

# China

Asia (also referred to as the Indo-Pacific) hosts a variety of threats to the U.S. homeland and the global commons, as well as a general threat of regional war that stems from a handful of inter-state rivalries. Included in this range of threats is a growing and increasingly multifaceted set of threats from a rising China. 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. However:

- Taiwan is under a long-standing, well-equipped, purposely positioned, and increasingly active military threat from China;
- Japan, Vietnam, and the Philippines, by virtue of maritime territorial disputes, are under paramilitary, military, and political pressure from China; and
- India is geographically positioned between two major security threats: Pakistan to its west and China to its northeast.

## Threats to the Homeland

In the 2017 National Security Strategy, the Trump Administration made clear that it was shifting the focus of American security planning away from counterterrorism and back toward great-power competition. In particular, it noted that:

China and Russia challenge American power, influence, and interests, attempting to erode American security and prosperity. They are determined to make economies less free and less fair, to grow their militaries, and to control information and data to repress their societies and expand their influence.<sup>1</sup>

Both China and Russia are seen as revisionist powers, but they pose very different challenges to the United States. The People's Republic of China (PRC) has a far larger economy, as well as the world's second-largest gross domestic product (GDP), and is intertwined in the global supply chain for crucial technologies, especially those relating to information and communications technology (ICT). As a result, it has the resources to support its ongoing comprehensive military modernization program, which has been underway for over two decades and spans the conventional, space, and cyber realms as well as WMD capabilities, including a multipronged nuclear modernization effort.

At the same time, however, the PRC has been acting more assertively, even aggressively, against more of its neighbors. Unresolved border and territorial claims have led Beijing to adopt an increasingly confrontational attitude with regard to the South China Sea and India, and cross-Straits tensions have reemerged as a result of Beijing's reaction to the Democratic Progressive Party's victory in Taiwan's 2016 elections.

## Growing Conventional Capabilities.

The Chinese People's Liberation Army (PLA) remains one of the world's largest militaries,

but its days of largely obsolescent equipment are in the past. Nearly two decades of officially acknowledged double-digit growth in the Chinese defense budget have resulted in a comprehensive modernization program that has benefited every part of the PLA. This has been complemented by improvements in Chinese military training and, at the end of 2015, the largest reorganization in the PLA's history.<sup>2</sup> The PLA's overall size has shrunk, including a 300,000-person cut in the past two years, but its overall capabilities have increased as older platforms have been replaced with newer systems that are much more sophisticated.

A major part of the 2015 reorganization was the establishment of a separate ground forces headquarters and bureaucracy; previously, the ground forces had been the default service providing staffs and commanders. Now the PLA Army (PLAA), responsible for the PLA's ground forces, is no longer automatically in charge of war zones or higher headquarters functions. At the same time, the PLAA has steadily modernized its capabilities, incorporating both new equipment and a new organization. It has shifted from a division-based structure toward a brigade-based structure and has been improving its mobility, including heliborne infantry and fire support.<sup>3</sup> These forces are increasingly equipped with modern armored fighting vehicles, air defenses, both tube and rocket artillery, and electronic support equipment.

The PLA Navy (PLAN) is Asia's largest navy. While the total number of ships has dropped, the PLAN has fielded increasingly sophisticated and capable multi-role ships. Multiple classes of surface combatants are now in series production, including the Type 055 cruiser and the Type 052C and Type 052D guided missile destroyers, each of which fields long-range SAM and anti-ship cruise missile systems, as well as the Type 054 frigate and Type 056 corvette.

The PLAN has similarly been modernizing its submarine force. Since 2000, the PLAN has consistently fielded between 50 and 60 diesel-electric submarines, but the age and capability of the force has been improving as older

boats, especially 1950s-vintage *Romeo*-class boats, are replaced with newer designs. These include a dozen *Kilo*-class submarines purchased from Russia and domestically designed and manufactured *Song* and *Yuan* classes. All of these are believed to be capable of firing both torpedoes and anti-ship cruise missiles.<sup>4</sup> 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.<sup>5</sup>

The PLAN has also been expanding its amphibious assault capabilities. The Chinese have announced a plan to triple the size of the PLA naval infantry force (their counterpart to the U.S. Marine Corps) from two brigades totaling 10,000 troops to seven brigades with 30,000 personnel.<sup>6</sup> To move this force, the Chinese have begun to build more amphibious assault ships, including the Type 071 amphibious transport docks.<sup>7</sup> Each can carry about 800 naval infantrymen and move them to shore by means of four air-cushion landing craft and four helicopters.

Supporting these expanded naval combat forces is a growing fleet of support and logistics vessels. The 2010 PRC defense white paper noted the accelerated construction of "large support vessels." It also specifically noted that the navy is exploring "new methods of logistics support for sustaining long-time maritime missions."<sup>8</sup> These include tankers and fast combat support ships that extend the range of Chinese surface groups and allow them to operate for more prolonged periods away from main ports. Chinese naval task forces dispatched to the Gulf of Aden have typically included such vessels.

The PLAN has also been expanding its naval aviation capabilities, the most publicized element of which has been the growing Chinese carrier fleet. This currently includes not only the *Liaoning*, purchased from Ukraine over a decade ago, but a domestically produced copy that is in workups. While both of these ships have ski jumps for their air wing, the Chinese are also building several conventional takeoff/barrier

landing (CATOBAR) carriers (like American or French aircraft carriers) that will employ catapults and therefore allow their air complement to carry more ordnance and/or fuel.<sup>9</sup>

The land-based element of the PLAN is modernizing as well, with a variety of long-range strike aircraft, anti-ship cruise missiles, and unmanned aerial vehicles (UAVs) entering the inventory. In addition to more modern versions of the H-6 twin-engine 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.

The PLA Air Force (PLAAF), with over 1,700 combat aircraft, is Asia's largest air force. It has shifted steadily from a force focused on homeland air defense to one capable of power projection, including long-range precision strikes against both land and maritime targets. The PLAAF currently has over 600 fourth-generation fighters (comparable to the U.S. F-15/F-16/F-18). They 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.<sup>10</sup> China is also believed to be preparing to field two stealthy fifth-generation fighter designs. The J-20 is the larger aircraft and resembles the American F-22 fighter. The J-31 appears to resemble the F-35 but with two engines rather than one. The production of advanced combat aircraft engines remains one of the greatest challenges to Chinese fighter design.

The PLAAF is also deploying increasing numbers of H-6 bombers, which can undertake longer-range strike operations, including operations employing land-attack cruise missiles. Although, like the American B-52 and Russian Tu-95, the H-6 is a 1950s-era design (copied from the Soviet-era Tu-16 Badger bomber), the latest versions (H-6K) are equipped with updated electronics and engines and are made of carbon composites.

Equally important, the PLAAF has been introducing a variety of support aircraft, including airborne early warning (AEW), command and control (C2), and electronic warfare (EW) aircraft. These systems field state-of-the-art radars and electronic surveillance systems, allowing Chinese air commanders to detect potential targets, including low-flying aircraft and cruise missiles, more quickly and gather additional intelligence on adversary radars and electronic emissions. More and more of China's combat aircraft are also capable of undertaking mid-air refueling, allowing them to conduct extended, sustained operations, and the Chinese aerial tanker fleet (based on the H-6 aircraft) has been also expanding.

At the biennial Zhuhai Air Show, Chinese companies have displayed a variety of unmanned aerial vehicles that reflect substantial investments and research and development efforts. The surveillance and armed UAV systems include the Xianglong (Soaring Dragon) and Sky Saber systems. The 2014 DOD report on Chinese capabilities also reported that China had tested a stealthy flying-wing UAV, the Lijian.<sup>11</sup> Chinese UAVs have been included in various military parades over the past several years, suggesting that they are being incorporated into Chinese forces, and the 2018 DOD report on Chinese capabilities states that "China's development, production and deployment of domestically-developed reconnaissance and combat UAVs continues to expand."<sup>12</sup>

The PLAAF is also responsible for the Chinese homeland's strategic air defenses. Its array of surface-to-air (SAM) missile batteries is one of the largest in the world and includes the S-300 (SA-10B/SA-20) and its Chinese counterpart, the Hongqi-9 long-range SAM. In 2018, the Russians began to deliver the S-400 series of long-range SAMs to China. These will mark a substantial improvement in PLAAF air defense capabilities, as the S-400 has both anti-aircraft and anti-missile capabilities.<sup>13</sup> 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.

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

**Nuclear Capability.** Chinese nuclear forces are the responsibility of the PLA Rocket Forces (PLARF), one of the three new services created on December 31, 2015. China's nuclear ballistic missile forces include land-based missiles with a range of 13,000 kilometers that can reach the U.S. (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.<sup>14</sup> Its only ballistic missile submarine (SSBN) conducted relatively few deterrence patrols (perhaps none),<sup>15</sup> 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, road-mobile DF-41 missiles that may already be in the PLA operational inventory. The DF-41 may be deployed with multiple independently targetable reentry vehicles (MIRVs).<sup>16</sup> 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. They will likely be equipped with the new, longer-range JL-2 SLBM.<sup>17</sup> Such a system would give the PRC 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 at this time that China has pursued such a capability. China is also believed to be working on a cruise missile submarine that, if equipped with nuclear cruise missiles, would further expand the range of its nuclear attack options.<sup>18</sup>

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, 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.



In addition to strategic nuclear forces, the PLARF has responsibility for medium-range and intermediate-range ballistic missile (MRBM and IRBM) forces. These include the DF-21 and DF-26 missiles, which can reach as far as Guam and southern India.<sup>19</sup> It is believed that Chinese missile brigades equipped with these systems may have both nuclear and conventional responsibilities, making any deployment from garrison much more ambiguous from a stability perspective. The expansion of these forces also raises questions about the total number of Chinese nuclear warheads.

**Cyber and Space Capabilities.** The major 2015 reorganization of the PLA included the creation of the PLA Strategic Support Force (PLASSF), which brings the Chinese military's electronic warfare, network warfare (including cyber), and space warfare forces under a single service umbrella. Previously, these capabilities had been embedded in different departments across the PLA's General Staff Department and General Armaments Department. By consolidating them into a single service, the PLA has created a Chinese "information warfare" force that is responsible for offensive and defensive operations in the electromagnetic and space domains.

Chinese network warfare forces have been identified as conducting a variety of cyber and network reconnaissance operations as well as cyber economic espionage. In 2014, the U.S. Department of Justice charged PLA officers from Unit 61398, then of the General Staff Department's 3rd Department, with theft of intellectual property (IP) and implanting of malware in various commercial firms.<sup>20</sup> Members of that unit are thought also to be part of "Advanced Persistent Threat-1," a group of computer hackers believed to be operating on behalf of a nation-state rather than a criminal group.

Chinese space capabilities gained public prominence in 2007 when the PLA conducted an anti-satellite (ASAT) test in low-Earth orbit against a defunct Chinese weather satellite. The test became one of the worst debris-generating incidents of the Space Age, with several

thousand pieces of debris generated, many of which will remain in orbit for over a century. However, the PRC has been conducting space operations since 1970 when it first orbited a satellite. Equally important, Chinese counter-space efforts have been expanding steadily. The PLA has not only tested ASATs against low-Earth orbit systems, but is also believed to have tested a system designed to attack targets at geosynchronous orbit (GEO), approximately 22,000 miles above the Earth. As many vital satellites are at GEO, including communications and missile early-warning systems, China's ability to target such systems constitutes a major threat.

The creation of the PLASSF, incorporating counter-space forces, reflects the movement of counter-space systems, including direct-ascent ASATs, out of the testing phase to fielding them with units. A recent report from the U.S. National Air and Space Intelligence Center (NASIC) notes that Chinese units are now training with anti-satellite missiles.<sup>21</sup>

### **Threat of Regional War**

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

**Taiwan.** China's long-standing threat to end the de facto independence of Taiwan and ultimately to bring it under the authority of Beijing—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. Beijing has suspended most direct government-to-government discussions with Taipei and is using a variety of aid and investment efforts to draw away Taiwan's remaining diplomatic partners.

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

In March 2019, two Chinese J-11 fighters (a domestic version of the Su-27) crossed the median or center line of the Taiwan Strait, which has been informally considered a boundary for the two sides. This marked the first PLAAF incursion in over a decade and followed a series of PLAN circumnavigations of the island that were intended to demonstrate the PLA's ability to isolate Taiwan. These actions have raised tensions between Taipei and Beijing.<sup>22</sup>

Regardless of the state of the relationship at any given time, Chinese leaders from Deng Xiaoping and Mao Zedong to Xi Jinping have consistently emphasized the importance of ultimately reclaiming Taiwan. The island—along with Tibet—is the clearest example of a geographical “core interest” in Chinese policy. China has never renounced the use of force, and it continues to employ political warfare against Taiwan's political and military leadership.

For the Chinese leadership, the failure to effect unification, whether peacefully or through the use of force, would reflect fundamental political weakness in the PRC. For this reason, China's leaders cannot back away from the stance of having to unify the island with the mainland, and the island remains an essential part of the People's Liberation Army's “new historic missions,” shaping PLA acquisitions and military planning.

It is widely posited that China's anti-access/area-denial (A2/AD) strategy—the deployment of an array of overlapping capabilities, including anti-ship ballistic missiles (ASBMs), submarines, and long-range cruise missiles, satellites, and cyber weapons—is aimed largely at forestalling American intervention in support of friends and allies in the Western Pacific, including Taiwan. By holding at risk key American platforms and systems (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.

**Escalation of Maritime and Territorial Disputes.** 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 international common spaces, 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.

Moreover, because its economic center of gravity is now in the coastal region, China has had to emphasize maritime power to defend key assets and areas. This is exacerbated by China's status as the world's foremost trading state. China increasingly depends on the seas for its economic well-being. Its factories are powered increasingly by imported oil, and its diets contain a growing percentage of imported food. Chinese products rely on the seas to be moved to markets. Consequently, China not only has steadily expanded its maritime power, including its merchant marine and maritime law enforcement capabilities, but also has acted to secure the “near seas” (*jin hai*; 近海) as a Chinese preserve.

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 resorting to the lethal use of force. It uses military and economic threats, bombastic language, and enforcement through legal warfare (including the employment of Chinese maritime law enforcement vessels) as well as

military bullying. Chinese paramilitary-implemented, military-backed encroachment in support of expansive extralegal claims could lead to an unplanned armed clash.

Especially risky are the growing tensions between China and Japan and among a number of claimants in the South China Sea. In the former case, the most proximate cause is the dispute over the Senkakus. China has intensified its efforts to assert claims of sovereignty over the Senkaku Islands of Japan in the East China Sea. Beijing asserts both exclusive economic rights within the disputed waters and recognition of “historic” rights to dominate and control those areas as part of its territory.<sup>23</sup> Chinese fishing boats (often believed to be elements of the Chinese maritime militia) and Chinese Coast Guard (CCG) vessels have been encroaching steadily on the territorial waters within 12 nautical miles of the uninhabited islands. In the summer of 2016, China began to deploy naval units into the area.<sup>24</sup>

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 “adopt defense emergency measures to respond to aircraft that do not cooperate in identification or refuse to follow the instructions.”<sup>25</sup> 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.<sup>26</sup> In May, the Chinese intercepted an American WC-135, also over the East China Sea.<sup>27</sup>

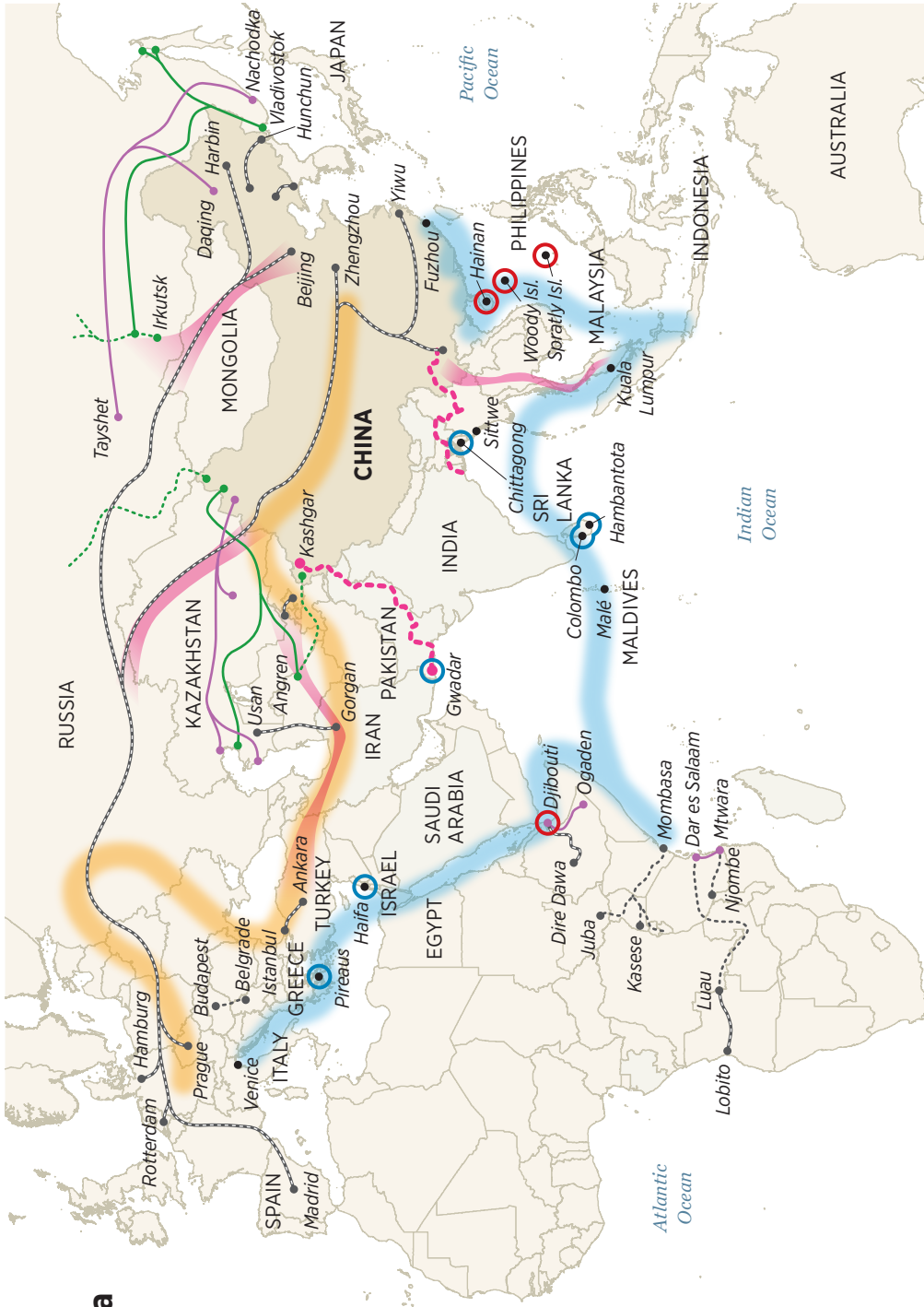
In the South China Sea, the most salient issue is the Spratlys, where overlapping Chinese, Philippine, Malaysian, Vietnamese, and Taiwanese claims raise the prospect of confrontation. This volatile situation has led to a variety of confrontations between China and other claimants.

China–Vietnam tensions in the region, for example, 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.

Because of the relationship between the Philippines and the United States, tensions between Beijing and Manila are the most likely to lead to American participation. There have been a number of incidents. In 2012, for example, 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 intended to consolidate their gains in the area by reclaiming the sea around the shoal, but there is 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

# China Looks to Reshape Eurasia With Belt and Road Initiative

- Silk road economic belt
- New maritime silk road
- Proposed economic corridors
- Gas pipelines
- Oil pipelines
- Railroad
- Planned or under construction
- Ports with Chinese military presence
- Ports constructed with Chinese involvement



**SOURCES:** Reuters, "Reviving the Silk Road," May 10, 2017, map, <https://pictures.reuters.com/archive/CHINA-SILKROAD--C-ETIED5A1MD43P.html> (accessed July 3, 2018), and Heritage Foundation research.



fishermen access to Scarborough Shoal in accordance with it.

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

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

In case of armed conflict between China and the Philippines or between China and Japan, either by intention or as a result of an accidental incident at sea, the U.S. could be required to exercise its treaty commitments.<sup>28</sup> Escalation of a direct U.S.–China incident is also not unthinkable. Keeping an inadvertent incident from escalating into a broader military confrontation would be difficult. This is particularly true in the East and South China Seas, where naval as well as civilian law enforcement vessels from both China and the U.S. operate in what the U.S. considers to be international waters.

The most significant development in the South China Sea during the past three years has been Chinese reclamation and militarization of seven artificial islands or outposts. In 2015, President Xi promised President Barack Obama that China had no intention of militarizing the islands. In fact, however, as described by Admiral Harry Harris, Commander,

U.S. Pacific Command, in his April 2017 posture statement to the Senate Committee on Armed Services:

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-range surface-to-air missiles is the latest indication China intends to deploy military systems to the Spratlys.<sup>29</sup>

There is the possibility that China will ultimately declare an ADIZ above the South China Sea in an effort to assert its authority over the entire area. There are also concerns that in the event of a downturn in its relationship with the Philippines, China will take action against vulnerable targets like Philippines-occupied Second Thomas Shoal or Reed Bank, which the PCA 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.

**Border Conflict with India.** The possibility of armed conflict between India and China, while currently remote, poses an indirect threat to U.S. interests because it could disrupt the territorial status quo and raise nuclear tensions in the region. A border conflict between

India and China could also prompt Pakistan to 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 again become a flashpoint 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 Dapsang Plains in Ladakh. A visit to India by Chinese President Xi Jinping in September 2014 was overshadowed by another flare-up in border tensions when hundreds of Chinese PLA forces reportedly set up camps in the mountainous regions of Ladakh, prompting Indian forces to deploy to forward positions in the region. This border standoff lasted three weeks and was defused when both sides agreed to pull their troops back to previous positions.

In 2017, Chinese military engineers were building a road to the Doklam plateau, an area claimed by both Bhutan and China, and this led to a confrontation between Chinese and Indian forces, the latter requested by Bhutanese authorities to provide assistance. The crisis lasted 73 days; both sides pledged to pull back, and Chinese construction efforts in the area have continued.<sup>30</sup> Improved Chinese infrastructure not only would give Beijing the diplomatic advantage over Bhutan, but also could make the Siliguri corridor that links the eastern Indian states with the rest of the country more vulnerable.

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 its southwestern border areas. To meet these challenges, the Indian

government has also committed to expanding infrastructure development along the disputed border, although China currently holds a decisive military edge.

## Threats to the Commons

The U.S. has critical sea, air, space, and cyber interests at stake in the East Asia and South Asia international common spaces. These interests include an economic interest in the free flow of commerce and the military use of the commons to safeguard America's own security and contribute to the security of its allies and partners.

Washington has long provided the security backbone in these areas, and this in turn has supported the region's remarkable economic development. However, China is taking increasingly assertive steps to secure its own interests in these areas independent of U.S. efforts to maintain freedom of the commons for all in the region. Given this behavior, which includes the construction of islands atop previously submerged features, 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 international common spaces.

In addition, as China expands its naval capabilities, it will be present farther and farther away from its home shores. China has now established its first formal overseas military base, having initialed an agreement with the government of Djibouti in January 2017. Chinese officials appear also to be in discussions with Pakistan about allowing military access to the port of Gwadar.

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

establishing dominance of the air and maritime domains in any future conflict.

Although the Chinese do not necessarily have sufficient capacity to deny the U.S. the ability to operate in local waters and airspace, they equal or overmatch all of their neighbors. China is not yet in a position to enforce an ADIZ consistently in either area, but the steady two-decade improvement of the PLAAF and PLAN naval aviation will eventually provide the necessary capabilities. Chinese observations of recent conflicts, including wars in the Persian Gulf, the Balkans, and Afghanistan, have emphasized the growing role of airpower and missiles in conducting “non-contact, non-linear, non-symmetrical” warfare.<sup>31</sup> This growing parity, if not superiority, constitutes a radical shift from the Cold War era, when the U.S., with its allies, clearly would have dominated air and naval operations in the Pacific.

To underscore its growing capabilities, 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, for example, was preceded by the unveiling of the J-15 naval fighter. Moreover, these aircraft have often been used very aggressively. In April 2018, for example, China conducted “live fire exercises” in the East China Sea with its *Liaoning* aircraft carrier and J-15 fighters. According to China’s Xinhua news agency, “the drill...included multiple take-offs from the deck of the Liaoning by J15 fighter jets and...‘anti-air missiles were fired from ships surrounding the carrier’.”<sup>32</sup>

**Increasing Chinese Military Space Activities.** 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 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. No other country is capable of leveraging space as the U.S. does, 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.<sup>33</sup> It has three satellite launch centers and is constructing a fourth. 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, “[i]t may be said that America’s victory in the Kosovo War could not [have been] achieved without fully exploiting space.”<sup>34</sup>

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 they also include more advanced systems that are believed to be capable of reaching targets in mid-Earth orbit and even geosynchronous orbit.<sup>35</sup> The latter include anti-satellite lasers for either dazzling or blinding purposes.<sup>36</sup> 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.”<sup>37</sup>

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 always being in “switched on” mode.<sup>38</sup> Before it was finally brought under control, it had drifted through a portion of the geosynchronous belt, forcing other satellite owners to move their assets and juggle frequencies. A deliberate such attempt by China (or any other country) could prove far harder to handle, especially if conducted in conjunction with attacks by kinetic systems or directed-energy weapons.

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

**Cyber Activities and the Electromagnetic Domain.** In 2013, the Verizon Risk Center found that China was responsible for the largest percentage (30 percent) of external breaches in which “the threat actor’s country of origin was discoverable” and that “96% of espionage cases were attributed to threat actors in China and the remaining 4% were unknown.”<sup>39</sup> In addition, efforts by “[s]tate-affiliated actors tied to China...to steal IP comprise[d] about one-fifth of all breaches in [Verizon’s] dataset.”<sup>40</sup> Given the difficulties of attribution, country of origin should not necessarily be conflated with the perpetrator, but forensic efforts have

associated at least one Chinese military unit with cyber intrusions.<sup>41</sup>

Since the 2015 Xi–Obama summit where the two sides reached an understanding to reduce cyber economic espionage, Chinese cyber actions have shifted. Although the overall level of activity appears to be unabated, the Chinese seem to have moved toward more focused attacks mounted from new sites.

China’s cyber-espionage efforts are often aimed at economic targets, reflecting 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 IP as well as military electronic information.

This is not to suggest that the PLA has not emphasized the military importance of cyber warfare. Chinese military writings since the 1990s have emphasized a fundamental transformation in global military affairs (*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 will be both widely applied and a key basis of victory. The ability to gather, transmit, analyze, manage, and exploit information will be central to winning such wars: The side that is able to do these things more accurately and more quickly will be the side that



wins. This means that future conflicts will no longer be determined by platform-versus-platform performance and not even by system against system (*xitong*). Rather, conflicts are now clashes between rival arrays of systems of systems (*tixi*).<sup>42</sup>

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

It is essential to recognize, however, that the PLA views computer network operations as part of information operations (*xinxi zuozhan*), or information combat. 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.<sup>43</sup> China sees cyber as part of an integrated capability for achieving strategic dominance in the Western Pacific region.

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. These 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.<sup>44</sup>

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.<sup>45</sup> 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.”

Conclusion

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 (including potential attacks on overseas U.S. bases as well as against allies and friends); and international common spaces. China’s provocative behavior is well documented: It is challenging the U.S. and its allies such as Japan at sea, in the air, and in cyberspace; it has raised concerns on its border with India; and it is a standing

threat to Taiwan. Despite a lack of official transparency, publicly available sources shed considerable light on China’s rapidly growing military capabilities.

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

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

Threats: China

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

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