Asia

Threats to the Homeland

Threats to the U.S. homeland include terrorist threats from non-state actors resident in ungoverned areas of South Asia, an active and growing North Korean ballistic missile capability, and a credible Chinese nuclear missile capability that supports other elements of China's national power.

Terrorism Originating from Afghanistan and Pakistan (AfPak). Terrorist groups operating from Pakistan and Afghanistan continue to pose a direct threat to the U.S. homeland. Pakistan is home to a host of terrorist groups that keep the region unstable and contribute to the spread of global terrorism. The killing of Osama bin Laden at his hideout in Abbottabad, Pakistan, in May 2011 and an intensive drone campaign in Pakistan's tribal areas bordering Afghanistan from 2010-2012 have helped to degrade the al-Qaeda threat. However, the presence of a major al-Qaeda training camp in southern Afghanistan that U.S. and Afghan forces destroyed last October demonstrates that the international terrorist organization has the ability to regenerate, particularly in areas where the Taliban is influential. A joint U.S.-Afghan military operation involving 200 U.S. Special Operations Forces destroyed the al-Qaeda camp located in Kandahar province, killing 160 terrorists.1

In addition to al-Qaeda, several other likeminded terrorist groups still thrive along the Afghanistan-Pakistan border, carry out regular attacks in Pakistan and Afghanistan, and target U.S. interests in the region and beyond. The Afghan Taliban and its allies, headquartered in Pakistan, have stepped up attacks against

the Afghan National Security Forces (ANSF) over the past year and are making a push to regain territory in Afghanistan as international forces depart. As of April 2016, around 13,200 U.S. and NATO troops were in Afghanistan as part of Operation Resolute Support to train and advise the Afghan forces.

The Afghan Taliban controls more territory now than at any other time in the past 15 years and was able to capture the northern city of Kunduz temporarily last October. A Taliban resurgence in Afghanistan could allow al-Qaeda to regain ground in the region and pave the way for terrorist groups of all stripes to reestablish bases there.2 Shortly after the fall of Kunduz, President Barack Obama reversed his earlier pledge to withdraw nearly all troops by the end of his term and said that the U.S. would instead keep a force level of 5,500 U.S. troops in the country when he departed office in January 2017. He later revised this further to say that he would keep 8,400 troops in place, leaving any further reductions up to his successor.3 In June 2017, President Donald Trump gave his Secretary of Defense authority to set troop levels, 4 leading to reports that as many as 5,000 additional troops would be deployed. With that authorization, Secretary James Mattis has reportedly ordered the deployment of approximately 3,500 troops to expand air and ground capabilities.5

ISIS also is seeking to make inroads into Pakistan and Afghanistan, but its efforts have met with only limited success. This is most likely due to al-Qaeda's well-established roots in the region, ability to maintain the loyalty of the various South Asian terrorist groups, and careful nurturing of its relationship with the

Afghan Taliban. The Afghan Taliban views ISIS as a direct competitor, vying for financial resources, recruits, and ideological influence. This competition was evident in a letter sent by the Taliban to ISIS leader al-Baghdadi in June of 2015, urging the group not to take actions that could lead to "division of the Mujahideen's command." There also have been reports of clashes between ISIS militants and the Taliban in eastern and southern Afghanistan.

A spokesman for the U.S.-led coalition in Afghanistan said in April 2016 that ISIS has the potential to be an "enormous" threat in Afghanistan, but its presence has declined since the beginning of 2016. According to this official, the U.S. carried out between 70 and 80 air strikes against ISIS targets in Afghanistan from January–March 2016. He also attributed ISIS's waning footprint to Taliban attacks, local uprisings, and Afghan security force operations.

Pakistan's continued support for terrorist groups that have links to al-Qaeda undermines U.S. counterterrorism goals in the region. Pakistan's military and intelligence leaders maintain a short-term tactical approach of fighting some terrorist groups that are deemed to be a threat to the state while supporting others that are aligned with Pakistan's goal of extending its influence and curbing India's.

A terrorist attack on a school in Peshawar on December 16, 2014, that killed over 150 people, mostly children, shocked the Pakistani public and prompted the government led by Prime Minister Nawaz Sharif to introduce a National Action Plan (NAP) to reinvigorate the country's fight against terrorism. The action plan includes steps like lifting the moratorium on the death penalty for terrorists, establishing special military courts to try terrorists, curbing the spread of extremist literature and propaganda on social media, freezing the assets of terrorist organizations, and forming special committees of army and political leaders in the provinces to implement the NAP.

Implementation of the NAP and the Pakistani military's operations against TTP (Pakistani Taliban) hideouts in North Waziristan

have helped to reduce Pakistan's internal terrorist threat to some degree. Over three years, from 2013–2016, terrorist attacks in Pakistan plummeted. However, the first part of 2017 featured a series of attacks that claimed hundreds of casualties.

There are few signs that Pakistan's crackdown on terrorism extends to groups that target India, such as the Lashkar-e-Taiba (LeT), which was responsible for the 2008 Mumbai attacks, and the Jaish-e-Mohammed (JeM), which carried out an attack on the Indian airbase at Pathankot on January 2, 2016. In early April 2015, Pakistan released on bail the mastermind of the Mumbai attacks, Zakiur Rehman Lakhvi, who had been in Pakistani custody since 2009. The day before Lakhvi's release, the U.S. Department of State had announced approval of nearly \$1 billion in U.S. military sales to Pakistan.

In April 2012, the U.S. issued a \$10 million reward for information leading to the arrest or conviction of LeT founder Hafez Muhammad Saeed. The LeT has engaged in recruitment and fundraising activities in the U.S. In September 2011, for instance, U.S. authorities arrested Jubair Ahmad, an American permanent resident born in Pakistan, for providing material support to the LeT by producing LeT propaganda and uploading it to the Internet. Ahmad reportedly attended an LeT training camp in Pakistan before moving to the U.S. in 2007.8

The U.S. trial of Pakistani American David Coleman Headley, who was arrested in Chicago in 2009 for his involvement in the 2008 Mumbai attacks, led to striking revelations about the LeT's international reach and close connections to Pakistani intelligence. Headley had traveled frequently to Pakistan, where he received terrorist training from the LeT, and to India, where he scouted the sites of the Mumbai attacks. In four days of testimony and cross-examination, Headley provided details about his meetings with a Pakistani intelligence officer, a former army major, and a navy frogman who were among the key players in orchestrating the Mumbai assault.9

The possibility that terrorists could gain effective access to Pakistani nuclear weapons

is contingent on a complex chain of circumstances. In terms of consequence, however, it is the most dangerous regional threat scenario. Concern about the safety and security of Pakistan's nuclear weapons increases when Indo–Pakistani tensions increase. For example, during the 1999 Kargil crisis, U.S. intelligence indicated that Pakistan had made "nuclear preparations," which spurred greater U.S. diplomatic involvement in defusing the crisis. ¹⁰

If Pakistan were to move around its nuclear assets or, worse, take steps to mate weapons with delivery systems, the likelihood of terrorist theft or infiltration would increase. Increased reliance on tactical nuclear weapons (TNWs) is of particular concern because launch authorities for TNWs are typically delegated to lower-tier field commanders far from the central authority in Islamabad. Another concern is the possibility that miscalculations could lead to regional nuclear war if top Indian leaders were to lose confidence that nuclear weapons in Pakistan are under government control or, conversely, were to assume that they were under Pakistani government control after they ceased to be.

There is concern that Islamist extremist groups with links to the Pakistan security establishment could exploit those links to gain access to nuclear weapons technology, facilities, and/or materials. The realization that Osama bin Laden stayed for six years within a half-mile of Pakistan's premier defense academy has fueled concern that al-Qaeda can operate relatively freely in parts of Pakistan and might eventually gain access to Pakistan's nuclear arsenal. The Nuclear Threat Initiative (NTI) Nuclear Security Index ranks 24 countries with "one kilogram or more of weaponsusable nuclear materials" for their susceptibility to theft. Pakistan's weapons-grade materials are the 22nd least secure, with only Iran's and North Korea's ranking lower. In the NTI's broader survey of 44 countries with nuclear power and related facilities, Pakistan ranks 38th least secure against sabotage.11

There is the additional, though less likely, scenario of extremists gaining access through

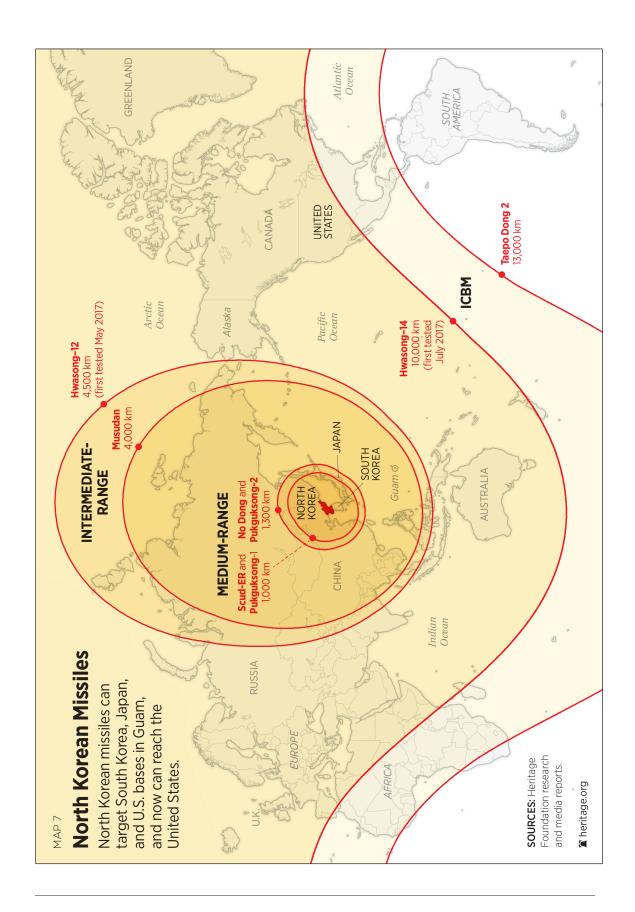
a collapse of the state. While Pakistan remains unstable because of its weak economy, regular terrorist attacks, sectarian violence, civil–military tensions, and the growing influence of religious extremist groups, it is unlikely that the Pakistani state will collapse altogether. The country's most powerful institution, the 550,000-strong army that has ruled Pakistan for almost half of its existence, would almost certainly intervene and take charge once again if the political situation began to unravel. ¹² The potential breakup of the Pakistani state would have to be preceded by the disintegration of the army, which currently is not plausible. ¹³

WWTA: Although the WWTA assesses that "fighting will continue to threaten US personnel, allies, and partners, particularly in Kabul and urban population centers," it does not reference any threat to the homeland from AfPakbased terrorism. The 2016 assessment noted that, despite the degradation of al-Qaeda's leadership in Afghanistan and Pakistan, al-Qaeda "nodes" there are "dedicating resources to planning attacks," and both the 2016 and 2017 assessments include references to a low-level threat to U.S. and Western interests from the Khorasan branch of ISIS.¹⁴

Summary: The threat to the American homeland emanating from Afghanistan and Pakistan is diverse, complex, and mostly indirect and largely involves non-state actors. The intentions of non-state terrorist groups like the TTP, al-Qaeda, and ISIS toward the U.S. are demonstrably hostile. Despite the broad and deep U.S. relationships with Pakistan's governing elites and military, however, it is likely that the political-military interplay in Pakistan and instability in Afghanistan will continue to result in an active threat to the American homeland.

Missile Threat: North Korea and China.

The two sources of the ballistic missile threat to the U.S. are very different in terms of their sophistication and integration into broader strategies for achieving national goals. The threats from North Korea and China are therefore very different in nature.



North Korea. In July 2017, North Korea conducted two successful tests of a road-mobile ICBM. Both launches were flown in an elevated trajectory so as not to fly over Japan and to allow testing of a reentry vehicle to protect a nuclear warhead during an attack. Experts assess that the intercontinental ballistic missile (ICBM) has the capability to fly 10,000 or perhaps 11,000 kilometers. At that range, Los Angeles, Denver, and Chicago (and possibly New York City, Boston, and Washington, D.C.) are within range.15 In December 2012 and February 2016, North Korea successfully put a satellite into orbit. The same technology that launches satellites can be used to build ICBMs. North Korea conducted its fourth and fifth nuclear tests in 2016 and its sixth nuclear test-the first of a much more powerful hydrogen bomb-in 2017. These events clearly signaled that new leader Kim Jong-un had no intention either of resuming North Korea's Six-Party Talks pledge to denuclearize or of abiding by U.N. resolutions that require a cessation of Pyongyang's nuclear and missile programs. North Korean officials told a Heritage Foundation expert that "denuclearization is totally off the table" and that there is nothing that the U.S. or South Korea could offer to induce denuclearization.¹⁶

North Korea has declared that it already has a full nuclear strike capability, even altering its constitution to enshrine itself as a nuclear-armed state. Among North Korea's many direct verbal threats to the U.S., the regime warned in March 2016 that it would reduce all bases and strongholds of the U.S. and south Korean warmongers for provocation and aggression into ashes in a moment, without giving them any breathing spell.

The United States and South Korea have revised their estimates and now see a direr North Korean threat. In June 2017, Vice Admiral James Syring, head of the U.S. Missile Defense Agency, testified that "[i]t is incumbent on us to assume that North Korea today can range the United States with an ICBM carrying a nuclear warhead." In April 2016, Admiral William Gortney, head of U.S. Northern Command, stated that "[i]t's the prudent decision

on my part to assume that North Korea has the capability to miniaturize a nuclear weapon and put it on an ICBM."²⁰

In 2016 and 2017, North Korea had breakthrough successes with many missiles in development. It successfully test-launched the Hwasong 12 intermediate-range ballistic missile, which can target critical U.S. bases in Guam, and both the Pukguksong-2 road-mobile medium-range ballistic missile and the Pukguksong-1 submarine-launched ballistic missile. In June 2017, in written testimony before the House Armed Services Committee, Secretary of Defense James Mattis called North Korea "the most urgent and dangerous threat to peace and security."²¹

China. Chinese nuclear forces are the responsibility of the People's Liberation Army 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. (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. In quick succession, 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.

Furthermore, 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, with estimates of about 100–150 weapons on medium-range ballistic missiles and about 60 ICBMs. Its only ballistic missile submarine (SSBN) conducted relatively few deterrence patrols (perhaps none),²² and its first-generation 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.

While China's nuclear force remained stable for several decades, it has been part of the modernization effort of the past 20 years. The result has been modernization and some 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 DF-41 missiles (also rail mobile) that may be in the PLA operational inventory. The DF-41 may be deployed with multiple independently targetable reentry vehicles (MIRVs). 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.

Notably, the Chinese are expanding their ballistic missile submarine fleet. Replacing the one Type 092 Xia-class SSBN are several Type 094 Jin-class SSBNs, four of which are already operational. These are expected to be equipped with the new, longer-range JL-2 SLBM. Such a system would provide the PRC with a "secure second-strike" capability, substantially enhancing its nuclear deterrent. There is also 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 at this time. China is also believed to be working on a cruise missile submarine, which, if equipped with nuclear cruise missiles, would further expand the range of its nuclear attack options.23

As a result of its modernization efforts, China's nuclear forces appear to be shifting from a minimal deterrent posture (one suited only to responding to an attack and even 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 or Pakistan (or North Korea), its nuclear-armed neighbors. If there

are corresponding changes in doctrine, modernization will enable China to engage in limited nuclear options in the event of a conflict.

WWTA: The WWTA's assessment of the Chinese nuclear missile threat is unchanged from 2016: China "continues to modernize its nuclear missile force by adding more survivable road-mobile systems and enhancing its silo-based systems. This new generation of missiles is intended to ensure the viability of China's strategic deterrent by providing a second-strike capability." The 2015 WWTA noted that China was likely to begin seaborne nuclear deterrence patrols in the near future but offered no judgment on the degree of threat that this poses to the U.S. The 2016 and 2017 WWTAs have not included this observation.

The WWTA continues to classify North Korea's nuclear weapons and missile programs as a "serious threat to US interests and to the security environment in East Asia" and again reports that North Korea is "committed to developing a long-range, nuclear-armed missile that is capable of posing a direct threat to the United States."25 The report correctly points out that although North Korea had not yet flight-tested an ICBM, it was "poised" to do so in 2017.26 For the first time, the report also uses the words "increasingly grave" to describe the broader national security threat from North Korea's "weapons of mass destruction program, public threats, defiance of the international community, confrontational military posturing, cyber activities, and potential for internal instability."27

Summary: The respective missile threats to the American homeland from North Korea and China are very different. China has many more nuclear weapons, multiple demonstrated and tested means of delivery, and more mature systems, but it is a more stable actor with a variety of interests, including relations with the United States and the international system. North Korea has fewer weapons and questionable means of delivery, but it is less stable and less predictable, with a vastly lower stake in the international system. There is also a widely

acknowledged difference in intentions: China seeks a stable second-strike capability and, unlike North Korea, is not actively and directly threatening the United States.

Threat of Regional War

America's forward-deployed military at bases throughout the Western Pacific, five treaty allies, security partners in Taiwan and Singapore, and growing security partnership with India are keys to the U.S. strategic footprint in Asia. One of its critical allies, South Korea, is under active threat of invasion from the North, and Japan faces both intimidation attacks intended to deny the U.S. its base access to Japan and nuclear attacks on U.S. bases in the case of conflict on the Korean Peninsula.28 Taiwan is under a long-standing, wellequipped, and purposely positioned military threat from China. Japan and the Philippines, by virtue of maritime territorial disputes, are under growing paramilitary, military, and political pressure from China.

In South Asia, India is geographically positioned between two major security threats: Pakistan to its west and China to its northeast. From Pakistan, India faces the additional threat of terrorism, whether state-enabled or carried out without state knowledge or control.

North Korean Attack on American Bases and Allies. North Korea's conventional and nuclear missile forces threaten U.S. bases in South Korea, Japan, and Guam.

Beyond its nuclear weapons programs, North Korea poses additional risks to its neighbors. North Korea has an extensive ballistic missile force. Pyongyang has deployed approximately 800 Scud short-range tactical ballistic missiles, 300 No-dong medium-range missiles, and 50 Musudan intermediate-range ballistic missiles. The Scud missiles threaten South Korea, the No-dong can target all of Japan and South Korea, and the Musudan and Hwasong-12 intermediate-range ballistic missiles can hit U.S. bases on Okinawa and Guam. Pyongyang continues its development of several different ICBMs with enough range to hit the continental U.S.²⁹

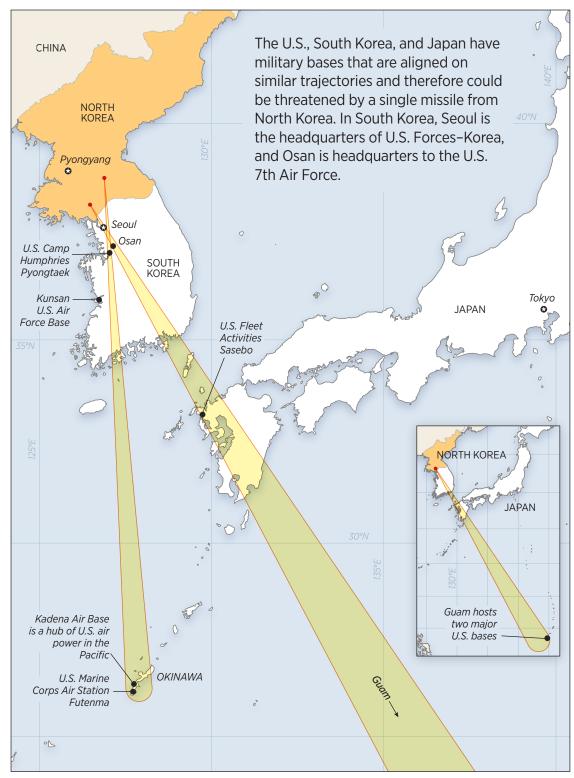
North Korea has approximately 1 million people in its military, with reserves numbering several million more. Pyongyang has forward-deployed 70 percent of its ground forces within 90 miles of the Demilitarized Zone (DMZ), making it possible to attack with little or no warning, which is of particular concern because South Korea's capital, Seoul, is only 30 miles south of the DMZ.³⁰ In addition to three conventional corps alongside the DMZ, Pyongyang has deployed two mechanized corps, an armor corps, and an artillery corps.³¹

South Korea remains North Korea's principal target. In 2005, South Korea initiated a comprehensive defense reform strategy to transform its military into a smaller but more capable force to deal with the North Korean threat. Overall, South Korean military manpower would be reduced approximately 25 percent, from 681,000 to 500,000. The army would face the largest cuts, disbanding four corps and 23 divisions and cutting troops from 560,000 in 2004 to 370,000 in 2020. Seoul planned to compensate for decreased troop levels by procuring advanced fighter and surveillance aircraft, naval platforms, and ground combat vehicles.³²

That North Korea's conventional forces are a very real threat to South Korea was clearly demonstrated by two deadly attacks on South Korea in 2010. In March, a North Korean submarine sank the South Korean naval corvette *Cheonan* in South Korean waters, killing 46 sailors. In November, North Korean artillery shelled Yeonpyeong Island, killing four South Koreans.

Since the North Korean military is predominantly equipped with older ground force equipment, Pyongyang has prioritized deployment of strong asymmetric capabilities, including special operations forces, long-range artillery, and missiles. As noted, North Korea has deployed hundreds of Scud short-range ballistic missiles that can target all of South Korea with explosive, chemical, and biological warheads. The land and sea borders between North and South Korea remain unsettled, heavily armed, and actively subject to occasional, limited armed conflict.

U.S. and Allied Military Bases Align Geographically



SOURCE: Heritage Foundation research.

heritage.org

Most non-government experts assess that North Korea has perhaps 16-20 nuclear weapons. However, an April 2017 assessment by David Albright of the Institute for Science and International Security concluded that Pyongyang could have as many as 33 nuclear weapons,33 and a study by Albright that was published in February 2013 by the Korea Institute at Johns Hopkins University's Nitze School of Advanced International Studies predicted a worst-case scenario of Pyongyang's having 100 nuclear weapons by 2020.34 North Korea's September 2017 hydrogen bomb test-in excess of 100 kilotons-demonstrated a technical achievement far beyond what most experts assessed that the regime was capable of achieving. It is unknown whether the warhead has been miniaturized for a missile.

In any event, enough information is available to conclude that North Korea has likely already achieved the ability to deliver nuclear weapons by means of its No-dong mediumrange missile.35 Factors for such an assessment include the decades-long duration of North Korea's nuclear and missile programs; the technology, expertise, and components acquired from collaborative involvement with Pakistan, the A. Q. Khan network, and Iran; repeated instances of experts underestimating North Korean nuclear and missile capabilities; North Korea's declarations of its ability to hit the U.S. and its allies with nuclear weapons; and U.S. and South Korean government assessments of North Korean breakthroughs.

In March 2016, the Korean Central News Agency declared that Pyongyang has a "military operation plan...to liberate south Korea and strike the U.S. mainland" and that "offensive means have been deployed to put major strike targets in the operation theaters of south Korea within the firing range and the powerful nuclear strike targeting the U.S. imperialist aggressor forces bases in the Asia-Pacific region and the U.S. mainland..." In April 2016, General Vincent Brooks, Commander, U.S. Forces Korea, stated that the U.S. should assume that North Korea "has the technical capability to mount and deliver a nuclear warhead using ballistic missiles." ³⁷

WWTA: As noted, the WWTA references the "serious threat to...the security environment in East Asia" that is posed by North Korea.³⁸ It also specifically cites Pyongyang's "credible and evolving military threats" to South Korea and Japan and its expanded strike options that "can reach more U.S. and allied targets in South Korea."³⁹

Summary: North Korean forces arrayed against American allies in South Korea and Japan are substantial, and North Korea's history of provocation is a consistent indicator of its intent to achieve its political objectives by threat of force.

Chinese Threat to Taiwan. China's long-standing threat to end the de facto independence of Taiwan and ultimately to bring it under the authority of Beijing—if necessary, by force—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 resumed as a result of Beijing's reaction to the outcome of Taiwan's 2016 presidential election. Regardless of the state of the relationship at any given time, however, 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 through the use of force, would reflect fundamental political weakness in the PRC. For this reason, there is no realistic means by which any Chinese leadership can back away from the stance of having to unify the island with the mainland. As a result, the island remains an essential part of the People's Liberation Army's "new historic missions," shaping PLA acquisitions and military planning.

Two decades of double-digit increases in China's announced defense budget have produced a

significantly more modern PLA, much of which remains focused on a Taiwan contingency. This modernized force includes more than 1,000 ballistic missiles, a modernized air force, and growing numbers of modern surface combatants and diesel-electric submarines capable of mounting a blockade. As the 1995–1996 Taiwan Strait crisis demonstrated, Beijing is prepared at least to use open displays of force—and might have been willing to go further in the absence of a strong American presence.

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 (e.g., aircraft carriers), the Chinese seek to delay or even deter American intervention in support of key friends and allies, 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.

Chinese 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.

WWTA: The WWTA does not reference the threat that China poses to Taiwan but does mention Beijing's "firm stance" with regard to Taipei.⁴⁰

Summary: The Chinese threat to Taiwan is long-standing. After an extended lull in apparent tensions, the change in government in Taipei has once again brought the threat to the

fore. China's ability to execute a military action against Taiwan, albeit at high economic, political, and military cost, is improving. Its intent to unify Taiwan with the mainland under the full authority of the PRC central government and to end the island's de facto independence has been consistent over time.

Major Pakistan-Backed Terrorist Attack on India Leading to Open Warfare Between India and Pakistan. An Indo-Pakistani conflict would jeopardize multiple U.S. interests in the region and increase the threat of global terrorism. Pakistan would rely on militant non-state actors to help it fight India and thus create a more permissive environment in which various terrorist groups could operate freely. The threat of conflict going nuclear would force U.S. businesses to exit the region and disrupt investment and trade flows, mainly between the U.S. and India, whose bilateral trade currently totals around \$100 billion. The effects of an actual nuclear exchange-both the human lives lost and the long-term economic damage—would be devastating.

India and Pakistan are engaged in a nuclear arms race that threatens stability throughout the subcontinent. Both countries tested nuclear weapons in 1998, establishing themselves as overtly nuclear weapons states. Both countries also are developing naval nuclear weapons and already possess ballistic missile and aircraft-delivery platforms.⁴¹

Pakistan has the fastest-growing nuclear weapons arsenal in the world today. Islamabad currently has an estimated 140 nuclear weapons and "has lowered the threshold for nuclear weapons use by developing tactical nuclear weapons capabilities to counter perceived Indian conventional military threats." This, in turn, affects India's nuclear use threshold, which could affect China and then possibly others.

The broader military and strategic dynamic between India and Pakistan is essentially unstable. As noted, Pakistan continues to harbor terrorist groups like Lashkar-e-Taiba and Jaish-e-Mohammed, which carried out the January 2, 2016, attack on the Indian airbase at Pathankot. JeM had been less visible for

several years, but JeM leader Masood Azhar resurfaced in 2014 in Pakistan to address a large public rally where he called on suicide attackers to resume jihad against India. Media reports indicate that some JeM leaders were detained in Pakistan following the Pathankot attack, but no charges have been filed.

Hafez Muhammed Saeed, LeT's founder and leader of its front organization, Jamaatud-Dawa (JuD), earlier this year was placed under house arrest, where he remained as of the time this edition of the *Index* was published. Previously, he had operated freely in Pakistan, often holding press conferences and inciting violence against India during large-scale public rallies. In December 2014, Saeed held a two-day conclave in Lahore that received support from the Pakistani government, including security from 4,000 police officers and government assistance in transporting attendees to the gathering of more than 400,000. India condemned the Pakistani government's support for the gathering as "blatant disregard" of global norms against terrorism.43

The possibility of armed conflict between India and Pakistan seemed to heighten slightly following the May 2014 election of Bharatiya Janata Party (BJP) leader Narendra Modi as India's Prime Minister. While Modi initially sought to reach out to Pakistan by inviting Pakistani Prime Minister Nawaz Sharif to his swearing-in ceremony, he subsequently called off foreign secretary-level talks that were scheduled for August 2014 to express anger over a Pakistani official's meeting with Kashmiri separatist leaders. Modi's cancellation of the talks signaled that his government is likely to take a harder line toward Islamabad than the one taken by his predecessor, Manmohan Singh, and tie progress in dialogue to Pakistani steps to crack down on anti-India terrorists. Before it took power last year, the BJP often criticized Singh for being too soft on Pakistan. Another obstacle to improved Indo-Pakistani ties is the political weakness of Pakistani Prime Minister Sharif, whose government barely survived month-long street protests led by the opposition in August 2014.

Adding to the tension has been an increase in cross-border firing between the Indian and Pakistani militaries, raising questions about whether a cease-fire that has been in place since 2003 may be breaking down. In August 2014, the two sides engaged in intense firing and shelling along their international border (called the working boundary) and across the Line of Control (LoC) that divides Kashmir. India's Border Security Force Director noted that the firing across the international border was the worst it had been since India and Pakistan fought a war in 1971.44 Tensions were defused following a phone call between the Directors General of Military Operations in which they mutually agreed to stop the firing. A similar escalation in border tensions occurred again in December 2014 when a series of firing incidents over a one-week period resulted in the deaths of at least five Pakistani soldiers and one Indian soldier.

On December 25, 2015, Prime Minister Modi made an impromptu visit to Lahore to meet with Nawaz Sharif. The visit created enormous goodwill between the two countries and raised hope that official dialogue would soon resume. However, six days later, JeM militants attacked the Indian airbase at Pathankot, killing seven Indian security personnel. India has provided information on the attackers to Pakistan and demanded action against JeM. Official Indo-Pakistani dialogue thus remains deadlocked even though the two sides are reportedly communicating quietly through their foreign secretaries and national security advisers.

There is some concern about the impact on Indo-Pakistani relations of the international troop drawdown in Afghanistan. The vacuum created by the departing international forces will allow the Taliban and other extremists to strengthen their grip in the region, potentially reinvigorating the insurgency in Kashmir and raising the chances of a major terrorist attack against India. Afghan security forces thwarted an attack on the Indian consulate in Herat, Afghanistan, in May 2014. A successful future attack on Indian interests in Afghanistan along

the lines of the bombing of the Indian embassy in Kabul in 2008 would sharpen tensions between New Delhi and Islamabad.

With terrorist groups operating relatively freely in Pakistan and maintaining links to the country's military and intelligence services, there is a moderate risk that the two countries might climb the military escalation ladder and eventually engage in all-out conflict. Pakistan's nuclear weapons capability appears to have acted as a deterrent against Indian military escalation both during the 2001-2002 military crisis and following the 2008 Mumbai attacks, but the Indian government would be under great pressure to react strongly in the face of a terrorist provocation. Pakistan's recent focus on incorporating tactical nuclear weapons into its warfighting doctrine has also raised concern that if conflict does break out, there is now a higher risk of nuclear exchange.45

WWTA: The WWTA does not reference the threat to American interests from a Pakistani attack on India and potential escalation. It does, however, refer to "tense" relations between the two countries and notes that they "might deteriorate further in 2017, especially in the event of another high-profile terrorist attack in India that New Delhi attributes to originating in or receiving assistance from Pakistan." It further notes that "increasing numbers of firefights along the Line of Control, including the use of artillery and mortars, might exacerbate the risk of unintended escalation between these nuclear-armed neighbors."

Summary: Indian military retaliation against a Pakistan-backed terrorist strike against India could include targeted air strikes on terrorist training camps inside Pakistan. This would likely lead to broader military conflict with some prospect of escalating to a nuclear exchange. Neither side desires another general war. Both countries have limited objectives and have demonstrated their intent to avoid escalation, but this is a delicate calculation.

Major Chinese Border Incursion into 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 try to take advantage of the situation, further contributing to regional instability.

Long-standing border disputes that led to a Sino-Indian War in 1962 have been heating up again in recent years. In April 2013, the most serious border incident between India and China in over 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. The border standoff lasted three weeks and was defused when both sides agreed to pull their troops back to previous positions. 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.

The Chinese are building up military infrastructure and expanding a network of road, rail, and air links in the border areas. To meet these challenges, the BJP government has also committed to expanding infrastructure development along India's disputed border with China, especially in the Indian states of Arunachal Pradesh and Sikkim. Although China currently holds a decisive military edge over India, New Delhi is engaged in an ambitious military modernization program.

The Border Defense and Cooperation Agreement (BDCA) signed during then-Prime Minister Singh's visit to China in October 2013 is unlikely to reduce border tensions significantly or



SOURCE: Alyssa Ayres, "China's Mixed Messages to India," Council on Foreign Relations, September 17, 2014, http://blogs.cfr.org/asia/2014/09/17/chinas-mixed-messages-to-india/ (accessed January 5, 2014).

★ heritage.org

lead to a broader settlement in the near future. The accord is aimed at putting into place institutional mechanisms for maintaining peace along the border, but several Indian analysts worry that it is part of China's effort to keep in place the status quo, which favors the Chinese. Some have even contended that the Chinese intend to buy time on their border disputes with India through the BDCA while focusing on other territorial claims in the Asia–Pacific.⁴⁷

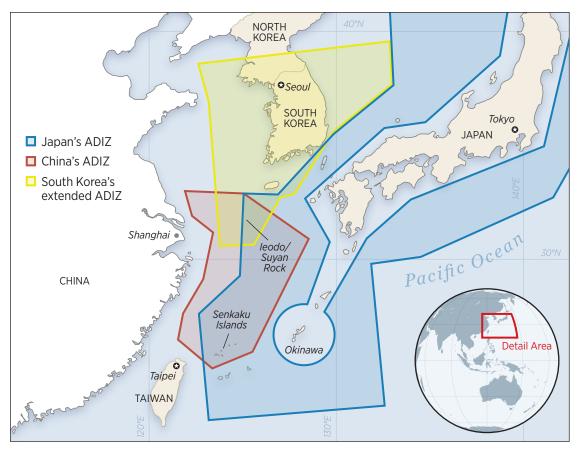
The BDCA affirms that neither side will use its military capability against the other and proposes opening a hotline between the two countries' military headquarters, instituting meetings between border personnel in all sectors, and ensuring that neither side tails

the other's patrols along the Line of Actual Control (LAC).⁴⁸ The agreement also includes language stipulating that in the event the two sides come face-to-face, they "shall exercise maximum self-restraint, refrain from any provocative actions, not use force or threaten to use force against the other side, treat each other with courtesy, and prevent exchange of armed conflict."

WWTA: Unlike the 2015 WWTA, which referenced both the likely pursuit of better economic relations and tensions along the border,⁵⁰ the 2016 and 2017 WWTAs have been silent with respect to India–China relations.

Summary: American interest in India's security is substantial and expanding. The threat

Overlapping Air Defense Identification Zones



SOURCE: Mark J. Valencia, "Troubled Skies: China's New Air Zone and the East China Sea Disputes," *Global Asia*, Vol. 8, No. 4 (Winter 2013), http://www.globalasia.org/article/troubled-skies-chinas-new-air-zone-and-the-east-china-sea-disputes/ (accessed January 5, 2015).

▲ heritage.org

to this interest from China is active, albeit part of a broader, multifaceted bilateral relationship that includes many cooperative dimensions. Both India and China apparently want to avoid allowing minor incidents to escalate into a more general war. The Chinese seem to use border tensions for limited diplomatic and political gain vis-à-vis India, and India responds in ways intended to contain minor incursions and maximize reputational damage to China. Despite limited aims, however, the unsettled situation and gamesmanship along the border could result in miscalculation, accidents, or overreaction.

Threats to the Commons

The U.S. has critical direct interests at stake in the East Asia and South Asia commons that include sea, air, space, and cyber interests. 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, which in turn has supported the region's remarkable economic development. However, China is taking increasingly assertive steps to secure its own interests in these areas independent of U.S. efforts to maintain freedom of the commons for all in the region. It cannot be assumed that China shares a common conception of international space with the United States or an interest in perpetuating American predominance in securing the commons.

In addition, as China expands its naval capabilities, it will be operating farther and farther away from Chinese shores. China has now established its first formal overseas military base, having initialed an agreement with the government of Djibouti in January 2017.⁵¹ Chinese officials appear also to be in discussions with Pakistan about allowing military access to the port of Gwadar.

Maritime and Airspace Commons. 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.

East China Sea. Since 2010, China has intensified its efforts to assert claims of sovereignty over the Senkaku Islands of Japan in the East China Sea. Beijing asserts not only exclusive economic rights within the disputed waters, but also recognition of "historic" rights to dominate and control those areas as part of its territory.

Chinese and Japanese maritime law enforcement and coast guard vessels regularly operate in waters surrounding the Senkakus that are administered by Japan, raising the potential for miscalculation and escalation into a military clash. In the summer of 2016, China began to deploy naval units into the area.

In November 2013, China declared an Air Defense Identification Zone (ADIZ) in the East China Sea that largely aligned with its claimed maritime Exclusive Economic Zone (EEZ). The People's Liberation Army declared that it would "take defense emergency measures to respond to aircraft that do not cooperate

in identification or refuse to follow orders."52 The announcement was a provocative act and another Chinese attempt to change the status quo unilaterally. The ADIZ declaration is part of a broader Chinese pattern of using intimidation and coercion to assert expansive extralegal claims of sovereignty and/or control incrementally. 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.53 In May, the Chinese intercepted an American WC-135, also over the East China Sea.54

South China Sea. Roughly half of global trade in goods, a third of trade in oil, and over half of global liquefied natural gas shipments pass through the South China Sea, which also accounts for approximately 10 percent of global fish catch and may contain massive potential reserves of oil and natural gas. The U.S. Navy also operates in the area and requires access to meet its security and treaty obligations in the region most effectively.

The South China Sea is hotly contested by six countries, including Taiwan and the Philippines. Incidents between Chinese law enforcement vessels and other claimants' fishing boats occur on a regular basis there, as do other Chinese assertions of administrative authority. The U.S. presence also has become an object of Chinese attention, from confrontations with the ocean surveillance ship USNS Impeccable and the destroyer USS John McCain in 2009 to the confrontation with the guided-missile cruiser USS Cowpens in December 2013 and a dangerous intercept of a U.S. Navy P-8 aircraft in August 2014. In May 2016, there was another unsafe intercept of an American aircraft, an EP-3, and in December, the crew of a PLA Navy vessel seized an American unmanned underwater vehicle as it was being recovered by the USNS Bowditch. There were several similar incidents involving U.S. aircraft during the first half of 2017.

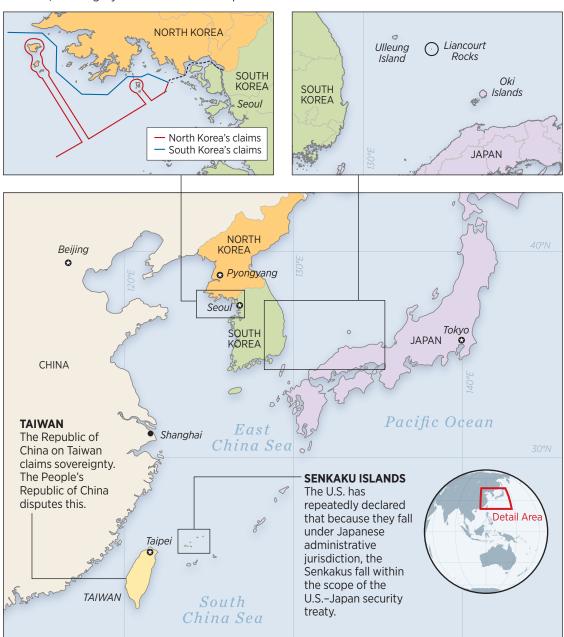
Areas of Dispute in the East China Sea

KOREAN MARITIME BOUNDARIES

South Korea's claim constitutes the Northern Limit Line, which serves as an operational maritime border between North and South. However, sovereignty over the area is in dispute.

LIANCOURT ROCKS

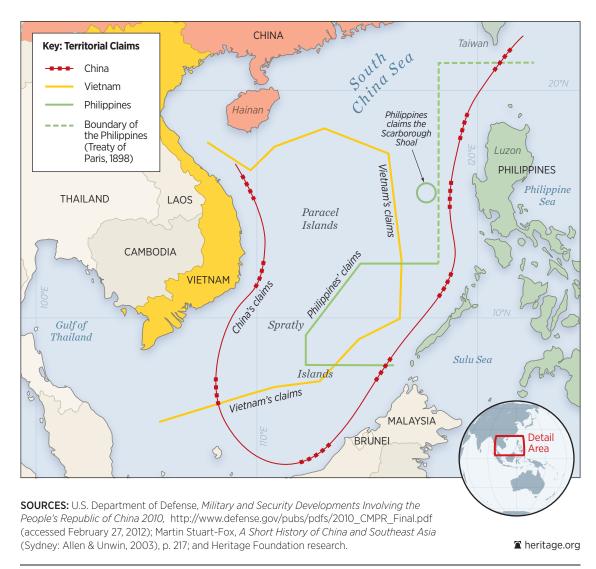
Known as "Dokdo" in South Korea and "Takeshima" in Japan, the two disputed islands—better measured in acres than in square kilometers—evoke considerable emotion.



SOURCE: Heritage Foundation research. Korean maritime boundaries are from Political Geography Now, "What Is North Korea?" April 11, 2013, http://www.polgeonow.com/2013/04/what-is-north-korea.html (accessed January 5, 2015).

★ heritage.org

Areas of Dispute in the South China Sea



The most serious intraregional incidents in the South China Sea have occurred between China and the Philippines and China and Vietnam. In 2012, 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. In 2016, there were reports that the Chinese intend to consolidate their gains in the area by reclaiming the sea around the shoal, but there is as yet no indication that this has happened.

Furthermore, with the election of Philippine President Rodrigo Duterte in 2016, there has been a general warming in China–Philippines relations. Duterte has sought to set aside the dispute over the South China Sea, and the Chinese, while not accepting the authority of a 2016 ruling by the Permanent Court of Arbitration (PCA) that favored a range of the Philippines' positions, have allowed Filipino fishermen access to Scarborough Shoal in accordance with it.

China-Vietnam tensions in the South China Sea were on starkest display in 2014 when

state-owned China National Offshore Oil Corporation (CNOOC) deployed an oil rig inside Vietnam's EEZ. The Chinese platform was accompanied by dozens of ships including naval vessels. The resulting escalation saw Chinese ships ramming Vietnamese law enforcement ships and using water cannon against the crews of Vietnamese ships. It also resulted in massive and sometimes violent demonstrations in Vietnam. The oil rig was ultimately withdrawn, and relations were restored, but the occasional reappearance of the same rig has served to underscore the continuing volatility of this issue, which involves the same area over which China and Vietnam engaged in armed battle in 1974.

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 his April 2017 posture statement to the House Committee on Armed Services, Admiral Harry Harris, Commander, U.S. Pacific Command, described the state of these islands:

China's military-specific construction in the Spratly islands includes the construction of 72 fighter aircraft hangars—which could support three fighter regiments—and about ten larger hangars that could support larger airframes, such as bombers or special mission aircraft. All of these hangars should be completed this year. During the initial phases of construction China emplaced tank farms, presumably for fuel and water, at Fiery Cross, Mischief and Subi reefs. These could support substantial numbers of personnel as well as deployed aircraft and/or ships. All seven outposts are armed with a large number of artillery and gun systems, ostensibly for defensive missions. The recent identification of buildings that appear to have been built specifically to house long-rang surface-to-air missiles is the latest indication China intends to deploy military systems to the Spratlys.55

The 2016 PCA award invalidated China's sweeping claims to waters in the South China Sea and found its "island" reclamation to be in violation of Beijing's commitments under the U.N. Convention on the Law of the

Sea (UNCLOS). There is the possibility that China will ultimately declare an ADIZ above the South China Sea in an effort to assert its authority. There are also concerns that in the event of a downturn in its relationship with the Philippines, it will take action against vulnerable targets like Philippines-occupied Second Thomas Shoal or Reed Bank, which the panel determined are part of the Philippines EEZ and continental shelf, or proceed with the reclamation at Scarborough. The latter development in particular would facilitate the physical assertion of Beijing's claims and enforcement of an ADIZ, regardless of the UNCLOS award.

Airpower. Although China is not yet in a position to enforce an ADIZ consistently in either area, the steady two-decade improvement of the PLA Air Force (PLAAF) and 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 "noncontact, non-linear, non-symmetrical" warfare.

China also seems to have made a point of publicizing its air force modernization, unveiling new aircraft prototypes, including two new stealthy fighters, on the eve of visits by American Secretaries of Defense. (Secretary Chuck Hagel's visit in 2014 was preceded by the unveiling of the J-15 naval fighter.) Those aircraft have been flown much more aggressively, with Chinese fighters flying very close to Japanese aircraft in China's East China Sea ADIZ and conducting armed combat air patrols in the skies over Tibet.⁵⁶

The PLA has shed most of its 1960s-era aircraft, replacing them with much more modern systems. Today's PLAAF is dominated by fourth-generation and 4.5th-generation fighter aircraft. These include the domestically designed and produced J-10, as well as the Su-27/Su-30/J-11 system, comparable to the F-15 or F-18, that dominates both the fighter and strike missions.⁵⁷ Older airframes such as the J-7 are steadily being retired from the fighter inventory. China is also believed to be

preparing to field two stealthy fifth-generation fighter designs. The J-20 is the larger aircraft, resembling 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.

China fields some long-range strike aircraft, largely the H-6 bomber based on the Sovietera Tu-16 Badger. While this aircraft has little prospect of penetrating advanced air defenses, it is suitable as a cruise missile carrier. China also has used the H-6 as the basis for initial efforts to develop an aerial tanker fleet and seems to be examining other options as well. As China deploys more tankers, this will extend the range and loiter time of its fighter aircraft. China will then be better equipped to enforce its newly declared East China Sea Air Defense Identification Zone and any possible future South China Sea ADIZ.

A variety of modern support aircraft have also entered the PLAAF inventory, including airborne early warning (AEW), command and control (C2), and electronic warfare (EW) aircraft. At the Zhuhai Air Show, Chinese companies have displayed a variety of unmanned aerial vehicles (UAVs), reflecting substantial investments and research and development efforts. The surveillance and armed UAV systems include the Xianglong (Soaring Dragon) and Sky Saber systems. The 2014 DOD report on Chinese capabilities also reports that China has tested a stealthy flying-wing UAV, the Lijian. ⁵⁸

China's air defenses, which are under the control of the PLAAF, have also been steadily modernizing. China has acquired the advanced S-300 surface-to-air missile (SAM) system (SA-10B/SA-20), which is roughly analogous to the American Patriot SAM system, and is developing its own advanced SAM, the HQ-9, which is deployed both on land and at sea. In early 2014, Russia announced that it would sell China the S-400 SAM system. This would mark a substantial improvement in PLAAF air defense capabilities, as the S-400 has anti-aircraft and anti-missile

capabilities.⁵⁹ 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. Some of these systems have reportedly been deployed to the Paracel islands in the South China Sea.

A third component of the PLAAF is China's airborne forces. The 15th Airborne Army is part of the PLAAF, with three divisions of 10,000-15,000 personnel each. These are not believed to be assigned to any of the Chinese military regions but are instead a strategic reserve as well as a rapid reaction force. In 2009, in the military review associated with the 60th anniversary of the founding of the PRC, Chinese airborne units paraded through Tiananmen Square with ZBD-03 mechanized airborne combat vehicles. These vehicles provide Chinese airborne forces with tactical mobility as well as some degree of protected fire support from their 30mm autocannon and HJ-73 anti-tank missile (a domestic version of the AT-3 Sagger)—something American airborne forces continue to lack.

One shortcoming of the Chinese airborne forces is the lack of military transport aircraft, although the PLAAF undoubtedly can call on China's substantial civilian fleet of airliners in time of crisis or war.

Sea power. As the world's foremost trading state, China depends on the seas for its economic well-being. China's factories are increasingly powered by imported oil, and Chinese diets contain a growing percentage of imported food. Chinese products rely on the seas to be moved to markets. At the same time, because China's economic center of gravity is now in the coastal region, it has had to emphasize maritime power to defend key assets and areas. Consequently, China has steadily expanded its maritime power, including its merchant marine and maritime law enforcement capabilities, but especially the People's Liberation Army Navy (PLAN).

The PLAN is no longer an unsophisticated coastal defense force. Instead, since the end

of the Cold War, China's navy has moved away from reliance on mass toward incorporating advanced platforms and weapons. Most notably, the Chinese navy is the first in East Asia to deploy its own aircraft carrier since World War II. The *Liaoning* carries a mixed air group of J-15 fighters (based on the navalized Su-27) and helicopters and is believed to be fully operational.

Meanwhile, many obsolete vessels have been decommissioned, including scores of older, missile-armed, fast attack craft. In their place, China has produced a range of more capable combatants and is building each class in significant numbers. These range from the Type 022 Houbei missile-armed catamaran, armed with sea-skimming supersonic anti-ship cruise missiles, to the Type-052C Luyang-II destroyer, equipped with a phased-array radar for its HQ-9 SAM system. The HQ-9, with its ability to combat most air-breathing systems and a limited anti-ballistic missile capability, is believed to be comparable to early model Patriot missiles. Although these new ships are not replacing older Chinese surface combatants on a one-for-one basis, the overall capability of the PLAN surface force is steadily improving.

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 has been improving as older boats, especially 1950s-vintage Romeoclass 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 not only torpedoes, but also anti-ship cruise missiles. 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.

The PLAN also has been augmenting its aerial maritime strike capability. In addition to more modern versions of the H-6 twin-engine

bombers (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. Within Chinese littoral waters, the PLAN Air Force can bring a significant amount of firepower to bear.

The PLAN also has been working to improve its "fleet train." The 2010 PRC defense white paper notes the accelerated construction of "large support vessels." It also specifically notes that the navy is exploring "new methods of logistics support for sustaining long-time maritime missions." ⁶⁰

As with other aspects of PLA modernization, even as the PLAN is upgrading its weapons, it is also improving its doctrine and training, including increased emphasis on joint operations and the incorporation of electronic warfare into its training regimen. Such improvements suggest that PLA Air Force assets, space and cyber operations, and even PLA Rocket Force units might support naval aviation strikes. The new anti-ship ballistic missile forces, centered on the DF-21D anti-ship ballistic missile (now reportedly at initial operational capability), should be seen as part of joint Chinese efforts to control the seas, complementing PLAAF and PLAN air, surface, and sub-surface forces.

Escalation of Territorial Disputes or Incidents at Sea. Because 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 the commons, but rather as matters of territorial sovereignty, there exists the threat of armed conflict between China and American allies who are also claimants, particularly Japan and the Philippines.

Beijing prefers to accomplish its objectives quietly and through nonmilitary means. In both the East and South China Seas, China has sought to exploit "gray zones," gaining control incrementally and deterring others without resort to the lethal use of force. It uses military and economic threats, bombastic language, and enforcement through military bullying. Chinese paramilitary-implemented, military-backed encroachment in support of expansive extralegal claims could lead to an unplanned armed clash.

Rising nationalism is exacerbating tensions, making geostrategic relations in Asia increasingly complex and volatile. In the face of persistent economic challenges, nationalist themes are becoming an increasingly strong undercurrent, 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 in the past. The increasing power that the Internet and social media provide to the populace, largely outside of government control, add elements of unpredictability to future clashes.

In case of armed conflict between China and the Philippines or between China and Japan, either by intention or as a result of an accidental incident at sea, the U.S. could be required to exercise its treaty commitments. Escalation of a direct U.S.—China incident is itself 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.

WWTA: The WWTA does not address threats to the maritime and airspace commons, but it does say that "China will continue to pursue an active foreign policy" in the region, "highlighted by [among other things] a firm stance on competing territorial claims in the East China Sea (ECS) and South China Sea (SCS)." It also predicts continuing regional tensions "as China completes construction

at its expanded outposts in the SCS."⁶² It offers no judgment either on the threat that this poses to American interests or on the prospect for large-scale conventional conflict in the region.

Summary: In both the air and maritime domains, China is ever more capable of challenging American dominance and disrupting the freedom of the commons that benefits the entire region. Both territorial disputes related to what the U.S. and its allies consider the commons and accidental incidents could draw the U.S. into conflict. China likely does not intend to engage in armed conflict with its neighbors, particularly American treaty allies, or with the U.S. itself. However, it will continue to press its territorial claims at sea in ways that, even if inadvertent, cause incidents that could escalate into broader conflict.

Space. 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.

The American military is more reliant than many others on space-based systems because it is also an expeditionary military (i.e., its wars are conducted far distant from the homeland). 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. The U.S. can leverage space in ways that no other country can, and this is a major advantage, but this heavy reliance on space systems is also a key American vulnerability.

China fields an array of space capabilities, including its own navigation and timing satellites, the Beidou/Compass system, and has claimed a capacity to refuel satellites. ⁶³ It has three satellite launch centers, and a fourth is under construction. 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, over 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, "It may be said that America's victory in the Kosovo War could not be achieved without fully exploiting space."

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 tested in 2007, but also more advanced systems that are believed to be capable of reaching targets in mid-Earth orbit and even geosynchronous orbit.65 The latter include anti-satellite lasers for either dazzling or blinding purposes.66 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."67

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 effectively disrupt communications simply by being in "switched on" mode all of the time. 68 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.

China has created a single service, the PLA Strategic Support Force (PLASSF), with authority over its space, electronic warfare, and network warfare capabilities. In essence, this

is a service that is focused on fighting in the information domain, striving to secure what the PLA terms "information dominance" for themselves while denying it to others. This service will probably combine electronic warfare, cyber warfare, and physical attacks against adversary space and information systems in order to deny them the ability to gather, transmit, and exploit information.

WWTA: The WWTA assesses that China "perceive[s] a need to offset any US military advantage derived from military, civil, or commercial space systems and [is] increasingly considering attacks against satellite systems as part of [its] future warfare doctrine." China will "continue to pursue a full range of antisatellite (ASAT) weapons as a means to reduce US military effectiveness" and to develop "capabilities to challenge" the U.S. in space. The report also references discussions by Chinese researchers concerning "methods to enhance robust jamming capabilities with new systems to jam commonly used frequencies." Some of China's "ASAT weapons, including destructive systems, will probably complete development in the next several years," and its "groundlaunched ASAT missiles might be nearing operational service within the PLA."69

Summary: The PRC poses a challenge to the United States that is qualitatively different from the challenge posed by any other potential adversary in the post–Cold War environment. It is the first nation to be capable of accessing space on its own while also jeopardizing America's ability to do the same. This appears to be its intent.

Cyber. Threats in this area derive primarily from China and North Korea, and the threats posed by both countries are serious.

China. In 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." Given the difficulties of attribution, country of origin should not necessarily be conflated with the perpetrator, but forensic efforts have identified at least one Chinese military

unit with cyber intrusions.⁷¹ Similarly, the Verizon report concluded that China was the source of 95 percent of state-sponsored cyber-espionage attacks. Since the 2015 Xi-Obama summit where the two sides reached an understanding to reduce cyber economic espionage, Chinese cyber actions have shifted. While the overall level of activity appears to be unabated, the Chinese appear to have moved toward more focused attacks mounted from new sites.

China's cyber-espionage efforts are often aimed at economic targets, reflecting the much more holistic Chinese 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, however, 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 (shijie junshi gaige). Future wars will be conducted through joint operations involving multiple services rather than through combined operations focused on multiple branches within a single service. These future wars 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 (zhi xinxi quan). 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 "local wars under informationized conditions." That is, they will be wars in which information and information technology not only will be widely applied, but also will be 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 (*xitong*). Rather, conflicts are now clashes between rival arrays of systems of systems (*tixi*).⁷²

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.

Attacks on computer networks in particular have the potential to be extremely disruptive. The recent indictment of five serving PLA officers on the grounds of cyber espionage highlights how active the Chinese military is in this realm.⁷³

It is essential to recognize, however, that the PLA views computer network operations as part of information operations (xinxi zuozhan), 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. Thus, command, control, communications, computers, intelligence, surveillance, and reconnaissance structures constitute a key part of information operations, 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.⁷⁴

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.

Computer network operations will not stand alone, however, but will be integrated with electronic warfare operations, as reflected in the phrase "network and electronics unified [wangdian yiti]." Electronic warfare operations are aimed at weakening or destroying enemy electronic facilities and systems while defending one's own. 75 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."

North Korea. In February 2016, North Korea conducted the first government-sponsored digital bank robbery. North Korean hackers gained access to the Society for Worldwide Interbank Financial Telecommunication (SWIFT), the system used by central banks to authorize monetary transfers, to steal \$81 million. The regime had attempted to send money transfer requests of \$951 million from the Central Bank of Bangladesh to banks in the Philippines, Sri Lanka, and other parts of Asia.76 North Korean hackers also targeted the World Bank, the European Central Bank, 20 Polish banks, and large American banks such as BankAmerica,⁷⁷ as well as financial institutions in Costa Rica, Ecuador, Ethiopia, Gabon, India, Indonesia, Iraq, Kenya, Malaysia, Nigeria, Poland, Taiwan, Thailand, and Uruguay.78

In 2014, North Korea conducted a cyberattack on Sony Pictures in retaliation for the studio's release of a satirical film depicting the assassination of Kim Jong-un. The cyberattack was accompanied by physical threats against U.S. theaters and citizens. Contrary to the perception of North Korea as a technologically backward nation, the regime has an active cyber warfare capability. In 2009, North Korea declared that it was "fully ready for any form of high-tech war."79 According to South Korea's National Intelligence Service, North Korean leader Kim Jong-un has described cyber warfare as "a magic weapon" that empowers Pyongyang to launch "ruthless strikes" against South Korea.80

The Reconnaissance General Bureau, North Korea's intelligence agency, oversees Unit 121 with almost 6,000 "cyber-warriors" dedicated to attacking Pyongyang's enemies, up from 3,000 just two years ago. Defectors from the unit have told South Korean intelligence officials that hackers are sent to other countries for training as well as to conduct undercover operations. The unit's hackers never operate primarily within North Korea, because the country's limited computer network would make it too easy to identify the source of the attack.⁸¹

Seoul concluded that North Korea was behind cyber-attacks using viruses or distributed denial-of-service tactics against South Korean government agencies, businesses, banks, and media organizations in 2009, 2011, 2012, and 2013. The most devastating attack, launched in 2013 against South Korean banks and media outlets, deleted the essential Master Boot Record from 48,000 computers.82 North Korea also jammed GPS signals in 2012, posing a risk to hundreds of airplanes transiting Seoul's Incheon airport. Lieutenant General Bae Deag-sig, head of South Korea's Defense Security Command, stated that "North Korea is attempting to use hackers to infiltrate our military's information system to steal military secrets and to incapacitate the defense information system."83

WWTA: The WWTA assesses that "Beijing will continue actively targeting the US Government, its allies, and US companies for cyber espionage" and references Beijing's selective use of cyberattacks "against foreign targets that it probably believes threaten Chinese domestic stability or regime legitimacy." The 2016 WWTA assessed that North Korea "probably remains capable and willing to launch disruptive or destructive cyberattacks to support its political objectives." This year, there is no such modifier concerning this capability. The 2017 WWTA also has added a reference to "Pyongyang's cyber threat to US allies." ⁸⁶

Summary: With obvious implications for the U.S., the PLA emphasizes the need to suppress and destroy an enemy's information systems while preserving one's own, as well as the importance of computer and electronic warfare in both the offensive and defensive roles. Methods to secure information dominance would include establishing an information blockade; deception (including through electronic means); information contamination; and information paralysis.⁸⁷ China sees cyber as part of an integrated capability for achieving strategic dominance in the Western Pacific region. For North Korea, cyber security is an area in which even its limited resources can directly support discrete political objectives.

Threat Scores

AfPak-Based Terrorism. A great deal of uncertainty surrounds the threat from AfPak. For the U.S., Pakistan is both a security partner and a security challenge. Pakistan provides a home and support to terrorist groups that are hostile to the U.S., other U.S. partners in South Asia like India, and the fledgling government of Afghanistan. Afghanistan is particularly vulnerable to destabilization efforts. Both Pakistan and Afghanistan are already among the world's most unstable states. The instability of the former, given its nuclear arsenal, has a direct bearing on U.S. security.

The IISS Military Balance largely addresses the military capabilities of states. Its limited section on the capabilities of non-state actors does not include those in the AfPak region. The 2017 edition contains no reference to the possibility that Pakistani nuclear weapons might fall into hands that would threaten the American homeland or interests more broadly. The 2014 edition stated that Pakistan's "nuclear weapons are currently believed to be well-secured against terrorist attack."88 Pakistan's Army Strategic Forces Command has 30 medium-range ballistic missiles, 30 short-range ballistic missiles, and land-attack cruise missiles.89 Previous editions of the Military Balance have also cited development of "likely nuclear capable" artillery. Pakistan also has "1-2 squadrons of F-16A/B or Mirage 5 attack aircraft that may be assigned a nuclear strike role."90

This *Index* assesses the overall threat from AfPak-based terrorists, considering the range of contingencies, as "aggressive" for level of provocation of behavior and "capable" for level of capability.

Threats: Af-Pak Terrorism

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

China. China presents the United States with the most comprehensive security challenge in the region. It poses various threat contingencies across all three areas of vital American national interests: homeland; regional war (extending from attacks on overseas U.S. bases or against allies and friends); and the global commons. China's provocative behavior is well documented. It is challenging the U.S. and U.S. allies like Japan at sea and in cyberspace. It has raised concerns on its border with India and is a standing threat to Taiwan. While there may be a lack of official transparency, publicly available sources shed considerable light on China's fast-growing military capabilities.

According to the IISS *Military Balance*, among the key weapons in China's inventory are 62 Chinese ICBMs; 405 shorter-range ballistic missiles; ⁹¹ four SSBNs with up to 12 missiles; 72 satellites; 6,740 main battle tanks; 57 tactical submarines; 79 principal surface combatants (including one aircraft carrier and 21

destroyers); and 2,307 combat-capable aircraft in its air force. There are 1,150,000 members of the People's Liberation Army, 92 down 450,000 from last year.

With regard to these capabilities, the 2014 *Military Balance* stated that because of "a lack of war-fighting experience, questions over training and morale, and key capability weaknesses in areas such as C4ISTAR and ASW," the PLA "remains qualitatively inferior, in some respects, to more technologically advanced armed forces in the region—such as South Korea and Japan—and it lags far behind the U.S." Subsequent editions have not included this caveat. The 2017 *Military Balance* cites "significant amounts of old equipment [remaining in] service" and questions about the quality of domestically produced equipment.⁹⁴

This *Index* assesses the overall threat from China, considering the range of contingencies, as "testing" 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	✓				

North Korea. In the first instance, North Korea poses the most acute security challenge for American allies and bases in South Korea. However, it is also a significant challenge to U.S. allies in Japan and American bases there and in Guam.

North Korean authorities are very actively and vocally provocative toward the United States. While 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 over its nuclear program and various aid packages, such developments also improve North Korea's military posture. North Korea likely has already achieved warhead miniaturization, the ability to place nuclear weapons on its medium-range missiles, and an ability to reach the continental United States with a missile.

According to the IISS *Military Balance*, key weapons in North Korea's inventory include 3,500-plus main battle tanks, 560-plus light

tanks, and 21,100 pieces of artillery. The navy has 73 tactical submarines, three frigates, and 383 patrol and coastal combatants. 95 The air force has 545 combat-capable aircraft (58 fewer than 2014), including 80 H-5 bombers. The IISS counts 1,020,000 active-duty members of the North Korean army, a reserve of 600,000, and 5,700,000 paramilitary personnel. Regarding the missile threat in particular, the 2017 Military Balance restates that the Hwasong-13 (KN-08) road-mobile ICBM, while assessed as operational, remains untested.96 With respect to conventional forces, the 2017 Military Balance includes a caveat that they "remain reliant on increasingly obsolete equipment with little evidence of widespread modernization across the armed services."97

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

Threats: North Korea

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

Endnotes

- Dan Lamothe, "'Probably the Largest' al-Qaeda Training Camp Ever Destroyed in Afghanistan," The Washington Post, October 30, 2015, https://www.washingtonpost.com/news/checkpoint/wp/2015/10/30/probably-the-largest-al-qaeda-training-camp-ever-destroyed-in-afghanistan/ (accessed June 29, 2017).
- James R. Clapper, Director of National Intelligence, "Statement for the Record: Worldwide Threat Assessment of the US Intelligence Community," Committee on Armed Services, U.S. Senate, February 11, 2014, http://www.dni.gov/files/documents/2014%20WWTA%20SFR SASC 11 Feb.pdf (accessed July 3, 2017).
- Mark Landler, "Obama Says He Will Keep More Troops in Afghanistan Than Planned," The New York Times, July 6, 2016, http://www.nytimes.com/2016/07/07/world/asia/obama-afghanistan-troops.html (accessed June 29, 2017).
- Joe Gould, "Mattis: Trump Authorized Military to Set Troop Levels in Afghanistan," *Defense News*, June 14, 2017, http://www.defensenews.com/articles/mattis-trump-authorized-military-to-set-troop-levels-in-afghanistan (accessed June 29, 2017).
- 5. Tara Copp, "Mattis Signs Orders to Send About 3,500 More US Troops to Afghanistan," *Military Times*, September 11, 2017, https://www.militarytimes.com/news/your-military/2017/09/11/mattis-signs-orders-to-send-about-3500-more-us-troops-to-afghanistan/ (accessed September 11, 2017).
- 6. Rebecca Kheel, "General: ISIS in Afghanistan Potentially an 'Enormous' Threat," *The Hill*, April 14, 2016, http://thehill.com/policy/defense/276325-general-isis-in-afghanistan-potentially-enormous-threat (accessed June 29, 2017).
- 7. Peter Oborne and Sabin Agha, "Pakistan Is Winning Its War on Terror," *The Spectator*, December 31, 2016, https://www.spectator.co.uk/2016/12/pakistan-is-winning-its-war-on-terror/# (accessed June 29, 2017).
- Reuters, "Pakistani Man Arrested on U.S. Terrorism Charges," September 2, 2011, http://www.reuters.com/article/2011/09/02/us-pakistan-usa-arrest-idUSTRE7815M920110902 (accessed June 29, 2017).
- 9. Abha Shankar, "Trial's First Week Reinforces Pakistani Intelligence Suspicions," Investigative Project on Terrorism, *IPT News*, May 27, 2011, http://www.investigativeproject.org/2919/trial-first-week-reinforces-pakistani (accessed June 29, 2017).
- 10. Peter R. Lavoy, ed., *Asymmetric Warfare in South Asia: The Causes and Consequences of the Kargil Conflict* (Cambridge, UK: Cambridge University Press, 2009), p. 10.
- 11. Nuclear Threat Initiative, *Nuclear Security Index*, "Overview Highlights," http://www.ntiindex.org/overview-highlights/overview/ (accessed July 3, 2017).
- 12. "Pakistan's Future: Resilient Mess," *The Economist*, February 11, 2012, http://www.economist.com/node/21547231 (accessed June 29 2017)
- Stephen P. Cohen, "The Future of Pakistan," The Brookings Institution, January 2011, https://www.brookings.edu/wp-content/uploads/2016/06/01_pakistan_cohen.pdf (accessed June 29, 2017).
- 14. Daniel R. Coats, Director of National Intelligence, "Statement for the Record: Worldwide Threat Assessment of the US Intelligence Community," Select Committee on Intelligence, U.S. Senate, May 11, 2017, p. 24, https://www.dni.gov/files/documents/Newsroom/Testimonies/SSCI%20Unclassified%20SFR%20-%20Final.pdf (accessed July 3, 2017); James R. Clapper, Director of National Intelligence, "Statement for the Record: Worldwide Threat Assessment of the US Intelligence Community," Committee on Armed Services, U.S. Senate, February 9, 2016, pp. 26–27, https://www.armed-services.senate.gov/imo/media/doc/Clapper_02-09-16.pdf (accessed July 3, 2017). Cited hereafter as 2017 WWTA and 2016 WWTA, respectively.
- David Wright, "North Korean ICBM Appears Able to Reach Major US Cities," Union of Concerned Scientists, July 28, 2017, http://allthingsnuclear.org/dwright/new-north-korean-icbm (accessed August 14, 2017).
- 16. Bruce Klingner and Sue Mi Terry, "We Participated in Talks with North Korean Representatives. This Is What We Learned," *The Washington Post*, June 22, 2017, https://www.washingtonpost.com/opinions/we-participated-in-talks-with-north-korean-representatives-this-is-what-we-learned/2017/06/22/8c838284-577b-11e7-ba90-f5875b7d1876_story.html?utm_term=.18ec48a5b73e (accessed August 14, 2017).
- 17. Yonhap News Agency, "N.K. Calls Itself 'Nuclear-armed State' in Revised Constitution," May 30, 2012, http://english.yonhapnews.co.kr/northkorea/2012/05/30/76/0401000000AEN20120530005200315F.HTML (accessed June 29, 2017).
- 18. Anna Fifield, "North Korea's Making a Lot of Threats These Days. How Worried Should We Be?" *The Washington Post*, March 11, 2016, https://www.washingtonpost.com/news/worldviews/wp/2016/03/11/north-koreas-making-a-lot-of-threats-these-days-how-worried-should-we-be/ (accessed June 29, 2017).
- 19. Reuters, "Head of U.S. Missile Defense Agency Says North Korea Missile Advances a 'Great Concern," June 7, 2017, http://www.reuters.com/article/us-usa-northkorea-missiles-idUSKBN18Y2XA (accessed July 4, 2017).

- 20. Dan Goure, "Why Trump Needs to Deploy Missile Defenses to Counter North Korea and Iran," *The National Interest*, February 20, 2017, http://nationalinterest.org/blog/the-buzz/why-trump-needs-deploy-missile-defenses-counter-north-korea-19510 (accessed July 4, 2017).
- 21. James Mattis, Secretary of Defense, "Written Statement for the Record," Committee on Armed Services, U.S. House of Representatives, June 12, 2017, http://www.politico.com/f/?id=0000015c-9f04-d070-a57d-fffe4c600001 (accessed July 3, 2017).
- 22. Andrew S. Erickson and Michael S. Chase, "China's SSBN Forces: Transitioning to the Next Generation," *China Brief*, Vol. 9, Issue 12 (June 12, 2009), http://www.jamestown.org/single/?no_cache=1&tx_ttnews[tt_news]=35120#.U5G00Sjb5NQ (accessed June 29, 2017).
- 23. For more information on China's cruise missile program, see Dennis M. Gormley, Andrew S. Erickson, and Jongdong Yuan, *A Low-Visibility Force Multiplier: Assessing China's Cruise Missile Ambitions* (Washington: National Defense University Press, 2014), http://ndupress.ndu.edu/Portals/68/Documents/Books/force-multiplier.pdf (accessed June 22, 2017).
- 24. 2017 WWTA, p. 6.
- 25. Ibid., p. 7.
- 26. Ibid., p. 17.
- 27. Ibid., p. 16.
- 28. North Korea Leadership Watch, "Kim Jong-un Supervises Missile Drill," March 6, 2017, http://www.nkleadershipwatch. org/2017/03/06/kim-jong-un-supervises-missile-drill/ (accessed August 14, 2017).
- 29. International Crisis Group, "North Korea's Nuclear and Missile Programs," *Asia Report* No. 168, June 18, 2009, https://www.crisisgroup.org/asia/north-east-asia/korean-peninsula/north-korea-s-nuclear-and-missile-programs (accessed June 29, 2017).
- U.S. Department of Defense, Office of the Secretary of Defense, Military and Security Developments Involving the Democratic People's Republic of Korea 2013, Annual Report to Congress, 2014, http://www.defense.gov/Portals/1/Documents/pubs/North_Korea_Military_Power_Report_2013-2014.pdf (accessed June 29, 2017).
- 31. Bruce E. Bechtol, Jr., "Understanding the North Korean Military Threat to the Security of the Korean Peninsula and Northeast Asia: Declined or Evolved?" *Korea Observer*, Vol. 40, No. 1 (Spring 2009), pp. 115–154.
- 32. Bruce W. Bennett, "A Brief Analysis of the Republic of Korea's Defense Reform Plan," RAND Corporation *Occasional Paper* No. OP-165-OSD, December 2005, http://www.rand.org/content/dam/rand/pubs/occasional_papers/2006/RAND_OP165.pdf (accessed June 29, 2017).
- 33. David Albright, "North Korea's Nuclear Capabilities: A Fresh Look," Institute for Science and International Security, April 28, 2017, http://isis-online.org/isis-reports/detail/north-koreas-nuclear-capabilities-a-fresh-look (accessed June 29, 2017).
- 34. Joel S. Wit and Sun Young Ahn, "North Korea's Nuclear Futures: Technology and Strategy," Johns Hopkins University, Paul H. Nitze School of Advanced International Studies, U.S.-Korea Institute, North Korea's Nuclear Futures Series, February 2015, http://38north.org/wp-content/uploads/2015/02/NKNF-NK-Nuclear-Futures-Wit-0215.pdf (accessed June 29, 2017).
- 35. Bruce Klingner, "Allies Should Confront Imminent North Korean Nuclear Threat," Heritage Foundation *Backgrounder* No. 2913, June 3, 2014, http://www.heritage.org/asia/report/allies-should-confront-imminent-north-korean-nuclear-threat (accessed June 29, 2017).
- 36. Victor Morton, "North Korea Threatens Pre-emptive Nuclear Strikes Against U.S., South Korea," *The Washington Times*, March 6, 2016, http://www.washingtontimes.com/news/2016/mar/6/north-korea-threatens-nuclear-strike-against-us-so/ (accessed June 29, 2017).
- 37. Anthony Capaccio, "North Korean Cyber Capability Among World's Best, Brooks Says," Bloomberg, April 19, 2016, https://www.bloomberg.com/amp/news/articles/2016-04-19/north-korean-cyber-capability-among-world-s-best-brooks-says (accessed August 14, 2017).
- 38. 2017 WWTA, p. 7.
- 39. Ibid., p. 17.
- 40. Ibid., p. 16.
- 41. International Institute for Strategic Studies, *Strategic Survey 2013: The Annual Review of World Affairs* (London: Routledge, 2013), p. 32.
- 42. Fact Sheet, "Nuclear Weapons: Who Has What at a Glance," Arms Control Association, updated January 2017, https://www.armscontrol.org/factsheets/Nuclearweaponswhohaswhat (accessed July 3, 2017).

- 43. "India Condemns Pak Support to Hafiz Saeed's Rally in Lahore," *India Today*, December 14, 2014, http://indiatoday.in/story/hafiz-saeed-pakistan-lahore-rally-26-11-mumbai-attacks-jud-al-qaeda/1/405036.html (accessed June 29, 2017).
- 44. "Spate of Violations: DGMOs to Reduce Cross-border, LoC Tensions," *Express Tribune*, August 27, 2014, http://tribune.com.pk/story/754176/spate-of-violations-dgmos-to-reduce-cross-border-loc-tensions/ (accessed June 29, 2017).
- 45. International Institute for Strategic Studies, Strategic Survey 2013, p. 31.
- 46. 2016 WWTA, p. 25.
- 47. Major General P. J. S. Sandhu (Retd.), "Border Defence Cooperation Agreement—What Next?" United Service Institution of India, October 28, 2013, http://www.usiofindia.org/Article/?pub=Strategic%20Perspective&pubno=38&ano=2003 (accessed June 29, 2017).
- 48. N. C. Bipindra, "India, China Skid on Visa, Ink Border Pact," *New Indian Express*, October 24, 2013, http://newindianexpress.com/nation/India-China-skid-on-visa-ink-border-pact/2013/10/24/article1852361.ece (accessed June 29, 2017).
- 49. Nirupama Subramanian, "India, China Not to Use Force in Case of Face-offs," *The Hindu*, October 24, 2013, http://www.thehindu.com/todays-paper/india-china-not-to-use-force-in-case-of-faceoffs/article5266608.ece (accessed June 29, 2017).
- 50. James R. Clapper, Director of National Intelligence, "Statement for the Record: Worldwide Threat Assessment of the US Intelligence Community," Committee on Armed Services, U.S. Senate, February 26, 2015, p. 22, http://www.armed-services.senate.gov/imo/media/doc/Clapper 02-26-15.pdf (accessed August 5, 2016).
- 51. Andrew Jacobs and Jane Perlez, "U.S. Wary of Its New Neighbor in Djibouti: A Chinese Naval Base," *The New York Times*, February 25, 2017, https://www.nytimes.com/2017/02/25/world/africa/us-djibouti-chinese-naval-base.html (accessed June 29, 2017).
- 52. Madison Park, "Why China's New Air Zone Incensed Japan, U.S.," CNN, November 27, 2013, http://www.cnn.com/2013/11/25/world/asia/china-japan-island-explainer/ (accessed June 29, 2017).
- 53. Jason Le Miere, "China Claims U.S. Military Plane 'Illegally' Entered Chinese Air Defense Zone," *Newsweek*, March 24, 2017, http://www.newsweek.com/china-claims-us-military-plane-illegally-entered-chinese-air-defense-zone-573711 (accessed June 29, 2017).
- 54. Hans Nichols and Courtney Kube, "Two Chinese Fighter Jets Intercept U.S. Plane Over East China Sea, Officials Say," NBC News, May 18, 2017, http://www.nbcnews.com/news/us-news/two-chinese-fighter-jets-intercept-u-s-plane-officials-say-n761931 (accessed June 29, 2017).
- 55. Admiral Harry B. Harris Jr., U.S. Navy, Commander, U.S. Pacific Command, statement "On U.S. Pacific Command Posture" before the Committee on Armed Services, U.S. House of Representatives, April 26, 2017, p. 8, http://docs.house.gov/meetings/AS/AS00/20170426/105870/HHRG-115-AS00-Wstate-HarrisH-20170426.PDF (accessed July 3, 2017).
- 56. Tim Hume, "Close Call as China Scrambles Fighter Jets on Japanese Aircraft in Disputed Territory," CNN, updated May 26, 2014, http://www.cnn.com/2014/05/26/world/asia/china-japan-jets-scramble/ (accessed June 29, 2017).
- 57. International Institute for Strategic Studies, *The Military Balance 2014: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2014), p. 292.
- U.S. Department of Defense, Office of the Secretary of Defense, Military and Security Developments Involving the People's Republic of China 2014, Annual Report to Congress, 2014, p. 33, http://www.defense.gov/Portals/1/Documents/pubs/2014 DoD China Report.pdf (accessed June 29, 2017).
- Zachary Keck, "Putin Approves Sale of S-400 to China," *The Diplomat*, April 11, 2014, http://thediplomat.com/2014/04/putin-approves-sale-of-s-400-to-china/ (accessed June 29, 2017).
- 60. Xinhua, "Full Text: China's National Defense in 2010," March 31, 2011, http://www.nti.org/media/pdfs/1_1a.pdf?_=1316627912 (accessed June 29, 2017).
- 61. While it has long been a matter of U.S. policy that Philippine territorial claims in the South China Sea lie outside the scope of American treaty commitments, the treaty does apply in the event of an attack on Philippine "armed forces, public vessels or aircraft in the Pacific." Mutual Defense Treaty Between the United States and the Republic of the Philippines, August 30, 1951, Article V, http://avalon.law.yale.edu/20th_century/phil001.asp (accessed June 29, 2017). In any event, Article IV of the treaty obligates the U.S. in case of such an attack to "meet the common dangers in accordance with its constitutional processes." Regardless of formal treaty obligations, however, enduring U.S. interests in the region and perceptions of U.S. effectiveness and reliability as a check on growing Chinese ambitions would likely spur the U.S. to become involved.
- 62. 2017 WWTA, p. 16.

- 63. Xinhua, "China Announces Success in Technology to Refuel Satellites in Orbit," June 30, 2016, http://news.xinhuanet.com/english/2016-06/30/c 135479061.htm (accessed June 29, 2017).
- 64. Mei Lianju, Space Operations Teaching Materials (Beijing, PRC: Academy of Military Sciences Publishing House, 2013), p. 65.
- 65. Brian Weeden, "Through a Glass Darkly: Chinese, American, and Russian Anti-Satellite Testing in Space," *The Space Review*, March 17, 2014, http://www.thespacereview.com/article/2473/1 (accessed June 29, 2017).
- 66. Ian Easton, *The Great Game in Space: China's Evolving ASAT Weapons Programs and Their Implications for Future U.S. Strategy*, Project 2049 Institute, 2009, pp. 4–5.
- 67. Mei Lianju, Space Operations Teaching Materials, p. 69.
- 68. Peter B. de Selding, "Runaway Zombie Satellite Galaxy 15 Continues to Pose Interference Threat," Space.com, October 15, 2010, http://www.space.com/9340-runaway-zombie-satellite-galaxy-15-continues-pose-interference-threat.html (accessed June 29, 2017).
- 69. 2017 WWTA, pp. 8-9.
- 70. Stephanie Henry, "Verizon Report Describes Trends in International Data Breaches, China-Based Espionage," US-China Business Council, April 24, 2013, http://www.uschina.org/washington-update/verizon-report-describes-trends-international-data-breaches-china-based-espionage (accessed July 3, 2017); Lucian Constantin, "Verizon: One in Five Data Breaches Are the Result of Cyberespionage," *PC World*, April 23, 2013, http://www.pcworld.com/article/2036177/one-in-five-data-breaches-are-the-result-of-cyberespionage-verizon-says.html (accessed June 29, 2017).
- 71. Dan McWhorter, "Mandiant Exposes APTI—One of China's Cyber Espionage Units and 3,000 Indicators," Mandiant, February 18, 2013, https://www.mandiant.com/blog/mandiant-exposes-apt1-chinas-cyber-espionage-units-releases-3000-indicators/ (accessed June 29, 2017).
- 72. Bai Bangxi and Jiang Lijun, "Systems of Systems Conflict Is Not the Same as Systems Conflict," *National Defense Newspaper*, January 10, 2008.
- 73. News release, "U.S. Charges Five Chinese Military Hackers for Cyber Espionage Against U.S. Corporations and a Labor Organization for Commercial Advantage," U.S. Department of Justice, May 19, 2014, http://www.justice.gov/opa/pr/us-charges-five-chinese-military-hackers-cyber-espionage-against-us-corporations-and-labor (accessed June 29, 2017).
- 74. Guo Ruobing, *Theory of Military Information Security* (Beijing, PRC: National Defense University Publishing House, 2013), pp. 12–21.
- 75. Tan Rukan, *Building Operational Strength Course Materials* (Beijing, PRC: Academy of Military Sciences Publishing House, 2012), p. 204.
- 76. Nicole Perlroth and Michael Corkery, "North Korea Linked to Digital Attacks on Global Banks," *The New York Times*, May 26, 2016, http://www.nytimes.com/2016/05/27/business/dealbook/north-korea-linked-to-digital-thefts-from-global-banks. html?ref=dealbook&mtrref=news.blogs.nytimes.com&gwh=B571811569BAD1B83C5914D567DBF9E9&gwt=pay (accessed August 14, 2017).
- 77. Paul Mozur and Choe Sang-hun, "North Korea's Rising Ambition Seen in Bid to Breach Global Banks," *The New York Times*, March 25, 2017, https://www.nytimes.com/2017/03/25/technology/north-korea-hackers-global-banks.html (accessed August 14, 2017).
- 78. Jose Pagliery, "North Korea-linked Hackers Are Attacking Banks Worldwide," CNN, April 4, 2017, http://www.cnn.com/2017/04/03/world/north-korea-hackers-banks/ (accessed August 14, 2017).
- 79. "Cyber Attack Retaliation Against Seoul's Move to Join 'Cyber Storm," *The Korea Herald*, July 7, 2009, http://www.koreaherald.com/common_prog/newsprint.php?ud=20090710000075&dt=2 (accessed June 29, 2017).
- 80. "N.Korea Boosting Cyber Warfare Capabilities," *Chosun Ilbo*, November 5, 2013, http://english.chosun.com/site/data/html_dir/2013/11/05/2013110501790.html (accessed June 29, 2017).
- 81. Yoon Sangwon, "North Korea Recruits Hackers at School," Al Jazeera, June 20, 2011, http://www.aljazeera.com/indepth/features/2011/06/201162081543573839.html (accessed June 29, 2017).
- 82. Kelly Beaucar Vlahos, "Special Report: The Cyberwar Threat from North Korea," Fox News, February 14, 2014, http://www.foxnews.com/tech/2014/02/14/cyberwar-experts-question-north-korea-cyber-capabilities/ (accessed June 29, 2017).
- 83. Choi He-suk, "N.K. Third for Cyber War Capabilities," *The Korea Herald*, June 7, 2012, http://www.koreaherald.com/view.php?ud=20120607001276 (accessed June 29, 2017).
- 84. 2017 WWTA, p. 1.
- 85. 2016 WWTA, p. 3.
- 86. 2017 WWTA, p. 2.

- 87. Yuan Wenxian, *Joint Campaign Information Operations Teaching Materials* (Beijing, PRC: National Defense University Press, 2009), pp. 109–112.
- 88. International Institute for Strategic Studies, *The Military Balance 2014*, p. 220.
- 89. International Institute for Strategic Studies, *The Military Balance 2017: The Annual Assessment of Global Military Capabilities and Defence Economics* (London: Routledge, 2016), p. 320.
- 90. Ibid.
- 91. Ibid., p. 279. The Pentagon's annual report to Congress on PRC-related military and security developments contains higher estimates, including 1,200 SRBMs. See U.S. Department of Defense, Office of the Secretary of Defense, *Military and Security Developments Involving the People's Republic of China 2016*, Annual Report to Congress, 2016, p. 109, http://www.defense.gov/Portals/1/Documents/pubs/2016%20China%20Military%20Power%20Report.pdf (accessed June 29, 2017).
- 92. International Institute for Strategic Studies, *The Military Balance 2017*, pp. 279–284.
- 93. International Institute for Strategic Studies, *The Military Balance 2014*, p. 231.
- 94. International Institute for Strategic Studies, *The Military Balance 2017*, p. 278.
- 95. Ibid., p. 267.
- 96. Ibid., p. 303.
- 97. Ibid.