Balkans, but Russia did. It has developed its network in the Balkans."[228] Stopping the region's movement toward Western institutions remains a Russian priority, albeit with mixed results.

For example, North Macedonia's accession to NATO was heavily targeted by Russia, which warned the nation against joining the alliance and sought to derail the Prespa agreement that paved the way for membership by settling long-standing Greek objections to Macedonia's name.[229] In 2018, after North Macedonia was invited to join NATO, Russia's ambassador to the EU warned that "there are errors that have consequences."[230] In July 2018, Greece expelled two Russian diplomats and banned entry by two Russian nationals because of their efforts to undermine the name agreement; Russian actions in Macedonia included disinformation surrounding the vote, websites and social media posts opposing the Prespa agreement, and payments to protestors as well as politicians and organizations that opposed the agreement.[231]

Disinformation and propaganda are important weapons in Russia's campaign to undermine the Western Balkans. In April 2023, the head of the U.S. Department of State's Global Engagement Center noted that the Western Balkans have been "pretty seriously poisoned" by Russian disinformation.[232] Cyberattacks targeted primarily against government institutions are another weapon wielded by Moscow (along with other state actors including

Iran) and have affected nearly every nation in the region over the past year.[233] In one recent cyberattack campaign linked to Iran and Russia, countries like North Macedonia were overwhelmed with fake bomb threats that often targeted hospitals and schools.[234]

Serbia in particular has long served as Russia's foothold in the Balkans.

> Russia's influence in the Balkans centers on Serbia, a fellow religiously orthodox nation with whom it enjoys a close economic, political, and military relationship. Serbia and Russia have an agreement in place allowing Russian soldiers to be based at Niš airport in Serbia. The two countries signed a 15-year military cooperation agreement in 2013 that includes sharing of intelligence, officer exchanges, and joint military exercises. In October [2017], Russia gave Serbia six MiG-29 fighters (which while free, will require Serbia to spend $235 million to have them overhauled). Additionally, Russia plans to supply Serbia with helicopters, T-72 tanks, armored vehicles, and potentially even surface-to-air missile systems.[235]

Serbia has been a notable purchaser of Russian arms including battle tanks, armored personnel carriers, Pantsir air defense systems, helicopters, and anti-tank missiles.[236] In February 2023, Serbia announced its interest in procuring French Rafale jets, partly because sanctions have limited its ability to acquire replacement parts for its fleet of MiGs.[237] Russia also retains the so-called Russian–Serbian Humanitarian Center at Niš, "widely believed to be a Russian spy base" and located "only 58 miles from NATO's Kosovo Force mission based in Pristina."[238]

Russia has used its cultural ties to increase its role in Serbia, positioning itself as the defender of orthodoxy and investing funds in the refurbishing of orthodox churches.

Russia is also active in Bosnia and Herzegovina—specifically, the ethnically Serb Republika Srpska, one of two substate entities inside Bosnia and Herzegovina that emerged from that country's civil war in the 1990s. Moscow knows that exploiting internal ethnic and religious divisions among the country's Bosniak, Croat, and Serb populations is the easiest way to prevent Bosnia and Herzegovina from entering the transatlantic community.

Republika Srpska's current unofficial leader, Milorad Dodik, has long advocated independence for the region and has enjoyed a very close relationship with the Kremlin. President Željka Cvijanović also claims that Republika Srpska will continue to maintain its partnership with Russia.[239] Events in Ukraine, especially the annexation of Crimea, have inspired more separatist rhetoric, but Russia's second invasion of Ukraine allegedly has delayed Republika Srpska's plans to withdraw from Bosnia and Herzegovina's state institutions.[240] In June 2022, the Constitutional Court of Bosnia and Herzegovina ruled unconstitutional the Declaration on Constitutional Principles of Republika Srpska passed by the entity's national assembly in December 2021, which allowed "the establishment of an army at the entity level, the exit from the taxation system, and the establishment of the High Council of Judges and Prosecutors within the entity."[241] Following the decision, Dodik reiterated Republika Srpska's intention to move forward with the declaration despite the court's ruling.[242]

In many ways, Russia's relationship with Republika Srpska is akin to its relationship with Georgia's South Ossetia and Abkhazia occupied regions: more like a relationship with another sovereign state than a relationship with a semiautonomous region inside Bosnia and Herzegovina. When Putin visited Serbia in October 2014, Dodik was treated like a head of state and invited to Belgrade to meet with him. In September 2016, Dodik was again treated like a head of state on a visit to Moscow just days before a referendum that chose January 9 as Republika Srpska's "statehood day," a date filled with religious and ethnic symbolism for the Serbs.[243] In October 2018, just days before elections, Putin hosted Dodik as they watched the Russian Grand Prix in a VIP box.[244]

When Dodik visited Moscow in December 2021, the Kremlin refrained from announcing the meeting ahead of time, but Russian presidential spokesman Dmitry Peskov asserted that "this by no means belittle[d] the importance of the meeting."[245] In September 2022, Dodik again visited Moscow where he reiterated support for Russia's war in Ukraine and discussed with Putin the "construction of a gas pipeline and two gas-fired power plants in Republika Srpska, as well as strengthening cultural cooperation by building a Russian-Serbian Orthodox center."[246] Republika Srpska continues

to host its "statehood day" in defiance of a ruling by Bosnia's federal constitutional court that both the celebration and the referendum establishing it are illegal.[247]

Russia has reportedly trained a Republika Srpska paramilitary force in Russia at the nearby Niš air base to defend the Serbian entity. It has been reported that "[s]ome of its members fought as mercenaries alongside the Kremlin's proxy separatists in Ukraine."[248] Veterans organizations in Russia and Republika Srpska have developed close ties.[249]

Russia has cultivated strong ties with Republika Srpska's security forces. Russian police take part in exchanges with the security forces, and Russian intelligence officers reportedly teach at the police academy and local university. On April 4, 2018, the Republika Srpska authorities opened a new $4 million training center "at the site of a former army barracks in Zaluzani, outside Banja Luka" that serves as the headquarters for "anti-terrorist units, logistics units, and a department to combat organized crime."[250]

Russia also has continued to oppose the recognition of Kosovo as an independent sovereign country[251] and has condemned Kosovo's creation of its own army. Moscow seeks to derail Kosovo's efforts to integrate into the West, often by exploiting the Serbian minority's grievances. In December 2022, Kosovo's Interior Minister Xhelal Svecla accused Serbia and Russia of seeking to destabilize Kosovo. Ethnic Serbs living in Kosovar towns erected barricades during protests related to the "arrest of a former Serb police officer working in the Kosovar force" as well as on-again, off-again protests related to the issuance of license plates. Svecla accused Russia and Serbia of directly orchestrating the protests in an effort to destabilize Kosovo.[252]

The U.S. has invested heavily in the Balkans since the end of the Cold War. Tens of thousands of U.S. servicemembers have served in the Balkans, and the U.S. has spent billions of dollars in aid there, all in the hope of creating a secure and prosperous region that eventually will be part of the transatlantic community.

The foremost external threat to the Balkans is Russia. Russia's interests in the Balkans are at odds with the U.S. goal of successfully encouraging the region to join the transatlantic community. In the words of North Macedonian President Stevo Pendarovski, "It seems...that the so-called soft spot in the whole pan-European security architecture right now, apart from Ukraine of course...is the Western Balkans."[253] Russia seeks to sever the transatlantic bond forged with the Western Balkans by sowing instability and increasing its economic, political, and military footprint in the region.

Threats to the Commons

The situation with respect to the "commons," particularly European airspace, has become more unpredictable since Russia's second invasion of Ukraine.

Sea. In May 2018, 17 Russian fighter jets buzzed the HMS *Duncan*, which was serving as the flagship of Standing NATO Maritime Group Two (SNMG2) operating in the Black Sea. Commodore Mike Utley, who was leading SNMG2, stated that the ship was "probably the only maritime asset that has seen a raid of that magnitude in the last 25 years," and then-British Defense Minister Gavin Williamson described the pilots' behavior as "brazen Russian hostility."[254] In January 2021, a Russian Su-27 made a low pass near the USS *Donald Cook*, a guided missile destroyer in the Black Sea,[255] and in June 2021, Russian fighter jets repeatedly harassed a Dutch frigate in the Black Sea.[256]

Russian threats to the maritime theater also include activity near undersea fiber-optic cables. Because these cables "carry 95 percent of daily worldwide communications" in addition to "financial transactions worth over $10 trillion a day,"[257] any disruption would cause a catastrophic reduction in the flow of capital. Many of these cables run through Irish territorial waters, and NATO's Intelligence Chief has warned the nation to remain vigilant as Russia could target cables within their waters "in an effort to disrupt western life and gain leverage against those nations that are providing support to Ukraine."[258] Some analysts have argued that Russian flights and submarine activity off the Irish coast over the past decade are linked to a concerted effort to map undersea cables.[259]

The *Yantar*, a mother ship to two Russian mini submersibles, is often seen near undersea cables, which it is capable of tapping or cutting, and has been observed collecting intelligence near U.S. naval facilities including the submarine base at Kings Bay, Georgia.[260] In September 2021, it was caught loitering in the English Channel.[261] The Russian spy ship *Viktor Leonov* was spotted collecting

intelligence within 30 miles of Groton, Connecticut, in February 2018, and off the coast of South Carolina and Georgia in December 2019.[262] Russia is thought to be behind the April 2021 severing of one of two undersea cables linking Norway's Svalbard archipelago with the mainland.[263] In 2022, similar incidents of fiber-optic sabotage occurred in southern France and the Shetland Islands.[264]

Russia is thought to be behind the September 2022 sabotage of the Nord Stream I and II pipelines. Three Russian naval vessels were observed in the area of the blasts during the time in question, and one vessel is capable of launching mini submarines. Additionally, in May 2023, Denmark's armed forces confirmed that one of their patrol vessels "had taken 26 photos of a Russian submarine rescue vessel named SS-750 near the Nord Stream blast site on September 22 last year, just days before the explosions happened."[265] That same month, reports emerged that NATO strongly suspects that Russia has likely mined additional undersea pipelines and cables in the Baltic Sea.[266] A recent joint report by Danish, Finnish, Norwegian, and Swedish media, which interviewed intelligence sources as part of their investigations, stated that Russia may be mapping "wind farms, gas pipelines, and power and internet cables" in the region for sabotage in a potential future conflict.[267]

Airspace. Russia's provocative military flights near U.S. and European airspace have become both more frequent and more aggressive and reckless. In one incident from March 2023, two Russian Su-27 fighters harassed a U.S. MQ-9 Reaper drone operating over international airspace in the Black Sea before one of the jets collided with the Reaper's propeller, forcing it down. U.S. officials noted that "several times before the collision, the Su-27s dumped fuel on, and flew in front of the MQ-9 in a reckless, environmentally unsound and unprofessional manner."[268]

"We know that the intercept was intentional," remarked Chairman of the Joint Chiefs of Staff Mark Milley. "We know that the aggressive behavior was intentional."[269] Russia recovered at least parts of the drone for intelligence-gathering purposes,[270] and U.S. officials announced that steps were taken to "minimize any effort by anybody else to exploit that drone for useful content."[271] After this incident, the U.S. began to fly missions farther south in the Black Sea—a change that, as one U.S. official has stated, "definitely limits our ability to gather intelligence."[272]

In September 2022, a Russian fighter jet attempted to fire a missile at a manned British RC-135 Joint Rivet surveillance aircraft flying off the coast of occupied Crimea in international airspace over the Black Sea. The Russian pilot is reported to have believed mistakenly that he had been given permission to fire, but the "missile did not launch properly." British surveillance flights in the theater were initially suspended before being restarted with fighter escorts.[273]

In May 2023, a Polish Turbolet L-410 flying in international airspace off the Romanian coast in the Black Sea for the EU border agency Frontex was intercepted by a Russian Su-35, which "flew without any radio contact into the operational area designated by Romania, and then performed aggressive and dangerous maneuvers." The Russian pilot's three separate approaches included flying within 16 feet across the front of the Polish plane with the resulting turbulence temporarily causing the Polish crew to lose control of their aircraft.[274] NATO responded by placing its Air Policing units in the region on a higher state of readiness.[275]

The number of Western intercepts of Russian aircraft has increased significantly. In 2021, NATO jets scrambled 290 times to monitor and intercept Russian jets;[276] in 2022, there were almost twice as many: 570.[277] In March 2023, Norway intercepted two Russian IL-38 reconnaissance planes off the coast of its Finnmark region, and in April 2023, Norway scrambled two F-35s to intercept two TU-160 Blackjack strategic bombers, two IL-78 tankers, and three MiG-31 fighters flying in the same region.[278]

There have been several incidents involving Russian military aircraft flying in Europe without using their transponders. In April 2023, for example, two Su-27 fighter jets and an IL-20 reconnaissance aircraft were flying in the Baltic Sea with their transponders switched off.[279] German and British aircraft taking part in NATO Air Policing intercepted the aircraft.

There have been incidents near North American airspace as well. For two straight days in February 2023, Russian aircraft including Tu-95 strategic bombers flew into the Alaska Air Defense Identification Zone (ADIZ). The aircraft, which were intercepted by U.S. fighters, remained in international airspace and did not enter U.S. or Canadian airspace.[280] A similar incident occurred in April. In the years since 2007, when "Russia resumed out of

area Long Range Aviation activity," NORAD "has seen a yearly average of approximately six to seven intercepts of Russian military aircraft in the ADIZ. These numbers have varied each year from as high as 15 to as low as zero."[281]

There have been occasional upticks. In April 2021, for example, Lieutenant General David Krumm from Joint Base Elmendorf–Richardson, Alaska, revealed that during the previous year, there had been a large increase in Russian activity and that the U.S. had intercepted more than 60 Russian aircraft in the "most action the Alaska Air Defense Identification Zone—a region spanning 200 nautical miles that reaches past U.S. territory and into international airspace—ha[d] seen since the Soviet Union fell in 1991."[282]

Russian flights have targeted U.S. ally Japan as well. In March 2022, Japan scrambled a fighter jet to "warn off a helicopter believed to be Russian" that had entered Japanese airspace.[283] In May 2022, when the QUAD[284] was meeting in Tokyo, Japan again scrambled jets to warn off Russian and Chinese warplanes as they neared Japanese airspace.[285] Nor is it only maritime patrol aircraft that fly near Japan. Russian Su-24 attack aircraft, for example, were intercepted in December 2018 and January 2019.[286] In fiscal year (FY) 2022, Japan scrambled jets 150 times to respond to Russian aircraft, a 40 percent decrease from FY 2021 caused largely by Russia's need for aircraft in its war against Ukraine[287] yet still showing the importance that Russia assigns to such operations.

Russia's violation of the sovereign airspace of NATO member states is a probing and antagonistic policy that is designed both to test the defense of the alliance and as practice for potential future conflicts. Similarly, Russia's antagonistic behavior in international waters is a threat to freedom of the seas and, in the Black Sea, is intended to push U.S. and allied aircraft farther away from the theater.

Russia's reckless aerial activity in the region also remains a threat to civilian aircraft flying in European airspace. That the provocative and hazardous behavior of the Russian armed forces or Russian-sponsored groups poses a threat to civilian aircraft in Europe was amply demonstrated by the July 2014 downing of Malaysia Airlines Flight MH17, killing all 283 passengers and 15 members of the crew, over the skies of southeastern Ukraine.

Cyberspace. Russian cyber capabilities are sophisticated, active, and an ongoing threat to economic, social, and political targets around the world. Moscow also appears to be increasingly aggressive in its use of digital techniques, often employing only the slightest veneer of deniability in an effort to intimidate targets and openly defy international norms and organizations.

Russia continues to probe U.S. critical infrastructure. The U.S. Intelligence Community assesses that:

> ***The Ukraine war was the key factor in Russia's cyber operations prioritization in 2022. Although its cyber activity surrounding the war fell short of the pace and impact we had expected, Russia will remain a top cyber threat as it refines and employs its espionage, influence, and attack capabilities. Russia views cyber disruptions as a foreign policy lever to shape other countries' decisions*** [and] is particularly focused on improving its ability to target critical infrastructure, including underwater cables and industrial control systems, in the United States as well as in allied and partner countries, because compromising such infrastructure improves and demonstrates its ability to damage infrastructure during a crisis.[288]

Russia continued to conduct cyberattacks on government and private entities in 2020 and 2021. In 2020, Russian hackers "reportedly infiltrated several US government agencies," including the Defense, Treasury, Commerce, State, Energy, and Homeland Security Departments and the National Nuclear Security Administration, as well as private-sector companies like Microsoft and Intel. SolarWinds, the company whose software was compromised, "told the [Securities and Exchange Commission] that up to 18,000 of its customers installed updates that left them vulnerable to hackers." It was estimated that "it could take months to identify all [the hackers'] victims and remove whatever spyware they installed."[289]

In April 2021, the U.S. Treasury sanctioned Russia for the SolarWinds hack. It also sanctioned 32 Russian "entities and individuals" that had carried out "Russian government-directed attempts to influence the 2020 U.S. presidential election, and other acts of disinformation and interference."[290]

In May 2021, a Russia-based hacking group known as DarkSide launched a cyberattack against Colonial Pipeline, "the operator of one of the nation's largest fuel pipelines."[291] The 5,500-mile pipeline, "responsible for carrying fuel from refineries along the Gulf Coast to New Jersey," was down for six days.[292] Colonial Pipeline paid DarkSide $90 million in Bitcoin as a ransom payment, but the Department of Justice was able to recover approximately $2.3 million of that amount a few weeks later.[293] In June 2021, REvil, a Russian cybercriminal group, launched a ransomware attack on JBS, "the world's largest meat processing company."[294] JBS was forced to shut down all nine of its U.S. plants for a brief period.[295]

U.S. allies are a frequent target of Russian cyberattacks. Cyberattacks conducted by Russian hackers operating with the connivance of the Russian government are common, with the Baltic nations being particularly frequent targets.[296] A March 2023 Thales report found that "the share of cyber-attacks targeting European Union (EU) countries has risen from 9.8% to 46.5% in the past six months. It's an increase directly related to the Ukrainian conflict, while 61% of the attacks recorded globally for a year have been of Russian origin." The report further notes that:

> Since February 24, 2022 and the entry of Moscow's troops into Ukraine, Baltic countries have been the targets of 157 attacks, ahead of Poland (114 incidents), the Nordic countries (95 incidents in Sweden, Norway, Denmark and Finland) and Germany (58 incidents). Less exposed, France has recorded 14 attacks in one year. The latest victim of this wave of incidents has been the website of the Assemblée Nationale (lower house of parliament). It was made inaccessible for several hours on March 27, after an offensive by pro-Russian hackers.[297]

In addition to official intelligence and military cyber assets, Russia employs allied criminal organizations (so-called patriotic hackers) to help it engage in cyber aggression. Using these hackers gives Russia greater resources and can help to shield its true capabilities. "Patriotic hackers" also give the Russian government deniability. In June 2017, for example, Putin stated that "[i]f they (hackers) are patriotically-minded, they start to make their own contribution to what they believe is the good fight against those who speak badly about Russia. Is that possible? Theoretically it is possible."[298]

In October 2022, Russian hackers attacked the websites of a dozen airports, knocking some offline (although not affecting airport operations).[299] In April 2023, the European Organisation for the Safety of Air Navigation was hit by a similar cyberattack, which also did not affect flights but did interrupt parts of the organization's website.[300] U.S. hospitals have been another frequent target of Russian-based hackers.[301]

Russia's cyber capabilities are advanced and of key importance in realizing the state's strategic aims. Russia has used cyberattacks to further the reach and effectiveness of its propaganda and disinformation campaigns, and its cyberattacks against election processes in the U.S. and European countries are designed to undermine citizens' belief in the veracity of electoral outcomes and erode support for democratic institutions in the longer term. Russia also has used cyberattacks to target physical infrastructure including electrical grids, air traffic control, and gas distribution systems.

Cyber is a key component of Russia's war against Ukraine. In February 2022, "[t]he European Union and its Member States, together with its international partners, strongly condemned the malicious cyber activity conducted by the Russian Federation against Ukraine, which targeted the satellite KA-SAT network, owned by Viasat."[302] The attack, which began an hour before Russia launched its second invasion of Ukraine, "interrupted service for tens of thousands of broadband customers across Europe," including in Ukraine, and "reportedly disrupted service for thousands of European wind turbines."[303]

Ukraine has been a consistent and sustained target of Russian cyberattacks since 2014. The scale of these attacks was magnified in the period leading up to its second invasion in February 2022. Russia sought to leverage overwhelming cyberattacks to advance its military offensive. According to one analyst:

> The intent appears to have been to create disorder and overwhelm Ukrainian defenses. Russia sought to disrupt services and install destructive malware on Ukrainian networks included [*sic*] phishing, denial of service, and

> taking advantage of software vulnerabilities. One company identified eight different families of destructive software used by Russia in these attacks. The primary targets were Ukrainian government websites, energy and telecom service providers, financial institutions, and media outlets, but the cyberattacks encompassed most critical sectors. This was a wide-ranging attack using the full suite of Russian cyber capabilities to disrupt Ukraine, but it was not a success.
>
> Russia's most significant cyber success so far was the disruption of the Viasat Inc's KA-SAT satellite. This created significant damage that spread beyond Ukraine but ultimately did not provide military advantage to Russia. The attack may have been intended to be part of a larger, coordinated cyberattack that proved unsuccessful, or the Russians may not have expected the rapid restoration of service that was provided with outside assistance.[304]

Estonia's Foreign Intelligence Service has noted similarly that:

> Russian cyberattacks, like the actions of its armed forces, are likely aimed at wearing down Ukraine's cyber defenders and then finding the weakest link that would help achieve Russia's overall military goal—to wear down Ukraine, damage the international image and credibility of the Ukrainian leadership, reduce aid from allies, and undermine the society's morale. Therefore, a cyberattack need not actually disrupt an information system, as with each attack, investigators have to spend human and time resources to check whether and how extensively the information system has been attacked, how to improve defence, etc.[305]

Russia's cyber capabilities in the context of the war against Ukraine have not yielded the returns Russia had hoped to gain. Cyber defense preparation can play an important role in fending off attacks. While the decisiveness of Russian cyber capabilities should not be overstated, it also should not be underestimated. Moscow and affiliated groups have demonstrated repeatedly that they have both the ability and the willingness to use their cyber capabilities aggressively to target not only U.S. and allied militaries and governments, but also critical infrastructure and softer targets such as medical systems as a way to sow discord and disruption within Western society.

Conclusion

Overall, the threat to the U.S. homeland originating from Europe remains low, but the threat to America's interests and allies in the region remains significant, especially given Russia's war in Ukraine. Although Russia has the military capability to harm and (in the case of its nuclear arsenal) to pose an existential threat to the U.S., it has not conclusively demonstrated the intent to do so.

The situation is different with respect to America's allies in the region. Through NATO, the U.S. has pledged to come to the aid of the alliance's European members. Russia continues its efforts to undermine the NATO alliance and presents an existential threat to U.S. allies in Eastern Europe. NATO has been the cornerstone of European security and stability ever since its creation in 1949, and it is therefore essential that the U.S. maintain both the military capability and the political will to fulfill its treaty obligations.

While Russia is not the threat to U.S. global interests that the Soviet Union was during the Cold War, it does pose challenges to a range of America's interests and those of its allies. Russia possesses a full range of capabilities from ground forces to air, naval, space, and cyber. It still maintains the world's largest nuclear arsenal, and although a strike on the U.S. is highly unlikely, the latent potential for such a strike still gives these weapons enough strategic value vis-à-vis America's NATO allies and interests in Europe to ensure their continued relevance.

Russian provocations that are much less serious than any scenario involving a nuclear exchange pose the most serious challenge to American interests, particularly in Central and Eastern Europe, the Arctic, the Balkans, and the South Caucasus. As the Intelligence Community's most recent Annual Threat Assessment states:

> ***Moscow will continue to employ an array of tools to advance what it sees as its own interests and try to undermine the interests of the United States and its allies. These are likely to be military, security, malign influence, cyber,***

and intelligence tools, with Russia's economic and energy leverage probably a declining asset. We expect Moscow to insert itself into crises when it sees its interests at stake, the anticipated costs of action are low, it sees an opportunity to capitalize on a power vacuum, or, as in the case of its use of force in Ukraine, it perceives an existential threat in its neighborhood that could destabilize Putin's rule and endanger Russian national security.[306]

Although Russia has expended much of its arsenal of munitions and has suffered significant losses in its war against Ukraine, the decision by several countries to continue trading with Russia despite sanctions placed on the country is ensuring a steady flow of funds into Russia's accounts that Putin is using to continue funding his aggression. Russia will therefore continue to be a significant security concern for the U.S., its NATO partners, and other allies.

For these reasons, the *Index of U.S. Military Strength* continues to assess the threat from Russia as "hostile" for level of provocative behavior and "formidable" for level of capability.

Threats: Russia

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Behavior	✓				

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
Capability	✓				

Endnotes

1. International Institute for Strategic Studies, *The Military Balance 2023*: *The Annual Assessment of Global Military Capabilities and Defence Economics (London: Routledge, 2023),* pp. 184 (ICBMs); 185 (ground forces); 186–189 (naval forces); 191 (air forces); and 197–198 (standing deployments of personnel).
2. Tom Porter, "Russia's Prized Spetsnaz Commando Units Have Suffered a 95% Casualty Rate in Ukraine, Leaked Documents and Photos Show," *Business Insider,* April 14, 2023, https://www.businessinsider.com/russian-spetsnatz-units-suffer-95-casualty-rate-in-ukraine-leaks-2023-4 (accessed August 14, 2023).
3. Chels Michta, "Russia's Military Has Improved—The West Should Take Note," Center for European Policy Analysis, *Europe's Edge*, May 16, 2023, https://cepa.org/article/russias-military-has-improved-the-west-should-take-note/ (accessed August 14, 2023).
4. Paul Stronski, "Implausible Deniability: Russia's Private Military Companies," Carnegie Endowment for International Peace *Commentary*, June 2, 2020, https://carnegieendowment.org/2020/06/02/implausible-deniability-russia-s-private-military-companies-pub-81954 (accessed August 14, 2023).
5. Mary Ilyushina and Francesca Ebel, "Using Conscripts and Prison Inmates, Russia Doubles Its Forces in Ukraine," *The Washington Post*, December 23, 2022, https://www.washingtonpost.com/world/2022/12/23/russia-troops-wagner-convicts-ukraine/ (accessed August 18, 2023), and Brad Lennon, Josh Pennington, and Uliana Pavlova, "Wagner Chief Says His Forces Are Dying as Russia's Military Leaders 'Sit Like Fat Cats,'" CNN, May 5, 2023, https://edition.cnn.com/2023/05/05/europe/wagner-military-group-prigozhin-ammunition-tirade-intl-hnk-ml/index.html (accessed August 14, 2023).
6. International Institute for Strategic Studies, *The Military Balance 2017: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2017), p. 186.
7. Radio Free Europe/Radio Liberty, "Putin Creates National Guard Force," July 4, 2016, https://www.rferl.org/a/putin-national-guard-dissent-riots/27836301.html (accessed July 14, 2022), and International Institute for Strategic Studies, *The Military Balance 2017*, p. 169.
8. Isabelle Mandraud, "Putin's National Guard Sent to 'Occupy' and 'Clean Up' Cities in Ukraine," *Le Monde*, April 13, 2022, https://www.lemonde.fr/en/international/article/2022/04/13/in-ukraine-putin-deploys-his-national-guard-to-occupy-and-clean-up-cities_5980457_4.html (accessed August 14, 2023).
9. Isabel Van Brugen, "Putin Removes Age Limit for Conscripts as Russian Forces Devastated," *Newsweek*, March 28, 2023, https://www.newsweek.com/putin-removes-upper-age-limit-conscripts-national-guard-ukraine-1790807 (accessed August 14, 2023).
10. See World Bank Group, *Amidst Strong Economic Recovery, Risks Stemming from COVID-19 and Inflation Build: Special Focus on Russia's Green Transition: Pathways, Risks and Robust Policies*, *Russia Economic Report* No. 46, December 2021, https://documents1.worldbank.org/curated/en/099050011302118976/pdf/P17756206d40310aa0a5e109d6fa60bc55a.pdf (accessed August 14, 2023).
11. Richard Partington, "Russian Economy Could Shrink by 7% as Result of Ukraine Sanctions," *The Guardian*, March 2, 2022, https://www.theguardian.com/world/2022/mar/02/russia-economy-could-shrink-by-7-per-cent-as-result-of-ukraine-sanctions-war-recession-covid (accessed August 14, 202).
12. See "Russian Federation" in World Bank Group, Office of the Chief Economist, *Social Protection for Recovery*, World Bank *Europe and Central Asia Economic Update*, Fall 2022, pp. 149–150, https://openknowledge.worldbank.org/bitstream/handle/10986/38098/FullReport.pdf (accessed August 14, 2023).
13. Table 1, "The 40 Countries with the Highest Military Expenditure in 2022," in Nan Tian, Diego Lopes da Silva, Xiao Liang, Lorenzo Scarazzato, Lucie Béraud-Sudreau, and Anna Carolina de Oliveira Assis, "Trends in World Military Expenditure, 2022," Stockholm International Peace Research Institute *Fact Sheet*, April 2023, p. 2, https://www.sipri.org/sites/default/files/2023-04/2304_fs_milex_2022.pdf (accessed August 14, 2023). Regimes like Russia's do not fully report all defense expenditures or adhere to reporting standards or metrics used by Western countries; their reports certainly are not subject to external scrutiny by the public or media. Consequently, reports of changes in defense spending can be used to assess change over time but should be viewed with caution.
14. Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*, February 6, 2023, p. 14, https://www.odni.gov/files/ODNI/documents/assessments/ATA-2023-Unclassified-Report.pdf (accessed August 14, 2023).
15. Siemon T. Wezeman, "Russia's Military Spending: Frequently Asked Questions," Stockholm International Peace Research Institute *Backgrounder*, April 27, 2020, https://www.sipri.org/commentary/topical-backgrounder/2020/russias-military-spending-frequently-asked-questions (accessed August 14, 2023).
16. Tian, Lopes da Silva, Liang, Scarazzato, Béraud-Sudreau, and Assis, "Trends in World Military Expenditure, 2022," p. 4.
17. International Institute for Strategic Studies, *The Military Balance 2022: The Annual Assessment of Global Military Capabilities and Defence Economics (London: Routledge, 2022)*, p. 192.
18. TASS, "Russian Nuclear Trifecta Modernization Level Highest in History, Defense Minister Says," December 21, 2021, https://tass.com/defense/1378715 (accessed August 14, 2023).
19. Maxim Starchak, "The Results of Russia's 2022 Nuclear Modernization," Jamestown Foundation, *Eurasia Daily Monitor*, Vol. 20, Issue 7 (January 11, 2023), https://jamestown.org/program/the-results-of-russias-2022-nuclear-modernization/ (accessed August 14, 2023).

20. Maxim Starchak, "Year 2020 in Review: Results of Russia's Nuclear Weapons Modernization," Jamestown Foundation *Eurasia Daily Monitor*, Vol. 18, Issue 7 (January 13, 2021), https://jamestown.org/program/year-2020-in-review-results-of-russias-nuclear-weapons-modernization/ (accessed August 14, 2023), and Franz-Stefan Gady, "Russia's Most Powerful Intercontinental Ballistic Missile to Enter Service in 2021," *The Diplomat*, March 30, 2018, https://thediplomat.com/2018/03/russias-most-powerful-intercontinental-ballistic-missile-to-enter-service-in-2021/ (accessed August 14, 2023).
21. Ben Turner, "How Deadly Is Putin's Nuclear 'Satan 2' Missile?" Live Science, April 22, 2022, https://www.livescience.com/how-deadly-satan-2-missile (accessed August 14, 2023); Timothy Wright, "Russia's New Strategic Nuclear Weapons: A Technical Analysis and Assessment," International Institute for Strategic Studies *Online Analysis*, June 16, 2022, https://www.iiss.org/blogs/analysis/2022/06/russias-new-strategic-nuclear-weapons-a-technical-analysis-and-assessment (accessed August 14, 2023); and Ashish Dangwai, "'Nuclear Ashes': Russia's 'Satan Missile' Is Ready for Deployment: Moscow Says Can Wipe out Entire US East Coast," *The EurAsian Times*, June 23, 2022, https://eurasiantimes.com/nuclear-ashes-russias-satan-missile-is-ready-for-deployment-moscow-says-can-wipe-out-entire-us-east-coast/ (accessed August 14, 2023).
22. Starchak, "The Results of Russia's 2022 Nuclear Modernization."
23. Kyle Mizokami, "Russia Is Field Testing Its New Armata Tank in Syria," *Popular Mechanics*, April 22, 2020, https://www.popularmechanics.com/military/weapons/a32228809/russia-armata-tank/ (accessed August 15, 2023).
24. Brent M. Eastwood, "Is Russia's T-14 Armata Tank Plan Falling Apart?" *1945*, January 5, 2022, https://www.19fortyfive.com/2022/01/is-russias-t-14-armata-tank-plan-falling-apart/ (accessed August 15, 2023).
25. Reuters, "Russia's New T-14 Armata Battle Tank Debuts in Ukraine—RIA," April 25, 2023, https://www.reuters.com/world/europe/russias-new-t-14-armata-battle-tank-debuts-ukraine-ria-2023-04-25/ (accessed August 14, 2023).
26. Sergio Miller, "Armata—The Story Is Over," Wavell Room, February 10, 2023, https://wavellroom.com/2023/02/10/armata-the-story-is-over/ (accessed August 15, 2023).
27. International Institute for Strategic Studies, *The Military Balance 2023*, p. 185, and Oryx, *"Attack on Europe: Documenting Russian Equipment Losses During the 2022 Russian Invasion of Ukraine,"* February 24, 2022, https://www.oryxspioenkop.com/2022/02/attack-on-europe-documenting-equipment.html (accessed August 15, 2023).
28. Alex Lockie, "Russia Admits Defeat on Its 'Stealth' F-35 Killer by Canceling Mass Production of the Su-57 Fighter Jet," *Business Insider*, July 12, 2018, https://www.businessinsider.com/russia-admits-defeat-su-57-not-going-into-mass-production-2018-7 (accessed August 15, 2023).
29. International Institute for Strategic Studies, *The Military Balance 2023*, p. 191.
30. Brett Forrest, "Russia's New Jet Fighter Aims to Rival U.S. in Air—and on Geopolitical Map," *The Wall Street Journal*, August 9, 2021, https://www.wsj.com/articles/russias-new-jet-fighter-aims-to-rival-u-s-in-airand-on-geopolitical-map-11628514000 (accessed August 15, 2023).
31. John V. Parachini and Peter A. Wilson, "Is Russia's S-75 'Checkmate' Aircraft a Case of Vapor Marketing?" RAND Corporation, The RAND Blog, January 6, 2022, https://www.rand.org/blog/2022/01/is-russias-su-75-checkmate-aircraft-a-case-of-vapor.html (accessed August 15, 2023).
32. Zahra Ullah, Darya Tarasova, and Brad Lendon, "Russia's Only Aircraft Carrier Catches Fire; 1 Dead and 2 Missing," CNN, updated December 12, 2019, https://www.cnn.com/2019/12/12/europe/russian-carrier-fire-intl/index.html (accessed August 15, 2023).
33. Benjamin Brimelow, "Russia's Unlucky Aircraft Carrier Is Getting Ready for Its Return to Action," *Business Insider*, April 19, 2021, https://www.businessinsider.com/russian-aircraft-carrier-kuznetsov-getting-ready-for-return-to-action-2021-4 (accessed August 15, 2023).
34. Naval News Staff, "Russia's Aircraft Carrier 'Admiral Kuznetsov' to Resume Repairs in June 2022," *Naval News*, November 12, 2021, https://www.navalnews.com/naval-news/2021/11/russias-aircraft-carrier-admiral-kuznetsov-to-resume-repairs-in-june-2022/ (accessed August 15, 2023), and Christopher Woody, "Russia's Long-Struggling Aircraft Carrier Has Its return to Action Delayed—Again," *Business Insider*, June 8, 2022, https://www.businessinsider.com/russian-aircraft-carrier-admiral-kuznetsov-delayed-again-2022-6?op=1 (accessed August 15, 2023).
35. Tomasz Grotnik, "Russian Carrier Kuznetsov Leaves Dry Dock...At Last," *Naval News*, February 24, 2023, https://www.navalnews.com/naval-news/2023/02/russian-carrier-kuznetsov-leaves-dry-dock-at-last/ (accessed August 15, 2023), and Joseph Trevithick, Oliver Parken, and Tyler Rogoway, "Russia's Accident-Prone Aircraft Carrier Has No Crew," The War Zone, April 10, 2023, https://www.thedrive.com/the-war-zone/russias-accident-prone-aircraft-carrier-has-now-crew (accessed August 14, 2023).
36. Ryan Pickrell, "Russia Is Planning to Build Its First Nuclear-Powered Aircraft Carrier After Breaking Its Only Flattop," *Business Insider*, May 8, 2019, https://www.businessinsider.com/russia-wants-to-build-its-first-nuclear-powered-aircraft-carrier-2019-5 (accessed August 15, 2023).
37. International Institute for Strategic Studies, *The Military Balance 2023*, pp. 187–188.
38. Holly Ellyatt, "Russia Says It Carried Out Hypersonic Missile Exercises Using a Frigate in the Atlantic," CNBC, January 25, 2023, https://www.cnbc.com/2023/01/25/russia-says-it-carried-out-hypersonic-missile-exercise-in-the-atlantic.html (accessed August 15, 2023).
39. Pavel Luzin, "Russia's Questionable Naval Modernization During Wartime," Jamestown Foundation, *Eurasia Daily Monitor*, Vol. 20, Issue 37 (March 2, 2023), https://jamestown.org/program/russias-questionable-naval-modernization-during-wartime/ (accessed August 15, 2023).
40. Joanne Stocker, "India Signs Contracts to Purchase 4 Admiral Grigorovich-Class Frigates from Russia," *The Defense Post*, November 20, 2018, https://www.thedefensepost.com/2018/11/20/india-russia-4-admiral-grigorovich-project-11356-frigates/ (accessed August 15, 2023), and Ravi Sharma, "Indian Navy's Tushil Frigate Launched in Russia," *Frontline*, October 30, 2021, https://frontline.thehindu.com/dispatches/indian-navys-tushil-frigate-launched-in-russia/article37248605.ece (accessed August 15, 2023).

41. International Institute for Strategic Studies, *The Military Balance 2023*, p. 187.
42. International Institute for Strategic Studies, *The Military Balance 2021: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2021), pp. 164 and 171.
43. Thomas Nilsen, "Russia Launches New Borei-A Class Ballistic Missile Sub," *The Barents Observer*, December 25, 2021, https://thebarentsobserver.com/en/security/2021/12/russia-launches-new-borey-class-ballistic-missile-sub (accessed August 15, 2023), and International Institute for Strategic Studies, *The Military Balance 2023*, p. 186.
44. International Institute for Strategic Studies, *The Military Balance 2023*, p. 186, and Sidharth Kaushal, James Byrne, Joe Byrne, and Gary Somerville, "The Yasen-M and the Future of Russian Submarine Forces," Royal United Services Institute for Defence and Security Studies, RUSI Defence Systems, Vol. 23, May 28, 2021, https://rusi.org/explore-our-research/publications/rusi-defence-systems/yasen-m-and-future-russian-submarine-forces (accessed August 15, 2023).
45. Charlie Gao, "Russia's Husky Class Submarine: Armed with Nuclear Torpedoes and Hypersonic Missiles?" *The National Interest*, The Buzz Blog, May 10, 2018, https://nationalinterest.org/blog/the-buzz/russias-husky-class-submarine-armed-nuclear-torpedoes-25784 (accessed August 15, 2023), and Michael Peck, "Russia Wants to Arm Its New Husky-Class Submarines with Hypersonic Missiles," *The National Interest,* The Buzz Blog, May 31, 2018, http://nationalinterest.org/blog/the-buzz/russia-wants-arm-its-new-husky-class-submarines-hypersonic-26063 (accessed August 15, 2023).
46. Gao, "Russia's Husky Class Submarine: Armed with Nuclear Torpedoes and Hypersonic Missiles?"
47. Peter Suciu, "Laika-Class: The New Russian Submarine NATO Should Fear?" *1945*, April 25, 2022, https://www.19fortyfive.com/2022/04/laika-class-the-new-russian-submarine-nato-should-fear/ (accessed August 15, 2023).
48. International Institute for Strategic Studies, *The Military Balance 2017*, p. 174.
49. Franz Stefan-Gady, "First Project 636.3 *Kilo*-Class Attack Sub to Enter Service with Russia's Pacific Fleet This Month," *The Diplomat*, November 22, 2019, https://thediplomat.com/2019/11/first-project-636-3-kilo-class-attack-sub-to-enter-service-with-russias-pacific-fleet-this-month/ (accessed August 15, 2023), and International Institute for Strategic Studies, *The Military Balance 2021*, p. 171.
50. International Institute for Strategic Studies, *The Military Balance 2023*, p. 186.
51. International Institute for Strategic Studies, *The Military Balance 2017*, p. 174.
52. "Russia's New Naval Doctrine Defines U.S. and NATO Actions As A Security Threat," *IZ* [*Izvestia*], July 31, 2022, https://iz.ru/1372842/2022-07-31/novaia-morskaia-doktrina-rf-opredeliaet-deistviia-ssha-i-nato-kak-ugrozu-bezopasnosti (accessed August 15, 2023).
53. Ben Connable, Abby Doll, Alyssa Demus, Dara Massicot, Clint Reach, Anthony Atler, William Mackenzie, Matthew Povlock, and Lauren Skrabala, *Russia's Limit of Advance: Analysis of Russian Ground Force Deployment Capabilities and Limitations* (Santa Monica, CA: RAND Corporation, 2020), pp. xvii and 56, https://www.rand.org/pubs/research_reports/RR2563.html (accessed August 15, 2023).
54. Associated Press, "US Officials Say 2 Russian Transport Planes Shot Down over Ukraine," *The Times of Israel*, February 26, 2022, https://www.timesofisrael.com/liveblog_entry/us-officials-say-2-russian-transport-planes-shot-down-over-ukraine/ (accessed August 15, 2023). Moscow's first invasion of Ukraine occurred in 2014 when Russia annexed Crimea.
55. Jack Watling and Nick Reynolds, "Operation Z—The Death Throes of an Imperial Delusion," Royal United Services Institute for Defence and Security Studies *Special Report*, April 22, 2022, p. 4, https://static.rusi.org/special-report-202204-operation-z-web.pdf (accessed August 15, 2023).
56. Center for Strategic and International Studies, Missile Defense Project, "S-500 Prometheus," *Missile Threat*, last updated July 1, 2021, https://missilethreat.csis.org/defsys/s-500-prometheus/ (accessed August 15, 2023).
57. Gleb Garanich and Sergiy Karazy, "Kyiv Says It Shoots Down Volley of Russian Hypersonic Missiles," Reuters, May 16, 2023, https://www.reuters.com/world/europe/air-defence-systems-repelling-attacks-ukraine-early-tuesday-officials-2023-05-16/ (accessed August 14, 2023).
58. Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*, February 6, 2023, p. 16. Emphasis in original.
59. Ibid., p. 15. Emphasis in original.
60. General Tod D. Wolters, United States Air Force, Commander, United States European Command, statement on EUCOM posture before the Committee on Armed Services, U.S. Senate, March 29, 2022, pp. 2–3, https://www.armed-services.senate.gov/imo/media/doc/SASC%2029%20MAR%202022%20EUCOM%20Statement%20(Gen%20Wolters).pdf (accessed August 15, 2023).
61. Colonel Tomasz K. Kowalik and Dominik P. Jankowski, "The Dangerous Tool of Russian Military Exercises," Foreign Policy Association, Foreign Policy Blogs, June 7, 2017, https://foreignpolicyblogs.com/2017/06/07/dangerous-tool-russian-military-exercises/ (accessed August 15, 2023). Article "originally published by [the] Center for European Policy Analysis."
62. Holly Ellyatt, "Russia Begins Massive Military Drills with Belarus; U.S. Slams 'Escalatory' Action," CNBC, February 10, 2022, https://www.cnbc.com/2022/02/10/russia-set-to-begin-massive-military-drills-with-belarus.html (accessed August 15, 2023).
63. Associated Press, "Russia and China Launch Large-Scale Military Drills Amid Tensions with U.S.," *The Guardian*, September 1, 2022, https://www.theguardian.com/world/2022/sep/01/russia-and-china-launch-large-scale-military-drills-amid-tensions-with-us (accessed August 15, 2023).

64. Emily Ferris and Veerle Nouwens, "Russia's Vostok 2022 Military Drills: Not Size or Tanks, but Context," Royal United Services Institute for Defence and Security Studies *Commentary*, September 15, 2022, https://rusi.org/explore-our-research/publications/commentary/russias-vostok-2022-military-drills-not-size-or-tanks-context (accessed May 8, 2023).
65. Oryx, "Attack on Europe: Documenting Russian Equipment Losses During the 2022 Russian Invasion of Ukraine."
66. General Christopher G. Cavoli, United States Army, United States European Command, statement on EUCOM posture before the Committee on Armed Services, U.S. House of Representatives, April 26, 2023, p. 3, http://www.eucom.mil/document/42351/gen-christopher-g-cavoli-2023-posture-statement-to-the-hasc (accessed August 15, 2023).
67. Guy Faulconbridge, "Russia Warns United States Against Sending More Arms to Ukraine," Reuters, April 25, 2022, https://www.reuters.com/world/europe/russia-warned-united-states-against-sending-more-arms-ukraine-2022-04-25/ (accessed August 15, 2023), and Jonathan Landay and Michael Martina, "U.S. Cannot 'Take Lightly' Threat Russia Could Use Nuclear Weapons—CIA Chief," Reuters, April 14, 2022, https://www.reuters.com/world/us-cannot-take-lightly-threat-russia-could-use-nuclear-weapons-cia-chief-2022-04-14/ (accessed August 14, 2023).
68. Vladimir Putin, President of the Russian Federation, Presidential Decree No. 400, "On the National Security Strategy of the Russian Federation," Moscow, July 2, 2021, p. 2, https://paulofilho.net.br/wp-content/uploads/2021/10/National_Security_Strategy_of_the_Russia.pdf (accessed August 15, 2023).
69. "New Version of the Military Doctrine," Russian Strategic Nuclear Forces Blog, December 26, 2014, http://russianforces.org/blog/2014/12/new_version_of_the_military_do.shtml (accessed August 15, 2023).
70. Robert Seely, Hamish de Bretton-Gordon, and Ted R. Bromund, "The U.S. and Its Allies Must Understand and Respond to Russia's Nuclear Threats," Heritage Foundation *Backgrounder* No. 3753, March 13, 2023, https://www.heritage.org/defense/report/the-us-and-its-allies-must-understand-and-respond-russias-nuclear-threats.
71. Hans Kristensen, Matt Korda, and Eliana Reynolds, chart, "Estimated Global Nuclear Warhead Inventories, 2023," last updated March 28, 2023, in Federation of American Scientists, "Status of World Nuclear Forces," https://fas.org/issues/nuclear-weapons/status-world-nuclear-forces/ (accessed August 15, 2023). The FAS specifies that "[t]he 'total inventory' counts warheads in the military stockpile as well as retired, but still intact, warheads awaiting dismantlement."
72. Richard Connolly and Mathieu Boulègue, "Russia's New State Armament Programme: Implications for the Russian Armed Forces and Military Capabilities to 2027," Chatham House: The Royal Institute of International Affairs *Research Paper*, May 2018, p. 16, https://www.chathamhouse.org/sites/default/files/publications/research/2018-05-10-russia-state-armament-programme-connolly-boulegue-final.pdf (accessed August 15, 2023).
73. TASS, "Russian Nuclear Trifecta Modernization Level Highest in History, Defense Minister Says."
74. International Institute for Strategic Studies, *The Military Balance 2017*, p. 15.
75. CBS News, "Russia Says Ukraine War Could Go Nuclear if West Keeps Sending Weapons," updated April 26, 2022, https://www.cbsnews.com/news/ukraine-news-russia-warns-nuclear-world-war-if-west-keeps-sending-weapons/ (accessed August 15, 202).
76. Cavoli, statement before House Armed Services Committee, April 26, 2023, pp. 3–4.
77. Vladimir Putin, Executive Order No. 355, "On Basic Principles of State Policy of the Russian Federation on Nuclear Deterrence," June 2, 2020, https://hansdevreij.com/2022/03/06/basic-principles-of-state-policy-of-the-russian-federation-on-nuclear-deterrence/ (accessed August 15, 2023).
78. David Reid, "Russia Threatens Military Response to Any NATO Action over Nuclear-Ready Missile," CNBC, June 26, 2019, https://www.cnbc.com/2019/06/26/russia-threatens-response-to-nato-over-nuclear-ready-ssc-8-missile.html (accessed August 15, 2023), and Jon Henley and Julian Borger, "Russia Warns of Nuclear Weapons in Baltic If Sweden and Finland Join NATO," *The Guardian*, April 14, 2022, https://www.theguardian.com/world/2022/apr/14/russia-says-it-will-reinforce-borders-if-sweden-and-finland-join-nato (accessed August 15, 2023).
79. Matthew Cox, "Army Fields First New Air Defense Strykers in Europe," Military.com, April 27, 2021, https://www.military.com/daily-news/2021/04/27/army-fields-first-new-air-defense-strykers-europe.html (accessed August 15, 2023); Veronica Stracqualursi, "These Are the Missile Defense Systems the U.S. Sent to Poland," CNN, March 10, 2022, https://www.cnn.com/2022/03/10/politics/us-patriot-missile-defense-system-explainer/index.html (accessed August 15, 2023); and North Atlantic Treaty Organization, "Ballistic Missile Defence," last updated July 26, 2023, https://www.nato.int/cps/en/natohq/topics_49635.htm (accessed August 16, 2023).
80. News release, "The Truth About Russian Violation of INF Treaty," U.S. Embassy Bratislava, March 28, 2019, https://sk.usembassy.gov/the-truth-about-russian-violation-of-inf-treaty/ (accessed August 16, 2023).
81. Radio Free Europe/Radio Liberty, "Report: Russia Has Deployed More Medium-Range Cruise Missiles than Previously Thought," February 10, 2019, https://www.rferl.org/a/report-russia-has-deployed-more-medium-range-cruise-missiles-than-previously-thought/29761868.html (accessed August 16, 2023).
82. Jonathan Masters and Will Merrow, "Nuclear Weapons in Europe: Mapping U.S. and Russian Deployments," Council on Foreign Relations *In Brief*, March 30, 2023, https://www.cfr.org/in-brief/nuclear-weapons-europe-mapping-us-and-russian-deployments (accessed August 16, 2023).
83. Jim Garamone, "NATO Agrees: Russia in Material Breach of INF Treaty," U.S. Department of Defense, December 5, 2018, https://dod.defense.gov/News/Article/Article/1705843/nato-agrees-russia-in-material-breach-of-inf-treaty/ (accessed August 16, 2023).

84. Fact Sheet, "President Donald J. Trump to Withdraw the United States from the Intermediate-Range Nuclear Forces (INF) Treaty," The White House, February 1, 2019, https://trumpwhitehouse.archives.gov/briefings-statements/president-donald-j-trump-withdraw-united-states-intermediate-range-nuclear-forces-inf-treaty/ (accessed August 16, 202), and press statement by Michael R. Pompeo, U.S. Secretary of State, "U.S. Withdrawal from the INF Treaty on August 2, 2019," U.S. Embassy & Consulates in Russia, August 2, 2019, https://ru.usembassy.gov/u-s-withdrawal-from-the-inf-treaty-on-august-2-2019/ (accessed August 16, 2023).

85. Fact Sheet, "Russian Noncompliance with and Invalid Suspension of the New START Treaty," U.S. Department of State, March 15, 2023, https://www.state.gov/russian-noncompliance-with-and-invalid-suspension-of-the-new-start-treaty/ (accessed August 16, 2023).

86. BBC News, "Sergei Skripal: Who Is the Former Russian Intelligence Officer?" March 29, 2018, http://www.bbc.com/news/world-europe-43291394 (accessed August 16, 2023); Martin Evans and Victoria Ward, "Salisbury Nerve Agent Backlash: Residents Outraged as 500 Told They May Be at Risk a Week After Spy Attack," *The Telegraph*, March 12, 2018, https://www.telegraph.co.uk/news/2018/03/11/salisbury-public-warned-wash-clothes-nerve-agent-attack/ (accessed August 16, 2023); Ella Wills, "Police Officer Discharged from Hospital After Salisbury Spy Poisoning Speaks Out: 'Life Will Probably Never Be the Same,'" *Evening Standard,* March 22, 2018, https://www.standard.co.uk/news/uk/police-officer-discharged-from-hospital-after-salisbury-spy-poisoning-speaks-out-for-first-time-life-a3797041.html (accessed August 16, 2023); and Heidi Blake, Tom Warren, Richard Holmes, Jason Leopold, Jane Bradley, and Alex Campbell, "From Russia with Blood: The Kremlin's Ruthless Assassination Program and Vladimir Putin's Secret War on the West," BuzzFeed News, June 15, 2017 (including June 16, 2017, update), https://www.buzzfeed.com/heidiblake/from-russia-with-blood-14-suspected-hits-on-british-soil?utm_term=.dtzm1n1mZB#.po1WlrlWp0 (accessed August 16, 2023).

87. Adam Taylor, "Foreign Governments Are Aggressively Targeting Dissidents on U.S. Soil," *The Washington Post*, June 2, 2022, https://www.washingtonpost.com/world/2022/06/02/transnational-repression-report-china-russia/ (accessed August 16, 2023), and Ben Keith and Ted R. Bromund, "Interpol Is Doing Russia's Dirty Work," *Politico*, January 24, 2023, https://www.politico.com/news/magazine/2023/01/24/interpol-russias-dirty-work-00078769 (accessed August 16, 2023).

88. United States Mission to the United Nations, "Statement on the Decision to Initiate the Expulsion of Russian Diplomats in New York," February 28, 2022, https://usun.usmission.gov/statement-on-the-decision-to-initiate-the-expulsion-of-russian-diplomats-in-new-york/ (accessed August 16, 2023).

89. Marine Strauss, "Several EU Countries Expel Dozens of Russian Diplomats," Reuters, March 29, 2022, https://www.reuters.com/world/europe/belgium-expels-21-russian-diplomats-foreign-ministry-2022-03-29/ (accessed August 14, 2023).

90. Warren Strobel and John Walcott, "Fewer Russian Spies in U.S. but Getting Harder to Track," Reuters, March 28, 2018, https://www.reuters.com/article/us-usa-russia-spies/fewer-russian-spies-in-u-s-but-getting-harder-to-track-idUSKBN1H40JW (accessed August 14, 2023).

91. "Russian Spooks Are Being Kicked Out of Europe En Masse," *The Economist*, April 7, 2022, https://www.economist.com/europe/2022/04/07/russian-spooks-are-being-kicked-out-of-europe-en-masse (accessed August 16, 2023).

92. Dan Sabbagh, "Half of Russian Spies in Europe Expelled Since Ukraine Invasion, Says MI6 Chief," *The Guardian*, July 21, 2022, https://www.theguardian.com/uk-news/2022/jul/21/half-of-russian-spies-in-europe-expelled-since-ukraine-invasion-says-mi6-chief (accessed August 16, 2023).

93. Ivan Ulises Klyszcz, "Russia's Central American Engagements," Foreign Policy Research Institute *Russia Foreign Policy Paper*, October 2019, p. 18, https://www.fpri.org/wp-content/uploads/2019/10/rfp1klyszcz.pdf (accessed August 16, 2023), and R. Evan Ellis, *The New Russian Engagement with Latin America: Strategic Position, Commerce, and Dreams of the Past* (Carlisle, PA: U.S. Army War College, Strategic Studies Institute, and Army War College Press, June 2015), p. 1, https://press.armywarcollege.edu/cgi/viewcontent.cgi?article=1450&context=monographs (accessed August 16, 2023).

94. Estonian Foreign Intelligence Service, *International Security and Estonia 2023*, p. 11, https://www.valisluureamet.ee/doc/raport/2023-en.pdf (accessed August 16, 2023).

95. State Security Department of the Republic of Lithuania and Defence Intelligence and Security Service Under the Ministry of National Defence, *National Threat Assessment 2023*, pp. 8 and 62, https://kam.lt/wp-content/uploads/2023/03/Assessment-of-Threats-to-National-Security-2022-published-2023.pdf (accessed August 16, 2023).

96. State Security Department of the Republic of Lithuania and Second Investigation Department Under the Ministry of National Defence, *National Threat Assessment 2019*, p. 6, https://www.vsd.lt/wp-content/uploads/2019/02/2019-Gresmes-internetui-EN.pdf (accessed August 16, 2023).

97. Latvian State Security Service, *Annual Report 2022*, April 2023, p. 35, https://vdd.gov.lv/uploads/materials/33/en/annual-report-2022.pdf (accessed August 16, 2023).

98. Ibid., p. 25.

99. Ibid., p. 6.

100. Bill Gertz, "Russia Waging Information Warfare, General Says," *The Washington Free Beacon*, March 24, 2017, http://freebeacon.com/national-security/russia-waging-information-warfare-general-says/ (accessed August 16, 2023).

101. Cavoli, statement before House Armed Services Committee, April 26, 2023, p. 4.

102. John Vandiver, "Poland Hit by Wave of Fake News Before Start of Major Military Exercise with US," *Stars and Stripes*, May 29, 2020, https://www.stripes.com/theaters/europe/poland-hit-by-wave-of-fake-news-before-start-of-major-military-exercise-with-us-1.631647 (accessed August 16, 2023). For a comprehensive discussion of Ghostwriter operations with specific case studies, see Cardiff University, Security, Crime and Intelligence Innovation Institute, "The Ghostwriter Campaign as a Multi-Vector Information Operation: Attempts to Control Its Influence & the Limitations of Current Conter-Measures," 2023, https://www.cardiff.ac.uk/__data/assets/pdf_file/0005/2699483/Ghostwriter-Report-Final.pdf (accessed August 16, 2023).
103. State Security Department of the Republic of Lithuania and Defence Intelligence and Security Service Under the Ministry of National Defence, *National Threat Assessment 2023*, p. 57. See also graphic, "Ghostwriter Activity Against Lithuania in 2020–2022," in ibid., p. 58.
104. Bill Gertz, "Russia Steps up Anti-U.S. Military Propaganda," *The Washington Free Beacon*, April 27, 2017, http://freebeacon.com/national-security/russia-steps-anti-u-s-military-propaganda/ (accessed August 16, 2023).
105. Meghan Fitzpatrick, Ritu Gill, and Jennifer F. Giles, "Information Warfare: Lessons in Inoculation to Disinformation," *Parameters*, Vol. 52, No. 1 (Spring 2022), p. 108, https://press.armywarcollege.edu/cgi/viewcontent.cgi?article=3132&context=parameters (accessed August 16, 2023).
106. Vandiver, "Poland Hit by Wave of Fake News Before Start of Major Military Exercise with US."
107. Kalev Stoicescu and Pauli Järvenpää, *Contemporary Deterrence: Insights and Lessons from Enhanced Forward Presence*, International Centre for Defense and Security *Report*, January 2019, p. 13, https://icds.ee/wp-content/uploads/2019/01/ICDS_Report_Contemporary_Deterrence_Stoicescu_J%C3%A4rvenp%C3%A4%C3%A4_January_2019.pdf (accessed August 16, 2023).
108. Agence France-Presse, "Baltics, Poland Urge Social Media Giants to Curb 'Russian Disinformation,'" *Barron's*, February 28, 2022, https://www.barrons.com/news/baltics-poland-urge-social-media-giants-to-curb-russian-disinformation-01646062508 (accessed August 14, 2023).
109. Press release, "EU Imposes Sanctions on State-Owned Outlets RT/Russia Today and Sputnik's Broadcasting in the EU," Council of the European Union, March 2, 2022, https://www.consilium.europa.eu/en/press/press-releases/2022/03/02/eu-imposes-sanctions-on-state-owned-outlets-rt-russia-today-and-sputnik-s-broadcasting-in-the-eu/ (accessed August 16, 2023).
110. Kathrin Hille, Neil Buckley, Courtney Weaver, and Guy Chazan, "Vladimir Putin Signs Treaty to Annex Crimea," *Financial Times*, March 18, 2014, http://www.ft.com/cms/s/0/d93e4c7c-ae6d-11e3-8e41-00144feab7de.html (accessed August 16, 2023).
111. Janusz Bugajski and Peter B. Doran, "Black Sea Rising: Russia's Strategy in Southeast Europe," Center for European Policy Analysis *Black Sea Strategic Report* No. 1, February 2016, p. 8, https://docs.wixstatic.com/ugd/644196_29f8496cc1934185865b81480c4561b5.pdf (accessed August 16, 2023).
112. International Institute for Strategic Studies, *The Military Balance 2022*, p. 208, and "Deployment: Ukraine," in International Institute for Strategic Studies, *The Military Balance 2021*, p. 205.
113. Vanessa Romo and Sasha Ingber, "Putin's Bridge Linking Russia to (Annexed) Crimea Opens," NPR, May 15, 2018, https://www.npr.org/sections/thetwo-way/2018/05/15/611392565/putins-bridge-linking-russia-to-annexed-crimea-opens (accessed August 16, 2023).
114. UNIAN Information Agency, "Shipping Volumes at Mariupol Port Fall 10% Against 2017—Media," January 9, 2019, https://www.unian.info/economics/10402497-shipping-volumes-at-mariupol-port-fall-10-against-2017-media.html (accessed August 16, 2023).
115. France 24, "Putin Opens Railway Bridge Connecting Crimea to Russia," December 23, 2019, https://www.france24.com/en/20191223-putin-opens-railway-bridge-connecting-crimea-to-russia (accessed August 16, 2023).
116. Chargé d'Affaires Courtney Austrian, "Illegal Restriction on the Freedom of Navigation Imposed by the Russian Federation in the Black Sea," speech delivered to the Permanent Council of the Organization for Security and Co-operation in Europe, Vienna, April 16, 2021, https://osce.usmission.gov/illegal-restriction-on-the-freedom-of-navigation-imposed-by-the-russian-federation-in-the-black-sea/ (accessed August 16, 2023).
117. BBC News, "Ukraine War: Russia Claims Win in Occupied Ukraine 'Sham' Referendums," September 27, 2022, https://www.bbc.com/news/world-europe-63052207 (accessed August 16, 2023).
118. Bugajski and Doran, "Black Sea Rising: Russia's Strategy in Southeast Europe," p. 3.
119. Heather Mongilio, "Turkey Closes Bosphorus, Dardenelles Straits to Warships," U.S. Naval Institute News, February 28, 2022, https://news.usni.org/2022/02/28/turkey-closes-bosphorus-dardanelles-straits-to-warships (accessed August 16, 2023).
120. Ukrayinska Pravda, "All Russian Black Sea Fleet Submarines Went to Sea—Media," Yahoo!, May 13, 2022, https://www.yahoo.com/video/russian-black-sea-fleet-submarines-183926101.html (accessed August 16, 2023); Steve Balestrieri, "Admiral Makarov: The Next Russian Warship Attacked by Ukraine?" *1945*, May 6, 2022, https://www.19fortyfive.com/2022/05/admiral-makarov-the-next-russian-warship-attacked-by-ukraine/ (accessed July 18, 2022); and Dmitry Gorenburg, "Is a New Russian Black Sea Fleet Coming? Or Is It Here?" The War Zone, July 31, 2018, https://warontherocks.com/2018/07/is-a-new-russian-black-sea-fleet-coming-or-is-it-here/ (accessed August 16, 2023).
121. Naval Today Staff, "Russia: SSGN Severodvinsk to Get Caliber Cruise Missiles," *Naval Today*, August 16, 2012, http://navaltoday.com/2012/08/16/russia-ssgn-severodvinsk-to-get-caliber-cruise-missiles/ (accessed August 16, 2023).
122. Douglas Barrie and Nick Childs, "The *Moskva* Incident and Its Wider Implications," International Institute for Strategic Studies, Military Balance Blog, April 29, 2022, https://www.iiss.org/blogs/military-balance/2022/04/the-moskva-incident-and-its-wider-implications (accessed August 16, 2023).
123. Sarah E. Garding and Cory Welt, "Moldova: An Overview," Congressional Research Service *In Focus* No. IF10894, updated August 14, 2023, https://sgp.fas.org/crs/row/IF10894.pdf (accessed August 16, 2023).

124. Dumitru Minzarari, "Russia Perfecting Its Elections Interference Toolkit in Moldova," Jamestown Foundation *Eurasia Daily Monitor*, Vol. 16, Issue 12 (January 31, 2019), https://jamestown.org/program/russia-perfecting-its-elections-interference-toolkit-in-moldova/ (accessed August 16, 2023).
125. The New Voice of Ukraine, "Mobilization in Unrecognized Transnistria Fails, but Threat Remains, Says Odesa Regional Governor," May 30, 2022, https://news.yahoo.com/mobilization-unrecognized-transnistria-fails-threat-095400385.html (accessed August 17, 2023).
126. James McBride, "Russia's Influence in the Balkans," Council on Foreign Relations *Backgrounder*, updated December 2, 2022, https://www.cfr.org/backgrounder/russias-influence-balkans (accessed August 16, 2023).
127. Maxim Samorukov, "What's Behind the Posturing of Russian Mercenaries in the Balkans?," Carnegie Endowment for International Peace, *Carnegie Politika*, April 6, 2023, https://carnegieendowment.org/politika/89463 (accessed August 16, 2023).
128. Sergey Sukhankin, "Kaliningrad: From Boomtown to Battle-Station," European Council on Foreign Relations *Commentary*, March 27, 2017, https://www.ecfr.eu/article/commentary_kaliningrad_from_boomtown_to_battle_station_7256 (accessed August 17, 2023).
129. Michael Krepon and Joe Kendall, "Beef up Conventional Forces; Don't Worry About a Tactical Nuke Gap," *Breaking Defense*, March 28, 2016, http://breakingdefense.com/2016/03/beef-up-conventional-forces-dont-worry-about-a-tactical-nuke-gap/ (accessed August 17, 2023), and Sukhankin, "Kaliningrad: From Boomtown to Battle-Station."
130. Kalev Stoicescu and Henrik Praks, "Strengthening the Strategic Balance in the Baltic Sea Area," International Centre for Defence and Security *Report*, March 2016, p. 14, https://icds.ee/wp-content/uploads/2016/Kalev_Stoicescu__Henrik_Praks_-_Strengthening_the_Strategic_Balance_in_the_Baltic_Sea_Area.pdf (accessed August 17, 2023).
131. International Institute for Strategic Studies, *The Military Balance 2017*, p. 216, and Damien Sharkov, "Russia Military Asks Weapons Makers to Extend Range and Precision of Nuclear-Capable Iskander Missiles," *Newsweek*, May 19, 2017, http://www.newsweek.com/russia-military-weapons-maker-nato-arms-missiles-iskander-nuclear-capable-612409 (accessed August 17, 2023).
132. Julie Coleman, "Ukrainians Have Found Mystery Warheads that Look Like Darts. They're Russia's New Weapon," *Business Insider*, March 15, 2022, https://www.businessinsider.com/ukraine-found-dart-like-mystery-warheads-theyre-russias-new-weapon-2022-3 (accessed August 17, 2023).
133. Reuters, "Belarus Says Russia-Deployed Islander Missile Systems Ready for Use," Voice of America, December 25, 2022, https://www.voanews.com/a/belarus-says-russia-deployed-iskander-missile-systems-ready-for-use/6891489.html (accessed August 17, 2023).
134. Kyodo News, "Russia Plans Additional Missile Defense Buildup on Kuril Islands," September 2, 2019, https://english.kyodonews.net/news/2019/09/590dd4e9b6eb-russia-plans-additional-missile-defense-buildup-on-kuril-islands.html (accessed August 17, 2023).
135. Associated Press, "Russia Deploys Missiles to Pacific Islands Claimed by Japan," December 1, 2020, https://apnews.com/article/international-news-world-war-ii-kuril-islands-japan-russia-15dbd41dba12496daaeb1b59e5244681 (accessed August 17, 2023).
136. Associated Press, "Russia Sends Defence Missiles to Pacific Islands Claimed by Japan," *The Guardian*, December 2, 2021, https://www.theguardian.com/world/2021/dec/02/russia-sends-defence-missiles-to-pacific-islands-claimed-by-japan (accessed August 17, 2023). See also Erin Brady, "Russia Deploys Missiles, Stations Personnel on Island in Middle of Chain Claimed by Japan," *Newsweek*, December 2, 2021, https://www.newsweek.com/russia-deploys-missiles-stations-personnel-island-middle-chain-claimed-japan-1655535 (accessed August 17, 2023).
137. Reuters, "Russia Conducts Military Drills on Isles Disputed with Japan," March 26, 2022, https://www.reuters.com/world/europe/russia-conducts-military-drills-isles-disputed-with-japan-media-2022-03-26/ (accessed August 14, 2023).
138. Reuters, "Russia Deploys Defence Missile System on Kuril Island Near Japan," December 6, 2022, https://www.reuters.com/business/aerospace-defense/russia-deploys-defence-missile-system-kuril-island-near-japan-2022-12-06/ (accessed August 14, 2023).
139. Anne Kauranen and Andrew Grey, "Finland Joins NATO in Historic Shift, Russia Threatens 'Counter-Measures,'" Reuters, April 4, 2023, https://www.reuters.com/world/europe/finland-set-join-nato-historic-shift-while-sweden-waits-2023-04-04/ (accessed August 14, 2023).
140. Shaheer Ahmad and Mohammad Ali Zafar, "Russia's Reimagined Arctic in the Age of Geopolitical Competition," *Journal of Indo-Pacific Affairs*, March 9, 2022, https://www.airuniversity.af.edu/JIPA/Display/Article/2959221/russias-reimagined-arctic-in-the-age-of-geopolitical-competition/ (accessed August 17, 2023).
141. Nick Paton Walsh, "Satellite Images Show Huge Russian Military Buildup in the Arctic," CNN, updated April 5, 2021, https://www.cnn.com/2021/04/05/europe/russia-arctic-nato-military-intl-cmd/index.html (accessed August 15, 2023).
142. Richard R. Burgess, "Navy Admirals Detail Russian Arctic Build-Up," *Seapower*, February 15, 2023, https://seapowermagazine.org/navy-admirals-detail-russian-arctic-build-up/ (accessed August 17, 2023).
143. Ibid.
144. Tom Parfitt, "Russia Plants Flag on North Pole Seabed," *The Guardian*, August 2, 2007, https://www.theguardian.com/world/2007/aug/02/russia.arctic (accessed August 17, 2023).
145. Joseph Trevithick, "Three Russian Ballistic Missile Submarines Just Surfaced Through the Arctic Ice Together," The War Zone, updated March 26, 2021, https://www.thedrive.com/the-war-zone/39953/three-russian-ballistic-missile-submarines-just-surfaced-through-the-arctic-ice-together (accessed August 14, 2023). See also Reuters, "Three Russian Submarines Surface and Break Arctic Ice During Drills," March 26, 2021, https://www.reuters.com/article/us-russia-military-arctic/three-russian-submarines-surface-and-break-arctic-ice-during-drills-idUSKBN2BI2RZ (accessed August 14, 2023).

146. Thomas Nilsen, "Corvette Sailed North via Inner Waterways and Launched Kalibr Cruise Missile," *The Barents Observer*, August 24, 2022, https://thebarentsobserver.com/en/security/2022/08/corvette-sailed-north-inner-waterways-and-launched-kalibr-cruise-missile (accessed August 17, 2023).
147. Daniel Brown, "Russia's Northern Fleet Beefs up Its Nuclear Capabilities to Phase 'NATO Out of Arctic,'" *Business Insider*, June 1, 2017, http://www.businessinsider.com/russias-northern-fleet-beefs-up-its-nuclear-capabilities-phase-nato-out-arctic-2017-6 (accessed August 17, 2023).
148. Katherine Fung, "Russia Withdraws from Nuclear Arctic Safety Program Amid Analysts' Concerns," *Newsweek*, June 2, 2022, https://www.newsweek.com/russia-withdraws-nuclear-arctic-safety-program-amid-analysts-concerns-1712362 (accessed August 17, 2023).
149. Nastassia Astrasheuskaya, "Floating Nuclear Power Plant Fuels Russia's Arctic Ambitions," *Financial Times*, December 1, 2021, https://www.ft.com/content/f5d25126-94fc-41fc-bc35-341df0560f4d (accessed August 17, 2023).
150. Charles Szumski, "Faroe Islands Warns Denmark Not to Probe Russian Ships' Presence," Euractiv, April 25, 2023, https://www.euractiv.com/section/politics/news/faroe-islands-warns-denmark-not-to-probe-russian-ships-presence/ (accessed August 17, 2023).
151. Sweden, which as this book was being prepared was progressing steadily toward NATO membership, also has Arctic territory.
152. Transcript, "Press Conference by Jens Stoltenberg in Bardufoss, Norway for Exercise Cold Response," North Atlantic Treaty Organization, March 25, 2022, https://www.nato.int/cps/en/natohq/opinions_193681.htm (accessed August 17, 2023).
153. Thomas Nilsen, "FSB Gets Right to Confiscate Land from People," *The Barents Observer*, May 16, 2017, https://thebarentsobserver.com/en/security/2017/05/fsb-gets-right-confiscate-land-people (accessed August 17, 2023).
154. Atle Staalesen, "New FSB Base Opens Way for More Operations in Arctic," *The Barents Observer*, January 3, 2019, https://thebarentsobserver.com/en/security/2019/01/new-fsb-base-opens-way-more-operations-arctic (accessed August 17, 2023).
155. BBC News, "Putin Creates New National Guard in Russia 'to Fight Terrorism,'" April 6, 2016, https://www.bbc.com/news/world-europe-35975840 (accessed August 17, 2023), and Atle Staalesen, "National Guard Becomes Arctic Protector," *The Barents Observer*, January 28, 2019, https://thebarentsobserver.com/en/security/2019/01/national-guard-becomes-arctic-protector (accessed August 17, 2023).
156. Reuters, "Russia's Novatek Approves Arctic LNG 2 Financing of $11 bln by End-Q2," April 23, 2021, https://www.reuters.com/business/energy/russias-novatek-approves-arctic-lng-2-financing-11-bln-by-end-q2-2021-04-23/ (accessed August 14, 2023).
157. Natural Gas World, "Novatek Still Targeting 2023 Launch for Artic LNG-2," December 13, 2022, https://www.naturalgasworld.com/novatek-still-targeting-2023-launch-for-arctic-lng-2-102609 (accessed August 17, 2023).
158. Atle Staalesen, "It's an Order from the Kremlin: Shipping on Northern Sea Route to Reach 80 Million Tons by 2024," *The Barents Observer*, May 15, 2018, https://thebarentsobserver.com/en/arctic/2018/05/its-order-kremlin-shipping-northern-sea-route-increase-80-million-tons-2024 (accessed August 17, 2023).
159. Malte Humpert, "Russia's Northern Sea Route Sees More Traffic Despite War and Sanctions," *High North News*, January 18, 2023, https://www.highnorthnews.com/en/russias-northern-sea-route-sees-more-traffic-despite-war-and-sanctions#:~:text=The%20transport%20of%20oil%20and,966%2C000%20tons%20compared%20to%202021 (accessed August 20, 2023).
160. Elizabeth McLaughlin, "The Race for the Arctic: As New Frontier Opens, Russia Leaves US in Its Wake," ABC News, May 10, 2017, http://abcnews.go.com/International/race-arctic-frontier-opens-russia-leaves-us-wake/story?id=47304875 (accessed August 17, 2023), and Andrew Osborn, "Putin's Russia in Biggest Arctic Military Push Since Soviet Fall," Reuters, January 30, 2017, http://mobile.reuters.com/article/idUSKBN15E0W0 (accessed August 14, 2023).
161. Jacob Gronholt-Pedersen and Gwladys Fouche, "Dark Arctic: NATO Allies Wake up to Russian Supremacy in the Region," Reuters. November 16, 2022, https://www.reuters.com/graphics/ARCTIC-SECURITY/zgvobmblrpd/ (accessed August 14, 2023).
162. Elisabeth Gosselin-Malo, "Will the Ukraine War Slow Russia's Arctic Push?" *Defense News*, January 13, 2023, https://www.defensenews.com/global/europe/2023/01/13/will-the-ukraine-war-slow-russias-arctic-push/ (accessed August 17, 2023).
163. Nick Paton Walsh and Sarah Dean, "Russia's Militarization of the Arctic Shows No Sign of Slowing Down," CNN, updated December 22, 2022, https://www.cnn.com/2022/12/21/europe/russia-arctic-military-intl/index.html (accessed August 15, 2023).
164. Damien Sharkov, "Russia Deploys Air Radar on Arctic Wrangel Island," *Newsweek*, January 4, 2017, http://www.newsweek.com/russia-deploys-air-radar-arctic-wrangel-island-538527 (accessed August 17, 2023).
165. Thomas Nilsen, "Russia Plans to Lay Trans-Arctic Fiber Cable Linking Military Installations," *The Barents Observer*, April 24, 2018, https://thebarentsobserver.com/en/security/2018/04/russia-slated-lay-military-trans-arctic-fibre-cable (accessed August 17, 2023).
166. Gleb Stolyarov, "Russia Starts Operation to Lay Undersea Fibre Optic Cable Through Arctic," Reuters, August 6, 2021, https://www.reuters.com/technology/russia-starts-operation-lay-undersea-fibre-optic-cable-through-arctic-2021-08-06/ (accessed August 14, 2023).
167. Meghan Sullivan, "Monitoring the Arctic in Russian Invasion of Ukraine," ICT [formerly Indian Country Today], updated March 8, 2022, https://ictnews.org/news/monitoring-the-arctic-in-russian-invasion-of-ukraine (accessed August 17, 2023).
168. Lee Berthiaume, "Russia Resumes Arctic Bomber Flights, Submarine Patrols near North America: Norad," Global News, updated November 22, 2022, https://globalnews.ca/news/9296382/russia-artic-bomber-flights-submarine-patrols/ (accessed August 17, 2023).

169. John Feng, "Russian and Chinese Navy Ships Spotted Less Than 100 Miles off U.S. Coast," *Newsweek,* September 27, 2022, https://www.newsweek.com/russian-chinese-navy-ships-spotted-less-100-miles-off-us-coast-1746669 (accessed August 17, 2023).
170. Naval News Staff, "Russian Baltic Shipyard Launches the 4th Project 22220 Icebreaker 'Yakutia,'" *Naval News*, November 23, 2022, https://www.navalnews.com/naval-news/2022/11/russian-baltic-shipyard-launches-the-4th-project-22220-icebreaker-yakutia/ (accessed August 17, 2023).
171. Gronholt-Pedersen and Fouche, "Dark Arctic: NATO Allies Wake up to Russian Supremacy in the Region."
172. Gosselin-Malo, "Will the Ukraine War Slow Russia's Arctic Push?"
173. Maxim Starchak, "Russia to Lengthen Submarine Patrols, Says Norwegian Intel Report," *Defense News*, February 16, 2023, https://www.defensenews.com/global/europe/2023/02/16/russia-to-lengthen-submarine-patrols-says-norwegian-intel-report/ (accessed August 14, 2023).
174. Ibid.
175. Special Briefing, "Briefing on the Administration's Arctic Strategy," U.S. Department of State, April 23, 2020, https://2017-2021.state.gov/briefing-with-senior-state-department-official-on-the-administrations-arctic-strategy/ (accessed August 17, 2023). See also Ronald O'Rourke, Laura B. Comay, Peter Folger, John Frittelli, Marc Humphries, Jane A. Leggett, Jonathan L. Ramseur, Pervaze A. Sheikh, and Harold F. Upton, "Changes in the Arctic: Background and Issues for Congress," Congressional Research Service *Report for Members and Committees of Congress* No. R41153, updated May 17, 2021, p. 20, https://crsreports.congress.gov/product/pdf/R/R41153/179 (accessed August 17, 2023).
176. Civil Georgia, "Moscow, Sokhumi Endorse Final Text of New Treaty," November 22, 2014, http://www.civil.ge/eng/article.php?id=27841 (accessed August 17, 2023).
177. Civil Georgia, "Tbilisi Condemns Russia's Move to Sign New Treaty with Sokhumi," November 22, 2014, http://www.civil.ge/eng/article.php?id=27842 (accessed August 17, 2023).
178. Radio Free Europe/Radio Liberty, "U.S. Condemns Russian Military Deal with Georgian Breakaway Region," January 26, 2018, https://www.rferl.org/a/u-s-condemns-russian-ossetia-military-deal-georgia/29000754.html (accessed August 17, 2023), and press statement, "Russia's Violations of Georgian Sovereignty," U.S. Department of State, January 26, 2018, https://2017-2021.state.gov/russias-violations-of-georgian-sovereignty/index.html (accessed August 17, 2023).
179. France 24, "Georgia's Separatist South Ossetia Region to Hold Referendum on Joining Russia," May 13, 2022, https://www.france24.com/en/europe/20220513-georgia-s-separatist-south-ossetia-region-to-hold-referendum-on-joining-russia (accessed August 17, 2023), and Deutsche Welle, "South Ossetia Shelves Plan for Referendum to Join Russia," May 31, 2022, https://www.dw.com/en/south-ossetia-shelves-plan-for-referendum-to-join-russia/a-61982164 (accessed August 17, 2023).
180. Adrian Croft, "Georgia Says Russia Bent on 'Creeping Annexation' of Breakaway Regions," Reuters, February 26, 2015, http://www.reuters.com/article/us-georgia-russia-idUSKBN0LU2M020150226 (accessed August 14, 20).
181. U.S. Embassy in Georgia, "Statement on Continued 'Borderization' Activities Along the ABL, as Well as Disinformation Campaign Against the Lugar Center," May 27, 2020, https://ge.usembassy.gov/u-s-embassy-statement-on-continued-borderization-activities-along-the-abl-as-well-as-the-disinformation-campaign-against-the-lugar-center-may-27/#.Xs57tRzLz2g.twitter (accessed August 17, 2023).
182. Andrew Osborn, "Russia to Beef up Military Presence in Former Soviet Space," *The Telegraph*, August 18, 2010, http://www.telegraph.co.uk/news/worldnews/europe/russia/7952433/Russia-to-beef-up-military-presence-in-former-Soviet-space.html (accessed August 17, 2023).
183. International Institute for Strategic Studies, *The Military Balance 2022*, p. 182.
184. Joshua Kucera and Bradley Jardine, "Armenia Elects Protest Leader as Prime Minister," Eurasianet, May 8, 2018, https://eurasianet.org/s/armenia-elects-protest-leader-as-prime-minister (accessed August 17, 2023).
185. Radio Free Europe/Radio Liberty Armenian Service, "U.S. Frowns on Armenia's Involvement in Russia-Backed Syria Mission," February 13, 2019, https://www.rferl.org/a/us-frowns-on-armenia-s-involvement-in-russia-backed-syria-mission/29768111.html (accessed August 17, 2023).
186. In 1991, the Azerbaijan SSR Parliament dissolved the Nagorno–Karabakh Autonomous Oblast and divided the area among five rayons (administrative regions) in Azerbaijan.
187. Luke Coffey, "Winners and Losers of the Second Karabakh War," *Arab News*, November 21, 2020, https://www.arabnews.com/node/1766356 (accessed August 17, 2023).
188. BBC News, "Armenia, Azerbaijan and Russia Sign Nagorno–Karabakh Peace Deal," November 10, 2020, https://www.bbc.com/news/world-europe-54882564 (accessed August 17, 2023).
189. TOI Staff, "Flight Data Puts Spotlight on Decade of Weapons Sales from Israel to Azerbaijan," *The Times of Israel*, March 6, 2023, https://www.timesofisrael.com/flight-data-puts-spotlight-on-decade-of-weapons-sales-from-israel-to-azerbaijan/ (accessed August 17, 2023).
190. Global Fire Power, *2023 Military Strength Ranking*, https://www.globalfirepower.com/countries-listing.php (accessed August 17, 2023).
191. Karolina Hird, Riley Bailey, Angela Howard, George Barros, Nicole Wolkov, Layne Philipson, and Frederick W. Kagan, "Russian Offensive Campaign Assessment, March 16, 2023," Institute for the Study of War and American Enterprise Institute Critical Threats Project, March 16, 2023, p. 2, https://www.understandingwar.org/sites/default/files/Russian%20Offensive%20Campaign%20Assessment%2C%20March%2016%2C%202023%20PDF.pdf (accessed August 20, 2023). Footnotes omitted.

192. For a detailed examination of the Russia–Assad relationship, see *Russia's War in Syria: Assessing Russian Military Capabilities and Lessons Learned*, ed. Robert E. Hamilton, Chris Miller, and Aaron Stein (Philadelphia, PA: Foreign Policy Research Institute, 2020), https://www.fpri.org/wp-content/uploads/2020/09/russias-war-in-syria.pdf (accessed August 17, 2023).

193. Reuters, "Russia Establishing Permanent Presence at Its Syrian Bases: RIA," December 26, 2017, https://www.reuters.com/article/us-mideast-crisis-syria-russia-bases/russia-establishing-permanent-presence-at-its-syrian-bases-ria-idUSKBN1EK0HD (accessed August 14, 2023).

194. Martin Manaranche, "Russia Builds up Mediterranean Naval Force," *Naval News*, May 6, 2020, https://www.navalnews.com/naval-news/2020/05/russia-builds-up-mediterranean-naval-force/ (accessed August 17, 2023).

195. Jamie Dettmer, "Russia Expands Military Facilities in Syria," Voice of America, May 12, 2021, https://www.voanews.com/middle-east/russia-expands-military-facilities-syria (accessed August 14, 2023).

196. General Michael "Erik" Kurilla, Commander, U.S. Central Command, statement "On the Posture of US Central Command" before the Committee on Armed Services, U.S. Senate, March 16, 2023, p. 14, https://www.armed-services.senate.gov/imo/media/doc/Kurilla_SASC_Posture_Final_141200March2023.pdf (accessed August 17, 2023). General Kurilla's statement is dated March 13, 2023, but the committee's hearing was held on March 16. See stenographic transcript of *Hearing to Receive Testimony on the Posture of United States Central Command and United States Africa Command in Review of the Defense Authorization Request for Fiscal Year 2024 and the Future Years Defense Program*, Committee on Armed Services, U.S. Senate, March 16, 2023, https://www.armed-services.senate.gov/imo/media/doc/23-12_03-16-2023.pdf (accessed August 17, 2023).

197. Reuters, "Russia to Upgrade Its Naval, Air Bases in Syria: Interfax," January 15, 2017, http://www.reuters.com/article/us-mideast-crisis-syria-russia-base-idUSKBN14Z0FQ (accessed August 14, 2023).

198. Joseph Trevithick, "Russia Is Extending One of the Runways at Its Syrian Airbase," The War Zone, updated February 6, 2021, https://www.thedrive.com/the-war-zone/39113/what-does-russia-have-planned-for-its-lengthened-runway-at-its-air-base-in-syria (accessed August 14, 2023).

199. Reuters, "Russia Says It Can Now Operate Nuclear Capable Bombers from Syrian Air Base," May 25, 2021, https://www.reuters.com/world/middle-east/russia-says-it-can-now-operate-nuclear-capable-bombers-syrian-air-base-2021-05-25/ (accessed August 14, 2023).

200. Jonathan Marcus, "Russia S-400 Syria Missile Deployment Sends Robust Signal," BBC News, December 1, 2015, http://www.bbc.com/news/world-europe-34976537 (accessed August 17, 2023).

201. Ben Brimelow, "Russia's Newest Anti-Air Defenses Are in Syria—and the US Should Be Worried," *Business Insider*, April 11, 2018, http://www.businessinsider.com/pantsir-s1-makes-russian-air-defenses-stronger-2018-2 (accessed August 17, 2023).

202. Lukas Andriukaitis, "#PutinAtWar: Russia Fortifies Air Base in Khmeimim," Atlantic Council, Digital Forensic Research Lab, November 11, 2018, https://medium.com/dfrlab/putinatwar-russia-fortifies-air-base-in-khmeimim-803f4cc07946 (accessed August 17, 2023).

203. Ryan Browne, "US Official: Russia Apologized After Russian Jet Performed Barrel Roll over US Plane," CNN, updated May 25, 2017, http://www.cnn.com/2017/05/25/politics/russia-us-aircraft-barrel-roll/ (accessed August 15, 2023).

204. Anne Barnard, "Russia Says Deal Bars American Jets from Much of Syria's Skies. U.S. Says No," *The New York Times*, May 5, 2017, https://www.nytimes.com/2017/05/05/world/middleeast/syria-deescalation-zones-russia-iran-turkey.html (accessed August 17, 2023).

205. Dario Leone, "US Reveals that a Russian SA-22 Pantsir Surface-to-Air Missile Damaged MQ-9 Drone over Syria," The Aviation Geek Club, May 4, 2023, https://theaviationgeekclub.com/us-reveals-that-a-russian-sa-22-pantsir-surface-to-air-missile-damaged-mq-9-drone-over-syria/ (accessed August 17, 2023).

206. Barbara Starr, "US Fighter Jets Escort Russian Aircraft in Eastern Syria," CNN, February 15, 2022, https://www.cnn.com/2022/02/15/politics/us-jets-escort-russian-aircraft-syria/index.html (accessed August 15, 2023).

207. Leone, "US Reveals that a Russian SA-22 Pantsir Surface-to-Air Missile Damaged MQ-9 Drone over Syria."

208. Radio Free Europe/Radio Liberty, "Putin, Egyptian Leader Sign 'Strategic' Partnership Treaty," updated October 17, 2018, https://www.rferl.org/a/putin-egytian-leader-el-sissi-discuss-increasing-arms-sales-direct-air-links-moscow-visit-sochi/29547819.html (accessed August 17, 2023).

209. Vladimir Isachenkov, "Russia Negotiates Deal for Its Warplanes to Use Egypt Bases," Associated Press, November 30, 2017, https://apnews.com/bdfae4502ca74c1eacdbf6d32252e8f4 (accessed August 17, 2023).

210. Kamal Tabikha, "Egypt–Russia Relations Reach New Heights in Ukraine War Aftermath," *The National*, March 23, 2023, https://www.thenationalnews.com/mena/egypt/2023/03/24/egypt-russia-relations-reach-new-heights-in-ukraine-war-aftermath (accessed August 17, 2023).

211. Evan Hill, Missy Ryan, Siobhán O'Grady, and Samuel Oakford, "Egypt Secretly Planned to Supply Rockets to Russia, Leaked U.S. Document Says," *The Washington Post*, updated April 11, 2023, https://www.washingtonpost.com/national-security/2023/04/10/egypt-weapons-russia/ (accessed August 17, 2023).

212. Mohamed Eljarh, "Russia's Wagner Activities Expanding in Libya Despite Growing Western Scrutiny," Al-Monitor, March 19, 2023, https://www.al-monitor.com/originals/2023/03/russias-wagner-activities-expanding-libya-despite-growing-western-scrutiny#ixzz81tbXw0as (accessed August 17, 2023).

213. Ibid.

214. Swedish Defence Research Agency, "Russian Naval Task Force in the Mediterranean," September 5, 2022, https://www.foi.se/en/foi/news-and-pressroom/news/2022-09-05-russian-naval-task-force-in-the-mediterranean.html (accessed August 17, 2023).

215. Decode39, "The Russian Threat in the Med: Italy's Chief of Defence Speaking," August 22, 2022, https://decode39.com/4036/russian-threat-mediterranean-sea-italy-chief-of-defence/ (accessed August 17, 2023).

216. Cavoli, statement before House Armed Services Committee, April 26, 2023, pp. 9–10.

217. Daniel Kochis, "A Roadmap for Strengthened Transatlantic Pathways in the Western Balkans," Heritage Foundation *Backgrounder* No. 3286, March 16, 2018, p. 4, https://www.heritage.org/global-politics/report/roadmap-strengthened-transatlantic-pathways-the-western-balkans.

218. See, for example, Daria Sito-Sucic, "Russia Says NATO Membership of Balkan Countries Threatens Security," Reuters, April 23, 2018, https://www.reuters.com/article/us-balkans-russia-nato/russia-says-nato-membership-of-balkan-countries-threatens-security-idUSKBN1HU2CS (accessed August 14, 2023).

219. Radio Free Europe/Radio Liberty Balkan Service, "Montenegrin Court Convicts All 14 Defendants of Plotting Pro-Russia Coup," updated May 9, 2019, https://www.rferl.org/a/montenegro-court-convicts-14-on-terrorism-charges-/29930212.html (accessed August 17, 2023).

220. Giorgio Cafiero, "As the Ukraine War Rages, Montenegro's Juggling Act Gets Harder," Al Jazeera, May 20, 2022, https://www.aljazeera.com/news/2022/5/20/ukraine-war-means-difficult-juggling-act-for-montenegro (accessed August 17, 2023).

221. Jakov Devčić, "Montenegro: Political and Social Impact One Year After the Start of Russia's War of Aggression Against Ukraine," Konrad Adenauer Stiftung, February 28, 2023, https://www.kas.de/en/country-reports/detail/-/content/montenegro-politische-und-gesellschaftliche-auswirkungen-ein-jahr-nach-beginn-des-russischen-angriff (accessed August 17, 2023).

222. Press release, "The War Against Ukraine: One Year On," Delegation of the European Union to Montenegro, March 3, 2023, https://www.eeas.europa.eu/delegations/montenegro/war-against-ukraine-one-year_en (accessed August 17, 2023).

223. Reuters, "Montenegro Adopts Unspecified Sanctions Against Russia," April 8, 2022, https://www.reuters.com/world/europe/montenegro-adopts-unspecified-sanctions-against-russia-2022-04-08/ (accessed August 14, 2023).

224. The New Voice of Ukraine, "Montenegro Announces Details of Military Aid to Ukraine," February 11, 2023, https://news.yahoo.com/montenegro-announced-details-military-aid-052200214.html (accessed August 17, 2023).

225. Dusan Stojanovic, "Montenegro Wrestles with Massive Cyberattack, Russia Blamed," Associated Press, September 12, 2023, https://apnews.com/article/russia-ukraine-nato-technology-hacking-religion-5c2bd851027b56a77eaf9385b7d5d741 (accessed August 17, 2023).

226. Ivana Stradner, "Russia's Hybrid War Against Montenegro," *Kyiv Post,* February 22, 2023, https://www.kyivpost.com/post/13336 (accessed August 17, 2023).

227. Predrag Milic, "Montenegro Bans Entry to 28 Foreigners for 'Malign' Activity," Associated Press, September 30, 2022, https://apnews.com/article/russia-ukraine-nato-serbia-podgorica-79c065144d56a70aa35e27840a49f5d3 (accessed August 17, 2023).

228. Predrag Milic, "Montenegro's President: EU's Neglect Gave Russia a Platform," Associated Press, March 28, 2023, https://apnews.com/article/montenegro-president-election-russia-eu-433a12475ad190f75edf6c17223935ff (accessed August 17, 2023).

229. Andrew Rettman, "Nato to Add Macedonia Despite Putin Warning," *EUobserver*, February 7, 2019, https://euobserver.com/foreign/144109 (accessed August 17, 2023).

230. Helene Cooper and Eric Schmitt, "U.S. Spycraft and Stealthy Diplomacy Expose Russian Subversion in a Key Balkans Vote," *The New York Times*, October 10, 2018, https://www.nytimes.com/2018/10/09/us/politics/russia-macedonia-greece.html (accessed August 17, 2023).

231. Ibid.

232. Konstantin Testorides, "US Envoy: Balkans 'Poisoned' by Russian Disinformation," Associated Press, April 12, 2023, https://apnews.com/article/us-rubin-russia-balkans-disinformation-8ae5a32becb5f4a10df0b074a6122ce7 (accessed August 17, 2023).

233. TRT [Turkish Radio and Television] World, "Silent and Crippling, a Digital War on the Balkans," https://www.trtworld.com/magazine/silent-and-crippling-a-digital-war-on-the-balkans-60738 (accessed August 17, 2023).

234. Protos Staff, "North Macedonia Links Russia to Bomb Hoax, Says Crypto Used to Hide Location," *Protos*, March 7, 2023, https://protos.com/north-macedonia-links-russia-to-bomb-hoax-says-crypto-used-to-hide-location/ (accessed August 17, 2023).

235. Kochis, "A Roadmap for Strengthened Transatlantic Pathways in the Western Balkans," p. 9.

236. Dusan Stojanovic, "Serbia Praises Another Arms Shipment from Russia," *Defense News*, January 3, 2022, https://www.defensenews.com/global/europe/2022/01/03/serbia-praises-another-arms-shipment-from-russia/ (accessed August 17, 2023).

237. Tanmay Kadam, "Frustrated with MiG-29s, Serbia Sets Eye on 'Remarkable Rafales' as It Looks to Boost Its Military Spending," *The EurAsian Times*, February 22, 2023, https://eurasiantimes.com/frustrated-with-mig-29s-serbia-sets-eye-on-remarkable-rafales-as-it-looks-to-boost-its-military-spending/ (accessed August 17, 2023).

238. Kochis, "A Roadmap for Strengthened Transatlantic Pathways in the Western Balkans," p. 4.

239. SRNA [Srpska Republika News Agency] and N1 Sarajevo, "RS President: Republika Srpska Has Very Good Relations with Serbia and Russia," N1, January 5, 2019, https://rs.n1info.com/english/news/a449708-rs-president-republika-srpska-has-very-good-relations-with-serbia-and-russia/ (accessed August 17, 2023).

240. Radio Free Europe/Radio Liberty Balkan Service, "Bosnian Serb Leader Says Secession Plan Delayed by War in Ukraine," June 6, 2022, https://www.rferl.org/a/bosnia-herzegovina-dodik-secession-ukraine/31886186.html (accessed August 17, 2023).
241. Mustafa Talha Öztürk, "Bosnian Court Rules Major Decisions Made by Republika Srpska Lawmakers Null and Void," Anadolu Ajansi, updated June 28, 2022, https://www.aa.com.tr/en/europe/bosnian-court-rules-major-decisions-made-by-republika-srpska-lawmakers-null-and-void/2624714 (accessed August 17, 2023).
242. Ibid.
243. Radio Free Europe/Radio Liberty, "Tensions Rise as Bosnian Serbs Vote in Banned Referendum," updated September 25, 2016, https://www.rferl.org/a/balkan-tensions-rise-as-bosnian-serbs-push-ahead-with-banned-referendum/28010813.html (accessed August 17, 2023), and Gordana Knezevic, "Russia's Fingers in Bosnia's Pie," Radio Free Europe/Radio Liberty, September 28, 2016, https://www.rferl.org/a/russia-putin-republika-srpska-bosnia-dodik-referendum-statehood-day/28018362.html (accessed August 17, 2023).
244. Zorica Ilic, "Russia's Balkan Power Games," Deutsche Welle, October 6, 2018, https://www.dw.com/en/russias-balkan-power-games-on-show-ahead-of-elections/a-45781149 (accessed August 17, 2023).
245. TASS, "Kremlin Spokesman Confirms Putin Received Milorad Dodik in Kremlin," December 3, 2021, https://tass.com/politics/1370329 (accessed August 17, 2023).
246. Radio Free Europe/Radio Liberty Balkan Service, "Dodik Travels to Moscow for Meeting with Putin Ahead of Elections," September 21, 2022, https://www.rferl.org/a/dodik-moscow-putin-elections-republika-srpska/32043995.html (accessed August 17, 2023).
247. Mustafa Talha Öztürk, "Bosnian Serbs Celebrate Statehood Day, Defying Court Ban," Anadolu Ajansi, January 10, 2023, https://www.aa.com.tr/en/europe/bosnian-serbs-celebrate-statehood-day-defying-court-ban/2783611 (accessed August 17, 2023).
248. Gordana Knezevic, "Talk of Paramilitaries, Real or Imagined, Could Fuel Division," Radio Free Europe/Radio Liberty, February 21, 2018, https://www.rferl.org/a/balkans-talk-of-paramilitaries-fuel-division/29055292.html (accessed August 17, 2023).
249. Vera Mironova and Bogdan Zawadewicz, "Putin Is Building a Bosnian Paramilitary Force," *Foreign Policy*, August 8, 2018, https://foreignpolicy.com/2018/08/08/putin-is-building-a-bosnian-paramilitary-force/ (accessed August 17, 2023).
250. Ibid.
251. Milica Stojanovic, "Russian Ambassador to Serbia Denies Change in Putin's Kosovo Policy," Balkan Insight, April 29, 2022, https://balkaninsight.com/2022/04/29/russian-ambassador-to-serbia-denies-change-in-putins-kosovo-policy/ (accessed August 17, 2023).
252. Al Jazeera, "Kosovo Minister Sees Russian Influence in Growing Serbian Tension," December 28, 2022, https://www.aljazeera.com/news/2022/12/28/kosovo-minister-sees-russian-influence-in-growing-serbian-tension (accessed August 17, 2023).
253. Sam Meredith, "One Year on, Russia's War in Ukraine Ramps up Fears over Europe's Next Security 'Soft Spot,'" CNBC, February 20, 2023, https://www.cnbc.com/2023/02/20/russia-ukraine-war-stokes-security-fears-in-the-western-balkans.html (accessed August 17, 2023).
254. Christopher Woody, "17 Russian Jets Buzzed a British Destroyer in May in an 'Unprecedented' Show of Force," *Task & Purpose*, November 27, 2018, https://taskandpurpose.com/news/17-russian-jets-buzz-british-destroyer/ (accessed August 17, 2023).
255. John Vandiver, "Russian Jet Flies Low Past USS Donald Cook in Black Sea," *Stars and Stripes*, February 1, 2021, https://www.stripes.com/theaters/europe/russian-jet-flies-low-past-uss-donald-cook-in-black-sea-1.660554 (accessed August 18, 2023).
256. Agence France-Presse, "Tensions Rise in Black Sea as Russian Jets Conduct 'Mock Attacks' on Dutch Frigate," *South China Morning Post*, June 30, 2021, https://www.scmp.com/news/world/europe/article/3139262/tensions-rise-black-sea-russian-jets-conduct-mock-attacks-dutch (accessed August 14, 2023).
257. Marcia Wendorf, "Both the U.S. and Russia Are Stalking the World's Undersea Cables," *Interesting Engineering*, August 16, 2019, https://interestingengineering.com/both-the-us-and-russia-are-stalking-the-worlds-undersea-cables (accessed August 18, 202).
258. Conor Gallagher, "Nato Warns Ireland over Russian Maritime Surveillance Activity," *The Irish Times*, May 4, 2023, https://www.irishtimes.com/ireland/2023/05/04/nato-warns-ireland-over-russian-maritime-surveillance-activity/ (accessed August 18, 2023).
259. Sean O'Riordan, "Russians May Have Been Mapping Cables off Ireland Since 2014, Expert Claims," *Irish Examiner*, January 31, 2022, https://www.irishexaminer.com/news/arid-40797225.html (accessed August 18, 2023).
260. Kyle Mizokami, "What Is a Russian Spy Ship Doing in the Eastern Mediterranean?" *Popular Mechanics,* September 19, 2017, https://www.popularmechanics.com/military/navy-ships/a28276/yantar-spy-ship-eastern-mediterranean/ (accessed August 18, 2023), and Deb Reichmann, "Russia May Be Targeting Undersea Internet Cables. Here's Why That's Bad," Yahoo News, updated March 30, 2018, https://www.yahoo.com/news/russia-may-targeting-undersea-internet-213130980.html (accessed August 18, 2023).
261. Alice Fuller, "Russian Spy Ship that Can 'Cut Undersea Cables' Spotted in English Channel," *New York Post*, September 13, 2021, https://nypost.com/2021/09/13/russian-spy-ship-that-can-cut-undersea-cables-spotted-in-english-channel/ (accessed August 18, 2023).
262. Ryan Browne and Zachary Cohen, "Russian Spy Ship Spotted 100 Miles off North Carolina Coast," CNN, updated January 22, 2018, https://www.cnn.com/2018/01/22/politics/russia-spy-ship-us-coast/index.html?sr=twCNNp012218russia-spy-ship-us-coast0253PMStory&CNNPolitics=Tw (accessed August 15, 2023), and Shawn Snow, "Russian Spy Ship Lurking off US Coast Conducting 'Unsafe Operation,'" *Military Times*, December 18, 2019, https://www.militarytimes.com/flashpoints/2019/12/18/russian-spy-ship-lurking-off-us-coast-conducting-unsafe-operation/ (accessed August 18, 2023).

263. "Report: Russia Is Studying Europe's Subsea Cables with Covert Fleet," *The Maritime Executive*, April 19, 2023, https://maritime-executive.com/article/report-russia-is-studying-europe-s-subsea-cables-with-covert-fleet (accessed August 18, 2023).

264. Sebastian Moss, "Saboteurs Cut Fiber Cables in France, in Second Incident This Year," DCD [DatacenterDynamics], October 24, 2022, https://www.datacenterdynamics.com/en/news/saboteurs-cut-fiber-cables-in-france-in-second-incident-this-year/ (accessed August 18, 2023).

265. Reuters, "Russian Navy Vessels Seen near Nord Stream Before Blasts—Nordic Broadcasters Report," May 3, 2023, https://www.reuters.com/world/europe/russian-navy-vessels-seen-near-nord-stream-before-blasts-nordic-broadcasters-2023-05-03/ (accessed August 14, 2023).

266. Santeri Lampi, "NATO's Strong Suspicion: Russia Has Mined Critical Pipes and Cables in the Baltic Sea," *Suomenmaa*, May 4, 2023, https://www.suomenmaa.fi/uutiset/naton-vahva-epaily-venaja-miinoittanut-itameren-kriittiset-putket-ja-kaapelit/ (accessed August 18, 2023).

267. Kyiv Independent News Desk, "Media: Russia Possibly Preparing to Sabotage Wind Turbines, Gas Pipes, Power Cables in Nordic Countries," *The Kyiv Independent*, April 19, 2023, https://kyivindependent.com/media-russia-possibly-preparing-to-sabotage-wind-turbines-gas-pipes-and-power-cables-in-nordic-countries/ (accessed August 18, 2023).

268. Reuters, "Factbox: What Happened to the U.S. Drone Downed near Ukraine?" March 15, 2023, https://www.reuters.com/world/what-happened-us-drone-downed-near-ukraine-2023-03-15/ (accessed August 14, 2023).

269. Elena Becatoros and Darlene Superville, "US and Russia Ratchet up Rhetoric over Downing of Drone," Associated Press, March 15, 2023, https://apnews.com/article/ukraine-russia-war-drone-pentagon-9f4b3e8fdd719c0fa91a0683228b9e51 (accessed August 18, 2023).

270. Mark Moore, "Russia Reportedly Recovers Some Debris from US Drone Downed in the Black Sea," *New York Post*, March 22, 2023, https://nypost.com/2023/03/22/russia-reportedly-recovers-some-debris-from-us-drone-in-the-black-sea/ (accessed August, 2023).

271. Becatoros and Superville, "US and Russia Ratchet up Rhetoric over Downing of Drone."

272. Jim Sciutto, "New US Drone Routes over Black Sea 'Definitely Limit' Intelligence Gathering, Says US Official," CNN, March 28, 2023, https://www.cnn.com/2023/03/28/politics/us-drone-routes-black-sea-intelligence/index.html (accessed August 15, 2023).

273. Thomas Gibbons-Neff and Eric Schmitt, "Miscommunication Nearly Led to Russian Jet Shooting Down British Spy Plane, U.S. Officials Say," *The New York Times*, April 12, 2023, https://www.nytimes.com/2023/04/12/world/europe/russian-jet-british-spy-plane.html (accessed August 18, 2023).

274. Deutsche Welle, "Poland Border Guard Says Patrol Intercepted by Russian Jet," May 7, 2023, https://www.dw.com/en/poland-border-guard-says-patrol-intercepted-by-russian-jet/a-65541526 (accessed August 18, 2023).

275. Reuters, "NATO Upped Readiness of Units After Russian Jet Narrowly Missed Polish Plane," May 8, 2023, https://www.jpost.com/breaking-news/article-742425 (accessed August 15, 2023).

276. Deutsche Welle, "NATO Scrambled Jets 290 Times over Russian Planes in 2021," December 28, 2021, https://www.dw.com/en/nato-scrambled-jets-290-times-due-to-russian-planes-in-2021/a-60271618 (accessed August 18, 2023).

277. DPA [Deutsche Presse-Agentur (German Press Agency)], "NATO Jets Scrambled 570 Times Last Year to Check Russian Military Flights," Radio Free Europe/Radio Liberty, February 9, 2023, https://www.rferl.org/a/russia-nato-intercepts-2022/32264186.html (accessed August 18, 2023).

278. Andrew Naughtie, "NATO Jets Scrambled to Intercept Russian Aircraft in Norway and Baltics," Euronews, April 26. 2023, https://www.euronews.com/2023/04/26/nato-jets-scrambled-to-intercept-russian-aircraft-in-norway-baltic (accessed August 18, 2023).

279. Ibid.

280. Luis Martinez, "US Intercepts Russian Bombers off Alaska for 2 Straight Days," ABC News, February 16, 2023, https://abc7news.com/us-intercepts-russia-bombers-alaska/12826044/ (accessed August 18, 2023).

281. Press release, "NORAD Conducts Routine Intercept of Russian Aircraft Entering Air Defense Identification Zone," North American Aerospace Defense Command, April 19, 2023, https://www.norad.mil/Newsroom/Press-Releases/Article/3367499/norad-conducts-routine-intercept-of-russian-aircraft-entering-air-defense-ident/#:~:text=COLORADO%20SPRINGS%2C%20Colorado%20%E2%80%93%20The%20Alaskan,)%20on%20April%2017%2C%202023 (accessed August 18, 2023).

282. Rachel S. Cohen, "Spike in Russian Aircraft Intercepts Straining Air Force Crews in Alaska, Three-Star Says," *Air Force Times*, April 28, 2021, https://www.airforcetimes.com/news/your-air-force/2021/04/28/spike-in-russian-aircraft-intercepts-straining-air-force-crews-in-alaska-three-star-says/ (accessed August 18, 2023).

283. Alastair Gale, "Japan Alleges Russian Incursion in Its Airspace, Scrambles Jet in Response," *The Wall Street Journal*, March 2, 2022, https://www.wsj.com/livecoverage/russia-ukraine-latest-news-2022-03-02/card/japan-alleges-russian-incursion-in-its-airspace-and-scrambles-jet-in-response-ZC95kfeNdyvpsTUr4pm9 (accessed August 18, 2023).

284. Known officially as the Quadrilateral Security Dialogue and comprised of four countries: the United States, Australia, India, and Japan. See Patrick Gerard Buchan and Benjamin Rimland, "Defining the Diamond: The Past, Present, and Future of the Quadrilateral Security Dialogue," Center for Strategic and International Studies *Brief*, March 2020, https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/200312_BuchanRimland_QuadReport_v2%5B6%5D.pdf?fuRA6mwjWYKqROtSmJD4u5ct.vijdkZv (accessed August 18, 2023), and "Quad Joint Leaders Statement," The White House, May 24, 2022, https://www.whitehouse.gov/briefing-room/statements-releases/2022/05/24/quad-joint-leaders-statement/ (accessed August 18, 2023).

285. Nobuhiro Kubo, "Japan Scrambles Jets After Russian, Chinese Warplanes Near Airspace During Quad," Reuters, May 24, 2022, https://www.reuters.com/world/asia-pacific/japan-says-it-scrambled-jets-after-russian-chinese-warplanes-neared-airspace-2022-05-24/ (accessed August 15, 2023).
286. Franz-Stefan Gady, "Japan Intercepts 2 Russian Nuclear-Capable Fighter-Bombers," *The Diplomat*, January 17, 2019, https://thediplomat.com/2019/01/japan-intercepts-2-russian-nuclear-capable-fighter-bombers/ (accessed August 18, 2023).
287. Dzirhan Mahadzir, "Japan Scrambled Fighters Almost 800 Times Against Chinese, Russian Aircraft in 2022," U.S. Naval Institute News, April 19, 2023, https://news.usni.org/2023/04/19/japan-scrambled-fighters-almost-800-times-against-chinese-russian-aircraft-in-2022 (accessed August 18, 2023).
288. Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*, February 6, 2023, p. 15. Emphasis in original.
289. Patrick Howell O'Neill, "How Russian Hackers Infiltrated the US Government for Months Without Being Spotted," *MIT Technology Review*, December 15, 2020, https://www.technologyreview.com/2020/12/15/1014462/how-russian-hackers-infiltrated-the-us-government-for-months-without-being-spotted/ (accessed August 18, 2023), and Isabella Jibilian and Katie Canales, "The US Is Readying Sanctions Against Russia over the SolarWinds Cyber Attack. Here's a Simple Explanation of How the Massive Hack Happened and Why It's Such a Big Deal," *Business Insider*, updated April 15, 2021, https://www.businessinsider.com/solarwinds-hack-explained-government-agencies-cyber-security-2020-12 (accessed October 16, 2023).
290. "FACT SHEET: Imposing Costs for Harmful Foreign Activities by the Russian Government," The White House, April 15, 2021, https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/15/fact-sheet-imposing-costs-for-harmful-foreign-activities-by-the-russian-government/ (accessed August 18, 2023).
291. Jenna McLaughlin, "Justice Department Recovers Majority of Colonial Pipeline Ransom: 'We Turned the Tables on DarkSide,'" Yahoo News, June 7, 2021, https://news.yahoo.com/justice-department-recovers-majority-of-colonial-pipeline-ransom-we-turned-the-tables-on-dark-side-210611828.html (accessed August 18, 2023).
292. Matt Egan and Clare Duffy, "Colonial Pipeline Launches Restart After Six-Day Shutdown," CNN, updated May 12, 2021, https://www.cnn.com/2021/05/12/business/colonial-pipeline-restart/index.html (accessed August 15, 2023).
293. Ryan Browne, "Hackers Behind Colonial Pipeline Attack Reportedly Received $90 Million in Bitcoin Before Shutting Down," CNBC, May 18, 2021, https://www.cnbc.com/2021/05/18/colonial-pipeline-hackers-darkside-received-90-million-in-bitcoin.html (accessed August 18, 2023), and press release, "Department of Justice Seizes $2.3 Million in Cryptocurrency Paid to the Ransomware Extortionists Darkside," U.S. Department of Justice, June 7, 2021, https://www.justice.gov/opa/pr/department-justice-seizes-23-million-cryptocurrency-paid-ransomware-extortionists-darkside (accessed August 18, 2023).
294. BBC News, "JBS: FBI Says Russia-Linked Group Hacked Meat Supplier," June 3, 2021, https://www.bbc.com/news/world-us-canada-57338896 (accessed August 18, 2023).
295. Brett Molina and Mike Snider, "JBS USA, World's Largest Meat Supplier, Shuts Down 9 Beef Plants After Cyberattack; 'Vast Majority' of Plants to Open Wednesday," *USA Today*, June 1, 2021, https://www.usatoday.com/story/money/shopping/2021/06/01/jbs-cyberattack-worlds-largest-meat-supplier-closes-5-beef-plants/7493850002/ (accessed August 18, 2023).
296. Antoaneta Roussi, "Estonia Fends Off 'Extensive' Cyberattack Following Soviet Monument Removal," *Politico*, August 18, 2022, https://www.politico.eu/article/estonia-extensive-cyber-attack-following-soviet-war-monument-removal/ (accessed August 18, 2023).
297. Elise Vincent and Cédric Pietralunga, "Cyberattacks on the Rise in Europe Amidst the War in Ukraine," *Le Monde*, April 3, 2023, https://www.lemonde.fr/en/europe/article/2023/04/03/the-rise-of-cyberattacks-in-europe-amidst-the-war-in-ukraine_6021493_143.html (accessed August 15, 2023).
298. Denis Pinchuk, "Patriotic Russians May Have Staged Cyber Attacks on Own Initiative: Putin," Reuters, June 1, 2017, http://www.reuters.com/article/us-russia-economic-forum-putin-cyber-idUSKBN18S56Y (accessed August 15, 2023).
299. Madeline Halpert, "Major U.S. Airport Websites Hit with Suspected Russian Cyberattacks," *Forbes,* October 11, 2022, https://www.forbes.com/sites/madelinehalpert/article/major-us-airport-websites-hit-with-suspected-russian-cyberattacks/?sh=2c5d13b658df (accessed August 15, 2023).
300. Julia Horowitz and Catherine Nicholls, "European Air Traffic Control Says Attack by 'Pro-Russian Hackers' Not Affecting Flights," CNN, April 21, 2023, https://www.cnn.com/2023/04/21/business/eurocontrol-russia-hackers/index.html (accessed August 18, 2023).
301. Laura Dyrda, "Russian Hackers Disrupt Health System Websites Across US," *Becker's Hospital Review*, updated February 6, 2023, https://www.beckershospitalreview.com/cybersecurity/russian-hackers-disrupt-health-system-websites-across-us.html (accessed August 15, 2023).
302. Press release, "Russian Cyber Operations Against Ukraine: Declaration of the High Representative on Behalf of the European Union," Council of the European Union, May 10, 2022, https://www.consilium.europa.eu/en/press/press-releases/2022/05/10/russian-cyber-operations-against-ukraine-declaration-by-the-high-representative-on-behalf-of-the-european-union/ (accessed August 15, 2023).

303. Press statement by Antony J. Blinken, Secretary of State, "Attribution of Russia's Malicious Cyber Activity Against Ukraine," U.S. Department of State, May 10, 2022, https://www.state.gov/attribution-of-russias-malicious-cyber-activity-against-ukraine/ (accessed August 15, 2023), and Kevin Collier, "E.U., U.K. and U.S. Accuse Russia of Cyberattack on Internet Provider," NBC News, May 10, 2022, https://www.nbcnews.com/tech/security/eu-uk-accuse-russia-cyberattack-internet-provider-rcna28086 (accessed August 15, 2023).

304. James Andrew Lewis, "Cyber War and Ukraine," Center for Strategic and International Studies, June 2022, p. 1, https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/220616_Lewis_Cyber_War.pdf?VersionId=S.iEKeom79InugnYWIcZL4r3Ljuq.ash (accessed August 14, 2023).

305. Estonian Foreign Intelligence Service, *International Security and Estonia 2023*, p. 15.

306. Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*, February 6, 2023, p. 12. Emphasis in original.

Iran

James Phillips

Radical Islamist terrorism in its many forms remains the most immediate global threat to the safety and security of U.S. citizens at home and abroad, and Iran-supported terrorist groups and proxy militias pose some of the greatest potential threats. The Lebanon-based Hezbollah (Party of God) has a long history of executing terrorist attacks against American targets in the Middle East at Iran's direction, and it could be activated to launch attacks inside the United States in the event of a conflict with Iran. Such state-sponsored terrorist attacks represent the greatest potential Iranian threats to the U.S. homeland, at least until Iran develops a long-range ballistic missile capable of targeting the United States or is able to launch devastating cyberattacks against critical U.S. infrastructure.

Threats to the Homeland

Hezbollah Terrorism. Hezbollah, the radical Lebanon-based Shia revolutionary movement, is a clear terrorist threat to international security. Hezbollah terrorists have murdered Americans, Israelis, Lebanese, Europeans, and citizens of many other nations. Founded by Iran in 1982, this Lebanese group has evolved into a global terrorist network that is strongly backed by the regimes in Iran and Syria. Its political wing has dominated Lebanese politics and is funded by Iran and a dark web of charitable organizations, criminal activities, and front companies.

Hezbollah views terrorism not only as a tool that it can use to advance Iran's revolutionary agenda, but also as part of the "global jihad" and therefore a religious duty. Hezbollah helped to introduce and popularize the tactic of suicide bombings in Lebanon in the 1980s, developed a strong guerrilla force and a political apparatus in the 1990s, provoked a war with Israel in 2006, intervened in the Syrian civil war after 2011 at Iran's direction, and has become a major destabilizing influence in the ongoing Arab–Israeli conflict. After the terrorist assault on Israel by Hamas on October 7, 2023, Hezbollah launched multiple but limited rocket attacks against Israel's northern border, and the fighting was gradually escalating as this book was being prepared for the printer.

Before September 11, 2001, Hezbollah had murdered more Americans than had been killed by any other terrorist group. Despite al-Qaeda's increased visibility since then, Hezbollah remains bigger, better equipped, better organized, and potentially more dangerous, partly because it enjoys the support of the world's two chief state sponsors of terrorism: Iran and Syria. Hezbollah's demonstrated capabilities led former Deputy Secretary of State Richard Armitage to characterize it as "the A-Team of Terrorists."[1]

Hezbollah has expanded its operations from Lebanon to regional targets in the Middle East and far beyond the region. Today, it is a global terrorist threat that draws financial and logistical support from its Iranian patrons as well as from the Lebanese Shiite diaspora in the Middle East, Europe, Africa, Southeast Asia, North America, and South America. Hezbollah fundraising and equipment procurement cells have been detected and broken up in the United States and Canada, and Europe is believed to contain many more of these cells.

Hezbollah has been involved in numerous terrorist attacks against Americans, including:

- The April 18, 1983, suicide truck bombing of the U.S. embassy in Beirut, which killed 63 people including 17 Americans;

- The October 23, 1983, suicide truck bombing of the Marine barracks at Beirut Airport, which killed 241 Marines and other personnel deployed as part of the multinational peacekeeping force in Lebanon;

- The September 20, 1984, suicide truck bombing of the U.S. embassy annex in Lebanon, which killed 23 people including two Americans; and

- The June 25, 1996, Khobar Towers bombing, which killed 19 American servicemen who were stationed in Saudi Arabia.

  In addition:

- Hezbollah operatives were later found to have been responsible for the 1984 murder of American University of Beirut President Malcolm Kerr and the June 14, 1985, murder of U.S. Navy diver Robert Stethem, who was a passenger on TWA Flight 847, which was hijacked and diverted to Beirut International Airport.

- In March 1984, Hezbollah kidnapped William Buckley, the CIA station chief in Beirut, who died in captivity in 1985 after being tortured for more than a year.[2]

- Hezbollah was involved in the kidnapping of several dozen Westerners, including 14 Americans, who were held as hostages in Lebanon in the 1980s. The American hostages eventually became pawns that Iran used as leverage in the secret negotiations that led to the Iran–Contra affair in the mid-1980s.

- Hezbollah kidnapped Colonel William Higgins, a Marine officer serving with the United Nations Truce Supervision Organization in Lebanon, in February 1988 and killed him in 1989.

- Hezbollah has launched numerous attacks outside of the Middle East. It perpetrated the two deadliest terrorist attacks in the history of South America: the March 1992 bombing of the Israeli embassy in Buenos Aires, Argentina, that killed 29 people and the July 1994 bombing of a Jewish community center in Buenos Aires that killed 96 people. The trial of those who were implicated in the 1994 bombing revealed an extensive Hezbollah presence in Argentina and other countries in South America.

Hezbollah has escalated its terrorist attacks against Israeli targets in recent years as part of Iran's shadow war against Israel. In 2012, Hezbollah killed five Israeli tourists and a Bulgarian bus driver in a suicide bombing near Burgas, Bulgaria. Hezbollah terrorist plots against Israelis were foiled in Thailand and Cyprus during that same year. Hezbollah and Israel currently are embroiled in an escalating conflict along Israel's northern border that was triggered by Hamas's October 7, 2023, terrorist assault on Israel.

Hezbollah deployed personnel to Iraq after the 2003 U.S. intervention to train and assist pro-Iranian Iraqi Shia militias that were battling the U.S.-led coalition; it also has deployed personnel in Yemen to train and assist the Iran-backed Houthi rebels. In 2013, Hezbollah admitted that it had deployed several thousand militia members to fight in Syria on behalf of the Assad regime. By 2015, Hezbollah forces had become crucial to the survival of the Assad regime after the Syrian army was hamstrung by casualties, defections, and low morale.

Although Hezbollah operates mostly in the Middle East, it has a global reach and has established a presence inside the United States. Cells in the United States generally are focused on fundraising, including criminal activities like the following:

> In a case brought [by the U.S. Department of Justice] against Lebanese Canadian Bank (LCB), two Lebanese money exchange houses, a shipping company, and 30 U.S.-based car dealers, the Government alleged a massive international scheme involving the movement and conversion of criminal proceeds through Lebanon, the United States, and West Africa. The complaint alleged that from 2007 to 2011, at least $329 million was wired from LCB and other overseas financial institutions to the United States. These funds were used to purchase used cars, which were then shipped to and sold in West Africa. Cash from the car sales, along with the proceeds of narcotics trafficking, were then funneled to Lebanon through Hezbollah-controlled money

laundering channels. Funds were then transferred back to the United States for the purchase of additional cars, repeating the cycle.[3]

Covert Hezbollah cells could morph into other forms and launch terrorist operations inside the United States. Given Hezbollah's close ties to Iran and record of executing terrorist attacks on Tehran's behalf, there is a real danger that Hezbollah terrorist cells could be activated inside the United States in the event of a conflict between Iran and the U.S. or between Iran and Israel.

On June 1, 2017, two naturalized U.S. citizens were arrested and charged with providing material support to Hezbollah and conducting preoperational surveillance of military and law enforcement sites in New York City and at Kennedy Airport, the Panama Canal, and the American and Israeli embassies in Panama.[4] Nicholas Rasmussen, then Director of the National Counterterrorism Center, noted that the June arrests were a "stark reminder" of Hezbollah's global reach and warned that Hezbollah "is determined to give itself a potential homeland option as a critical component of its terrorism playbook," which "is something that those of us in the counterterrorism community take very, very seriously."[5]

On July 9, 2019, a New Jersey man who had served for years as a U.S.-based operative for Hezbollah's terrorism-planning wing, was arrested and charged with providing material support to the terrorist group. Alexei Saab, a 42-year-old Lebanese immigrant and naturalized U.S. citizen, scouted such New York City landmarks as the Statue of Liberty and Empire State Building for possible attacks. When he was indicted in September 2019, he was "at least the third American [to have been] charged since 2017 with being an agent for Hezbollah."[6] In May 2023, Saab was sentenced to 12 years in prison after prosecutors said he was part of a Hezbollah sleeper cell waiting to be activated by Iran and had surveilled possible targets in New York, Boston, and Washington as well as in France, Turkey and the Czech Republic.[7]

In January 2020, after a series of attacks on U.S. military personnel and the U.S. embassy in Iraq provoked a U.S. unmanned aerial vehicle (UAV) strike that killed Iranian General Qassem Soleimani, leader of the Quds Force of Iran's Islamic Revolutionary Guard Corps (IRGC), U.S. intelligence officials warned about the potential Hezbollah threat to the U.S. homeland.

- The Department of Homeland Security warned in a January 4, 2020, bulletin that "Iran and its partners, such as Hizballah, have demonstrated the intent and capability to conduct operations in the United States."[8]
- Four days later, the U.S. Intelligence Community warned that if Iran decided to carry out a retaliatory attack in the United States, it "could act directly or enlist the cooperation of proxies and partners, such as Lebanese Hezbollah."[9]
- Then, on January 12, Hezbollah leader Hassan Nasrallah publicly threatened U.S. forces in the Middle East: "The U.S. administration and the assassins will pay a heavy price, and they will discover their miscalculation."[10]

Hezbollah also has a long history of cooperation with criminal networks. On May 27, 2020, U.S. prosecutors announced the indictment of a former Venezuelan politician who sought to recruit terrorists from Hezbollah and Hamas to orchestrate attacks against U.S. interests. Adel El Zabayar, a Venezuelan citizen of Syrian descent who is a close associate of Venezuelan President Nicolás Maduro, traveled to the Middle East in 2014 to obtain weapons and recruit members of Hezbollah and Hamas to train at hidden camps in Venezuela. The goal of this "unholy alliance," according to the U.S. Attorney's Office for the Southern District of New York, was to "create a large terrorist cell capable of attacking United States interests on behalf of the Cartel de Los Soles," a criminal organization that "conspired to export literally tons of cocaine into the U.S."[11]

Iran's Ballistic Missile Threat. Iran has an extensive missile development program that has received key assistance from North Korea as well as (until the imposition of sanctions by the U.N. Security Council) more limited support from Russia and China. Although the U.S. Intelligence Community assesses that Iran does not have an ICBM capability (an intercontinental ballistic missile with a range of 5,500 kilometers or about 2,900 miles), Tehran has worked diligently to develop such a capability under the guise of its space program. Iran is not likely to develop missiles that can reach the United States

until 2025 at the earliest,[12] but it has launched several satellites with space launch vehicles that use similar technology, which could also be adapted to develop an ICBM capability.[13]

On April 22, 2020, Iran launched a military satellite with a new launch vehicle that included such new features as a light carbon fiber casing and a moving nozzle for flight control that is also used in long-range ballistic missiles—clear evidence that Iran continues to improve its capabilities.[14] Iran claimed on June 6, 2023, that it had developed a hypersonic missile that could maneuver in-flight and evade all anti-missile defenses.[15] Tehran's missile arsenal primarily threatens U.S. bases and allies in the Middle East, but Iran eventually could expand the range of its missiles to include the continental United States. Iran is the only country that is known to have developed missiles with a range of 2,000 kilometers without first having nuclear weapons.[16]

Threat of Regional War

The Middle East region is one of the most complex, lethal, and volatile threat environments faced by the United States and its allies. Iran, Hezbollah, and Iran-supported proxy groups pose actual or potential threats both to America's interests and to those of its allies.

Iranian Threats in the Middle East. Iran is led by an anti-Western revolutionary regime that seeks to tilt the regional balance of power in its favor by driving out the U.S. military presence, undermining and overthrowing opposing governments, and establishing its hegemony over the oil-rich Persian Gulf region. It also seeks to radicalize Shiite communities and advance their interests against Sunni rivals. Iran has a long record of sponsoring terrorist attacks against American targets and U.S. allies in the region.

Iran's conventional military forces, although relatively weak by Western standards, are large compared to those of Iran's smaller neighbors. Iran's armed forces remain dependent on major weapons systems and equipment that were imported from the U.S. before the country's 1979 revolution, and Western sanctions have limited the regime's ability to maintain or replace these aging weapons systems, many of which were depleted in the 1980–1988 Iran–Iraq war. Iran also has not been able to import large numbers of modern armor, combat aircraft, longer-range surface-to-surface missiles, or major naval warships.

Tehran, however, has managed to import modern Russian and Chinese air-to-air, air-to-ground, air defense, anti-armor, and anti-ship missiles to upgrade its conventional military and asymmetric forces.[17] It also has developed its capacity to reverse engineer and build its own versions of ballistic missiles, rockets, UAVs, minisubmarines, and other weapon systems. To compensate for its limited capability to project conventional military power, Tehran has focused on building up its asymmetric warfare capabilities, proxy forces, and ballistic missile and cruise missile capabilities. For example, partly because of the limited capabilities of its air force, Iran developed UAVs during the Iran–Iraq war, including at least one armed model that carried up to six RPG-7 rounds in what may have been the world's first use of UAVs in combat.[18]

The July 2015 Iran nuclear agreement—formally known as the Joint Comprehensive Plan of Action (JCPOA)—lifted nuclear-related sanctions on Iran in January 2016, gave Tehran access to about $100 billion in restricted assets, and allowed Iran to expand its oil and gas exports, the chief source of its state revenues.[19] Relief from the burden of sanctions helped Iran's economy and enabled Iran to enhance its strategic position, military capabilities, and support for surrogate networks and terrorist groups.

In May 2016, Tehran announced that it was increasing its military budget for 2016–2017 to $19 billion—90 percent more than the previous year's budget.[20] Estimating total defense spending is difficult both because of Tehran's opaque budget process and because spending on some categories, including Iran's ballistic missile program and military intervention in Syria, is hidden. Nevertheless, the International Institute for Strategic Studies (IISS) has estimated that after the Trump Administration withdrew from the nuclear agreement and reimposed sanctions, Iran's defense spending fell from an estimated $21.9 billion in 2018 to $17.4 billion in 2019.[21] In 2020, according to the IISS, defense spending declined again to an estimated $14.1 billion.[22] Although changes in Iran's reporting system in 2020 complicated the comparison of year-to-year data, it was estimated that Iran's defense spending in 2021 increased by a modest 2.4 percent over 2019 levels because of improvements in the economy as Iran adapted to U.S. sanctions and exported more oil to China.[23]

MAP 9

Iranian Missile Systems: Maximum Ranges

2,000 km Shahab 3/Emad-1/Sejjil MRBMs

750 km Qiam-1 SRBM

700 km Zolfaghar SRBM

500 km Shahab 2 SRBM and Fateh-110

300 km Shahab 1

SOURCE: U.S. Department of Defense, Defense Intelligence Agency, *Iran Military Power: Ensuring Regime Survival and Securing Military Dominance*, 2019, p. 43, https://www.dia.mil/Portals/110/Images/News/Military_Powers_Publications/ Iran_Military_Power_LR.pdf (accessed September 8, 2023).

heritage.org

The 2015 nuclear agreement also enabled Tehran to emerge from diplomatic isolation and strengthen strategic ties with Russia.

- Russian President Vladimir Putin traveled to Iran in November 2015 to meet with Supreme Leader Ayatollah Ali Khamenei and other officials. Both regimes called for enhanced military cooperation, particularly in Syria where both had deployed military forces in support of President Bashir al-Assad's brutal regime.
- During Iranian President Hassan Rouhani's visit to Russia in March 2017, Putin proclaimed his intention to raise bilateral relations to the level of a "strategic partnership."[24]
- On June 9, 2018, during the Shanghai Cooperation Organization (SCO) summit, Putin noted that Iran and Russia were "working well together to settle the Syrian crisis" and promised Rouhani that he would support Iran's entry into the SCO.[25] Membership in the SCO, which Iran subsequently joined in September 2022, has enabled Tehran to escape diplomatic isolation and increase its cooperation with Russia and China.

This growing strategic relationship has strengthened Iran's military capabilities. In April 2016, Tehran announced that Russia had begun deliveries of up to five S-300 Favorit long-range surface-to-air missile systems, which can track as many as 100 aircraft and engage six of them simultaneously at a range of 200 kilometers.[26] The missile system, which was considered a defensive weapon and not included in the U.N. arms embargo on Iran, was deployed and became operational in 2017, giving Iran a "generational improvement in capabilities over its other legacy air defense systems" according to Defense Intelligence Agency Director Lieutenant General Robert Ashley.[27]

In 2016, Iranian Defense Minister Hossein Deghan traveled to Moscow "to negotiate a series of important weapons deals with Russia" that included the purchase of advanced Sukhoi Su-30 Flanker fighter jets. These warplanes would significantly improve Iran's air defense and long-range strike capabilities, although under the terms of the 2015 Iran nuclear agreement, they could not be delivered until after the U.N. arms embargo expired in October 2020. It was also reported that Tehran was "close to finalizing a deal for purchase and licensed production of Russia's modern T-90S main battle tank."[28]

In 2019, the Defense Intelligence Agency assessed that Iran was interested in buying Russian Su-30 fighters, Yak-130 trainers, T-90 tanks, S-400 air defense systems, and Bastian coastal defense systems.[29] So far, Russia and Iran have not officially announced any arms deals, but both sides likely prefer to keep arms deals under the table with Tehran quietly providing drones to Moscow and Moscow reportedly agreeing to provide Su-35 fighter jets to Tehran.[30] Moscow may be waiting to see whether the Iran nuclear agreement can be renegotiated, which would enable it to receive payments from Iran after U.S. financial sanctions were lifted.

In January 2022, President Ebrahim Raisi met with President Putin in Moscow. The two agreed to accelerate the construction of Russian nuclear reactors in Bushehr, Iran, but Putin appeared to be lukewarm about the draft of a strategic cooperation agreement that Raisi brought with him.[31] Clearly, Iran needs Russia more than Russia needs Iran.

If Iran should succeed in reviving the lapsed nuclear agreement, Russian–Iranian security cooperation could expand significantly. After the 2015 nuclear agreement, Iran and Russia escalated their strategic cooperation in propping up Syria's embattled Assad regime. Iran's growing military intervention in Syria was partly eclipsed by Russia's military intervention and launching of an air campaign against Assad's enemies in September 2015, but Iran's IRGC and surrogate militia groups have played the leading role in spearheading the ground offensives that have retaken territory from Syrian rebel groups and tilted the military balance in favor of Assad's regime.

- From 2013–2015, "Iran expanded its intervention in Syria to as many as 2,000 Iranian military personnel...including IRGCQF, IRGC ground force, and even some *Artesh* (Iran national military) personnel."[32]
- From 2013–2017, "[t]he IRGC-QF recruited other Shia fighters to operat[e] under Iranian command in Syria...with numbers ranging from 24,000–80,000. These figures include not

only Lebanese Hezbollah fighters but also Iraqi militias and brigades composed of Afghan and Pakistani Shias."[33]

- In 2018, Iran reportedly "command[ed] up to 80,000 fighters in Syria—all members of Shiite militias and paramilitary forces loyal to the leadership in Iran—and [had] effectively secured a land corridor via Iraq and Syria reaching Hezbollah in Lebanon."[34]

Working closely with Russia, Iran expanded its military efforts and helped to consolidate a costly victory for the Assad regime. At the height of the fighting in August 2016, Russia temporarily deployed Tu-22M3 bombers and Su-34 strike fighters to an air base at Hamedan in western Iran to strike rebel targets in Syria.[35] After the fall of Aleppo in December 2016, which inflicted a crushing defeat on the armed opposition, Tehran sought to entrench a permanent Iranian military presence in Syria, establishing an elaborate infrastructure of military bases, intelligence centers, UAV airfields, missile sites, and logistical facilities. The IRGC also sought to secure a logistical corridor to enable the movement of heavy equipment, arms, and matériel through Iraq and Syria to bolster Hezbollah in Lebanon.

Iran's military presence in Syria and continued efforts to provide advanced weapons to Hezbollah through Syria have fueled tensions with Israel, which has launched more than 2,000 air strikes against Hezbollah and Iranian forces in Syria to prevent both the transfer of sophisticated arms and the deployment of Iran-backed militias near Israel's border. On February 10, 2018, Iranian forces in Syria launched an armed drone that penetrated Israeli airspace before being shot down. Israel responded with air strikes on IRGC facilities in Syria. On May 9, 2018, Iranian forces in Syria launched a salvo of 20 rockets against Israeli military positions in the Golan Heights, provoking Israel to launch ground-to-ground missiles, artillery salvos, and air strikes against all known Iranian bases in Syria.[36]

Although Russia reportedly helped to arrange the withdrawal of Iranian heavy weapons to positions 85 kilometers from Israeli military positions in the Golan Heights, Moscow later "turned a blind eye" to Iranian redeployments and the threat to Israel that deployment of long-range Iranian weapon systems in Syria represents.[37] On January 13, 2019, Israel launched an air strike against an Iranian arms depot at Damascus International Airport, and the Israeli government revealed that it had launched over 2,000 missiles at various targets in Syria in 2018.[38] Israel remains determined to prevent Iran from establishing forward bases near its borders, and another clash could rapidly escalate into a regional conflict.

By early 2020, Iran reportedly had reduced its military forces in Syria after defeating the rebel military challenge to the Assad regime.[39] However, Iran continues to bolster the strength of its proxies and allies in Syria, particularly Hezbollah, which has embedded itself in the Syrian army's 1st Corps and is recruiting Syrian fighters near the Golan Heights for future attacks on Israel.[40] In January 2021, Israel launched a series of air strikes against Iranian forces and proxy militias in eastern Syria, reportedly to prevent Iranian ballistic missiles, cruise missiles, and UAVs that have been deployed in western Iraq from being deployed inside Syria.[41]

Israel also has targeted Iranian forces and ballistic missiles inside Iraq.[42] On March 12, 2022, the IRGC launched as many as 12 short-range ballistic missiles at a building near Erbil, Iraq, that it claimed was a base used by Israeli intelligence officers.[43] The IRGC publicly claimed responsibility for the attack—a rare admission that signals the intensification of the shadow war between Iran and Israel.

Iran and Russia also have escalated their strategic cooperation in the Ukraine conflict. Russia's disastrous February 2022 invasion of Ukraine was a pivotal event that enhanced bilateral strategic, military, and economic ties with Iran. In July 2022, Putin visited Tehran and approved a $40 billion agreement for Russia's Gazprom to upgrade Iran's oil and gas industries. Iranian officials claim that bilateral trade doubled in 2022 and that Russia became Iran's largest foreign investor.[44]

Bilateral military cooperation also has surged. Iran has provided artillery ammunition and hundreds of drones that Russia has used to bombard Ukrainian targets, and "Moscow and Tehran are moving ahead with plans to build a new factory in Russia that could make at least 6,000 Iranian-designed drones for the war in Ukraine" as part of a $1 billion agreement.[45] Although the arms pipeline from Iran to Russia is the most immediate concern, particularly if it expands to include Iranian ballistic

MAP 10

Countries with Iranian Proxy Groups

Country	Militia	Estimated Size
Afghanistan	Taliban	30,000–60,000
	Fatimiyoun Brigade	10,000–15,000
Bahrain	Al-Ashtar Brigades	Unknown
Iraq	Kata'ib Hezbollah	20,000–30,000
	Badr Organization	10,000–30,000
	Asa'ib Ahl al-Haq	5,000–15,000
Lebanon	Hezbollah	30,000–45,000
Pakistan	Zainabiyoun Brigade	2,000–5,000
Palestinian Territories	Hamas	25,000
	Palestinian Islamic Jihad	1,000–8,000
	Harakat al-Sabireen	400–3,000
Syria	Quwat al-Ridha	3,000–3,500
	Baqir Brigade	3,000
Yemen	Houthi Movement	10,000–30,000

0 20,000 40,000 60,000

SOURCE: Kali Robinson and Will Merrow, "Iran's Regional Armed Network," Council on Foreign Relations, last updated March 1, 2021, https://www.cfr.org/article/irans-regional-armed-network (accessed September 9, 2023).

heritage.org

missiles, the destabilizing implications of Russian arms exports to Iran may well be an even greater long-term concern. Moscow reportedly has agreed to provide Tehran with advanced Su-35 fighter jets and to step up collaboration on military training and weapons development.[46]

Iran's Proxy Warfare. Iran has adopted a political warfare strategy that emphasizes irregular warfare, asymmetric tactics, and the extensive use of proxy forces. The Islamic Revolutionary Guard Corps has trained, armed, supported, and collaborated with a wide variety of radical Shia and Sunni militant groups as well as Arab, Palestinian, Kurdish, and Afghan groups that do not share its radical Islamist ideology. The IRGC's elite Quds (Jerusalem) Force has cultivated, trained, armed, and supported numerous proxies, particularly the Lebanon-based Hezbollah; Iraqi Shia militant groups; Palestinian groups such as Hamas and Palestinian Islamic Jihad; and insurgent groups that have fought against the governments of Afghanistan, Bahrain, Egypt, Israel, Iraq, Jordan, Kuwait, Morocco, Saudi Arabia, Turkey, the United Arab Emirates (UAE), and Yemen.

Iran is the world's foremost state sponsor of terrorism and has made extensive efforts to export its radical Shia brand of Islamist revolution. It has established a network of powerful Shia revolutionary groups in Lebanon and Iraq; has cultivated links with Afghan Shia and Taliban militants; and has stirred Shia unrest in Bahrain, Iraq, Lebanon, Saudi Arabia, and Yemen. In recent years, naval forces have regularly intercepted Iranian arms shipments off the coasts of Bahrain and Yemen, and Israel has repeatedly intercepted Iranian arms shipments, including long-range rockets, bound for Palestinian militants in Gaza.

Iranian proxies have targeted U.S. troops in the Middle East in Lebanon in the 1980s, in Saudi Arabia in the 1996 Khobar Towers bombing, in Syria in recent years, and in Iraq since the 2003 overthrow of Saddam Hussein. In April 2019, the Pentagon released an updated estimate of the number of U.S. personnel killed by Iran-backed militias in Iraq, revising the number upward to at least 603 dead between 2003 and 2011. These casualties, about 17 percent of the American death toll in Iraq, "were the result of explosively formed penetrators (EFP), other improvised explosive devices (IED), improvised rocket-assisted munitions (IRAM), rockets, mortars, rocket-propelled grenades (RPG), small-arms, sniper, and other attacks in Iraq" according to a Pentagon spokesman.[47]

In 2019, Tehran ratcheted up surrogate attacks against U.S. troops in Iraq as part of its aggressive campaign to push back against the U.S. "maximum pressure" sanctions campaign and block the negotiation of a revised nuclear agreement with tighter restrictions. After scores of rocket attacks on Iraqi military bases that hosted U.S. personnel, Iran-controlled Shia militias succeeded in killing an American contractor on December 27, 2019. The ensuing crisis quickly escalated. The U.S. launched air strikes against the Kataib Hezbollah militia that launched the attack; pro-Iranian militia members retaliated by trying to burn down the U.S. embassy in Baghdad; and Washington responded on January 2, 2020, with a drone strike that killed General Qassem Soleimani, leader of the IRGC Quds Force, which was orchestrating the attacks. Iran responded with additional proxy attacks and a ballistic missile attack that failed to kill any U.S. troops stationed at Iraqi military bases.[48]

After a February 15, 2021, rocket attack on an airport in Erbil, Iraq, killed a U.S. contractor, the U.S. retaliated with air strikes against seven targets inside Syria that were controlled by two Iran-backed Iraqi militias—Kataib Hezbollah and Kataib Sayyid al-Shuhada—that were found to have been responsible for the Erbil attack.[49] Attacks by Iran-backed militias, including UAV strikes that pose a growing threat to the 2,500 U.S. troops that train and support Iraqi security forces, have continued.[50]

Iran-backed militias also launched attacks against U.S. military forces in Syria, including an October 20, 2021, strike using at least five suicide drones against the small American garrison at Al Tanf. Because of a timely Israeli warning, there were no casualties, but the U.S. failure to respond forcefully to this attack and scores of others has increased the risks to U.S. troops.[51] Iran and its proxies launched 83 drone and rocket attacks on U.S. forces in Iraq and Syria between January 2021 and March 2023, and U.S. forces responded with only four operations.[52] When Israel responded militarily to Hamas's October 7, 2023, rocket and terrorist attacks inside Israel, Iran-backed militias launched rocket and drone attacks against U.S. forces stationed in Syria and Iraq.[53]

As far back as April 20, 2021, Marine Corps General Kenneth McKenzie, then Commander, United

States Central Command, had already warned that Iran's "small- and medium-sized [unmanned aerial system attacks] proliferating across the [USCENTCOM area of responsibility] present a new and complex threat to our forces and those of our partners and allies" and that "[f]or the first time since the Korean War, we are operating without complete air superiority."[54] Pro-Iranian Iraqi militias also launched a failed drone strike in an attempt to assassinate Iraqi Prime Minister Mustafa al-Kadhimi on November 7, 2021.

Terrorist Threats from Hezbollah. Hezbollah is a close ally of, frequent surrogate for, and terrorist subcontractor for Iran's revolutionary Islamist regime. Iran played a crucial role in creating Hezbollah in 1982 as a vehicle that it could use to export its revolution, mobilize Lebanese Shia militants, and develop a terrorist surrogate for attacks on its enemies.

Tehran provides the lion's share of Hezbollah's foreign support: arms, training, logistical support, and money. After the nuclear deal, which offered Tehran substantial relief from sanctions, Tehran increased its aid to Hezbollah, providing as much as $800 million per year according to Israeli officials.[55] In 2020, the U.S. Department of State estimated that Hezbollah was receiving $700 million a year from Iran.[56] Tehran has been lavish in stocking Hezbollah's expensive and extensive arsenal of rockets, sophisticated land mines, small arms, ammunition, explosives, anti-ship missiles, anti-aircraft missiles, and even UAVs that Hezbollah can use for aerial surveillance or remotely piloted terrorist attacks. Iranian Revolutionary Guards have trained Hezbollah terrorists in Lebanon's Bekaa Valley and in Iran.

Iran has used Hezbollah as a club to hit not only Israel and Tehran's Western enemies, but many Arab countries as well. Tehran's revolutionary ideology has fueled Iran's hostility to other Middle Eastern governments, many of which it seeks to overthrow and replace with radical allies. During the 1980–1988 Iran–Iraq war, Iran used Hezbollah to launch terrorist attacks against Iraqi targets and Arab states that sided with Iraq. Hezbollah launched numerous terrorist attacks against Saudi Arabia and Kuwait, which extended strong financial support to Iraq's war effort, and participated in several other terrorist operations in Bahrain and the UAE.

Iranian Revolutionary Guards conspired with the Saudi Arabian branch of Hezbollah to conduct the 1996 Khobar Towers bombing that killed 19 American military personnel. Hezbollah collaborated with the IRGC's Quds Force to destabilize Iraq after the 2003 U.S. occupation and helped to train and advise the Mahdi Army, the radical anti-Western Shiite militia led by militant Iraqi cleric Moqtada al-Sadr, as well as other Iraqi militias. Hezbollah detachments also have cooperated with IRGC forces in Yemen to train and assist the Houthi rebel movement.

Hezbollah threatens the security and stability of the Middle East and Western interests in the Middle East on many fronts. In addition to its murderous actions against Israel, Hezbollah has used violence to impose its radical Islamist agenda and subvert democracy in Lebanon. Some experts mistakenly believed that Hezbollah's participation in the 1992 Lebanese elections and subsequent inclusion in Lebanon's parliament and coalition governments would moderate its behavior, but political inclusion did not lead it to renounce terrorism.

Hezbollah also poses a potential threat to America's NATO allies in Europe. It established a presence inside European countries in the 1980s amid the influx of Lebanese citizens who were seeking to escape Lebanon's civil war and took root among Lebanese Shiite immigrant communities throughout Europe. German intelligence officials have estimated that about 1,250 Hezbollah members and supporters were living in Germany in 2020.[57] Hezbollah also has developed an extensive web of fundraising and logistical support cells throughout Europe.[58]

France and Britain have been the principal European targets of Hezbollah terrorism, partly because both countries opposed Hezbollah's agenda in Lebanon and were perceived as enemies of Iran, Hezbollah's chief patron. Hezbollah has been involved in many terrorist attacks against Europeans, including:

- The October 1983 suicide truck bombing of the French contingent of the multinational peacekeeping force in Lebanon, which killed 58 French soldiers on the same day that the U.S. Marine barracks was bombed;

- The April 1985 bombing of a restaurant near a U.S. base in Madrid, Spain, which killed 18 Spanish citizens;

- A campaign of 13 bombings in France in 1986 that targeted shopping centers and railroad facilities, killing 13 people and wounding more than 250; and

- A March 1989 attempt to assassinate British novelist Salman Rushdie that failed when a bomb exploded prematurely, killing a terrorist in London.

Hezbollah's attacks in Europe trailed off in the 1990s after the group's Iranian sponsors accepted a truce in their bloody 1980–1988 war with Iraq and no longer needed a surrogate to punish states that Tehran perceived as supporting Iraq. However, if Hezbollah decided to revive its aggressive operations in southern Lebanon, European participation in Lebanese peacekeeping operations, which became a lightning rod for Hezbollah terrorist attacks in the 1980s, could again become an issue. Troops from European Union (EU) member states could someday find themselves attacked by Hezbollah with weapons financed by Hezbollah supporters in their home countries.

Hezbollah operatives have been deployed in countries throughout Europe, including Belgium, Bulgaria, Cyprus, France, Germany, and Greece.[59] On April 30, 2020, Germany designated Hezbollah as a terrorist organization after Israel provided intelligence on a stockpile of ammonium nitrate that was stored in a German warehouse and that Hezbollah intended to use to make explosives.

Mounting Missile Threat. Iran "possesses the largest and most diverse missile arsenal in the Middle East."[60] According to the IISS, "Iran's missile forces currently consist of an estimated 20 different types of solid- and liquid-propellant ballistic missiles in service, as well as at least one cruise missile design, with others reportedly under development."[61]

Testifying before the Senate Armed Services Committee in March 2022, General McKenzie estimated that Iran has "over 3,000 ballistic missiles of various types, some of which can reach Tel Aviv, to give you an idea of range. None of them can reach Europe yet, but over the last 5 to 7 years…they have invested heavily in their ballistic missile program."[62]

In June 2017, Iran launched mid-range missiles from its territory against opposition targets in Syria. This was Iran's first such operational use of mid-range missiles in almost 30 years, but it was not as successful as Tehran might have hoped. It was reported that three of the five missiles that were launched missed Syria altogether and landed in Iraq and that the remaining two landed in Syria but missed their intended targets by miles.[63]

Iran launched a much more successful attack on September 14, 2019, using at least 18 UAVs and three low-flying cruise missiles to destroy parts of the Saudi oil processing facility at Abqaiq and the oil fields at Khurais. The precisely targeted attack shut down half of Saudi Arabia's oil production, which was approximately equivalent to 5 percent of global oil production. Although Iran denied responsibility, U.S. intelligence sources identified the launch site as the Ahvaz air base in southwest Iran about 650 kilometers north of Abqaiq.[64]

Iran also used ballistic missiles to attack two Iraqi bases hosting U.S. military personnel on January 8, 2020, in retaliation for an earlier U.S. strike that killed IRGC Quds Force commander General Qassem Soleimani. Of the 16 short-range ballistic missiles launched from three bases inside Iran, 12 reached their targets: 11 struck al-Asad air base in western Iraq, and one struck a base near the northern Iraqi city of Irbil.[65] No U.S. personnel were killed, but more than 100 were later treated for traumatic brain injuries.

The backbone of the Iranian ballistic missile force is the Shahab series of road-mobile surface-to-surface missiles. Based on Soviet-designed Scud missiles, the Shahabs are potentially capable of carrying nuclear, chemical, or biological warheads in addition to conventional high-explosive warheads. Their relative inaccuracy (compared to NATO ballistic missiles) limits their effectiveness unless they are employed against large soft targets like cities. Tehran's heavy investment in such weapons has fueled speculation that the Iranians intend eventually to replace the conventional warheads on their longer-range missiles with nuclear warheads. As noted, Iran is the only country known to have developed missiles with a range of 2,000 kilometers without already having a nuclear capability.[66]

Iran is not a member of the Missile Technology Control Regime. Instead, it has moved aggressively to acquire, develop, and deploy a wide spectrum of ballistic missile, cruise missile, and space launch capabilities. During the Iran–Iraq war, Iran acquired Soviet-made Scud-B missiles from Libya and later

MAP 11

Iran's Nuclear Infrastructure

1. Karaj Agricultural and Medical Center
2. Tehran Research Reactor
3. Fordow Fuel Enrichment Plant
4. Arak Heavy-Water Reactor
5. Natanz Underground Centrifuge Manufacturing Center
6. Isfahan Nuclear Research Center
7. Isfahan Uranium Conversion Facility
8. Fuel Manufacturing Plant
9. Natanz Fuel Enrichment Plant
10. Saghand Mine
11. Yellow Cake Production Plant
12. Darkhovin Nuclear Power Plant
13. Bushehr Nuclear Power Plant
14. Gchine Mine

NOTE: Locations are approximate.

SOURCES: International Crisis Group, "The Iran Nuclear Deal at Six: Now or Never," *Report* No. 230, January 17, 2022, https://www.crisisgroup.org/middle-east-north-africa/gulf-and-arabian-peninsula/iran/230-iran-nuclear-deal-six-now-never (accessed September 9, 2023), and Jon Gambrell, "An Iranian Nuclear Facility Is So Deep Underground that US Airstrikes Likely Couldn't Reach It," Associated Press, May 22, 2023, https://apnews.com/article/iran-nuclear-natanz-uranium-enrichment-underground-project-04dae673fc937af04e62b65dd78db2e0 (accessed September 9, 2023).

heritage.org

acquired North Korean–designed Scud-C and No-dong missiles, which it renamed the Shahab-2 (with an estimated range of 500 kilometers or 310 miles) and Shahab-3 (with an estimated range of 900 kilometers or 560 miles). It now can produce its own variants of these missiles as well as longer-range Ghadr-1 and Qiam missiles.[67]

Iran's Shahab-3 and Ghadr-1, which is a modified version of the Shahab-3 with a smaller warhead but greater range (about 1,600 kilometers or 1,000 miles), are considered more reliable and advanced than the North Korean No-dong missile from which they are derived. Although early variants of the Shahab-3 missile were relatively inaccurate, "Iran has employed Chinese guidance technology on later variants to significantly improve strike accuracy."[68] In 2014, then-Defense Intelligence Agency Director Lieutenant General Michael T. Flynn warned that:

> Iran can strike targets throughout the region and into Eastern Europe. In addition to its growing missile and rocket inventories, Iran is seeking to enhance [the] lethality and effectiveness of existing systems with improvements in accuracy and warhead designs. Iran is developing the Khalij Fars, an anti-ship ballistic missile which could threaten maritime activity throughout the Persian Gulf and Strait of Hormuz. Iran's Simorgh space launch vehicle shows the country's intent to develop intercontinental ballistic missile (ICBM) technology.[69]

Iran's ballistic missiles threaten U.S. bases and allies from Turkey, Israel, and Egypt to the west to Saudi Arabia and the other Gulf States to the south and former allies Afghanistan and Pakistan to the east. Iran also has become a center for missile proliferation by exporting a wide variety of ballistic missiles, cruise missiles, and rockets to the Assad regime in Syria and such proxy groups as Hezbollah, Hamas, Palestinian Islamic Jihad, the Houthi rebels in Yemen, and Iraqi militias. The Houthi Ansar Allah group has launched hundreds of Iranian-supplied ballistic missiles and armed drones against targets in Saudi Arabia and the UAE, which launched a military campaign against the group in 2015 in support of Yemen's government. On January 24, 2022, the Houthis launched two ballistic missiles at Al Dhafra air base in the UAE, which hosts roughly 2,000 U.S. military personnel who took shelter in security bunkers as the incoming missiles were intercepted by Patriot surface-to-air missiles.[70]

However, it is Israel, which has fought a shadow war with Iran and its terrorist proxies, that is most at risk from an Iranian missile attack. In case the Israeli government had any doubt about Iran's implacable hostility, the Revolutionary Guard Corps, which controls most of Iran's strategic missile systems, displayed a message written in Hebrew on the side of one of the Iranian missiles tested in March 2016: "Israel must be wiped off the earth."[71] The development of nuclear warheads for Iran's ballistic missiles would significantly degrade Israel's ability to deter major Iranian attacks (an ability that the existing but not officially acknowledged Israeli nuclear weapons arsenal currently provides).

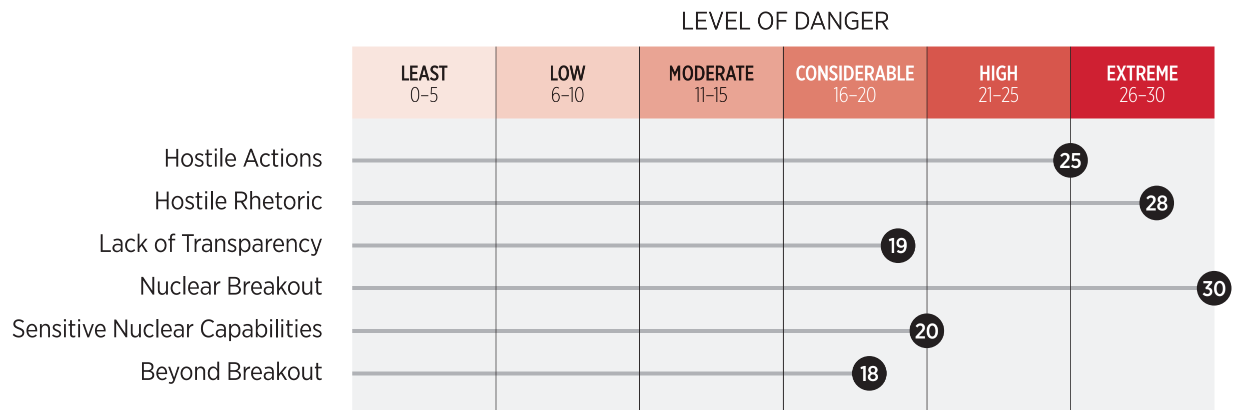
For Iran's radical regime, hostility to Israel, which Tehran sometimes calls the "Little Satan," is second only to hostility to the United States, which the leader of Iran's 1979 revolution, Ayatollah Khomeini, dubbed the "Great Satan." However, Iran poses a greater immediate threat to Israel than it does to the United States: Israel is a smaller country, has fewer military capabilities, and is located much closer to Iran and already within range of Iran's Shahab-3 missiles.

Moreover, the thousands of shorter-range rockets that Iran has provided to Hezbollah in Lebanon and to Hamas and Palestinian Islamic Jihad in Gaza can hit all of Israel. In April 2021, Hamas and Palestinian Islamic Jihad launched more than 4,000 rockets and missiles in an 11-day miniwar with Israel.[72] Israeli air strikes imposed a heavy toll on militant leaders, terrorist infrastructure, and weapons stores that apparently served as an effective deterrent against another round of Hamas rocket terrorism, at least in the short term, but Palestinian Islamic Jihad, a smaller and more militant terrorist group that is tightly controlled by Iran, launched a three-day rocket campaign against Israel in August 2022 and another four-day assault from May 9–13, 2023, in which it fired 1,469 rockets at Israeli civilian areas, killing two people, before Egypt was able to arrange a cease-fire.[73]

Hezbollah, which targeted Israel with more than 4,000 rockets and missiles in the 2006 war, has an arsenal of as many as 150,000 rockets and missiles that it could use to bombard Israel with

CHART 10

Iran Poses High Level of Danger



SOURCE: Institute for Science and International Security, "The Iran Threat Geiger Counter: Moving Toward Extreme Danger," May 10, 2023, https://isis-online.org/isis-reports/detail/may-2023-the-iran-threat-geiger-counter-moving-toward-extreme-danger/8 (accessed September 9, 2023).

an estimated 1,500 strikes per day.[74] According to unconfirmed reports, hundreds of these rockets are armed with chemical warheads.[75] In addition to transferring increasingly accurate and longer-range rockets to Hezbollah, Iran has transferred increasingly advanced drones, expanding Hezbollah's arsenal to as many as 2,000 drones.[76]

If Iran and Israel were to escalate their shadow war to a full-scale war, which seems increasingly likely in view of the October 2023 Hamas terrorist offensive against Israel, Israel would likely be attacked by Iranian rockets, missiles, and drones launched not only by Iranian military forces, but also by Iranian proxy groups based in Lebanon, Syria, Gaza, Iraq, and Yemen. After Hamas triggered another war with Israel in October 2023, Hezbollah launched (so far) limited but escalating attacks against Israel's northern border, and Iran's Houthi proxies launched a salvo of cruise missiles and drones at Israel that were intercepted on October 19 by a U.S. destroyer deployed in the Red Sea.[77]

Weapons of Mass Destruction. Tehran has invested tens of billions of dollars since the 1980s in a nuclear weapons program that it sought to conceal within its civilian nuclear power program. It built clandestine but subsequently discovered underground uranium enrichment facilities near Natanz and Fordow and a heavy-water reactor near Arak that would generate plutonium to give it a second potential route to nuclear weapons.[78]

Before the 2015 nuclear deal, Iran had accumulated enough low-enriched uranium to build eight nuclear bombs (assuming that the uranium was enriched to weapon-grade levels). In November 2015, the Wisconsin Project on Nuclear Arms Control reported that "[b]y using the approximately 9,000 first generation centrifuges operating at its Natanz Fuel Enrichment Plant as of October 2015, Iran could theoretically produce enough weapon-grade uranium to fuel a single nuclear warhead in less than 2 months."[79]

Clearly, the development of a nuclear bomb would greatly amplify the threat posed by Iran. Even if Iran did not use a nuclear weapon or pass it on to one of its terrorist surrogates to use, the regime could become emboldened to expand its support for terrorism, subversion, and intimidation, presuming that its nuclear arsenal would protect it from retaliation as has been the case with North Korea.

On July 14, 2015, President Barack Obama announced that the United States had reached "a comprehensive, long-term deal with Iran that will prevent it from obtaining a nuclear weapon."[80] The

short-lived agreement, however, did a much better job of dismantling sanctions against Iran than it did of dismantling Iran's nuclear infrastructure, much of which was allowed to remain functional subject to weak restrictions, some of them only temporary. This flaw led President Donald Trump to withdraw the U.S. from the agreement on May 8, 2018, and reimpose sanctions.[81]

In fact, the agreement did not specify that any of Iran's covertly built facilities would have to be dismantled. The Natanz and Fordow uranium enrichment facilities were allowed to remain in operation, although the latter facility was to be repurposed at least temporarily as a research site. The heavy-water reactor at Arak was also retained with modifications that would reduce its yield of plutonium. All of these facilities, built covertly and housing operations prohibited by multiple U.N. Security Council resolutions, were legitimized by the agreement.

The Iran nuclear agreement marked a risky departure from more than five decades of U.S. nonproliferation efforts under which Washington opposed the spread of sensitive nuclear technologies such as uranium enrichment even to allies. Iran got a better deal on uranium enrichment under the agreement than such U.S. allies as the UAE, South Korea, and Taiwan have received from Washington in the past. In fact, the Obama Administration gave Iran better terms on uranium enrichment than President Gerald Ford's Administration gave the Shah of Iran, a close U.S. ally before the 1979 revolution, who was denied independent reprocessing capabilities.

President Trump's decision to withdraw from the nuclear agreement marked a return to long-standing U.S. nonproliferation policy. Iran, Britain, France, Germany, the EU, China, and Russia sought to salvage the agreement but were unable to offset the strength of U.S. nuclear sanctions that were fully reimposed by November 4, 2018, after a 180-day wind-down period.

Iran initially adopted a policy of "strategic patience," seeking to preserve as much of the agreement's relief from sanctions as it could while hoping to outlast the Trump Administration and deal with a more pliable successor Administration after the 2020 elections. The Trump Administration, however, increased sanctions to unprecedented levels under its "maximum pressure" campaign. On April 8, 2019, it designated Iran's Revolutionary Guards as a foreign terrorist organization. Because the Revolutionary Guards are extensively involved in Iran's oil, construction, and defense industries, this allowed U.S. sanctions to hit strategic sectors of Iran's economy harder that otherwise might have been the case.[82] On April 22, 2019, Secretary of State Mike Pompeo announced that the Administration would eliminate waivers for Iran's remaining oil exports on May 2 and seek to zero them out entirely.[83]

Although President Trump made it clear that he sought a new agreement on Iran's nuclear program, Tehran refused to return to the negotiating table. Instead, it sought to pressure European states into protecting it from the effects of U.S. sanctions.

On May 8, 2019, Iranian President Rouhani announced that Iran would no longer comply with the 2015 nuclear agreement's restrictions on the size of Iran's stockpiles of enriched uranium and heavy water.[84] Tehran gave the Europeans 60 days to deliver greater sanctions relief, specifically with respect to oil sales and banking transactions, and warned that if the terms of its ultimatum were not met by July 7, 2019, it would incrementally violate the restrictions set by the JCPOA. Since then, Iran has escalated its noncompliance with the agreement in a series of major violations that include breaching the caps on uranium enrichment, research and development of advanced centrifuges, numbers of operating centrifuges, and resuming enrichment at the fortified underground Fordow facility. When announcing the fifth breach in January 2020, Iran stated that its uranium enrichment program no longer faced any restrictions.[85]

By February 2021, Iran had accumulated about 4,390 kilograms of low-enriched uranium and had reduced its estimated breakout time (the time needed to produce enough weapon-grade uranium for one nuclear weapon) to as little as 2.7 months with enough enriched uranium to arm three nuclear weapons within six months if it continued to enrich to higher levels.[86] In April 2021, Iran began to enrich its uranium to 60 percent, a short step away from the weapon-grade level of 90 percent. By June 2022, Iran's breakout time had fallen to zero. It had acquired enough highly enriched uranium to arm a bomb within weeks if further enriched and could acquire enough for five bombs within six months.[87] Gen. Mark Milley, chairman of the Joint Chiefs of Staff, in testimony before the House Appropriations Subcommittee on Defense on March 23, 2023, assessed that: "From the time of an Iranian

decision...Iran could produce fissile material for a nuclear weapon in less than two weeks, and would only take several more months to produce an actual nuclear weapon."[88]

Although Tehran is not known to have enriched uranium to weapon-grade levels (90 percent) so far, it has enriched a small quantity to nearly 84 percent. Specifically:

> [I]n January 2023, Iran made an undeclared change in the operation of two advanced centrifuge cascades at the Fordow Fuel Enrichment Plant (FFEP), followed by the IAEA's detection of near 84 percent highly enriched uranium (HEU) particles at the cascades, which Iran had declared were enriching only up to 60 percent HEU. Iran's explanation was that unintended fluctuations occurred.[89]

Iran essentially has become a threshold nuclear power and seeks to leverage that status to gain additional concessions from the U.S. at the multilateral nuclear negotiations in Vienna, Austria. Those talks, begun in April 2021, had been frozen since March 2022, largely because of Iran's insistence that it gain sanctions relief for the IRGC, which Washington has designated as a foreign terrorist organization. Two days of new "last-gasp talks," facilitated by representatives from the EU, were attempted in Doha in June 2022 but ended abruptly when disputes about sanctions and Iran's request for a guarantee that no future U.S. government would seek to withdraw from the agreement could not be resolved.[90] In late 2022, the Biden Administration revived indirect negotiations, ostensibly to reach agreement on a more limited nuclear accord that would also free three American citizens held hostage by Tehran.[91]

Iran's accelerating nuclear program prompted Israel to step up its covert efforts to sabotage Iran's nuclear progress. Israel had worked with the U.S. to sabotage Iran's centrifuge operations with the Stuxnet virus cyberattacks before the 2015 agreement and had unilaterally launched operations to assassinate Iranian nuclear scientists.

Israel paused the assassination campaign during the run-up to the 2015 nuclear agreement but then escalated its covert efforts after the 2018 U.S. withdrawal from the agreement. Iran's top nuclear scientist, Mohsen Fakhrizadeh, was killed by a remote-controlled machine gun on November 27, 2020.[92] On April 11, 2021, Iran's uranium enrichment efforts were disrupted by an explosion that cut power and damaged centrifuges at the underground Natanz enrichment facility in an incident that Tehran attributed to Israeli sabotage.[93] Israel also launched sabotage and drone attacks against Iran's ballistic missile and drone facilities and expanded covert attacks inside Iran to include the May 22, 2022, assassination of Colonel Hassan Sayyad Khodaei, the head of the IRGC unit that targeted Israelis for terrorist attacks. The expanded attacks on non-nuclear targets reportedly were executed as part of Israel's "Octopus Doctrine" under which Israel seeks to retaliate for Iranian proxy attacks by targeting the head of the octopus rather than its tentacles.[94]

Iran also is a declared chemical weapons power that used chemical weapons in its war against Iraq after the Iraqis conducted chemical attacks. Tehran claims to have destroyed all of its stockpiles of chemical weapons, but it has never fully complied with the Chemical Weapons Convention or declared its holdings.[95] U.S. intelligence agencies have assessed that Iran maintains "the capability to produce chemical warfare (CW) agents and 'probably' has the capability to produce some biological warfare agents for offensive purposes, if it made the decision to do so."[96]

Iranian Threats to Israel. In addition to ballistic missile threats from Iran, Israel faces the constant threat of attack from Palestinian, Lebanese, Egyptian, Syrian, and other Arab terrorist groups, including many that are supported by Iran. The threat posed by Arab states, which lost four wars against Israel in 1948, 1956, 1967, and 1973 (Syria and the PLO lost a fifth war in 1982 in Lebanon), has gradually declined. Egypt, Jordan, the UAE, Bahrain, and Morocco have signed peace treaties with Israel, and Iraq, Libya, Syria, and Yemen have been distracted by civil wars. At the same time, however, unconventional military and terrorist threats from an expanding number of substate actors have risen substantially.

Iran has systematically bolstered many of these groups, including some whose ideology it does not necessarily share. Today, for example, Iran's surrogates Hezbollah and Palestinian Islamic Jihad, along with more distant ally Hamas, are the chief immediate security threats to Israel. After Israel's May 2000 withdrawal from southern Lebanon and

the September 2000 outbreak of fighting between Israelis and Palestinians, Hezbollah stepped up its support for such Palestinian extremist groups as Hamas, Palestinian Islamic Jihad, the al-Aqsa Martyrs' Brigades, and the Popular Front for the Liberation of Palestine. It also expanded its own operations in the West Bank and Gaza and provided funding for specific attacks launched by other groups. Iranian and Hezbollah support and training enabled Hamas and Palestinian Islamic Jihad to launch their cross-border terrorist attacks against Israel in October 2023.

In July 2006, Hezbollah forces crossed the Lebanese border to kidnap Israeli soldiers inside Israel, igniting a military clash that claimed hundreds of lives and severely damaged the economies on both sides of the border. Hezbollah has since rebuilt its depleted arsenal with help from Iran and Syria and has amassed at least 130,000 rockets and missiles—more than all of the European members of NATO combined.[97] Some of the most dangerous are long-range Iranian-made missiles that are capable of striking cities throughout Israel.[98] In recent years, under cover of the war in Syria, Iran has provided Hezbollah with increasingly sophisticated, accurate, and longer-range weapons as well as guidance kits that upgrade the accuracy of older rockets.[99] Iran and Hezbollah also have established another potential front against Israel in Syria.

Since Israel's withdrawal from the Gaza Strip in 2005, Hamas, Palestinian Islamic Jihad, and other terrorist groups have fired more than 11,000 rockets into Israel during brief wars in 2008–2009, 2012, and 2014.[100] More than 5 million Israelis out of a total population of 8.1 million live within range of rocket attacks from Gaza, although the successful operation of Israel's Iron Dome anti-missile system has greatly mitigated this threat in recent years. In the 2014 Gaza war, Hamas also unveiled a sophisticated tunnel network that it used to infiltrate Israel so that it could launch attacks on Israeli civilians and military personnel.

In early May 2019, Palestinian Islamic Jihad ignited another round of fighting in Gaza during which "Hamas and other groups fired about 700 rockets into Israel on May 4 alone—for comparison, in 2014 they fired fewer than 200 rockets per day."[101] In May 2021, Hamas and Palestinian Islamic Jihad launched another 11-day war during which they fired about 4,300 rockets at Israel, killing 12 Israelis while suffering more than 240 Palestinian deaths, including roughly 200 militants, according to Israel.[102] Although Hamas refrained from joining Palestinian Islamic Jihad in launching rocket attacks against Israel in August 2022 and May 2023, Iran has pressed it to participate in a joint operations room with the IRGC, Hezbollah, and Palestinian Islamic Jihad as part of Tehran's efforts to coordinate a multi-front war against Israel.[103] Gaza remains a flash point that could trigger another conflict with little warning, as demonstrated by the surprise attacks launched by Hamas and Palestinian Islamic Jihad in October 2023.

Threats to Saudi Arabia and Other Members of the Gulf Cooperation Council. In 1981, Saudi Arabia and the five other Arab Gulf States—Bahrain, Kuwait, Oman, Qatar, and the UAE—formed the Gulf Cooperation Council (GCC) to deter and defend against Iranian aggression. Iran remains the primary external threat to their security. Tehran has supported groups that launched terrorist attacks against Bahrain, Iraq, Kuwait, Saudi Arabia, the United Arab Emirates, and Yemen.

Iran sponsored the Islamic Front for the Liberation of Bahrain, a surrogate group that plotted a failed 1981 coup against Bahrain's ruling Al Khalifa family, the Sunni rulers of the predominantly Shia country. Iran also has long backed Bahraini branches of Hezbollah and the Dawa Party. When Bahrain was engulfed in a wave of Arab Spring protests in 2011, its government charged that Iran again exploited the protests to back the efforts of Shia radicals to overthrow the royal family. Saudi Arabia, fearing that a Shia revolution in Bahrain would incite its own restive Shia minority, led a March 2011 GCC intervention that backed Bahrain's government with about 1,000 Saudi troops and 500 police from the UAE.

Bahrain has repeatedly intercepted shipments of Iranian arms, including sophisticated bombs employing explosively formed penetrators. The government withdrew its ambassador to Tehran when two Bahrainis with ties to the IRGC were arrested after their arms shipment was intercepted off Bahrain's coast in July 2015.

Iranian hard-liners have steadily escalated their pressure on Bahrain. In March 2016, a former IRGC general who is a close adviser to Ayatollah Khamenei stated that "Bahrain is a province of Iran that should be annexed to the Islamic Republic of

Iran."[104] After Bahrain stripped a senior Shiite cleric, Sheikh Isa Qassim, of his citizenship, General Qassim Suleimani, commander of the IRGC's Quds Force, threatened to make Bahrain's royal family "pay the price and disappear."[105]

Saudi Arabia has criticized Iran for supporting radical Saudi Shiites, intervening in Syria, and supporting Shiite Islamists in Lebanon, Iraq, and Yemen. In January 2016, Saudi Arabia executed a Shiite cleric charged with sparking anti-government protests and cut diplomatic ties with Iran after Iranian mobs responded to the execution by attacking and setting fire to the Saudi embassy in Tehran.[106] A China-brokered détente between Iran and Saudi Arabia in March 2023 cleared the way for the reopening of embassies in their respective capitals, but the Saudi government remains wary of Tehran, which has broken many diplomatic agreements with impunity.

In addition to military threats from Iran, Saudi Arabia and the other GCC states face terrorist threats and possible rebellions by Shia or other disaffected internal groups that are supported by Tehran. Iran has backed Shiite terrorist groups against Saudi Arabia, Bahrain, Iraq, and Kuwait and has supported the Shiite Houthi rebels in Yemen. In March 2015, Saudi Arabia led a 10-country coalition that launched a military campaign against Houthi forces and provided support for ousted Yemeni President Abdu Rabu Mansour Hadi, who took refuge in Saudi Arabia. The Saudi Navy also established a blockade of Yemeni ports to prevent Iran from aiding the rebels.

The Houthis have retaliated by launching Iranian-supplied missiles at military and civilian targets in Saudi Arabia and the UAE, including ballistic missile attacks on airports, Riyadh, and other cities as well as cruise missile strikes. In December 2017, the Houthis launched a cruise missile attack on an unfinished nuclear reactor in Abu Dhabi.

The Houthis also have made extensive use of UAVs and UCAVs (unmanned combat aerial vehicles, or armed drones). A Houthi UCAV attacked a military parade in Yemen in January 2019, killing at least six people including Yemen's commander of military intelligence, and longer-range UCAVs were used in a coordinated attack on Saudi Arabia's East–West pipeline on May 14, 2019.[107] The Houthis have employed Iranian Sammad-2 and Sammad-3 UCAVs in strikes against Riyadh, Abu Dhabi International Airport in the UAE, and other targets.[108]

In addition, the Houthis have steadily increased their attacks. During the first nine months of 2021, Houthi attacks against Saudi Arabia averaged 78 a month, more than double the number from the same period in 2020 when the average was 38 per month.[109] A cease-fire reached in April 2022 to allow negotiations has reduced the scale of the fighting in Yemen, but cross-border attacks could resume if peace negotiations break down.

Threats to the Commons

Critical American interests—sea, air, space, and cyber—are at stake in the Middle Eastern commons. The U.S. has long provided the security backbone in these areas, and this security has supported the region's economic development and political stability.

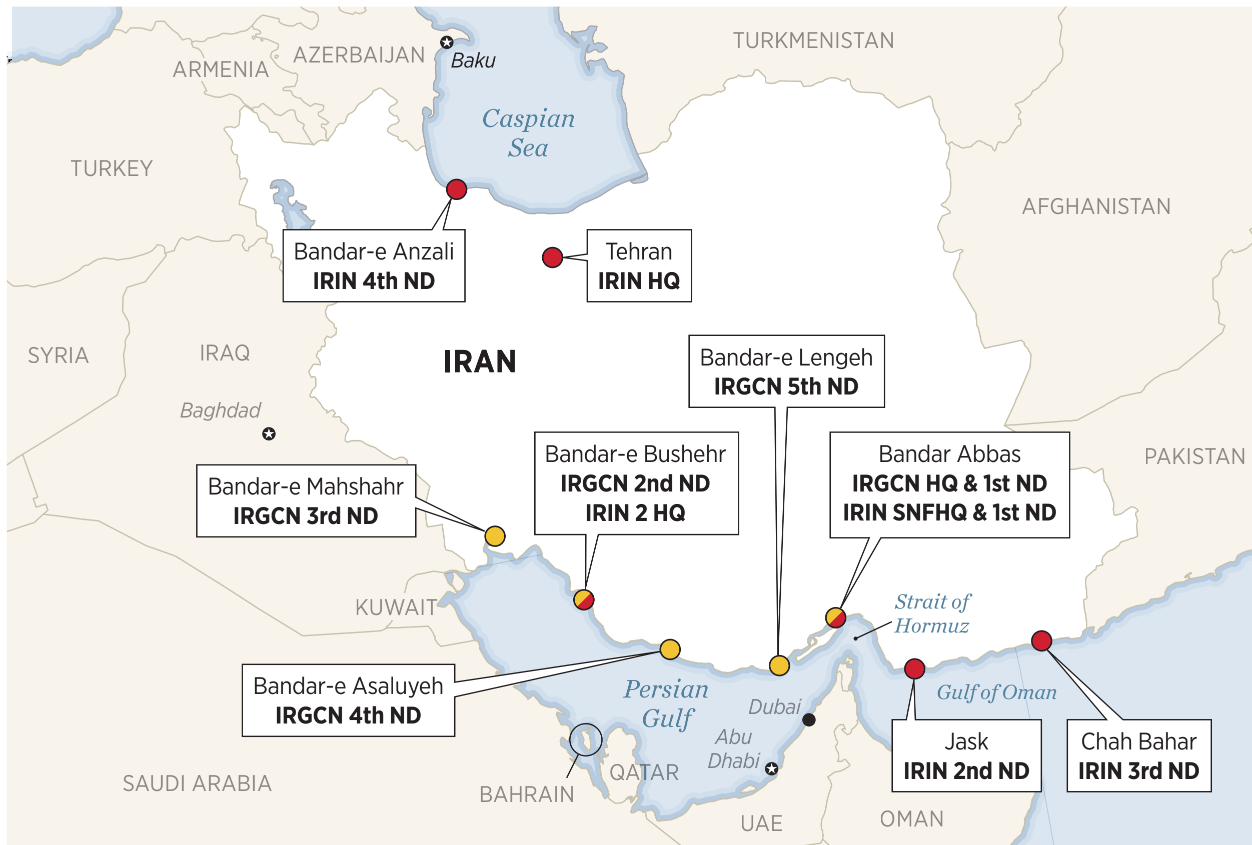
Sea. Maintaining the security of the sea lines of communication in the Persian Gulf, Arabian Sea, Red Sea, and Mediterranean Sea is a high priority for strategic, economic, and energy security purposes. "In 2021," according to the U.S. Energy Administration, "the seven countries in the Persian Gulf produced about 30% of total world crude oil, and they held about 48% of world proved crude oil reserves at the start of 2020."[110] The Persian Gulf is a crucial source of oil and gas for energy-importing states, particularly China, India, Japan, South Korea, and many European countries. Interstate conflict or terrorist attacks could easily interrupt the flow of that oil.

Bottlenecks such as the Strait of Hormuz, Suez Canal, and Bab el-Mandeb Strait are potential choke points for restricting the flow of oil, international trade, and the deployment of U.S. and allied naval forces. Although the United States has reduced its dependence on oil exports from the Gulf, it still would sustain economic damage in the event of a spike in world oil prices, and many of its European and Asian allies and trading partners import a substantial portion of their oil needs from the region.

The world's most important maritime choke point and the jugular vein through which most Gulf oil exports flow to Asia and Europe is the Strait of Hormuz. In 2019, the daily oil flow through the strait averaged about 21 million barrels per day (b/d), the equivalent of about 21 percent of global petroleum liquids consumption.[111] The chief potential threat to the free passage of ships through the

MAP 12

Iranian Naval Headquarters



ND — Naval district

SOURCE: U.S. Department of Defense, Defense Intelligence Agency, *Iran Military Power: Ensuring Regime Survival and Securing Military Dominance*, 2019, p. 43, https://www.dia.mil/Portals/110/Images/News/Military_Powers_Publications/ Iran_Military_Power_LR.pdf (accessed September 8, 2023).

heritage.org

strait is Iran, whose Supreme Leader, Ayatollah Ali Khamenei, proclaimed in 2006 that "[i]f the Americans make a wrong move toward Iran, the shipment of energy will definitely face danger, and the Americans would not be able to protect energy supply in the region."[112]

Iranian officials often reiterate these threats during periods of heightened tension. For example, the chief of staff of Iran's army, Major General Mohammad Baqeri, warned on April 28, 2019, that "if our oil does not pass, the oil of others shall not pass the Strait of Hormuz either."[113] Less than one month later, Iran began to intensify its intimidation tactics against international shipping near the strait.

On May 12, 2019, four oil tankers were damaged by mysterious explosions off the coast of the UAE in the Gulf of Oman. Then-U.S. National Security Adviser John Bolton stated that it was "naval mines almost certainly from Iran" that caused the damage.[114] On June 13, two more tankers were attacked in the Gulf of Oman. Even though Iranian Revolutionary Guards were filmed removing an unexploded limpet mine

from one of the damaged ships, Tehran continued to deny its involvement in all of the attacks.[115] On June 19, an IRGC surface-to-air missile shot down a U.S. surveillance drone in international air space. The U.S. initially planned to launch retaliatory strikes, but President Trump called off the operation.[116] In September, Iran launched a sophisticated UCAV and cruise missile attack on Saudi oil facilities.

Then, in late 2019, Iranian-controlled Iraqi militias launched a series of rocket attacks on Iraqi bases containing U.S. troops, provoking U.S. retaliatory air strikes against those militias and the January 2020 UCAV strike that killed General Qassem Soleimani. Rocket attacks by Iraqi militias have continued, and tensions in Gulf waters remain high.

On May 10, 2020, a missile launched from an Iranian Navy frigate struck another Iranian naval vessel during a military exercise in the Gulf of Oman, killing at least 19 sailors and wounding 15.[117] The incident raised questions about the competence and training of Iran's naval forces. The June 2, 2021, sinking of the *Kharg*, Iran's largest warship, raised similar questions. The *Kharg*, a naval replenishment ship, caught fire and sank in the Gulf of Oman during a training exercise. Iran sustained another setback when its newest frigate, the *Talayieh*, capsized in its dry dock on December 5, 2021.

However, although lax maintenance and safety practices have caused Iran's military forces to suffer numerous accidents, there also has been speculation that some of the incidents might have resulted from covert Israeli attacks. Israel reportedly has attacked at least 12 Iranian vessels transporting oil, arms, and other cargo to Syria to prop up the Assad regime and Hezbollah.[118] It also has been suspected of triggering the April 6, 2021, explosion that damaged the *Saviz*, a converted cargo ship permanently moored in the Red Sea near the coast of Yemen to collect intelligence and support Iran's Houthi allies.[119] For its part, Iran is suspected of at least two attacks on Israeli-owned cargo ships: one on February 25, 2021, in the Gulf of Oman and another on March 25, 2021, in the Arabian Sea.[120] In February 2023, Israel accused Iran of attacking another Israeli-owned oil tanker in the Arabian Sea.[121] Although its contours remain murky, it is clear that the Iran–Israel shadow war has expanded to include maritime attacks.

Iran has a long history of attacking oil shipments in the Gulf. During the Iran–Iraq war, each side targeted the other's oil facilities, ports, and oil exports. Iran escalated attacks to include neutral Kuwaiti oil tankers and terminals and clandestinely laid mines in Persian Gulf shipping lanes while its ally Libya clandestinely laid mines in the Red Sea. The United States defeated Iran's tactics by reflagging Kuwaiti oil tankers, clearing the mines, and escorting ships through the Persian Gulf, but several commercial vessels were damaged during the so-called Tanker War from 1984 to 1987.

Iran's demonstrated willingness to disrupt oil traffic through the Persian Gulf to pressure Iraq economically is a red flag to U.S. military planners. During the 1980s Tanker War, Iran's ability to strike at Gulf shipping was limited by its aging and outdated weapons systems and the arms embargo imposed by the U.S. after the 1979 revolution. Since the 1990s, however, Iran has been upgrading its military with new weapons from North Korea, China, and Russia in addition to domestically manufactured weapons.

Since the Iran–Iraq war, Tehran has invested heavily in developing its naval forces, particularly the IRGC Navy, along unconventional lines. Today, Iran boasts an arsenal of Iranian-built missiles based on Russian and Chinese designs that represent significant threats to oil tankers as well as warships. Iran has deployed mobile anti-ship missile batteries along its 1,500-mile Gulf coast and on many of the 17 Iranian-controlled islands in the Gulf in addition to modern anti-ship missiles mounted on fast attack boats, submarines, oil platforms, and vessels disguised as civilian fishing boats. Six of Iran's 17 islands in the Gulf—Forur, Bani Forur, Sirri, and three islands seized from the UAE: Abu Musa, Greater Tunb, and Lesser Tunb—are particularly important because they are located close to the shipping channels that all ships must use near the Strait of Hormuz.

Iran has imported Russian submarines, North Korean minisubmarines, and a wide variety of advanced Chinese anti-ship missiles. It also has a significant stock of Chinese-designed anti-ship cruise missiles, including the older HY-2 Seersucker and the more modern CSS-N-4 Sardine and CSS-N-8 Saccade models, and has reverse engineered Chinese missiles to produce its own Ra'ad and Noor anti-ship cruise missiles. More recently, Tehran has produced and deployed more advanced anti-ship cruise missiles, the Nasir and Qadir.[122] Shore-based missiles deployed along Iran's

coast would be augmented by aircraft-delivered laser-guided bombs and missiles as well as by television-guided bombs.

Iran has a large supply of anti-ship mines, including modern mines that are far superior to the simple World War I–style contact mines that it used in the 1980s. In addition to expanding the quantity of its mines from an estimated 1,500 during the Iran–Iraq war to more than 5,000 in 2019, Tehran has increased their quality.[123] It has acquired significant stocks of "smart mines" including versions of the Russian MDM-6; Chinese MC-52; and Chinese EM-11, EM-31, and EM-55 mines.[124] One of Iran's most lethal mines is the Chinese-designed EM-52 "rocket" mine, which remains stationary on the sea floor and fires a homing rocket when a ship passes overhead.

Iran can deploy mines or torpedoes from its three *Kilo*–class submarines, purchased from Russia and based at Bandar Abbas, Iran's largest seaport and naval base. These submarines could be difficult to detect for brief periods when running silent and remaining stationary on a shallow bottom just outside the Strait of Hormuz.[125] Iran also could use minisubmarines, helicopters, or small boats disguised as fishing vessels to deploy its mines. Iran's robust mine warfare capability and the U.S. and allied navies' limited capacity for countermine operations are major challenges to Gulf maritime security.[126]

Iran has developed two separate naval forces. The regular navy takes the lead in the Caspian Sea and outside the Strait of Hormuz in the Gulf of Oman, and the Islamic Revolutionary Guard Corps Navy is Iran's dominant force inside the Persian Gulf. The IRGC Navy has developed an effective asymmetric naval warfare strategy that could enable it to counter the superior firepower and technology of the U.S. Navy and its GCC allies, at least for a short period. It has adopted swarming tactics using well-armed fast attack boats to launch surprise attacks against larger and more heavily armed naval adversaries.

The commander of the IRGC Navy bragged in 2008 that it had brought guerilla warfare tactics to naval warfare: "We are everywhere and at the same time nowhere."[127] The IRGC has honed such unconventional tactics as deploying remote-controlled radar decoy boats and boats packed with explosives to confuse defenses and attack adversaries. It also could deploy naval commandos trained to attack using small boats, minisubmarines, and even Jet Skis as well as underwater demolition teams that could attack offshore oil platforms, moored ships, ports, and other facilities.

On April 28, 2015, the Revolutionary Guard naval force seized the *Maersk Tigris*, a container ship registered in the Marshall Islands, near the Strait of Hormuz. Tehran claimed that it seized the ship because of a previous court ruling ordering the Maersk Line, which charters the ship, to make a payment to settle a dispute with a private Iranian company. The ship was later released after being held for more than a week.[128] Then, on May 14, 2015, the *Alpine Eternity*, a Singapore-flagged oil tanker, was surrounded and attacked by Revolutionary Guard gunboats in the Strait of Hormuz when it refused to be boarded. Iranian authorities alleged that it had damaged an Iranian oil platform in March, but the ship's owners maintained that it had hit an uncharted submerged structure.[129]

The Revolutionary Guard's aggressive tactics in using commercial disputes as pretexts for illegal seizures of transiting vessels prompted the U.S. Navy to escort American and British-flagged ships through the Strait of Hormuz for several weeks in May 2015 before tensions eased. Iran again resorted to pirate tactics when it seized two Greek tankers on May 27, 2022, in retaliation for Greece's seizure of an Iranian oil tanker in April 2022.[130]

In May 2023, the U.S. Navy asserted that Iran had "harassed, attacked or interfered" with 15 commercial ships during the past two years, including two commercial ships hijacked by the IRGC in April and May.[131] After Iran hijacked a third ship in early May, the White House announced that the U.S. Navy would step up patrols in the Strait of Hormuz.[132] On June 4, 2023, IRGC gunboats again harassed a commercial ship in the Strait of Hormuz before warships from the U.S. Navy and the United Kingdom Royal Navy came to its aid.[133] On July 5, 2023, yet another incident was reported involving Iranian gunboats attempting to seize two commercial tankers near the Strait of Hormuz. A U.S. Navy guided missile destroyer responded to a distress call, preventing the seizures.[134]

The July 2015 nuclear agreement did not alter the Revolutionary Guard's confrontational tactics in the Gulf.[135] IRGC naval forces have challenged U.S. naval forces in a series of incidents. IRGC missile

boats launched rockets within 1,500 yards of the carrier *Harry S. Truman* near the Strait of Hormuz in late December 2015,[136] have flown drones over U.S. warships,[137] and detained and humiliated 10 American sailors in a provocative January 12, 2016, incident.[138] Even though the two U.S. Navy boats carrying the sailors had drifted inadvertently into Iranian territorial waters and had the right of innocent passage, their crews were disarmed, forced onto their knees, filmed, and exploited in propaganda videos.

In 2017, for unknown reasons, Iran temporarily halted the harassment of U.S. Navy ships. According to U.S. Navy reports, Iran instigated 23 "unsafe and/or unprofessional" interactions with U.S. Navy ships in 2015, 35 in 2016, and 14 in the first eight months of 2017 with the last incident occurring on August 14, 2017.[139] The provocations resumed in April 2020 when 11 IRGC Navy gunboats harassed six U.S. Navy vessels that were conducting exercises in the international waters of the North Arabian Gulf.[140] One week later, President Trump warned that U.S. Navy forces were authorized to destroy any Iranian vessels that harassed them. Iran's naval harassment subsided for a time but resumed in April 2021 when the IRGC Navy staged two incidents, forcing U.S. naval vessels to take evasive action in the first and fire warning shots in the second.[141]

This pattern of provocation has continued unabated during the Biden Administration. According to the U.S. Institute of Peace, "[a]s of December 2022, Iranian ships had harassed or tried to seize U.S. ships at least eight times since Biden took office in January 2021."[142] The following are two recent examples of this harassment:

> **Dec. 5, 2022:** An IRGC Navy patrol boat attempted to blind two U.S. Navy ships, sea base platform ship USS Lewis B. Puller and guided-missile destroyer USS The Sullivans, using a spotlight at night. The Iranian boat came within 150 yards of the ships in international waters in the Strait of Hormuz. "This dangerous action in international waters is indicative of Iran's destabilizing activity across the Middle East," said Col. Joe Buccino, CENTCOM spokesman.
>
> **July 5, 2023:** The Iranian Navy attempted to seize two oil tankers in the Strait of Hormuz. Iran aborted the attempt on the TRF Moss, a Marshall Islands-flagged tanker, after the U.S. Fifth Fleet sent the destroyer USS McFaul, a surveillance aircraft, and a drone to the area. A different Iranian ship later attempted to seize the Richmond Voyager, a Bahamian-flagged tanker managed by Chevron. It fired on the tanker and left the area as the U.S. Navy arrived. The following day, Iran claimed that the Richmond Voyager had hit an Iranian ship and injured five people. Tehran said it had a court order to seize the tanker.[143]

Iran has been accused of spoofing satellite navigation systems to lure foreign ships into its territorial waters so that it can seize them. This may have occurred in 2016 when 10 U.S. sailors were captured near an Iranian island and in 2019 when the tanker *Stena Impero* was seized in the Strait of Hormuz.[144] Iran also may have used a similar technique to divert a U.S. UAV from Afghan airspace to Iran where it was captured and put on display in 2011.

If Tehran were to attack ships transiting the Strait of Hormuz, the United States and its allies have the capacity to counter Iran's maritime threats and restore the flow of oil exports, but "the effort would likely take some time—days, weeks, or perhaps months—particularly if a large number of Iranian mines need to be cleared from the Gulf."[145] In May 2019, naval warfare experts estimated that by using its combined coastal missile batteries, mines, submarines, and naval forces, Iran could close the strait for up to four weeks.[146] However, such an aggressive move would be very costly and risky for Tehran. Closing the strait would also block Iran's oil exports and many of its imports, including imports of food and medicine, and most of Iran's naval forces, naval bases, and other military assets could be destroyed in the resulting conflict.

In addition to using its own forces, Tehran could use its extensive network of clients in the region to sabotage oil pipelines and other infrastructure or to strike oil tankers in port or at sea. Iranian Revolutionary Guards deployed in Yemen reportedly played a role in the unsuccessful October 9 and 12, 2016, missile attacks launched by Houthi rebels against the USS *Mason*, a U.S. Navy warship, near the Bab el-Mandeb Strait in the Red Sea.[147] The Houthis denied that they launched the missiles, but they did claim responsibility for an October 1, 2016, attack on a UAE naval vessel and the February

2017 suicide boat bombing of a Saudi warship. On January 3, 2022, Houthi naval forces seized a UAE freighter in the Red Sea off Yemen's west coast.

Houthi irregular forces have deployed mines along Yemen's coast, used a remote-controlled boat packed with explosives in an unsuccessful July 2017 attack on the Yemeni port of Mokha, and have launched several unsuccessful naval attacks against ships in the Red Sea. Houthi gunboats also attacked and damaged a Saudi oil tanker near the port of Hodeidah on April 3, 2018.

U.N. investigators have concluded that the Houthis also operate UAVs with a range of up to 1,500 kilometers (930 miles), several of which were used to attack Saudi Arabia's East–West pipeline on May 14, 2019.[148] This attack and attacks on oil tankers in the Gulf of Oman two days earlier were likely a signal from Tehran that it can also disrupt oil shipments outside the Persian Gulf in a crisis.

The Houthis have staged numerous UCAV attacks on Saudi targets along with a cruise missile attack on June 12, 2019, and an attack by 10 ballistic missiles on August 25, 2019.[149] The Houthis also claimed responsibility for the September 14, 2019, attacks on Saudi oil facilities at Abqaiq, but U.S. officials asserted that intelligence reports identified Iran as the staging ground for the attacks.[150] On March 7, 2021, the Houthis launched long-range UAVs and ballistic missiles provided by Iran at Saudi Arabia's Ras Tanura oil shipment facility, which is the world's largest, driving oil prices up to over $70 per barrel for the first time since the COVID-19 pandemic depressed the global economy.[151]

Although Houthi cross-border attacks largely halted after the United Nations brokered an April 2022 cease-fire in Yemen, attacks could resume if the peace negotiations bog down.

Air. The Middle East is particularly vulnerable to attacks on civilian aircraft. Large quantities of arms, including man-portable air defense systems, were looted from arms depots in Libya, Iraq, Syria, and Yemen during their civil wars and could be in the hands of Iranian-supported groups. Iran has provided anti-aircraft missiles to Hezbollah, Iraqi militias, and the Houthi rebels in Yemen. The Houthis also have attacked Saudi airports with ballistic missiles and armed drones, although they may have been targeting nearby military facilities.[152]

Perhaps the greatest Iranian threat to civil aviation would come in the event of a military clash in the crowded skies over the Persian Gulf. On May 16, 2019, during a period of heightened tensions with Iran, the U.S. Federal Aviation Administration warned commercial airlines that civilian planes risked being targeted by the Iranian military as a result of "miscalculation or misidentification."[153]

Tragically, this warning foreshadowed the January 8, 2020, shooting down of Ukraine International Airlines Flight 752 that killed 176 passengers and crew, most of them Iranians. Several hours earlier, Iran had launched a ballistic missile attack on Iraqi bases hosting U.S. troops, and Iranian officials later admitted that they had kept Tehran's airport open in the hope that the presence of passenger jets could act as a deterrent against an American attack on the airport or a nearby military base.[154]

Space. Iran has launched satellites into orbit, but there is no evidence that it has an offensive space capability. Tehran successfully launched three satellites in February 2009, June 2011, and February 2012 using the Safir space launch vehicle, which uses a modified Ghadr-1 missile for its first stage and has a second stage that is based on the obsolete Soviet R-27 submarine-launched ballistic missile.[155] The technology probably was transferred by North Korea, which built its BM-25 missiles using the R-27 as a model.[156] Safir technology could be used to develop long-range ballistic missiles.

In December 2013, Iran claimed that it had "sent a monkey into space for the second time, representing the nation's latest step toward sending humans into space."[157] Tehran also announced in June 2013 that it had established its first space tracking center to monitor objects in "very remote space" and help manage the "activities of satellites."[158] On July 27, 2017, Iran tested a Simorgh (Phoenix) space launch vehicle that it claimed could place a satellite weighing up to 250 kilograms (550 pounds) in an orbit of 500 kilometers (311 miles).[159] The satellite launch failed, as did another Simorgh-boosted satellite launch in January 2019.[160]

In April 2020, Tehran finally discarded the pretense that its space program was dedicated exclusively to peaceful purposes. On April 22, Iran's Revolutionary Guards launched a Noor (Light) satellite into a low Earth orbit from a secret missile base to celebrate the 41st anniversary of the IRGC's founding. The spy satellite's path takes it over North Africa and the central Mediterranean, putting Israel within its potential field of vision approximately

every 90 minutes.[161] General Jay Raymond, Commander, U.S. Space Command, dismissed the satellite as a "tumbling webcam in space,"[162] but Iran's real achievement was probably the previously unheard-of satellite carrier, the Qased (Messenger), a three-stage system that used both solid and liquid fuel.[163] The technical advances required to launch a satellite are similar to those required to launch an ICBM, and the use of solid fuel could allow Iran to launch a missile more quickly—something that is crucial in an offensive weapon.

On February 2, 2021, Iran's Defense Ministry announced the successful development of a new satellite launch vehicle, the Zuljanah. The first two stages of the three-stage rocket use solid fuel, and the rocket can be launched from a mobile launch pad—two characteristics that are more suitable for a weapons system than for a satellite launch system.[164] In October 2022, Iran launched a Saman test spacecraft that it claimed could shift satellites between orbits.[165]

In February 2022, a Zuljanah launch vehicle apparently blew up on a launch pad at the Imam Khomeini Spaceport.[166] Despite frequent failures, however, the United States and other countries have criticized Iran's satellite launches as defying a U.N. Security Council resolution calling on Tehran to undertake no activity related to ballistic missiles that are capable of delivering nuclear weapons.

Cyber. Iranian cyber capabilities represent a significant threat to the U.S. and its allies. Iran has developed offensive cyber capabilities as a tool of espionage and sabotage and claims "to possess the 'fourth largest' cyber force in the world—a broad network of quasi-official elements, as well as regime-aligned 'hacktivists,' who engage in cyber activities broadly consistent with the Islamic Republic's interests and views."[167]

The creation of the Iranian Cyber Army in 2009 marked the beginning of a cyber offensive against those whom the Iranian regime regards as enemies. The Ajax Security Team, a hacking group believed to be operating out of Iran, has used malware-based attacks to target U.S. defense organizations and has breached the Navy Marine Corps Intranet.[168] The group also has targeted dissidents within Iran, seeding versions of anti-censorship tools with malware and gathering information about users of those programs.[169] Iran has invested heavily in cyber activity, reportedly spending "over $1 billion on its cyber capabilities in 2012 alone."[170]

An April 2015 study released by the American Enterprise Institute reported that hostile Iranian cyber activity had increased significantly since the beginning of 2014 and could threaten U.S. critical infrastructure. The Islamic Revolutionary Guard Corps and Sharif University of Technology are two Iranian institutions that investigators have linked to efforts to infiltrate U.S. computer networks.[171]

Iran allegedly has used cyber weapons to engage in economic warfare, most notably the sophisticated and debilitating "[distributed] denial-of-service (DDoS) attacks against a number of U.S. financial institutions, including the Bank of America, JPMorgan Chase, and Citigroup."[172] In February 2014, Iran launched a crippling cyberattack against the Sands Casino in Las Vegas, owned by Sheldon Adelson, a leading supporter of Israel and critic of the Iranian regime.[173] In 2012, Tehran was suspected of launching both the Shamoon virus attack on Saudi Aramco, the world's largest oil-producing company—an attack that destroyed approximately 30,000 computers—and an attack on Qatari natural gas company Rasgas's computer networks.[174]

Israel has been a major target of Iranian cyberattacks. In 2014, Iranian hackers launched denial-of-service attacks against the infrastructure of the Israel Defense Forces. On April 24, 2020, an Iranian cyberattack targeted the command and control center of Israel's Water Authority, disrupting operations of Israeli water and sewage facilities. According to an Israeli cyber expert, the operation was "a first-of-its-kind attack and they were not far from inflicting human casualties."[175] Israel retaliated with a May 9, 2020, cyberattack that disrupted operations at one of Iran's most important port facilities, the Shahid Rajaee terminal in Bandar Abbas.[176] In September 2020, according to the Israeli cybsersecurity company Clearsky, a hacker group linked to Iran targeted "many prominent Israeli organizations." The group, named MuddyWater, used malware disguised as ransomware that would encrypt files and demand payment but not allow the files to be accessed.[177]

In the fall of 2015, U.S. officials warned of a surge of sophisticated Iranian computer espionage that would include a series of cyberattacks against State Department officials.[178] In March 2016, the Justice Department indicted seven Iranian hackers for penetrating the computer system that controlled a dam in the State of New York.[179] In April 2020,

Iran-linked hackers targeted staff at the World Health Organization and the U.S. pharmaceutical company Gilead Sciences Inc., a leader in developing a treatment for the COVID-19 virus.[180] FBI Director Christopher Wray revealed in a June 1, 2022, speech in Boston that the FBI had thwarted an attempted Iranian government-sponsored cyberattack on Boston Children's Hospital in the summer of 2021, characterizing Iran's action as "one of the most despicable cyberattacks I've ever seen."[181]

Iran continued its cyber-assaults on Western targets throughout 2022 and into 2023. In September 2022, Albania accused Iran of attacks against its border control system,[182] and in May 2023, Israel suffered multiple attacks, allegedly from Iranian sources, against companies in its shipping and business logistics sectors.[183]

The growing sophistication of these and other Iranian cyberattacks and Iran's willingness to use these weapons have led various experts to characterize Iran as one of America's most cyber-capable opponents. Russia reportedly "has helped Iran become a cyber-power by supplying it with cyber weapons, information, and capabilities. In turn, Iran passed its expertise to its terrorist proxy Hizballah."[184] Russian cyberwarfare aid reportedly increased after Russian–Iranian strategic cooperation surged following Moscow's disastrous 2022 invasion of Ukraine, with Russia providing advanced digital-surveillance capabilities that Iran could use for domestic surveillance or foreign espionage.[185] Iranian cyber forces have gone so far as to create fake online personas in order to extract information from U.S. officials through such accounts as LinkedIn, YouTube, Facebook, and Twitter.[186]

Significantly, the FBI sent the following cyber alert to American businesses on May 22, 2018:

> The FBI assesses [that] foreign cyber actors operating in the Islamic Republic of Iran could potentially use a range of computer network operations—from scanning networks for potential vulnerabilities to data deletion attacks—against U.S.-based networks in response to the U.S. government's withdrawal from the Joint Comprehensive Plan of Action (JCPOA).[187]

On November 4, 2020, the U.S. Department of Justice announced that it had seized 27 domain names used by Iran's IRGC in a global covert influence campaign.[188] A National Intelligence Council report released on March 16, 2021, assessed that during the 2020 U.S. presidential election:

> Iran carried out a multi-pronged covert influence campaign intended to undercut former President Trump's reelection prospects—though without directly promoting his rivals—undermine public confidence in the electoral process and US institutions, and sow division and exacerbate societal tensions in the US.[189]
>
> Iran's election influence efforts were primarily focused on sowing discord in the United States and exacerbating societal tensions—including by creating or amplifying social media content that criticized former President Trump—probably because they believed that this advanced Iran's longstanding objectives and undercut the prospects for the former President's reelection without provoking retaliation.[190]

In April 2023, Microsoft warned that Iranian hackers had greatly refined their cyberwarfare techniques and were targeting energy and transportation infrastructure inside the United States.[191]

Conclusion

Iran represents by far the most significant security challenge to the United States, its allies, and its interests in the greater Middle East. Its open hostility to the United States and Israel, sponsorship of terrorist groups, and history of threatening the commons underscore the problem. Today, Iran's provocations are mostly a concern for the region and America's allies, friends, and assets there. Iran relies heavily on irregular (to include political) warfare against others in the region, and the number of ballistic missiles fielded by Iran is greater than the number fielded by any of its neighboring countries. The development of its ballistic missiles and potential nuclear capability also make Iran a significant long-term threat to the security of the U.S. homeland.

This *Index* therefore assesses the overall threat from Iran, considering the range of contingencies, as "aggressive" for level of provocative behavior. Iran's capability score holds at "gathering."[192]

Threats: Iran

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Behavior		✓			

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
Capability		✓			

Endnotes

1. Rebecca Leung, "Hezbollah: 'A-Team of Terrorists,'" CBS News, *60 Minutes*, April 18, 2003, http://www.cbsnews.com/news/hezbollah-a-team-of-terrorists/ (accessed July 16, 2023).
2. Dana Priest and Nora Boustany, "Buckley's Remains Identified," *The Washington Post*, December 28, 1991, https://www.washingtonpost.com/archive/politics/1991/12/28/buckleys-remains-identified/5b3bf0cc-41c2-4a1c-aa0b-27be8c3795d2/ (accessed July 16, 2023).
3. Michael Taxay, "Trends in the Prosecution of Terrorist Financing and Facilitation," *United States Attorneys' Bulletin*, Vol. 62, No. 5 (September 2014), p. 6, https://www.justice.gov/sites/default/files/usao/legacy/2014/09/23/usab6205.pdf (accessed July 16, 2023).
4. Ellie Kaufman, "2 Americans Led Double Lives as Hezbollah Agents, Officials Say," CNN, updated June 9, 2017, http://www.cnn.com/2017/06/08/us/americans-accused-hezbollah-agents/ (accessed July 16, 2023).
5. Nathan A. Sales, Ambassador-at-Large and Coordinator for Counterterrorism, and Nicholas J. Rasmussen, National Counterterrorism Center Director, "Briefing on U.S. Efforts to Counter Hizballah," U.S. Department of State, October 10, 2017, https://2017-2021.state.gov/briefing-on-u-s-efforts-to-counter-hizballah/index.html (accessed July 16, 2023).
6. Jason Hanna, Elizabeth Joseph, and Brynn Gingras, "A New Jersey Man Scouted US Landmarks for Potential Hezbollah Attacks, Charges Allege," CNN, September 20, 2019, https://www.cnn.com/2019/09/20/us/hezbollah-us-terror-charges/index.html (accessed July 16, 2023).
7. Larry Neumeister, "Software Engineer Who Photographed US Landmarks for Possible Attacks Gets 12 Years in Prison," Associated Press, May 23, 2023, https://apnews.com/article/terrorism-hezbollah-saab-landmarks-df0118a45d2bb5ca35ff815a57aefa93 (accessed July 16, 2023).
8. "Summary of Terrorism Threat to the U.S. Homeland," U.S. Department of Homeland Security, National Terrorism Advisory System *Bulletin*, January 4, 2020, https://www.dhs.gov/sites/default/files/ntas/alerts/20_0104_ntas_bulletin.pdf (accessed July 16, 2023).
9. "(U//FOUO) Escalating Tensions Between the United States and Iran Pose Potential Threats to the Homeland," *Joint Intelligence Bulletin*, January 8, 2020, p. 1, https://info.publicintelligence.net/DHS-FBI-NCTC-IranThreats-2020.pdf (accessed July 16, 2023).
10. Sara Taha Moughnieh, "Sayyed Nasrallah: Suleimani Revenge Is Long Track, Trump Biggest Liar in History of US Presidency," Al-Manar, January 12, 2020, https://english.almanar.com.lb/913904 (accessed July 16, 2023). With respect to Al-Manar, see press release, "U.S. Designates Al-Manar as a Specially Designated Global Terrorist Entity[.] Television Station Is Arm of Hizballah Terrorist Network," U.S. Department of the Treasury, March 23, 2006, https://home.treasury.gov/news/press-releases/js4134#:~:text=The%20U.S.%20Department%20of%20the%20Treasury%20today%20designated,to%20both%20al%20Manar%20and%20al%20Nour%20Radio (accessed July 16, 2023).
11. Tom Winter and Pete Williams, "Feds Charge Ex-Venezuelan Politician with Recruiting Terrorists to Attack U.S. Interests," NBC News, May 27, 2020, https://www.nbcnews.com/politics/justice-department/feds-charge-ex-venezuelan-politician-recruiting-terrorists-attack-u-s-n1215871 (accessed July 16, 2023).
12. Michael Elleman, "Iran's Missiles: Evolution and Arsenal," United States Institute of Peace, The Iran Primer, January 15, 2021, https://iranprimer.usip.org/blog/2021/jan/15/biden-iran-missile-program (accessed July 16, 2023).
13. Kenneth Katzman, "Iran's Foreign and Defense Policies," Congressional Research Service *Report for Members and Committees of Congress No. R44017*, updated January 11, 2021, pp. 10 and 12, https://fas.org/sgp/crs/mideast/R44017.pdf (accessed July 16, 2023).
14. Farzin Nadimi, "The IRGC Lifts Off: Implications of Iran's Satellite Launch," Washington Institute for Near East Policy, *Policy Note* No. PN84, August 2020, https://www.washingtoninstitute.org/media/377 (accessed July 16, 2023).
15. Golnaz Esfandiari, "The Farda Briefing: Experts Raise Questions Over Iran's First 'Hypersonic' Missile," Radio Free Europe/Radio Liberty, June 7, 2023, https://www.rferl.org/a/farda-briefing-questions-iran-hypersonic-missile/32448695.html (accessed July 16, 2023).
16. Elleman, "Iran's Missiles: Evolution and Arsenal."
17. Anthony Cordesman, with the assistance of Bryan Gold and Garrett Berntsen, *The Gulf Military Balance, Volume I: The Conventional and Asymmetric Dimensions*, Center for Strategic and International Studies, January 2014, pp. 14–16, https://csis-website-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/140131_Cordeman_GulfMilitaryBalance_VolumeI_Web.pdf (accessed July 16, 2023).
18. Elias Groll, "Iran Is Deploying Drones in Iraq. Wait, What? Iran Has Drones?" *Foreign Policy*, June 25, 2014, https://foreignpolicy.com/2014/06/25/iran-is-deploying-drones-in-iraq-wait-what-iran-has-drones/ (accessed July 16, 2023).
19. Fact Sheet, "The Joint Comprehensive Plan of Action at a Glance," Arms Control Association, last reviewed March 2022, https://www.armscontrol.org/factsheets/JCPOA-at-a-glance (accessed July 18, 2023), and Al Jazeera America, "Iran Now Has $100 billion of Overseas Assets Unfrozen Under Nuke Deal," February 1, 2016, http://america.aljazeera.com/articles/2016/2/1/iran-100-billion-in-overseas-assets-unfrozen-under-nuclear-deal.html (accessed July 18, 2023).
20. Saeed Ghasseminejad, "Iran Doubles Down on Its Military Budget," Foundation for Defense of Democracies *Policy Brief*, June 3, 2016, http://www.defenddemocracy.org/media-hit/saeed-ghasseminejad-iran-doubles-down-on-its-military-budget/ (accessed July 16, 2023).
21. International Institute for Strategic Studies, *The Military Balance 2020: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2020), p. 348.
22. International Institute for Strategic Studies, *The Military Balance 2021: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2021), p. 337.

23. Henry Rome, "Arming the Revolution: Trends in Iranian Defense Spending, 2013–23," Washington Institute for Near East Policy, *Policy Note* No. 135, June 14, 2023, https://www.washingtoninstitute.org/policy-analysis/arming-revolution-trends-iranian-defense-spending-2013-23 (accessed July 16, 2023).
24. Sima Shine and Zvi Magen, "President Rouhani's Visit to Russia: A New Level of Relations?" Tel Aviv University, Institute for National Security Studies, *INSS Insight* No. 914, April 5, 2017, p. 1, https://www.inss.org.il/wp-content/uploads/2017/04/No.-914.pdf (accessed July 16, 2023).
25. President of Russia, "Events: Meeting with President of Iran Hassan Rouhani," June 9, 2018, http://en.kremlin.ru/events/president/news/57710 (accessed July 16, 2023).
26. Reuters, "Iran Says Russia Delivers First Part of S-300 Defense System," April 11, 2016, http://www.reuters.com/article/us-russia-iran-arms-idUSKCN0X80MM?elqTrackId=e02d5aca6d48418984d902ced0c33d77&elq=39fecef381094e0cbc6de535feb74a3c&elqaid=17334&elqat=1&elqCampaignId=10743 (accessed July 16, 2023).
27. Lieutenant General Robert Ashley, U.S. Army, Director, Defense Intelligence Agency, "Worldwide Threat Assessment," statement before the Committee on Armed Services, U.S. Senate, March 6, 2018, p. 24, https://www.armed-services.senate.gov/imo/media/doc/Ashley_03-06-18.pdf (accessed July 16, 2023).
28. Farzin Nadimi, "Iran and Russia's Growing Defense Ties," Washington Institute for Near East Policy, *PolicyWatch* No. 2563, February 18, 2016, http://www.washingtoninstitute.org/policy-analysis/view/iran-and-russias-growing-defense-ties (accessed July 16, 2023).
29. U.S. Department of Defense, Defense Intelligence Agency, *Iran Military Power: Ensuring Regime Survival and Securing Regional Dominance*, 2019, p. 88, https://www.dia.mil/Portals/110/Images/News/Military_Powers_Publications/Iran_Military_Power_LR.pdf (accessed July 16, 2023).
30. Harry McNeil, "Russian Su-35 Fighter Deal to Iran Provides Concern as Collaboration Builds Against the West," Airforce Technology, March 13, 2023, https://www.airforce-technology.com/news/russian-su-35-fighter-jet-deal-to-iran-provides-concern-as-collaboration-builds-against-the-west/ (accessed July 16, 2023).
31. Middle East Media Research Institute, "Iranian President Raisi Visits Russia, Offers Unprecedented Strategic Partnership; Russia's Reaction Is Lukewarm," *Special Dispatch* No. 9734, January 24, 2022, https://www.memri.org/reports/iranian-president-raisi-visits-russia-offers-unprecedented-strategic-partnership-russias (accessed July 16, 2023).
32. Katzman, "Iran's Foreign and Defense Policies," p. 33.
33. Ibid.
34. Zeina Karam, "Analysis: Iran Role in Syria Key Item at Trump–Putin Summit," Associated Press, July 13, 2018, https://apnews.com/article/donald-trump-syria-ap-top-news-international-news-iran-7eebb04b92ce416495bb0ca7f0b07e54 (accessed July 16, 2023). See also Nader Uskowi, "The Evolving Iranian Strategy in Syria: A Looming Conflict with Israel," Atlantic Council, Scowcroft Center for Strategy and Security *Issue Brief*, September 2018, p. 2, https://www.atlanticcouncil.org/wp-content/uploads/2019/09/The_Evolving_Iranian_Strategy_in_Syria.pdf (accessed July 16, 2023).
35. BBC News, "Syrian Conflict: Russian Bombers Use Iran Base for Air Strikes," August 16, 2016, https://www.bbc.com/news/world-middle-east-37093854 (accessed July 16, 2023).
36. Oren Liebermann, Salma Abdelaziz, and James Masters, "Netanyahu Says Iran 'Crossed a Red Line' After Israel Pounds Iranian Targets in Syria," CNN, updated May 11, 2018, https://www.cnn.com/2018/05/09/middleeast/israel-rockets-syria/index.html (accessed July 16, 2023).
37. Carla E. Humud, Kenneth Katzman, and Jim Zanotti, "Iran and Israel: Tension over Syria," Congressional Research Service *In Focus* No. IF10858, updated June 5, 2019, https://fas.org/sgp/crs/mideast/IF10858.pdf (accessed July 16, 2023).
38. Anna Ahronheim and Seth J. Frantzman, "Israel Strikes Syria in Rare Daytime Attack; Syria Fires at Golan," *The Jerusalem Post*, January 20, 2019, https://www.jpost.com/Breaking-News/Report-Israel-Air-Force-strikes-southern-Syria-578020 (accessed July 16, 2023).
39. Tia Goldenburg, "Israeli Military Says Iran Is Slowly Pulling out of Syria," Associated Press, May 21, 2020, https://apnews.com/d6a925c30084a34307a817de2f999bb1 (accessed July 16, 2023).
40. Anna Ahronheim, "Hezbollah Training Syria's 1st Corps to Use in Future War Against Israel," *The Jerusalem Post*, May 21, 2020, https://www.jpost.com/arab-israeli-conflict/hezbollah-training-syrias-1st-corps-to-use-in-future-war-against-israel-628833 (accessed July 16, 2023).
41. Yaniv Kubovich, "Iranian Redeployment in Iraq Behind Israel's Alleged Syria Strike, Sources Say," *Haaretz*, January 17, 2021, https://www.haaretz.com/middle-east-news/.premium-sources-iranian-redeployment-in-western-iraq-behind-israel-s-alleged-syria-strike-1.9449515 (accessed July 16, 2023).
42. Michael Bachner, "Israel Said to Hit Iranian Sites in Iraq, Expanding Strikes on Missile Shipments," *The Times of Israel*, July 30, 2019, https://www.timesofisrael.com/israel-said-to-hit-iranian-sites-in-iraq-expanding-strikes-on-missile-shipments/ (accessed July 16, 2023).
43. Michael Knights, "Iran's Cross-Border Strikes: A Pattern in Search of a Policy," Washington Institute for Near East Policy, *PolicyWatch* No. 3592, March 15, 2022, https://www.washingtoninstitute.org/policy-analysis/irans-cross-border-strikes-pattern-search-policy (accessed July 16, 2023).
44. Alex Vatanka and Abdolrasool Divsallar, "Can the West Stop Russian–Iranian Convergence?" Middle East Institute, April 3, 2023, https://www.mei.edu/publications/can-west-stop-russian-iranian-convergence (accessed July 16, 2023).

45. FP Staff, "Moscow, Tehran Move Forward on Plans to Set up Iranian-Designed Drone Facility in Russia," Firstpost, last updated February 6, 2023, https://www.firstpost.com/world/moscow-tehran-move-forward-on-plans-to-set-up-iranian-designed-drone-facility-in-russia-12109182.html (accessed July 18, 2023), and Dion Nissenbaum and Warren P. Strobel, "Moscow, Tehran Advance Plans for Iranian-Designed Drone Facility in Russia," *The Wall Street Journal*, updated February 5, 2023, https://www.wsj.com/articles/moscow-tehran-advance-plans-for-iranian-designed-drone-facility-in-russia-11675609087 (accessed July 18, 2023).
46. Grant Rumley, "What the Russia–Iran Arms Deals Mean for the Middle East," Washington Institute for Near East Policy, *Policy Analysis*, April 19, 2023, https://www.washingtoninstitute.org/policy-analysis/what-russia-iran-arms-deals-mean-middle-east (accessed July 16, 2023).
47. Kyle Rempfer, "Iran Killed More US Troops in Iraq than Previously Known, Pentagon Says," *Military Times*, April 4, 2019, https://www.militarytimes.com/news/your-military/2019/04/04/iran-killed-more-us-troops-in-iraq-than-previously-known-pentagon-says/ (accessed July 16, 2023).
48. See "Mounting Missile Threat," *infra*.
49. Phillip Smyth, "Why Biden's Airstrikes on Iran Militias Matter," Washington Institute for Near East Policy, *Policy Analysis*, February 26, 2021, https://www.washingtoninstitute.org/policy-analysis/why-bidens-airstrikes-iran-militias-matter (accessed July 16, 2023).
50. Katie Bo Williams, "US Airstrikes Follow a Spate of Sophisticated Attacks by Iranian Drones that Can Avoid US Surveillance," CNN, updated June 28, 2021, https://www.cnn.com/2021/06/28/politics/us-airstrikes-new-iran-drone-attacks-avoid-surveillance/index.html (accessed July 16, 2023).
51. Thomas Spoehr, "Failure to Respond to Iranian Al Tanf Attack Increases Risk for U.S. Forces," Heritage Foundation *Commentary*, December 2, 2021, https://www.heritage.org/middle-east/commentary/failure-respond-iranian-al-tanf-attack-increases-risk-us-forces.
52. Jeff Schogol, "Iran Has Attacked US Troops 83 Times Since Biden Became President," Task & Purpose, March 28, 2023, https://taskandpurpose.com/news/iran-attacks-us-military-iraq-syria-biden/ (accessed July 16, 2023).
53. Seth J. Frantzman, "Iran Mobilizes Proxies for Drone War on US and Israel—Analysis," *The Jerusalem Post*, October 20, 2023, https://www.jpost.com/middle-east/iran-news/article-769306 (accessed October 25, 2023).
54. General Kenneth F. McKenzie, Jr., Commander, United States Central Command, "Posture Statement" before the Committee on Armed Services, U.S. House of Representatives, April 20, 2021, pp. 5–6, https://docs.house.gov/meetings/AS/AS00/20210420/112498/HHRG-117-AS00-Wstate-McKenzieK-20210420.pdf (accessed July 16, 2023).
55. Yaya J. Fanusie and Alex Entz, "Hezbollah: Financial Assessment," Foundation for Defense of Democracies, Center on Sanctions and Illicit Finance, *Terror Finance Briefing Book*, September 2017, p. 8, http://www.defenddemocracy.org/content/uploads/documents/CSIF_TFBB_Hezbollah.pdf (accessed July 16, 2023).
56. U.S. Department of State, Iran Action Group, *Outlaw Regime: A Chronicle of Iran's Destructive Activities, 2020 Edition*, p. 14, https://www.state.gov/wp-content/uploads/2020/09/Outlaw-Regime-2020-A-Chronicle-of-Irans-Destabilizing-Activity.pdf (accessed July 16, 2023).
57. Benjamin Weinthal, "Germany Sees Increase of Hezbollah Supporters and Members—Intel," *The Jerusalem Post*, June 5, 2021, https://www.jpost.com/international/germany-sees-increase-of-hezbollah-supporters-and-members-intel-670092 (accessed July 16, 2023).
58. James Phillips, "Hezbollah's Terrorist Threat to the European Union," testimony before the Subcommittee on Europe, Committee on Foreign Affairs, U.S. House of Representatives, June 20, 2007, http://www.heritage.org/research/testimony/hezbollahs-terrorist-threat-to-the-european-union.
59. Matthew Levitt, "Inside Hezbollah's European Plots," Washington Institute for Near East Policy, *Policy Analysis*, July 20, 2015, https://www.washingtoninstitute.org/policy-analysis/view/inside-hezbollahs-european-plots (accessed July 16, 2023).
60. Center for Strategic and International Studies, Missile Defense Project, "Missiles of Iran," *Missile Threat*, last updated August 10, 2021, https://missilethreat.csis.org/country/iran/ (accessed July 16, 2023).
61. International Institute for Strategic Studies, "Addressing the Iranian Missile Threat: A Regional Approach to Risk Reduction and Arms Control," March 2022, p. 8, https://www.iiss.org/globalassets/media-library---content--migration/files/research-papers/2022/03/addressing-the-iranian-missile-threat-a-regional-approach-to-risk-reduction-and-arms-control.pdf (accessed July 16, 2023).
62. Testimony of General Kenneth McKenzie, Commander, United States Central Command, in stenographic transcript of *Hearing to Receive Testimony on the Posture of United States Central Command and United States Africa Command*, Committee on Armed Services, U.S. Senate, March 15, 2022, p. 35, https://www.armed-services.senate.gov/imo/media/doc/22-12_03-15-2022.pdf (accessed July 16, 2023).
63. Amos Harel and Associated Press, "Iran's Missile Attack on Syria Failed: 5 Missed, 3 Landed in Iraq," *Haaretz*, June 21, 2017, https://www.haaretz.com/middle-east-news/2017-06-21/ty-article/irans-missile-attack-on-syria-failed-5-missed-3-landed-in-iraq/0000017f-ebaa-d0f7-a9ff-efefac810000 (accessed July 16, 2023).
64. Humeyra Pamuk, "Exclusive: U.S. Probe of Saudi Oil Attack Shows It Came from North—Report," Reuters, December 19, 2019, https://www.reuters.com/article/us-saudi-aramco-attacks-iran-exclusive/exclusive-u-s-probe-of-saudi-oil-attack-shows-it-came-from-north-report-idUSKBN1YN299 (accessed July 16, 2023).
65. Wesley Morgan, "Joint Chiefs Chairman: Iran Intended to Kill American Troops in Missile Attacks," *Politico*, January 8, 2020, https://www.politico.com/news/2020/01/08/milley-iran-american-troops-missile-096402 (accessed July 16, 2023).
66. Elleman, "Iran's Missiles: Evolution and Arsenal."

67. Zachary Keck, "Iran Has Amassed the Largest Ballistic Missile Force in the Middle East," *The National Interest*, The Buzz Blog, May 22, 2019, https://nationalinterest.org/blog/buzz/iran-has-amassed-largest-ballistic-missile-force-middle-east-58882 (accessed July 16, 2023).
68. Center for Strategic and International Studies, Missile Defense Project, "Shahab-3," *Missile Threat*, last updated July 31, 2021, https://missilethreat.csis.org/missile/shahab-3/ (accessed July 16, 2023).
69. Lieutenant General Michael T. Flynn, U.S. Army, Director, Defense Intelligence Agency, "Annual Threat Assessment," statement before the Committee on Armed Services, U.S. Senate, February 11, 2014, p. 20, https://www.armed-services.senate.gov/imo/media/doc/Flynn_02-11-14.pdf (accessed July 16, 2023).
70. Natasha Turak, "U.S. and UAE Forces Intercept Ballistic Missiles over Abu Dhabi; State Department Issues Alert," CNBC, January 24, 2022, https://www.cnbc.com/2022/01/24/ballistic-missiles-intercepted-over-abu-dhabi-us-state-department-issues-alert.html (accessed July 16, 2023).
71. Tim Hume and Alireza Hajihosseini, "Iran Fires Ballistic Missiles a Day After Test; U.S. Officials Hint at Violation," CNN, updated March 9, 2016, http://www.cnn.com/2016/03/09/middleeast/iran-missile-test/ (accessed July 16, 2023).
72. See "Iranian Threats to Israel," *infra*.
73. David Makovsky, "After Gaza Operation, Netanyahu Seeks to Recover Ground," Washington Institute for Near East Policy, *PolicyWatch* No. 3739, May 16, 2023, https://www.washingtoninstitute.org/policy-analysis/after-gaza-operation-netanyahu-seeks-recover-ground (accessed July 16, 2023).
74. Emanuel Fabian, "IDF Drills for Multi-Front War, Including 1,500 Rockets a Day Fired from Lebanon," *The Times of Israel*, May 27, 2022, https://www.timesofisrael.com/idf-drills-for-multi-front-war-including-1500-rockets-a-day-fired-from-lebanon/ (accessed July 16, 2023).
75. Tzvi Joffre, "Hezbollah Transporting Hundreds of Chemical Weapons to Lebanon—Report," *The Jerusalem Post*, November 20, 2022, https://www.jpost.com/middle-east/article-722921 (accessed July 16, 2023).
76. Seth Frantzman, "Is the Iran Drone Threat in Syria Back?—Explainer," *The Jerusalem Post*, April 2, 2023, https://www.jpost.com/middle-east/iran-news/article-736212 (accessed July 16, 2023).
77. Dan Lamothe, "U.S. Intercepts Missiles Near Yemen as Troops Face Drone Attacks in Middle East," *The Washington Pos*t, October 19, 2023, https://www.washingtonpost.com/national-security/2023/10/19/us-troops-gaza-israel/ (accessed October 25, 2023).
78. James Phillips, "Iran's Nuclear Program: What Is Known and Unknown," Heritage Foundation *Backgrounder* No. 2393, March 26, 2010, http://www.heritage.org/research/reports/2010/03/iran-s-nuclear-program-what-is-known-and-unknown, and Nuclear Threat Initiative, "Iran: Arak Nuclear Complex," updated/last reviewed June 8, 2023, http://www.nti.org/learn/facilities/177/ (accessed July 16, 2023).
79. Valerie Lincy and Gary Milhollin, "Iran's Nuclear Potential Before the Implementation of the Nuclear Agreement," Wisconsin Project for Nuclear Arms Control, *Iran Watch*, November 18, 2015, http://www.iranwatch.org/our-publications/articles-reports/irans-nuclear-timetable (accessed July 16, 2023).
80. News release, "Statement by the President on Iran," The White House, July 14, 2015, https://www.whitehouse.gov/the-press-office/2015/07/14/statement-president-iran (accessed July 16, 2023).
81. "Remarks by President Trump on the Joint Comprehensive Plan of Action," The White House, May 8, 2018, https://uy.usembassy.gov/remarks-by-president-trump-on-the-joint-comprehensive-plan-of-action/ (accessed July 16, 2023). See also President Donald J. Trump, National Security Presidential Memorandum/NSPM-11, "SUBJECT: Ceasing United States Participation in the Joint Comprehensive Plan of Action and Taking Additional Action to Counter Iran's Malign Influence and Deny Iran All Paths to a Nuclear Weapon," May 8, 2018, https://fas.org/irp/offdocs/nspm/nspm-11.pdf (accessed July 16, 2023).
82. James Phillips, "Sanctioning Revolutionary Guard as Terrorist Group Will Hit Iran Hard. Here's Why," Heritage Foundation *Commentary*, April 8, 2019, https://www.heritage.org/middle-east/commentary/sanctioning-revolutionary-guard-terrorist-group-will-hit-iran-hard-heres-why.
83. David Adesnik, "U.S. Aims Lethal Blow at Tehran's Finances by Prohibiting Oil Exports," Foundation for the Defense of Democracies *Policy Brief*, April 23, 2019, https://www.fdd.org/analysis/2019/04/23/u-s-aims-lethal-blow-at-tehrans-finances-by-prohibiting-oil-exports/ (accessed July 16, 2023).
84. James Griffiths, Joshua Berlinger, and Sheena McKenzie, "Iranian Leader Announces Partial Withdrawal from Nuclear Deal," CNN, updated May 8, 2019, https://www.cnn.com/2019/05/08/middleeast/iran-nuclear-deal-intl/index.html (accessed July 16, 2023).
85. Peter Brookes, Brett D. Schaefer, and James Phillips, "Iran Nuclear Deal: Next Steps," Heritage Foundation *Issue Brief* No. 5030, January 29, 2020, p. 2, https://www.heritage.org/middle-east/report/iran-nuclear-deal-next-steps.
86. David Albright, Sarah Burkhard, and Andrea Stricker, "Analysis of IAEA Iran Verification and Monitoring Report," Institute for Science and International Security *Report*, February 25, 2021, pp. 1 and 10, https://isis-online.org/uploads/isis-reports/documents/IAEA_Iran_Verification_Report_Analysis_for_February_2021_Final.pdf (accessed July 16, 2023).
87. David Albright and Sarah Burkhard, "Iranian Breakout Timeline Now at Zero," Institute for Science and International Security *Report*, June 1, 2022, https://isis-online.org/uploads/isis-reports/documents/Current_Iranian_Breakout_Estimates_June_1_2022_Final.pdf (accessed July 16, 2023).
88. Laurence Norman and Michael R. Gordon, "Iran Could Produce Nuclear Weapon in Several Months if It Decides to Do So, Mark Milley Says," *The Wall Street Journal*, March 23, 2023, https://www.wsj.com/articles/iran-could-produce-nuclear-weapon-in-several-months-if-it-decides-to-do-so-mark-milley-says-ecd38f07 (accessed July 17, 2023).

89. David Albright, Sarah Burkhard, and Andrea Stricker, "Analysis of the IAEA's Iran NPT Safeguards Report—May 2023, Institute for Science and International Security, June 1, 2023, p. 2, https://isis-online.org/uploads/isis-reports/documents/2023_June_1_The_IAEA%E2%80%99s_Iran_NPT_Safeguards_Report.pdf (accessed July 17, 2023).
90. United States Institute of Peace, The Iran Primer, "After Long Delay, U.S.–Iran Talks in Qatar Fail," June 29, 2022, https://iranprimer.usip.org/blog/2022/jun/27/europe-scrambles-revive-nuclear-talks (accessed July 17, 2023).
91. Karen DeYoung, Joby Warrick, and Steve Hendrix, "U.S. and Iran in Indirect Talks over Nuclear Program and Prisoners," *The Washington Post*, June 20, 2023, https://www.washingtonpost.com/national-security/2023/06/20/iran-us-nuclear-talks-prisoners/ (accessed July 17, 2023).
92. Joshua Zitser, "Mossad Assassinated Iran's Top Nuclear Scientist Using an AI-Powered, Remote-Controlled Machine Gun, Report Says," *Business Insider*, September 19, 2021, https://www.businessinsider.com/mossad-remote-controlled-machine-gun-kill-iran-nuke-expert-nyt-2021-9 (accessed July 17, 2023).
93. United States Institute of Peace, The Iran Primer, "Israeli Sabotage of Iran's Nuclear Program," April 12, 2021, https://iranprimer.usip.org/blog/2021/apr/12/israeli-sabotage-iran%E2%80%99s-nuclear-program (accessed July 17, 2023).
94. Neri Zilber, "This Could Be the Next Big War That Grips the Entire World," Washington Institute for Near East Policy, *Policy Analysis*, June 2, 2022, https://www.washingtoninstitute.org/policy-analysis/could-be-next-big-war-grips-entire-world (accessed July 17, 2023).
95. Cordesman et al., *The Gulf Military Balance, Volume I: The Conventional and Asymmetric Dimensions*, p. 19.
96. Kenneth Katzman, "Iran: Politics, Gulf Security, and U.S. Policy," Congressional Research Service *Report for Members and Committees of Congress No. RL32048*, August 19, 2016, p. 25, http://www.parstimes.com/history/crs_august_16.pdf (accessed July 16, 2023).
97. Richard Natonski and Jonathan Ruhe, "Learn from Gaza, Prepare for Hezbollah," *Breaking Defense*, May 24, 2021, https://breakingdefense.com/2021/05/learn-from-gaza-prepare-for-hezbollah/ (accessed July 17, 2023).
98. Avi Issacharoff, "Israel Raises Hezbollah Rocket Estimate to 150,000," *The Times of Israel*, November 12, 2015, http://www.timesofisrael.com/israel-raises-hezbollah-rocket-estimate-to-150000/ (accessed July 17, 2023).
99. TOI Staff, "Iran Unveils Kit to Convert Artillery Rockets into Guided Missiles," *The Times of Israel*, October 7, 2019, https://www.timesofisrael.com/iran-unveils-kit-to-convert-artillery-rockets-into-guided-missiles/ (accessed July 17, 2023).
100. Israel Defense Forces, "4 Reasons Why Hamas Is a Terror Organization," June 12, 2017, https://www.idf.il/en/minisites/hamas/4-reasons-why-hamas-is-a-terror-organization/ (accessed July 17, 2023).
101. Eyal Tsir Cohen, "What We Can Learn from Yet Another Round of Conflict in Gaza," Brookings Institution *Commentary*, May 16, 2019, https://www.brookings.edu/articles/what-we-can-learn-from-yet-another-round-of-conflict-in-gaza/ (accessed July 17, 2023).
102. Grant Rumley and Neri Zilber, "A Military Assessment of the Israel–Hamas Conflict," Washington Institute for Near East Policy, *PolicyWatch* No. 3489, May 25, 2021, https://www.washingtoninstitute.org/policy-analysis/military-assessment-israel-hamas-conflict (accessed July 17, 2023).
103. Beatrice Farhat, "Lebanon's Hezbollah Hosts Hamas Chief as Rockets Fly over Israel Border," Al-Monitor, April 6, 2023, https://www.al-monitor.com/originals/2023/04/lebanons-hezbollah-hosts-hamas-chief-rockets-fly-over-israel-border (accessed July 17, 2023).
104. Middle East Media Research Institute, "Former IRGC General Close to Supreme Leader Khamenei: 'Bahrain Is a Province of Iran That Should Be Annexed to [It],'" *Special Dispatch* No. 6358, March 23, 2016, http://www.memri.org/report/en/0/0/0/0/0/0/9090.htm (accessed July 16, 2023).
105. Maayan Groisman, "Iranian Commander Threatens to Make Bahrain's Royal Family 'Disappear,'" *The Jerusalem Post*, June 21, 2016, http://www.jpost.com/Middle-East/Iran-News/Iranian-Quds-Force-commander-threatens-to-make-Bahrains-royal-family-disappear-457354 (accessed July 16, 2023).
106. Ben Hubbard, "Saudi Arabia Cuts Ties with Iran amid Fallout of Cleric's Execution," *The New York Times*, January 3, 2016, https://www.nytimes.com/2016/01/04/world/middleeast/iran-saudi-arabia-execution-sheikh-nimr.html (accessed July 16, 2023), and BBC News, "UN Condemns Attack on Saudi Embassy in Iran," January 5, 2016, https://www.bbc.com/news/world-middle-east-35229385 (accessed July 16, 2023).
107. Jon Gambrell, "Bomb-Laden Drones of Yemen Rebels Threaten Arabian Peninsula," Associated Press, May 16, 2019, https://www.apnews.com/18f9c169f398464ba53c19e3963d3fba (accessed July 16, 2023).
108. Michael Knights, "Drones over Riyadh: Unpacking the Iran Threat Network's Tactics," Washington Institute for Near East Policy, *PolicyWatch* No. 3427, January 29, 2021, https://www.washingtoninstitute.org/policy-analysis/drones-over-riyadh-unpacking-iran-threat-networks-tactics (accessed July 16, 2023).
109. Seth G. Jones, Jared Thompson, Danielle Ngo, Brian McSorley, and Joseph S. Bermudez Jr., "The Iranian and Houthi War Against Saudi Arabia," Center for Strategic and International Studies *Brief*, December 2021, p. 9, https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/211221_Jones_IranianHouthi_SaudiArabia.pdf?fn1d98tAhj7yOUr.IncppMueLOC4kv83 (accessed July 16, 2023).
110. U.S. Department of Energy, U.S. Energy Information Administration, "Oil and Petroleum Products Explained: Where Our Oil Comes from," last updated September 16, 2022, https://www.eia.gov/energyexplained/oil-and-petroleum-products/where-our-oil-comes-from.php (accessed July 16, 2023).
111. Tsvetana Paraskova, "Global Superpowers Vie for Power in World's Most Important Oil Chokepoint," OilPrice.com, December 26, 2019, https://oilprice.com/Latest-Energy-News/World-News/Global-Superpowers-Vie-For-Power-In-Worlds-Most-Important-Oil-Chokepoint.htm (accessed July 16, 2023).

112. Quoted in Jacqueline K. Davis and Robert L. Pfaltzgraff Jr., *Anticipating a Nuclear Iran: Challenges for U.S. Security* (New York: Columbia University Press, 2014), p. 188.

113. Radio Free Europe/Radio Liberty, Radio Farda, "Iranian Commander Says Navy Could Shut Down Strait of Hormuz if Needed," updated April 28, 2019, https://www.rferl.org/a/iran-suggests-quitting-nuclear-treaty-after-u-s-tightens-sanctions/29908567.html?ltflags=mailer (accessed July 16, 2023).

114. BBC News, "Tankers Almost Certainly Damaged by Iranian Naval Mines, US Says," May 29, 2019, https://www.bbc.com/news/world-middle-east-48443454 (accessed July 16, 2023).

115. Sam LaGrone, "Analyst: New Photos Are 'Smoking Gun' Proving Iranian Involvement in Tanker Attack," U.S. Naval Institute News, updated June 18, 2019, https://news.usni.org/2019/06/17/analyst-new-photos-are-smoking-gun-proving-iranian-involvement-in-tanker-attack (accessed July 16, 2023).

116. Radio Free Europe/Radio Liberty, "Trump Confirms He Ordered, Then Halted U.S. Military Strikes on Iran," updated June 21, 2019, https://www.rferl.org/a/times-report-trump-approved-military-strikes-iran-called-off/30011802.html (accessed July 16, 2023).

117. BBC News, "Iran Navy 'Friendly Fire' Incident Kills 19 Sailors in Gulf of Oman," May 11, 2020, https://www.bbc.com/news/world-middle-east-52612511 (accessed July 16, 2023).

118. "Israel Has Struck at Least 12 Ships Carrying Iranian Oil to Syria, Report Says," *Haaretz*, March 11, 2021, https://www.haaretz.com/israel-news/2021-03-11/ty-article/israel-has-struck-at-least-12-ships-carrying-iranian-oil-to-syria-report-says/0000017f-f51d-d47e-a37f-fd3dee790000 (accessed July 17, 2023), and Amir Vahdat and Jon Gambrell, "Iran's Largest Warship Catches Fire, Sinks in Gulf of Oman," *Los Angeles Times*, June 2, 2021, https://www.latimes.com/world-nation/story/2021-06-02/iran-largest-navy-ship-catches-fire-sinks#:~:text=The%20Iranian%20naval%20support%20ship,sank%20on%20June%202%2C%202021.&text=The%20largest%20warship%20in%20the,amid%20tensions%20with%20the%20West (accessed July 17, 2023).

119. Farzin Nadimi, "Iran and Israel's Undeclared War at Sea (Part 2): The Potential for Military Escalation," Washington Institute for Near East Policy, *PolicyWatch* No. 3470, April 13, 2021, https://www.washingtoninstitute.org/policy-analysis/iran-and-israels-undeclared-war-sea-part-2-potential-military-escalation (accessed July 17, 2023).

120. Ibid.

121. Reuters, "Israel Blames Iran for Attack on Oil Tanker," February 19, 2023, https://www.reuters.com/world/middle-east/israeli-pm-iran-attacked-oil-tanker-last-week-persian-gulf-2023-02-19/ (accessed July 17, 2023).

122. Tom O'Connor, "Iran's Military Fires New Cruise Missiles amid Gulf Tensions with U.S.," *Newsweek*, April 26, 2017, https://www.newsweek.com/iran-military-fire-cruise-missiles-gulf-tensions-us-590462 (accessed July 17, 2023), and Editor, "Iranian Navy Test-Fires Long-Range Qadir Cruise Missile During Drills," DefenceTalk.com, January 26, 2018, https://www.defencetalk.com/iranian-navy-test-fires-long-range-qadir-cruise-missile-during-drills-71175/ (accessed July 17, 2023).

123. U.S. Department of Defense, Defense Intelligence Agency, *Iran Military Power: Ensuring Regime Survival and Securing Military Dominance*, pp. 32 and 55.

124. Cordesman et al., *The Gulf Military Balance, Volume I: The Conventional and Asymmetric Dimensions*, p. 205.

125. Michael Knights, *Troubled Waters: Future U.S. Security Assistance in the Persian Gulf*, Washington Institute for Near East Policy, 2006, p. 71, https://www.washingtoninstitute.org/policy-analysis/troubled-waters-future-us-security-assistance-persian-gulf (accessed July 17, 2023).

126. Cordesman et al., *The Gulf Military Balance, Volume I: The Conventional and Asymmetric Dimensions*, pp. 82–95.

127. Fariborz Haghshenass, "Iran's Asymmetric Naval Warfare," Washington Institute for Near East Policy, *Policy Focus* No. 87, September 2008, p. 1, https://www.washingtoninstitute.org/media/3446 (accessed July 17, 2023).

128. Sam LaGrone, "Iran Releases Maersk Tigris," U.S. Naval Institute News, May 7, 2015, https://news.usni.org/2015/05/07/iran-releases-maersk-tigris#:~:text=The%20Iranian%20government%20released%20merchant,shipping%20company%20annouced%20on%20Thursday (accessed July 17, 2023).

129. Jonathan Saul, "Tanker Attacked by Iranian Craft Collided with Iran Oil Platform in March: Owner," Reuters, May 15, 2015, https://www.reuters.com/article/us-gulf-iran-ship/tanker-attacked-by-iranian-craft-collided-with-iran-oil-platform-in-march-owner-idUSKBN0O01F620150515 (accessed July 17, 2023).

130. Reuters, "Iran Seizes Two Greek Tankers amid Row over U.S [sic] Oil Grab," May 27, 2022, https://www.reuters.com/world/middle-east/iran-summons-swiss-envoy-over-us-seizure-iranian-oil-isna-2022-05-27/ (accessed July 17, 2023).

131. Dion Nissenbaum and Costas Paris, "Iran Seizes Second Oil Tanker in a Week," *The Wall Street Journal*, updated May 3, 2023, https://www.wsj.com/articles/iran-seizes-oil-tanker-in-strait-of-hormuz-u-s-navy-says-85f4d7cf (accessed July 17, 2023).

132. "US Will Bolster Posture in Persian Gulf as Iran Seizes Third Tanker," *The Maritime Executive*, May 12, 2023, https://maritime-executive.com/article/us-will-bolster-posture-in-persian-gulf-protecting-commercial-shipping (accessed July 17, 2023).

133. Jon Gambrell, "US Navy Says Iran Revolutionary Guard Fast-Attack Boats 'Harassed' Ship in Strait of Hormuz," Associated Press, June 5, 2023, https://apnews.com/article/iran-tanker-seizures-us-uk-navy-revolutionary-guard-a8996a3dccccc82f8fa8d8bf263c9cfb (accessed July 17, 2023).

134. “Shots Fired as Iran Approaches Crude Oil Tanker Near Oman,” *The Maritime Executive*, July 5, 2023, https://maritime-executive.com/article/shots-fired-as-iran-approaches-laden-crude-oil-tanker-near-oman (accessed July 17, 2023).
135. James Phillips, “The Dangerous Regional Implications of the Iran Nuclear Agreement,” Heritage Foundation *Backgrounder* No. 3124, May 9, 2016, http://www.heritage.org/middle-east/report/the-dangerous-regional-implications-the-iran-nuclear-agreement.
136. Associated Press, “US Accuses Iran of Conducting ‘Highly Provocative’ Rocket Test Near Warships,” *The Guardian*, December 30, 2015, https://www.theguardian.com/world/2015/dec/30/us-accuses-iran-of-conducting-highly-provocative-rocket-test-near-warships (accessed July 17, 2023).
137. See, for example, Lolita C. Baldor, “Iran Is Flying Unarmed Drones over U.S. Navy Warships in the Persian Gulf,” *Chicago Tribune*, August 25, 2017, https://www.chicagotribune.com/nation-world/ct-iran-drones-persian-gulf-20170825-story.html (accessed July 17, 2023), and Mark Moore, “Iran Reportedly Used Drone to Take Close-up Images of US Aircraft Carrier in Persian Gulf,” *New York Post*, April 22, 2021, https://nypost.com/2021/04/22/iran-flew-drone-over-us-ship-in-persian-gulf-captured-images/ (accessed July 17, 2023).
138. Robert Burns, “Navy Probe: US Sailors Were Ill-Prepared for Iran Encounter,” Associated Press, June 30, 2016, https://apnews.com/article/ab692b20974a4340815eb49bb51b35e8 (accessed July 17, 2023).
139. Robert Burns, “US Military Official: Iran Naval Forces Halt ‘Provocations,’” Associated Press, March 15, 2018, https://www.apnews.com/a36e23a8d549464caaea7dc1932babae (accessed July 17, 2023).
140. U.S. 5th Fleet Public Affairs, “IRGCN Vessels Conduct Unsafe, Unprofessional Interaction with U.S. Naval Forces in Arabian Gulf,” U.S. Central Command, April 15, 2020, https://www.centcom.mil/MEDIA/NEWS-ARTICLES/News-Article-View/Article/2151736/irgcn-vessels-conduct-unsafe-unprofessional-interaction-with-us-naval-forces-in/ (accessed July 17, 2023).
141. Sam LaGrone, “U.S. Sailors Fire Warning Shots to Ward off Harassing Iranian Fast Boats in Persian Gulf,” U.S. Naval Institute News, April 27, 2021, https://news.usni.org/2021/04/27/u-s-sailors-fire-warning-shots-to-ward-off-harassing-iranian-fast-boats-in-persian-gulf (accessed July 17, 2023).
142. United States Institute of Peace, The Iran Primer, “Timeline: U.S.–Iran Naval Encounters,” The Iran Primer, July 6, 2023, https://iranprimer.usip.org/blog/2021/may/05/timeline-us-iran-naval-encounters (accessed July 17, 2023).
143. Ibid.
144. BBC News, “Iran Detains 10 US Sailors After Vessels Stopped in the Gulf,” January 13, 2016, https://www.bbc.com/news/world-us-canada-35295766 (accessed July 17, 2023), and France 24, “Iran Seizes British Tanker in Strait of Hormuz as Tensions Mount,” modified July 20, 2019, https://www.france24.com/en/20190719-iran-seized-british-oil-tanker-strait-hormuz (accessed July 17, 2023).
145. Kenneth Katzman, Neelesh Nerurkar, Ronald O’Rourke, R. Chuck Mason, and Michael Ratner, “Iran’s Threat to the Strait of Hormuz,” Congressional Research Service *Report for Congress* No. R42335, January 23, 2012, p. 9, https://fas.org/sgp/crs/mideast/R42335.pdf (accessed July 16, 2023).
146. Sune Engel Rasmussen, “Iran’s Fast Boats and Mines Bring Guerrilla Tactics to Persian Gulf,” *The Wall Street Journal*, updated May 30, 2019, https://www.wsj.com/articles/irans-fast-boats-and-mines-bring-guerrilla-tactics-to-persian-gulf-11559208602 (accessed July 17, 2023).
147. Paul Bucala, Caitlin Shayda Pendleton, Christopher Harmer, Emily Estelle Perez, and Marie Donovan, “Iranian Involvement in Missile Attacks on the USS Mason,” American Enterprise Institute, Critical Threats Project, October 19, 2016, https://www.criticalthreats.org/analysis/iranian-involvement-in-missile-attacks-on-the-uss-mason (accessed July 17, 2023).
148. Gambrell, “Bomb-Laden Drones of Yemen Rebels Threaten Arabian Peninsula.”
149. United States Institute of Peace, The Iran Primer, “Timeline of Houthi Attacks on Saudi Arabia,” September 16, 2019, https://iranprimer.usip.org/blog/2019/sep/16/timeline-houthi-attacks-saudi-arabia (accessed July 17, 2023).
150. BBC News, “Saudi Oil Attacks: US Says Intelligence Shows Iran Involved,” September 16, 2019, https://www.bbc.com/news/world-middle-east-49712417 (accessed July 17, 2023).
151. Michael Knights, “Continued Houthi Strikes Threaten Saudi Oil and the Global Economic Recovery,” Washington Institute for Near East Policy, *PolicyWatch* No. 3449, March 12, 2021, https://www.washingtoninstitute.org/policy-analysis/continued-houthi-strikes-threaten-saudi-oil-and-global-economic-recovery (accessed July 17, 2023).
152. Jon Gambrell, “Bomb-Laden Drone from Yemen Rebels Targets Saudi Airport,” Associated Press, May 21, 2019, https://apnews.com/d7a332d8303349b6bc2f63b8eb8675e8 (accessed July 17, 2023).
153. Jon Gambrell, “US: Iran Military Could Misidentify Airliners amid Tension,” Associated Press, May 18, 2019, https://www.apnews.com/b4f5c00455fb4ffb878ed29df58abc03 (accessed July 17, 2023).
154. Farnaz Fassihi, “Anatomy of a Lie: How Iran Covered up the Downing of an Airliner,” *The New York Times*, January 26, 2020, https://www.nytimes.com/2020/01/26/world/middleeast/iran-plane-crash-coverup.html (accessed July 17, 2023).
155. Fact Sheet, “Iran Missile Overview,” Nuclear Threat Initiative, updated/last reviewed November 7, 2017, https://www.nti.org/analysis/articles/iran-missile/ (accessed July 17, 2023).
156. Seth J. Frantzman, “North Korea’s Massive New Missile Could Help Iran Threaten Israel,” *The Jerusalem Post*, October 11, 2020, https://www.jpost.com/international/north-koreas-massive-new-missile-could-help-iran-threaten-israel-645359 (accessed July 17, 2023).

157. Lateef Mungin, "Iran Claims 2nd Launch of Monkey into Space and Back," CNN, updated December 14, 2013, http://www.cnn.com/2013/12/14/world/meast/iran-monkey-space/ (accessed July 17, 2023).

158. Nasser Karimi, "Iran Says It Sets up Space Monitoring Center," *The San Diego Union-Tribune*, June 9, 2013, https://www.sandiegouniontribune.com/sdut-iran-says-it-sets-up-space-monitoring-center-2013jun09-story.html (accessed July 17, 2023).

159. Reuters, "U.S. Says Iran Rocket Test Breaches U.N. Resolution," July 27, 2017, https://www.reuters.com/article/us-iran-satellite/u-s-says-iran-rocket-test-breaches-u-n-resolution-idUSKBN1AC1YY (accessed July 17, 2023).

160. U.S. Department of Defense, Defense Intelligence Agency, *Iran Military Power: Ensuring Regime Survival and Securing Military Dominance*, p. 37.

161. Associated Press, "Iran Guard Reveals Secret Space Program in Satellite Launch," April 22, 2020, https://apnews.com/0b45baa8a846f55e058e98905e290ce5 (accessed July 17, 2023).

162. Agence France-Presse, "Pentagon Downplays Iranian Military Satellite as 'a Tumbling Webcam in Space,'" *The Times of Israel*, April 27, 2020, https://www.timesofisrael.com/pentagon-downplays-iranian-military-satellite-as-a-tumbling-webcam-in-space/ (accessed July 18, 2023).

163. Jon Simkins, "Space Force General Trolls Iranian Military Satellite Launch—'Space Is Hard,'" *Military Times*, April 28, 2020, https://www.militarytimes.com/off-duty/military-culture/2020/04/28/space-force-general-trolls-iranian-military-satellite-launch-space-is-hard/ (accessed July 18, 2023).

164. Michael Rubin, "Iran's Satellite Program Is All About Missiles," *1945*, February 8, 2021, https://www.19fortyfive.com/2021/02/irans-satellite-program-is-all-about-missiles/ (accessed July 18, 2023).

165. Associated Press, "Iran Says It launched Test 'Tug' into Suborbital Space," October 4, 2022, https://apnews.com/article/space-launches-iran-technology-middle-east-omar-khayyam-fca02f84c72dd3cee5dbc0f075b74975 (accessed July 18, 2023).

166. Jon Gambrell, "Satellite Photos Show Iran Had Another Failed Space Launch," Associated Press, March 2, 2022, https://apnews.com/article/space-launches-technology-science-business-iran-4ed71f17a612e8aef2c9b58af4538183 (accessed July 18, 2023).

167. Ilan Berman, Vice President, American Foreign Policy Council, "The Iranian Cyber Threat, Revisited," statement before the Subcommittee on Cybersecurity, Infrastructure Protection, and Security Technologies, Committee on Homeland Security, U.S. House of Representatives, March 20, 2013, p. 3, https://docs.house.gov/meetings/HM/HM08/20130320/100523/HHRG-113-HM08-Wstate-BermanI-20130320.pdf (accessed July 18, 2023). See also hearing, *Cyber Threats from China, Russia, and Iran: Protecting American Critical Infrastructure*, Subcommittee on Cybersecurity, Infrastructure Protection, and Security Technologies, Committee on Homeland Security, U.S. House of Representatives, 113th Cong., 1st Sess., March 20, 2013, https://www.govinfo.gov/content/pkg/CHRG-113hhrg82583/pdf/CHRG-113hhrg82583.pdf (accessed July 18, 2023).

168. "Report: Iran Hackers Infiltrated Airlines, Energy, Defense Firms," *Defense News*, December 2, 2014, https://www.defensenews.com/global/mideast-africa/2014/12/02/report-iran-hackers-infiltrated-airlines-energy-defense-firms/ (accessed July 18, 2023).

169. Nart Villeneuve, Ned Moran, Thoufique Haq, and Mike Scott, "Operation Saffron Rose 2013," FireEye, 2014, https://www.infopoint-security.de/medien/fireeye-operation-saffron-rose.pdf (accessed July 18, 2023).

170. Ian Bremmer, "These 5 Facts Explain the State of Iran," *Time*, March 27, 2015, http://time.com/3761786/5-facts-explain-iran-nuclear-talks-sanctions/ (accessed July 18, 2023). Israel's Institute for National Security Studies similarly reported in October 2012 that "[i]n order to realize the goals of its strategy, Iran has allocated about $1 billion to develop and acquire technology and recruit and train experts." Gabi Siboni and Sami Kronenfeld, "Iran's Cyber Warfare," Tel Aviv University, Institute for National Security Studies, *INSS Insight* No. 375, October 15, 2012, p. 2, https://www.inss.org.il/wp-content/uploads/systemfiles/375.pdf (accessed July 18, 2023).

171. Frederick W. Kagan and Tommy Stiansen, *The Growing Cyberthreat from Iran: The Initial Report of Project Pistachio Harvest*, American Enterprise Institute Critical Threats Project and Norse Corporation, April 2015, passim, https://www.aei.org/wp-content/uploads/2015/04/Growing-Cyberthreat-From-Iran-final.pdf (accessed July 18, 2023).

172. Berman, "The Iranian Cyber Threat, Revisited," p. 3.

173. Tony Capaccio, David Lerman, and Chris Strohm, "Iran Behind Cyber-Attack on Adelson's Sands Corp., Clapper Says," Bloomberg, February 26, 2015, http://www.bloomberg.com/news/articles/2015-02-26/iran-behind-cyber-attack-on-adelson-s-sands-corp-clapper-says (accessed July 18, 2023).

174. Christopher Bronk and Eneken Tikk-Ringas, "The Cyber Attack on Saudi Aramco," *Survival: Global Politics and Strategy*, Vol. 55, No. 2 (April/May 2013), pp. 81–96, https://www.researchgate.net/publication/263449655_The_Cyber_Attack_on_Saudi_Aramco (accessed July 18, 2023).

175. Ben Caspit, "Israel Response to Cyber Attack Sends Clear Warning to Iran," Al-Monitor, May 22, 2020, https://www.al-monitor.com/pulse/originals/2020/05/israel-us-iran-mike-pompeo-aviv-kochavi-cyberattack-port.html (accessed July 18, 2023).

176. Joby Warrick and Ellen Nakashima, "Officials: Israel Linked to a Disruptive Cyberattack on Iranian Port Facility," *The Washington Post*, May 18, 2020, https://www.washingtonpost.com/national-security/officials-israel-linked-to-a-disruptive-cyberattack-on-iranian-port-facility/2020/05/18/9d1da866-9942-11ea-89fd-28fb313d1886_story.html (accessed July 18, 2023).

177. Clearsky Cyber Security, "Operation Quicksand: MuddyWater's Offensive Attack Against Israeli Organizations," October 2020, https://www.clearskysec.com/wp-content/uploads/2020/10/Operation-Quicksand.pdf (accessed July 18, 2023).

178. Reuters, "Iranian Military Hackers Focus on U.S. Administration Officials—WSJ," November 4, 2015, https://www.reuters.com/article/cybersecurity-usa-iran/iranian-military-hackers-focus-on-u-s-administration-officials-wsj-idUSL1N13005N20151105 (accessed July 18, 2023).

179. TOI Staff, "Israel Behind Cyberattack that Caused 'Total Disarray' at Iran Port—Report," *The Times of Israel*, May 19, 2020, https://www.timesofisrael.com/israel-said-behind-cyberattack-that-caused-total-disarray-at-iran-port-report/ (accessed July 18, 2023).
180. Jack Stubbs and Christopher Bing, "Exclusive: Iran-Linked Hackers Recently Targeted Coronavirus Drugmaker Gilead—Sources," Reuters, May 8, 2020, https://www.reuters.com/article/us-healthcare-coronavirus-gilead-iran-ex/exclusive-iran-linked-hackers-recently-targeted-coronavirus-drugmaker-gilead-sources-idUSKBN22K2EV (accessed July 18, 2023).
181. Daniel Uria, "FBI Director Says Agency Thwarted Hack of Boston Children's Hospital," United Press International, June 1, 2022, https://www.upi.com/Top_News/US/2022/06/01/FBI-director-Christopher-Wray-agency-thwarted-hack-Boston-Childrens-hospital/6281654123694/ (accessed July 18, 2023).
182. Llazar Semini, "Albania Reports 2nd Cyberattack by Iran, on Border Systems," Associated Press, September 10, 2022, https://apnews.com/article/nato-middle-east-iran-albania-abb0af0914964ce6d9a854bdd0a0559a (accessed July 18, 2023).
183. Al-Monitor Staff, "Iran Suspect in Cyberattack Targeting Israeli Shipping, Financial Firms," Al-Monitor, May 24, 2023, https://www.al-monitor.com/originals/2023/05/iran-suspect-cyberattack-targeting-israeli-shipping-financial-firms (accessed July 18, 2023).
184. Maria Zuppello, "Iranian Cyberwar Grows Aggressive with Russia and Hizballah's Help," Investigative Project on Terrorism, May 31, 2022, https://www.investigativeproject.org/9176/iranian-cyberwar-grows-aggressive-with-russia (accessed July 17, 2023).
185. Dov Lieber, Benoit Faucon, and Michael Amon, "Russia Supplies Iran with Cyber Weapons as Military Cooperation Grows," *The Wall Street Journal*, March 27, 2023, https://www.wsj.com/articles/russia-supplies-iran-with-cyber-weapons-as-military-cooperation-grows-b14b94cd (accessed July 17, 2023).
186. Jim Finkle, "Iranian Hackers Use Fake Facebook Accounts to Spy on U.S., Others," Reuters, May 29, 2014, https://www.reuters.com/article/iran-hackers-idCNL1N0OE2CU20140529 (accessed July 17, 2023).
187. Bill Gertz, "FBI: Iran to Launch New Cyber Attacks," *The Washington Free Beacon*, May 24, 2018, http://freebeacon.com/national-security/fbi-iran-launch-new-cyber-attacks/ (accessed July 17, 2023).
188. Press release, "United States Seizes 27 Additional Domain Names Used by Iran's Islamic Revolutionary Guard Corps to Further a Global, Covert Influence Campaign," U.S. Department of Justice, November 4, 2020, https://www.justice.gov/opa/pr/united-states-seizes-27-additional-domain-names-used-iran-s-islamic-revolutionary-guard-corps (accessed July 17, 2023). See also Andrew Hanna, "The Invisible U.S.–Iran Cyber War," United States Institute of Peace, The Iran Primer, November 1, 2021, https://iranprimer.usip.org/blog/2019/oct/25/invisible-us-iran-cyber-war (accessed July 17, 2023).
189. Office of the Director of National Intelligence, National Intelligence Council, "Foreign Threats to the 2020 U.S. Federal Elections," *Intelligence Community Assessment* No. ICA 2020-00078D, March 10, 2021, declassified March 15, 2021, p. i, https://www.dni.gov/files/ODNI/documents/assessments/ICA-declass-16MAR21.pdf (accessed July 17, 2023).
190. Ibid., pp. 5–6.
191. Microsoft Threat Intelligence, "Nation-State Threat Actor Mint Sandstorm Refines Tradecraft to Attack High-Value Targets," April 18, 2023, https://www.microsoft.com/en-us/security/blog/2023/04/18/nation-state-threat-actor-mint-sandstorm-refines-tradecraft-to-attack-high-value-targets/ (accessed July 17, 2023).
192. This *Index* scores threat capability as it relates to the vital national interests of the United States and the role and utility of U.S. military forces. Terrorist groups clearly have the ability to conduct attacks using improvised explosive devices (IEDs), firearms, and even hijacked airplanes. The bombing of the Boston Marathon in April 2013, an attempted car bomb attack in New York City's Times Square in May 2010, and al-Qaeda's attacks on September 11, 2001, are stark examples. Often, the U.S. has handled terrorism as a law enforcement and intelligence collection matter, especially within the United States and when it presents a threat to particular U.S. interests in other countries. Compared to the types of threats posed by such states as China or Russia, terrorism is a lesser sort of threat to the security and viability of the U.S. as a global power. However, this *Index* does *not* dismiss the deaths, injuries, and damage that terrorists can inflict on Americans at home and abroad; it places the threat posed by terrorism in context with substantial threats to the U.S. homeland, the potential for major regional conflict, and the potential to deny U.S. access to the global commons. With this in mind, terrorist groups seldom have the physical ability either to accomplish their extreme stated objectives or to present a physical threat that rises to a level that threatens U.S. vital security interests. Of course, terrorist organizations can commit acts of war on a continuing basis, as reflected in their conduct in the war against al-Qaeda and its associates in which the United States has been engaged for more than two decades.

North Korea

Bruce Klingner

North Korea is a perennial problem in Asia because of the regime's consistently provocative behavior and enhanced missile, nuclear, and cyber capabilities, all of which pose a threat to the United States and its allies. These actions and capabilities, though not on the same existential scale as the threat posed by China or Russia, threaten to undermine not only regional stability and security, but the American homeland itself.

Pyongyang now has a spectrum of missile systems that threaten both the continental United States and U.S. forces and allies in Asia with nuclear weapons. On assuming power in 2011, Kim Jong-un accelerated nuclear and missile testing and oversaw an expansive diversification of North Korea's arsenal. He directed the North Korean military to develop a new strategy that would enable North Korea to use "asymmetric capabilities including nuclear weapons and missiles" to "occupy the entire South Korean territory within seven days."[1] New weapons overcame the shortcomings of their predecessors and now pose a far greater threat to allied forces in spite of advancements in missile defense systems.

Threats to the Homeland

In 2017, North Korea conducted three successful launches of the Hwasong-14 and Hwasong-15 ICBMs, demonstrating the ability to target the entire continental United States with nuclear weapons. In January 2021, at the Eighth Congress of the Workers Party of Korea (WPK), Kim Jong-un announced an ambitious five-year plan to develop multiple-warhead and solid-fueled ICBMs, hypersonic glide warheads, tactical nuclear weapons, nuclear-powered submarines, military reconnaissance satellites, and a long-range nuclear-powered submarine capable of launching nuclear strategic weapons while under water.[2] In November 2022, North Korea conducted the first successful test of the massive Hwasong-17, the world's largest road-mobile ICBM, after two previous failed launches earlier in the year. The Hwasong-17 is assessed to carry three or four nuclear warheads.

In April 2023, the regime successfully launched the three-stage Hwasong-18 solid-fuel ICBM, which also will likely have multiple warheads. North Korea first revealed the Hwasong-18, along with 12 liquid-fueled Hwasong-17 ICBMs, at its February 2023 military parade. Pyongyang tested the first stage of the Hwasong-18 in December 2022 and announced that the missile had a thrust of 140 tons of force,[3] which is greater than any U.S., Russian, or Chinese ICBM.[4] In general, the amount of thrust produced by an engine implies a greater ability to lift a weightier payload or to achieve a longer range. In either case, the extraordinary thrust of the Hwasong-18 implies a payload or thrust advantage over other national missile inventories.

The regime's ability to produce multiple-warhead ICBMs conceivably could overwhelm the limited missile defenses protecting the American homeland. Currently, the U.S. is defended by only 44 Ground-Based Interceptors in Alaska and California and plans to add an additional 20 by the late 2020s.

North Korea has conducted six nuclear tests, including a test in 2017 of a powerful hydrogen bomb with an explosive yield approximately 10 times the yields of the Hiroshima and Nagasaki atomic bombs of World War II. In 2017, the U.S. Defense Intelligence Agency (DIA) reportedly "estimated [that North Korea had] a stockpile of up to 60 nuclear warheads."[5] In addition, "[s]ome experts have estimated that North Korea could produce enough

nuclear material for an additional seven warheads per year,"[6] and others have estimated that the number could be as high as 12 per year.[7]

In recent years, North Korea has expanded and refined manufacturing facilities for fissile material, nuclear weapons, missiles, mobile missile launchers, and reentry vehicles. By 2027, according to a RAND Corporation analysis, "North Korea could have 200 nuclear weapons and several dozen intercontinental ballistic missiles (ICBMs) and hundreds of theater missiles for delivering the nuclear weapons."[8]

In January 2023, Kim Jong-un vowed to "exponentially increase" nuclear weapon production to counter alleged threats from the U.S. and South Korea.[9] In March 2023, Kim was observed with a display of 10 Hwasan-31 tactical nuclear weapons that are compatible with eight different types of delivery systems.[10]

In September 2022, Pyongyang passed a new law that lowered the threshold for its use of nuclear weapons. The regime declared that it would use nuclear weapons "in response to, or *perceived preparations* for, a [U.S. or South Korean] nuclear or *non-nuclear* attack on regime leadership, nuclear command structure, or important strategic targets,"[11] thereby adding to the risk that North Korea might use such weapons in response to U.S.–South Korea defense activities.

Pyongyang has created a new generation of advanced mobile missiles that are more accurate, survivable, and capable of evading allied missile defenses. Its evolving nuclear and missile forces increasingly give the regime the ability to conduct surprise preemptive first-strike, retaliatory second-strike, and battlefield counterforce attacks.

The collapse of the February 2019 U.S.–North Korean summit in Hanoi led Pyongyang to initiate extensive missile testing from 2019–2023.

- In 2019, North Korea conducted 26 missile launches, its highest-ever number of violations of U.N. resolutions in a single year. The regime also unveiled five new short-range missile systems threatening South Korea, including a 400 mm multiple rocket launcher (MRL); the KN-23 maneuverable missile, which is similar to the Russian Iskander; the KN-24 missile, which is similar to the U.S. Army Tactical Missile System (ATACMS); the KN-25 600 mm MRL; and the Pukguksong-3 SLBM. The enhanced accuracy of these systems enables North Korea to accomplish counterforce operations with fewer missiles.

- In 2021, Pyongyang conducted more missile launches, revealing an additional five new missile systems, including a long-range cruise missile, an SLBM, an improved short-range ballistic missile, the first North Korean missiles launched from a train, and the Hwasong-8 hypersonic glide missile.[12]

- In 2022, North Korea launched at least 69 ballistic missiles and eight cruise missiles. It conducted salvo launches of multiple missiles simulating nuclear attacks on South Korean ports, airfields, and hardened military command targets.[13] The regime has launched missiles from road-mobile transporters, railcars, submarines, and underwater from a lake.

- In January 2022, Pyongyang test-launched its second hypersonic missile capable of evasive flight maneuvers. North Korean–released photos show a warhead design that is different from the Hwasong-8 tested the previous year. Both hypersonic missiles have detachable, maneuverable warheads that can fly at lower altitudes than standard ballistic missiles, which follow a more predictable parabolic trajectory. These characteristics make radar tracking more difficult and enable the weapons to evade allied missile defense interceptors.[14]

The KN-18 and KN-21 Scud variants also have maneuverable reentry vehicles, and the KN-23's flight profile showed evasive characteristics instead of a typical ballistic parabola. The KN-23 was flown at depressed trajectories, potentially between the upper reach of Patriot missiles and below the minimum intercept altitude for Terminal High Altitude Area Defense (THAAD), with a final pull-up maneuver that provides a steep terminal descent.[15] The KN-23 could also be used in a first strike against leadership, hardened command and control, or high-value military targets.

North Korea has successfully tested the Pukguksong-1 (KN-11); Pukguksong-3 (KN-26); and an unidentified SLBM, which could target South Korea

and Japan, potentially with a nuclear warhead. North Korea revealed the Pukguksong-4, Pukguksong-5, and Pukguksong-6 SLBM missiles in its October 2020, January 2021, and April 2022 parades.[16]

In 2023, the U.S. Intelligence Community assessed that "Kim Jong-un is continuing efforts to enhance North Korea's nuclear and conventional capabilities targeting the United States and its allies which will enable periodic aggressive actions to try to reshape the regional security environment in his favor."[17]

> Since September 2022, North Korea has timed its missile launches and military demonstrations to counter U.S.–South Korea exercises probably to attempt to coerce the United States and South Korea to change their behavior and counteract South Korean President Yoon's hardline policies toward the North. Pyongyang probably wants the alliance to decrease the pace and scale of the exercises with the ultimate goal of undermining the strength of the alliance.[18]

Pyongyang is seeking to gain tacit acceptance of its violations of United Nations resolutions, and thereby prevent additional punitive measures, through routinization of its missile launches and reliance on Chinese and Russian obstructionism at the U.N. Security Council.[19] By depicting its military provocations as justified responses to resumed U.S.–South Korean military drills, Pyongyang seeks to coerce the allies into curtailing future exercises. Pyongyang has long vowed never to abandon its nuclear arsenal, which it describes as both a "trusted shield" and "treasured sword" for deterrence and preemptive attack against the United States and its allies.[20]

Threat of Regional War

In addition to its nuclear and missile forces, North Korea has approximately a million people in its military and several million more in its reserves. Pyongyang has forward-deployed 70 percent of its ground forces, 60 percent of its naval forces, and 40 percent of its naval forces south of the Pyongyang–Wonsan line. South Korea assesses that *"North Korea maintains a readiness posture capable of carrying out a surprise attack [on the South] at any given time."*[21]

North Korea has an extensive quantity of conventional forces, but the majority of their weapons were manufactured from the 1950s to the 1970s and are of low quality. The ground forces have approximately 3,500 tanks, 2,500 armored personnel carriers, 8,600 towed and self-propelled artillery, and 5,500 multiple rocket launchers.[22] North Korea's tank inventory consists predominantly of 1950s-era and 1960s-era T-55 and T-62 tanks. It also has indigenously produced updated tank variants, but they remain outdated compared to South Korean and U.S. tanks, as do North Korea's light armored vehicles, artillery, combat helicopters, and other ground force weapons.

North Korea has unveiled some new ground force weapons, including tanks and self-propelled artillery, at military parades in recent years, but it is not likely that significant numbers of these weapons have actually been deployed. Pyongyang has compensated for the large number of aging systems by prioritizing the deployment of strong asymmetric capabilities that include special operations forces, long-range artillery, and a broad array of newly developed missiles, several of which are assessed to be nuclear-capable.

North Korea's naval and air forces are similarly obsolete and underequipped compared with South Korea's. The North Korean navy has a limited number of aged surface vessels that have fared badly against South Korean naval forces in skirmishes along the maritime Northern Limit Line in the Yellow Sea. The navy has only two frigates and several hundred corvettes and other small coastal combatants.

Pyongyang has 71 submarines, but only one is a *Gorae*–class that is capable of firing ballistic missiles. The remaining force is composed of *Romeo*–class and *Yugo*–class submarines, both 1960s-vintage, and *Sango-O*–class submarines, which were fielded in the early 1990s.

The North Korean air force consists of 545 older combat aircraft that are no match for modern South Korean and U.S. aircraft. North Korean fighters include vintage Mig-15 *Fagot*, Mig-17 *Fresco*, Mig-19 *Farmer*, Mig-21 *Fishbed*, Mig-23 *Flogger*, and Mig-29 *Foxbat* aircraft.[23] Even the relatively small number of third-generation fighter airplanes are of 1980s design.

In September 2018, the two Koreas signed a Comprehensive Military Agreement to ease

military tension and build confidence. The agreement sought to reduce the danger that inadvertent tactical military clashes along the Demilitarized Zone (DMZ) might escalate to larger strategic conflicts. However, static defensive positions like fixed concrete bunkers and minefields are not threatening and have never been the source of military clashes on the peninsula. The greatest danger arises from the forward, offensively oriented disposition of North Korea's forces and the regime's history of making threats and initiating hostilities. The confidence-building measures implemented to date have not reduced North Korea's tactical or strategic conventional military threat to South Korea and do not represent progress in denuclearization.

Due to a predicted shortfall in 18-year-old conscripts, South Korea initiated a comprehensive defense reform strategy to transform its military into a smaller but more capable force to deal with the North Korean threat. Overall, South Korea's military manpower will be reduced by approximately 25 percent, from 681,000 to a planned goal of 500,000. The South Korean military currently has a total strength of 555,000: 420,000 in the army, 70,000 in the navy, and 65,000 in the air force.[24] Seoul is compensating for decreasing troop levels by procuring advanced fighter and surveillance aircraft, naval platforms, and ground combat vehicles.

Threat to the Commons

Pyongyang has developed an advanced cyber warfare prowess that is surpassed by that of few other nations. Beginning with rudimentary distributed denial-of-service (DDoS) attacks against South Korea, the regime has managed to create a robust and global array of disruptive military, financial, and espionage cyber capabilities.

North Korean leader Kim Jong-un has declared that cyber warfare is a "magic weapon" and an "all-purpose sword that guarantees the North Korean People's Armed Forces ruthless striking capability, along with nuclear weapons and missiles."[25] In the run-up to a crisis or as an alternative to kinetic strikes, the regime could paralyze critical infrastructure systems such as communications, dams, electrical grids, hospitals, nuclear power plants, supply chains, and traffic-control systems. North Korean hackers have targeted railroad companies and airlines, including an automated operating system that controls trains' speed.

Pyongyang could also "engage in economic warfare to steal massive amounts of money or undermine the stability of the international financial system or worldwide markets" and "conduct ransomware attacks on banks to gain money or to disable or destroy computer networks as well as flood the SWIFT [financial messaging] system with fraudulent transactions."[26] Pyongyang has absconded with billions of dollars in money and cyber currency to evade international sanctions and increase its ability to finance its nuclear and missile programs. According to the U.S. Department of Justice, North Korean hacking of virtual currency exchanges and related money laundering "poses a grave threat to the security and integrity of the global financial system."[27]

To the extent that the cyber domain is a "global commons" used by all people and countries, North Korea's investment in and exploitation of cyber warfare capabilities presents a very real threat.

Conclusion

North Korea's nuclear and missile forces represent its greatest military threat. Its naval and air forces would not be expected to last long in a conflict with South Korea and the United States, but they would have to be accounted for in any defense by South Korea. Pyongyang's ground forces are largely equipped with older weapons, but they also are extensive and forward-deployed. Thousands of artillery systems deployed near the demilitarized zone could inflict devastating damage on South Korea, especially Seoul, before allied forces could attrite them.

Greater North Korean nuclear capabilities could undermine the effectiveness of existing allied military plans and exacerbate growing allied concerns about Washington's willingness to risk nuclear attack to defend its allies. A more survivable North Korean nuclear force could lead North Korea to perceive that it has immunity from any international response. Pyongyang could feel emboldened to act even more belligerently and use nuclear threats to coerce Seoul into accepting regime demands. The regime could use threats of nuclear attack to force Tokyo to deny U.S. forces access to Japanese bases, ports, and airfields during a Korean conflict. Pyongyang might also assume that conditions for military action had become favorable if it believed the U.S. extended deterrence guarantee had been undermined.

The increasing rate and diversity of North Korea's missile launches shows that Pyongyang is making significant progress toward implementing a more capable and flexible nuclear strategy, including preemptive strikes with strategic, tactical, and battlefield nuclear weapons. During a crisis, the threshold for use of nuclear weapons could therefore be breached more easily.

This *Index* assesses the overall threat from North Korea, considering the range of contingencies, as "testing" for level of provocative behavior and "gathering" for level of capability.

Threats: North Korea

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Behavior			✓		

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
Capability		✓			

Endnotes

1. Jeong Yong-soo and Ser Myo-ja, "Kim Jong-un Ordered a Plan for a 7-Day Asymmetric War: Officials," *Korea JoongAng Daily*, January 7, 2015, http://koreajoongangdaily.joins.com/news/article/Article.aspx?aid=2999392 (accessed July 12, 2023).
2. Korean Central News Agency, "Great Programme for Struggle Leading Korean-Style Socialist Construction to Fresh Victory," KCNA Watch, January 9, 2021, https://kcnawatch.org/newstream/1610502377-14004652/great-programme-for-struggle-leading-korean-style-socialist-construction-to-fresh-victory/ (accessed July 12, 2023).
3. Korean Central News Agency, "Respected Comrade Kim Jong Un Guides Important Test of Strategic Significance," December 16, 2022, http://kcna.kp/en/article/q/5423e068147b92829b052588227b402d.kcmsf (accessed July 12, 2023).
4. Table 1, "Comparison Between a Potential Solid-Propellant ICBM by the DPRK and Some Similar ICBMs of Nuclear-Weapon States," in Tianran Xu, "DPRK Unveils Its Solid-Propellant ICBM Motor," Open Nuclear Network, December 16, 2022, p. 1, https://opennuclear.org/sites/default/files/2023-01/Xu-DPRK%20Unveils%20Its%20Solid-Propellant%20ICBM%20Motor-16%20Dec%202022%20%281%29.pdf (accessed July 12, 2023).
5. Mary Beth D. Nikitin, "North Korea's Nuclear Weapons and Missile Programs," Congressional Research Service *In Focus* No. 10472, updated April 14, 2021, p. 1, https://crsreports.congress.gov/product/pdf/IF/IF10472/20 (accessed July 12, 2023). See also Associated Press, "Estimates of North Korea's Nuclear Weapons Hard to Nail Down," August 18, 2017, https://apnews.com/53076b0dc7644f94b2751134a1d9d76b/Estimates-of-North-Korea's-nuclear-weapons-hard-to-nail-down (accessed July 13, 2023), and Jeong Yong-soo, Lee Chul-jae, and Sarah Kim, "North Could Have 60 Nuclear Warheads," *Korea JoongAng Daily*, February 9, 2017, https://koreajoongangdaily.joins.com/news/article/article.aspx?aid=3029689 (accessed July 12, 2023).
6. Nikitin, "North Korea's Nuclear Weapons and Missile Programs," p. 1.
7. Ankit Panda, "US Intelligence: North Korea May Already Be Annually Accruing Enough Fissile Material for 12 Nuclear Weapons," *The Diplomat*, August 9, 2017, https://thediplomat.com/2017/08/us-intelligence-north-korea-may-already-be-annually-accruing-enough-fissile-material-for-12-nuclear-weapons/ (accessed July 12, 2023).
8. Bruce W. Bennett, Kang Choi, Myong-hyun Go, Bruce E. Bechtol, Jr., Jiyoung Park, Bruce Klingner, and Du-Hyeogn Cha, *Countering the Risks of North Korean Nuclear Weapons*, RAND Corporation *Perspective*, April 12, 2021, p. ix, https://www.rand.org/pubs/perspectives/PEA1015-1.html (accessed July 12, 2023).
9. Colin Zwirko, "Kim Jong Un Vows to 'Exponentially' Increase Nuke Production to Counter US, ROK," NK News, January 1, 2023, https://www.nknews.org/2023/01/kim-jong-un-vows-to-exponentially-increase-nuke-production-to-counter-us-rok/ (accessed July 12, 2023).
10. Nam Hyun-woo, "Is NK's Recent Nuclear Warhead Display Prelude to Nuclear Test?," *The Korea Times*, updated April 2, 2023, https://www.koreatimes.co.kr/www/nation/2023/03/103_348222.html#:~:text=Cheong%20Seong-chang%2C%20director%20of%20the%20Department%20of%20Reunification,be%20the%20regime%27s%2075th%20anniversary%20of%20its%20founding (accessed July 12, 2023).
11. Bruce Klingner, "The Troubling New Changes to North Korea's Nuclear Doctrine," Heritage Foundation *Backgrounder* No. 3729, October 17, 2022, p. 2, http://report.heritage.org/bg3729. Emphasis in original.
12. Bruce Klingner, "Why North Korea Unleashed a Flurry of Missile Tests," *1945*, October 1, 2021, https://www.19fortyfive.com/2021/10/why-north-korea-unleashed-a-flurry-of-missile-tests (accessed July 12, 2023).
13. Rodong Sinmun, "Respected Comrade Kim Jong Un Guides Military Drills of KPA Units for Operation of Tactical Nukes," KCNA Watch, October 10, 2022, https://kcnawatch.org/newstream/1665469213-819475819/respected-comrade-kim-jong-un-guides-military-drills-of-kpa-units-for-operation-of-tactical-nukes/ (accessed July 12, 2023).
14. Reuters, "North Korea Launches Second Hypersonic Missile in Fiery Test," MalaysiaNow, January 56, 2022, https://www.malaysianow.com/out-there-now/2022/01/06/north-korea-launches-second-hypersonic-missile-in-fiery-test (accessed July 12, 2023), and Tianran Xu, "January 2022: Missile Tests of the DPRK," Open Nuclear Network, January 31, 2022, https://opennuclear.org/sites/default/files/2022-12/Xu-January%20 2022-Missile%20Tests%20of%20the%20DPRK-31%20Jan%202022_0.pdf (accessed July 12, 2023).
15. Jeff Jeong, "North Korea's New Weapons Take Aim at the South's F-35 Stealth Fighters," *Defense News,* August 1, 2019, https://www.defensenews.com/digital-show-dailies/smd/2019/08/01/north-koreas-new-weapons-take-aim-at-souths-f-35-stealth-fighters/ (accessed July 12, 2023).
16. Bruce Klingner, "North Korea's Nuclear Doctrine: Trusted Shield and Treasured Sword," Heritage Foundation *Backgrounder* No. 3665, October 18, 2021, p. 10, https://www.heritage.org/asia/report/north-koreas-nuclear-doctrine-trusted-shield-and-treasured-sword, and Chaewon Chung and Jeongmin Kim, "North Korea Shows Off Apparent New Solid Fuel Missile," NK News, April 26, 2022, https://www.nknews.org/2022/04/north-korea-rolls-out-long-range-hwasong-17-nuclear-missiles-at-military-parade/ (accessed July 12, 2023).
17. Office of the Director of National Intelligence, *Annual Threat Assessment of the U.S. Intelligence Community*, February 6, 2023, p. 20, https://www.odni.gov/files/ODNI/documents/assessments/ATA-2023-Unclassified-Report.pdf (accessed July 12, 2023).
18. Ibid.
19. Bruce Klingner, "China, Russia Again Block UN Action on North Korea," The Daily Signal, May 27, 2022, https://www.heritage.org/global-politics/commentary/china-russia-again-block-un-action-north-korea .

20. Yonhap News Agency, "N. Korea Says No Plans to Give up Nuclear Capabilities," May 28, 2013, https://en.yna.co.kr/view/AEN20130528008400315 (accessed July 12, 2023), and Josh Smith, "'Treasured Sword': North Korea Seen as Reliant as Ever on Nuclear Arsenal as Talks Stall," Reuters, November 13, 2018, https://www.reuters.com/article/us-northkorea-missiles-nuclear-analysis/treasured-sword-north-korea-seen-as-reliant-as-ever-on-nuclear-arsenal-as-talks-stall-idUSKCN1NI132 (accessed July 12, 2023).

21. Republic of Korea, Ministry of National Defense, *2020 Defense White Paper*, p. 31, https://www.mnd.go.kr/user/mndEN/upload/pblictn/PBLICTNEBOOK_202301171100181360.pdf (accessed July 12, 2023). Emphasis in original.

22. International Institute for Strategic Studies, *The Military Balance 2023: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2023), p. 263.

23. Ibid., p. 264.

24. Ibid., p. 265.

25. "N.Korea Boosting Cyber Warfare Capabilities," *The Chosun Ilbo*, November 5, 2013, http://english.chosun.com/site/data/html_dir/2013/11/05/2013110501790.html (accessed July 12, 2022), and Kong Ji Young, Lim Jong In, and Kim Kyoung Gon, "The All-Purpose Sword: North Korea's Cyber Operations and Strategies," in *2019 11th International Conference on Cyber Conflict: Silent Battle*, ed. T. Minárik, S. Alatalu, S. Biondi, M. Signoretti, I. Tolga, G. Visky, NATO CCD COE [Cooperative Cyber Defence Centre of Excellence] Publications, 2019, p. 143, https://ccdcoe.org/uploads/2019/06/CyCon_2019_BOOK.pdf (accessed July 12, 2023).

26. Bruce Klingner, "North Korean Cyberattacks: A Dangerous and Evolving Threat," Heritage Foundation *Special Report* No. 247, September 2, 2021, p. 10, https://www.heritage.org/asia/report/north-korean-cyberattacks-dangerous-and-evolving-threat.

27. Press release, "Two Chinese Nationals Charged with Laundering over $100 Million in Cryptocurrency from Exchange Hack," U.S. Department of Justice, March 2, 2020, https://www.justice.gov/opa/pr/two-chinese-nationals-charged-laundering-over-100-million-cryptocurrency-exchange-hack (accessed July 12, 2023).

Non-State Actors

James Phillips and Jeff M. Smith

All terrorist groups, no matter what form they may take, have one thing in common: the use of violence to achieve their political objectives, whether those objectives are religious, ethnic, or ideological. In general, terrorist groups operate in a very local context, usually within a specific country or sub-region. Sometimes a terrorist group's objectives extend beyond the internationally recognized borders of a state because its members' identity as a group transcends such legal or geographic boundaries.

Terrorist groups rarely pose a threat to the United States that rises to the threshold used by this *Index*: a substantial threat to the U.S. homeland; the ability to precipitate a war in a region of critical interest to the U.S.; and/or the ability to threaten the free movement of people, goods, or services through the global commons. With the exception of Hezbollah and other Iran-backed groups,[1] those that do meet these criteria are assessed in this section.

Terrorist Threats to the Homeland from the Middle East and North Africa

Radical Islamist terrorism in its various forms remains a global threat to the safety of America's citizens. Many terrorist groups operate in the Middle East, but those that are inspired by Islamist ideology also operate in Europe, Asia, and Africa.

The primary terrorist groups of concern to the U.S. homeland and to Americans abroad are the Islamic State of Iraq and al-Sham (ISIS) and al-Qaeda. Their threat is amplified when they can exploit areas with weak or nonexistent governance that allows them to establish a secure infrastructure from which to plan, train, equip, and launch attacks.

Al-Qaeda and Its Affiliates. Al-Qaeda was founded in 1988 by Arab foreign fighters who flocked to Afghanistan to join the war against Soviet occupation of that country in the 1980s. With Osama bin Laden appointed emir, al-Qaeda was envisaged as a revolutionary vanguard that would radicalize and recruit Sunni Muslims across the world and lead a global Islamist revolution.[2]

After the September 11, 2001, terrorist attacks on the United States, most of al-Qaeda's leadership fled Afghanistan. Many members of the original cadre have been killed or captured. Osama bin Laden, and other key al-Qaeda leaders have been killed by targeted strikes in Afghanistan, Iran, Iraq, Pakistan, Syria, Yemen, and Somalia. However, some key elements of al-Qaeda's leadership have survived or have been replaced, and al-Qaeda's central leadership remains a potential threat to the U.S. homeland.

Bin Laden's successor as emir, Ayman al-Zawahiri, was forced deeper into seclusion and was killed on July 31, 2022, by two Hellfire missiles launched in a CIA drone strike in Kabul, Afghanistan. At the time, Zawahiri was living in a guesthouse owned by acting Taliban Minister of Interior Sirajuddin Haqqani—a blatant violation of the withdrawal agreement that the Taliban negotiated with the United States.[3] Zawahiri's death is not expected to affect al-Qaeda's daily operations, which have long been controlled by the leaders of the terrorist network's regional affiliates,[4] but it could spark a leadership struggle that weakens al-Qaeda's influence on its far-flung affiliates. It is believed that some al-Qaeda lieutenants are still in the Afghanistan–Pakistan region; others have taken refuge in Iran.[5]

Zawahiri's likely successor, Mohammed Salahuddin Zeidan, is reportedly also based in Iran, where he operates under the nom de guerre Saif al-Adel (Sword of Justice).[6] Like scores of other al-Qaeda members in Iran, Zeidan has experienced imprisonment, some form of house arrest,

and periods of relative freedom to operate inside the country, depending on the state of relations between Iran and al-Qaeda. Although both share common enemies in the United States, Israel, and Sunni Arab regimes, they represent clashing Shia and Sunni Islamist ideologies and pursue conflicting long-term goals in Afghanistan, Iraq, Lebanon, Syria, and Yemen.

Iran's Islamic Revolutionary Guard Corps (IRGC) played an important role in establishing links with al-Qaeda in the early 1990s when Bin Laden was based in Sudan. According to the report of the 9/11 Commission, the IRGC trained al-Qaeda members in camps in Lebanon and in Iran, where they learned to build much bigger bombs. The commission assessed that al-Qaeda may have assisted Iran-backed Saudi Hezbollah terrorists who executed the June 1996 bombing that killed 19 U.S. Air Force personnel at the Khobar Towers residential complex in Saudi Arabia and, noting that "[a]fter 9/11, Iran and Hezbollah wished to conceal any past evidence of cooperation with Sunni terrorists associated with al Qaeda," concluded that "this topic requires further investigation by the U.S. government."[7]

This long-neglected issue resurfaced in 2020 after *The New York Times* reported that al-Qaeda's second-highest leader, Abdullah Ahmed Abdullah, was killed in the heart of Iran's capital city on August 7, 2020, by Israeli agents at the behest of the United States.[8] Abdullah, who went by the nom de guerre Abu Muhammad al-Masri, had been living in Iran at least since 2003 when he had fled from Afghanistan. He had long been a fixture on the FBI's "most wanted" list for his role in planning the August 7, 1998, bombings of the U.S. embassies in Kenya and Tanzania, which killed 224 people including 12 Americans, and was al-Qaeda's most lethal operation before 9/11. He was gunned down on a street in Tehran by two assassins on a motorcycle on the anniversary of that attack.[9]

On January 12, 2021, then-Secretary of State Mike Pompeo confirmed the *New York Times* report about Abdullah's death and warned that Iran had become the "new Afghanistan."[10] He also announced sanctions on two al-Qaeda leaders who continue to operate inside Iran.

Al-Qaeda also dispersed its fighters further afield, allowing for the development of regional affiliates that shared the long-term goals of al-Qaeda's general command and largely remained loyal to it. These affiliates have enjoyed some success in exploiting local conflicts. In particular, the Arab Spring uprisings that began in 2011 enabled al-Qaeda to take advantage of failed or failing states in Iraq, Libya, Mali, Syria, and Yemen to advance its revolutionary agenda. It is through these affiliates that al-Qaeda is able to project regional strength most effectively.

Yemen. Yemen has long been a bastion of support for militant Islamism. Yemenis made up a disproportionate number of the estimated 25,000 foreign Muslims that fought in the Afghan jihad against the Soviet Union in the 1980s. After that conflict ended, Yemen also attracted Westerners into the country to carry out terrorist operations there. In 1998, several British citizens were jailed for planning to bomb Western targets, including hotels and a church.[11]

Al-Qaeda's first terrorist attack against Americans occurred in Yemen in December 1992 when a bomb was detonated in a hotel used by U.S. military personnel. In October 2000, in a much deadlier operation, al-Qaeda terrorists used a boat filled with explosives to attack the USS *Cole* in the port of Aden, killing 17 American sailors.[12] The first U.S. drone strike outside Afghanistan after 9/11 also took place in Yemen and targeted those who were connected to the attack on the *Cole*.[13]

After 9/11 and following crackdowns in other countries, Yemen became increasingly important to al-Qaeda as a base of operations. In September 2008, al-Qaeda launched an attack on the U.S. embassy in Yemen that killed 19 people, including an American woman. Yemen became still more important to al-Qaeda in January 2009 when al-Qaeda members who had been pushed out of Saudi Arabia merged with the Yemeni branch to form Al-Qaeda in the Arabian Peninsula (AQAP). This affiliate quickly emerged as one of the leading terrorist threats to the U.S. In 2010, CIA analysts assessed that AQAP posed a more urgent threat to U.S. security than the al-Qaeda general command based in Afghanistan/Pakistan.[14]

Much of this threat centered initially on AQAP's Anwar al-Awlaki, a charismatic American-born Yemeni cleric who directed several terrorist attacks on U.S. targets before being killed in a drone air strike in September 2011. Awlaki had an operational role in the plot executed by Umar Farouk Abdulmutallab, the failed suicide bomber who sought to destroy an

airliner bound for Detroit on Christmas Day 2009.[15] He was also tied to plots to poison food and water supplies, as well as to launch ricin and cyanide attacks,[16] and is suspected of involvement in the November 2010 plot to dispatch parcel bombs to the U.S. in cargo planes. Additionally, Awlaki reportedly was a key influence on Major Nidal Hassan, the U.S. Army psychiatrist who perpetrated the 2009 Fort Hood, Texas, shootings that killed 13 soldiers.[17]

Since Awlaki's death, the number of AQAP-sanctioned external operations in the West has diminished.[18] However, his videos on the Internet have continued to radicalize and recruit young Muslims, including the perpetrators of the April 2013 Boston Marathon bombing that killed three people.[19]

AQAP's threat to Western security, although seemingly reduced to some extent by Awlaki's death, remains persistent. Another attempt to carry out a bombing of Western aviation using explosives concealed in an operative's underwear was thwarted by a U.S.–Saudi intelligence operation in May 2012.[20] In August 2013, U.S. interception of al-Qaeda communications led to the closure of 19 U.S. embassies and consulates across the Middle East and Africa because of indications that AQAP was planning a massive attack.[21] In January 2015, two AQAP-trained terrorists murdered staff members and nearby police at *Charlie Hebdo* magazine in Paris.[22] In 2017, aviation was targeted once again by a plan to conceal bombs in laptop batteries.[23]

AQAP launched another successful attack inside the United States on December 6, 2019, when a radicalized Saudi Royal Air Force officer being trained at Naval Air Station Pensacola in Florida killed three U.S. Navy sailors and wounded eight other Americans in a shooting attack. The FBI later assessed that the shooter, Mohammed Saeed Al-Shamrani, had been radicalized by 2015 and was influenced by Awlaki's propaganda.[24]

Much of AQAP's activity has focused on exploiting the chaos that stemmed from the Arab Spring in Yemen. AQAP acquired a significant amount of territory in 2011 and established governance in the country's South, finally relinquishing this territory only after a Yemeni military offensive in the summer of 2012.[25]

In 2015, after Iran-backed Houthi rebels overthrew Yemen's government, AQAP further intensified its domestic activities, seizing the city of al-Mukalla and expanding its control of rural areas in southern Yemen. AQAP withdrew from al-Mukalla and other parts of the South in the spring of 2016, reportedly after the U.S.-backed Saudi–United Arab Emirates coalition had cut deals with AQAP, paying it to leave certain territory and even integrating some of AQAP's fighters into its own forces that were targeting the Houthis.[26]

More substantive progress has been achieved in the targeting of AQAP's leadership. In 2013, Said al-Shehri, a top AQAP operative, was killed in a drone strike, and in June 2015, the group's leader at the time, Nasir al-Wuhayshi, was killed in another drone strike. Perhaps most significantly, Ibrahim al-Asiri, AQAP's most notorious bomb maker, was killed in a U.S. strike in 2017. The number of U.S. air and drone strikes targeting AQAP terrorists peaked at 131 in 2017 before declining steadily to 41 in 2018 and four in 2020. The Biden Administration continued to deescalate the U.S. counterterrorism campaign against AQAP, launching just two air or drone strikes in 2021[27] and two more in January and February 2023.[28]

In 2018, United Nations experts estimated that AQAP commanded between 6,000 and 7,000 fighters.[29] AQAP has declined since its 2015–2016 peak, losing key leaders to drone strikes and other attacks and suffering manpower losses in factional clashes and defections.[30] In February 2023, the U.N. Analytical Support and Sanctions Monitoring Team reported that AQAP had been reduced to less than 3,000 fighters.[31] Nevertheless, it remains a resilient force that could capitalize on the anarchy of Yemen's multi-sided civil war to seize new territory and plan more attacks on the West.

Syria. Al-Qaeda's Syrian affiliate, initially named the al-Nusra Front (ANF), was established as an offshoot of the Islamic State of Iraq (ISI), al-Qaeda's Iraq affiliate, in late 2011 by Abu Muhammad al-Julani, one of ISI leader Abu Bakr al-Baghdadi's lieutenants.[32] By the end of 2016, ANF—now renamed Jabhat Fatah Al Sham (JFS)—"had up to 10,000 fighters" and was "one of the most active rebel groups [fighting the Assad dictatorship] in Syria."[33] Most ANF cadres are concentrated in rebel strongholds in northwestern Syria, but the group also has small cells operating elsewhere in the country.

ANF had some success in attracting Americans to its cause. An American Muslim recruited by ANF, Moner Mohammad Abusalha, conducted a suicide truck bombing in northern Syria on May 25, 2014,

in the first reported suicide attack by an American in that country.[34] At least five men have been arrested inside the U.S. for providing material assistance to ANF, including Abdirahman Sheik Mohamud, a naturalized U.S. citizen who was arrested in April 2015 after returning from training in Syria and was planning to launch a terrorist attack on U.S. soldiers based in Texas.[35]

In recent years, the al-Qaeda network in Syria has undergone several name changes, allying itself with various Islamist rebel groups. This has made it more difficult to assess the degree of direct threat that it poses outside of Syria.

In a May 2015 interview, al-Julani stated that al-Nusra's intentions were purely local and that, "so as not to muddy the current war" in Syria, ANF was not planning to target the West.[36] In July 2016, al-Nusra rebranded itself as Jabhat Fatah Al Sham (JFS), and al-Julani stated that it would have "no affiliation to any external entity," a move that some experts regarded as a break from al-Qaeda and others regarded as designed to obscure its ties to al-Qaeda and reduce U.S. military pressure on the group.[37]

In January 2017, ANF merged with other Islamist extremist movements to create a new anti-Assad coalition: Hayat Tahrir al-Sham (HTS, Organization for the Liberation of the Levant). In March 2017, it was estimated that HTS had 12,000 to 14,000 fighters.[38] HTS suffered many casualties as Syria's Assad regime, backed by Iran and Russia, tightened the noose around its strongholds in northwest Syria. According to the U.S. Department of State's 2021 *Country Reports on Terrorism*, "[s]ince 2017, ANF has continued to operate through HTS in pursuit of its objectives." The report further estimates that ANF's strength has fallen to "between 5,000 to 10,000 fighters."[39]

Further complicating matters surrounding al-Qaeda's presence, another group in Syria that is connected to al-Qaeda, Hurras al-Din (Guardians of the Religion), was formed in March 2018.[40] Among its ranks were those who defected from HTS, and its suspected emir is an Ayman al-Zawahiri acolyte.[41] Hurras al-Din leaders have criticized HTS for its close ties to Turkey and were among the rival Islamist extremists arrested by HTS in January and February 2022 in Idlib province, the last remaining stronghold of armed resistance in northwest Syria.[42]

HTS is more pragmatic than its ultra-extremist parent organization and has cooperated with moderate Syrian rebel groups against both the Assad regime and ISIS. However, Abu Muhammad al-Julani's leadership and tactical approach to the conflict, as well as the clear divisions within the Syrian jihad, have led to rebukes from Ayman al-Zawahiri and those who are loyal to him.[43] Zawahiri has stressed the need for unity while condemning the jihadist movement in Syria and its emphasis on holding territory in northwest Syria at the expense of intensifying the struggle against Assad.[44]

One entity that posed a more immediate threat to the West was the Khorasan group, which was thought to comprise dozens of veterans of al-Qaeda's operations in Afghanistan and Pakistan.[45] Al-Zawahiri had dispatched this cadre of operatives to Syria, where they were embedded with ANF and—despite al-Julani's statement that ANF was not targeting the West—charged with organizing terrorist attacks against Western targets. A series of U.S. air strikes in 2014 and 2015 degraded Khorasan's capacity to organize terrorist attacks, and the group's prominence faded after U.S. air strikes killed two of its top leaders in 2016.[46]

Al-Qaeda's presence and activities in Syria, as well as the intent of those who once were aligned with it, remain opaque. Even if offshoots of al-Qaeda are not currently emphasizing their hostility to the U.S., however, that would probably change if they were to succeed in further consolidating power in Syria.

The Sahel. Al-Qaeda in the Islamic Maghreb (AQIM) "has an estimated 1,000 fighters operating in the Sahel, including Algeria, northern Mali, southwest Libya, and Niger."[47] AQIM's roots lie in the Algerian civil war of the 1990s after the Algerian government cancelled the second round of elections in 1992 following the victory of the Islamic Salvation Front (FIS) in the first round. The FIS's armed wing, the Armed Islamic Group (GIA), responded by launching a series of attacks and executing those who were even suspected of working with the state. The group also attempted to implement sharia law in Algeria.

The GIA rapidly alienated Algerian civilians, and by the late 1990s, an offshoot, the Salafist Group for Preaching and Combat (GSPC), emerged. Its violence, somewhat less indiscriminate than the GIA's, was focused on security and military targets. Having failed to overthrow the Algerian state, the GSPC began to align itself with al-Qaeda, and

Ayman al-Zawahiri announced its integration into the al-Qaeda network in a September 2006 video. The GSPC subsequently took the AQIM name.

AQIM has carried out a series of regional attacks and has focused on kidnapping Westerners. It has killed some hostages but has used more to extort ransoms from Western governments.[48] Like other al-Qaeda affiliates, AQIM also took advantage of the power vacuums that emerged from the Arab Spring, particularly in Libya where Islamist militias flourished. The weak central government was unable to tame fractious militias, curb tribal and political clashes, or dampen rising tensions between Arabs and Berbers in the West and Arabs and the Toubou tribe in the South.

The September 11, 2012, attack on the U.S. diplomatic mission in Benghazi underscored the extent to which Islamist extremism had flourished in the region. The radical Islamist group that launched the attack, Ansar al-Sharia, had links to AQIM and shared its violent ideology. AQIM and like-minded Islamist allies also grabbed significant amounts of territory in northern Mali late in 2012, implementing a brutal version of sharia law, until a French military intervention helped to push them back.

AQIM continues to support and work with various jihadist groups in the region. In March 2017, the Sahara branch of AQIM merged with three other al-Qaeda or al-Qaeda–linked organizations based in the Sahel to form the Group for Support of Islam and Muslims (JNIM), which has pledged allegiance to al-Qaeda emir Ayman al-Zawahiri.[49] AQIM remains an active threat in Algeria, Libya, Mali, Niger, and Tunisia and has expanded its operations in Burkina Faso and Cote D'Ivoire in recent years. Although AQIM is not known to have targeted the U.S. homeland explicitly, it does threaten regional stability and U.S. allies in North Africa and Europe, where it has gained supporters and operates extensive networks for the smuggling of arms, drugs, and people.

Islamic State of Iraq and Syria and Its Affiliates. The Islamic State of Iraq and Syria (ISIS) is an al-Qaeda splinter group that has outstripped its parent organization in terms of its immediate threats to U.S. national interests. Some Western policymakers wrongly perceived the Islamic State of Iraq (ISI), the precursor to ISIS and an al-Qaeda offshoot, as having been strategically defeated following the U.S. "surge" of 2006–2007 in Iraq. However, although decimated by U.S.-led counterterrorism operations, it exploited the more permissive environment after the 2011 U.S. military withdrawal from Iraq as well as the mounting chaos in Syria after Arab Spring protests were brutally suppressed by the Assad regime.

In both Iraq and Syria, ISI had space in which to operate and a large pool of disaffected individuals from which to recruit. In April 2013, ISI emir Abu Bakr al-Baghdadi declared that the al-Nusra Front, the al-Qaeda affiliate operating in Syria, was merely a front for his operation and that a new organization was being formed: the Islamic State of Iraq and al-Sham. ISIS sought to establish an Islamic state governed by its harsh interpretation of sharia law, thereby posing an existential threat to Christians, Shiite Muslims, Yazidis, and other religious minorities as well as to Sunni Muslims that rejected its leadership. Its long-term goals include leading a jihad to drive Western influence out of the Middle East; diminishing and discrediting Shia Islam, which it considers apostasy; and becoming the nucleus of a global Sunni Islamic empire.

With both al-Qaeda leader Ayman al-Zawahiri and ANF emir Abu Mohammed al-Julani unable to rein in al-Baghdadi, ISIS was expelled from the al-Qaeda network in February 2014. Despite this, ISIS swept through parts of northern and western Iraq and in June 2014 declared the return of the caliphate with its capital in the northern Syrian city of Raqqa. It subsequently kidnapped and then murdered Westerners working in Syria, including American citizens.

A U.S.-led international coalition was assembled to chip away at ISIS's control of territory. The Iraqi Army and Iranian-backed militias, supported by U.S. and coalition air strikes and special operations forces, liberated Mosul in July 2017. In Syria, the U.S.-backed Syrian Democratic Forces militia liberated Raqqa in October 2017, and ISIS's last stronghold in the town of Baghouz fell in March 2019.

ISIS fighters have dispersed, have adopted insurgent tactics, and will continue to pose a regional terrorist threat with direct implications for the U.S. In January 2019, for example, four American military and civilian personnel were killed in a suicide bombing at a market in Manbij in northern Syria.[50]

On October 26, 2019, U.S. special operations forces killed ISIS leader al-Baghdadi in a raid in northwestern Syria's Idlib province near the Turkish

border.[51] ISIS soon named a successor, Abu Ibrahim al-Hashimi al-Qurayshi, the nom de guerre of Amir Muhammad Sa'id Abdal-Rahman al-Mawla. Qurayshi was killed in a February 3, 2022, U.S. special operations raid, also staged in Idlib province.[52] On March 10, 2022, in a recorded audio message that was distributed online, ISIS announced that it had a new leader, Abu al-Hassan al-Hashemi al-Quraishi. Iraqi and Western intelligence officials revealed that the new leader's real name was Juma Awad al-Badri and that he was an Iraqi whose brother was the slain former caliph Abu Bakr al-Baghdadi.[53] Quraishi was killed in a Turkish special forces raid in northern Syria on April 29, 2023, and who will replace him is unclear.[54]

The number of ISIS attacks in Iraq and Syria declined from 2019 to 2020 and fell further in 2021, although its attacks increased in Afghanistan and West Africa. "In 2021," according to Israel's Meir Amit Intelligence and Terrorism Information Center, "a total of 8,147 people were killed or wounded in ISIS attacks, compared to 9,068 people in 2020."[55] In 2022, the global toll of dead and wounded from ISIS terrorist attacks continued to shrink to 6,881 people killed and wounded worldwide with the largest number of attacks and casualties inflicted by ISIS groups in Africa.[56]

Nevertheless, ISIS remains a significant regional threat. The U.S. State Department's Bureau of Counterterrorism estimates that ISIS retains 11,000 to 18,000 fighters in Syria and Iraq, where it is rebuilding its strength in remote desert and mountain regions.[57] In January 2022, during an operation designed to free more than 3,500 members of ISIS who were being held at a prison maintained by the Syrian Democratic Forces militia in northeastern Syria, scores if not hundreds of ISIS terrorists escaped during almost two weeks of fighting.[58]

Although ISIS's territorial control has been broken in Iraq and Syria, its presence has spread far beyond that territory. Terrorist groups around the world have pledged allegiance to Abu Bakr al-Baghdadi and his successors. ISIS today "commands a cohesive global network" of approximately 20 branches and networks in the Middle East, Asia, and Africa, according to National Counterterrorism Center Director Christine Abizaid.[59] ISIS is a threat to stability in all of these regions as it seeks to seize territory, overthrow governments, and impose its harsh brand of Islamic law.

Although the regional ISIS groups may not be as great a threat to the U.S. homeland as the original group in Iraq and Syria was, they represent a significant threat to U.S. allies and U.S. forces deployed overseas. An Islamic State in the Greater Sahara ambush in Niger in October 2017, for example, resulted in the death of four U.S. special operations troops.[60] ISIS-Greater Sahara also has staged attacks on French and Malian military forces in Mali. By 2022, ISIS affiliates in Africa had established a tempo of lethal attacks that surpassed that of its parent organization in Iraq and Syria.[61] In addition, ISIS has made threats against embassies, including those of the U.S., in its areas of influence.[62]

ISIS also poses an ongoing threat to life in the West. On May 3, 2015, for example, two American extremists in contact with an ISIS operative in Syria were fatally shot by police before they could commit mass murder in Garland, Texas.[63] An apparent ISIS plot to assassinate former President George W. Bush in Dallas, Texas, that was foiled in early 2022 resulted in the arrest of Shihab Ahmed Shihab, an Iraqi living in the U.S. who was linked to ISIS operatives. Shihab visited Dallas in November 2021 to videotape the approaches to the former President's home and recruited a team that he hoped to smuggle into the country over the Mexican border.[64] As of January 1, 2023, according to the George Washington University Extremism Tracker, "246 individuals [had] been charged in the U.S. on offenses related to the Islamic State (also known as IS, ISIS, and ISIL) since the first arrests in March 2014."[65]

More commonly, however, the ISIS ideology has inspired individuals and small groups to plan attacks in the U.S. that exhibit little or no apparent contact with the terrorist organization. Between 9/11 and January 2023, there were 37 attacks inside the homeland that were inspired by al-Qaeda or ISIS compared to eight that involved a direct connection to those groups.[66] Tashfeen Malik, one of the perpetrators of the December 2, 2015, shootings that killed 14 people in San Bernardino, California, pledged allegiance to al-Baghdadi.[67] ISIS claimed responsibility for the June 12, 2016, shootings that killed 49 people at a nightclub in Orlando, Florida. Omar Mateen, the perpetrator, had pledged allegiance to al-Baghdadi, but there is no evidence that the attacks were directed by ISIS.[68] The group also claimed responsibility for the October 31, 2017, vehicular attack by Sayfullo Saipov in New York that

killed eight.[69] Saipov also had pledged allegiance to ISIS's emir but did not appear to be operationally guided by ISIS.[70] Such terrorist attacks, apparently incited but not directed by ISIS, are likely to continue for the foreseeable future.

Although its appeal appears to have diminished since the fall of its caliphate in Iraq and Syria, ISIS continues to attract support from self-radicalized Americans. For example, in April 2021, two men were arrested for attempting to provide material support to ISIS. One received a 30-year prison term for providing material support to ISIS, and one was sentenced to life in prison for the December 2017 bombing of a New York City subway.[71]

ISIS also has attempted complex attacks on aviation. It claimed responsibility for the October 31, 2015, downing of a Russian passenger jet over Egypt's Sinai Peninsula, which killed 224 people, and also tried to bring down a flight heading from Sydney, Australia, to Abu Dhabi by concealing an explosive device inside a meat grinder.[72]

ISIS had well-publicized success in attracting the support of foreign fighters. Approximately 250 from the U.S. traveled or attempted to travel to Syria to join its ranks.[73] These individuals, who likely have received military training, could well pose an ongoing threat upon their return to the U.S. by helping to plan attacks or to recruit future generations of jihadists.

ISIS had greater success attracting recruits from Europe with approximately 6,000 departing from European countries.[74] The return of foreign fighters to Europe has led to several attacks. Mehdi Nemmouche, a French citizen of Algerian origin who shot and killed four civilians at the Jewish Museum in Brussels, Belgium, in May 2014, for example, was an ISIS-aligned terrorist who had fought in Syria.[75] In August 2015, Ayoub el-Khazzani, a Moroccan, attempted to gun down passengers in a train travelling between Amsterdam and Paris. Passengers, including two members of the U.S. Army, foiled the attack and restrained him.[76]

Similarly, a group of ISIS foreign fighters teamed with local Islamist terrorists in France to launch a series of suicide and gun attacks on a music venue, restaurants, cafes, and a football stadium, killing 130 and injuring 368 people in Paris in November 2015.[77] Recruits from within the same network then killed 32 people and injured around 300 more in shootings and suicide bombings across Brussels in March 2016.[78]

ISIS ideology also has inspired a wave of vehicle and knife attacks in Europe, including one carried out by a Tunisian who used a truck to kill 86 people and injure 434 more at a Bastille Day celebration in Nice, France, in July 2016.[79] In June 2017, in another such attack, three men killed eight people and injured 47 on or near London Bridge in London, England, by running over them or stabbing them.[80] London Bridge also was the site of a November 29, 2019, knife attack by an ISIS supporter who killed two people and wounded three more before being killed by police.[81]

ISIS has demonstrated an interest in carrying out chemical and biological attacks. Sief Allah H., a Tunisian asylum seeker who was in contact with ISIS, and his German wife Yasmin H. were arrested in Cologne in June 2018 after they had produced ricin as part of a suspected attack.[82] This was the first time that ricin had been successfully produced in the West as part of an alleged Islamist terrorist plot. ISIS also developed weapons that were armed with botulinum toxin, mustard gas, and chlorine gas in what U.S. officials described as "a crash effort aimed at building the biggest arsenal of chemical and, potentially, biological weapons ever assembled by a terrorist group."[83] ISIS planned to use such weapons in attacks on targets in Western Europe, including U.S. military bases, but its plans were disrupted by U.S. air strikes on its weapons laboratories and personnel. Before the fall of its "caliphate," ISIS became "the first non-state actor to have developed a banned chemical warfare agent and combined it with a projectile delivery system" when it launched attacks with mustard agent and chlorine gas against adversaries in Iraq and Syria.[84]

Overall, as of May 2019, ISIS was known to have had some involvement—ranging from merely inspirational to hands-on and operational—in more than 150 plots and attacks in Europe since January 2014 that had led to 371 deaths and more than 1,700 injuries.[85] This includes the loss of American lives abroad. An American college student was killed in Paris in November 2015, four Americans were killed in the March 2016 Brussels attack, and another three were killed in the July 2026 Nice attack.[86] Moreover, the threat is by no means confined to Europe: Americans were also killed in attacks for which ISIS claimed responsibility in Tajikistan in July 2018 and Sri Lanka in April 2019.

Terrorist Groups Operating in Afghanistan and Pakistan (Af-Pak)

A wide variety of Islamist fundamentalist and terrorist groups operate in Afghanistan and Pakistan. Al-Qaeda's direct threat to the U.S. homeland has diminished since the 9/11 terrorist attacks, the U.S. invasion of Afghanistan in 2001, and the killing of Osama bin Laden at his Abbottabad, Pakistan, hideout in May 2011 and was further degraded by an intensive drone campaign in Pakistan's tribal areas and operations by Pakistani security forces. Nevertheless, al-Qaeda's residual presence and the emergence of a regional offshoot of the Islamic State remain concerns.

The Taliban's takeover of Afghanistan in August 2021 amid a chaotic U.S. withdrawal from that country has altered the terrorist landscape, providing a more permissive environment to a wide variety of terrorist and extremist groups. Of particular concern is the prominent role that the Haqqani Network has assumed in the new Taliban government.[87] The Haqqani Network, a loyal proxy of Pakistan's Inter-Services Intelligence (ISI) agency, allied itself with the Taliban during the Afghan War and became integrated with its leadership structure under the leadership of Sirajuddin Haqqani. Throughout the course of the war, the Haqqani Network was responsible for many of the deadliest attacks on U.S. and Afghan forces,[88] including an attack on the U.S. embassy in Afghanistan and the single deadliest attack on the CIA in the agency's history. Today, Sirajuddin Haqqani serves as Afghanistan's interior minister, and other members of his network have assumed cabinet positions.

The Haqqanis maintain close links to al-Qaeda. According to the U.N.'s Analytical Support and Sanctions Monitoring Team, "[t]he Haqqani Network remains a hub for outreach and cooperation with regional foreign terrorist groups and is the primary liaison between the Taliban and Al-Qaida."[89]

Reports of an ISIS presence in Afghanistan first began to surface in 2014, and the group slowly gained a small foothold in subsequent years. The lack of publicly available information and the willingness of local fighters in the region to change allegiances with little thought make it next to impossible to know the exact number of Islamic State fighters in Afghanistan at any given time. In September 2019, U.S. officials estimated that there were between 2,000 and 5,000 ISIS fighters in Afghanistan.[90] In arguably its highest-profile attack, the Islamic State in Afghanistan claimed responsibility for a deadly suicide bombing at the Kabul airport in August 2021 that "killed more than 170 civilians and 13 U.S. soldiers."[91]

Experts believe that there is little coordination between the Islamic State branch operating in Afghanistan and the central command structure located in the Middle East. Instead, the branch draws recruits from disaffected members of the Pakistani Taliban and other radicalized Afghans and has frequently found itself at odds with the Afghan Taliban, with which it competes for resources, territory, and recruits.

While the Islamic State and the Afghan Taliban have engaged in heavy fighting in recent years, the Haqqani Network has maintained links to the Islamic State, which itself may have splintered into different factions. In 2020, the group appointed a former midlevel Haqqani commander as its new leader, and Afghanistan's intelligence agency killed five members of a joint cell of Haqqani Network and Islamic State fighters and arrested eight others.[92] Scholar Theo Farrell contends that "the Haqqanis have the deepest links with [the Islamic State] of any faction within the Taliban."[93]

Ultimately, both the Islamic State in Afghanistan and al-Qaeda continue to pose the greatest threat to the U.S. homeland. In March 2019, General Joseph Votel, then Commander, U.S. Central Command, said that he believed the Islamic State in Afghanistan "does have ideations focused on external operations toward our homeland."[94] In late 2021, a senior Biden Administration official warned that both al-Qaeda and the Islamic State in Afghanistan are intent on conducting terrorist attacks on the United States and that "[w]e could see ISIS-K generate that capability in somewhere between 6 or 12 months."[95] According to the *Global Terrorism Index*, "Following the Taliban's takeover of power after the fall of Kabul in August 2021, ISK emerged as the most active terrorist group in Afghanistan. They were responsible for 115 incidents and 422 deaths in 2022" and "account[ed] for almost 67 per cent of total terrorism-related deaths in the country for the year."[96]

Pakistan remains both a victim of and a key benefactor of regional terrorist groups. Pakistan's ISI maintained links to terrorist groups operating in disputed Kashmir and in Afghanistan for decades,

viewing them as an extension of Pakistani foreign policy. Most of the terrorist groups operating in the country maintain some ties with the Pakistani military–intelligence establishment. Several domestic terrorist groups focus their attacks on non-Muslims and Muslim minorities that are deemed un-Islamic inside Pakistan. A smaller number of terrorist groups like the Pakistani Taliban are hostile to the Pakistani state and have carried out countless attacks on civilian and military targets inside the country.

After a bloody wave of Pakistani Taliban terrorism between 2006 and 2016, a series of military operations in Pakistan's Federally Administered Tribal Areas and peace deals struck with local militant commanders caused terrorism inside Pakistan to subside in the late 2010s.[97] However, since the takeover of Afghanistan by the Haqqani Network and Afghan Taliban, Pakistan has again witnessed a spike in bombings and terrorist attacks by the Pakistani Taliban. Pakistan has sought to pressure the Afghan Taliban and the Haqqani Network to use their influence to persuade the Pakistani Taliban to end these attacks, but with only mixed success. Despite Pakistan's willingness to shelter the Afghan Taliban leadership throughout the course of the Afghan War, relations between the Afghan Taliban and the Pakistani government remain difficult.[98]

The *Global Terrorism Index* reports that in 2022, "deaths in Pakistan [rose] significantly to 643, a 120 per cent increase from 292 deaths in 2021."[99] Afghanistan, by contrast, "recorded a 58 per cent decline in terrorism deaths, from 1,499 to 633."[100] Partly this is a product of the fact that the Taliban, being in power in Afghanistan, are a state actor, and "their attacks fall outside the scope of the GTI's definition of terrorism."[101]

The Pakistani Taliban continues to expand its reach inside Pakistan. In 2023, the terrorist group announced that it was establishing a "shadow province" in the Pakistani province of Baluchistan, where China is involved in several high-profile infrastructure projects and Chinese contractors have been targeted by terrorists.[102] In one particularly deadly attack in January 2023, a Pakistani Taliban suicide bomber attacked a mosque in northwestern Pakistan, killing over 100 and wounding 225.[103]

Nevertheless, Pakistan's continued support for terrorist groups that have links to others like al-Qaeda, the Afghan Taliban, and the Haqqani Network undermines U.S. counterterrorism goals in the region and poses an ongoing threat to the U.S. homeland and its interests and partners abroad. Pakistan's ongoing patronage of terrorist groups operating in Kashmir, like Lashkar e Taiba and Jaish e Mohammed (and their various offspring and splinter groups), has ensured continued volatility in the Kashmir dispute and prevented any breakthrough in India–Pakistan diplomatic relations. Pakistan's military and intelligence leaders maintain a short-term tactical approach of fighting some terrorist groups that are deemed a threat to the state while supporting others that are aligned with Pakistan's foreign policy goals.

While hosting Indian Prime Minister Narendra Modi for a state visit in Washington in June 2023, the U.S. government issued a joint statement with India calling on Pakistan "to take immediate action to ensure that no territory under its control is used for launching terrorist attacks" and "reiterated the call for concerted action against all UN-listed terrorist groups including Al-Qa'ida, ISIS/Daesh, Lashkar e-Tayyiba (LeT), Jaish-e-Mohammed (JeM), and Hizb-ul-Mujhahideen."[104]

Conclusion

ISIS has lost its so-called caliphate, but it remains a highly dangerous adversary that is capable of planning and executing attacks regionally and—at the very least—inspiring them in the West. It has transitioned from a quasi-state to an insurgency, relying on its affiliates to project strength far beyond its former Syrian and Iraqi strongholds.

Meanwhile, despite sustained losses in leadership, al-Qaeda remains resilient. It has curried favor with other Sunnis in areas of strategic importance to it, has focused its resources on local conflicts, has occasionally controlled territory, and has deemphasized (but not eschewed) focus on the global jihad. This approach has been particularly noticeable since the Arab Spring.

Regardless of any short-term tactical considerations, both groups ultimately aspire to attack the U.S. homeland and U.S. interests abroad. While the U.S. has hardened its domestic defenses, both ISIS and al-Qaeda can rely on radicalized individuals living within the U.S. to answer their call for jihadist terrorism. Furthermore, it has been demonstrated repeatedly that there are ample opportunities to target Americans overseas in countries that are

more vulnerable to terrorist attack. If it wishes to contain and ultimately end Islamist violence, the U.S. must continue to bring effective pressure to bear on these groups and those that support them.

The terrorist threat to the U.S. homeland from Afghanistan and Pakistan remains real and uncertain in a rapidly shifting landscape that is home to a wide variety of extremist and terrorist groups. On one hand, the capabilities of al-Qaeda, the terrorist group that is most directly focused on attacking the U.S. homeland, have been degraded in South Asia. On the other hand, the U.S. withdrawal from Afghanistan and the Taliban/Haqqani Network takeover of the country have generated significant uncertainty about Afghanistan's future and the panoply of terrorist and extremist groups operating in that space, including the local branch of the Islamic State.

In its interim peace agreement with the U.S., the Taliban ostensibly committed to preventing Afghan soil from being used to launch attacks against the U.S. homeland, but experts remain skeptical of these commitments. For its part, Pakistan continues to harbor and support a vibrant ecosystem of terrorist groups within its borders.

This *Index* assesses the threat from ISIS, al-Qaeda, and their affiliated organizations as "aggressive" for level of provocative behavior and "capable" for level of capability.

Threats: Non-State Actors

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Behavior		✓			

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
Capability			✓		

Endnotes

1. See "Iran," *infra*.
2. Peter L. Bergen, *The Osama bin Laden I Know: An Oral History of al Qaeda's Leader* (New York: Free Press, 2006), pp. 82–83.
3. Jonathan Schroden, "What Zawahri's Death Tells Us About Afghanistan's Future," *Politico*, August 2, 2022, https://www.politico.com/news/magazine/2022/08/02/zawahris-death-and-afghanistans-future-00049239 (accessed July 14, 2023).
4. Matthew Levitt and Aaron Y. Zelin, "What Zawahiri's Death Means for al-Qaeda and Its Branches," Washington Institute for Near East Policy, *PolicyWatch* No. 3636, August 2, 2022, https://www.washingtoninstitute.org/policy-analysis/what-zawahiris-death-means-al-qaeda-and-its-branches (accessed July 14, 2023).
5. See, for example, United Nations Security Council, *Twenty-Second Report of the Analytical Support and Sanctions Monitoring Team Submitted Pursuant to Resolution 2368 (2017) Concerning ISIL (Da'esh), Al-Qaida and Associated Individuals and Entities*, S/2018/705, July 27, 2018, pp. 15 and 18, https://documents-dds-ny.un.org/doc/UNDOC/GEN/N18/201/01/PDF/N1820101.pdf?OpenElement (accessed July 14, 2023).
6. Ali Soufan, "Al-Qa`ida's Soon-to-Be Third Emir? A Profile of Saif al-`Adl," Combating Terrorism Center at West Point, *CTC Sentinel*, Vol. 14, Issue 2 (February 2021), pp. 1–21, https://ctc.westpoint.edu/wp-content/uploads/2021/02/CTC-SENTINEL-022021.pdf (accessed July 14, 2023).
7. National Commission on Terrorist Attacks Upon the United States, *The 9/11 Commission Report*, released July 22, 2004, pp. 60, 61, and 241, https://govinfo.library.unt.edu/911/report/911Report.pdf (accessed July 14, 2023). For the undated report's official release date, see media advisory, "9-11 Commission Releases Unanimous Final Report," National Commission on Terrorist Attacks Upon the United States, July 22, 2004, https://govinfo.library.unt.edu/911/press/pr_2004-07-22.pdf (accessed July 14, 2023). For transcripts of the commission's 12 public hearings, see National Commission on Terrorist Attacks Upon the United States, "Hearings: Public Hearings of the National Commission on Terrorist Attacks Upon the United States," https://govinfo.library.unt.edu/911/hearings/index.htm (accessed July 14, 2023).
8. Reuters, "Israeli Operatives Killed al Qaeda's No. 2 Leader in Iran in August—New York Times," November 14, 2020, https://www.reuters.com/article/usa-security-qaeda/israeli-operatives-killed-al-qaedas-no-2-leader-in-iran-in-august-new-york-times-idUSKBN27U02L (accessed July 14, 2023).
9. James Phillips, "Why Was Iran Hiding Al Qaeda's No. 2 in Tehran?" *The National Interest*, The Buzz Blog, November 20, 2020, https://nationalinterest.org/blog/buzz/why-was-iran-hiding-al-qaeda%E2%80%99s-no-2-tehran-173064 (accessed July 14, 2023).
10. Michael R. Gordon, "Pompeo Accuses Iran of Allowing al Qaeda to Set up Headquarters," *The Wall Street Journal*, updated January 12, 2021, https://www.wsj.com/articles/pompeo-accuses-iran-of-allowing-al-qaeda-to-set-up-headquarters-11610469984 (accessed July 14, 2023).
11. BBC News, "Britons Convicted of Yemen Bomb Plot," August 9, 1999, http://news.bbc.co.uk/2/hi/middle_east/415096.stm (accessed July 14, 2023).
12. James Phillips, "The Yemen Bombing: Another Wake-up Call in the Terrorist Shadow War," Heritage Foundation *Executive Memorandum* No. 703, October 25, 2000, http://www.heritage.org/middle-east/report/the-yemen-bombing-another-wake-call-the-terrorist-shadow-war.
13. CNN, "Sources: U.S. Kills Cole Suspect," November 5, 2002, http://www.cnn.com/2002/WORLD/meast/11/04/yemen.blast/index.html (accessed July 14, 2023).
14. Greg Miller, "CIA Sees Increased Threat in Yemen," *The Washington Post*, August 25, 2010, https://www.washingtonpost.com/wp-dyn/content/article/2010/08/24/AR2010082406763.html (accessed July 14, 2023).
15. Jeremy Pelofsky, "Prosecutors Say al Qaeda Leader Awlaki Directed Underwear Bomber," Reuters, February 10, 2012, https://www.reuters.com/article/us-usa-security-abdulmutallab/prosecutors-say-al-qaeda-leader-awlaki-directed-underwear-bomber-idUSTRE8191VL20120210 (accessed July 14, 2023).
16. Daniel Klaidman, *Kill or Capture: The War on Terror and the Soul of the Obama Presidency* (New York: Houghton Mifflin Harcourt, 2012), p. 216.
17. Mark Schone and Rehab El-Buri, "Fort Hood: Hasan Asked Awlaki If It Was Okay to Kill American Soldiers," ABC News, December 23, 2009, https://abcnews.go.com/Blotter/FtHoodInvestigation/fort-hood-hasan-asked-awlaki-kill-american-soldiers/story?id=9410718 (accessed July 14, 2023).
18. For more on the potential decline of AQAP's external operations program, see Gregory D. Johnsen, "The Two Faces of Al-Qaeda in the Arabian Peninsula," War on the Rocks, October 11, 2018, https://warontherocks.com/2018/10/the-two-faces-of-al-qaeda-in-the-arabian-peninsula/ (accessed July 14, 2023).
19. Scott Shane, "The Enduring Influence of Anwar al-Awlaki in the Age of the Islamic State," Combating Terrorism Center at West Point, *CTC Sentinel*, Vol. 9, Issue 7 (July 2016), pp. 15–19, https://ctc.westpoint.edu/wp-content/uploads/2016/08/CTC-SENTINEL_Vol9Iss710.pdf (accessed July 14, 2023).
20. BBC News, "Al-Qaeda Yemen Plane Bomb Plot Foiled by 'Insider,'" May 8, 2012, https://www.bbc.com/news/world-us-canada-17994493 (accessed July 14, 2023).
21. CBS News, "Yemen Terror Threat Prompts State Department to Evacuate Some Embassy Staff, Warn Americans to Leave Country 'Immediately,'" August 6, 2013, https://www.cbsnews.com/news/yemen-terror-threat-prompts-state-department-to-evacuate-some-embassy-staff-warn-americans-to-leave-country-immediately/ (accessed July 14, 2023).

22. Thomas Joscelyn, "Al Qaeda in the Arabian Peninsula Claims Responsibility for Charlie Hebdo Attack," Foundation for Defense of Democracies *Long War Journal*, January 14, 2015, https://www.longwarjournal.org/archives/2015/01/al_qaeda_in_the_arab_2.php (accessed July 14, 2023).
23. Barbara Starr and Rene Marsh, "AQAP Trying to Hide Explosives in Laptop Batteries, Official Says," CNN, updated March 22, 2017, https://www.cnn.com/2017/03/21/politics/electronics-ban-devices-explosives-intelligence/index.html (accessed July 14, 2023).
24. Thomas Joscelyn, "The Naval Air Station Pensacola Shooter Shows That Al-Qaeda Is Still a Significant Threat," Foundation for Defense of Democracies, *The Dispatch*, May 20, 2020, https://www.fdd.org/analysis/2020/05/20/naval-air-station-pensacola-shooter-al-qaeda/ (accessed July 14, 2023).
25. Robin Simcox, "Ansar al-Sharia and Governance in Southern Yemen," Hudson Institute *Commentary*, December 27, 2021, https://www.hudson.org/national-security-defense/ansar-al-sharia-and-governance-in-southern-yemen (accessed July 14, 2023).
26. Associated Press, "AP Investigation: US Allies, al-Qaida Battle Rebels in Yemen," August 6, 2018, https://apnews.com/f38788a561d74ca78c77cb43612d50da (accessed July 14, 2023).
27. Peter Bergen, David Sterman, and Melissa Salyk-Virk, "America's Counterterrorism Wars: The War in Yemen," New America, https://www.newamerica.org/international-security/reports/americas-counterterrorism-wars/the-war-in-yemen (accessed July 14, 2023).
28. Ahmed al-Haj, "Al-Qaida Says Two Operatives Killed in Drone Strike in Yemen," Associated Press, March 6, 2023, https://apnews.com/article/yemen-alqaida-drone-strike-militants-killed-d347e33db607130b613a49306543b9e0 (accessed July 14, 2023).
29. United Nations Security Council, *Twenty-Second Report of the Analytical Support and Sanctions Monitoring Team*, p. 9.
30. Elisabeth Kendall, "Death of AQAP Leader Shows the Group's Fragmentation—and Durability," Washington Institute for Near East Policy, *PolicyWatch* No. 3263, February 14, 2020, https://www.washingtoninstitute.org/policy-analysis/death-aqap-leader-shows-groups-fragmentation-and-durability (accessed July 14, 2023).
31. United Nations Security Council, *Thirty-First Report of the Analytical Support and Sanctions Monitoring Team Submitted Pursuant to Resolution 2610 (2021) Concerning ISIL (Da'esh), Al-Qaida and Associated Individuals and Entities*, S/2023/95, February 13, 2023, p. 13, https://digitallibrary.un.org/record/4002636?ln=en (accessed July 14, 2023).
32. U.S. Department of State, Bureau of Counterterrorism, *Country Reports on Terrorism 2017*, September 2018, pp. 320–321, https://www.state.gov/wp-content/uploads/2019/04/crt_2017.pdf (accessed July 14, 2023).
33. United States Institute of Peace and Woodrow Wilson International Center for Scholars, *The Jihadi Threat: ISIS, al Qaeda, and Beyond*, December 2016/January 2017, p. 22, https://www.usip.org/sites/default/files/The-Jihadi-Threat-ISIS-Al-Qaeda-and-Beyond.pdf (accessed July 14, 2023).
34. Counter Extremism Project, "Extremist Leaders: Moner Mohammad Abu-Salha," https://www.counterextremism.com/extremists/moner-mohammad-abu-salha (accessed July 14, 2023).
35. Raya Jalabi, "Ohio Man Charged with Providing Support to al-Qaida Affiliate in Syria," *The Guardian*, April 16, 2015, https://www.theguardian.com/us-news/2015/apr/16/ohio-man-charged-supprting-al-qaida-affiliate-syria (accessed July 14, 2023).
36. Agence France-Presse, "Chief of Al-Qaeda's Syria Affiliate Pledges No Attacks on the West," Middle East Eye, May 28, 2015, https://www.middleeasteye.net/news/chief-al-qaedas-syria-affiliate-pledges-no-attacks-west (accessed July 14, 2023).
37. Thomas Joscelyn, "Analysis: Al Nusrah Front Rebrands Itself as Jabhat Fath Al Sham," Foundation for Defense of Democracies *Long War Journal*, July 28, 2016, https://www.longwarjournal.org/archives/2016/07/analysis-al-nusrah-front-rebrands-itself-as-jabhat-fath-al-sham.php (accessed July 14, 2023).
38. Charles Lister, "Al Qaeda Is Starting to Swallow the Syrian Opposition," *Foreign Policy*, March 15, 2017, http://foreignpolicy.com/2017/03/15/al-qaeda-is-swallowing-the-syrian-opposition/ (accessed July 14, 2023).
39. U.S. Department of State, Bureau of Counterterrorism, *Country Reports on Terrorism 2021*, p. 302, https://www.state.gov/wp-content/uploads/2023/02/Country_Reports_2021_Complete_MASTER.no_maps-011323-Accessible.pdf (accessed July 14, 2023). The report was released on February 27, 2023. Press release, "Release of the 2021 Country Reports on Terrorism," U.S. Department of State, February 27, 2023, https://www.state.gov/release-of-the-2021-country-reports-on-terrorism/ (accessed July 14, 2023).
40. Thomas Joscelyn, "Jihadists Form 'Guardians of the Religion' Organization in Syria," Foundation for Defense of Democracies *Long War Journal*, March 4, 2018, https://www.longwarjournal.org/archives/2018/03/jihadists-form-guardians-of-the-religion-organization-in-syria.php (accessed July 14, 202).
41. Thomas Joscelyn, "2 al Qaeda Leaders Reject Proposed Military Council in Syria," Foundation for Defense of Democracies *Long War Journal*, January 30, 2019, https://www.longwarjournal.org/archives/2019/01/2-al-qaeda-leaders-reject-proposed-military-council-in-syria.php (accessed July 14, 2023).
42. Sultan al-Kanj, "Jihadi Group Steps up Arrests of Rivals, Former jihadi Allies in Idlib," Al-Monitor, February 9, 2022, https://www.al-monitor.com/originals/2022/02/jihadi-group-steps-arrests-rivals-former-jihadi-allies-idlib#ixzz7TCQHVmN1 (accessed July 14, 2023).
43. Thomas Joscelyn, "Analysis: Ayman al Zawahiri Calls for 'Unity' in Syria amid Leadership Crisis," Foundation for Defense of Democracies *Long War Journal*, December 2, 2017, https://www.longwarjournal.org/archives/2017/12/analysis-ayman-al-zawahiri-calls-for-unity-in-syria-amid-leadership-crisis.php (accessed July 14, 2023).

44. Thomas Joscelyn, "Zawahiri Criticizes Jihadists in Syria for Clinging to Territory Under Turkey's Protection," Foundation for Defense of Democracies *Long War Journal*, February 7, 2019, https://www.longwarjournal.org/archives/2019/02/zawahiri-criticizes-jihadists-in-syria-for-clinging-to-territory-under-turkeys-protection.php (accessed July 14, 2023).
45. James Phillips, "The Rise of Al-Qaeda's Khorasan Group: What It Means for U.S. National Security," Heritage Foundation *Issue Brief* No. 4281, October 6, 2014, http://www.heritage.org/middle-east/report/the-rise-al-qaedas-khorasan-group-what-it-means-us-national-security.
46. Thomas Joscelyn, "US strikes al Qaeda's 'Khorasan Group' in Syria," Foundation for Defense of Democracies *Long War Journal*, April 8, 2016, https://www.longwarjournal.org/archives/2016/04/us-strikes-al-qaedas-khorasan-group-in-syria.php (accessed July 14, 2023).
47. U.S. Department of State, Bureau of Counterterrorism, *Country Reports on Terrorism 2021*, p. 271.
48. Raissa Kasolowsky and Kate Kelland, "Al Qaeda Kills British Hostage in Mali," Reuters, June 3, 2009, https://www.reuters.com/article/us-qaeda-hostage/al-qaeda-kills-british-hostage-in-mali-idUSTRE5521HO20090603 (accessed July 14, 2023), and U.S. Department of State, Bureau of Counterterrorism, *Country Reports on Terrorism 2017*, p. 329.
49. Thomas Joscelyn, "Analysis: Al Qaeda Groups Reorganize in West Africa," Foundation for Defense of Democracies *Long War Journal*, March 13, 2017, https://www.longwarjournal.org/archives/2017/03/analysis-al-qaeda-groups-reorganize-in-west-africa.php (accessed July 14, 2023).
50. BBC News, "Syria War: 'IS Suicide Bomber' Kills US Troops in Manbij," January 16, 2019, https://www.bbc.com/news/world-middle-east-46892118 (accessed July 14, 2023).
51. Shawn Snow, "CENTCOM Commander Releases Video of Raid on Baghdadi Compound, Which Now Looks like a 'Parking Lot with Large Potholes,'" *Military Times,* October 30, 2019, https://www.militarytimes.com/news/your-military/2019/10/30/centcom-commander-releases-video-of-raid-on-baghdadi-compound-which-now-looks-like-a-parking-lot-with-large-potholes/ (accessed July 14, 2023).
52. Warren P. Strobel, Benoit Faucon, and David S. Cloud, "Killed ISIS Leader Qurayshi Kept Low Profile Until Daring Prison Raid," *The Wall Street Journal*, February 3, 2022, https://www.wsj.com/articles/killed-isis-leader-qurayshi-kept-security-high-until-recent-prison-raid-11643915872 (accessed July 14, 2023).
53. Reuters, "EXCLUSIVE New Islamic State Leader Is Brother of Slain Caliph Baghdadi—Sources," March 11, 2022, https://www.reuters.com/world/middle-east/exclusive-new-islamic-state-leader-is-brother-slain-caliph-baghdadi-sources-2022-03-11/ (accessed July 14, 2023).
54. Orhan Coskun, Ahmed Rasheed, and Timor Azhari, "Exclusive: Turkish Raid Prompted ISIS Leader to Detonate Suicide Vest," Reuters, May 2, 2023, https://www.reuters.com/world/middle-east/turkish-raid-prompted-isis-leader-detonate-suicide-vest-2023-05-02/ (accessed July 14, 2023).
55. The Meir Amit Intelligence and Terrorism Information Center at the Israeli Intelligence Heritage and Commemoration Center, *Summary of ISIS Activity Around the Globe in 2021*, January 2022, p. 1, https://www.terrorism-info.org.il/app/uploads/2022/01/E_008_22.pdf (accessed July 14, 2023).
56. The Meir Amit Intelligence and Terrorism Information Center at the Israeli Intelligence Heritage and Commemoration Center, *Summary of ISIS Activity Around the Globe in 2022*, February 9, 2023, p. 1, https://www.terrorism-info.org.il/app/uploads/2023/02/E_200_22.pdf (accessed July 14, 2023).
57. U.S. Department of State, Bureau of Counterterrorism, *Country Reports on Terrorism 2021*, p. 295.
58. Col. (Ret.) Dr. Jacques Neriah, "The Resurgence of the Islamic State in Iraq, Syria, and Africa," Jerusalem Center for Public Affairs, February 22, 2022, https://jcpa.org/the-resurgence-of-the-islamic-state-in-iraq-syria-and-africa/ (accessed July 14, 2023).
59. Christine Abizaid, "A Survey of the 2023 Terrorism Threat Landscape," Washington Institute for Near East Policy *Counterterrorism Lecture*, January 10, 2023, https://www.washingtoninstitute.org/policy-analysis/survey-2023-terrorism-threat-landscape (accessed July 15, 2023).
60. Carley Petesch, "Niger May Have Arrested Militant with Ties to US Ambush," Associated Press, April 17, 2018, https://apnews.com/d4d1fcf42f3241008227146f7b6db883 (accessed July 14, 2023).
61. Souad Mekhennet, "ISIS in Africa Behind a Surge in Terrorist Attacks, Officials Say," *The Washington Post*, May 11, 2022, https://www.washingtonpost.com/national-security/2022/05/11/isis-africa-attacks/ (accessed July 14, 2023).
62. Ryan Browne and Jennifer Hansler, "ISIS Threat Shutters US Embassy in Democratic Republic of the Congo for More than a Week," CNN, updated December 3, 2018, https://www.cnn.com/2018/12/03/politics/isis-threat-us-embassy-drc/index.html (accessed July 14, 2023).
63. Nafees Hamid, "The British Hacker Who Became the Islamic State's Chief Terror Cybercoach: A Profile of Junaid Hussain," Combating Terrorism Center at West Point, *CTC Sentinel*, Vol. 11, Issue 4 (April 2018), pp. 30–37, https://ctc.westpoint.edu/british-hacker-became-islamic-states-chief-terror-cybercoach-profile-junaid-hussain/ (accessed July 14, 2023).
64. Thomas Brewster, "EXCLUSIVE: ISIS Plotting to Assassinate George W. Bush In Dallas," *Forbes*, May 24, 2022, https://www.forbes.com/sites/thomasbrewster/2022/05/24/exclusive-isis-plotting-to-assassinate-george-w-bush-in-dallas/?sh=70a3d3a7180f (accessed July 14, 2023).
65. George Washington University, Program on Extremism, and University of Nebraska Omaha, National Counterterrorism Innovation, Technology, and Education Center (NCITE), "GW Extremism Tracker: The Islamic State in America," as of January 1, 2023, https://extremism.gwu.edu/sites/g/files/zaxdzs5746/files/2023-02/december_2022_is_in_us_tracker_preview.png (accessed July 14, 2023).
66. Abizaid, "A Survey of the 2023 Terrorism Threat Landscape."

67. Laura Wagner and Bill Chappell, "FBI: San Bernardino Shooting Is Being Investigated as a Terrorist Act," NPR, December 4, 2015, https://www.npr.org/sections/thetwo-way/2015/12/04/458464907/alleged-san-bernardino-attacker-pledged-allegiance-to-isis (accessed July 14, 2023).
68. Thomas Joscelyn, "Orlando Terrorist Swore Allegiance to Islamic State's Abu Bakr al Baghdadi," Foundation for Defense of Democracies *Long War Journal*, June 20, 2016, https://www.longwarjournal.org/archives/2016/06/orlando-terrorist-swore-allegiance-to-islamic-states-abu-bakr-al-baghdadi.php (accessed July 14, 2023).
69. Peter Martinez, "ISIS Claims Responsibility for New York City Terror Attack that Killed 8," CBS News, November 2, 2017, https://www.cbsnews.com/news/new-york-city-terror-attack-isis-claims-responsibility/ (accessed July 14, 2023).
70. Jeremy B. White, "New York Truck Attack Suspect 'Left Note Pledging Allegiance to Isis,'" *The Independent*, November 1, 2017, https://www.independent.co.uk/news/world/americas/new-york-truck-attack-isis-suspect-sayfullo-saipov-a8030541.html (accessed July 14, 2023).
71. Press release, "Man Sentenced to 30 Years in Prison for Attempting to Provide Material Support to ISIS," U.S. Department of Justice, November 17, 2021, https://www.justice.gov/opa/pr/man-sentenced-30-years-prison-attempting-provide-material-support-isis (accessed July 14, 2023), and press release, "Man Sentenced to Life in Prison for ISIS-Inspired Bombing in New York City Subway Station in 2017," U.S. Department of Justice, updated September 30, 2021, https://www.justice.gov/opa/pr/man-sentenced-life-prison-isis-inspired-bombing-new-york-city-subway-station-2017 (accessed July 14, 2023).
72. Reuters, "Islamic State Claims Responsibility for Egypt's Sinai Attack," August 26, 2018, https://www.reuters.com/article/us-egypt-security/islamic-state-claims-responsibility-for-egypts-sinai-attack-idUSKCN1LB09O (accessed July 14, 2023), and ABC [Australian Broadcasting Corporation] News, "Sydney Terror Plot: Lebanon Says It Helped Australia Foil Plane Bomb Plan Linked to Raids," updated August 21, 2017, https://www.abc.net.au/news/2017-08-22/lebanon-says-it-helped-foil-the-sydney-plane-bomb-plot/8829234 (accessed July 14, 2023).
73. Lisa Curtis, Luke Coffey, David Inserra, Daniel Kochis, Walter Lohman, Joshua Meservey, James Phillips, and Robin Simcox, "Combatting the ISIS Foreign Fighter Pipeline: A Global Approach," Heritage Foundation *Special Report* No. 180, January 6, 2016, https://www.heritage.org/middle-east/report/combatting-the-isis-foreign-fighter-pipeline-global-approach.
74. Agence France-Presse, "More than 6,000 Have Left Europe for Isis Jihad: EU," The Local, April 13, 2015, https://www.thelocal.de/20150413/up-to-6000-europeans-fighting-for-islamic-groups-isis-syria-iraq (accessed July 14, 2023).
75. BBC News, "Brussels Jewish Museum Murders: Mehdi Nemmouche Jailed for Life," March 12, 2019, https://www.bbc.co.uk/news/world-europe-47533533 (accessed July 14, 2023).
76. Paul Cruickshank, "Train Attack Suspect Confesses After Revelations in Academic Journal," CNN, updated December 19, 2016, https://edition.cnn.com/2016/12/19/europe/isis-train-attack-suspect-confession/index.html (accessed July 14, 2023).
77. BBC News, "Paris Attacks: What Happened on the Night," December 9, 2015, https://www.bbc.co.uk/news/world-europe-34818994 (accessed July 14, 2023).
78. Jennifer Rankin and Jon Henley, "Islamic State Claims Attacks at Brussels Airport and Metro Station," *The Guardian*, March 22, 2016, https://www.theguardian.com/world/2016/mar/22/brussels-airport-explosions-heard (accessed July 14, 2023).
79. BBC News, "Nice Attack: What We Know About the Bastille Day Killings," August 19, 2016, https://www.bbc.com/news/world-europe-36801671 (accessed July 15, 2023).
80. BBC News, "London Bridge Attack: What Happened," May 3, 2019, https://www.bbc.co.uk/news/uk-england-london-40147164 (accessed July 15, 2023).
81. Calla Wahlquist, Kevin Rawlinson, and Matthew Weaver, "London Bridge Attacker Named as Usman Khan, 28—as It Happened," *The Guardian*, updated November 29, 2019, https://www.theguardian.com/uk-news/live/2019/nov/29/london-bridge-incident-police-city (accessed July 15, 2023).
82. Florian Flade, "The June 2018 Cologne Ricin Plot: A New Threshold in Jihadi Bio Terror," Combating Terrorism Center at West Point, *CTC Sentinel*, Vol. 11, Issue 7 (August 2018), pp. 1–4, https://ctc.westpoint.edu/wp-content/uploads/2019/01/CTC-SENTINEL-082018-final.pdf (accessed July 15, 2023).
83. Joby Warrick, "ISIS Planned Chemical Attacks in Europe, New Details on Weapons Program Reveal," *The Washington Post*, July 11, 2022, https://www.washingtonpost.com/national-security/2022/07/11/isis-chemical-biological-weapons/ (accessed July 15, 2023).
84. Columb Strack, "The Evolution of the Islamic State's Chemical Weapons Efforts," Combating Terrorism Center at West Point, *CTC Sentinel*, October 2017, Vol. 10, Issue 9 (October 2017), p. 19, https://ctc.westpoint.edu/wp-content/uploads/2017/10/CTC-Sentinel_Vol10Iss9-21.pdf (accessed July 15, 2023).
85. Unpublished data building on Robin Simcox, "European Islamist Plots and Attacks Since 2014—and How the U.S. Can Help Prevent Them," Heritage Foundation *Backgrounder* No. 3236, August 1, 2017, http://www.heritage.org/europe/report/european-islamist-plots-and-attacks-2014-and-how-the-us-can-help-prevent-them.
86. CBS News, "American Killed in Paris Terror Attacks," updated November 14, 2015, https://www.cbsnews.com/news/paris-attacks-americans-us-state-department/ (accessed July 15, 2023); Camila Domonoske, "Americans Were Among Those Killed in Brussels Attacks, Kerry Says," NPR, March 25, 2016, https://www.npr.org/sections/thetwo-way/2016/03/25/471829453/kerry-americans-were-among-those-killed-in-brussels-attacks (accessed July 15, 2023); and BBC News, "Nice Attack: Who Were the Victims?" August 19, 2016, https://www.bbc.co.uk/news/world-europe-36805164 (accessed July 15, 2023).

87. Jeff M. Smith, "The Haqqani Network: The New Kingmakers in Kabul," War on the Rocks, November 12, 2021, https://warontherocks.com/2021/11/the-haqqani-network-afghanistans-new-power-players/ (accessed July 15, 2023).

88. Office of the Director of National Intelligence, National Counterterrorism Center, "Counter Terrorism Guide: Terrorist Groups: Haqqani Network," https://www.dni.gov/nctc/groups/haqqani_network.html (accessed July 15, 2023).

89. United Nations Security Council, *Twelfth Report of the Analytical Support and Sanctions Monitoring Team Submitted Pursuant to Resolution 2557 (2020) Concerning the Taliban and Other Associated Individuals and Entities Constituting a Threat to the Peace Stability and Security of Afghanistan*, S/2021/486, June 1, 2021, p. 10, https://documents-dds-ny.un.org/doc/UNDOC/GEN/N21/107/61/PDF/N2110761.pdf?OpenElement (accessed July 15, 2023).

90. Shawn Snow, "ISIS Loses More than Half Its Fighters from US Airstrikes and Taliban Ground Operations," *Military Times,* February 27, 2020, https://www.militarytimes.com/flashpoints/2020/02/27/isis-loses-more-than-half-its-fighters-from-us-airstrikes-and-taliban-ground-operations/ (accessed July 15, 2023).

91. Asfandyar Mir, "The ISIS-K Resurgence," Wilson Center, October 8, 2021, https://www.wilsoncenter.org/article/isis-k-resurgence (accessed July 15, 2023).

92. Smith, "The Haqqani Network: The New Kingmakers in Kabul."

93. Theo Farrell, "Introduction: Inside IS-K," in "Book Review Roundtable: A Look into the Islamic State–Khorosan," *Texas National Security Review*, August 13, 2019, p. 8, https://tnsr.org/roundtable/book-review-roundtable-a-look-into-the-islamic-state-khorasan/#intro (accessed July 15, 2023).

94. Testimony of General Joseph L. Votel, USA, Commander, U.S. Central Command, in hearing, *National Security Challenges and U.S. Military Activities in the Greater Middle East and Africa*, Committee on Armed Services, U.S. House of Representatives, 116th Cong., 1st Sess., March 7, 2019, p. 27, https://www.govinfo.gov/content/pkg/CHRG-116hhrg36296/pdf/CHRG-116hhrg36296.pdf (accessed July 15, 2023).

95. Testimony of Colin Kahl, Under Secretary of Defense for Policy, in stenographic transcript of *Hearing to Receive Testimony on Security in Afghanistan and in the Regions of South and Central Asia*, Committee on Armed Services, U.S. Senate, October 26, 2021, p. 21, https://www.armed-services.senate.gov/imo/media/doc/21-80_10-26-2021.pdf (accessed July 15, 2023).

96. Institute for Economics and Peace, *Global Terrorism Index 2023*, *IEP Report* No. 88, March 2023, p. 21, https://www.economicsandpeace.org/wp-content/uploads/2023/03/GTI-2023-web-170423.pdf (accessed July 15, 2023).

97. South Asia Terrorism Portal, "Datasheet–Pakistan: Number of Terrorism Related Incidents Year Wise," data till July 10, 2023, https://www.satp.org/datasheet-terrorist-attack/incidents-data/pakistan (accessed July 15, 2023).

98. Smith, "The Haqqani Network: The New Kingmakers in Kabul."

99. Institute for Economics and Peace, *Global Terrorism Index 2023*, p. 3.

100. Ibid., p. 48. See also Figure 1.1, "Total Terrorism Deaths by Country, 2021–2022," in ibid., p. 13.

101. Ibid., p. 14.

102. Adnan Aamir, "Pakistani Taliban's 'Shadow Province' Threatens China BRI Projects," *Nikkei Asia*, June 21, 2023, https://asia.nikkei.com/Politics/Terrorism/Pakistani-Taliban-s-shadow-province-threatens-China-BRI-projects (accessed July 15, 2023).

103. Riaz Khan, "Militant Who Killed 101 at Pakistan Mosque Wore Uniform," Associated Press News, February 2, 2023, https://apnews.com/article/afghanistan-crime-pakistan-government-peshawar-bf0181a7dd63973a15537c4da47ff9d3 (accessed July 15, 2023).

104. "Joint Statement from the United States and India," *The White House*, June 22, 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/06/22/joint-statement-from-the-united-states-and-india/ (accessed July 15, 2023).

Conclusion: Global Threat Level

America faces challenges to its security at home and interests abroad from countries and organizations that have:

- Interests that conflict with those of the United States;
- Sometimes hostile intentions toward the U.S.; and
- In some cases, growing military capabilities that are leveraged to impose an adversary's will by coercing or intimidating neighboring countries, thereby creating regional instabilities.

The government of the United States constantly faces the challenge of employing—sometimes alone but more often in concert with allies—the right mix of diplomatic, economic, public information, intelligence, and military capabilities to protect and advance U.S. interests. Because this *Index* focuses on the military component of national power, its assessment of threats is correspondingly an assessment of the military or physical threat posed by each entity addressed in this section.

China, the most comprehensive threat the U.S. faces, remained "aggressive" in the scope of its provocative behavior and earns the score of "formidable" for its capability because of its continued investment in the modernization and expansion of its military and the particular attention it has paid to its space, cyber, and artificial intelligence capabilities. The People's Liberation Army continues to extend its reach and military activity beyond its immediate region and engages in larger and more comprehensive exercises, including live-fire exercises in the East China Sea near Taiwan and aggressive naval and air patrols in the South China Sea.

China is rapidly closing the capability gap between its forces and those of the United States and is no longer a distant competitor. It has continued to conduct probes of the South Korean and Japanese air defense identification zones, drawing rebukes from both Seoul and Tokyo, and its statements about Taiwan and exercise of military capabilities in the air and sea around the island have become increasingly belligerent. China is taking note of the war in Ukraine and U.S. military developments and has been adjusting its own posture, training, and investments accordingly.

Russia remains the primary threat to American interests in Europe as well as the most pressing threat to the United States. While it may not threaten U.S. global interests the way the Soviet Union once did, it threatens a number of key U.S. allies and interests in Europe and the Middle East. Russia's invasion of Ukraine reintroduced conventional war to Europe—the largest conflict on that continent since the end of World War II and one with economic and security repercussions that are felt across the globe. Moscow also remains committed to massive pro-Russia propaganda campaigns in other Eastern European countries, as well as disruptive activities around its periphery and across the Middle East. It maintains the world's largest nuclear arsenal, which poses an existential threat-in-being to the U.S. homeland, although a strike is highly unlikely at present.

The *2024 Index* assesses the threat emanating from Russia as "hostile" and "formidable" (the highest categories on the scale) for level of provocative behavior and for level of capability, respectively. Though Russia is consuming its inventory of munitions, supplies, equipment, and even military personnel in its war against Ukraine, it is also replacing those items and people. Russia's industrial capacity, unlike Ukraine's, remains untouched by the war,

Behavior of Threats

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
China		✓			
Russia	✓				
Iran		✓			
North Korea			✓		
Non-State Actors		✓			
OVERALL		✓			

Capability of Threats

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
China	✓				
Russia	✓				
Iran		✓			
North Korea		✓			
Non-State Actors			✓		
OVERALL	✓				

Threats to U.S. Vital Interests

	SEVERE	HIGH	ELEVATED	GUARDED	LOW
China		✓			
Russia		✓			
Iran		✓			
North Korea		✓			
Non-State Actors		✓			
OVERALL		✓			

and Russia's military is gaining combat experience. Russia has shifted to a wartime economy. Consequently, the war may actually serve to increase the challenge that Russia presents to U.S. interests on the continent.

Iran represents by far the most significant security challenge to the United States, its allies, and its interests in the greater Middle East. Its open hostility to the United States and Israel, sponsorship of terrorist groups like Hezbollah, and history of threatening the commons underscore the problem it could pose. Today, Iran's provocations are of primary concern to the region and America's allies, friends, and assets there.

Iran relies heavily on irregular (to include political) warfare against others in the region and fields far more ballistic missiles than are fielded by any of its neighbors. Its development of ballistic missiles and its potential nuclear capability also make it a long-term threat to the security of the U.S. homeland. In addition, Iran has continued its aggressive efforts to shape the domestic political landscape in

Iraq, adding to the region's general instability. The *2024 Index* extends the *2023 Index*'s assessment of Iran's behavior as "aggressive" and its capability as "gathering."

North Korea's military poses a security challenge for American allies South Korea and Japan, as well as for U.S. bases in those countries and on the island territory of Guam. North Korean officials are belligerent toward the United States, often issuing military and diplomatic threats. Pyongyang also has engaged in a range of provocative behavior that includes nuclear and missile tests and tactical-level attacks on South Korea.

North Korea has used its missile and nuclear tests to enhance its prestige and importance domestically, regionally, and globally and to extract concessions from the United States in negotiations on its nuclear program and various aid packages. Such developments also improve North Korea's military posture. U.S. and allied intelligence agencies assess that Pyongyang has already achieved nuclear warhead miniaturization, the ability to place nuclear weapons on its medium-range missiles, and the ability to reach the continental United States with an intercontinental ballistic missile. North Korea also uses cyber warfare as a means of guerilla warfare against its adversaries and international financial institutions. The *2024 Index* therefore assesses the overall threat from North Korea, considering the range of contingencies, as "testing" for level of provocative behavior and "gathering" for level of capability.

A broad array of terrorist groups remain the most hostile of any of the threats to America examined in the *Index*. The primary terrorist groups of concern to the U.S. homeland and to Americans abroad are the Islamic State of Iraq and al-Sham (ISIS) and al-Qaeda. Al-Qaeda and its branches remain active and effective in Syria, Yemen, Iraq, and the Sahel of Northern Africa.

Though no longer a territory-holding entity, ISIS remains a serious presence in the Middle East, in South and Southeast Asia, and throughout Africa, threatening stability as it seeks to overthrow governments and impose an extreme form of Islamic law. Its ideology continues to inspire attacks against Americans and U.S. interests. Fortunately, Middle East terrorist groups remain the least capable threats facing the U.S., but they cannot be dismissed. This prompts a score of "aggressive" for their collective, overarching behavior but only "capable" for their ability to harm the most important U.S. security interests, combining to an overall score of "high."

Just as there are American interests that are not covered by this *Index*, there may be additional threats to American interests that are not identified here. This *Index* focuses on the more apparent sources of risk and those that appear to pose the greatest threat.

Compiling the assessments of these threat sources, the *2024 Index* rates the overall global threat environment as "aggressive" and "formidable" (up from the *2023 Index*'s "gathering") in the areas of threat actor behavior and material ability to harm U.S. security interests. Taking into account concern over China's dramatic expansion of its power projection abilities (especially its investment in nuclear weapons), as well as Russia's potentially desperate desire for victory in its war against Ukraine, which could lead it to be more aggressive in other areas of military competition with the U.S. and Western allies, and Iran's unabated investments in its nuclear and ballistic missile programs, this leads to an aggregated score of "high."

Threats to U.S. Vital Interests: Summary