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 cyberspace 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 (IISS),[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, peer-reviewed analysis of specific countries with *The Military Balance* and the ODNI's "Annual Assessment" reveals two stark limitations in these external sources.

- *The Military Balance* is an excellent, widely consulted source, but it 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 that threaten the national interests of the U.S. as defined in this *Index*. Each edition of the publication 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 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 being classified because 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 the 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 the *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 Ukraine's border 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. Like Russia, each of these countries typically tries to refute observers' concerns that its military activities, posturing, and investments threaten the interests of neighbors, as well as distant competitors like the U.S., but no rational country can ignore the potential that is inherent in the forces that each country fields, the investments it is making to improve and expand its capabilities, and a pattern of behavior that reveals its regime's preference 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 capacity, capability, and readiness of its own military forces.

We always hold open the possibility of adding to or deleting 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 2022: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2022).
2. See Office of the Director of National Intelligence, "2022 Annual Threat Assessment of the U.S. Intelligence Community," February 7, 2022, https://www.dni.gov/files/ODNI/documents/assessments/ATA-2022-Unclassified-Report.pdf (accessed July 13, 2022). Issued before 2021 as "Worldwide Threat Assessment of the US Intelligence Community."

China

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In its 2021 Interim National Security Strategic Guidance, the Biden Administration made clear that it sees China as a major and growing threat: "China...has rapidly become more assertive" and "is the only competitor potentially capable of combining its economic, diplomatic, military, and technological power to mount a sustained challenge to a stable and open international system.[1]

While this is labeled an interim guidance, it probably will be reflected eventually in the Administration's full National Security Strategy when it is issued.

Threats to the Homeland

Both China and Russia are seen as revisionist powers, but they pose very different challenges to the United States. The People's Republic of China (PRC) has the world's second-largest gross domestic product (GDP), and its economy as measured in terms of purchasing power parity (PPP) is far larger than the U.S. economy.[2] China is also an integral and important part of the global supply chain for crucial technologies, especially those relating to information and communications technology. As a result, it has the resources to support a comprehensive military modernization program that has been ongoing for more than two decades and spans the conventional, space, and cyber realms as well as weapons of mass destruction, an area that includes a multipronged nuclear modernization effort.

At the same time, the PRC has been acting more assertively—even aggressively—against a growing number of its neighbors. Unresolved land and maritime disputes have led Beijing to adopt an increasingly confrontational attitude toward territorial disputes in the South China Sea, in the East China Sea, and along the China–India border, and Beijing's reaction to the Democratic Progressive Party's victories in Taiwan's 2016 and 2020 elections has heightened cross-Strait tensions.

In May 2020, the U.S.–China Economic and Security Review Commission reported that, "[w]ith the world distracted by COVID-19, China also intensified its multi-faceted pressure campaign against Taiwan. Chinese military aircraft crossed the median line of the Taiwan Strait three times in the early months of 2020 after only one such incursion in 2019." The commission further noted that China conducted several provocative military exercises around the island and "continued its efforts to poach Taiwan's remaining diplomatic allies as the virus spread."[3] Since then, China has been intruding regularly across the median line of the Taiwan Strait with ever-larger groups of aircraft.

Meanwhile, China's attempts to obscure the origins of the COVID-19 pandemic and stifle international investigations into the matter have undermined global health efforts. Beijing has also sought to exclude Taiwan from multilateral efforts to combat the pandemic.

Growing Conventional Capabilities. The Chinese People's Liberation Army (PLA) remains one of the world's largest militaries, but its days of largely obsolescent equipment are in the past. Nearly two decades of officially acknowledged double-digit growth in the Chinese defense budget have resulted in a comprehensive modernization program that has benefited every part of the PLA. This has been complemented by improvements in Chinese military training and, in 2015, the largest reorganization in the PLA's history.[4] 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.

A major part of the 2015 reorganization was the establishment of a separate ground forces headquarters and bureaucracy; previously, the ground forces had been the default service providing staffs and commanders. Now the PLA Army (PLAA), responsible for the PLA's ground forces, is no longer automatically in charge of war zones or higher headquarters functions. At the same time, the PLAA has steadily modernized its capabilities, incorporating both new equipment and a new organization. It has shifted from a division-based structure toward a brigade-based one and has been improving its mobility, including heliborne infantry and fire support.[5] These forces are increasingly equipped with modern armored fighting vehicles, air defenses, both tube and rocket artillery, and electronic support equipment.

The PLA Navy (PLAN) is Asia's largest navy "and within the past few years...has 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)."[6] According to the U.S. Department of Defense (DOD):

> The PLAN is the largest navy in the world with a battle force of approximately 355 platforms, including major surface combatants, submarines, aircraft carriers, ocean-going amphibious ships, mine warfare ships, and fleet auxiliaries. 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 420 ships by 2025 and 460 ships by 2030.[7]

Although the total number of ships has dropped, 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, the PLAN 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, are 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.[8] 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."[9]

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

> The PLANMC previously consisted of two brigades (approximately 10,000 personnel) and was limited in geography and mission to amphibious assault and defense of South China Sea outposts. In 2020, the PLANMC continued to mature an enlarged force structure of eight brigades intended to be scalable and mobile, modernize its capabilities for joint expeditionary operations—including operations beyond the First Island Chain—and become more proficient in conventional and irregular warfare. Throughout 2020, the PLANMC continued to work towards fully equipping and training its four newly established maneuver brigades (in addition to its two previously existing brigades), a SOF brigade, and an aviation (helicopter) brigade.[10]

To move this force, the Chinese have begun to build more amphibious assault ships, including Type 071 amphibious transport docks.[11] 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."[12] 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.[13] 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.[14]

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.

The PLA Air Force (PLAAF), with more than 1,700 combat aircraft, is Asia's largest air force. It has shifted steadily from a force 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 2021 report on Chinese capabilities notes that:

> Although they currently have limited power projection capability, both the PLAAF and PLAN Aviation are seeking to extend their reach. The PLAAF, in particular, has received repeated calls from its leadership to become a truly "strategic" air force, able to project power at long distances and support Chinese national interests wherever they extend.[15]

The PLAAF currently has more than 700 fourth-generation fighters that are comparable to the U.S. F-15, F-16, and F-18. 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.[16] China is also believed to be preparing to field two stealthy fifth-generation fighter designs. The J-20 is the larger aircraft and resembles the American F-22 fighter. The J-31 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.[17]

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."[18] 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 2021 report on Chinese capabilities states that "The PLAAF continues to modernize with the delivery of domestically built aircraft and a wide range of UAVs."[19]

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.[20] 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.

Nuclear Capability. Chinese nuclear forces are the responsibility of the PLA Rocket Forces (PLARF), one of the 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 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. The PRC fielded only a small number of nuclear weapons: 100–150 weapons on medium-range ballistic missiles and approximately 60 intercontinental ballistic missiles (ICBMs). Its only ballistic missile submarine (SSBN) conducted relatively few deterrence patrols (perhaps none),[21] 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 may already be in the PLA operational inventory. The DOD's 2019 report on Chinese capabilities characterized the DF-41 as "a new MIRV-capable, road-mobile ICBM,"[22] and its 2021 report (as have previous reports) again states that "China appears to be considering additional DF-41 launch options, including rail-mobile and silo basing."[23] 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.

This past year has seen a sudden inflation in the number of strategic nuclear warheads available to the PLA Rocket Force. Imagery analysts at several think tanks discovered at least three fields of silos under construction in western China.[24] Each appears to contain around 100 silos, indicating that China could expand its land-based nuclear deterrent component by more than an order of magnitude.

Notably, the Chinese are also expanding their ballistic missile submarine fleet. Replacing the one Type 092 *Xia*-class SSBN are six Type 094 *Jin*-class SSBNs, all of which are operational. Equipped with the longer-range JL-2 SLBM, "the PLAN's six operational Jin class SSBNs represent the PRC's first credible sea-based nuclear deterrent." In addition, "[e]ach Jin class SSBN can carry up to 12 JL-2 SLBMs."[25]

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 there is not much evidence that China has pursued such a capability. 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.[26]

As a result of its modernization efforts, China's nuclear forces appear to be shifting from a minimal

deterrent posture, suited only to responding to an attack and then with only limited numbers, to a more robust but still limited deterrent posture. While the PRC will still likely field fewer nuclear weapons than either the United States or Russia, 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, modernization will enable China to engage in limited nuclear options 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 is 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, such as U.S. military bases on Guam, as well as against maritime targets."[27] 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.[28] 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. Notably, because of the strategic instability that FOBS programs would introduce, neither the U.S. nor the Soviet Union ever pursued them.

Cyber and Space Capabilities. The PLA's major 2015 reorganization included creation of the PLA Strategic Support Force (PLASSF), which brings the Chinese military's electronic, network (including cyber), and space warfare forces under a single service umbrella. 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.

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 of the General Staff Department's 3rd Department, with the theft of intellectual property and implanting of malware in various commercial firms.[29] 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.[30]

The PRC has been conducting space operations since 1970 when it first orbited a satellite, but its space capabilities didn't 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. As 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.[31] While this was officially touted as a servicing operation, 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."[32]

Threats to the Commons

The U.S. has critical sea, air, space, and cyber interests at stake in the East Asia and South Asia international common spaces. 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 provided the security backbone in these areas, and this in turn has supported the region's remarkable economic development. However, China is taking increasingly assertive steps—including the construction of islands atop previously submerged features—to secure its own interests, and two things seem obvious: 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.

In addition, as China expands its naval capabilities, it will be present farther and farther away from its home shores. As part of this effort, it established its first formal overseas military base in 2017 pursuant to an agreement with the government of Djibouti.

Dangerous Behavior in the 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 and South China Sea, coupled with ambiguous, extralegal territorial claims and assertion of control there, 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 do not necessarily have sufficient capacity to prevent the U.S. from operating in local waters and airspace, the ability of the U.S. to take control at acceptable costs in the early stages of a conflict has become a matter of greater debate.[33] 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."[34] 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 provide the necessary capabilities. Chinese observations of recent conflicts, including wars in the Persian Gulf, the Balkans, and Afghanistan, have emphasized the growing role of airpower and missiles in conducting "non-contact, non-linear, non-symmetrical" warfare.[35] 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 has also 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.[36]

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 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.[37] It has four satellite launch centers. China's interest in space dominance includes not only accessing space, but also 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 information for American operations in Kosovo. Moreover, 98 percent of precision munitions relied on space for guidance information. In fact, "[i]t may be said that America's victory in the Kosovo War could not [have been] achieved without fully exploiting space."[38]

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.[39] The latter include anti-satellite lasers for either dazzling or blinding purposes.[40] 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."[41]

Soft-kill attacks need not come only from dedicated weapons, however. 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.[42] 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 Chinese Chang'e-5 lunar sample retrieval mission in 2020 and the recent Chinese landing on Mars underscore China'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."[43] 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.[44] 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 not only the traditional land, sea, and air domains, but also outer space and cyberspace. The latter two arenas will be of special importance because warfare has shifted from an effort to establish material dominance (characteristic of industrial age warfare) to establishing information dominance. This is due to the rise of the information age and the resulting introduction of information technology into all areas of military operations.

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.[45]

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.** An essential part of information operations is the ability of commanders to control joint operations by disparate forces. 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.[46]

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.[47] 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, to weapons guidance, to 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."

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 long-standing threat to end the de facto independence of Taiwan and ultimately to bring it under the authority of Beijing—by force if necessary—is both a threat to a major American security partner and a threat to the American interest in peace and stability in the Western Pacific.

After easing for eight years, tensions across the Taiwan Strait have worsened as a result of Beijing's reaction to the outcome of Taiwan's 2016 and 2020 presidential elections. Beijing has suspended most direct government-to-government discussions with Taipei and is using a variety of aid and investment efforts to deprive Taiwan of its remaining diplomatic partners.

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

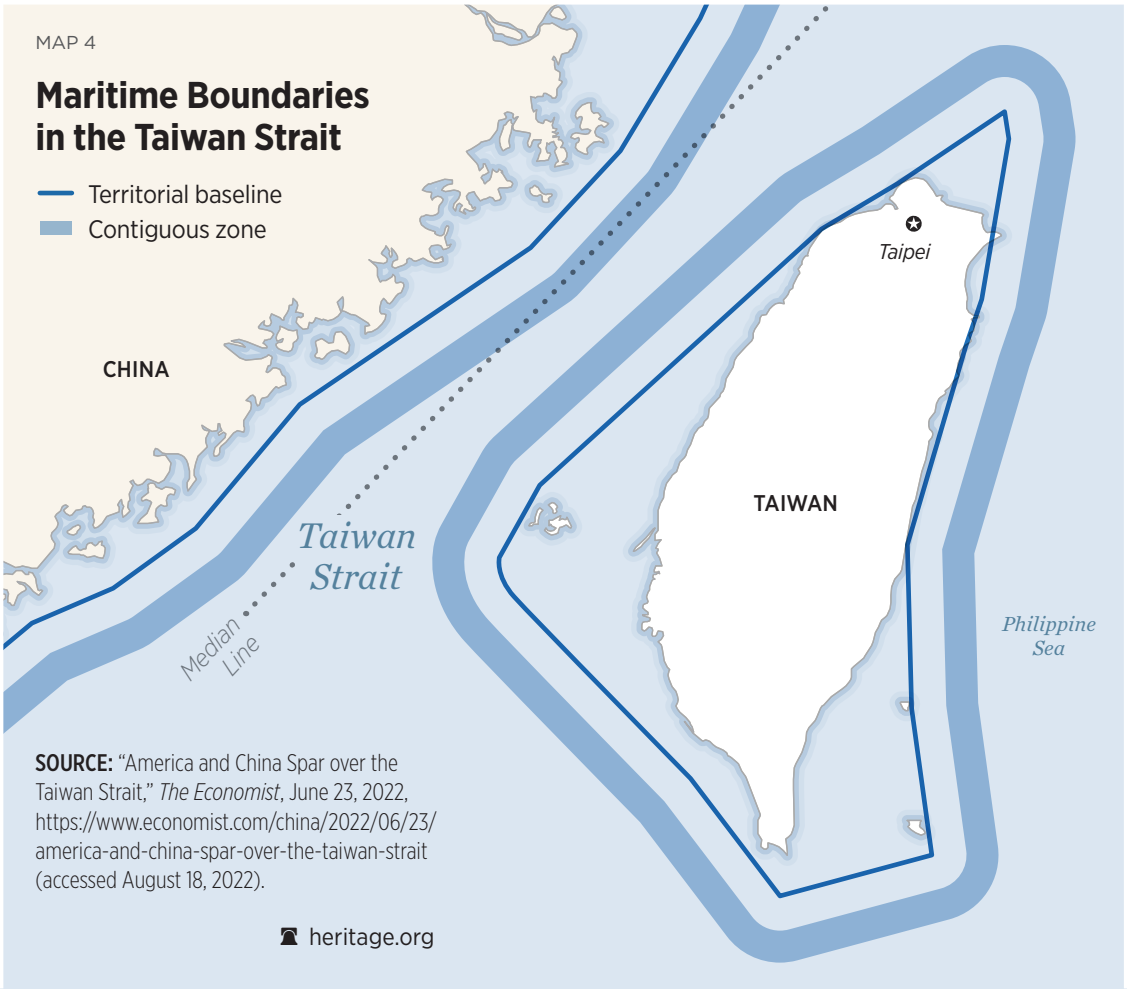
- In 2021, China sent more than 150 aircraft into Taiwan's air defense identification zone.[48]
- In 2022, 39 Chinese aircraft, including fighters, bombers, and support aircraft, conducted the largest single incursions into Taiwanese airspace.[49]
- Chinese fighters, along with airborne early warning aircraft, have increased their exercises southwest of Taiwan, demonstrating a growing ability to conduct flexible air operations and reduced reliance on ground-based control.[50]
- For at least six months in 2021, the Chinese maintained a warship between Taiwan and the string of Japanese islands southwest of Kyushu.[51]
- The PLA has undertaken sustained joint exercises to simulate extended air operations, employing both air and naval forces including its aircraft carriers.[52]

These activities continued unabated and, in some ways, even intensified in the wake of China's struggle with COVID-19.[53]

Regardless of the state of the relationship at any given time, 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" in Chinese policy. China has never renounced the use of force, and it 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. For this reason, China's leaders 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 anti-access/area-denial (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 in support of key friends and allies, thereby allowing the PRC 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 not as differences regarding the administration of international common spaces, but rather as matters of territorial sovereignty. As a result, there exists the threat of armed conflict between China and American allies that are also claimants, particularly Japan and the Philippines.

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. This need is exacerbated by China's status as the world's foremost trading state. China increasingly depends on the seas for its economic well-being. Its factories are powered by imported oil, and its diets contain a growing percentage of imported food. China relies on the seas to move its products to markets. Consequently, it not only has steadily expanded its maritime power, including its merchant marine and maritime law enforcement capabilities, but also has acted to secure the "near seas" as a Chinese preserve.

Beijing prefers to accomplish its objectives quietly and through nonmilitary means. In both the East China Sea and the South China Sea, China has sought to exploit "gray zones," gaining control incrementally and deterring others without resorting to

the lethal use of force. It uses military and economic threats, bombastic language, and enforcement through 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.

The growing tensions between China and Japan and among a number of claimants in the South China Sea are especially risky. In the former case, the most proximate cause is the dispute over the Senkakus.

China has intensified its efforts to assert claims of sovereignty over the Senkaku Islands of Japan in the East China Sea. 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.[54] 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. In 2020, CCG or other government vessels repeatedly entered the waters around the Senkakus.[55] In the summer of 2016, China deployed a naval unit (as opposed to the CCG) into the area.[56]

Beijing's 2013 ADIZ declaration was just part of a broader Chinese pattern of using intimidation and coercion to assert expansive extralegal claims of sovereignty and/or control incrementally. For example:

- In June 2016, a Chinese fighter made an "unsafe" pass near a U.S. 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. In response to the incident, the Chinese Foreign Ministry called for the U.S. to respect the ADIZ.[57]

- In May 2018, the Chinese intercepted an American WC-135, also over the East China Sea.[58]

There have been no publicly reported ADIZ-related confrontations since then.

In the South China Sea, overlapping Chinese, Bruneian, Philippine, Malaysian, Vietnamese, and Taiwanese claims raise the prospect of confrontation. This volatile situation has led to a variety of confrontations between China and other claimants, as well as with Indonesia, which is not claiming territory or rights disputed by anyone except (occasionally) China.

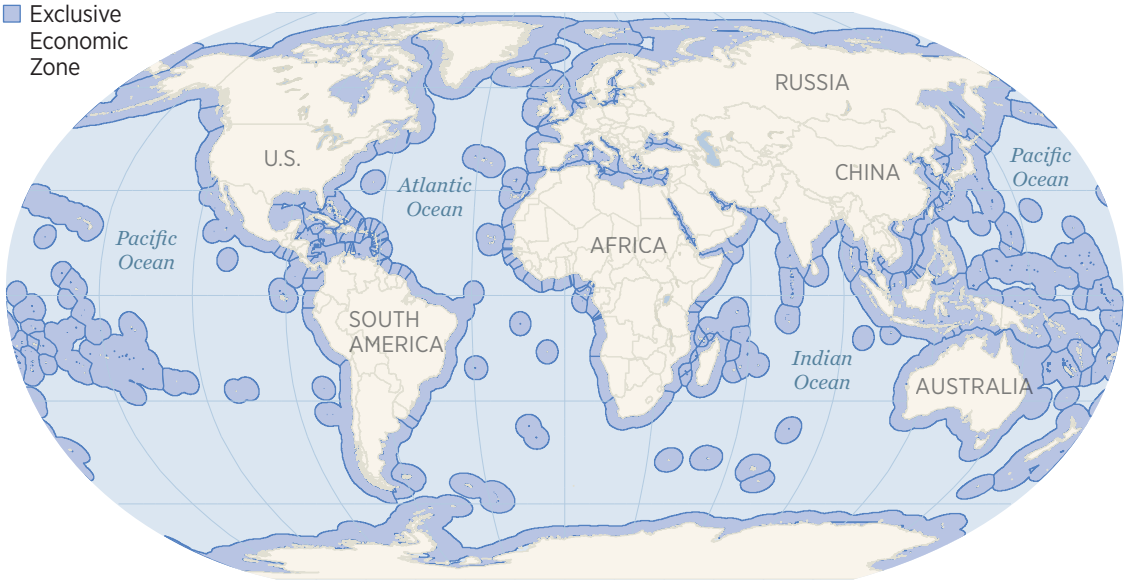
China–Vietnam tensions in the region, for example, were on display again in 2020 when CCG vessels twice rammed and sank Vietnamese fishing boats near the disputed Paracel islands.[59] Vietnam has also protested China's decision to create additional administrative regions for the South China Sea, one centered on the Paracels and the other centered on the Spratlys.[60] 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.[61]

Because of the relationship between the Philippines and the United States, tensions between Beijing and Manila are the most likely to lead to American involvement in these disputes. There have been several incidents going back to 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 which 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). There is no indication that the Chinese have reclaimed land around the shoal as they did in the Spratlys, but they continue to control access to the reef, and the presence of the Chinese Coast Guard remains a source of confrontation.[62]

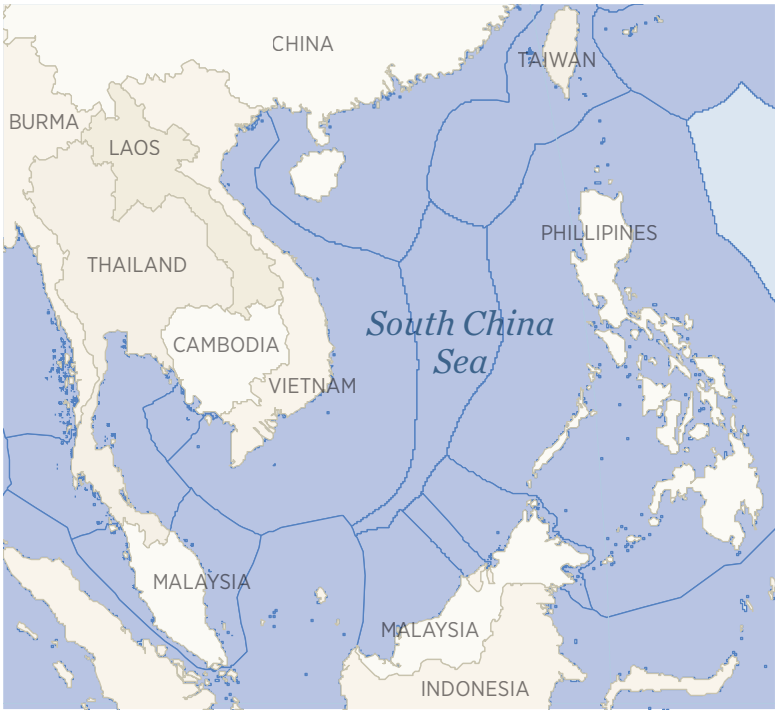
In March and April of 2021, a similar dispute seemed to be simmering around Whitsun Reef in the Spratlys. The presence of more than two hundred Chinese fishing boats, among them known assets of China's maritime militia,[63] sparked protests from Manila. After a stay of a few weeks—which Beijing claimed was necessary because of the poor weather—most of the ships departed. The unprecedented gathering of fishing boats and maritime militia could be an attempt to establish a basis within the Philippines exclusive economic zone (EEZ) for a subsequent return backed by the Chinese Coast Guard.

MAP 5

The Scope of Exclusive Economic Zones (EEZs)



As shown in the map above, EEZs and other waters under national jurisdiction account for 40 percent of the world's oceans. U.S. freedom of navigation worldwide would be compromised if national governments were granted expansive authority to restrict foreign militaries from operating in their EEZs. The South China Sea, virtually all of which is covered by various EEZ claims (see map at right), has become a particular flashpoint as China has sought to restrict freedom of navigation for U.S. military vessels there.



SOURCE: Heritage Foundation research.

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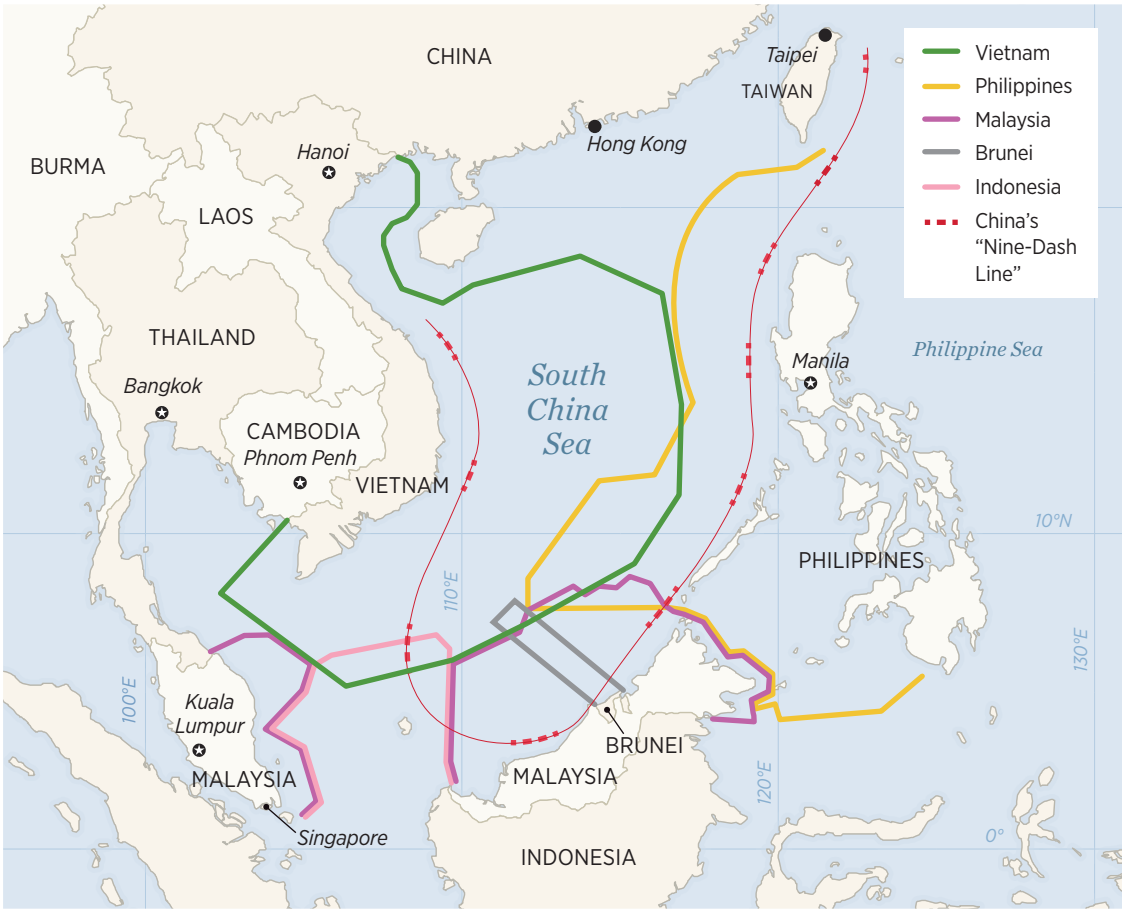
MAP 6

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



SOURCE: "China Has Militarised the South China Sea and Got Away with It," *The Economist*, June 23, 2018, https://www.economist.com/asia/2018/06/21/china-has-militarised-the-south-china-sea-and-got-away-with-it (accessed July 23, 2021).

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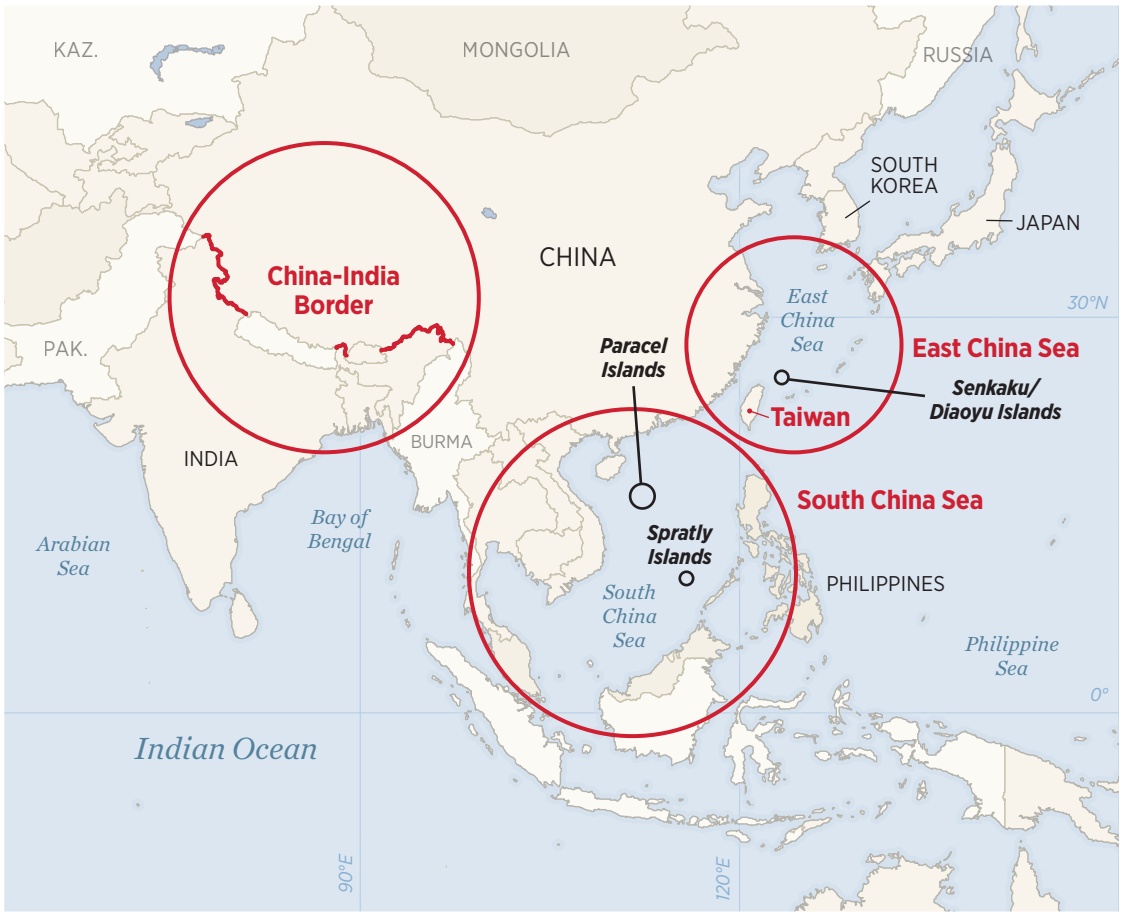
In each of these cases, the situation is exacerbated by rising Chinese nationalism.[64] In the face of persistent economic challenges, nationalist themes are becoming an increasingly strong undercurrent and affecting policymaking. Although the nationalist phenomenon is not new, it is gaining force and complicating efforts to maintain regional stability.

Governments may choose to exploit nationalism for domestic political purposes, but they also run the risk of being unable to control the genie that they have released. Nationalist rhetoric is mutually reinforcing, which makes countries less likely to back down than they might have been in the past. The increasing power that the Internet and social media provide to the populace, largely outside of government control, adds elements of unpredictability to future clashes. China's refusal to accept the 2016 Permanent Court of Arbitration findings, which overwhelmingly favored the Philippines, despite both Chinese and Philippine accession to UNCLOS is a partial reflection of such trends.

In case of armed conflict between China and the Philippines or between China and Japan, either by intention or because of an accidental incident at sea, the U.S. could be required to exercise its treaty

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.

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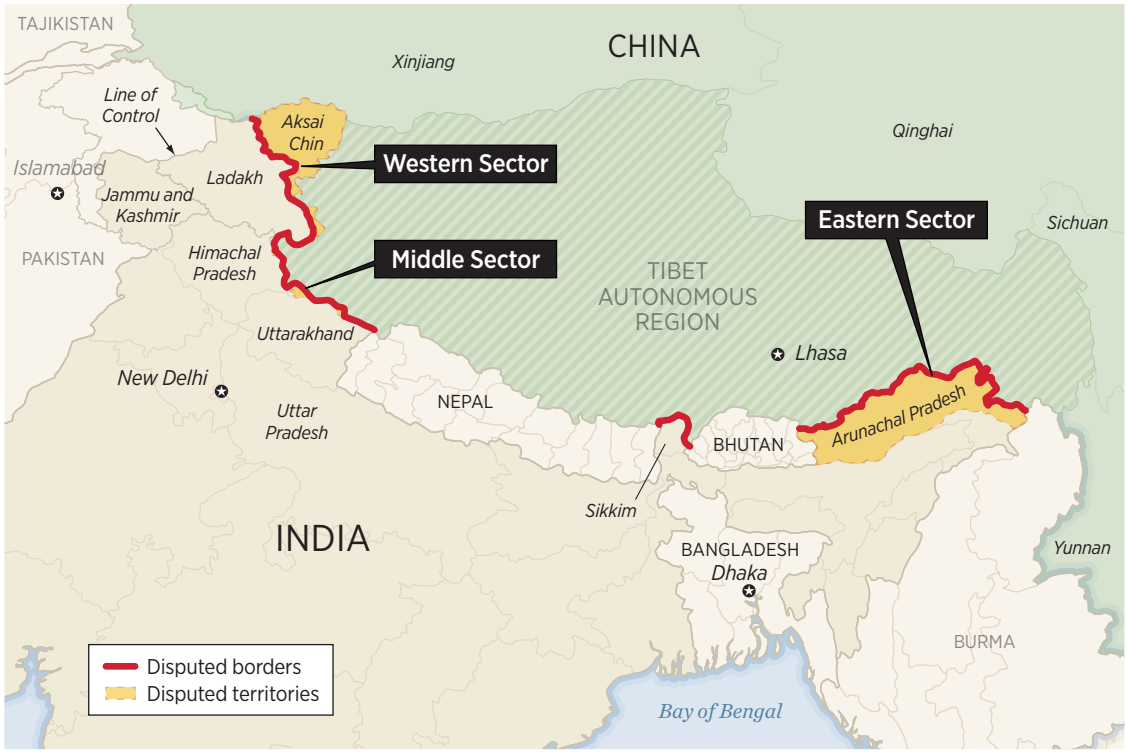
MAP 8

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 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.

heritage.org

commitments.[65] Escalation of a direct U.S.–China incident is also not unthinkable. Keeping an inadvertent incident from escalating into a broader military confrontation would be difficult. This is particularly true 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.

The most significant development in the South China Sea during the past three years has been Chinese reclamation and militarization of seven artificial islands or outposts. In 2015, President Xi promised President Obama that China had no intention of militarizing the islands. That pledge has never been honored.[66] In fact, as described by Admiral John Aquilino, Commander, U.S. Indo-Pacific Command,

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.[67]

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."[68] This would seem to suggest that the process has been completed.

There is the possibility that China will ultimately try to assert its authority over the entire area by declaring an ADIZ above the South China Sea.[69] There also are concerns that under the right circumstances, China will move against vulnerable targets like Philippines-occupied Second Thomas Shoal or Reed Bank, where a Chinese fishing boat in 2019 rammed and sank a Philippine boat, causing a controversy in Manila. There is also consistent speculation in the Philippines about when the Chinese will start reclamation work at Scarborough. This development in particular would facilitate the physical assertion of Beijing's claims and enforcement of an ADIZ, regardless of the UNCLOS award.

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.

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.[70] 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 recently admitted) at least four Chinese killed in the Galwan Valley area of Ladakh.[71] In September, reports of shots exchanged near the Pangong Lake region signaled further potential escalation.[72]

India 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 34,000 square miles of India's northeastern state of Arunachal Pradesh. The issue is also closely related to China's concern for its control of Tibet and the presence in India of the Tibetan government in exile and Tibet's spiritual leader, the Dalai Lama.

China is building up military infrastructure and expanding a network of road, rail, and air links in its southwestern border areas. To meet these challenges, the Indian government has committed to expanding infrastructure development along the disputed border, although China currently holds a decisive military edge.

Conclusion

China presents the United States with the region's most comprehensive security challenge. It poses various threat contingencies across all three

areas of vital American national interests: homeland; regional war, including potential attacks on overseas U.S. bases as well as against allies and friends; and international common spaces. China's provocative behavior is well documented. It is challenging the U.S. and its allies such as Japan at sea, in the air, and in cyberspace; it has raised concerns on its border with India; and it is a standing threat to Taiwan. Despite a lack of official transparency, publicly available sources shed considerable light on China's rapidly growing military capabilities.

The Chinese launched their first homegrown aircraft carrier during the past year and are fielding large numbers of new platforms for their land, sea, air, and outer-space forces as well as in the electromagnetic domain. The PLA has been staging larger and more comprehensive exercises, including major exercises in the East China Sea near Taiwan, that are improving the ability of the Chinese to operate their abundance of new systems. It also has continued to conduct probes of both the South Korean and Japanese ADIZs, drawing rebukes from both Seoul and Tokyo.

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

Threats: China

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Behavior		✔			

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
Capability	✔				

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Russia

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On February 24, 2022, Russia invaded 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. In addition to the tremendous losses borne by both sides, the war has depleted the military inventories of countries providing material support to Ukraine. The assault on Ukraine is glaring 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 and can have across countries and regions of special importance to the United States.

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, Russia continues to prioritize the rebuilding of 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. In Europe, Russia uses its energy position 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.

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

Military Capabilities. According to the International Institute for Strategic Studies (IISS):

- Among the key weapons in Russia's inventory are 339 intercontinental ballistic missiles (ICBMs); 2,927 main battle tanks; 5,180 armored infantry fighting vehicles; more than 6,050 armored personnel carriers; and more than 4,894 pieces of artillery.
- The navy has one aircraft carrier; 49 submarines (including 11 ballistic missile submarines); four cruisers; 11 destroyers; 16 frigates; and 129 patrol and coastal combatants.
- The air force has 1,172 combat-capable aircraft.
- The army has 280,000 soldiers.
- There is a total reserve force of 2,000,000 for all armed forces.[1]

Russia has suffered significant losses of tanks and other military hardware as a result of its assault on Ukraine, but in the coming years, it will come back with a vengeance in rebuilding its military. It will be replacing the destroyed tanks and equipment with newly developed versions, not the old Soviet versions. In addition, Russian deep-sea research vessels include converted ballistic missile submarines, which hold smaller auxiliary submarines that can operate on the ocean floor.[2]

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 could be shrouded from unauthorized disclosure."[3]

In January 2019, reports surfaced that 400 Russian mercenaries from the Wagner Group were in Venezuela to prop up the regime of Nicolás Maduro.[4] Russian propaganda in Venezuela has supported the regime and stoked fears of American imperialism. In March 2022, Russian Foreign Minister Sergei Lavrov met with Venezuelan Vice President Delcy Rodriguez to discuss "their countries' strategic alliance,"[5] and after Russia invaded Ukraine, Maduro "assured Vladimir Putin of his 'strong support.'"[6]

During the past few years, as the crisis has metastasized and protests against the Maduro regime have grown, Russia has begun to deploy troops and supplies to strengthen Maduro's security forces.[7] In March 2019, for example, Russia deployed approximately 100 troops and military staff to Caracas.[8] Russia also exports billions in arms to Venezuela (and has loaned the regime money to purchase Russian arms) along with $70 million–$80 million yearly in nonmilitary goods.[9]

In July 2016, Putin signed a law creating a National Guard with a total strength (both civilian and military) of 340,000, controlled directly by him.[10] He created this force, which is 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."[11] In November 2020, the Russian National Guard (Rosgvardia) and the Belarusian Ministry of the Interior signed an official cooperation deal specifying that either side "may carry out law-enforcement-type operations on the other's territory."[12] Rosgvardia also 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.[13]

The Russian economy rebounded during the latter part of the COVID-19 pandemic,[14] but after Moscow launched its second invasion of Ukraine in February 2022, Western sanctions had a significant effect on the economy.[15]

In 2021, Russia spent $65.9 billion on its military—6.37 percent more than it spent in 2020—and remained one of the world's top five nations in terms of defense spending.[16] Much of Russia's military expenditure has been directed toward modernization of its armed forces. The U.S. Intelligence Community "expect[s] Moscow to sustain military modernization and enhance its armed forces, enabling it to defend Russia's national security while projecting influence globally and challenging the interests of the United States and its allies."[17] 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.[18] Taking into account total military expenditure, Russia spent 3.77 percent of its GDP on defense in 2021, a slight decrease from 2020.[19] This will surely increase as combat losses and consumption of war materiel 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.[20] The extent to which modernization efforts are affected by the Russo–Ukraine war cannot yet be known, but it seems reasonable to assume that Russia will not be content with a reduced and damaged military regardless of the outcome of the war. Consequently, general defense expenditures and investments in modernization programs are likely to increase, especially as they are enabled by historically high energy revenues.

Russia has prioritized modernization of its nuclear capabilities and claims that its nuclear trifecta is more than 89 percent of the way through its modernization from the Soviet era.[21] 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.[22] In June 2022, Putin announced in a speech that the missile had been "successfully tested" and, "with nuclear capability, will be deployed by the end of 2022." In a television interview, 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.'"[23]

In April 2020, the Kremlin stated that it had begun state trials for its T-14 Armata main battle tank in Syria.[24] After a series of delays, Russian troops allegedly will receive more than 40 Armata tanks in 2023.[25] Aside from the T-14 Armata, 10 new-build T-90M main battle tanks, contracted in 2017, were delivered to the 2nd Motor-Rifle Division in the Moscow region in 2020.[26] At the Army-2021 Forum, according to TASS, the Russian Defense Ministry "signed a contract with the Uralvagonzavod plant (part of the Rostec state corporation) stipulating the delivery of another batch of T-90M Proryv tanks and modernization of T-90 tanks to T-90M level."[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] Russia lost one of its Su-27 jets near the Crimean coast during a planned mission in March 2020.[29] In July 2021, Russia premiered the prototype for its Su-75 LTS Checkmate, which 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.

In December 2019, Russia's sole aircraft carrier, the *Admiral Kuznetsov*, caught on fire during repair work.[31] The carrier was scheduled to begin sea trials in 2022,[32] 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.[33] 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.[34]

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. Russia is also significantly upgrading its nuclear-powered battle cruiser *Admiral Nakhimov*, which is expected to become the "most powerful surface vessel in the Russian Navy" and be ready for sailing in 2023.[35]

Russia plans to procure eight *Lider*-class guided missile destroyers for its Northern and Pacific Fleets, but procurement has faced consistent delay.[36] In April 2020, it was reported that Russia's Severnoye Design Bureau had halted development of the frigates because of financial setbacks.[37]

In November 2018, Russia sold four *Admiral Grigorovich*–class frigates to India, which should take delivery of all four by 2026.[38] The ships had been intended for the Black Sea Fleet, but Russia found itself unable to produce a replacement engine following the imposition of Ukraine-related sanctions. Of the planned 14 frigates, Russia had engines for only two, but in January 2021, India procured gas turbine engines from Ukraine "and handed [them] over to Russia to install them on the Admiral Grigorovich-class guided-missile stealth frigates that are being made for the Indian Navy by a Russian shipyard as part of $2.5 billion deal."[39]

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.[40] In December 2021, Russia launched *Knyaz Oleg* and *Novosibirsk*, part of the Borei-A and Yasen-M submarine classes, respectively,[41] in addition to *Generalissimo Suvorov*, the third of the upgraded Borei-A class submarines.[42] The *Novosibirsk* is equipped with Kalibr cruise missiles.[43] Russia reportedly will construct a total of 10 Borei-A class submarines; so far, five have been delivered.[44]

The *Laika*-class submarines (previously called *Khaski*) are planned fifth-generation stealth nuclear-powered submarines. They are slated to begin construction in 2023 and 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* is scheduled for the end of 2030.[47]

Russia also continues to upgrade its diesel electric *Kilo*-class subs.[48] It reportedly inducted the first improved Project 636.6 *Kilo*-class submarine into its Pacific Fleet in November 2019.[49] Russia launched the third of six Project 06363 improved *Kilo*-class subs in March 2021, and all six are to be built by 2024.[50] According to one assessment, the submarines' improved noise reduction has caused them to be nicknamed "Black Holes," but "the submarine class lacks a functioning air-independent propulsion system, which reduced the boats' overall stealth capabilities."[51]

Transport remains a nagging problem, and Russia's defense minister has stressed the paucity of transport vessels. According to a RAND report:

> In 1992, just after the collapse of the Soviet Union, the Russian Federation military had more than 500 transport aircraft of all types, which were capable of lifting 29,630 metric tons. By 2017, there were just over 100 available transport aircraft in the inventory, capable of lifting 6,240 metric tons, or approximately one-fifth of the 1992 capacity.[52]

That number is even lower now. At least two Russian transport aircraft were shot down right after Russia's second invasion of Ukraine, which began on February 24, 2022.[53]

Although budget shortfalls have hampered modernization efforts overall, Russia continues to focus on development of such high-end systems as the S-500 surface-to-air missile system. As of March 2021, the Russian Ministry of Defense was considering the most fitting ways to introduce its new S-500 Prometheus surface-to-air missile system, which can detect targets at up to 1,200 miles and uses a missile with a range of approximately 250 miles, "as part of its wider air-defense modernization." According to one report, the S-500 system will enter full service by 2025.[54]

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, and 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.[55]

In November 2021, Russia conducted an anti-satellite missile test that reportedly "endangered the crew aboard the International Space Station (ISS)" because it created more than 1,500 pieces of trackable orbital debris and "hundreds of thousands of pieces of smaller orbital debris."[56] In September 2021, it was revealed that three *Voronezh* radars will be modernized as part of Russia's missile attack early warning system by 2028.[57]

Military Exercises. Russian military exercises, especially snap exercises, are a source of serious concern because they have masked real military operations in the past. Their purpose is twofold: to project strength and to improve command and control. 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. Russia employs unconventional tools, ranging from disinformation campaigns, malicious cyber activities, and the manipulation of energy markets to support Moscow's efforts at political subversion and economic intimidation. These tools and others are intended to coerce, weaken, and divide our Allies and Partners in the European theater and beyond.[58]

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.

Exercises in the Baltic Sea in January 2022 amid heightened tensions between Moscow and the West over Russia's military buildup on the Ukrainian border were meant as a message. Twenty Russian navy vessels performed "exercises focused on naval and anti-aircraft defence."[59] Right before the exercises occurred, the U.S. announced that it might send extra troops to NATO's eastern flank.[60] It is possible that Moscow used this announcement as its reason for initiating the exercises.

Russia's snap exercises are conducted with little or no warning and often involve thousands of troops and pieces of equipment.[61] In April 2021, for example, between 150,000 and 300,000 Russian troops massed at the Ukrainian border and in Crimea to conduct snap exercises that also involved approximately 35,000 combat vehicles, 900 aircraft, and 190 navy ships.[62] In February 2022, just before Moscow's second invasion of Ukraine, Russia and Belarus held joint snap exercises reportedly with 30,000 combat troops and special operation forces, fighter

jets, Iskander dual-capable missiles, and S-400 air defense systems.[63]

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.[64]

Russia's most recent National Security Strategy does not mention NATO directly, but it does assert 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."[65]

The most recent Russian military doctrine, which Putin signed in December 2014, specifically emphasizes the threat allegedly posed by NATO and global strike systems.[66]

Strategic Nuclear Threat. Russia possesses the largest arsenal of nuclear weapons (including short-range nuclear weapons) among the nuclear powers.[67] 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.[68] Modern weapons and equipment allegedly now constitute 89 percent of Russia's nuclear triad.[69]

Russia currently 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.[70] 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 de-escalatory 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.'"[71]

General Wolters discussed the risks presented by Russia's possible use of tactical nuclear weapons in his 2022 EUCOM posture statement:

> Russia's nuclear arsenal and strike capability remains an enduring, existential threat to the United States, democracy, and our peaceful Allies and Partners. A central concern is Russia's non-strategic nuclear weapons stockpile and the Kremlin's potential to use these weapons in crisis or conflict.
>
> Russia pursues malign activities, including military aggression, aimed at undermining democracy, the rules-based international order, and has a willingness to use force to achieve its aims. Russia pursues these activities despite widespread international condemnation and economic sanctions. President Putin leverages coercive and aggressive policies to counter Western influence and threaten peace and stability in Europe.[72]

Item 19 in Putin's June 2020 executive order, "Basic Principles of State Policy of the

Russian Federation on Nuclear Deterrence," outlines four "conditions specifying the possibility of nuclear weapons use by the Russian Federation." They include:

- The "arrival of reliable data on a launch of ballistic missiles attacking the territory of the Russian Federation and/or its allies";
- The "use of nuclear weapons or other types of weapons of mass destruction by an adversary against the Russian Federation and/or its allies";
- An "attack by [an] adversary against critical governmental or military sites of the Russian Federation, disruption of which would undermine nuclear forces response actions"; and
- "[A]ggression against the Russian Federation with the use of conventional weapons when the very existence of the state is in jeopardy."[73]

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 Russia'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.[74] 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 Pentagon officials have said that laser-armed Strykers are set to arrive by September 2022 and that new Eastern European batteries and sea-based interceptors are set to arrive by 2023.[75]

Russia continues to violate the Intermediate-Range Nuclear Forces (INF) Treaty, which bans the testing, production, and possession of intermediate-range missiles.[76] 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.[77] U.S. officials consider the banned SSC-8 cruise missiles to be fully operational.[78]

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.[79] 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.[80]

Russia's sizable nuclear arsenal remains the only threat to the existence of the U.S. homeland emanating from Europe and Eurasia. While 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

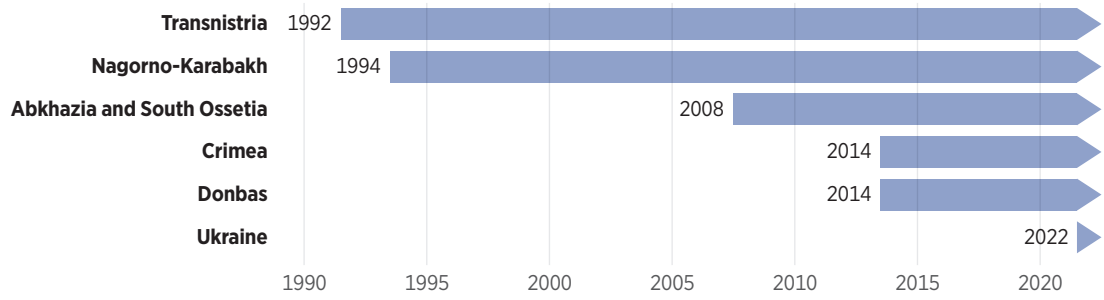
Many U.S. allies regard Russia as a genuine threat. At times, this threat is of a military nature, as seen in Russia's war against Ukraine. At other times, it involves less conventional tactics such as cyberattacks, exploitation of Russia's status as a source of energy, and propaganda. Today, as in the 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 the Eurasian Economic Union (EEU), for example, embody Russia's attempt to bind regional capitals to Moscow through a series of agreements and treaties.

Russia also uses espionage in ways that are damaging to U.S. interests. For example:

- In October 2019, the U.S. released and deported to Russia Maria Butina, a convicted Russian operative who had infiltrated American conservative political groups to interfere with the 2016 presidential election.[81]
- In February 2022, the U.S. expelled 12 officials from Russia's mission to the United Nations.

MAP 9

Russian Interference Zones



Transnistria. Russia has stationed troops in Transnistria since 1992 when a cease-fire ended the Moldovan civil war.

Nagorno-Karabakh. In September 2020, major fighting broke out in the Nagorno–Karabakh region, which Armenia had been occupying since 1994. The fighting ended in November 2020 when Armenia and Azerbaijan signed a Russian-brokered cease-fire. Russian peacekeeping troops remain in Nagorno–Karabakh for now.

Abkhazia and South Ossetia. Russian troops have been stationed in both Abkhazia and South Ossetia since Russia's 2008 invasion of Georgia and the subsequent five-day war.

Ukraine. In February 2022, Russia launched a full-scale invasion of Ukraine. Early on, Russian forces attempted to capture Ukraine's capital of Kyiv but failed. Russia maintains control of **Crimea** and parts of **Donbas** while fighting continues across Eastern Ukraine with a large contingent of Russia's army engaged in the conflict.

SOURCE: Heritage Foundation research.

heritage.org

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."[82]

In 2019, the European External Action Service, diplomatic service of the European Union (EU), estimated that 200 Russian spies were operating in Brussels, which is the headquarters of NATO.[83] In March 2022, Brussels expelled 21 Russian diplomats for "alleged threats and posing threats to security."[84] According to one report, Russian spies are becoming harder to track because they infiltrate companies, schools, and even the government.[85] In addition, the expulsion of Russian spies is not a permanent solution for Western nations because "Russia tends to send back new spies to replace the ones who have left."[86]

On March 4, 2018, Sergei Skripal, a former Russian GRU colonel who was convicted in 2006 of selling secrets to the United Kingdom and freed in a spy swap between the U.S. and Russia in 2010, and his daughter Yulia were poisoned with Novichok nerve agent by Russian security services in Salisbury, U.K. Hundreds of residents could have been contaminated, including a police officer who was exposed to the nerve agent after responding.[87] It took a year and the work of about 190 U.K. Army and Royal Air Force personnel, supported by "specialist contractors," to complete the physical cleanup of Salisbury.[88] U.S. intelligence officials have reportedly linked Russia to the deaths of 14 people in the U.K. alone, many of them Russians who ran afoul of the Kremlin.[89]

Russian intelligence operatives are reportedly mapping U.S. telecommunications infrastructure around the United States, focusing especially on fiber-optic cables.[90]

- In March 2022, U.S. intelligence analysts concluded that Russian military spy hackers were responsible for a multifaceted cyberattack on satellite broadband service, administered by U.S.-based Viasat, in Ukraine and Europe at the onset of Russia's renewed offensive in Ukraine.[91]

- In March 2017, the U.S. charged four people, including two Russian intelligence officials, with directing hacks of user data involving Yahoo and Google accounts.[92]

- Undersea cables in the United States are also at risk of being tapped for valuable intelligence. Fourteen Russian sailors who died aboard a submarine that caught fire in July 2019 were suspected of attempting to tap information flowing from American undersea cables.[93]

Russia has also used its relations with friendly nations—especially Nicaragua—for espionage purposes. In April 2017, Nicaragua began using a Russian-provided satellite station at Managua that, even though the Nicaraguan government denies it is intended for spying, is of concern to the U.S.[94] In November 2017, the Russian-built "counter-drug" center at Las Colinas opened, its future purpose being to support "Russian security engagement with the entire region."[95] According to a Foreign Policy Research Institute report, "Aside from the center, Russian forces have participated in joint raids and operations against drug trafficking [in Nicaragua], capturing as many as 41 presumed traffickers in one particular operation" since 2017.[96] Moscow also has an agreement with Nicaragua, signed in 2015, that "facilitate[s] Russian access to the ports of Corinto and Bluefields."[97]

Pressure on 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 its threatening of NATO members that are supporting Ukraine raise the specter of a larger conflict involving NATO. Russia continues to use cyberattacks, espionage, its significant share of the European energy market, and propaganda to sow discord among NATO member states and undermine the alliance. The Estonian Foreign Intelligence Service's *International Security and Estonia 2019* report states clearly that "[t]he only serious threat to regional security, including the existence and sovereignty of Estonia and other Baltic Sea states, emanates from Russia. It involves not only asymmetrical, covert or political subversion, but also a potential military threat."[98]

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 and Russia's use of this technique to invade Ukraine in 2014 and 2022.

According to Lithuania's *National Threat Assessment 2022*:

> Russia is and will remain the greatest and potentially existential threat to Lithuania and other countries of the region. By threatening to invade Ukraine and spark a conflict in Europe, Russia seeks to force the West to acknowledge its right to determine political choices of other independent states to decide on the ways how to ensure national and regional security. Moscow is also taking advantage of instability generated by [Belarusian dictator Alexander] Lukashenka and together with Beijing further challenging the West....
>
> Moscow attempts to persuade the country's population that the West is to blame for the economic and social problems and society's discontent with the regime; however, it is clearly an outcome of ineffective political system and poor management of national resources and priorities. Therefore, the regime employs increasingly aggressive tactics in fighting against the perceived internal and external opponents, escalates military threats to neighbouring states and the West thus seeking to allegedly prevent threats to Russia.[99]

In language that still applies 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.[100]

Latvian authorities describe the means used by Russia to claim that it is defending the rights of citizens or Russian "compatriots" in similar terms. "[O]ne of the priorities of Russian propaganda," for example, "has been promoting the 'correct' interpretation of historical events [including the Second World War] in line with the interests of the Kremlin." Other means include "spread[ing] lies at [the] international level about the Latvian government's policies, which are allegedly aimed at restricting Russian-speakers' rights," as well as "a series of measures to attract new leaders for the 'compatriot' policy" and "expanded...efforts to consolidate young people who could potentially become the next promoters of the Kremlin's worldview in Latvia." The principal "directions of Russia's 'compatriot' policy [are] consolidation of the Russian diaspora abroad, protection of the rights of 'compatriots', support for 'compatriot' youth organisations, [and] the protection of the Russian language and 'ethnocultural identity.'"[101]

In March 2017, General Curtis Scaparrotti, then Commander, U.S. European Command, and NATO Supreme Allied Commander Europe, testified that Russian propaganda and disinformation should be viewed as an extension of Russia's military capabilities: "The Russians see this as part of that spectrum of warfare, it's their asymmetric approach."[102] In 2020, for example, "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."[103] Today, "[t]he threat of influence no longer exists only during deployment but also in garrison because of 'the collapsed nature of communication...and...porous boundaries between war and everyday life,' which means geography is no longer enough to act as a defense."[104]

Russia also has sought to use disinformation to undermine NATO's Enhanced Forward Presence (eFP) in the Baltics. A disinformation campaign nicknamed "ghostwriter," for example, has been ongoing since 2017. Russian hackers often have leveraged "website compromises or spoofed email accounts to disseminate fabricated content."[105] In one case in 2019, a fake message published on the Polish War Studies Academy website, purportedly from the organization's commander, called for troops "to fight against 'the American occupation.'"[106] In 2020, hackers falsified an interview transcript, claiming that Lieutenant General Christopher Cavoli, then Commander of U.S. Army Europe, was criticizing the Baltic states' militaries.[107]

U.S. troops stationed in Poland for NATO's eFP have been the target of similar Russian disinformation campaigns.[108] A fabricated interview with General Cavoli that was published online was meant to undermine NATO's reputation among the public.[109] One report summarized that "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."[110] In particular, more recent Russian propaganda has focused on portraying eFP as an "occupying force."[111]

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.[112]

Russia has also demonstrated a willingness to use military force to change the borders of modern Europe. When Kremlin-backed Ukrainian President Viktor Yanukovych failed to sign an Association Agreement with the EU in 2013, months of 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 eventual annexation of Crimea, the first such forcible annexation of territory in Europe since the Second World War.[113] Then, in February 2022, Russia invaded Ukraine a second time, presumably with the goal of bringing the entire nation under Putin's control. At the time this book was being prepared, Russia occupied one-fifth of Ukraine, 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. It is likely that Russia will not relinquish by negotiation what it has taken by force, preferring instead to formalize ownership of the area it controls by simply annexing it.

Russia's annexation of Crimea effectively cut Ukraine's coastline in half, and Russia has claimed rights to underwater resources off the Crimean Peninsula.[114] In May 2018, Russia inaugurated the first portion of a $7.5 billion, 11.8-mile bridge connecting Russia with Kerch in occupied Crimea.[115] 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.[116] 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."[117]

Russia has deployed 30,000 troops to Crimea and has embarked on a major program to build housing, restore airfields, and install new radars there.[118] The Monolit-B radar system, for instance, has a passive range of 450 kilometers, and its deployment "provides the Russian military with an excellent real-time picture of the positions of foreign surface vessels operating in the Black Sea."[119] In addition, "Russian equipment there includes 40 main battle tanks, 680 armored personnel carriers and 174 artillery systems of various kinds" along with 113 combat aircraft.[120] These numbers may well be different now given Russia's renewed war in Ukraine and the losses of Russian personnel and equipment from Ukrainian defensive actions.[121]

Control of Crimea has allowed Russia to use the Black Sea as a platform to launch and support naval operations along the Ukrainian coastline as part of the renewed offensive against Ukraine.[122] Russia also has been using the naval base at Sevastopol for operations in the Eastern Mediterranean, but Turkey's closure of the Bosporus Strait to military traffic in response to Russia's war against Ukraine has ended this option, at least temporarily.[123] 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.[124] Russia was also planning to add 10 *Gorshkov*-class frigates and 14 *Steregushchiy*-class corvettes to its Black Sea fleet.[125] Kalibrs have a range of at least 2,500 kilometers, placing cities from Rome to Vilnius within range of Black Sea–based cruise missiles.[126] In April 2022, in a significant operational and symbolic loss for Russia, Ukrainian forces sank Russia's *Moskva* guided missile cruiser, which had been the flagship of its Black Sea Fleet.[127]

Russia has deployed five S-400 air defense systems with a potential range of approximately 250 miles to Crimea.[128] Russia's new S-350 air defense systems also could be deployed to Crimea, but that is somewhat unlikely.[129] In addition, "local capabilities [in Crimea] have been strengthened by the Pantsir-S1 (SA-22 Greyhound) short-to-medium-range surface-to-air missile (SAM) and anti-aircraft artillery weapons system, which particularly complements the S-400."[130] Russia also deploys the Bastion P coastal defenses armed with the P-800 Oniks anti-ship cruise missile, which "has a range of up to 300 kilometers and travels at nearly Mach 2.5, making it extraordinarily difficult to defeat with kinetic means."[131]

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

> Russia stations about 1,500 soldiers in Transnistria, a few hundred of which Moldova accepts as peacekeepers. In 2017, Moldova's Constitutional Court ruled that Russia's non-peacekeeping troop presence was unconstitutional. 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 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 the EU Border Assistance Mission to Moldova and Ukraine, which seeks to help the two countries combat transborder crime, facilitate trade, and resolve the conflict over Transnistria.[132]

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.[133] In February 2022, a few weeks before Russia's second invasion of Ukraine, Russian armed forces staged military drills in Transnistria. The exercises followed a Ukrainian warning that "Russian special services could be preparing 'false flag provocations' against Russian troops stationed in [Transnistria] to justify a broader invasion of Ukraine."[134] Concerns that Russian troops stationed in Transnistria could be mobilized for the war in Ukraine persist.[135]

Russia's permanent stationing of Iskander missiles in Kaliningrad in 2018 occurred a year to the day after NATO's eFP deployed to Lithuania.[136] Russia reportedly has deployed tactical nuclear weapons, the S-400 air defense system, and P-800 anti-ship cruise missiles to Kaliningrad.[137] Additionally, Russia established a new tank regiment, comprised of approximately 93 tanks, after 2018.[138] According to the IISS, the majority of Russian air force pilot graduates in 2019 were sent to Kaliningrad "to improve staffing" in the air force units located there.[139]

Russia also has outfitted a missile brigade in Luga, Russia, just 74 miles from the Estonian city of Narva, with Iskander missiles.[140] 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 Iskander missiles' range and improve their accuracy.[141] In addition, 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.[142]

Nor is Russia deploying missiles only in Europe. In September 2019, Russia announced its plans to deploy additional missile systems on Paramushir and Matua, two islands in the northern portion of the Kuril Island chain claimed by Japan.[143] In December 2020, Russia announced the deployment of S-300V4 air defense missile systems on Iturup.[144] In December 2021, Russia deployed Bastion coastal defense missile systems to Matua.[145] In March 2022, Russia conducted military drills on the Kuril Islands that involved more than 3,000 troops and hundreds of pieces of army equipment.[146]

Russia represents a real and potentially existential threat to NATO member countries in Eastern and Central Europe. In addition to its aggression in Georgia and Ukraine, Russia has threatened countries that provide support to Ukraine. It also has threatened Finland and Sweden for moving to join NATO. Given this pattern of aggressive behavior, the possibility of a conventional attack against a NATO member cannot be discounted. In all likelihood, however, Russia 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. Russia has a long history in the Arctic and, as an Arctic nation, has interests there. However, Russia's ongoing militarization of the region, coupled with its bellicose behavior toward its neighbors, makes the Arctic a security concern.

Because nationalism is on the rise in Russia, Vladimir Putin's Arctic 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 these reserves 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.

Russia has invested heavily in the Arctic region, opening a series of Arctic bases and investing in cold-weather equipment, coastal defense systems, underground storage facilities, and specialized training. 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."[147] Additionally, "Russian hardware in the High North area includes bombers and MiG31BM jets, and new radar systems close to the coast of Alaska."[148]

Russia also has staged a series of statement activities in the Arctic. In 2007, 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: "The Arctic is Russian."[149] In July 2017, Russia released a new naval doctrine citing the alleged "ambition of a range of states, and foremost the United States of America and its allies, to dominate the high seas, including in the Arctic, and to press for overwhelming superiority of their naval forces."[150]

In May 2017, Russia announced that its buildup of the Northern Fleet's nuclear capacity is intended "to phase 'NATO out of [the] Arctic.'"[151] In a March 2021 statement exercise, three Russian ballistic missile submarines punched through the Arctic ice near the North Pole.[152] 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."[153] Russia also has stationed a floating nuclear power plant on the northern coast of Siberia. "If the venture is successful," according to one account, "it will represent another milestone in Moscow's efforts to tame the melting Northern Sea Route, which...could become a direct trade route between Europe and Asia."[154]

Although the Arctic region has been an area of low conflict among the Arctic powers, NATO should consider the implications of Russia's recent aggressive military behavior. NATO is a collective security organization that is designed to defend the territorial integrity of its members. Five NATO members (Canada, Denmark, Iceland, Norway, and the United States) are Arctic countries, and all five have territory above the Arctic Circle. Two closely allied nations, Finland and Sweden, are awaiting NATO membership and also have Arctic territory. NATO ambassadors signed the necessary Accession Protocols, the first step in ratification of both countries' membership in the alliance, on July 5, 2022.[155]

In recent years, the U.S. has begun to pay increased attention to the Arctic theater in Europe. One way it has done this is by maintaining an enhanced presence in Norway. In April 2021, the two nations signed the Supplementary Defense Cooperation Agreement, which in part allows the U.S. to build additional infrastructure at Rygge and Sola air stations in southern Norway as well as Evenes air station and Ramsund naval station above the Arctic Circle.[156] Construction at Evenes will support Norwegian and allied maritime patrol aircraft in their monitoring of Russian submarine activity.

Because Russia is an Arctic power, its military presence in the region is to be expected, but it should be viewed with some caution 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. Since NATO is an intergovernmental alliance of sovereign nation-states built on the consensus of all 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.[157]

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."[158] 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.[159]

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.[160] 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."[161] However, the imposition of Western sanctions against Russian banks because of the war in Ukraine could force Novatek to halt development of the Arctic LNG 2 terminal.[162]

In May 2018, Putin issued a presidential degree setting a target of 80 million tons shipped across the NSR by 2024.[163] However, in October 2021, Russian Deputy Prime Minister Yuri Trutnev announced that Russia "plans to begin year-round shipping via the Northern Sea Route...in 2022 or 2023,"[164] even earlier than previously planned.

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.[165] In addition, old Soviet-era facilities have been reopened.

In September 2018, the Northern Fleet announced construction plans for a new military complex to house a 100-soldier garrison and anti-aircraft units at Tiksi. In January 2019, Russian authorities claimed that the base was 95 percent completed,[166] But in March 2020, Russia appeared to be "significantly behind in its plans for Tiksi."[167] In 2018, Russia also opened an Arctic airfield at Nagurskoye that is equipped with a 2,500-meter landing strip and a fleet of MiG-31 or Su-34 Russian fighters.[168] The landing strip "can handle all types of aircraft, including nuclear-capable strategic bombers."[169]

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."[170] In February 2021, it was reported that:

> Recently released photos and video show MiG-31BM Foxhound interceptors in action at Rogachevo Air Base in the Novaya Zemlya archipelago, above the Arctic Circle, an increasingly strategic region that's home to a resurgent Russian military presence. Russia's Ministry of Defense provided the imagery as a new rotation of MiG-31BMs arrived at the base, undertaking what the defense ministry describes as "experimental combat duty to protect the state border of the Russian Federation in the Arctic airspace."[171]

In March 2019, Mayor General Igor Kozhin, head of the Russian Naval Air Force, claimed that Russia had successfully tested a new airstrip cover that is effective in "temperatures down to minus 30 centigrades."[172]

Russia resumed regular fighter jet combat patrols in the Arctic in 2019.[173] The Ministry of Defense, for example, announced that in January 2019, two Tu-160 bombers flew for 15 hours in international airspace over the Arctic.[174] Over the course of one week in April 2019, Russian fighter and bomber jets flew near the coast of Norway twice. In one instance, two Tu-60 bombers and a MiG-31 flew 13 hours over the Barents, Norwegian, and North Seas. British and Danish jets scrambled to meet the Russian aircraft.[175]

In 2017, Russia activated a new radar complex on Wrangel Island.[176] 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.[177] Construction of the cable began in August 2021 and is due to be completed in 2026.[178]

In November 2019, Russia announced rocket firings in the Norwegian Sea 20 to 40 nautical miles from the Norwegian coast. The test firings, with little advance notice, were designed to send a message as they took place in an area through which NATO ships were sailing during the Trident Juncture exercise.[179] In March 2021, Russia's *Admiral Gorshkov* frigate successfully "launched an Oniks cruise missile and hit a coastal target on Novaya Zemlya, about 300 kilometers from launch position."[180] In September 2021, it was reported that "Russia's Northern Fleet had begun preparations to deploy the air-launched ballistic missile Kh-47M2 Kinzhal on MiG-31K carriers."[181]

Russia's ultimate goal is encapsulated in a June 2019 study published by the Royal Institute of International Affairs:

> Since the mid-2010s, the Kremlin has deployed substantive force and capabilities along the coast of its northern border in the AZRF [Arctic Zone of the Russian Federation]. Parts of the armed forces are now Arctic-capable, and have developed concepts of operations tailored to that environment. With the creation of OSK Sever [Joint Strategic Command North] in 2013, the Russian armed forces have been slowly reshaping their Arctic command structure. The Arctic forces are primarily focused on air and naval operations, with the aim of creating an integrated combined-arms force for the region.[182]

For a few years, Russia was developing three new nuclear icebreakers, and in May 2019, it launched its third and final *Arktika*.[183] The *Arktika*, currently the world's largest and most powerful nuclear icebreaker, sailed straight to the North Pole in October 2020.[184] In January 2022, the *Arktika* completed its first sail across the eastern part of the NSR.[185] That same month, Russia's newest nuclear-powered icebreaker, the *Sibir*, the second of Project 22220, arrived at its home port of Murmansk.[186]

Russia's Northern Fleet is also building newly refitted submarines, including a newly converted *Belgorod* nuclear-powered submarine that was launched in April 2019.[187] The *Belgorod* is expected to carry six Poseidon drones, also known as nuclear torpedoes, and will carry out "a series of special missions."[188] The submarine will have a smaller minisub that will potentially be capable of tampering with or destroying undersea telecommunications cables.[189] According to Russian media reports, the *Belgorod* "will be engaged in studying the bottom of the Russian Arctic shelf, searching for minerals at great depths, and also laying underwater communications."[190] Two similar submarines, the *Khabarovsk* and *Ulyanovsk*, which will also carry Poseidon drones, are scheduled to be commissioned in 2024 and 2025, respectively.[191] In addition, the Northern Fleet received 13 new ships in 2021, adding to the "more than four dozen already in service."[192]

Russia continues to develop and increase its military capabilities in the Arctic region. The likelihood of armed conflict remains low, but physical changes in the region mean that the posture of players will continue to evolve. It is clear that Russia intends to exert a dominant influence. According to 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.[193]

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.[194] The Georgian Foreign Ministry criticized the treaties as a step toward

"annexation of Georgia's occupied territories,"[195] 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.[196] South Ossetia's former leader, Anatoli Bibilov, had planned to hold a referendum on whether the region should join Russia on July 17, 2022, but his successor, Alan Gagloev, has cancelled the plebiscite as "premature."[197] 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").[198] 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.[199]

Moscow continues to exploit ethnic divisions and tensions in the South Caucasus to advance pro-Russian policies that are often at odds with America's or NATO's goals in the region, but Russia's influence is not restricted to soft power. In the South Caucasus, the coin of the realm is military might. It is a dangerous neighborhood surrounded by instability and insecurity that is reflected in terrorism, religious fanaticism, centuries-old sectarian divides, and competition for natural resources.

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.[200] 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.[201] 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.[202] Armenian troops even deployed alongside Russian troops in Syria to the dismay of U.S. policymakers.[203]

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.[204] 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, Azerbaijan liberated its internationally recognized territory, "which had been under Armenian occupation since the early 1990s."[205]

The conflict ended on November 9, 2020, when Armenia and Azerbaijan signed a Russian-brokered cease-fire agreement.[206] 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. In May 2021, tensions rose again in the region but for a different reason—the demarcation of the Armenian–Azerbaijani border.[207]

The Nagorno–Karabakh conflict offers another opportunity for Russia to exert malign influence and consolidate power in the region. Russia "has long been Azerbaijan's main arms supplier" but "also provides military equipment to Armenia." Additionally:

> In conjunction with controlling the negotiation process on the Armenian–Azerbaijani conflict over Karabakh, Moscow exploits its role as a major supplier of weapons to Azerbaijan in order to maintain its influence over Baku. In this realm, Russia plays a unique role between Azerbaijan and Armenia. As a main arms supplier of both, Moscow is also the main power broker between the two South Caucasus rivals.[208]

As noted by Eurasia expert Eduard Abrahamyan, "for years, Moscow has periodically sought to use the local authorities in Karabakh as a proxy tool of coercive diplomacy against both Baku and Yerevan."[209]

The South Caucasus might seem distant to many American policymakers, but the spillover effect of ongoing conflict in the region can have a direct impact both on U.S. interests and on the security of America's partners, as well as on Turkey and other countries that depend on oil and gas transiting the region. Russia views the South Caucasus as a vital theater and uses a multitude of tools that include 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. interests.

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 ongoing civil war, having saved Bashar al-Assad from being overthrown and having strengthened 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.[210] 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. Assad's only goal is to restore sovereignty over all of Syria; Russia generally is more focused on eliminating terrorism in the region and must manage its relationship with Turkey.

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."[211] According to a May 2020 report, Russia is reinforcing its naval group in the Mediterranean Sea with warships and submarines armed with Kalibr cruise missiles.[212] 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."[213]

The agreement with Syria also includes upgrades to the Hmeymim air base at Latakia, including repairs to a second runway.[214] 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."[215] Russia deployed the S-400 anti-aircraft missile system to Hmeymim in late 2015.[216] 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."[217] Russia currently operates out of Hmeymim air base on a 40-year agreement and continues to entrench its position there, as demonstrated by its recent building of reinforced concrete aircraft shelters.[218] In August 2020, Syria agreed to give Russia additional land and coastal waters to expand its Hmeymim air base.[219]

According to Lieutenant General Ben Hodges, former Commander, U.S. Army Europe, Russia has used its intervention in Syria as a "live-fire training opportunity."[220] The IISS similarly reports that Russia has used Syria as "a test bed for the development of joint operations and new weapons and tactics."[221] In fact, Russia has tested hundreds of pieces of new equipment in Syria. In December 2018:

> Russian Deputy Prime Minister Yury Borisov detailed to local media...the various new weapons systems [that] have been introduced to the conflict. These included the Pantsir S1 anti-aircraft and Iskander-M ballistic missile systems on the ground, Tupolev Tu-160 supersonic strategic bombers, Tu-22M3 supersonic bombers and Tu-95 propeller-driven bombers, as well as Mikoyan MiG-29K fighters and Ka-52K Katran helicopters in the air.[222]

Overall, Russia reportedly sold $28 billion worth of weaponry to 45 countries, including Syria, between 2016 and 2020.[223]

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.[224] That same month, Russia stated that U.S. and allied aircraft would be banned from flying over large areas of Syria because of a deal agreed to 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."[225]

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. In November 2018, Ambassador James Jeffrey, U.S. Special Representative for Syria Engagement, told news media that "American and Russian forces have clashed a dozen times in Syria—sometimes with exchanges of fire."[226] 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.[227]

In October 2018, Egyptian President Abdel Fattah al-Sisi signed a strategic cooperation treaty with Russia.[228] In November 2018, Russia sought to

solidify its relations with Egypt, approving a five-year agreement for the two countries to use each other's air bases.[229] Russia is a major exporter of arms to Egypt, which agreed to purchase 20 Su-35 fighter jets in 2018 for $2 billion.[230] Production of the Su-35 jets began in May 2020.[231] In August 2021, Russia and Egypt signed an additional bilateral strategic cooperation treaty.[232]

In Libya, Russia continues to support Field Marshal Khalifa Haftar with weapons and military advisers.[233] According to the U.S. Department of Defense, Russia's Wagner Group continues to be involved militarily in Libya.[234] Despite its ties to Haftar, Russia has also focused on expanding business ties with the Libyan government in Tripoli.[235]

Russia has stepped up its military operations in the Mediterranean significantly, often harassing U.S. and allied vessels involved in operations against the Islamic State. In April 2020, for example, a Russian Su-35 jet intercepted a U.S. Navy aircraft flying over the Mediterranean Sea. It was the second time in four days that "Russian pilots [had] made unsafe maneuvers while intercepting US aircraft."[236] The Russian jet had taken off from Hmeymim air base in Syria. In April 2022, "three P-8A maritime patrol and reconnaissance aircraft 'experienced unprofessional intercepts by Russian aircraft' while 'flying in international airspace over the Mediterranean Sea.'"[237]

From April–August 2017, the U.S. along with British, Dutch, and Spanish allies tracked the *Krasnodar*, a *Kilo*-class submarine, as it sailed from the Baltic Sea to a Russian base in occupied Crimea. The submarine stopped twice in the eastern Mediterranean to launch cruise missiles into Syria and conducted drills in the Baltic Sea and off the coast of Libya.[238] In February 2020, General Wolters revealed that Russian submarines are becoming more active and harder for the United States to track.[239] On February 24, 2022, the day Russia launched its second invasion of Ukraine, two Russian submarines were seen in the eastern Mediterranean.[240] In March 2022, the Russian Navy allegedly "deployed an Akula-class nuclear submarine in the Mediterranean."[241]

Russia's position in Syria, including its expanded area-access/area-denial capabilities and increased warship and submarine presence, underscores the growing importance of the Mediterranean theater in ensuring Europe's security.

The Balkans. Security has improved dramatically in the Balkans since the 1990s, but violence based on religious and ethnic differences remains an ongoing possibility. These tensions are exacerbated by sluggish economies, high unemployment, and political corruption.

Russia's interests in the Western Balkans are at odds with the ongoing 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.[242]

Senior members of the Russian government have alleged that NATO enlargement in the Balkans is one of the biggest threats to Russia.[243] 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."[244]

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 was the largest investor in Montenegro until October 2020 when it was surpassed by China.[245]

In March 2022, the Montenegrin government joined European sanctions on Russia, "without specifying what they were," after Russia's second invasion of Ukraine.[246] In April 2022, Montenegro's government suspended broadcasting by Russia Today (RT) and Sputnik in coordination with EU sanctions on Russia.[247]

North Macedonia's accession to NATO was similarly targeted by Russia, which had 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.[248] In 2018, after North Macedonia was invited to join NATO, Russia's ambassador to the EU stated that "there are errors that have consequences."[249] 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.[250]

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.[251]

The so-called Russian–Serbian Humanitarian Center at Niš is "widely believed to be a Russian spy base" and is located "only 58 miles from NATO's Kosovo Force mission based in Pristina."[252]

In February 2020, Serbia purchased the Pantsir S1 air-defense system from Russia despite objections and potential sanctions from the United States.[253] 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. It also has helped to establish more than 100 pro-Russian non-governmental organizations and media outlets in Macedonia.[254]

Serbia and Russia have signed a strategic partnership agreement that is focused on economic issues. Russia's inward investment is focused on the transport and energy sectors. Except for those in the Commonwealth of Independent States, Serbia is the only country in Europe that has a free trade deal with Russia. In January 2019, Serbia and Russia signed 26 agreements relating to energy, railway construction, and strategic education cooperation.[255] Further proof of Belgrade's loyalty to Moscow is seen in Serbia's unwillingness or inability to "take a firm stand against Russia's war on Ukraine."[256]

In a January 2019 state visit to Serbia, Vladimir Putin expressed a desire for a free trade agreement between Serbia and the Russian-led Eurasian Economic Union. An agreement between the two countries was signed in October 2019 "following veiled warnings from the European Union."[257] Russia also has held out the possibility of $1.4 billion in infrastructure aid to Serbia aimed at building the TurkStream pipeline and increasing Russia's energy leverage in the region. In May 2022, Serbia reached a three-year agreement with Russia for natural gas supplies at "the most favorable price in Europe."[258]

However, Serbia still participates in military exercises far more often without Russia than with Russia. In 2017, for example, "Serbian forces participated in 2 joint exercises with Russia and Belarus but held 13 exercises with NATO members and 7 with U.S. units."[259] Like Russia, Serbia is a member of NATO's Partnership for Peace program. Additionally, Serbia has partnered with the State of Ohio in the U.S. National Guard's State Partnership Program since 2006.

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.[260] Events in Ukraine, especially the annexation of Crimea, have inspired more separatist rhetoric in Republika Srpska, but Russia's second invasion of Ukraine allegedly has delayed Republika Srpska's plans to withdraw from Bosnia and Herzegovina's state institutions.[261] In June 2022, in an interview with the public broadcaster of Republika Srpska, Russian Foreign Minister Sergei Lavrov declared that Dodik is "a friend of Russia."[262]

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 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.[263] In October 2018, just days before elections, Dodik was hosted by Putin as they watched the Russian Grand Prix in a VIP box.[264] In December 2021, Dodik again visited Moscow. The Kremlin refrained from announcing this latest meeting ahead of time, but Russian presidential spokesman Dmitry Peskov asserted that "this by no means belittle[d] the importance of the meeting."[265] 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.[266]

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."[267] Veterans organizations in Russia and Republika Srpska have developed close ties.[268]

Russia has cultivated strong ties with the security forces of Republika Srpska. 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." The site serves as the headquarters for "anti-terrorist units, logistics units, and a department to combat organized crime."[269]

Russia also has continued to oppose the recognition of Kosovo as an independent sovereign country[270] and has condemned Kosovo's creation of its own army. Moscow does not want Kosovo to be seen as a successful nation pointed toward the West. Rather, it seeks to derail Kosovo's efforts to integrate into the West, often by exploiting the Serbian minority's grievances. In the most jarring example, a train traveling from Belgrade to Mitrovica, a heavily Serb town in Kosovo, in January 2017 was stopped at the Kosovar border. The Russian-made train was "painted in the colors of the Serbian flag and featured pictures of churches, monasteries, and medieval towns, as well as the words 'Kosovo is Serbian' in 21 languages."[271]

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 encouraging the region to progress toward the transatlantic community. 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

Other than cyberspace and (to some extent) airspace, the commons are relatively secure in the

European region. Despite Russia's periodic aggressive maneuvers near U.S. and NATO vessels—and with the significant exception of the Kerch Strait—this remains largely true with respect to the security of and free passage through shipping lanes. The maritime domain is heavily patrolled by the navies and coast guards of NATO and NATO partner countries, and except in remote areas in the Arctic Sea, search and rescue capabilities are readily available. Moreover, maritime-launched terrorism is not a significant problem, and piracy is virtually nonexistent.

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."[272] In June 2021, Russian fighter jets repeatedly harassed a Dutch frigate in the Black Sea.[273]

Russian threats to the maritime theater also include activity near undersea fiber-optic cables. In July 2019, a Russian submarine reportedly was trying to tap information flowing through undersea cables near Russia's northern shore in the Barents Sea. The cables "carry 95 percent of daily worldwide communications" in addition to "financial transactions worth over $10 trillion a day."[274] Thus, any disruption would cause a catastrophic reduction in the flow of capital.

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.[275] In September 2021, it was caught loitering in the English Channel.[276] 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.[277]

Airspace. Russia has continued its provocative military flights near U.S. and European airspace in recent years. In April 2021, Lieutenant General David Krumm from Joint Base Elmendorf–Richardson, Alaska, revealed that during the previous year, there was 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."[278] In October 2020, F-22 Raptor stealth fighter jets scrambled "to intercept Russian long-range bombers and fighters flying off Alaska's coast" in "the 14th such incident off Alaska's coast in 2020."[279]

In March and April 2019, the Royal Air Force scrambled fighters twice in five days to intercept Russian bombers flying near U.K. airspace off the Scottish coast while the U.S., Australia, and 11 NATO allies were taking part in the Joint Warrior exercise in Scotland.[280] In February 2022, U.S. fighter jets and Norwegian and British military planes intercepted Russian aircraft flying near NATO-allied airspace over the North Atlantic.[281]

Aggressive Russian flying has occurred near North American airspace as well. In January 2019, two U.S. F-22s and two Canadian CF-18 fighters scrambled when two Russian Tu-160 Blackjack bombers flew into Arctic airspace patrolled by the Royal Canadian Air Force.[282]

Russian flights have also targeted U.S. ally Japan. In March 2022, Japan scrambled a fighter jet to "warn off a helicopter believed to be Russian" that 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 incidents.[286] Between April 1, 2018, and March 31, 2019, Japan had to scramble jets 343 times to intercept Russian aircraft, although that was 47 times less than had been necessary in the preceding year.[287]

The main threat from Russian airspace incursions, however, remains near NATO territory in Eastern Europe, specifically in the Black Sea and Baltic regions. In March 2021, NATO fighter jets scrambled 10 times in one day "to shadow Russian bombers and fighters during an unusual peak of flights over the North Atlantic, North Sea, Black Sea and Baltic Sea."[288] In February 2022, near NATO allied airspace over the Baltic Sea, U.S. F-15Es scrambled and intercepted Russian fighter jets. That same day, "Norwegian and British aircraft intercepted Russian aircraft in flying from the Barents [Sea] into the North Sea."[289] In April 2022, around both the Baltic

and Black Seas, NATO fighter jets scrambled multiple times over the span of four days "to track and intercept Russian aircraft near Alliance airspace."[290]

There have been several incidents involving Russian military aircraft flying in Europe without using their transponders. In April 2020, two maritime Tu-142 reconnaissance and anti-submarine warfare planes flew over the Barents, Norwegian, and North Seas but had switched off their transponders. As a result, two Norwegian F-16s were scrambled to identify the planes.[291] In September 2019, a Russian Air Force Sukhoi Su-34 fighter flew over Estonian airspace without filing a flight plan or maintaining radio contact with Estonian air navigation officials because the plane's transponder had been switched off. This was the second violation of Estonia's airspace by a Russian aircraft in 2019.[292] In August 2019, two Russian Su-27 escort jets flew over the Baltic Sea without a flight plan and without turning on their transponders.[293]

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.

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 crewmembers, over the skies of southeastern Ukraine.

Cyberspace. Russian cyber capabilities are sophisticated and active, regularly threatening 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 clearly believes that these online operations will be essential to its domestic and foreign policy for the foreseeable future. As former Chief of the Russian General Staff General Yuri Baluyevsky has observed, "a victory in information warfare 'can be much more important than victory in a classical military conflict, because it is bloodless, yet the impact is overwhelming and can paralyse all of the enemy state's power structures.'"[294]

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

> Russia 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.[295]

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."[296]

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."[297]

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."[298] The 5,500-mile pipeline, "responsible for carrying fuel from refineries along the Gulf Coast to New Jersey," was down for six days.[299] 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.[300] In June 2021, REvil, a Russian cybercriminal group, launched a ransomware attack on JBS, "the world's largest meat processing company."[301] As a result of the cyberattack, JBS was forced to shut down all nine of its U.S. plants for a brief period.[302]

However, the United States is not Russia's only target. In February 2020, the U.S. and its key allies accused Russia's main military intelligence agency, the GRU, of a broad cyberattack against the Republic of Georgia "that disrupted 'several thousand Georgian government and privately-run websites and interrupted the broadcast of at least two major television stations.'"[303] It was hoped that the accusation would help to deter Moscow from intervening in the 2020 presidential election.

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."[304] The attack "interrupted service for tens of thousands of broadband customers across Europe," including in Ukraine, and "reportedly disrupted service for thousands of European wind turbines."[305]

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."[306]

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 ongoing 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.

Russia's increasingly bold use of cyber capabilities, coupled with the sophistication of those capabilities and Moscow's willingness to use them aggressively, presents a serious challenge both to the U.S. and to its interests abroad.

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. is obliged by treaty 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 in America's interest to ensure that it maintains 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 and friends that are closest to Russia's borders. 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 its own interests or undermine the interests of the United States and its allies. These will be primarily military, security, and intelligence tools, with economic cooperation playing a smaller role.... Russia probably will continue to expand its global military, intelligence, security, commercial, and energy footprint and build partnerships aimed at undermining U.S. influence and boosting its own.[307]

Though Russia has expended much of its arsenal of munitions and has suffered significant losses in its war against Ukraine, high energy prices and the decision by several countries to continue trading with Russia despite sanctions placed on the country are ensuring a steady flow of funds into Russia's accounts that Putin will assuredly use to replenish stocks and replace losses. The result will be a Russian military rebuilt with new equipment and seasoned by combat experience gained in Ukraine. Russia will therefore continue to be a significant security concern both for its NATO partners and other allies.

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

Threats: Russia

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Behavior		✓			

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
Capability	✓				

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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 pose 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 acquires the capability to launch devastating cyberattacks against critical U.S. infrastructure.

Threats to the Homeland

Hezbollah Terrorism. Hezbollah, the radical Lebanon-based Shia revolutionary movement, poses a clear terrorist threat to international security. Hezbollah terrorists have murdered Americans, Israelis, Lebanese, Europeans, and citizens of many other nations. Originally founded with support from Iran in 1982, this Lebanese group has evolved into a global terrorist network that is strongly backed by 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 regards terrorism not only as a useful tool for advancing its revolutionary agenda, but also as a religious duty as part of a "global jihad." It 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.

Before September 11, 2001, Hezbollah had murdered more Americans than any other terrorist group. Despite al-Qaeda's increased visibility since then, Hezbollah remains a bigger, better equipped, better organized, and potentially more dangerous terrorist organization, 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 colorfully 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 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 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. In addition, Hezbollah 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 such as those perpetrated by more than 70 used-car dealerships identified as part of a scheme to launder hundreds of millions of dollars of cocaine-generated revenue that flowed back to Hezbollah.[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 past 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 served as a U.S.-based operative for Hezbollah's terrorism-planning wing for years, 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 the 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 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."[7] 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."[8] 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."[9]

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."[10]

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 one under the guise of its space program. Iran is not likely to develop missiles capable of reaching the United States until 2025 at the earliest.[11] However, it has launched several satellites with space launch vehicles that use similar technology, which could also be adapted to develop an ICBM capability.[12]

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.[13] 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.[14]

Threat of Regional War

The Middle East region is one of the most complex 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.[15] 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 was perhaps the world's first use of UAVs in combat.[16]

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. 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.[17] 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 $21.9 billion in 2018 to $17.4 billion in 2019.[18] In 2020, according to the IISS, defense spending declined again to an estimated $14.1 billion.[19]

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."[20]

- 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.[21]

- On September 16, 2019, in Ankara, Turkey, ahead of a trilateral meeting with Turkish President Recep Tayyip Erdogan to discuss the situation in Syria, the two presidents met again, and Putin praised Iran's support for the Assad regime.

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 up to 100 aircraft and engage six of them simultaneously at a range of 200 kilometers.[22] The missile system, which was considered a defensive weapon 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.[23]

In 2016, Iranian Defense Minister Hossein Dehghan 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

MAP 10

Iranian Missile Systems: Maximum Ranges

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

700 km
Zolfaghar SRBM

300 km
Shahab 1

750 km
Qiam-1 SRBM

500 km
Shahab 2 SRBM and Fateh-110

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/27/Documents/News/Military%20Power%20Publications/Iran_Military_Power_LR.pdf (accessed July 23, 2021).

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finalizing a deal for purchase and licensed production of Russia's modern T-90S main battle tank."[24]

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.[25] So far, Russia and Iran have not announced any arms deals, but 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.[26] 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 Islamic Revolutionary Guard Corps 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."[27]

- 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."[28]

- 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."[29]

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.[30] 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. Israel has launched more than 2,000 air strikes against Hezbollah and Iranian forces in Syria to prevent the transfer of sophisticated arms and prevent Iran-backed militias from deploying 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.[31]

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.[32] 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.[33] 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.[34] 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.[35] 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.[36]

Israel also has targeted Iranian forces and ballistic missiles inside Iraq.[37] On March 12, 2022, the IRGC launched up to 12 short range ballistic missiles at a building near Erbil, Iraq, that it claimed was a base used by Israeli intelligence officers.[38] The IRGC publicly claimed responsibility for the attack—a rare admission that signals the intensification of the shadow war between Iran and Israel.

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.

U.S. troops in the Middle East have been targeted by Iranian proxies in Lebanon in the 1980s, in Saudi Arabia in 1996, 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.[39]

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.[40]

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.[41] Attacks by Iran-backed militias have continued in Iraq, including UAV strikes that pose a growing threat to the 2,500 U.S. troops that train and support Iraqi security forces.[42]

Iran-backed militias also launched attacks against U.S. military forces in Syria, including an October 20, 2021, strike using at least five suicide

MAP 11

Iranian Proxies Strike U.S. Targets

From April 2021 to April 2022, Iranian proxy groups have conducted at least 17 attacks against eight U.S. targets in Syria, Iraq, and the United Arab Emirates.

SYRIA		IRAQ		UNITED ARAB EMIRATES	
1 Al-Tanf	●	5 Erbil Intl. Airport	●●●●	8 Al Dhafra Air Base	●
2 Al Omar oil field	●●	6 Ain al-Assad	●●		
3 Green Village	●●	7 Baghdad	●●●●		
4 Al Shaddadi	●				

● – 1 attack

SOURCE: Heritage Foundation research based on media reports.

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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.[43] 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. For the first time since the Korean War, we are operating without complete air superiority."[44] 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, 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.[45] In 2020, the U.S. Department of State estimated that Hezbollah was receiving $700 million a year from Iran.[46] 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 against 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.[47] Hezbollah also has developed an extensive web of fundraising and logistical support cells throughout Europe.[48]

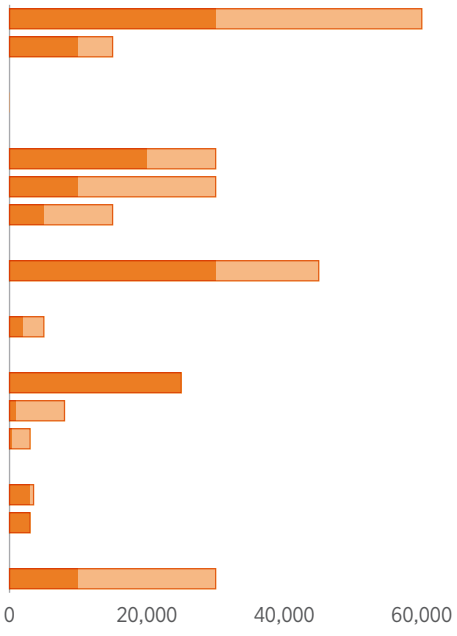
France and Britain have been the principal European targets of Hezbollah terrorism, partly because both countries opposed Hezbollah's agenda in Lebanon and were perceived as enemies of Iran, Hezbollah's chief patron. Hezbollah has been involved in many terrorist attacks against Europeans, including:

- 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;

MAP 12

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



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 August 9, 2022).

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- 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.[49] 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."[50] 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."[51]

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.[52]

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.[53]

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.[54] 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 that did not already have a nuclear capability.[55]

Iran is not a member of the Missile Technology Control Regime. Instead, it has sought 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 acquired North Korean–designed Scud-C and Nodong 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.[56]

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."[57] 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[58]

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 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 them 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.[59]

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."[60] 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, all of Israel can be hit with the thousands of shorter-range rockets that Iran has provided to Hezbollah in Lebanon and to Hamas and Palestinian Islamic Jihad in Gaza. In April 2021, Hamas and Palestinian Islamic Jihad launched more than 4,000 rockets and missiles in an 11-day miniwar with Israel.[61] 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 an estimated 1,500 strikes per day.[62] If Iran and Israel escalate their shadow war to a full-scale war, Israel is likely to 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.

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.[63]

Before the 2015 nuclear deal, Iran had accumulated enough low-enriched uranium to build eight

MAP 13

Iran's Nuclear Infrastructure

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

SOURCE: International Crisis Group, "The Iran Nuclear Deal at Six: Now or Never," *Middle East 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 August 11, 2022).

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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."[64]

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, assuming 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 and Iran, along with China, France, Germany, Russia, the United Kingdom, and the EU High Representative for Foreign Affairs and Security Policy, had reached "a comprehensive, long-term deal with Iran that will prevent it from obtaining a nuclear weapon."[65] 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.[66]

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 harder at strategic sectors of Iran's economy.[67] 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.[68]

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.[69] 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 Fordow facility. When announcing the fifth breach in January 2020, Iran stated that its uranium enrichment program no longer faced any restrictions.[70]

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.[71] 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.[72]

Although Tehran has not enriched to weapon-grade levels so far, it 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 European Union, 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.[73]

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 runup 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.[74] 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, an incident that Tehran attributed to Israeli sabotage.[75] 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 new "Octopus Doctrine" in which Israel seeks to retaliate for Iranian proxy attacks by targeting the head of the octopus rather than its tentacles.[76]

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.[77] 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."[78]

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, pose 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.

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.[79] Some of the most dangerous are long-range Iranian-made missiles capable of striking cities throughout Israel.[80] 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.[81] 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.[82] 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 the 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."[83] 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.[84] Gaza remains a flash point that could trigger another conflict with little warning.

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, 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."[85] 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."[86]

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.[87]

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 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.[88] 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.[89]

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.[90] 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

The United States has critical interests at stake in the Middle Eastern commons: sea, air, space, and cyber. 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."[91] 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.

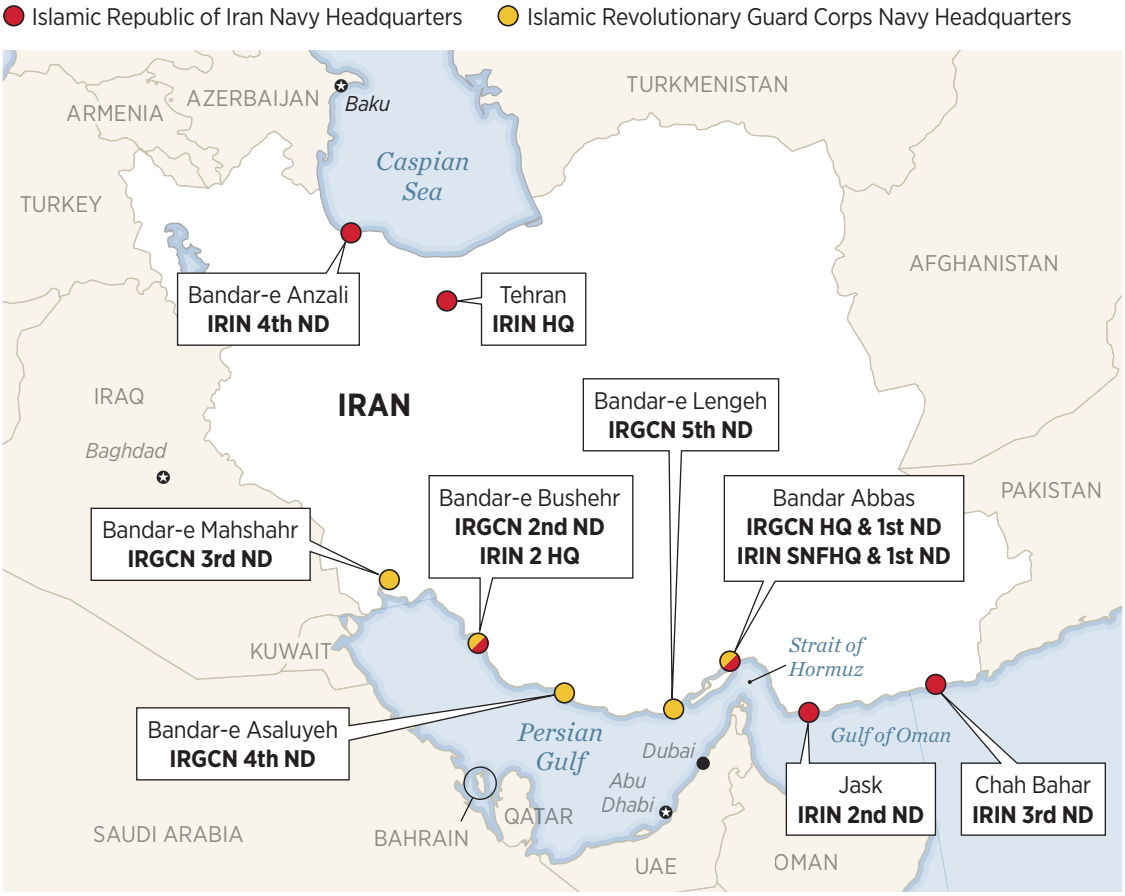
The world's most important maritime choke point and the jugular vein through which most Gulf oil exports flow to Asia and Europe is the Strait of Hormuz. In 2018, the "daily oil flow [through the Strait of Hormuz] averaged 21 million barrels per day (b/d), or the equivalent of about 21% of global petroleum liquids consumption."[92] The chief potential threat to the free passage of ships through the 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."[93]

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."[94] 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.[95] 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.[96] On June 19, an IRGC surface-to-air missile shot down a U.S. surveillance drone in international air

MAP 14

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. 48, https://www.dia.mil/Portals/27/Documents/News/Military%20Power%20Publications/Iran_Military_Power_LR.pdf (accessed July 23, 2021).

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space. The U.S. initially planned to launch retaliatory strikes, but President Trump called off the operation.[97] In September, Iran continued its aggressive behavior by launching 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 remain high in Gulf waters.

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.[98] 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, while Iran's military forces have suffered numerous accidents because of lax maintenance and safety practices, there also was speculation that some of the incidents may 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.[99] 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.[100] 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.[101] 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.[102] 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.[103] 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.[104] 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.[105] 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.[106]

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."[107] 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.[108] 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.[109]

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.[110]

The July 2015 nuclear agreement did not alter the Revolutionary Guard's confrontational tactics in the Gulf.[111] 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,[112] have flown drones over U.S. warships,[113] and detained and humiliated 10 American sailors in a provocative January 12, 2016, incident.[114] 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.[115] 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.[116] 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.[117]

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 *Stena Impero* tanker was seized in the Strait of Hormuz.[118] 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."[119] 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.[120] 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. Moreover, 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.[121] 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.[122] 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.[123] 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.[124] 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.[125]

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.[126]

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."[127]

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.[128]

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.[129] The technology probably was transferred by North Korea, which built its BM-25 missiles using the R-27 as a model.[130] 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."[131] 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."[132] 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).[133] The satellite launch failed, as did another Simorgh-boosted satellite launch in January 2019.[134]

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.[135] General Jay Raymond, Commander, U.S. Space Command, dismissed the satellite as a "tumbling webcam in space,"[136] but Iran's real achievement focused more on the previously unheard-of satellite carrier, the Qased (Messenger), a three-stage system that used both solid and liquid fuel.[137] 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.[138] In February 2022, a Zuljanah launch vehicle apparently blew up on a launch pad at the Imam Khomeini Spaceport.[139] Despite frequent failures, Iran's satellite launches have been criticized by the United States and other countries for 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 present 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."[140]

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.[141] The group also has targeted dissidents within Iran, seeding versions of anti-censorship tools with malware and gathering information about users of those programs.[142] Iran has invested heavily in cyber activity, reportedly spending "over $1 billion on its cyber capabilities in 2012 alone."[143]

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.[144]

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."[145] 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.[146] 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.[147]

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."[148] 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.[149] 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.[150]

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.[151] 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.[152] 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.[153] 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."[154]

The growing sophistication of these and other Iranian cyberattacks, together with Iran's willingness to use these weapons, has 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."[155] 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.[156]

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).[157]

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.[158] 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.[159]

> 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.[160]

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 fields more ballistic missiles than any of its neighboring countries field. The development of its ballistic missiles and potential nuclear capability also mean that it poses 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." Iran's capability score holds at "gathering."[161]

Threats: Iran

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Behavior		✓			

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
Capability		✓			

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161. 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. 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 growing 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 to invade and occupy Seoul within three days and all of South Korea within seven days. This would necessitate the early use of nuclear weapons and missiles against superior allied conventional forces.[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, Kim Jong-un announced an ambitious plan to develop multiple-warhead ICBMs, hypersonic glide warheads, tactical nuclear weapons, nuclear-powered submarines, military reconnaissance satellites, and long-range submarine-launched ballistic missiles (SLBMs).[2]

In March 2022, the regime conducted the first test of the massive Hwasong-17, the world's largest road-mobile ICBM, which exploded at an altitude of 20 kilometers. Eight days later, the regime successfully launched an ICBM, which it claimed was the Hwasong-17.[3] However, the U.S. and South Korea subsequently assessed that the second launch was actually a Hwasong-15, a model successfully tested in 2017. The missile flew considerably higher and farther than the 2017 Hwasong-15 launch.

The Hwasong-17 is assessed to carry three or four nuclear warheads and, combined with Pyongyang's recently confirmed ability to produce ICBM transporter-erector-launchers indigenously, 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.

To date, North Korea has launched all of its ICBMs on a highly lofted trajectory so that they would not fly over Japan. The regime could choose to be even more provocative by launching missiles in a normal trajectory over Japan; bracketing Guam with intermediate-range missiles (as it threatened to do in 2017); testing two long-range SLBM systems that have been paraded but not yet launched; or demonstrating the ability of an ICBM reentry vehicle to reenter the Earth's atmosphere successfully after a lengthy flight.

North Korea has conducted six nuclear tests, including a 2017 test 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), estimated [that North Korea had] a stockpile of up to 60 nuclear warheads."[4] In addition, "[s]ome experts have estimated that North Korea could produce enough nuclear material for

an additional seven warheads per year,"[5] and others have estimated that the number could be as high as 12 per year.[6]

In August 2021, the International Atomic Energy Agency assessed that North Korea had resumed operations at its Yongbyon nuclear reactor, which produces plutonium for nuclear weapons.[7] Pyongyang also may have reprocessed nuclear fuel from previous reactor operations. 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 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]

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 2019–2022.

- In 2019, North Korea conducted 26 missile launches, its highest-ever number of violations of U.N. resolutions in a year. That year, the regime unveiled five new short-range missile systems threatening South Korea, including a 400mm 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 600mm 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.[9]

- In 2022, North Korea again increased its missile testing and even exceeded 2019 levels. On June 5, according to U.S. Special Representative to the Democratic People's Republic of Korea Sun Kim, "the DPRK launched eight ballistic missiles from various parts of the country, which would be the largest number of ballistic missiles ever launched in a single day by the DPRK." All told, "North Korea has now launched 31 ballistic missiles in 2022, the most ballistic missiles it has ever launched in a single year, surpassing its previous record of 25 in 2019."[10]

Pyongyang has 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.

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.[11] 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. In its October 2020, January 2021, and April 2022 parades, North Korea revealed the Pukguksong-4, Pukguksong-5, and Pukguksong-6 SLBM missiles.[12]

South Korea does not currently have defenses against SLBMs. Because the THAAD ballistic missile defense (BMD) system radar is limited to a 120-degree view that is directed toward North Korea, it cannot protect against SLBMs arriving from either the East or West Seas.[13] The SM-2 missile currently

deployed on South Korean destroyers provides protection only against anti-ship missiles.

In 2022, the U.S. Intelligence Community assessed that Kim Jong-un will "continue efforts to steadily expand and enhance Pyongyang's nuclear and conventional capabilities targeting the United States and its allies" and that these efforts will include "periodically using aggressive and potentially destabilizing actions to reshape the regional security environment in his favor."[14] In April 2022, Kim Jong-un vowed that he would augment his nuclear arsenal in "both quality and scale...at the fastest possible speed."[15] Some experts interpreted Kim's speech as hinting at a new, more offensive nuclear doctrine, but Pyongyang has long declared that its nuclear arsenal was both a "trusted shield" and "treasured sword" for deterrence and preemptive attack against the United States and its allies.[16]

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 Korean forces "maintain a readiness posture capable of carrying out a surprise attack on the South at any time."[17]

North Korea has an extensive quantity of conventional forces, but the majority of their weapons are of low quality, having been manufactured from the 1950s to the 1970s. 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.[18] 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 unlikely that they have been deployed in more than limited numbers. 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 military. 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, *Sango-O*-class, and *Yugo*-class submarines.

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.[19] 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. Rather, 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, nor do they represent progress in denuclearization.

Due to a predicted shortfall in 18-year-old conscripts, South Korea has 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 Korean military manpower will be reduced 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.[20] Seoul is compensating for decreasing troop levels by procuring advanced fighter and surveillance aircraft, naval platforms, and ground combat vehicles.[21]

Threat to the Commons

Pyongyang has developed an advanced cyberwarfare prowess that is surpassed by that of few other nations. From initial rudimentary distributed denial-of-service (DDoS) attacks against South Korea, the regime has improved its cyber programs to create a robust and global array of disruptive military, financial, and espionage 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."[22] In the run-up to a crisis or as an alternative to kinetic strikes, the regime could conduct cyberattacks on government and civilian computer networks that control communications, finances, and infrastructure such as power plants and electrical grids. Perhaps the proof of this can be seen in the regime's use of such tools in peacetime. Pyongyang has conducted cyber guerrilla warfare to steal classified military secrets in addition to absconding with billions of dollars in money and cyber currency, holding computer systems hostage, and inflicting extensive damage on computer networks.

As its cyber proficiencies have evolved, Pyongyang has implemented ever more sophisticated techniques and prioritized financial targets to evade international sanctions and increase its ability to finance its nuclear and missile programs. In 2019, the U.N. Panel of Experts estimated that North Korea had gained a cumulative $2 billion from cybercrime.[23] In 2021, North Korean hackers stole at least $400 million worth of cryptocurrency.[24] In April 2022, the FBI announced North Korean hackers had stolen $620 million of cryptocurrency from a video gaming company.[25]

In 2017, it was reported that a "former British intelligence chief estimates the take from its cyberheists may bring the North as much as $1 billion a year, or a third of the value of the nation's exports."[26] According to the U.N. Panel of Experts, the revenue generated from these hacks is used to evade sanctions and to support North Korea's weapons of mass destruction and ballistic missile programs.[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 cyberwarfare capabilities presents a very real threat in this domain.

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. Pyongyang's ground forces, though consisting mostly of older weapons, are extensive and forward-deployed. Thousands of artillery systems deployed near the demilitarized zone could inflict devastating damage to South Korea, including 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. Attaining an unambiguous nuclear ICBM capability could lead North Korea to perceive that it has immunity from any international response. Pyongyang could feel emboldened to act even more belligerently and seek to intimidate the U.S. and its allies into accepting North Korean diktats.

Pyongyang could use the fear of nuclear weapons to force South Korea to accommodate North Korean demands that it, for example, end bilateral military exercises and reduce U.S. force levels. 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 is on the path to developing capabilities that go beyond deterrence to a viable true warfighting strategy. The regime might also assume that conditions for military action had become favorable if it believed the U.S. extended deterrence guarantee had been undermined. During a crisis, the threshold for use of nuclear weapons could be more easily breached.

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		✓			

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Non-State Actors

James Phillips and Jeff Smith

Terrorist groups come in many forms but 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 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 the 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, al-Qaeda's leadership fled Afghanistan. Many members of the original cadre have been killed or captured, including 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 could weaken al-Qaeda's influence over its far-flung affilitates. Some al-Qaeda lieutenants are believed still to be in the Afghanistan–Pakistan region; others have taken refuge in Iran.[5] Zawahiri's likely successor, Mohammed Salahuddin Zeidan, reportedly also is 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 Iran, 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 recommended that further investigation was needed to examine Iran's ties to al-Qaeda.[7]

This long-neglected issue resurfaced in 2020 after *The New York Times* reported that al-Qaeda's second-highest leader 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] The al-Qaeda leader, Abdullah Ahmed 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. Abdullah was long 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. He was gunned down on a street in Tehran by two assassins on a motorcycle on the anniversary of that attack, which was al-Qaeda's most lethal operation before 9/11.[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 as a base of operations for al-Qaeda. In September 2008, al-Qaeda launched an attack on the U.S. embassy in Yemen that killed 19 people, including an American woman. Yemen's importance to al-Qaeda increased further 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 playing a role 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 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 bombing of the Boston Marathon that killed three people.[19]

AQAP's threat to Western security, while 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 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 of 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 launched two air or drone strikes in 2021 but had launched none as of the time this book was being prepared in 2022.[27]

In 2018, U.N. experts estimated that AQAP commanded between 6,000 and 7,000 fighters.[28] 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.[29] According to a February 2022 U.N. report, AQAP now has approximately 3,000 fighters.[30] 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, a lieutenant of ISI leader Abu Bakr al-Baghdadi.[31] 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."[32] 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.[33] 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.[34]

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.[35] 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.[36]

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.[37] HTS suffered many casualties as Syria's Assad regime, backed by Iran and Russia, tightened the noose around its strongholds in northwest Syria. "Since 2017," according to the U.S. Department of State's 2020 *Country Reports on Terrorism*, "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."[38]

Further complicating matters surrounding al-Qaeda's presence, another group in Syria connected to al-Qaeda, Hurras al-Din (Guardians of the Religion), was formed in March 2018.[39] Among its ranks were those who defected from HTS, and its suspected emir is an Ayman al-Zawahiri acolyte.[40] 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.[41]

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, the leadership of Abu Muhammad al-Julani and his 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.[42] 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.[43]

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.[44] 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 two of its top leaders were killed by U.S. air strikes in 2016.[45]

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 will probably change if they 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."[46] 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, 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. Some of these hostages have been killed, but more have been used to extort ransoms from Western governments.[47] 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), an organization that has pledged allegiance to al-Qaeda emir Ayman al-Zawahiri.[48] 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 al-Sham and Its Affiliates. The Islamic State of Iraq and al-Sham (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.[49]

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.[50] 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.[51] 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.[52] Turkish officials claimed that the new ISIS leader was arrested

in Istanbul on May 26, 2022, but that arrest has not been officially confirmed.[53]

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."[54] Nevertheless, ISIS remains a significant regional threat. U.S. officials estimate that ISIS retains 11,000 to 18,000 militants in Syria and Iraq, where it is rebuilding its strength in remote desert and mountain regions.[55] 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.[56]

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, and ISIS now has affiliates in the Middle East, in South and Southeast Asia, and in Africa. ISIS poses 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 pose as great a threat to the U.S. homeland as the original group in Iraq and Syria posed, they represent significant threats 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.[57] 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.[58] In addition, ISIS has made threats against embassies, including those of the U.S., in its areas of influence.[59]

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.[60] 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 an Iraqi man living in the U.S. who was linked to ISIS operatives. The man, Shihab Ahmed 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.[61] As of March 2022, the George Washington University Extremism Tracker reported that "238 individuals have been charged in the U.S. on offenses related to the Islamic State (also known as IS, ISIS, and ISIL) since March 2014, when the first arrests occurred."[62]

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. 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.[63] 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 to show that the attacks were directed by ISIS.[64] The group also claimed responsibility for the October 31, 2017, vehicular attack by Sayfullo Saipov in New York that killed eight.[65] Saipov also had pledged allegiance to ISIS's emir but did not appear to be operationally guided by ISIS.[66] Such terrorist attacks, 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 prison term for providing material support, and one received a prison term for the December 2017 bombing of a New York City subway.[67]

ISIS has also 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.[68]

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.[69] These individuals, who likely have received military training, could well pose an

ongoing threat upon their return to the U.S. by involving themselves in attack planning or by helping to recruit future generations of jihadists.

ISIS had greater success attracting recruits from Europe with approximately 6,000 departing from European countries.[70] 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 in May 2014, for example, was an ISIS-aligned terrorist who had fought in Syria.[71] 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.[72]

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.[73] Recruits from within the same network then killed 32 people and injured around 300 more in shootings and suicide bombings across Brussels, Belgium, in March 2016.[74]

ISIS ideology has also 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.[75] 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.[76] 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.[77]

ISIS has demonstrated an interest in carrying out 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.[78] This was the first time that ricin had been successfully produced in the West as part of an alleged Islamist terrorist plot.

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.[79] 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.[80] 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. The direct threat posed by al-Qaeda 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, the residual presence of al-Qaeda and the emergence of a regional offshoot of the Islamic State remain serious concerns.

The Taliban's takeover of Afghanistan in August 2021 amid a chaotic U.S. withdrawal from the 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 the Haqqani Network has assumed in the new Taliban government.[81] 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,[82] 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 a 2021 U.N. report, the 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."[83]

Reports of an ISIS presence in Afghanistan first began to surface in 2014, and the group slowly

gained a small foothold in the country 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.[84] 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."[85]

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 may have itself 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.[86] Scholar Theo Farrell contends that "the Haqqanis have the deepest links with [the Islamic State] of any faction within the Taliban."[87]

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."[88] 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."[89]

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 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 terrorism by the Pakistani Taliban 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.[90] 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.[91]

Nevertheless, Pakistan's continued support for terrorist groups that have links to others like al-Qaeda, the Afghan Taliban, and the Haqqani Network undermine U.S. counterterrorism goals in the region and pose 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.

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 particular 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, as has been demonstrated time and again, 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 a great deal of 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. However, 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 provocation of behavior and "capable" for level of capability.

Threats: Non-State Actors

	HOSTILE	AGGRESSIVE	TESTING	ASSERTIVE	BENIGN
Behavior		✓			

	FORMIDABLE	GATHERING	CAPABLE	ASPIRATIONAL	MARGINAL
Capability			✓		

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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.

Russia remains the primary threat to American interests in Europe as well as the most pressing threat to the United States. Its invasion of Ukraine reintroduced conventional war to Europe. It also is the largest conflict on that continent since the end of the Second World War, and its many economic and security repercussions 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.

The *2023 Index* again assesses the threat emanating from Russia as "aggressive" for level of provocation of behavior and "formidable" (the highest category on the scale) for level of capability. 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, and Russia's military is gaining combat experience. Consequently, the war may actually serve to increase the challenge posed by Russia to U.S. interests on the continent.

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. 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.

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

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		✓			

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 more ballistic missiles than 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 *2023 Index* extends the *2022 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 various 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 a missile. North Korea also uses cyber warfare as a means of guerilla warfare against its adversaries and international financial institutions. The *2023 Index* therefore assesses the overall threat from North Korea, considering the range of contingencies, as "testing" for level of provocation of 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 also 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.

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 *2023 Index* again rates the overall global threat environment as "aggressive" and "gathering" in the areas of threat actor behavior and material ability to harm U.S. security interests, respectively, leading to an aggregated threat score of "high."

Our combined score for threats to U.S. vital interests can be summarized as:

Threats to U.S. Vital Interests: Summary