ANNUAL REPORT TO CONGRESS

Military and Security Developments Involving the People's Republic of China 2017

Office of the Secretary of Defense

Preparation of this report cost the Department of Defense a total of approximately $97,000 in Fiscal Years 2016-2017. This includes $3,000 in expenses and $94,000 in DoD labor.

Generated on 2017 May 15 RefID: C-B066B88



Annual Report to Congress:

Military and Security Developments Involving the People's Republic of China 2017

A Report to Congress Pursuant to the National Defense Authorization Act for Fiscal Year 2000

Section 1246, "Annual Report on Military and Security Developments Involving the People's Republic of China," of the National Defense Authorization Act for Fiscal Year 2010, Public Law 111-84, which amends the National Defense Authorization Act for Fiscal Year 2000, Section 1202, Public Law 106-65, provides that the Secretary of Defense shall submit a report "in both classified and unclassified form, on military and security developments involving the People's Republic of China. The report shall address the current and probable future course of military-technological development of the People's Liberation Army and the tenets and probable development of Chinese security strategy and military strategy, and of the military organizations and operational concepts supporting such development over the next 20 years. The report shall also address United States-China engagement and cooperation on security matters during the period covered by the report, including through United States-China military-to-military contacts, and the United States strategy for such engagement and cooperation in the future."

Executive Summary



In 2016, the armed forces of the Chinese Communist Party (CCP) began implementing the sweeping organizational reforms that President Xi Jinping and other Chinese leaders unveiled in 2015. This reorganization is the latest phase in China's long-term military modernization program, which China's leaders have characterized as essential to achieving great power status and what President Xi calls the "China Dream" of national rejuvenation. The leadership portrays a strong military as critical to advancing China's interests, preventing other countries from taking steps that would damage those interests, and ensuring that China can defend itself and its sovereignty claims.

The military reforms seek to enhance the People's Liberation Army's (PLA) ability to conduct joint operations; improve its ability to fight short-duration, high-intensity regional conflicts at greater distances from the Chinese mainland; and strengthen the CCP's control over the military. The changes instituted last year included establishing new command elements and units including the Joint Staff Department, the Joint Operations Command Center, the Overseas Operations Office, and the Joint Logistics Support Force. The PLA also established five regionally-based joint theaters, replacing the decades-old ground force-dominated seven military regions (MR).

China has leveraged its growing power to assert its sovereignty claims over features in the East and South China Seas. China has used coercive tactics, such as the use of law enforcement vessels and its maritime militia, to enforce maritime claims and advance its interests in ways that are calculated to fall below the threshold of provoking conflict. In the East China Sea, China continued to use maritime law enforcement ships and aircraft to patrol near the Senkaku Islands to challenge Japan's claim.

In the South China Sea, China continued construction at its military outposts in the Spratly Islands. Important milestones in 2016 included landing civilian aircraft on its airfields on Fiery Cross, Subi, and Mischief Reefs, as well as landing a military transport aircraft on Fiery Cross Reef. In July 2016, an arbitral tribunal constituted under the compulsory dispute settlement procedures in the United Nations Convention on the Law of the Sea (LOSC), issued a ruling in favor of the Philippines with respect to issues involving the interpretation and application of the LOSC. Among other things, the tribunal ruled that China's "nine-dash line" cannot represent a lawful maritime claim to the extent that any of the claims it reflects would exceed the limits of China's maritime entitlements under the Convention. The tribunal did not rule on sovereignty claims to land features, an issue that is outside the scope of the Convention. China rejected the ruling.

Relations between China and Taiwan cooled in 2016, after Tsai Ing-wen won the Taiwan presidential election in January, bringing the Democratic Progressive Party (DPP) back to power for the first time since 2008. China has stressed that Taiwan must accept the so-called "1992 Consensus," which holds that China and Taiwan are part of "one China" but allows for different interpretations, for there to be peace and stability in the Taiwan Strait.

China's leaders remain focused on developing the capabilities to deter or defeat adversary power projection and counter third-party intervention—including by the United States—during a crisis or conflict. China's officially-disclosed military budget grew at an average of 8.5 percent per year in inflation-adjusted terms from 2007 through 2016, and Chinese leaders seem committed to increases in defense spending for the foreseeable future, even as China's economic growth slows.

China's military modernization is targeting capabilities with the potential to degrade core U.S. military-technological advantages. To support this modernization, China uses a variety of methods to acquire foreign military and dual-use technologies, including cyber theft, targeted foreign direct investment, and exploitation of the access of private Chinese nationals to such technologies. Several cases emerged in 2016 of China using its intelligence services, and employing other illicit approaches that violate U.S. laws and export controls, to obtain national security and export-restricted technologies, controlled equipment, and other materials.

As China's global footprint and international interests have grown, its military modernization program has become more focused on supporting missions beyond China's periphery, including power projection, sea lane security, counterpiracy, peacekeeping, and humanitarian assistance/disaster relief (HA/DR). In February 2016, China began construction of a military base in Djibouti that could be complete within the next year. China likely will seek to establish additional military bases in countries with which it has longstanding, friendly relationships.

U.S. defense contacts and exchanges support overall U.S. policy and strategy toward China. They are carefully tailored to clarify and develop areas of cooperation where it is in our mutual interest and to manage and reduce risk, including by encouraging China to be more transparent about its military and security affairs. They are conducted in accordance with the statutory limitations of the National Defense Authorization Act Fiscal Year 2000.

The United States will continue to monitor China's military modernization, and it will continue to adapt its forces, posture, investments, and operational concepts to ensure the United States retains the ability to defend the homeland, deter aggression, protect our allies and partners, and preserve regional peace, prosperity, and freedom.

Executive Summary i

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ANNUAL UPDATE

This chapter summarizes significant developments in China's military and security activities over the past year with an emphasis on developments highlighted in section 1246 of the National Defense Authorization Act (NDAA) for Fiscal Year 2010 (P.L. 111-84).

DEVELOPMENTS IN MILITARY STRUCTURE, DOCTRINE, AND TRAINING

In 2016, China's leaders advanced an ambitious agenda of military modernization and organizational reforms. The PLA seeks to transform itself into a force capable of conducting advanced joint operations, and fighting and winning "informatized local wars"—regional conflicts defined by real-time, data-networked command.

Structural Reform. The widening gap between the demands of the PLA's focus on preparing to win informatized local wars and its legacy command, organizational, and administrative structure has fueled proposals for reform since the 1990s. The Chinese Communist Party (CCP) Central Committee endorsed the need for reform at the Third Plenum of the 18th Party Congress in November 2013, and the Central Military Commission (CMC) established the Leading Group for Deepening Defense and Military Reforms in the months that followed. President Xi Jinping chairs the group, and CMC Vice Chairmen Fan Changlong and Xu Qiliang serve as its deputies.

In late 2015, President Xi introduced a series of reforms that seek to improve leadership, administration, and command of joint operations across the PLA by 2020. In 2016, these reforms included:

- *Establishing Theater Commands.* In February 2016, President Xi conferred military flags on the PLA's five newly established theater commands: the Eastern, Southern, Western, Northern, and Central Theaters. The theaters are responsible for warfighting and improving routine readiness through joint operations, training, and strategy and plans development. These changes required the reassignment of some units.

- *Reorganizing the CMC.* In January 2016, the PLA reorganized its four former general departments into 15 functional departments, offices, and commissions that report directly to the CMC. The changes streamlined command and control (C2) through the new Joint Staff Department (JSD), which replaced the General Staff Department, and elevated some functions, such as anticorruption work, which the CMC Discipline Inspection Commission now manages.

- *Developing the Strategic Support Force.* Throughout 2016, China continued to develop the Strategic Support Force (SSF), an organization it established late in 2015 to unify space, cyber, and electronic warfare (EW) capabilities.

- *Establishing the Joint Operations Command Center.* In April 2016, President Xi conducted a widely publicized visit to the PLA's newly established Joint Operations Command Center, which official media portrays as exercising "strategic command" over operations for the CMC. Concurrently, Xi assumed the title of the center's "commander-in-chief," a largely symbolic gesture reflecting the unique authority of the CMC Chairman.

- *Establishing the Overseas Operations Office.* In March 2016, the director of the PLA's newly established Overseas Operations Office (OOO) under the CMC's JSD participated in a two-day noncombatant evacuation operations tabletop exercise with the United Kingdom, marking the organization's first publicly reported bilateral engagement. The OOO is responsible for directing policy and coordinating non-war actions carried out by Chinese troops and paramilitary forces abroad, according to official Chinese media, and likely enables centralized C2 of overseas forces.

- *Establishing the Joint Logistics Support Force.* In September 2016, China's Ministry of National Defense (MND) announced the establishment of a Joint Logistics Support Force designed to improve resource allocation and centralize support to PLA forces. The organization reports directly to the CMC and consists of the Wuhan Joint Logistic Support Base and joint logistic support centers located within each of the five newly established theaters.

- *Demobilizing personnel.* In 2016, the PLA began to implement troop cuts to reduce its force by 300,000 personnel by the end of 2017. The cuts are expected to focus on non-combat personnel, such as those in arts and culture, administrative duties, or academic work. China's official media also report the cuts will help to rebalance the proportion of forces among the services and raise the relative importance the PLA Navy (PLAN) and PLA Air Force (PLAAF). Following demobilization announcements in October, more than a thousand PLA veterans conducted a protest in front of the MND Headquarters in Beijing, reportedly over insufficient retirement benefits tied to previous troop cuts. Although the majority of these protesters were not demobilized during the current round of cuts, the unexpected event underscores the broader sensitivities surrounding support to military veterans.

The PLA continues to attempt to build an expeditionary capability through the development of army aviation units, special operations forces, and air-land mobility. These changes will require significant revisions to PLA doctrine in the coming years to meet the PLA's modernization goals for 2020.

Military Doctrine. In 2015, the PLA National Defense University published the latest version of "Science of Strategy," an overview of the

PLA's concept of military strategy. The new version not only shares broad similarities with other recent authoritative publications, but it also highlights the PLA's growing emphasis on the importance of the maritime domain, the PLAAF's shift towards more offensive operations, long-distance mobility operations of the PLA Army (PLAA), space and cyber operations, and the need for China's military to be capable of securing growing overseas national interests.

Military Exercises and Training. In 2016, the PLA continued to focus training to execute large-scale, complex joint operations. This included greater realism during exercises, strengthened strategic campaign training, and the execution of long-distance maneuvers and mobility operations. Last year, the PLA also certified the Zhurihe Opposing Force, a special unit used to simulate live opposition in major training events.

Major exercises included new iterations in the STRIDE and FIREPOWER series.

- STRIDE 2016 matched the scope of last year's exercises, but not its scale. The PLA held five named STRIDE iterations rather than the 15 it held in 2015—a change realigning the event to the five newly defined regional theaters. Training focused on operational command, the integration of PLAAF and PLAA aviation units in coordinated air-to-ground strikes, and increased nighttime combat training.
- FIREPOWER 2016 repeated last year's focus on air defense and artillery. In five iterations—each theater participated once—one air defense brigade and one artillery brigade trained against simulated opposition forces. In the artillery exercises, the opposition was composed of active-duty military cadres and Nanjing Artillery Academy faculty members and cadets.

The PLA also conducted significant training events not tied to serialized annual exercises, including the following notable operations at sea:

- In May 2016, a large PLAN task force conducted an extensive deployment through the South China Sea, eastern Indian Ocean, and Western Pacific Ocean. The force conducted island assault training in the Spratly Islands and maritime interdiction training in the Indian Ocean before linking up to conduct an opposition-force exercise in the Philippine Sea. The deployment demonstrated the PLAN's growing capability to coordinate operations involving disparate subordinate elements over a wide area.
- In August, the PLAN conducted an opposition-force exercise in the Sea of Japan between a distant-seas task group and another task group returning from the U.S.-led Rim of the Pacific (RIMPAC) exercise. PLAN Aviation bombers flew through the Sea of Japan for the first time as part of this training.

> In September, PLAAF bombers, fighters, and early warning aircraft flew through the Bashi Channel into the Philippine Sea, marking China's first fighter deployment to the area. Less than two weeks later, the PLAAF deployed more than 40 aircraft to the East China Sea and through the Miyako Strait into the Philippine Sea in its most complex long-distance strike training to date.

Anticorruption Campaign. The CCP continued its vigorous efforts to root out corruption in the armed forces in 2016. In December 2016, China announced an anti-graft investigation into General Wang Jianping, a JSD deputy and former commander of the People's Armed Police (PAP). Wang is the most-senior serving officer implicated in the CCP's anticorruption campaign. In October 2016, the CCP expelled a former PAP deputy commander and a former military region deputy political commissar, adding to the more than 40 officers announced since last year.

Also in October, the CMC held a special meeting to counter the influence of disgraced former Politburo members and CMC Vice Chairmen Guo Boxiong and Xu Caihou. Guo, who served as the PLA's top general before he retired in 2012, was sentenced to life in prison in July 2016 for accepting bribes and abusing his authority over promotions. Xu died in 2015 while awaiting prosecution for corruption.

Anticorruption investigations in the PLA are a component of a Party-wide effort that President Xi initiated shortly after taking office to safeguard the legitimacy of the CCP, root out corruption and personal fiefdoms, improve governance, and strengthen central control. Military discipline inspectors have targeted individual power networks and sectors historically prone to corruption, and the PLA is also revising its regulations to more effectively prevent abuse.

CHINA'S EVOLVING OVERSEAS ACCESS

China is expanding its access to foreign ports to pre-position the necessary logistics support to regularize and sustain deployments in the "far seas," waters as distant as the Indian Ocean, Mediterranean Sea, and Atlantic Ocean. In February 2016, China began construction of a military base in Djibouti and probably will complete it within the next year. China claims this facility is designed "to help the navy and army further participate in United Nations peacekeeping operations (PKO), carry out escort missions in the waters near Somalia and the Gulf of Aden, and provide humanitarian assistance." This initiative, along with regular naval vessel visits to foreign ports, both reflects and amplifies China's growing influence, extending the reach of its armed forces.

- China's expanding international economic interests are increasing demands for the PLAN to operate in more distant maritime environments to protect Chinese citizens, investments, and critical sea lines of communication (SLOC).
- China most likely will seek to establish additional military bases in countries with which it has a longstanding friendly relationship and similar strategic interests, such as Pakistan, and in which there is a precedent for hosting foreign militaries. China's overseas military basing may be constrained by the willingness of countries to support a PLA presence in one of their ports.

China's leaders may judge that a mixture of military logistics models, including preferred access to overseas commercial ports and a limited number of exclusive PLAN logistic facilities—probably collocated with commercial ports—most closely aligns with China's future overseas military logistics needs.

A greater overseas naval logistics and basing footprint would better position the PLA to expand its participation in non-combatant evacuation operations, search-and-rescue, humanitarian assistance/disaster relief (HA/DR), and SLOC security. A more robust overseas logistics and basing infrastructure would also be essential to enable China to project and sustain military power at greater distances from China.

DEVELOPMENTS IN THE SECURITY SITUATION IN THE TAIWAN STRAIT

Relations between China and Taiwan cooled in 2016. In January, Taiwan voters elected Tsai Ing-wen, of the Democratic Progressive Party (DPP), as their president and gave the DPP its first-ever majority in the legislature. China has stressed that Taiwan must accept the so-called "1992 Consensus" for there to be peace and stability in the Taiwan Strait. Tsai, for her part, has pledged to maintain the status quo in cross-Strait relations and called for talks with China without preconditions. At the same time, she has not endorsed the "1992 Consensus," and has said that she wants to decrease Taiwan's economic reliance on China.

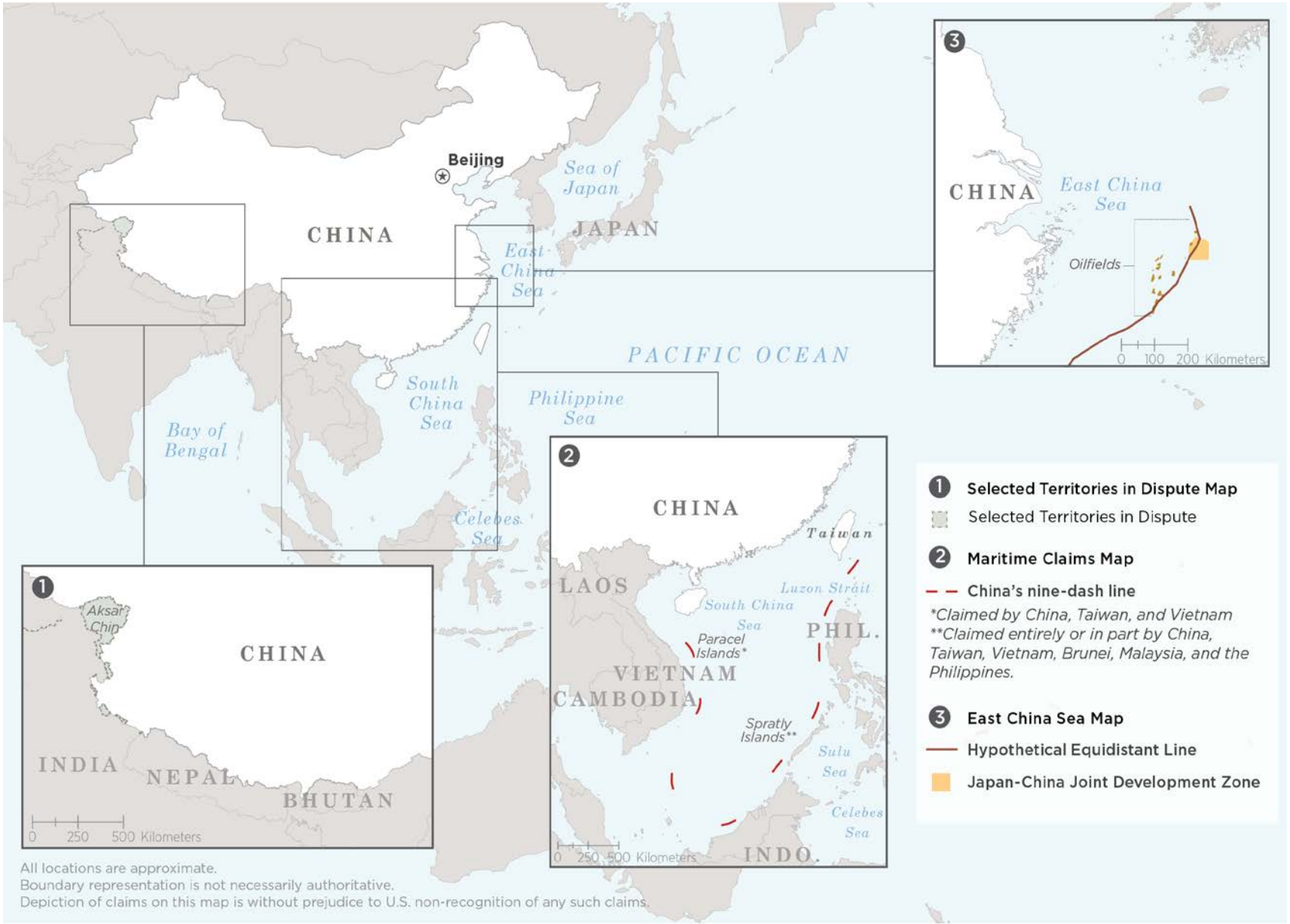
In May 2016, China suspended consultations between its Taiwan Affairs Office and Taiwan's Mainland Affairs Council that had begun in 2014. By the end of the year, the number of Chinese tourists visiting Taiwan had also decreased by almost 20 percent from 2015, according to local press outlets.

In 2016, China also thwarted some of Taiwan's efforts to participate in international organizations; for example, Taiwan was denied an invitation to attend the International Civil Aviation Organization's meeting in September. Further, Taiwan lost one of its diplomatic partners when Sao Tome and Principe switched recognition to China in December 2016, an event that left Taiwan with 21 partners at the close of the year.

Despite the stalled government-to-government consultations, the CCP continues to engage with the opposition Kuomintang (KMT) party, and China continues to hold lower-level cross-Strait exchanges such as the municipal Shanghai-Taipei Twin City Forum.

The PLA continues to prepare for contingencies in the Taiwan Strait to deter and, if necessary, compel Taiwan to abandon moves toward independence, or to unify Taiwan with the mainland by force, while simultaneously deterring, delaying, or denying any third-party intervention on Taiwan's behalf.

China's Territorial Claims



DEVELOPMENTS IN CHINA'S TERRITORIAL AND MARITIME DISPUTES

China has resolved several land border and maritime boundary disputes in the past; however, several persist—including the ongoing territorial and maritime disputes in the East China Sea, South China Sea, and along the China-India border. Some of these disputes involve U.S. allies with whom there exist long-standing cooperation and security treaty commitments or strategic partners with whom there is a rapidly growing security relationship. China's actions in the South China Sea in 2016, particularly its construction of airfields and other infrastructure on features in the Spratly Islands, enhanced China's ability to control disputed areas in the South China Sea and caused regional concern over China's long-term intentions.

South China Sea. China has depicted its territorial claims in the South China Sea with a nine-dash line that encompasses most of the waters in the South China Sea. China remains ambiguous about the precise coordinates, meaning, or legal basis of the nine-dash line. Brunei, Malaysia, the Philippines, Taiwan, and Vietnam all contest aspects of China's territorial and maritime claims in the South China Sea. Indonesia does not view itself as a South China Sea claimant, although its exclusive economic zone (EEZ) overlaps with China's nine-dash line.

In July 2016, an arbitral tribunal issued a landmark ruling in favor of the Philippines with respect to issues involving the interpretation and application of the LOSC. The Philippines requested the arbitration in 2013 to seek legal clarification on the status of China's nine-dash line, the entitlements of various land features in the area, and allegations of Chinese violations of Philippine sovereign rights and jurisdictions. China refused formal participation in the arbitration process and instead issued public statements and published articles to convey its position. Since the arbitration ruling, China has downplayed its rhetoric on the nine-dash line in official media.

The arbitral tribunal issued several significant rulings, including:

- China has no basis on which to claim historic rights within the nine-dash line to the extent that any such claim exceeds the maritime entitlements China could claim under the LOSC;
- China violated the Philippines' sovereign rights within the latter's EEZ and interfered in the traditional fishing rights of Philippine fishermen;
- Several of the seven Chinese-occupied features in the Spratly Islands (including Cuarteron Reef, Fiery Cross Reef, Gaven Reef, and Johnson Reef) are above high tide in their natural state and therefore generate 12 nautical mile (nm) territorial seas;

- The remaining Chinese-occupied features (Mischief Reef, Subi Reef, and Hughes Reef) are below high tide and thus do not generate their own maritime entitlements, though all of them except Mischief Reef can still fall within the territorial sea generated by other nearby islands;
- Scarborough Reef, situated about 150 nm west of Subic Bay in the Philippines, is above high tide and therefore entitled to a 12 nm territorial sea;
- Unlike most islands, neither Scarborough Reef nor any of the features in the Spratly Islands generate a 200 nm EEZ or continental shelf; and
- Second Thomas Shoal and Reed Bank are below high tide, do not generate maritime entitlements, and are part of the Philippine continental shelf.

The tribunal did not rule on sovereignty claims to land features.

As provided in the LOSC, the ruling is binding on China and the Philippines, although not on any other countries. China rejected the ruling and, immediately after it, issued a Government Statement, a Foreign Ministry Statement, and a White Paper to state its position on maritime disputes with the Philippines. In these documents, China deemphasized the nine-dash line but, for the first time, expressly and unambiguously claimed "historic rights in the South China Sea." It remains ambiguous what such rights would entail (e.g., where, for what activities, and whether these rights, whatever they might be, are exclusive). China also claimed "internal waters" based on South China Sea islands, in apparent reference to the unlawful straight baselines it has drawn around the Paracel Islands (or may in the future attempt to draw around features in the Spratly Islands). In December 2016, the United States formally protested these unlawful maritime claims through diplomatic channels.

Tensions between China and the Philippines eased in 2016 despite the tribunal ruling. Philippine President Rodrigo Duterte did not attempt to advance the Philippine position based on the ruling, but instead extended overtures to China for dialogue and increased economic engagement, resulting in a visit by Duterte to Beijing in October 2016. China publicly welcomed improved relations with the Philippines, signing $24 billion in potential economic agreements and pledging to settle territorial disputes through dialogue, and it also characterized President Duterte's approach towards China as contrasting with that of his predecessor, former Philippine President Benigno Aquino III.

In 2016, China focused its main effort on infrastructure construction at its outposts on the Spratly Islands. Although its land reclamation and artificial islands do not strengthen China's territorial claims as a legal matter or create any new territorial sea entitlements, China will be able to use its reclaimed features as persistent civil-military bases to enhance its presence in the South

China Sea and improve China's ability to control the features and nearby maritime space. China reached milestones of landing civilian aircraft on its airfields on Fiery Cross Reef, Subi Reef, and Mischief Reef for the first time in 2016, as well as landing a military transport aircraft on Fiery Cross Reef to evacuate injured personnel.

Both China and the Philippines—as well as Taiwan—continue to claim sovereignty over Scarborough Reef, while tensions remain between China and the Philippines at Second Thomas Shoal. Throughout 2016, China Coast Guard (CCG) ships maintained a presence at Scarborough Reef, sustaining operations that began in 2012. Chinese officials reiterated in 2016 that the patrols were normal and justifiable, claiming that China has indisputable sovereignty over the various features in the South China Sea and adjacent waters. China also maintains a continuous CCG presence at Second Thomas Shoal, while the Philippines stations military personnel aboard a tank landing ship that has been grounded there since 1999.

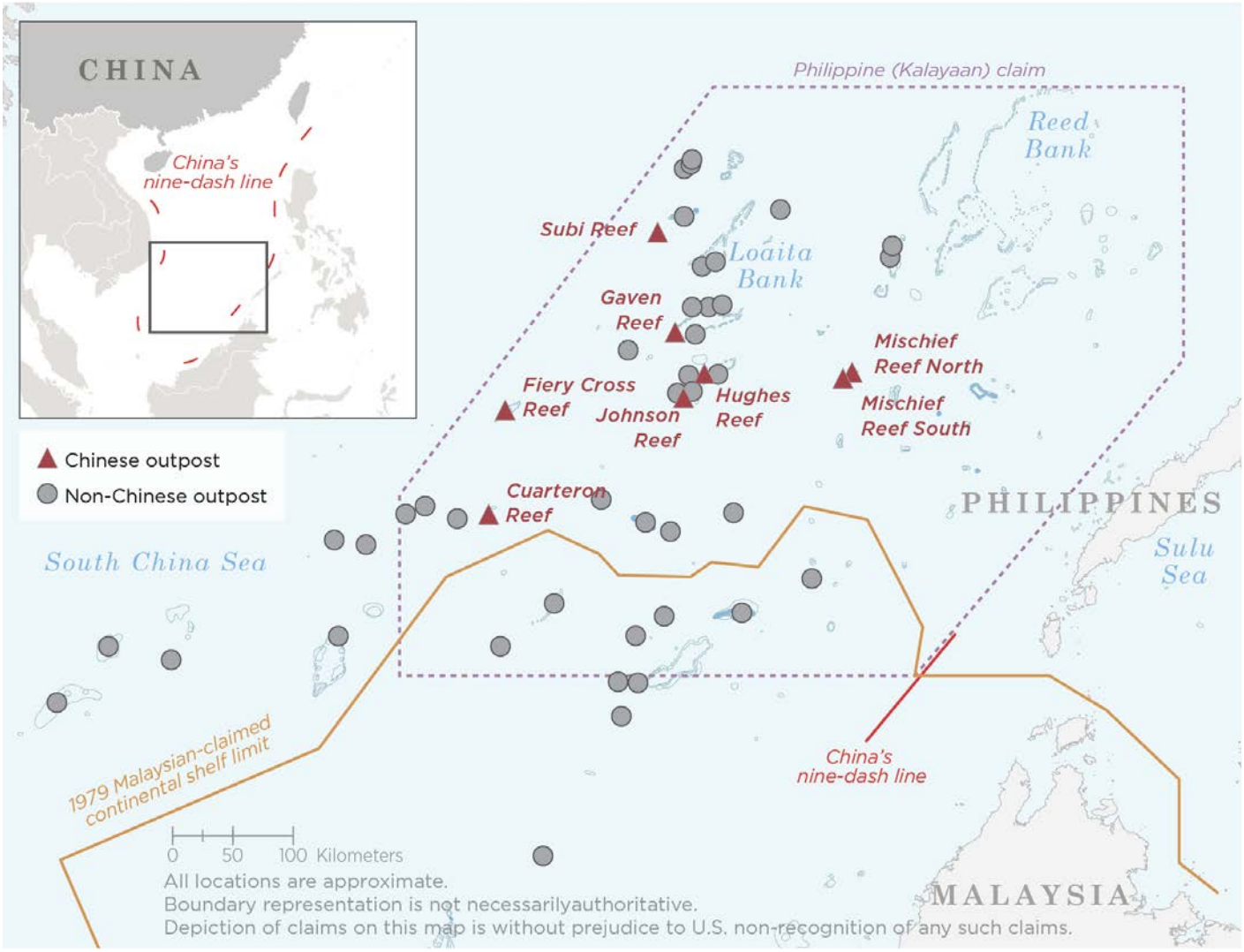
Other disputed areas include the Luconia Shoals, Reed Bank, and the Paracel Islands. The Luconia Shoals are disputed by China, Taiwan, and Malaysia and may contain extensive oil and natural gas reserves, as well as productive fishing grounds. Reed Bank is claimed by China, Taiwan, and the Philippines. In the Paracel Islands, which are disputed with Vietnam and Taiwan, China last year for the first time deployed CSA-9 surface-to-air missiles (SAM) and maintained a regiment of J-11B fighters at Woody Island.

East China Sea. China claims sovereignty over the Japan-administered Senkaku Islands in the East China Sea; this territory is also claimed by Taiwan. The United States recognizes Japan's administration of the islands and, therefore, maintains that Article 5 of the U.S.-Japan Mutual Security Treaty applies to them. In 2016, China continued to use maritime law enforcement ships and aircraft to patrol near the islands.

Last year, a surge of Chinese fishing boats and coast guard ships near the islands in August prompted Japan to increase its coast guard ships in the area. In September, the two countries resumed talks over establishing a line of communication to de-conflict air and maritime traffic in the East China Sea, but made little progress.

China-India Border. Tensions persist along disputed portions of the Sino-Indian border, where both countries patrol with armed forces. In September 2016, an Indian patrol observed that more than 40 Chinese troops had set up a temporary shelter within Indian territory in Arunachal Pradesh, which China also claims. The two sides conducted flag-officer level meetings where they agreed to maintain peace, and then withdrew to mutually acceptable positions.

China's Outposts in the Spratly Islands



CHINA'S USE OF LOW-INTENSITY COERCION IN MARITIME DISPUTES

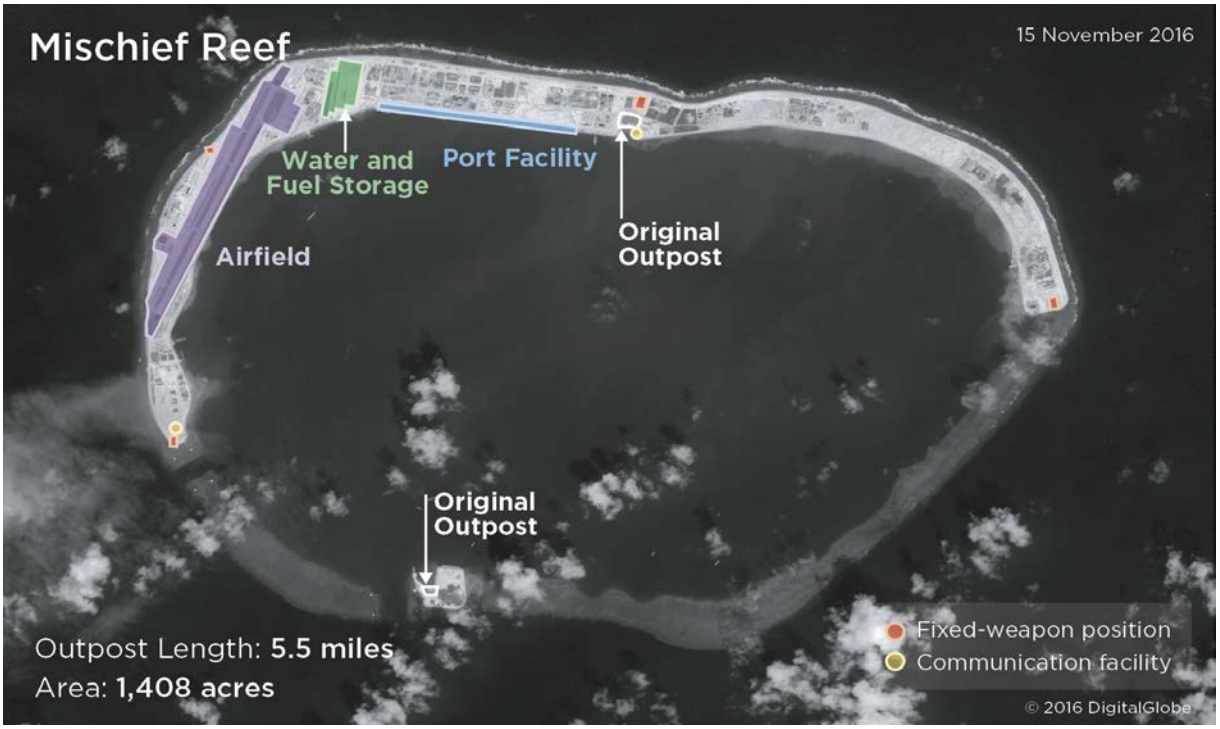
China continues to exercise low-intensity coercion to advance its claims in the East and South China Seas. During periods of tension, official statements and state media seek to portray China as reactive. China uses an opportunistically timed progression of incremental but intensifying steps to attempt to increase effective control over disputed areas and avoid escalation to military conflict. China also uses economic incentives and punitive trade policies to deter opposition to China's actions in the region. In 2016, China used CCG, maritime militia, and fishing ships to surge its maritime presence at various disputed South China Sea features following July's arbitration ruling. At the same time, it extended economic cooperation in exchange for shelving disputes with the Philippines. Conversely, China restricted Philippine fruit imports during the height of Scarborough Reef tensions in 2012.

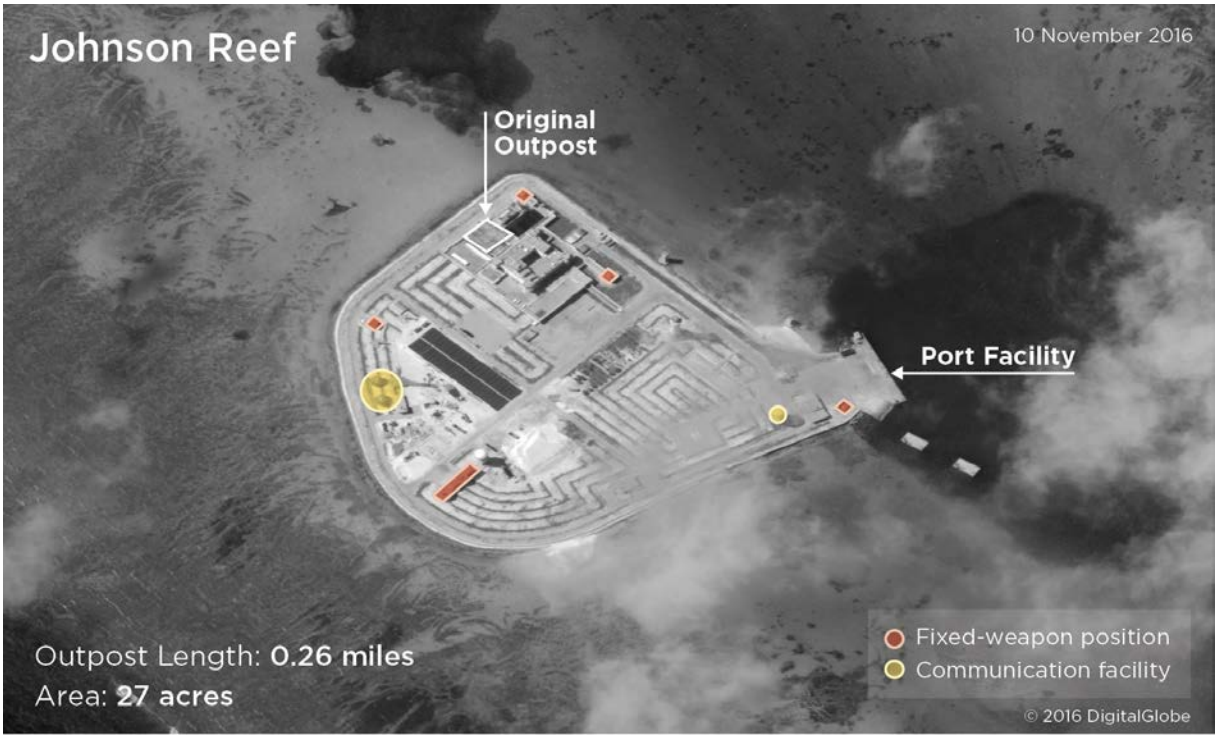
SHORE-BASED INFRASTRUCTURE CONSTRUCTION CONTINUES IN SOUTH CHINA SEA

China's Spratly Islands outpost expansion effort is currently focused on building out the land-based capabilities of its three largest outposts—Fiery Cross, Subi, and Mischief Reefs—after completion of its four smaller outposts early in 2016. No substantial land has been reclaimed at any of the outposts since China ended its artificial island creation in the Spratly Islands in late 2015 after adding over 3,200 acres of land to the seven features it occupies in the Spratlys. Major construction features at the largest outposts include new airfields—all with runways at least 8,800 feet in length—large port facilities, and water and fuel storage. As of late 2016, China was constructing 24 fighter-sized hangars, fixed-weapons positions, barracks, administration buildings, and communication facilities at each of the three outposts. Once all these facilities are complete, China will have the capacity to house up to three regiments of fighters in the Spratly Islands.

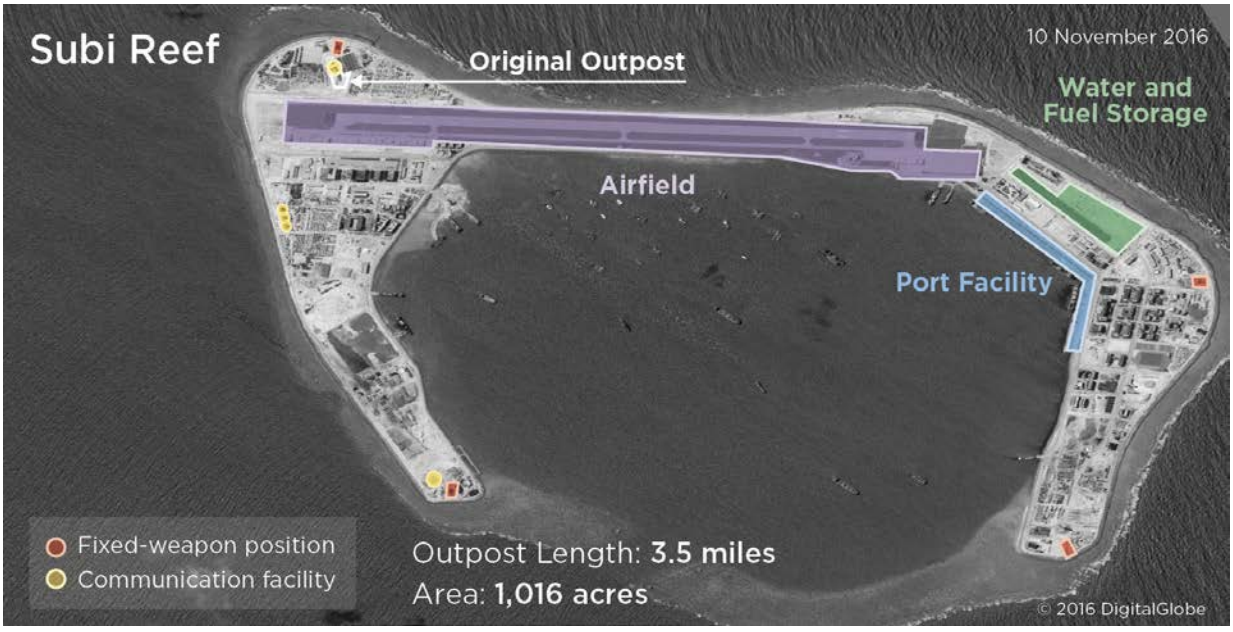
China has completed shore-based infrastructure on its four smallest outposts in the Spratly Islands: Johnson, Gaven, Hughes, and Cuarteron Reefs. Since early 2016, China has installed fixed, land-based naval guns on each outpost and improved communications infrastructure.

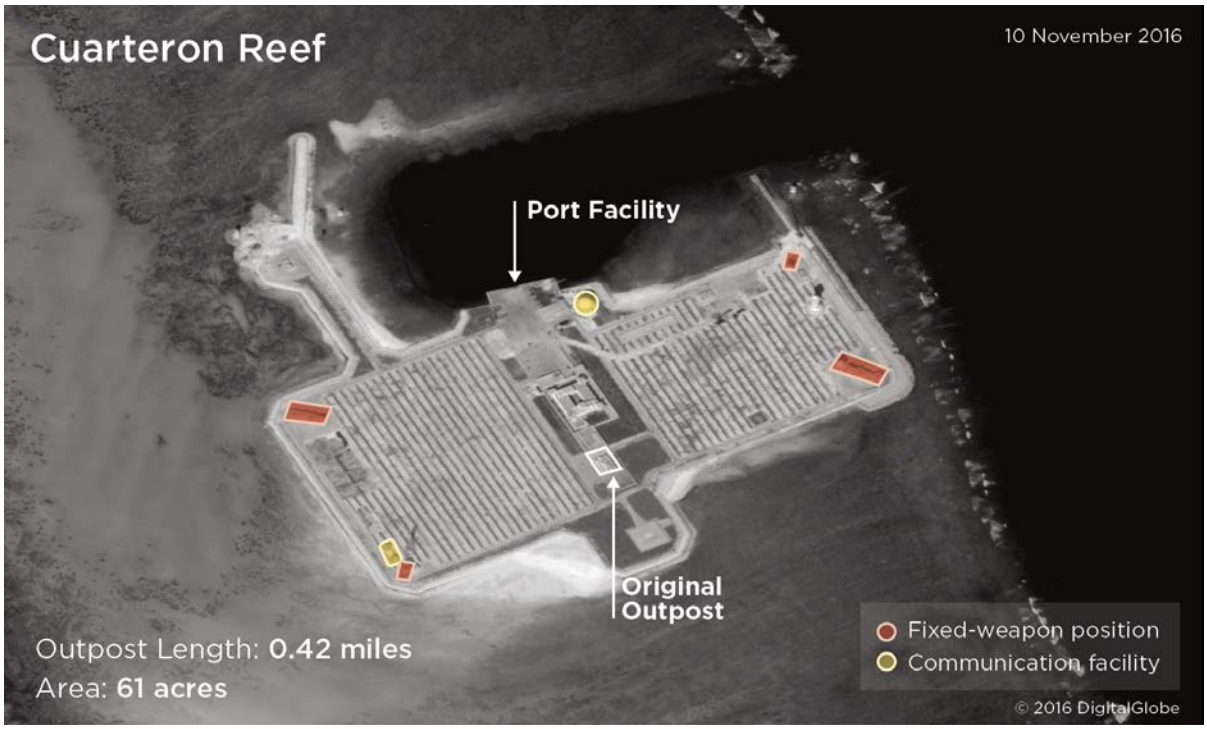
The Chinese Government has stated that these projects are mainly for improving the living and working conditions of those stationed on the outposts, safety of navigation, and research; however, most analysts outside China believe that the Chinese Government is attempting to bolster its *de facto* control by improving its military and civilian infrastructure in the South China Sea. The airfields, berthing areas, and resupply facilities on its Spratly outposts will allow China to maintain a more flexible and persistent coast guard and military presence in the area. This would improve China's ability to detect and challenge activities by rival claimants or third parties, widen the range of capabilities available to China, and reduce the time required to deploy them.

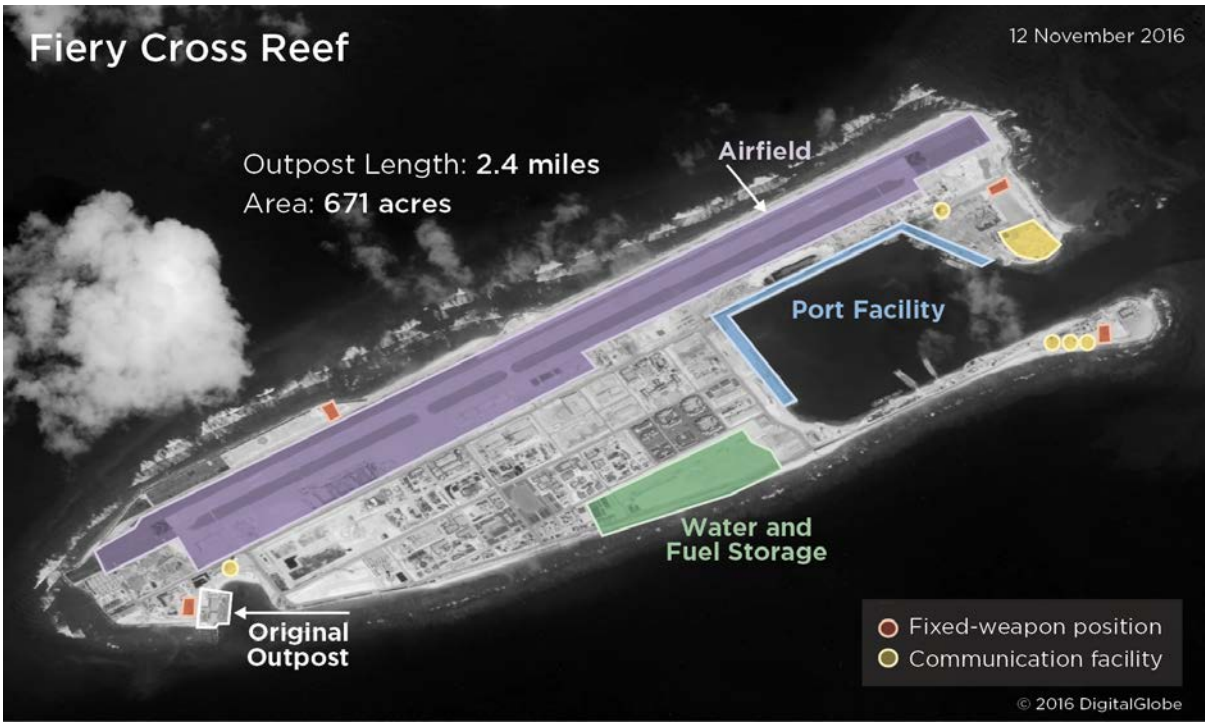

Mischief Reef
15 November 2016
Water and Fuel Storage
Port Facility
Airfield
Original Outpost
Original Outpost
Outpost Length: 5.5 miles
Area: 1,408 acres
Fixed-weapon position
Communication facility
© 2016 DigitalGlobe

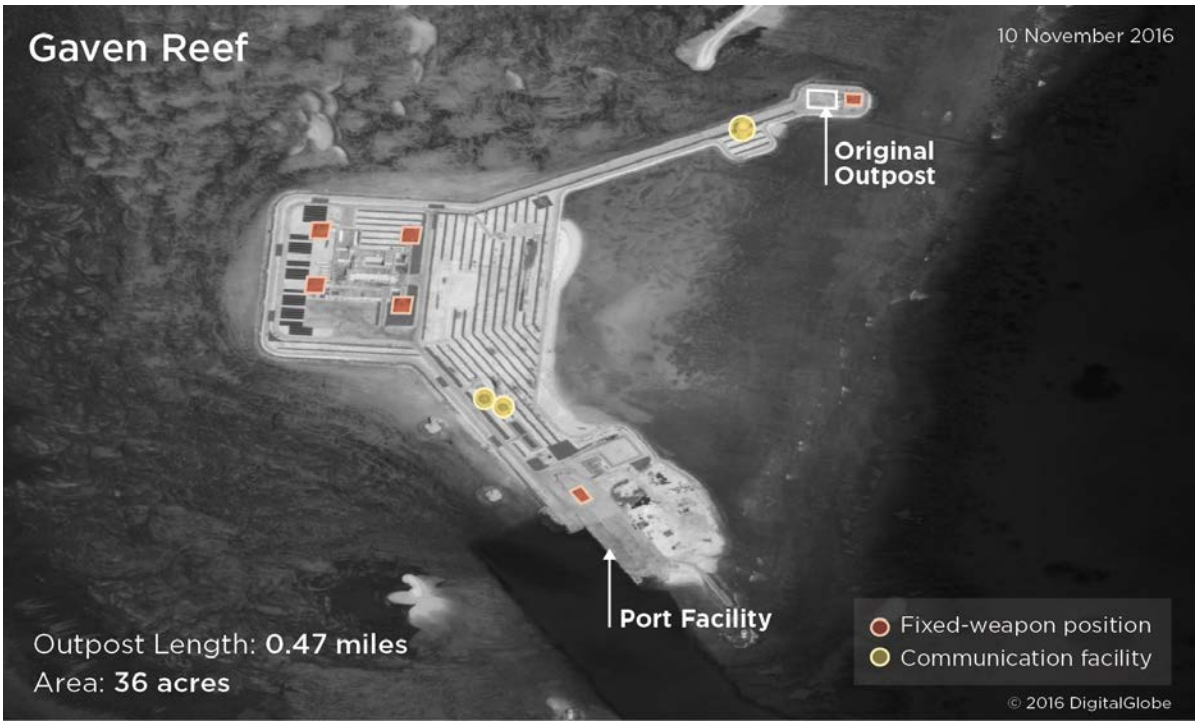

Johnson Reef
10 November 2016
Original Outpost
Port Facility
Outpost Length: 0.26 miles
Area: 27 acres
Fixed-weapon position
Communication facility
© 2016 DigitalGlobe


Hughes Reef
14 November 2016
Port Facility
Original Outpost
Outpost Length: 0.37 miles
Area: 18 acres
Fixed-weapon position
Communication facility
© 2016 DigitalGlobe


Subi Reef
10 November 2016
Original Outpost
Water and Fuel Storage
Airfield
Port Facility
Fixed-weapon position
Communication facility
Outpost Length: 3.5 miles
Area: 1,016 acres
© 2016 DigitalGlobe


Cuarteron Reef
10 November 2016
Port Facility
Original Outpost
Outpost Length: 0.42 miles
Area: 61 acres
Fixed-weapon position
Communication facility
© 2016 DigitalGlobe


Fiery Cross Reef
12 November 2016
Outpost Length: 2.4 miles
Area: 671 acres
Airfield
Port Facility
Water and Fuel Storage
Original Outpost
Fixed-weapon position
Communication facility
© 2016 DigitalGlobe


Gaven Reef
10 November 2016
Original Outpost
Port Facility
Outpost Length: 0.47 miles
Area: 36 acres
Fixed-weapon position
Communication facility
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DEVELOPMENTS IN CHINA'S FOREIGN MILITARY ENGAGEMENTS

China uses PLA engagements with foreign militaries to enhance its presence and influence abroad, bolster its image, and assuage other countries' concerns about its rise. These engagements also assist PLA modernization by facilitating the acquisition of advanced weapon systems and technologies, increasing its operational experience throughout and beyond Asia, and giving the PLA access to foreign military practices, operational doctrine, and training methods.

The PLA engages with foreign militaries to demonstrate its growing capabilities, improve its tactics, techniques, and procedures, and communicate its positions to foreign audiences and strengthen security cooperation. Bilateral and multilateral exercises provide a political benefit to China and opportunities for the PLA to improve capabilities in areas such as counterterrorism, mobility operations, and logistics.

Military Cooperation. As China's regional and international interests grow more complex, the PLA's international engagement will continue to expand, especially in the areas of PKO, counterpiracy, HA/DR, counterterrorism, and joint exercises. In August 2016, for example, Chief of the Joint Staff Department Fang Fenghui participated in the inaugural meeting of the Quadrilateral Cooperation and Coordination Mechanism, a military counterterrorism pact among Afghanistan, China, Pakistan, and Tajikistan. Fang had earlier said that terrorism posed a threat to China's One Belt, One Road initiative during a March 2016 visit to Afghanistan.

Combined Exercises. The PLA's participation in international military exercises continued to expand in 2016 as the PLA exercised with countries outside of the Asia-Pacific region. The PLA conducted at least seventeen bilateral and multilateral exercises with foreign militaries last year. Many of these exercises focused on counterterrorism, border security, PKO, and disaster relief; however, some included conventional ground, maritime, and air warfare training.

- The PLA in 2016 conducted its first naval exercises with Cambodia, its first exercise with the Indian army along the disputed Line of Actual Control, and its first counterterrorism exercise with Saudi Arabia. The PLA also continued to participate in the PEACE MISSION series of counterterrorism exercises.

- Amid tensions arising from territorial disputes with Southeast Asian countries, China conducted a naval exercise with Russia in the northern portion of the South China Sea near Hainan Island in September 2016. The two navies exercised air defense and anti-submarine operations and utilized a shared command information system. This was the PLA's fifth naval exercise with Russia since 2012 and the first to occur in the South China Sea.

In November 2016, China and India held the sixth iteration of the HAND-IN-HAND series of counterterrorism exercises and conducted joint military exercises in October in Ladakh near the China-India border. The two countries increased military exchanges since last year despite continued border tensions.

SELECTED BILATERAL AND MULTILATERAL EXERCISES IN 2016

Exercise Name	Type of Exercise	Participants
SINO-INDIA COOPERATION-2016	HA/DR	India
Unnamed	Rescue operations	Cambodia
FORCE-18	Peacekeeping	ASEAN Plus (18 countries participated)
SHAHEEN V	Air	Pakistan
KOMODO-2016	Naval Diplomacy	Hosted by Indonesia (16 countries participated)
Unnamed	Maritime	South Africa
KHAN QUEST-2016	Peacekeeping	Hosted by Mongolia (47 countries participated)
BLUE STRIKE-2016	Maritime	Thailand
RIMPAC	Multilateral Naval Exercises	Hosted by the United States (26 countries participated)
Unnamed	Maritime	Singapore
PEACE MISSION-2016	Counterterrorism	Shanghai Cooperation Organization (SCO) (5 countries participated)
JOINT SEA-2016 (MARITIME COOPERATION-2016)	Maritime	Russia
SINO-INDIA COOPERATION-2016A	HA/DR	India
COMBINED AID-2016	HA/DR	Germany
Unnamed	Counterterrorism	Tajikistan
EXPLORATION-2016	Counterterrorism	Saudi Arabia
HAND-IN-HAND	Counterterrorism	India

Peacekeeping Operations. In 2016, China continued to contribute the largest number of forces among the permanent members of the UN Security Council. China's participation in United Nations PKO supports various objectives—including improving China's international image, obtaining operational experience for the PLA, and providing opportunities to gather intelligence. These operations also reflect the PLA's expanding role beyond China's borders. China provides civilian police, military observers, engineers, logistical support specialists, and medical personnel to UN PKO missions.

- China maintains approximately 2,630 personnel in ten UN PKO missions, mostly in sub-Saharan Africa and the Middle East. China is the second largest financial contributor to the UN PKO budget, pledging 10.2 percent of the total $7.87 billion budget for the period from July 2016 to June 2017.
- Last year, PLAA soldiers completed their first full one-year rotation to a UN PKO operation. The 14th Chinese PKO force in South Sudan consisted of engineers and medical personnel. Additionally, at the request of the UN, China assigned a helicopter detachment to Sudan's Darfur region, marking its first helicopter deployment to UN PKO in Africa.
- Three Chinese peacekeepers were killed in 2016. In May 2016, a Chinese member of a UN mission in Mali was killed and four other Chinese peacekeepers were injured in a mortar or rocket attack. In July 2016, two Chinese peacekeepers were killed in Juba, South Sudan when mortar fire hit their armored vehicle.

Counterpiracy Efforts. In 2016, China continued to conduct counterpiracy operations in the Gulf of Aden by deploying its 24th naval escort task force to the area since 2008. China also continued to send submarines to the Indian Ocean, ostensibly in support of its counterpiracy patrols. In May 2016, a nuclear-powered attack submarine conducted a port call in Karachi, Pakistan, during a visit by the PLAN Commander, marking China's first port call in South Asia by a nuclear submarine. These submarine patrols demonstrate the PLAN's emerging capability both to protect China's SLOCs and to increase China's power projection into the Indian Ocean.

Military Diplomacy. Senior-level visits and exchanges provide China with opportunities to increase military officers' international exposure and to advance foreign relations through military assistance programs and the development of personal relationships. Expanded PLA travel abroad enables PLA officers to observe and study foreign military command structures, unit formations, and operational training.

Professional military education exchanges are another tool of Chinese military diplomacy.

For example, many Latin American and Caribbean countries send officers to the strategic-level College of Defense Studies at the National Defense University; some of these countries also send officers to the PLAA and PLAN command schools.

MILITARY ATTACHÉ PRESENCE

China advances its day-to-day overseas military diplomacy work using PLA officers assigned as military attachés in at least 110 offices worldwide. In recent years, China's military attaché presence has grown around the world, which reflects China's increasing global interests. China's military attachés serve as military advisors to the ambassador, support Ministry of Foreign Affairs and PLA foreign policy objectives, and perform a variety of duties tied to PLA military and security cooperation, including counterpart exchanges with host-nation and third-country personnel. Military attachés also collect intelligence on their countries or areas of assignment. Although the general function of an attaché office is the same worldwide, some attaché offices probably prioritize specific missions or diplomatic priorities due to close bilateral relations or other factors.

China's military attaché offices vary in size, generally ranging from two to ten PLA officers. Most offices consist of just a few accredited officers; however, offices in countries considered important to China's strategic interests are often considerably larger, potentially including multiple assistant attachés, dedicated naval or air force attachés, and support staff.

CHINA'S ARMS EXPORTS

From 2011 to 2015, China was the world's fourth largest arms supplier, with more than $20 billion in sales. Of this, $9 billion was to Asia-Pacific countries, primarily Pakistan. Sub-Saharan Africa was China's second largest regional arms market. China's ability to remain among the world's top five global arms suppliers hinges largely on continued strong sales to Pakistan and demand for its armed UAVs. China is one of only a few global suppliers of such equipment and faces little competition for sales to the Middle East and North Africa. This likely will result in the Middle East and North Africa surpassing Sub-Saharan Africa as China's second largest arms export market.

- Last year, China signed an agreement with Pakistan for the sale of eight submarines. The first four will be built in China, with the remaining four in Pakistan. Other major Asia-Pacific customers of Chinese military equipment include Bangladesh and Burma.

- China sold armed UAVs to several states in the Middle East and North Africa, including Iraq, Saudi Arabia, Egypt, and the United Arab Emirates. China faces little competition for sale of such systems, as most countries that produce them are restricted in selling the technology as signatories of the Missile Technology Control Regime (MTCR) and/or the Wassenaar Arrangement on Export Controls for Conventional Arms and Dual-Use Goods and Technologies (WA), as well as subjecting exports of this technology to greater scrutiny than China.

China's arms sales are conducted via state-run export organizations that seek primarily to generate profits and offset defense-related research and development costs. Arms transfers are also a component of China foreign policy, used in conjunction with other types of military, economic aid and development assistance to support broader foreign policy goals. These include securing access to natural resources and export markets, promoting political influence among host country elites, and building support in international forums.

From the perspective of China's arms customers, most of which are developing countries, Chinese arms are less expensive than those offered by the top international arms suppliers. They are also of lower quality and reliability, but they still have advanced capabilities. Chinese arms also come with fewer political strings attached, which is attractive to those customers who may not have access to weapons from Western countries for political reasons.

CURRENT CAPABILITIES OF THE PEOPLE'S LIBERATION ARMY

PLA Army. The PLAA remains the largest standing ground force in the world, which in 2016 included 18 group armies and numerous specialized elements. 2016 was the force's first as a separate service within the PLA following major reforms begun last year. These reforms elevated the other services to a status equal to the ground forces while establishing five new theater commands for warfighting. Throughout the year, it adapted to its new organizational status and structure, particularly through the continued development of five new theater army headquarters that are subordinate to and support the joint theater commands.

In January 2016, General Li Zuocheng, the PLAA's first commander, underscored the continuing importance of the ground forces despite doctrinal shifts and planned personnel cuts that many scholars have interpreted as disadvantaging the army. During a July visit to PLAA headquarters, President Xi affirmed the position of the army as the "root" of the PLA, but also urged the force's dynamic transformation in line with ongoing reform initiatives. In September 2016, Li and Lieutenant General Liu Lei, the PLAA's political commissar, outlined a path of development they said would lead to a smaller but more effective, disciplined, and loyal ground force.

The PLAA continued to modernize in 2016, emphasizing mobility exercises across theaters, mechanization of combat brigades, creation of high-mobility infantry and combined-arms battalions, and the delivery of advanced command, control, communication, computers, and intelligence (C4I) equipment that provides real-time data-sharing at the division and brigade level. It also continued to modernize rotary-wing army aviation and to field tracked and wheeled artillery systems, self-propelled anti-tank guns, anti-tank guided missiles, wheeled and tracked armored vehicles, and air defense systems with advanced target-acquisition capabilities. Advanced long-range artillery systems—both conventional and rocket—as well as supporting target-acquisition systems continued to enter the force, providing tactical- and operational-level units with world-class, long-range strike capabilities.

In 2016, however, the PLAA slowed its reorganization of group army- and division-level combat units amid ongoing structural reforms to the theaters and military services. The unit reorganization has contributed to an overall modernization effort to streamline the force and to reduce non-combat positions such as entertainment units or headquarters staffs. The PLAA is also placing non-commissioned officers in positions traditionally held by officers or assigning civilians to take over some duties.

Major Ground Units



PLA Navy. The PLAN is the largest navy in Asia, with more than 300 surface ships, submarines, amphibious ships, and patrol craft. It is also an increasingly technologically advanced and flexible force. The PLAN is rapidly retiring legacy combatants in favor of larger, multi-mission ships equipped with advanced anti-ship, anti-air, and anti-submarine weapons and sensors. This modernization aligns with China's ongoing shift from "near sea" defense to a hybrid strategy of "near sea" defense and "far seas" protection, with the PLAN conducting operational tasks outside the so-called "first island chain" with multi-mission, long-range, sustainable naval platforms that have robust self-defense capabilities.

Last year, the PLAN began to implement structural reforms outlined by the CMC in late 2015 and early 2016. The new arrangement changed the role of the PLAN, focusing it on force-building rather than operations. Admiral Wu Shengli, then the Commander of the PLAN, spoke to the service's top officers in March 2016 to urge progress in establishing working ties to the theater commands, which have assumed authority over operations as part of the ongoing military reforms. The PLAN, he said, must ensure that "naval units are incorporated into the new leadership and command structure."

Submarines. The PLAN places a high priority on the modernization of its submarine force. It currently possesses five nuclear-powered attack submarines (SSN), four nuclear-powered ballistic missile submarines (SSBN), and 54 diesel-powered attack submarines (SS). By 2020, this force will likely grow to between 69 and 78 submarines.

China continues to commission advanced, anti-ship cruise missile (ASCM)-capable submarines. Since the mid-1990s, it has built 13 SONG-class SS units (Type 039) and 17 YUAN-class diesel-electric air-independent power attack submarines (SSP) (Type 039A), with a total of 20 YUANs projected for production by 2020. In this timeframe, the PLAN also purchased 12 KILO-class SS units from Russia, with eight of these capable of launching ASCMs.

Since 2002, the PLAN has constructed ten nuclear submarines—two SHANG I-class SSNs (Type 093), four SHANG II-class SSNs (Type 093A), and four JIN-class SSBNs (Type 094), which are equipped with the CSS-N-14 (JL-2) submarine-launched ballistic missile (SLBM). China's four operational JIN-class SSBNs represent China's first credible, sea-based nuclear deterrent. China's next-generation Type 096 SSBN, will likely begin construction in the early-2020s, and reportedly will be armed with the JL-3, a follow-on SLBM.

Over the next decade, China probably will construct a new variant of the SHANG class, the Type 093B guided-missile nuclear attack submarines (SSGN), which not only would improve the PLAN's anti-surface warfare capability but might also provide it with a more clandestine land-attack option.

Surface Combatants. The PLAN also remains engaged in a robust surface combatant construction program that will provide a significant upgrade to the PLAN's air defense capability. These assets will be critical as the PLAN expands operations into distant seas beyond the range of shore-based air defense systems. In 2016, two more LUYANG II-class guided-missile destroyers (DDG) (Type 052C) entered service, bringing the operational total to four, with at least eight more in various stages of construction or outfitting. The LUYANG III-class DDG has a multipurpose vertical launch system capable of launching ASCMs, SAMs, and anti-submarine missiles. China is also constructing the larger RENHAI-class cruiser (CG), called the Type 055 by the PLAN. China continues to produce the JIANGKAI II-class guided-missile frigate (FFG) (Type 054A), with more than 20 ships currently in the fleet and several more in various stages of construction. The PLAN is augmenting its littoral warfare capabilities, especially in the South China Sea and East China Sea, with the production of the JIANGDAO-class corvettes (FFL) (Type 056). More than 25 were in service during 2016. The latest ships are anti-submarine warfare (ASW) variants with a towed-array sonar. China may build more than 60 of this class, ultimately replacing older PLAN destroyers and frigates. China also has 60 HOUBEI-class wave-piercing catamaran guided-missile patrol boats (Type 022) built for operations in China's "near seas."

The PLAN continues to emphasize anti-surface warfare (ASUW). Older surface combatants carry variants of the YJ-83 ASCM (65 nm, 120 kilometers (km)), while newer surface combatants such as the LUYANG II DDG are fitted with the YJ-62 (150 nm, 222 km). The LUYANG III DDG and RENHAI CG will be fitted with a variant of China's newest ASCM, the YJ-18 (290 nm, 537 km). Eight of China's 12 KILO SS are equipped with the SS-N-27 ASCM (120 nm, 222 km), a system China acquired from Russia. China's newest indigenous submarine-launched ASCM, the YJ-18 and its variants, represents an improvement over the SS-N-27, and will be fielded on SONG SS, YUAN SSP, and SHANG SSN units.

The PLAN recognizes that long-range ASCMs require a robust, over-the-horizon targeting capability to realize their full potential, and China is investing in reconnaissance, surveillance, command, control, and communications systems at the strategic, operational, and tactical levels to provide high-fidelity targeting information to surface and subsurface launch platforms.

Amphibious Warfare Ships. China's investments in its amphibious ship force signal its intent to develop expeditionary amphibious assault, HA/DR, and counterpiracy capabilities. The PLAN has four large YUZHAO-class (Type 071) amphibious transport docks (LPD). The YUZHAO LPD provides a greater and more flexible capability for "far seas" operations than the PLAN's older landing ships. It can

carry up to four of the new YUYI-class air-cushion medium landing craft and four or more helicopters, as well as armored vehicles and PLAN Marines for long-distance deployments. The PLAN probably will continue YUZHAO LPD construction, even as it pursues a follow-on amphibious assault ship that is not only larger, but also incorporates a full flight deck for helicopters. Several new YUTING II-class tank-landing ships (LST) were recently completed to replace older LST units that are reaching the end of their service lives, and to support logistics operations, particularly in the South China Sea.

Aircraft Carrier. In December 2016, the PLAN's first aircraft carrier, *Liaoning*, conducted its second-ever carrier task group integration training in the South China Sea. When fully operational, *Liaoning* will be less capable than the U.S. Navy's NIMITZ-class carriers in projecting power. Its smaller size limits the number of aircraft it can embark and the ski-jump configuration limits aircraft fuel and ordnance loads. *Liaoning* will probably focus on fleet air defense missions, extending air cover over a fleet operating far from land-based coverage. It probably also will play a significant role in developing China's carrier pilots, deck crews, and tactics for future carriers. China is currently building its first domestically designed and produced aircraft carrier. It probably will be launched in and reach initial operational capability by 2020.

Major Naval Units



PLA Air Force and PLA Navy Aviation. The PLAAF is the largest air force in Asia and the third largest in the world, with more than 2,700 total aircraft (not including unmanned aerial vehicles (UAV)) and 2,100 combat aircraft (including fighters, strategic bombers, tactical bombers, multi-mission tactical, and attack aircraft). The PLAAF continues to modernize and is closing the gap rapidly with Western air forces across a broad spectrum of capabilities. This development is gradually eroding the significant technical advantage held by the United States.

In 2016, the PLAAF established five new theater air force headquarters and adapted its mission and structure to align with the PLA's ongoing reforms. In February 2016, General Ma Xiaotian, the PLAAF commander, and Lieutenant General Yu Zhongfu, the service's political commissar, urged the development of a "joint operations mindset" at a ceremony marking the creation of the theater air forces. They directed the service to streamline institutions, embrace a force-building role, and improve regulations to ensure standardization and discipline in carrying out reforms.

Fighters. The PLAAF continues to field fourth-generation aircraft (now about 600) and probably will become a majority fourth-generation force within the next several years. The PLAAF is still developing fifth-generation fighters, including the J-20 and FC-31. In November 2016, the J-20 participated in the Zhuhai Airshow, a high-profile event open to the public.

Bombers. The PLAAF continues developing long-range strategic bombers. In September 2016, General Ma Xiaotian announced that China was developing a new generation of long-range bomber, which observers expected to debut sometime around 2025. These new Chinese bombers will have additional capabilities with full-spectrum upgrades over the current bomber fleet, and will employ many fifth-generation technologies in their design.

China also continues to upgrade its older H-6 bomber fleet to increase operational effectiveness by integrating standoff weapons. The H-6K is a redesign of an older model with turbofan engines to extend range and the capability to carry six land-attack cruise missiles (LACM), giving the PLA a long-range standoff precision strike capability that can reach Guam. PLAN Aviation fields the H-6G, with systems and four weapons pylons for ASCMs to support maritime missions.

Special Mission Aircraft. China uses a modified version of the H-6, known as the H-6U, as well as a small number of IL-78 MIDAS purchased from Ukraine, to conduct aerial refueling operations for some of its indigenous fighter aircraft, thereby increasing their operational ranges.

The service is also integrating airborne early warning and control aircraft—such as KJ-2000 MAINRING, KJ-200 MOTH, and KJ-500—amplifying PLAAF capabilities to detect, track, and target threats in varying conditions, in larger volumes, and at greater distances. These

aircraft help to extend the range of China's integrated air defense system (IADS) network.

China's aviation industry continues to advance with the initial delivery of its domestic Y-20 large transport aircraft and completion of the world's largest seaplane, the AG600. Both aircraft made debut appearances at the Zhuhai Airshow in November 2016. The new transports will supplement and eventually replace China's small fleet of strategic airlift assets, which currently consists of a limited number of Russian-made IL-76 aircraft. The large transports are intended to support airborne C2, logistics, paradrop, aerial refueling, and strategic reconnaissance operations, as well as HA/DR missions.

Unmanned Aerial Vehicles (UAVs). China's complement of domestically developed UAVs continues to expand. At the 2016 Zhuhai Airshow, China displayed five airframes: the Wing Loong I, Wing Loong II, WJ-600A/D, Yunying Cloud Shadow, and the CH-5 (Rainbow 5).

The CH-5 is China's most heavily armed UAV to date, with the capacity to carry 16 air-to-surface munitions. In the last two years, the PLA has also unveiled an armed intelligence, surveillance, and reconnaissance (ISR) UAV (Gongji 1) and has deployed UAVs to the South China Sea.

Air Defense. The PLAAF possesses one of the largest forces of advanced long-range SAM systems in the world, consisting of a combination of Russian-sourced SA-20 (S-300PMU1/2) battalions and domestically produced CSA-9 battalions. The Russian-made S-400/Triumf SAM systems slated for China may be delivered before 2020. China will use the system as a follow-on to the SA-20 and CSA-9 to improve strategic long-range air defenses. China also is developing its indigenous HQ-19 to provide the basis for a ballistic missile defense capability.

Major Air Units



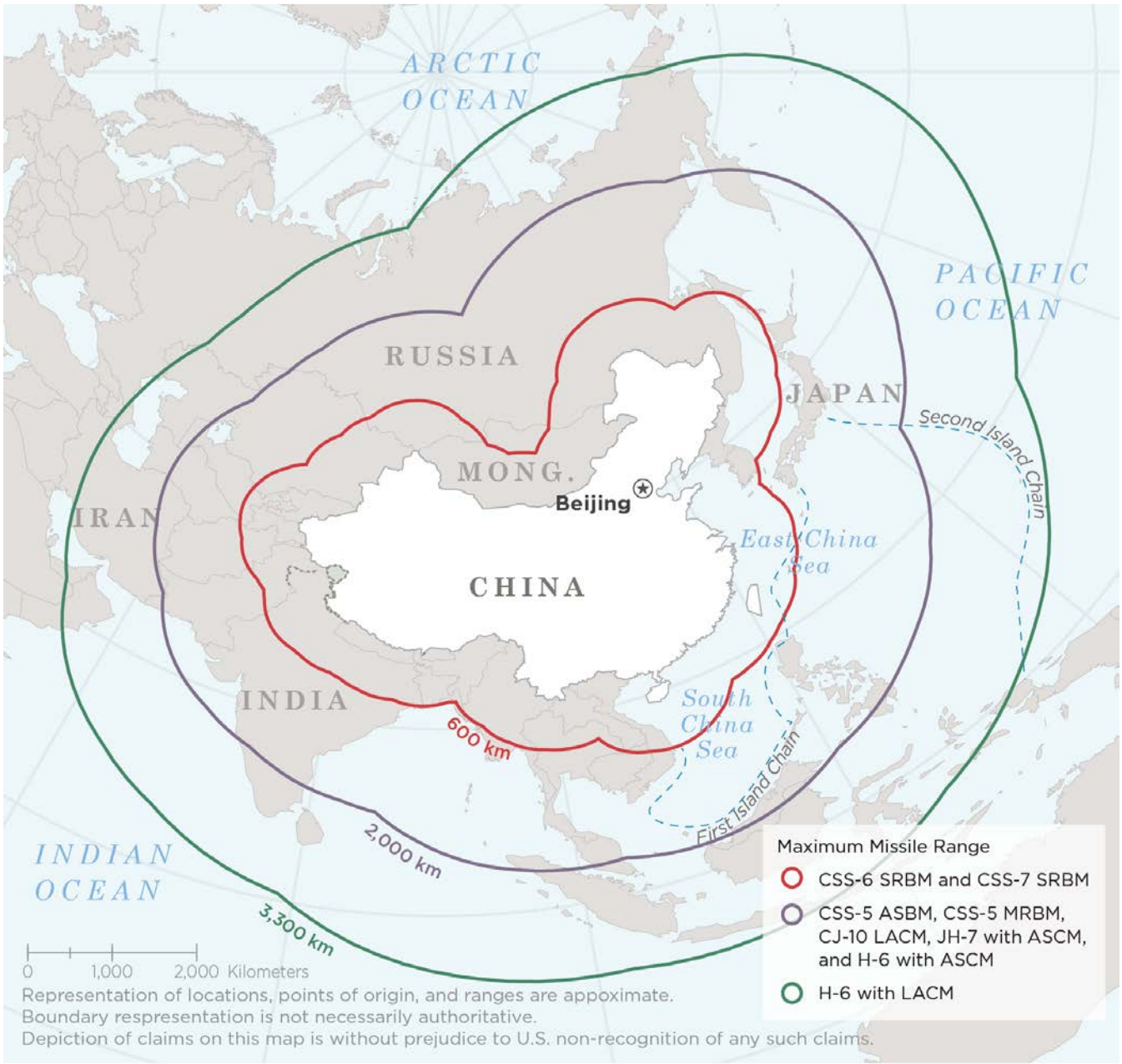
PLA Rocket Force (PLARF). The PLARF, renamed from the PLA Second Artillery Force (PLASAF) and formally established as a service in reforms announced in December 2015, trains, equips, and operates China's land-based nuclear and conventional missiles. In 2016, it advanced long-term modernization plans to enhance its "strategic deterrence capability," a theme President Xi echoed during a visit to PLARF headquarters in September 2016. The service is developing and testing several new variants of missiles, forming additional missile units, retiring or upgrading older missile systems; and developing methods to counter ballistic missile defenses.

China's conventional missile force includes the CSS-11 (DF-16) ballistic missile with a range of 800-1,000 km; land-attack and anti-ship variants of the CSS-5 (DF-21C &D) medium-range ballistic missile (MRBM); and the CJ-10 ground-launched cruise missile (GLCM), which has a range in excess of 1,500 km. The force possesses approximately 1,200 short-range ballistic missiles (SRBM) in its inventory. China's conventionally armed CSS-5 Mod 5 (DF-21D) anti-ship ballistic missile (ASBM) gives the PLA the capability to attack ships, including aircraft carriers, in the western Pacific Ocean.

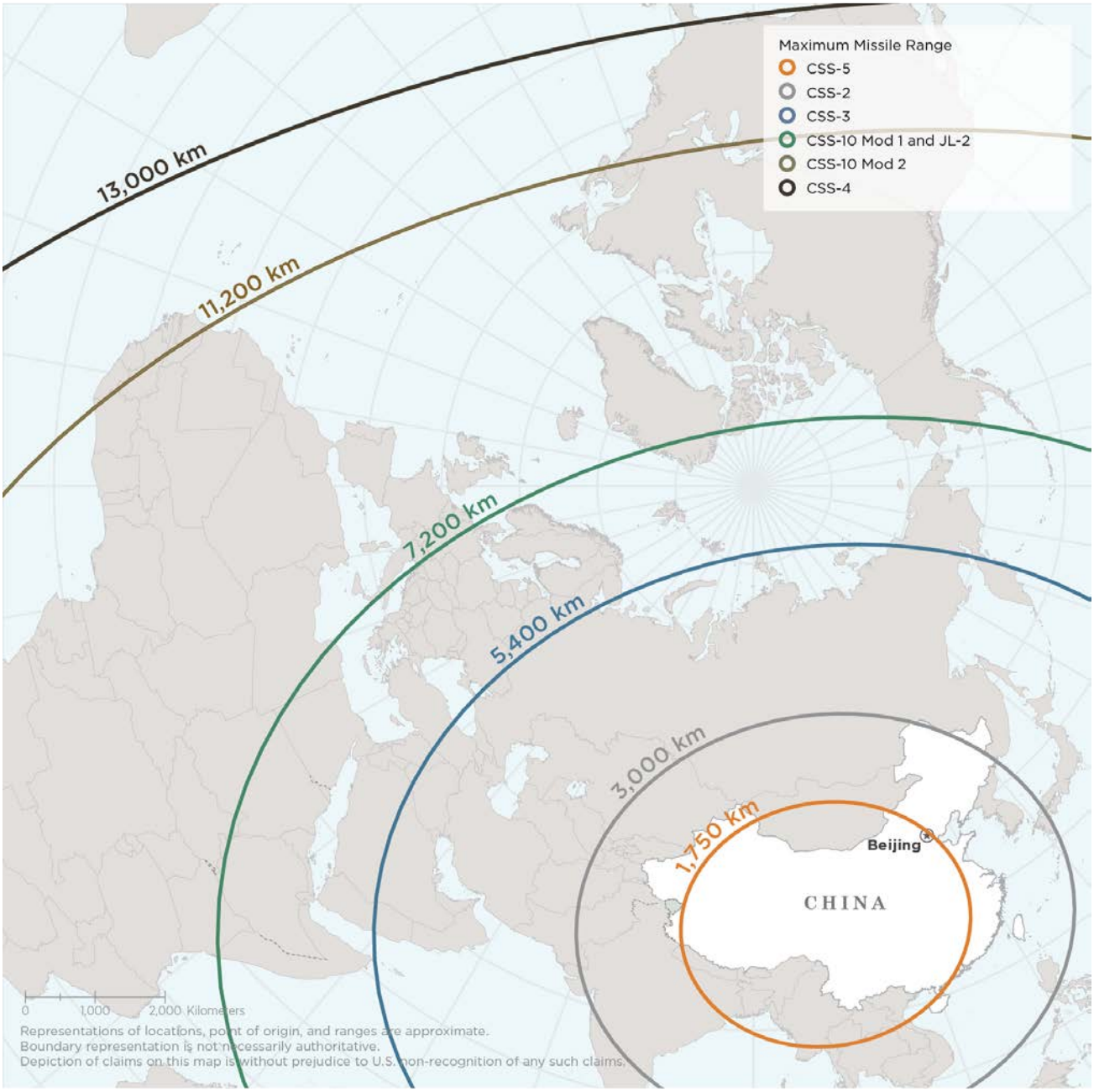
In 2016, China began fielding the DF-26 intermediate-range ballistic missile (IRBM), which is capable of conducting conventional and nuclear precision strikes against ground targets and conventional strikes against naval targets in the western Pacific Ocean. Development of the new multiple independently targetable reentry vehicle (MIRV) capable, road-mobile intercontinental ballistic missile (ICBM), the CSS-X-20 (DF-41), continued in 2016.

The PLARF also continues to enhance its silo-based ICBMs and is adding more survivable, mobile delivery systems. China's ICBM arsenal to date consists of approximately 75-100 ICBMs, including the silo-based CSS-4 Mod 2 (DF-5A) and MIRV-equipped Mod 3 (DF-5B); the solid-fueled, road-mobile CSS-10 Mod 1 and 2 (DF-31 and DF-31A); and the shorter range CSS-3 (DF-4). The CSS-10 Mod 2, with a range in excess of 11,200 km, can reach most locations within the continental United States.

Conventional Strike Capabilities



Medium and Intercontinental Range Ballistic Missiles



Strategic Support Force (SSF). The SSF is a new organization established in late 2015 reportedly to guide the PLA's space, cyber, and EW missions. Information about the force is scarce, but press reports linking the force to these emerging missions appear consistent with the PLA's view of space as a "commanding height" and its commitment to "expedite the development of a cyber force," described in 2015's official defense white paper. During the SSF's establishment ceremony, President Xi described it as a "new-type combat force to maintain national security and an important growth point for the PLA's combat capabilities."

A force responsible for these missions may centralize previously disparate components of the PLA. Prior to 2015's structural reforms, for example, the responsibility for space, cyber, and EW rested with offices across the former General Armament Department and General Staff Department (GSD) such as the GSD Technical Department and GSD Electronic Countermeasures and Radar Department.

Space and Counterspace Capabilities. China's space program continues to mature rapidly. The PLA, which has historically managed the effort, continues to invest in improving its capabilities in the fields of space-based ISR, satellite communication, satellite navigation, and meteorology, as well as human spaceflight and robotic space exploration. In addition to its on-orbit assets, China has built a vast ground infrastructure supporting spacecraft and space launch vehicle (SLV) manufacture, launch, C2, and data downlink. China also continues to develop a variety of counterspace capabilities designed to degrade and deny the use of space-based assets by adversaries during a crisis or conflict.

In 2016, China launched 22 SLVs, of which 21 were successful. These launches orbited 33 spacecraft, including navigation, ISR, and test/engineering satellites. Other activities last year included:

- *Two New Launch Vehicles.* China successfully debuted the Long March 7 (LM-7) in June 2016 and the LM-5 in November 2016. The LM-7 is a medium-lift SLV designed to launch up to 13,500 kg into low Earth orbit, mainly supporting China's human spaceflight program. The LM-5 is set to become China's new heavy-lift SLV, launching up to 25,000 kg into low Earth orbit. It is intended to play an important role in the assembly of the Chinese Space Station starting around 2018.
- *World's First Quantum Science Satellite.* In August 2016, China launched the first experimental quantum communications satellite, marking a notable advance in cryptography research. The developer of the satellite claimed it has "enormous prospects" in defense, moving China closer to more secure communications.

> *Crewed Space Laboratory*. China launched its second crewed laboratory, Tiangong-2 (TG-2), in September 2016. The laboratory will validate technologies associated with space station assembly in preparation for the launch of the Chinese Space Station core module around 2018. China also launched a crewed mission (Shenzhou-11) in October 2016 to TG-2 to carry out experiments and gain experience in mid-to-long term human spaceflight.

The PLA is acquiring a range of technologies to improve China's counterspace capabilities. In addition to the research and possible development of directed-energy weapons and satellite jammers, China is also developing anti-satellite capabilities and probably has made progress on the anti-satellite missile system that it tested in July 2014. China is employing more sophisticated satellite operations and probably is testing dual-use technologies in space that could be applied to counterspace missions.

Although Chinese defense academics often publish on counterspace threat technologies, China has not publicly acknowledged the existence of any new programs since it confirmed it used an anti-satellite missile to destroy a weather satellite in 2007. PLA writings emphasize the necessity of "destroying, damaging, and interfering with the enemy's reconnaissance...and communications satellites," suggesting that such systems, as well as navigation and early warning satellites, could be among the targets of attacks designed to "blind and deafen the enemy."

Cyber Capabilities. The PLA in recent years has emphasized the importance of cyberspace as a new domain of national security and arena for strategic competition. China's 2015 defense white paper identified cyberspace as one of four "critical security domains" alongside the far seas, space, and nuclear domains. PLA scholars continue to explore new concepts in cyberspace, such as deterrence in cyberspace.

The establishment of the SSF, which according to press reports has a cyber component, may represent the first step in developing a cyber force that creates efficiencies by combining cyber reconnaissance, attack, and defense capabilities into one organization. PLA writings reference U.S. Cyber Command as effectively consolidating cyber functions under a single entity and streamlining leadership. They acknowledge the benefits of unifying leadership, centralizing the management of cyber resources, and combining its offensive and defensive cyber capabilities under one military organization.

PLA writings distinguish between peacetime and wartime cyber operations. In peacetime, PLA cyber missions include "defending electromagnetic space and cyberspace" because of China's increasing reliance on the information economy. During wartime, cyber capabilities can "help the PLA understand the enemy's trend, help the troops plan the combat operations, and ensure victory on the battlefield," according to one PLA scholar.

2

UNDERSTANDING CHINA'S STRATEGY

STRATEGIC OBJECTIVES

Since 2002, China's leaders—including President Xi Jinping—have characterized the initial two decades of the 21st century as a "period of strategic opportunity." They assess that during this time international conditions will facilitate domestic development and the expansion of China's "comprehensive national power," which outside observers believe will serve what they assess to be the CCP's overriding strategic objectives:

- Perpetuate CCP rule;
- Maintain domestic stability;
- Sustain economic growth and development;
- Defend national sovereignty and territorial integrity;
- Secure China's status as a great power and, ultimately, reacquire regional preeminence; and
- Safeguard China's interests abroad.

The CCP has distilled these objectives into President Xi's "China Dream" of national rejuvenation. The concept, first articulated by Xi shortly after the 2012 leadership transition, encapsulates a long-standing national aspiration of establishing a powerful and prosperous China. President Xi and other leaders also link the China Dream to two high-profile centenary goals: achieving a "moderately prosperous society" by the 100th anniversary of the founding of the CCP in 2021, and building a "modern socialist country that is prosperous, strong, democratic, culturally advanced and harmonious" by the 100th anniversary of the establishment of the People's Republic of China (PRC) in 2049.

The China Dream also includes a commitment to developing military power commensurate with the status of a great power. China's leaders increasingly seek ways to leverage its growing military, diplomatic, and economic clout to establish regional preeminence and expand the country's international influence. China seeks to secure these objectives without jeopardizing the regional peace that remains critical to the economic development that has helped the CCP maintain its monopoly on power.

CHINA'S NATIONAL SECURITY MANAGEMENT

Since 2014, China has taken several steps to modernize the CCP, military, and state institutions and ensure greater coherence in the conduct of China's national security policy. These efforts address long-standing concerns that China's Cold War-era system of stove-piped organizations is ill-equipped to meet the growing challenges that China faces as its interests and capabilities expand.

- Over the past two years, the National People's Congress passed a suite of laws meant to address what it sees as complex national security concerns, including counterterrorism, cybersecurity, and foreign non-government organization activities. In 2015, an expansive National Security Law appeared to group these and other issues under a wide concept of national security and to strengthen the role of central authorities.
- By 2015, the CCP had adopted China's first national security strategy outline and established a new National Security Commission (NSC). Official media noted that the strategy is intended to unify efforts by various departments under the central leadership's guidance.

At the NSC's first meeting, President Xi called on it to "establish a centralized and unified, highly authoritative state security system." The NSC advises the Politburo, oversees the coordination of national security issues across the government, and manages crises, according to academics. The Commission's purview appears to encompass domestic stability and external security, a much wider scope than the U.S. National Security Council. The NSC's mission, sprawling definition of national security, and powerful leaders suggests that the NSC may claim broad authority over time.

President Xi, Premier Li Keqiang, and National People's Congress Chairman Zhang Dejiang lead the Commission, but China has not publicly named other members. Chinese government-owned press outlets note that the head of its general office is Politburo member and CCP General Office Director Li Zhanshu, who appears close to Xi but probably had little experience with international affairs during his decades-long career in provincial-level government and party positions.

MILITARY STRATEGY

The PLA is pursuing an ambitious modernization program that aligns with China's two centenary goals. China's military leaders want to achieve mechanization and to make "major progress" toward informatization by 2020, ahead of the first centenary goal. They also seek to reach a goal of "modernization," an unclear objective possibly tied to a peer capability with the U.S. military,

by the second centenary goal in the middle of this century.

Military Strategic Guidelines. In 2015, the leadership directed the PLA to be capable of fighting and "winning informatized local wars" with an emphasis on "maritime military struggle," adjusting its guidance on the type of war the PLA should be prepared to fight. China promulgated this revision through its "military strategic guidelines," the top-level directives that prescribe concepts, assess threats, and set priorities for planning, force posture, and modernization. Regional analysts widely interpreted this update as an indication that China expects significant elements of a modern conflict to occur at sea.

- China's leadership has adjusted its national military strategic guidelines twice since the fall of the Soviet Union. In 1993, Jiang Zemin directed the PLA to prepare for conflict under modern, high-technology conditions after observing U.S. military operations in the Gulf War. In 2004, Hu Jintao ordered the military to focus on "winning local wars under informatized conditions."
- Taiwan remains the PLA's main "strategic direction," one of the geographic areas the leadership identifies as endowed with strategic importance. Other focus areas include the East China Sea, the South China Sea, and China's borders with India and North Korea. PLA reforms appear to have oriented each new theater command toward a specific set of contingencies.
- In 2015, China outlined eight "strategic tasks," or types of missions the PLA must be ready to execute: safeguard the sovereignty of China's territory; safeguard national unification; safeguard China's interests in new domains such as space and cyberspace; maintain strategic deterrence; participate in international security cooperation; maintain China's political security and social stability; and conduct emergency rescue, disaster relief, and "rights and interest protection" missions.
- China's military leaders also want to achieve mechanization and to make "major progress" toward informatization by 2020. The concept of "informatization" figures prominently in PLA writings and is roughly analogous to the U.S. military's concept of "net-centric" warfare: a force's ability to use advanced information technology and communications systems to gain operational advantage over an adversary. PLA writings highlight the benefit of near real-time shared awareness of the battlefield in enabling quick, unified effort to seize tactical opportunities.

Active Defense. China characterizes its military strategy as one of "active defense," a concept it describes as strategically defensive but operationally proactive in orientation. It is rooted in a commitment not to attack, but to respond robustly once an adversary decides to

attack. According to this concept, defense counterattacks are launched to disrupt an adversary's offensive operations or simply its preparations, rather than reacting passively. The PLA interprets active defense to include mandates for both de-escalation and seizing the initiative. Active defense is enshrined in the 2015 National Security Law and is included in the PLA's major strategy documents.

Coercive Approach. Chinese leaders use tactics short of armed conflict to advance China's interests. This approach seeks to enhance China's influence through activities calculated to fall below the threshold of provoking the United States, its allies and partners, or others in the Asia-Pacific region into open conflict. This is particularly evident in China's pursuit of its territorial and maritime sovereignty claims in the South and East China Seas. China's construction in the Spratly Islands demonstrates China's capacity—and a newfound willingness to exercise that capacity—to strengthen China's control over disputed areas, enhance China's presence, and challenge other claimants.

Growing Global Presence. China's maritime emphasis and attention to missions guarding its overseas interests have increasingly propelled the PLA beyond China's borders and its immediate periphery. The PLAN's evolving focus—from "offshore waters defense" to a mix of "offshore waters defense" and "far seas protection"—reflects the high command's expanding interest in a wider operational reach. Similarly, doctrinal references to "forward edge defense" that would move potential conflicts far from China's territory suggest PLA strategists envision an increasingly global role. In February 2016, China began construction on its first overseas military base in Djibouti.

CHINA'S TERRITORIAL DISPUTES IN CONTEXT

China's use of force in territorial disputes has varied widely throughout its history. Some disputes led to war, as in border conflicts with India in 1962 and Vietnam in 1979. A contested border with the former Soviet Union during the 1960s raised the possibility of nuclear war. In more recent cases involving land border disputes, China has sometimes been willing to compromise with and even offer concessions to its neighbors. Since 1998, China has settled 11 land-based territorial disputes with six of its neighbors. In recent years, China has adopted a coercive approach to deal with several disputes that continue over maritime features and ownership of potentially rich offshore oil and gas deposits.

China and Japan have overlapping claims to both the continental shelves and the EEZs in ***the East China Sea***. The East China Sea contains natural gas and oil, though hydrocarbon reserves are difficult to estimate. Japan maintains that an equidistant line from each country involved should separate the EEZs, while China claims an extended continental shelf beyond the equidistant line to the Okinawa Trench. Japan has accused China of breaching a principled consensus reached in 2008 that both sides would respect an equidistant median line in the East China Sea for resource development while conducting joint development of an oil and natural gas field in a delineated area to the north spanning the line. Japan is concerned that China has conducted oil and gas drilling on the Chinese side of the median line of the East China Sea since 2013. China continues to contest Japan's administration of the nearby Senkaku Islands.

The ***South China Sea*** plays an important role in security considerations across East Asia because Northeast Asia relies heavily on the flow of oil and commerce through South China Sea shipping lanes, including more than 80 percent of the crude oil to Japan, South Korea, and Taiwan. China claims sovereignty over the Spratly and Paracel Island groups and other land features within its self-proclaimed nine-dash line—claims disputed in whole or part by Brunei, the Philippines, Malaysia, and Vietnam. Taiwan, which occupies Itu Aba Island in the Spratly Islands, makes the same territorial assertions as China. In 2009, China protested extended continental shelf submissions in the South China Sea made by Malaysia and Vietnam. In its protest to the UN Commission on the Limits of the Continental Shelf, China included its ambiguous "nine-dash line" map. China also stated in a 2009 note verbale that it has "indisputable sovereignty over the islands in the South China Sea and the adjacent waters, and enjoys sovereign rights and jurisdiction over the relevant waters as well as the seabed and subsoil thereof." In 2016, the tribunal in the Philippines China LOSC arbitration ruled that China has no legal basis to assert a maritime claim based on historic rights that would exceed entitlements it would enjoy under the Convention. China did not participate in the arbitration and Chinese officials publicly voiced opposition to the ruling. China has adjusted talking points to exclude references to the claimed "nine-dash line," probably to avoid taking a position that directly opposes the ruling and risks additional regional backlash.

Tensions remain with India along the shared 4,057 km border over ***Arunachal Pradesh***, which China asserts is part of Tibet and therefore part of China, and over the ***Aksai Chin*** region at the western end of the Tibetan Plateau, despite growing China-India political and economic relations. China and India continue to accuse each other of frequent incursions and military build-ups along the disputed territories. In 2013, however, Chinese and Indian officials signed the Border Defense Cooperation Agreement, which supplements existing procedures managing the interaction of forces along the Line of Actual Control.

FOREIGN POLICY

As China's foreign interests and power have expanded, it has become a more prominent player in the international community. On the CCP's 95th anniversary in July 2016, President Xi highlighted China's intent to play a larger global role, including shaping a "fairer" global governance system. Xi stressed that China will defend its core interests and territorial sovereignty and is not afraid to respond to provocations.

Xi's remarks underscore a trend in China's foreign policy in which it seeks a higher-profile role in existing regional and global institutions, while selectively pursuing the establishment of new multilateral mechanisms and institutions. For instance, China launched the Asian Infrastructure Investment Bank (AIIB) in January 2016, with 57 founding members. The AIIB serves as a new multilateral development bank that promotes infrastructure building in Asia. China's global trade and investment footprint is growing rapidly as Chinese state policy banks and Chinese firms have financed and implemented hundreds of billions of dollars worth of major infrastructure projects throughout Asia, Africa, Latin America, the Middle East, and parts of Europe since 2006. Beginning in 2013, China has attempted to reconceptualize these ongoing efforts under its "One Belt, One Road" initiative. These initiatives are indicative of China's intentions of also using economic means to enhance its global role and advance its foreign policy and strategic goals.

China continues to regard stable relations with its neighbors, and the United States, as key to its development. China sees the United States as the dominant regional and global actor with the greatest potential either to support or disrupt China's rise. In the region, China seeks to depict itself as pursuing a peaceful development strategy, conscious that if its neighbors view it primarily as a threat, they may try to more actively hedge against China's growing power. At the same time, China portrays itself as resolute in defending its territorial interests.

China's increasingly assertive efforts to advance its sovereignty and territorial claims, its forceful rhetoric, and lack of transparency about its growing military capabilities and strategic decision-making continue to cause concern among countries in the region and have caused some to enhance their ties to the United States. These concerns are likely to intensify as the PLA continues to modernize, especially in the absence of greater transparency.

CHINA'S ENERGY STRATEGY

China's engagement, investment, and foreign construction related to energy remained active in 2016. China invests in energy projects in more than 40 countries. This ambitious investment in energy assets is driven primarily by China's desire to ensure reliable, diverse energy sources to support economic growth, a need that heightens its interest in areas such as Central Asia and the Strait of Malacca that are critical to the transport of natural gas and oil respectively. The Chinese companies involved are also interested in increasing profitability and access to advanced technologies.

China hopes to diversify both energy suppliers and transport options. As a net importer of oil and natural gas, China relies on trade and seeks to maintain a supply chain that is less susceptible to external disruption.

In 2016, China imported oil to meet approximately 64 percent of its need. This figure is projected to grow to approximately 80 percent by 2035, according to the International Energy Agency (IEA). Also in 2016, 36 percent of China's natural gas demand was met with imports, and is projected to grow to 42 percent by 2035, according to the IEA. China continues to look primarily to the Persian Gulf, Africa, and Russia/Central Asia to satisfy its growing oil and gas demands.

China is particularly reliant on unimpeded SLOCs like the South China Sea and Strait of Malacca. In 2016, approximately 80 percent of China's oil imports and 11 percent of natural gas imports transited the South China Sea and Strait of Malacca. Despite China's efforts, the sheer volume of oil and liquefied natural gas that is imported to China from the Middle East and Africa will continue to make strategic SLOCs important to China.

Separate crude oil pipelines from Russia and Kazakhstan to China illustrate efforts to increase overland supply. China plans to double the capacity of its pipeline to Russia from 300,000 to 600,000 barrels per day (b/d) by 2018. Additionally, in 2015, construction was finished on the 440,000-b/d Burma–China oil pipeline; however, transit fees negotiations currently are being finalized so the pipeline is not yet fully operational. This pipeline bypasses the Strait of Malacca by transporting crude oil from Kyuakpya, Burma to Kunming, China. The crude oil for this pipeline will be supplied by Saudi Arabia and other Middle Eastern and African countries.

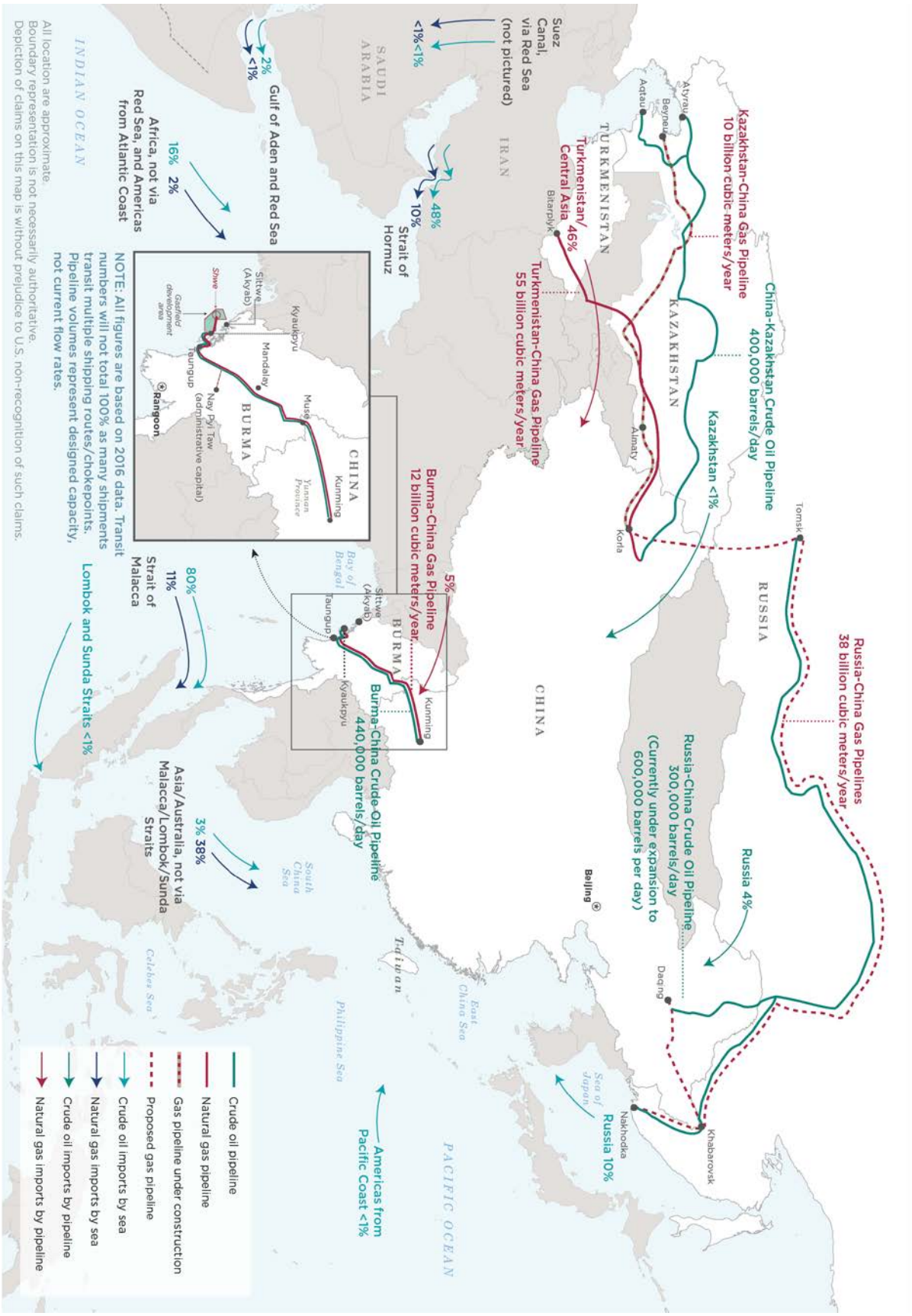
Approximately 46 percent of China's natural gas imports (34.2 billion cubic meters (bcm)) came from Turkmenistan by pipeline via Kazakhstan and Uzbekistan. This pipeline is currently designed to carry 55 bcm per year with plans to expand it to 80 bcm per year. A natural gas pipeline connecting China to Burma is designed to deliver 12 bcm per year, but shipped 3.9 bcm of gas in 2016. The Russia-China natural gas pipeline is in the initial construction phase. The pipeline is expected to deliver up to 38 bcm of gas per year by 2035; initial flows are scheduled to start by 2019.

China's Top Crude Suppliers 2016

Country	Volume (1,000 barrels/day)	Percentage of Imported Crude Oil
Russia	1,009	13
Saudi Arabia	847	11
Angola	773	10
Iraq	641	8
Oman	640	8
Iran	531	7
Venezuela	320	4
Brazil	288	4
Kuwait	278	4
UAE	251	3
Others	2,029	27
Total	**7,607**	**99**

Numbers may not equal 100 as figures have been rounded.

China's Energy Import Transit Routes



China's Military Leadership

CENTRAL MILITARY COMMISSION

Chairman	Xi Jinping			
Vice Chairmen	Gen Fan Changlong	Gen Xu Qiliang		
Members	Gen Chang Wanquan	Gen Fang Fenghui	Gen Zhang Yang	Gen Zhao Keshi
	Gen Zhang Youxia	Adm Wu Shengli	Gen Ma Xiaotian	Adm Wei Fenghe

DEPARTMENTS

- Joint Staff Department
- Political Work Department
- Logistics Support Department
- Equipment Development Department
- Training and Administration Department
- National Defense Mobilization Department

COMMISSIONS

- Discipline Inspection Commission
- Politics & Law Commission
- Science & Technology Commission

OFFICES

- Agency for Offices Administration
- Audit Office
- Office for International Military Cooperation
- Reform & Organization Office
- Strategic Planning Office

THEATER COMMANDS

- Eastern Theater
- Southern Theater
- Western Theater
- Northern Theater
- Central Theater

SERVICES & SUPPORT FORCES

- PLA Army
- PLA Navy
- PLA Air Force
- PLA Rocket Force
- PLA Strategic Support Force
- PLA Joint Logistics Support Force

PARAMILITARY FORCES

- People's Armed Police
- China Coast Guard

**Paramilitary forces can be under dual authority of the PLA and the Chinese government.*

SCHOOLS

- Academy of Military Science
- National Defense University
- National University of Defense Technology

**Ministry of National Defense and general offices are not depicted in this chart.*

CHINA'S MILITARY LEADERSHIP

The military's highest decision-making body, the CMC, is technically a department of the CCP Central Committee. The CMC Chairman is a civilian, usually serving concurrently as the General Secretary of the CCP and President of China. Prior to the structural reforms, the ex officio membership of the CMC included several vice chairs, the Minister of National Defense—a position functionally unlike the U.S. Secretary of Defense—the three service commanders, and the directors of the four general headquarters departments. The officers who held those positions prior to reforms still serve on the CMC, but the structure and membership of the CMC may change. Regional analysts cite the establishment of new services, departments, and commissions as complicating the earlier membership pattern, forcing an adjustment.

MEMBERS OF THE CCP CENTRAL MILITARY COMMISSION

Chairman Xi Jinping's appointment as Party General Secretary and CMC Chairman in 2012, and his selection as President in the spring of 2013, represented the first simultaneous transfer of all three of China's top positions to an incoming leader in recent decades. In 2016, Xi was announced as the commander-in-chief of the CMC's Joint Operations Command Center and was named "core" leader of the CCP Central Committee. Xi's father was an important military figure during China's communist revolution and was a Politburo member in the 1980s. The younger Xi served as an aide to a defense minister early in his career and would have had ample opportunities to interact with the PLA as a provincial Party official. In meetings with U.S. officials, Xi has emphasized improving military-to-military relations between China and the United States.

Vice Chairman Fan Changlong is China's top uniformed officer and one of two deputy secretaries of the body leading the PLA's ongoing reforms. He rose to his position in an unusually steep "helicopter promotion" in 2012. He formerly commanded the Jinan MR, a test bed for new operational concepts and technology. Fan was the longest serving of China's seven MR commanders at the time of his appointment, but unlike previous CMC vice chairmen, Fan had never previously served on the CMC. He also spent 35 years in the Shenyang MR, adjacent to North Korea and Russia.

Vice Chairman Xu Qiliang, a public advocate for reform, guides the effort as a deputy secretary of the CMC's reform leading group. He is the first career air force officer promoted to CMC Vice Chairman. Xu previously served on the CMC as PLAAF commander, where he oversaw rapid force modernization and expanded the air force's foreign engagement. He may have crossed paths with Xi Jinping earlier in their careers when both men served in Fujian Province. Xu was the first PLAAF officer to serve as deputy chief of the GSD since the Cultural Revolution period, and—at 54 years of age at the time—the youngest in PLA history.

Minister of National Defense Chang Wanquan was appointed at the National People's Congress in March 2013. The Minister of National Defense is the PLA's third most senior officer and manages its relationship with state bureaucracies and foreign militaries. Chang previously oversaw the PLA's weapons development and space portfolio as head of the General Armament Department. He played a role in China's border skirmishes with Vietnam and has held top posts across three MRs.

Joint Staff Department Chief Fang Fenghui oversees PLA operations, a narrowing of the wider responsibilities he held as Chief of the former GSD prior to the reforms initiated in 2015. In his previous position as Beijing MR commander, he guided China's 60th anniversary military parade in 2009 and oversaw security for the 2008 Beijing Olympic Games. Fang was the first former Beijing MR commander to move directly to Chief of the GSD. He was the PLA's youngest MR commander when he was promoted to lead the Beijing MR in 2007.

Political Work Department Director Zhang Yang oversees the PLA's political work including propaganda, organization, and education—missions inherited from the former General Political Department. Unusual for a CMC member, Zhang spent his entire career in a single MR, the Guangzhou MR bordering Vietnam and the South China Sea, where he ultimately became the MR's Political Commissar at a relatively young age. Zhang also participated in China's border conflict with Vietnam and supported disaster relief efforts following a January 2008 snowstorm in southern China.

Logistics Support Department Director Zhao Keshi guides PLA support functions including military finances, facilities management, and infrastructure construction. Before his appointment to the CMC in 2012, Zhao spent his entire career in the Nanjing MR—responsible for a Taiwan contingency—and, most recently, served as its commander. He was also reportedly an exercise commander in the large military drills that induced the 1996 Taiwan Strait Crisis. Zhao has written on defense mobilization and reserve unit construction.

Equipment Development Department Director Zhang Youxia's position gives him oversight of the military's weapons development programs. He gained rare experience as a combat commander during China's brief war with Vietnam in 1979. Zhang formerly commanded the Shenyang MR, which shared a border with North Korea and Russia. Zhang is one of China's military "princelings." His father, a well-known military figure in China, served with Xi Jinping's father at the close of China's Civil War in 1949.

PLAN Admiral Wu Shengli is the longest-serving member of the CMC and through 2016, he was also the head of the PLAN. Under Wu, the PLAN increased its out-of-area exercises, multinational patrols, and foreign naval exchanges, and initiated its first deployment to the Gulf of Aden. The first career PLAN officer to serve as a Deputy Chief of the General Staff, Wu held leadership positions in two of the PLAN's three fleets, spending most of his career in the East Sea Fleet.

PLAAF Commander Ma Xiaotian previously oversaw the PLA's foreign military engagement activities as a Deputy Chief of the General Staff. Ma led the PLA side in key military-to-military exchanges with the United States, including the Defense Consultative Talks and the Strategic Security Dialogue. Ma has significant operational experience both as a pilot and staff officer in multiple MRs.

PLARF Commander Wei Fenghe served in multiple missile bases across different MRs and held top posts in the headquarters of the former PLASAF, the PLARF's predecessor, before being promoted in late 2010 to Deputy Chief of the General Staff—the first officer from the PLASAF to do so. In that role, Wei met frequently with foreign delegations, including senior U.S. officials, affording him greater international exposure than previous PLASAF commanders.

3

FORCE MODERNIZATION GOALS AND TRENDS

China is advancing a comprehensive military modernization program that will improve its ability to conduct anti-access/area denial (A2/AD), power projection operations, and nuclear deterrence. It also continues to develop capabilities for what PLA writings call "non-war" missions, as well as operations in emerging domains such as cyberspace, space, and the electromagnetic spectrum.

PLA CAPABILITIES IN DEVELOPMENT

Anti-Access/Area Denial. China continues to develop capabilities to dissuade, deter, or, if ordered, to defeat possible third-party intervention during a large-scale, theater campaign such as a Taiwan contingency. U.S. defense planners often refer to these collective PLA capabilities as A2/AD, though China does not use this term. China's military modernization plan includes the development of capabilities to attack, at long ranges, adversary forces that might deploy or operate within the western Pacific Ocean in the air, maritime, space, electromagnetic, and information domains.

Long-Range Precision Strike. The PLA has modernized its conventionally armed missile force extraordinarily rapidly. Today, China fields an array of conventionally armed SRBMs as well as ground- and air-launched LACMs. U.S. bases in Japan are in range of a growing number of Chinese MRBMs and LACMs. Guam could also be within range of air-launched LACMs, as demonstrated by H-6K bomber flights into the Western Pacific Ocean last year. The DF-26, which debuted publicly last year, is capable of conducting intermediate precision strikes against ground targets that could include U.S. bases on Guam. PLA writings see logistics and power projection assets as potential vulnerabilities in modern warfare—an assessment that may be driving this growing capability to strike regional air bases, logistics and port facilities, communications, and other ground-based infrastructure.

Ballistic Missile Defense (BMD). China is taking steps to develop a BMD capability. It is developing a missile defense umbrella consisting of kinetic-energy intercept at exo-atmospheric altitudes (greater than 80 km), as well as intercepts of ballistic missiles and other aerospace vehicles within the upper atmosphere. In July 2016, Chinese official media confirmed China's intent to go forward with mid-course missile defense capabilities on both land and sea assets, reflecting work on BMD dating back several decades.

When operational, the HQ-19 may fill the mid-tier of China's BMD network. China has tested the HQ-19 interceptor missile specifically used for intercepting a ballistic missile at mid-course, according to regional media. The HQ-19 is still undergoing PLAAF-organized testing; as of May 2016, China was focused mainly on testing the HQ-19's capability to intercept 3,000 km-ranged ballistic missiles.

The PLA's long-range SAM inventory also offers a limited capability against ballistic missiles. China's domestic CSA-9 (HQ-9) long-range SAM system is expected to have a limited capability to provide point defense against tactical ballistic missiles with ranges up to 500 km. China's fielded SA-20 PMU2 SAMs and future S-400 SAMs may have some capability to engage ballistic missiles depending on the interceptors and supporting infrastructure.

Additionally, new indigenous radars, the JL-1A and JY-27A, are designed to address the ballistic missile threat; the JL-1A is advertised as capable of the precision tracking of multiple ballistic missiles.

Surface and Undersea Operations. China continues to build a variety of offensive and defensive capabilities that could permit the PLA to achieve sea control within what the PLAN calls the "near seas," as well as to project limited combat power into the "far seas." Of these, China's coastal defense cruise missiles, air- / surface- / sub-surface-launched ASCMs, submarine-launched torpedoes, and naval mines provide the PLAN with an ability to counter an adversary fleet's intervention with multi-axis, high-intensity attacks that increase in lethality as adversary naval combatants approach China's coast. Additionally, China has fielded CSS-5 ASBMs specifically designed to hold adversary aircraft carriers at risk 1,500 km off China's coast. The PLA is making gradual progress in the undersea domain as well, but continues to lack a robust deep-water ASW capability. It is unclear whether the PLA can collect accurate targeting information and pass it to launch platforms in time for successful strikes in sea areas beyond the first island chain.

Space and Counterspace. PLA strategists regard the ability to use space-based systems—and to deny them to adversaries—as central to enabling modern informatized warfare. As a result, the PLA continues to strengthen its military space capabilities despite its public stance against the militarization of space. Although PLA doctrine does not appear to address space operations as a unique operational "campaign," space operations will probably form an integral component of other PLA campaigns and serve a key role in enabling actions that counter third-party intervention. China is seeking to utilize space systems to establish a real-time and accurate surveillance, reconnaissance and warning system, and to enhance C2 in joint operations. These advancements include the Beidou navigation satellite system and space surveillance capabilities that can monitor objects across the globe and in space.

Information Operations (IO). China assesses that an essential element, if not a fundamental prerequisite, of its ability to counter third-party intervention is the ability to control the information spectrum in the modern battlespace. PLA authors often cite this capability—sometimes termed "information blockade" or "information dominance"—as necessary to seize the initiative and set the

conditions needed to achieve air and sea superiority. China's "information blockade" concept likely envisions the employment of military and non-military instruments of state power across the battlespace, including in cyberspace and space. China's investments in advanced EW systems, counterspace weapons, and cyber operations—combined with more traditional forms of control such as propaganda and denial through opacity—reflect the priority the PLA places on information advantage.

Cyberoperations. Chinese cyberattack operations could support A2/AD by targeting critical nodes to disrupt adversary networks throughout the region. China believes its cyber capabilities and personnel lag behind the United States. To deal with these perceived deficiencies, China is improving training and domestic innovation to achieve its cyber capability development goals. PLA researchers advocate seizing "cyberspace superiority" by using offensive cyber operations to deter or degrade an adversary's ability to conduct military operations against China.

Integrated Air Defense System (IADS). China has a credible IADS over land areas and within 300 nm (556 km) of its coast that relies on robust early warning, fighter aircraft, and a variety of SAM systems. It also employs a point defense primarily designed to counter adversary long-range airborne strike platforms.

China has increasing numbers of advanced long-range SAMs, including its indigenous CSA-9, Russian SA-10 (S-300PMU), and SA-20 (S-300PMU1/PMU2), all of which have the advertised capability to protect against both aircraft and low-flying cruise missiles. In fall 2014, China signed a contract for delivery of Russia's extremely long-range SA-X-21b (S-400) SAM system (400 km), and is also expected to continue research and development to extend the range of the domestic CSA-9 SAM to beyond 200 km. Long-range air surveillance radars and airborne early-warning aircraft, such as China's indigenous KJ-2000 and KJ-500, may enable these systems by extending China's detection range to well beyond its borders.

China continues to develop and to market a wide array of air defense systems designed to counter U.S. technology; China's airshow displays claim that its new radar developments can detect stealth aircraft. China's trade materials also emphasize the systems' ability to counter long-range targets, such as long-range airborne strike and combat support aircraft.

Air Operations. The PLA's planned development of a fifth-generation fighter force will bolster its air-to-air capability. The J-20 and FC-31 are expected to feature high-maneuverability, low-observability, and an internal weapons bay. Other key features include modern avionics and sensors that offer more timely situational awareness for operations in network-centric combat environments; radars with advanced tracking and targeting capabilities; protection against enemy electronic countermeasures; and

integrated EW systems. These aircraft, which could begin to enter service as early as 2018, will significantly improve China's fleet of fourth-generation aircraft, such as the Russian-built Su-27/Su-30 and J-11A, and the indigenous J-10 and J-11B fighters. China's continuing upgrades to its bomber fleet will give it the capability to carry new, longer-range cruise missiles. In conjunction with procuring more capable military equipment, China is increasing the complexity and realism of air and air defense training.

Similarly, the acquisition and development of longer-range unmanned aerial vehicles (UAVs) will increase China's ability to conduct long-range ISR and strike operations. In 2015, media reported the development of the Shendiao (Sacred Eagle or Divine Eagle) as the PLA's newest high-altitude, long-endurance UAV for a variety of missions such as early warning, targeting, EW, and satellite communications. Also in 2015, the PLAAF used a Yilong UAV (also known as the Wing Loong or Pterodactyl) to assist in HA/DR in the aftermath of an earthquake in China's west—the first public acknowledgment of PLAAF UAV operations.

PLA Power Projection Expanding. Over the last decade, China has increased its capability to address regional and global security objectives beyond its continued main emphasis on Taiwan contingencies. PLA ground, naval, air, and missile forces are increasingly able to project power through peacetime operations and are expanding capacity to contest U.S. military superiority in the event of a regional conflict.

China's development of air- and ground-based missile strike capabilities enables other military assets to focus on conducting offensive missions, such as blockades, sovereignty enforcement, and/or A2/AD, farther from China's shores. China also focuses on enhancing the PLA's ISR capabilities, which will enable improved targeting and timely responses to perceived threats.

PLA Navy. The PLAN continues to develop into a global force, gradually extending its operational reach beyond East Asia and into what China calls the "far seas." The PLAN's latest naval platforms enable combat operations beyond the reaches of China's land-based defenses. In particular, China's aircraft carrier and planned follow-on carriers, once operational, will extend air defense umbrellas beyond the range of coastal systems and help enable task group operations in "far seas." The PLAN's emerging requirement for sea-based land-attack will also enhance China's ability to project power. More generally, the expansion of naval operations beyond China's immediate region will also facilitate non-war uses of military force.

- The PLAN's force structure continues to evolve, incorporating more platforms with the versatility for both offshore and long-distance power projection. China is engaged in series production of the LUYANG III-class DDG, the JIANGKAI

II-class FFG, and the JIANGDAO-class FFL. China also began construction of the much larger RENHAI-class CG in early 2015, with expected commissioning in late 2018.

- The PLAN continues to extend its strike range with more ship-, submarine-, and aircraft-deployed ASCMs of both Russian and Chinese manufacture.

- The PLAN continues to deployments of ASCM-equipped submarines in support of counterpiracy patrols, underscoring China's interest in protecting SLOCs beyond the South China Sea.

- China's aircraft carrier program continues to progress. Last year, China continued to learn lessons from operating its first aircraft carrier, *Liaoning*, while constructing its first domestically produced aircraft carrier—the beginning of what the PLA states will be a multi-carrier force. China's next generation of carriers will probably have greater endurance and be capable of launching more varied types of aircraft, including EW, early warning, and ASW aircraft. These improvements would increase the potential striking power of a potential "carrier battle group" in safeguarding China's interests in areas beyond its immediate periphery; it would also be able to protect nuclear ballistic missile submarines stationed on Hainan Island in the South China Sea. The carriers would most likely also perform such missions as patrolling economically important SLOCs, conducting naval diplomacy, regional deterrence, and HA/DR operations.

- China is also developing the Type 055 CG, a 10,000-ton ship that can employ larger cruise missiles and escort a carrier into blue waters. In 2016, the PLAN also acquired multiple new large ships that can support force projection operations, including amphibious dock landing, tank landing, semi-submersible, and comprehensive supply ships.

The PLAN's missions in the "far seas" include protecting important sea lanes from terrorism, piracy, and foreign interdiction; providing HA/DR; conducting naval diplomacy and regional deterrence; and training to prevent a third party, such as the United States, from interfering with operations off China's coast in a Taiwan contingency or conflict in the East or South China Sea. The PLAN's ability to perform these missions is modest but growing as it gains more experience operating in distant waters and acquires larger and more advanced platforms. China's "far seas" experience primarily comes from long-distance task group deployments beyond the first island chain and its ongoing counterpiracy mission in the Gulf of Aden.

- In 2016, the PLAN continued to conduct "far seas" deployments into the Western Pacific Ocean, the Java and Celebes Seas, and the Indian Ocean. It also participated

for the second time in the biennial U.S.-led RIMPAC exercises. The PLAN continued submarine deployments to the Indian Ocean, demonstrating its increasing familiarity with operating in that region.

- China also sustained a three-ship presence in the Gulf of Aden last year, continuing its eight-year effort to protect Chinese merchant shipping from maritime piracy. This operation is its first enduring naval operation beyond the Asia-Pacific region.
- Logistics and intelligence support, however, remain key obstacles, particularly in the Indian Ocean and more distant areas. As a result, China is expanding its access to logistics in the Indian Ocean; last year, China announced a military base in Djibouti and may establish additional hubs over the next decade. The PLAN seeks to be able to operate across the greater Asia-Pacific region in high-intensity actions over a period of several months.

PLA Air Force and PLA Navy Aviation. The PLAAF and PLAN Aviation continue to improve their capabilities to conduct offensive and defensive offshore operations such as strike, air and missile defense, strategic mobility, and early warning and reconnaissance missions.

- In 2016, China built reinforced hangars on several of its Spratly Island outposts in the South China Sea. These hangars could support up to 24 fighters or any other type of PLA aircraft participating in force projection operations. Chinese press discussed a "new normal" of persistent air patrols over the South China Sea by bomber and reconnaissance aircraft and also reemphasized China's intent to conduct patrols in support of its East China Sea air defense identification zone.
- The PLAAF employs the medium-range H-6K bomber, an offensive platform able to carry up to six precision-guided CJ-20 air-launched cruise missiles each, giving it the ability to engage U.S. forces in Japan and on Guam. In 2016, the PLAAF conducted multiple H-6K flights into the Western Pacific Ocean and the South China Sea. The acquisition of three IL-78 MIDAS aerial refueling tankers from Ukraine allows the PLAAF to extend the range of Su-30 fighter aircraft operating in support of H-6K bombers.
- Also in 2016, China started production of the Y-20 heavy-lift transport aircraft in an effort to correct a strategic airlift deficiency that holds back force projection capabilities. The Y-20 is China's first indigenous heavy-lift jet transport, but could also acquire additional missions, such as serving as an airborne warning and control system (AWACS) and as an aerial refueling tanker. China also rolled out the AG600 large amphibious seaplane last year. It has a range of 4,500 km and is expected to be able to take off from water to support operations far from the mainland.

In 2015, a PLA report identified several additional capability requirements, including a strategic bomber, a ground-based interceptor, a high-speed LACM, a large transport plane, an airship that moves in the upper atmosphere, a next-generation fighter, an unmanned attack aircraft, air force satellites, and precision-guided bombs, as well as the ability to extend surveillance into the Western Pacific Ocean.

PLA Rocket Force. The PLARF fields multiple missiles capable of projecting power. Among these are the CSS-5 Mod-5 ASBM, with a range of 1,500 km and a maneuverable reentry vehicle (MaRV) to challenge ballistic missile defenses.

China also deploys the land-attack CSS-5 Mod 4, placing targets on Okinawa and the main Japanese islands at risk. The DF-26 IRBM has a maximum range of 4,000 km and will be capable of conducting precision strikes against ground targets, potentially placing U.S. forces on Guam at risk. The PLARF has added LACMs to its force of SRBMs deployed across from Taiwan, including the ground-launched CJ-10 LACM with at least a 1,500 km range.

CHINA'S GROWING CIVILIAN AND PARAMILITARY MARITIME CAPABILITY

China Coast Guard (CCG). The CCG is responsible for a wide range of missions, including enforcement of China's sovereignty claims, anti-smuggling, surveillance, protection of fisheries resources, and general law enforcement. China primarily uses civilian maritime law enforcement agencies in maritime disputes, and employs the PLAN in an overwatch capacity in case of escalation.

The enlargement and modernization of the CCG forces has improved China's ability to enforce its maritime claims. The CCG is increasing its total force level at a rapid pace. Since 2010, the CCG's large patrol ship fleet (more than 1,000 tons) has more than doubled in size from approximately 60 to more than 130 ships, making it by far the largest coast guard force in the world and increasing its capacity to conduct extended offshore operations in a number of disputed areas simultaneously. Furthermore, the newer ships are substantially larger and more capable than the older ships, and the majority are equipped with helicopter facilities, high-capacity water cannons, and guns ranging from 30mm to 76mm. Among these ships, a number are capable of long-distance, long-endurance out-of-area operations.

In addition, the CCG operates more than 70 fast patrol combatants (more than 500 tons), which can be used for limited offshore operations, and more than 400 coastal patrol craft (as well as approximately 1000 inshore and riverine patrol boats). By the end of the decade, the CCG is expected to add another 25-30 patrol ships and patrol combatants before the construction program levels off.

China Maritime Militia (CMM). The CMM is a subset of China's national militia, an armed reserve force of civilians available for mobilization to perform basic support duties. Militia units organize around towns, villages, urban sub-districts, and enterprises, and vary widely from one location to another. The composition and mission of each unit is based on local conditions and personnel skills. In the South China Sea, the CMM plays a major role in coercive activities to achieve China's political goals without fighting, part of broader PRC military doctrine that states that confrontational operations short of war can be an effective means of accomplishing political objectives.

A large number of CMM vessels train with and support the PLAN and CCG in tasks such as safeguarding maritime claims, protecting fisheries, logistics, search and rescue (SAR), and surveillance and reconnaissance. The government subsidizes various local and provincial commercial organizations to operate militia vessels to perform "official" missions on an ad hoc basis outside of their regular commercial roles. The CMM has played significant roles in a number of military campaigns and coercive incidents over the years, including the 2011 harassment of Vietnamese survey vessels, the 2012 Scarborough Reef standoff, and the 2014 *Haiyang Shiyou*-981 oil rig standoff.

In the past, the CMM rented fishing vessels from companies or individual fishermen, but it appears that China is building a state-owned fishing fleet for its maritime militia force in the South China Sea. Hainan Province, adjacent to the South China Sea, has ordered the building of 84 large militia fishing vessels for Sansha City.

PRECISION STRIKE

Short-Range Ballistic Missiles (300-1,000 km). The PLA Rocket Force has approximately 1,200 SRBMs. The force fields advanced variants with improved ranges and accuracy in addition to more sophisticated payloads, while gradually replacing earlier generations that do not possess true precision strike capability.

Medium-Range Ballistic Missiles (1,000-3,000 km). The PLA is fielding approximately 200-300 conventional MRBMs to increase the range at which it can conduct precision strikes against land targets and naval ships operating far from China's shores out to the first island chain.

Intermediate-Range Ballistic Missiles (3,000-5,500 km). The PLA is developing a nuclear and conventional road-mobile IRBM, which increases its capability for near-precision strike as far as the "second island chain." The PLAN also is improving its over-the-horizon (OTH) targeting capability with sky wave and surface wave OTH radars, which can be used in conjunction with reconnaissance satellites to locate targets at great distances from China, thereby supporting long-range precision strikes, including employment of ASBMs.

Land-Attack Cruise Missiles. The PLA continues to field approximately 200-300 air- and ground-launched LACMs for standoff precision strikes. Air-launched cruise missiles include the YJ-63, KD-88, and the CJ-20 (the air-launched version of the CJ-10 GLCM). China recently adapted the KD-88 LACM, which has an advertised range of more than 100 km, and may be testing a longer-range version. China also is developing the CM-802AKG LACM, an export system that can strike both land and ship targets from fighters or bombers.

Ground-Attack Munitions. The PLAAF has a small number of tactical air-to-surface missiles (ASM) as well as precision-guided munitions including all-weather, satellite-guided bombs, anti-radiation missiles, and laser-guided bombs. China is developing smaller-sized ASMs such as the AR-1, HJ-10 anti-tank, Blue Arrow 7 laser-guided, and KD-2 missiles in conjunction with its increasing development of UAVs. China is also adapting to UAV Global Positioning System-guided munitions such as the FT-5 and LS-6 that are similar to the U.S. Joint Direct Attack Munitions (JDAM).

Anti-Ship Cruise Missiles. China deploys a wide range of advanced ASCMs with the YJ-83 series as the most numerous, which are deployed on the majority of China's ships as well as multiple aircraft. China has also outfitted several ships with YJ-62 ASCMs and claims that the new LUYANG III class DDG and future Type 055 CG will be outfitted with a vertically launched variant of the YJ-18 ASCM. The YJ-18 is a long-range torpedo-tube-launched ASCM capable of supersonic terminal sprint which has likely replaced the older YJ-82 on SONG, YUAN, and SHANG class submarines. China has also developed the long range supersonic YJ-12 ASCM for the H-6 bomber. At China's military parade in September 2015, China displayed a ship-to-ship variant of the YJ-12 called the YJ-12A. China also carries the Russian SS-N-22 SUNBURN on four Russian built SOVREMENNYY-class DDGs and the Russian SS-N-27b SIZZLER on eight Russian built KILO-class submarines.

Anti-Radiation Weapons. China is starting to integrate an indigenous version of the Russian Kh-31P (AS-17), known as the YJ-91, into its fighter-bomber force. The PLA imported Israeli-made HARPY UAVs and Russian-made anti-radiation missiles during the 1990s.

Artillery-Delivered High Precision Munitions. The PLA is developing and deploying artillery systems with the range to strike targets within or even across the Taiwan Strait, including the PHL-03 300 mm multiple-rocket launcher (MRL) (greater than 100 km range) and the longer-range AR-3 dual-caliber MRL (out to 220 km range).

Building an Informatized Military. Chinese military writings describe informatized warfare as an asymmetric way to weaken an adversary's ability to acquire, transmit, process, and use information during war and to force an adversary to capitulate before the onset of conflict. The PLA conducts military exercises simulating these operations and likely views conventional and cyber operations as means of achieving information dominance. PLA writings suggest EW, cyberspace, deception, counterspace, and other operations during wartime could deny an adversary's use of information. "Simultaneous and parallel" operations would involve strikes against U.S. warships, aircraft, and associated supply craft and the use of information attacks to affect tactical and operational communications and computer networks.

Command, Control, Communications, Computers, and Intelligence (C4I) Modernization. China continues to prioritize C4I modernization as a response to trends in modern warfare that emphasize the importance of rapid information sharing, processing, and decision-making. The PLA seeks to modernize itself both technologically and organizationally to command complex, joint operations in near and distant battlefields with increasingly sophisticated weapons.

The PLA views technological improvements to C4I systems as essential to improve the speed and effectiveness of decision-making while providing secure and reliable communications to fixed and mobile command posts. The PLA is fielding advanced automated command systems like the Integrated Command Platform to units at lower echelons across the force. The adoption of the Integrated Command Platform enables multi-service communications necessary for joint operations. These C4I improvements are expected to shorten the command process. The new technologies introduced into the PLA enable information sharing—intelligence, battlefield information, logistical information, and weather reports—on robust and redundant communications networks, which improve commanders' situational awareness. In particular, the transmission of ISR data in near real-time to commanders in the field could facilitate the commanders' decision-making processes and make operations more efficient.

These technical improvements have greatly enhanced the PLA's flexibility and responsiveness. "Informatized" operations no longer require in-person meetings for command decision-making or labor-intensive processes for execution. Commanders can issue orders to multiple units at the same time while on the move, and units can rapidly adjust their actions through the use of digital databases and command automation tools.

Electronic Warfare (EW). The PLA considers EW an integral component of warfare. Its EW doctrine emphasizes using electromagnetic spectrum weapons to suppress or to deceive enemy electronic equipment. The PLA's strategy focuses on radio, radar, optical, infrared, and microwave frequencies, in addition to adversarial computer and

information systems. The PLA's EW units have conducted jamming and anti-jamming operations, testing the military's understanding of EW weapons, equipment, and performance, and improving its confidence in conducting force-on-force, real-equipment confrontation operations in simulated EW environments. The PLA tests and reportedly validates advances in EW weapons research in these exercises. These include jamming equipment capable against multiple communication and radar systems and Global Positioning System satellite systems.

Cyberwarfare. The development of cyberwarfare capabilities is consistent with authoritative PLA writings, which identify IO —comprising cyber, electronic, and psychological warfare— as integral to achieving information superiority and as an effective means for countering a stronger foe. Last year, China identified cyberspace as a critical domain for national security and declared its intent to expedite the development of its cyber forces.

PLA writings note the effectiveness of IO and cyber warfare in recent conflicts and advocate targeting an adversary's C2 and logistics networks to affect its ability to operate during the early stages of conflict. They portray an enemy's C2 system as "the heart of information collection, control, and application on the battlefield. It is also the nerve center of the entire battlefield."

As a result, the PLA may seek to use its cyberwarfare capabilities to collect data for intelligence and cyberattack purposes; to constrain an adversary's actions by targeting network-based logistics, communications, and commercial activities; or to serve as a force-multiplier when coupled with kinetic attacks during times of crisis or conflict.

The PLA's ongoing structural reforms may change how the PLA organizes and commands IO, particularly with the establishment of the SSF. The force, which reportedly consolidates cyber elements of the former GSD, may be intended to create efficiencies by combining

CYBER ACTIVITIES DIRECTED AGAINST THE DEPARTMENT OF DEFENSE

Computer systems around the world, including those owned by the U.S. Government, continued to be targeted by China-based intrusions through 2016. These and past intrusions focused on accessing networks and extracting information. China uses its cyber capabilities to support intelligence collection against U.S. diplomatic, economic, and defense industrial base sectors. The information targeted can be used to benefit China's defense high-technology industries, support China's military modernization, or provide the CCP insights into U.S. leadership perspectives. Additionally, targeted information could inform PLA planners' work to build a picture of U.S. defense networks, logistics, and related military capabilities that could be exploited during a crisis. The accesses and skills required for these intrusions are similar to those necessary to conduct cyberattacks.

cyber reconnaissance, attack, and defense capabilities under one organization.

Nuclear Deterrence. China's nuclear weapons policy prioritizes the maintenance of a nuclear force able to survive a first strike and to respond with sufficient strength to inflict unacceptable damage on an enemy. China insists that the new generation of mobile missiles, with warheads consisting of MIRVs and penetration aids, are intended to ensure the viability of its strategic deterrent in the face of continued advances in U.S. and, to a lesser extent, Russian strategic ISR, precision strike, and missile defense capabilities.

China has long maintained a "no first use" (NFU) policy, stating that it would use nuclear forces only in response to a nuclear strike against China. China's NFU pledge consists of two stated commitments: China will never use nuclear weapons first at any time and under any circumstances, and it unconditionally undertakes not to use or threaten to use nuclear weapons against any non-nuclear-weapon state or in nuclear-weapon-free zones.

There is some ambiguity, however, over the conditions under which China's NFU policy would apply. Some PLA officers have written publicly of the need to spell out conditions under which China might need to use nuclear weapons first; for example, if an enemy's conventional attack threatened the survival of China's nuclear force or of the regime itself. There has been no indication that national leaders are willing to attach such nuances and caveats to China's NFU doctrine.

China invests considerable resources to maintain a limited, but survivable, nuclear force to ensure that the PLA can deliver a damaging responsive nuclear strike. Press accounts suggest that China may be enhancing peacetime readiness levels for these nuclear forces to ensure responsiveness.

Land-Based Platforms. China's nuclear arsenal currently consists of approximately 75-100 ICBMs, including the silo-based CSS-4 Mod 2 (DF-5A) and Mod 3(DF-5B); the solid-fueled, road-mobile CSS-10 Mod 1 and Mod 2 (DF-31 and DF-31A); and the more-limited-range CSS-3 (DF-4). This force is complemented by road-mobile, solid-fueled CSS-5 (DF-21) MRBMs for regional deterrence missions.

Sea-based Platforms. China continues to produce the JIN-class SSBN, with four commissioned and others under construction. China's JIN SSBNs, which are equipped to carry up to 12 CSS-N-14 (JL-2) SLBMs, are the country's first viable sea-based nuclear deterrent.

Future Efforts. The PLA is developing a range of technologies in an attempt to counter U.S. and other countries' ballistic missile defense systems, including MaRV, MIRVs, decoys, chaff, jamming, and thermal shielding. For example, China acknowledged a hypersonic glide vehicle test in 2014. Additionally, the PLA probably will continue to implement more sophisticated C2 systems and processes as its nuclear force increases in the number of mobile ICBMs and future SSBN deterrence patrols, requiring the PLA to safeguard the

integrity of nuclear release authority for a larger, more dispersed force.

DEVELOPMENTS IN NUCLEAR DETERRENCE

Nuclear Triad. China maintains nuclear-capable delivery systems in its missile forces and navy and is developing a strategic bomber that officials expect to have a nuclear mission. Its deployment and integration would provide China with its first credible nuclear "triad" of delivery systems dispersed across land, sea, and air—a posture considered since the Cold War to improve survivability and strategic deterrence.

- In 2016, the PLAAF commander referred publicly to the military's efforts to produce an advanced long-range strategic bomber, a platform observers tied to nuclear arms. Past PLA writings expressed the need to develop a "stealth strategic bomber," suggesting aspirations to field a strategic bomber with a nuclear delivery capability.
- The PLARF and PLAN are responsible for land- and sea-based nuclear capabilities. The PLAAF does not currently have a nuclear mission.

Launch On Warning. PLA writings express the value of a "launch on warning" nuclear posture, an approach to deterrence that uses heightened readiness, improved surveillance, and streamlined decision-making processes to enable a more rapid response to enemy attack. These writings highlight the posture's consistency with China's NFU policy, suggesting that it may be an aspiration for China's nuclear forces. China is working to develop a space-based early warning capability that could support this posture in the future.

PLA UNDERGROUND FACILITIES

The PLA continues to maintain a robust and technologically advanced underground facility (UGF) program protecting all aspects of its military forces, including C2, logistics, missile systems, and naval forces. China's NFU nuclear policy also contributed to the construction of UGFs for the country's nuclear forces, which may have planned to survive an initial nuclear strike.

China began to update and to expand its military UGF program in the mid- to late-1980s. This modernization effort took on a renewed urgency following China's observation of U.S. and coalition air operations during the 1991 Gulf War and their use in OPERATION ALLIED FORCE. These military campaigns convinced China that it needed to build more survivable, deeply buried facilities, resulting in the PLA's widespread UGF construction effort over the past fifteen years.

CHINA'S INTERNAL SECURITY FORCES

China's national internal security forces consist primarily of the Ministry of Public Security (MPS), the Ministry of State Security (MSS), the PAP, and the PLA. China's leaders rely on these forces to address challenges ranging from protests over political, social, environmental, or economic problems to suspected terrorist attacks. In recent years, China has focused increasingly on protests perceived as being linked to foreign influences and, separately, the Turkestan Islamic Party, which China's leaders believe is a terrorist group connected to ethnic Uighur nationalists in the Xinjiang autonomous region. China blames Uighur "separatists" for terrorist attacks in China, and has imposed strict security in Xinjiang to curb potential attacks.

Ministry of Public Security. The MPS leads China's national police, which serves as the first-line force for public order. The key mission of the MPS is domestic law enforcement and the "maintenance of social security and order" with duties including anti-rioting and anti-terrorism.

Ministry of State Security. The MSS is China's main civilian intelligence/counterintelligence service. The missions of the MSS are: to protect China's national security; to secure political and social stability; to implement the recently updated State Security Law and related laws and regulations; to protect state secrets; to conduct counterintelligence; and to investigate organizations or people inside China who carry out or direct, support, or aid other people in harming China's national security.

People's Armed Police. The PAP is a paramilitary component of China's armed forces whose primary mission is internal security and domestic stability. It falls under the dual authority of the CMC and the State Council. Although the PAP has units for a variety of functions, such as border security and firefighting, the most numerous are for internal security. PAP units are organized into "contingents" in each province, autonomous region, and centrally administered city, as well as a smaller number of "mobile divisions" available to deploy anywhere in the country in response to escalating internal crises.

People's Liberation Army. As the armed wing of the CCP, the PLA is the ultimate guarantor of the CCP's authority, giving it a role in domestic security in addition to its national defense mission. For example, the PLA may provide transportation, logistics, and intelligence to assist local public security forces with internal security and is authorized under the 1997 National Defense Law to "assist in maintaining public order" directly when CCP leaders consider it necessary.

Military Operations Other Than War. The PLA continues to prepare for military operations other than war (MOOTW), including emergency response, counterterrorism, international rescue, HA/DR, PKO, and various other security tasks. In recent years, the PLA has embraced MOOTW, revising doctrine and teaching materials, and incorporating MOOTW into its readiness preparations and vision of modernization. In practice, the military shares many of these missions with the PAP, a domestically oriented paramilitary force.

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RESOURCES FOR FORCE MODERNIZATION

OVERVIEW

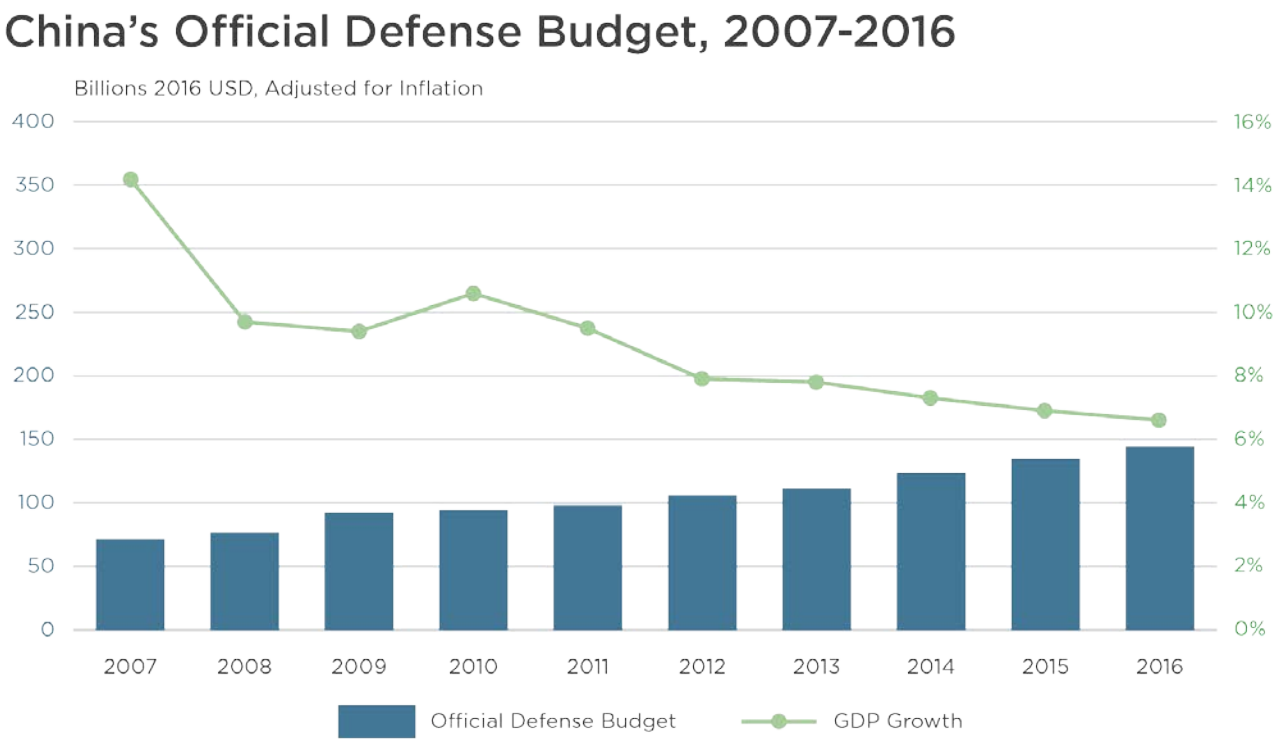
China has the fiscal strength and political will to sustain increased defense spending, which supports the continued modernization of the PLA, the development of a sophisticated defense industry, and the exploration of new technologies with defense applications. China draws from diverse sources to support PLA force modernization, including: domestic defense investments, indigenous defense industrial development, a growing research and development (R&D) / science and technology (S&T) base, dual-use technologies conveyed in part through civil-military integration, and acquisition of foreign technology and know-how.

China's long-term goal is to create a wholly indigenous defense-industrial sector, augmented by a strong commercial sector, to meet the needs of PLA modernization efforts and compete as a top-tier supplier in the global arms trade.

However, the PLA still looks to foreign assistance to fill some critical, near-term capability gaps and to accelerate the rate of modernization. China leverages foreign investments, commercial joint ventures, academic exchanges, the foreign experience of Chinese students and researchers, and state-sponsored industrial and technical espionage to increase the level of technologies and expertise available to support military research, development, and acquisition.

MILITARY EXPENDITURES TRENDS

In March 2016, China announced a 7 percent inflation-adjusted increase in its annual military budget to $144.3 billion, continuing more than two decades of annual defense spending increases and sustaining its position as the second largest military spender in the world after the United States. Analysis of data from 2007 through 2016 indicates China's official military budget grew at an average of 8.5 percent per year in inflation-adjusted terms over that period. China has the ability to support defense spending growth for the foreseeable future.



China's Estimated Military Expenditures. Using 2016 prices and exchange rates, DoD estimates that China's total military-related spending for 2016 exceeded $180 billion U.S. dollars (USD); however, it is difficult to estimate actual military expenses, largely due to China's poor accounting transparency. In addition, China's published military budget omits several major categories of expenditure, such as R&D and the procurement of foreign weapons and equipment.

China's Estimated Defense Budget Growth. Jane's Defense Budgets expects China's defense budget to increase by an annual average of 7 percent, growing to $260 billion by 2020 for a force that, although expanding, is expected over the near-term to remain primarily regional. As of March 2016, the DoD Comptroller forecasted that U.S. defense budget outlays will reach $606 billion in current dollars over the same period for a force with a global footprint.

2016 Defense Budget Comparison (Adjusted for Inflation)

Billion (USD)

China *(Official Budget)*	$144.3
Russia *(National Defense Budget)*	$46.2
Japan	$47.2
India	$37.0
Republic of Korea	$32.8
Taiwan	$10.5

Comparison of China's official defense budget with those of other regional powers

DEVELOPMENTS AND TRENDS IN CHINA'S DEFENSE INDUSTRY

Defense Sector Reform. China's defense-industrial complex continues to adapt and reorganize in an effort to improve weapon system research, development, and production to compensate for an estimated lag of one-to-two generations behind its main competitors in the global arms industry. Over the past two years, the CMC has taken organizational and policy measures to reenergize the PLA's work on defense research and innovation through cooperation with the market sector.

> In 2016, the CMC established the Science and Technology Commission, a high-level defense research body, as an independent organization under the high command. It also emphasized the importance of "civil-military integration," a phrase used in part to refer to the leveraging of dual-use technologies, policies, and organizations for military benefit.

> In March 2016, President Xi underscored this message by emphasizing defense innovation during a visit with the PLA's delegation to the National People's Congress. He urged "great attention to the development of strategic, cutting-edge technologies" for the military, among other subjects.

> In 2015, China established a new, high-level advisory group, the Strategic Committee of Science, Technology, and Industry Development for National Defense. The committee facilitates civil-military integration, according to press reporting, promoting technological innovation and reforming the country's burgeoning defense industry.

In 2016, China adopted the 13th Five Year Plan (2016-2020), which, among other things, sets focus areas for research, development, and innovation. Several of these have defense implications, including aerospace engines—including turbofan technology—and gas turbines; quantum communications and computing; innovative electronics and software; automation and robotics; special materials and applications; nanotechnology; neuroscience, neural research, and artificial intelligence; and deep space exploration and on-orbit servicing and maintenance systems. Other areas where China is concentrating significant R&D resources include nuclear fusion, hypersonic technology, and the deployment and "hardening" of an expanding constellation of multi-purpose satellites. China's drive to expand civil-military integration and international economic activity supports these goals.

A wide range of organizations conducts this work. The State Administration for Science Technology and Industry for National Defense and the PLA's Equipment Development Department (EDD) work together to monitor and guide the state and military sides of China's defense-industrial apparatus, respectively. The EDD and its service counterparts cooperate with China's ten state-owned defense industrial corporations through a network of military representative bureaus and offices to supervise quality control and defense contract compliance.

More broadly, the National Natural Science Foundation of China (NSFC), the China Academy of Sciences (CAS), and the Ministry of Science and Technology fund and promote basic and applied research, scientific innovation, and high-tech integration throughout China's scientific, engineering, and civil-military industrial complex. The CAS, working closely with the NSFC, is the highest academic institution for comprehensive R&D in the natural and applied sciences in China and reports directly to the State Council in an advisory capacity, with much of its work ultimately funding disciplines and contributing to products for military use.

MILITARY EQUIPMENT MODERNIZATION TRENDS

Missile and Space Industry. The majority of China's missile programs, including its ballistic and cruise missile systems, are comparable to other international top-tier producers. China's production of a wide range of ballistic, cruise, air-to-air, and SAMs for the PLA and for export has probably been enhanced by upgrades to primary assembly and solid rocket motor production facilities. China's SLV industry is expanding to support commercial and rapid satellite launch services and the manned space program. Although its SAM systems lag behind global leaders, China has purchased Russia's S-400 air defense system.

Naval/Shipbuilding Industry. China is the top ship-producing nation in the world and has increased its shipbuilding capacity and capability for all types of military projects, including submarines, surface combatants, naval aviation, sealift, and amphibious assets. China's two largest state-owned shipbuilders—the China State Shipbuilding Corporation and Shipbuilding Industry Corporation—collaborate in shared ship designs and construction information to increase shipbuilding efficiency. China continues to invest in foreign suppliers for some propulsion units, but is becoming increasingly self-sufficient.

Armaments Industry. China's production capacity continues to advance in almost every area of PLAA systems, including new tanks, armored personnel carriers, assault vehicles, air defense artillery systems, and artillery pieces. China is capable of producing ground weapon systems at or near world-class standards; however, quality deficiencies persist with some export equipment.

Aviation Industry. China's aviation industry has advanced to produce a developmental large transport aircraft; modern fourth- to fifth-generation fighters incorporating low-observable technologies; modern reconnaissance and attack UAVs; and attack helicopters. China's commercial aircraft industry has invested in high-precision and technologically advanced machine tooling and production processes, avionics, and other components applicable to the production of military aircraft; however, China's aircraft industry remains reliant on foreign-sourced components for dependable, proven, high-performance aircraft engines. China's infrastructure and experience for the production of commercial and military aircraft are improving because of China's ongoing C919 commercial airliner and Y-20 large transport programs.

SCIENCE AND TECHNOLOGY GOALS IN SUPPORT OF MILITARY MODERNIZATION

The National Medium- and Long-Term Program for Science and Technology Development (2006-2020), issued by the State Council in February 2006, seeks to transform China into an "innovation-oriented society" by 2020. The plan defines China's S&T focus in terms of basic research, leading-edge technologies, key fields and priority subjects, and "major special items," many of which have military applications.

> Since October 2014, China has implemented the Ministry of Science and Technology's and the Ministry of Finance's joint statement announcing reforms to China's science spending. The objective of these reforms is to combat widely reported corruption and the waste of government funds intended for S&T research. The reforms would consolidate research funding from a system in which 40 agencies administered more than 100 S&T programs and funds into five new

channels: the NSFC (small-scale competitive grants); national S&T major projects; key national R&D programs; special funds to guide technological innovation; and special projects for developing human resources and infrastructure.

Basic Research. As part of a broad effort to expand basic research capabilities, China identified five areas that have military applications as major strategic needs or science research plans requiring active government involvement and funding: material design and preparation; manufacturing in extreme environmental conditions; aeronautic and astronautic mechanics; information technology development; and nanotechnology research.

Leading-edge Technologies. China has identified certain industries and technology groups with the potential to provide technological breakthroughs, to remove technical obstacles across industries, and to improve international competitiveness. Examples of applications include radar, counterspace capabilities, secure C4ISR, smart materials, and low-observable technologies. China is focusing on the following technologies for rapid development:

- *Information Technology*. Priorities include intelligent perception technologies, ad hoc networks, and virtual reality technologies.
- *New Materials*. Priorities include smart materials and structures, high-temperature superconducting technologies, and highly efficient energy materials technologies.
- *Advanced Manufacturing*. Priorities include extreme manufacturing technologies and intelligent service advanced machine tools.
- *Advanced Energy Technologies*. Priorities include hydrogen energy and fuel cell technologies, alternative fuels, and advanced vehicle technologies.
- *Marine Technologies*. Priorities include three-dimensional maritime environmental monitoring technologies; fast, multi-parameter ocean floor survey technologies; and deep-sea operations technologies.
- *Laser and Aerospace Technologies*. Priorities include the development of chemical and solid-state laser technologies to field a weapon-grade system, ultimately, for ground-based and airborne platforms.

FOREIGN TECHNOLOGY ACQUISITION

China continues to supplement indigenous military modernization efforts through the acquisition of targeted foreign technologies and the know-how pertaining to their development, including engines for aircraft, tanks, and naval vessels; solid-state electronics and microprocessors, and guidance and control systems; enabling technologies such as cutting-edge precision machine tools; advanced diagnostic and forensic equipment; and computer-assisted design, manufacturing,

and engineering. China often pursues these foreign technologies for the purpose of reverse engineering.

China seeks some high-tech components and major end-items from abroad that it has difficulty producing domestically—particularly from Russia and Ukraine. China has purchased advanced Russian defense equipment such as the SA-X-21b (S-400) SAM system and Su-35 fighter aircraft, and is pursuing a Sino-Russian joint-design and production program for a heavy-lift helicopter and diesel-electric submarines. China is also partnering with Russia to purchase electronic components as well as creating joint production facilities located within Russia. In addition, China has signed significant purchase contracts with Ukraine in recent years, including contracts for assault hovercraft and aircraft engines.

Espionage Activities Supporting China's Military Modernization. China uses a variety of methods to acquire foreign military and dual-use technologies, including cyber activity and exploitation of the access of Chinese nationals—such as students or researchers—acting as procurement agents or intermediaries. China very likely uses its intelligence services and employs other illicit approaches that violate U.S. laws and export controls to obtain key national security and export-restricted technologies, controlled equipment, and other materials unobtainable through other means. Several cases emerged last year:

- In August 2016, U.S authorities sentenced a naturalized U.S. citizen to 50 months in prison for conspiring with a Chinese national to violate the Arms Export Control Act. The pair attempted to acquire and export illegally jet engines used in the F-35, F-22, and F-16 fighter aircraft; the MQ-9 unmanned aerial vehicle; and technical data related to these items. The Chinese national—described as a "technology spy" working on behalf of the Chinese military—sought to copy items obtained from other countries and expressed interest in stealth technology.
- In June 2016, a Chinese national living in the United States as a lawful permanent resident pleaded guilty to acting as an illegal agent of a foreign government and conspiring to commit money laundering. At the direction of co-conspirators at Harbin Engineering University, the individual obtained systems and components for marine submersible vehicles from U.S. companies over more than a decade. The individual illegally exported them for use by the co-conspirators in the development of unmanned underwater vehicles, remotely operated vehicles, and autonomous underwater vehicles for Harbin Engineering University and other state-controlled entities, according to the plea agreement.
- In April 2016, U.S. authorities arrested a Chinese national in connection with a

scheme to export illegally high-grade carbon fiber used primarily in aerospace and military applications to China. The individual had attempted to acquire the fiber since approximately 2011 and told undercover agents that it was intended for the Chinese military.

In addition, multiple U.S. criminal indictments and investigations since 2010 involved non-ethnic Chinese U.S. citizens and naturalized Chinese U.S. citizens or permanent resident aliens procuring and exporting controlled items to China. These included efforts to acquire and transfer sensitive or military-grade equipment such as accelerometers, radiation-hardened programmable semiconductors and computer circuits, military sensors, restricted microwave amplifiers, high-grade carbon fiber, proprietary and export-restricted technical data, and thermal imaging systems.

China is actively pursuing an intensive campaign to obtain foreign technology through imports, foreign direct investment, industrial and cyberespionage, and establishment of foreign R&D centers. Chinese defense S&T organizations and classified PLA intelligence provide technical targeting requirements to guide the work of collection units in open-source collection and analysis, and human capital transfer and exchanges that no longer focus solely on ethnic Chinese, but also individuals with relevant placement and access.

5

FORCE MODERNIZATION FOR A TAIWAN CONTINGENCY

China's overall strategy continues to incorporate elements of both persuasion and coercion to hinder the development of political attitudes in Taiwan favoring independence. China has stressed that Taiwan must accept the so-called "1992 Consensus," which holds that China and Taiwan are part of "one China" but allows for different interpretations, for there to be peace and stability in the Taiwan Strait. China's military posture opposite Taiwan did not appear to change significantly in 2016. The PLA continues to develop and deploy military capabilities intended to coerce Taiwan or to attempt an invasion, if necessary. These improvements pose major challenges to Taiwan's security, which has historically been rooted in the PLA's inability to project power across the 100 nm Taiwan Strait, the natural geographic advantages of island defense, Taiwan's armed forces' technological superiority, and the possibility of U.S. intervention.

CHINA'S STRATEGY IN THE TAIWAN STRAIT

China appears prepared to defer the use of force as long as it believes that unification over the long term remains possible and that the costs of conflict outweigh the benefits. China argues that the credible threat of force is essential to maintain the conditions for political progress and to prevent Taiwan from making moves toward *de jure* independence. China has refused for decades to renounce the use of force to resolve the Taiwan issue, despite simultaneously professing its desire for peaceful unification under the principle of "one country, two systems."

The circumstances under which the mainland has historically warned that it would use force have evolved over time in response to the island's declarations of its political status, changes in PLA capabilities, and China's view of Taiwan's relations with other countries. These circumstances have included:

- formal declaration of Taiwan independence;
- undefined moves toward Taiwan independence;
- internal unrest on Taiwan;
- Taiwan's acquisition of nuclear weapons;
- indefinite delays in the resumption of cross-Strait dialogue on unification;
- foreign intervention in Taiwan's internal affairs; and
- foreign forces stationed on Taiwan.

Article 8 of China's March 2005 Anti-Secession Law states that China may use "non-peaceful means" if "secessionist forces…cause the fact of Taiwan's secession from China," if "major incidents entailing Taiwan's secession" occur, or if "possibilities for peaceful reunification" are exhausted. The ambiguity of these "redlines" preserves China's flexibility.

CHINA'S COURSES OF ACTION AGAINST TAIWAN

The PLA is capable of increasingly sophisticated military actions against Taiwan. It is possible that China would first pursue a measured approach characterized by signaling its readiness to use force, followed by a deliberate buildup of force to optimize military preparation for a methodical campaign. Another option is that China would sacrifice overt, large-scale preparations in favor of surprise to force a rapid military or political resolution with Taiwan before other countries could respond. If a quick resolution were not possible, China would seek to deter potential U.S. intervention. Failing that, China would attempt to delay intervention and seek victory in an asymmetric, limited war of short duration. In the event of a protracted conflict, China might fight to a standstill and pursue a political settlement after a protracted conflict.

Maritime Blockade. PLA writings describe a Joint Blockade campaign in which China would employ kinetic blockades of maritime and air traffic, including a cut-off of Taiwan's vital imports to force Taiwan's capitulation. According to these writings, large-scale missile strikes and, possibly, seizures of Taiwan's offshore islands would accompany a Joint Blockade in an attempt to achieve a rapid Taiwan surrender, while at the same time posturing air and naval forces to conduct weeks or months of blockade operations if necessary.

Limited Force or Coercive Options. China might use a variety of disruptive, punitive, or lethal military actions in a limited campaign against Taiwan, probably in conjunction with overt and clandestine economic and political activities. Such a campaign could include computer network or limited kinetic attacks against Taiwan's political, military, and economic infrastructure to induce fear in Taiwan and to degrade the Taiwan population's confidence in their leaders. Similarly, PLA special operations forces could infiltrate Taiwan and conduct attacks against infrastructure or leadership targets.

Air and Missile Campaign. China could use missile attacks and precision air strikes against air defense systems, including air bases, radar sites, missiles, space assets, and communications facilities to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the Taiwan people's resolve.

Amphibious Invasion. Publicly available Chinese writings describe different operational concepts for amphibious invasion. The most prominent of these, the Joint Island Landing Campaign, envisions a complex operation relying on coordinated, interlocking campaigns for logistics, air, and naval support, and EW. The objective would be to break through or circumvent shore defenses, establish and build a beachhead, transport personnel and materiel to designated landing sites in the north or south of Taiwan's western coastline, and launch attacks to seize and to occupy key targets or the entire island.

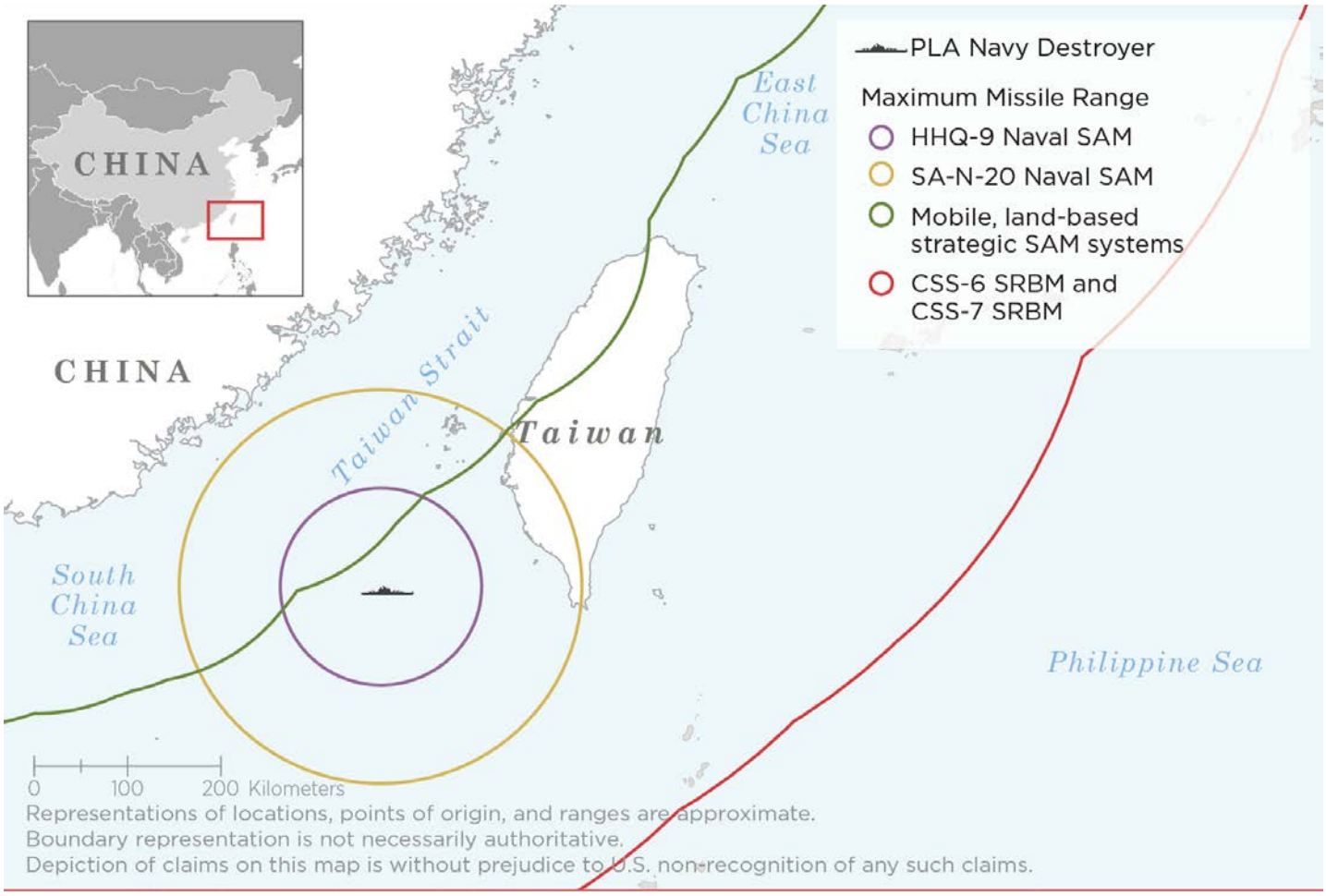
Large-scale amphibious invasion is one of the most complicated and difficult military operations. Success depends upon air and sea superiority, the rapid buildup and sustainment of supplies onshore, and uninterrupted support. An attempt to invade Taiwan would strain China's armed forces and invite international intervention. These stresses, combined with China's combat force attrition and the complexity of urban warfare and counterinsurgency (assuming a successful landing and breakout), make an amphibious invasion of Taiwan a significant political and military risk. Taiwan's investments to harden infrastructure and strengthen defensive capabilities could also decrease China's ability to achieve its objectives.

The PLA is capable of accomplishing various amphibious operations short of a full-scale invasion of Taiwan. With few overt military preparations beyond routine training, China could launch an invasion of small Taiwan-held islands in the South China Sea such as Pratas or Itu Aba. A PLA invasion of a medium-sized, better-defended island such as Matsu or Jinmen is within China's capabilities. Such an invasion would demonstrate military capability and political resolve while achieving tangible territorial gain and simultaneously showing some measure of restraint. However, this kind of operation involves significant, and possibly prohibitive, political risk because it could galvanize pro-independence sentiment on Taiwan and generate international opposition.

EFFECT OF PLA REFORM ON A TAIWAN CONTINGENCY

The structural reforms now reshaping the PLA will, if fully implemented, improve the force's ability to conduct complex joint operations, including those that would be involved in a Taiwan contingency. Official statements suggest the reforms will clarify command authorities, improve joint integration, and facilitate the transition from peace to war. The establishment of theaters may also streamline and improve the PLA's ability to conduct yearlong planning and preparation for joint military operations across the Taiwan Strait.

Taiwan Strait SAM and SRBM Coverage



Southern Theater



Eastern Theater



THE PLA'S CURRENT POSTURE FOR A TAIWAN CONFLICT

Preparation for a Taiwan conflict with the possibility of U.S. intervention continues to play a prominent role in China's military modernization program.

PLA Army. The PLAA is increasingly armed and trained in ways that prepare it for a Taiwan invasion scenario. The PLAA often conducts training, including amphibious landing training, under realistic conditions, including in difficult weather and at night. Improved networks provide real-time data transmissions within and between units, enabling better C2 during operations. Additionally, the PLAA's ongoing fielding of advanced air defense equipment is significantly enhancing the self-defense of key C2 elements and other critical assets believed to have potential use against Taiwan. As the number of these new systems grows in the PLAA, the force's ability to defend cross-Strait amphibious lodgments will increase.

PLA Navy. The PLAN is improving anti-air and anti-surface warfare capabilities, developing a credible at-sea nuclear deterrent, and introducing new platforms positioned to strike Taiwan in a cross-Strait conflict. The additional attack submarines, multi-mission surface combatants, and fourth-generation naval aircraft entering the force are designed to achieve sea superiority within the first island chain as well as to deter and counter any potential third party intervention in a Taiwan conflict.

PLA Air Force. The PLAAF has maintained a force posture that provides it with a variety of capabilities for a Taiwan contingency. First, it has stationed a large number of advanced aircraft within an unrefueled range of Taiwan, providing it with a significant capability to conduct air-superiority and ground-attack operations against Taiwan. Second, a number of long-range air defense systems provide a strong layer of defense of China's mainland against counterattack. Third, China's development of support aircraft provides the PLAAF with improved ISR capability to support PLA operations in a contingency.

PLA Rocket Force. The PLARF is prepared to conduct missile attacks and precision strikes against high-value targets such as Taiwan's C2 facilities, air bases, radar sites, and others in an attempt to degrade Taiwan's defenses, neutralize Taiwan's leadership, or break the public's will to fight.

Strategic Support Force. PLA writings emphasize the importance of the space and cyberspace domains in joint operations, suggesting that the SSF, reportedly responsible for these areas, would be active in a Taiwan contingency; however, information about the force's posture for such a conflict is scarce.

TAIWAN'S DEFENSIVE CAPABILITIES

China's multi-decade military modernization effort has eroded or negated many of Taiwan's historical advantages in deterring PLA aggression, such as the PLA's inability to project sufficient power across the Taiwan Strait, the Taiwan military's technological superiority, and the inherent geographic advantages of island defense. Although Taiwan is taking important steps to build its war reserve stocks, grow its defense-industrial base, improve joint operations and crisis response capabilities, and strengthen its officer and noncommissioned officer corps, these improvements only partially address Taiwan's declining defensive advantages.

Taiwan currently has approximately 215,000 personnel in the armed forces (approximately 70 percent of whom are volunteers), supported by approximately 2.5 million reservists. Taiwan's military modernization program envisions a continued decrease in Taiwan's active duty force to approximately 175,000 personnel as part of a transition to an all-volunteer force by 2019. This force transformation is intended to create a "small but smart and strong force," but the transition has slowed due to severe difficulties in recruiting enough volunteers. The cost savings from this smaller force will free up resources to increase volunteer salaries and benefits, although these savings will not be sufficient to cover the costs of volunteers. The transition has led to additional personnel costs needed to attract and retain personnel under the volunteer system, diverting funds from foreign and indigenous acquisition programs, as well as near-term training and readiness.

In addition, Taiwan's military spending remains at approximately two percent of its gross domestic product. Meanwhile, China's official defense budget has grown to roughly 14 times that of Taiwan. Recognizing China's continued growth in military spending, Taiwan is working to integrate innovative and asymmetric measures into its defense planning to counterbalance China's growing capabilities.

The United States maintains a one China policy that is based on the three Joint Communiqués and the Taiwan Relations Act (TRA). The United States opposes any unilateral change to the status quo in the Taiwan Strait by either side and does not support Taiwan independence. The United States continues to support the peaceful resolution of cross-Strait issues in a manner, scope, and pace acceptable to both sides.

Consistent with the TRA, the United States has contributed to peace, security, and stability in the Taiwan Strait, including by providing defense articles and services to enable Taiwan to maintain a sufficient self-defense capability.

CHINA'S AMPHIBIOUS CAPABILITIES

The PLA continues to make modest gains in amphibious warfare by integrating new capabilities and training consistently. Its amphibious warfare capability focuses on two geographic areas: the PLAA focuses its amphibious efforts on a Taiwan invasion while the PLAN Marine Corps (PLANMC) focuses on small island seizures in the South China Sea, with a potential emerging mission in the Senkakus. Both the PLAA and the PLANMC continue to integrate closely with the PLAN's amphibious forces and the PLAA's Maritime Transport Squadron.

In 2016, amphibious elements of the PLAA's 1st Group Army and 31st Group Army continued to improve their ability to conduct and sustain amphibious operations. The 1st Group Army's training in the newly formed Eastern Theater featured new components, including real-time ISR, precision targeting for close air support assets, and nighttime reconnaissance and attack training. The 31st Group Army's training in the Southern Theater demonstrated a combined ground warfare concept in which amphibious and ground forces used an integrated command information system to coordinate a multi-pronged assault. This exercise included armor, infantry, and artillery units from both regular army and amphibious units, integrated with army aviation, chemical defense, and special warfare units.

The two PLANMC brigades conducted battalion-level amphibious training at their respective training areas in Guangdong (Southern Theater). The training focused on swimming amphibious armored vehicles from sea to shore, small boat assault, and deployment of special forces by helicopter. The PLANMC also participated in two bilateral exercises, one with Russia and one with Thailand; however, these exercises do not appear to have been very advanced.

The PLAN added the fourth YUZHAO-class LPD to its amphibious fleet in 2016, along with three new LSTs. Both classes are integrated into PLAA and PLANMC routine amphibious training.

6

U.S.-CHINA MILITARY-TO-MILITARY CONTACTS

U.S. STRATEGY FOR ENGAGEMENT

U.S.-China defense contacts and exchanges provide opportunities to explore and expand cooperation in areas of mutual interest and to manage competition constructively. In 2016, DoD's plan for military-to-military contacts with the PRC focused on three interconnected lines of effort: (1) building sustained and substantive dialogue through policy dialogues and senior leader engagements; (2) building concrete, practical cooperation in areas of mutual interest; and (3) enhancing risk management efforts that diminish the potential for misunderstanding or miscalculation.

The pace and scope of China's military modernization provide opportunities as well as challenges for military-to-military engagement. The PLA's growing military capabilities can facilitate deeper practical cooperation in areas ranging from humanitarian assistance to counter-piracy; however, as China's military develops and expands its reach, the risk of an accident or miscalculation also increases, which puts a premium on risk reduction efforts.

Pursuit of a constructive, results-oriented relationship with China is an important part of U.S. strategy in the Asia-Pacific region. DoD seeks to strengthen the U.S.-China military-to-military relationship in ways that best serve the interests of the United States and its allies and partners. Sustaining the positive momentum in the military-to-military relationship supports U.S. objectives of ensuring that China acts in a manner consistent with international laws and norms and that China serves as a source of stability and shared prosperity in Asia.

As the United States builds a stronger foundation for a military-to-military relationship with China, it will continue to monitor China's evolving military strategy, doctrine, and force development, and will encourage China to be more transparent about its military modernization program. The United States also will continue adapting its forces, posture, and operational concepts to deter aggression, defend its allies, and ensure it continues to engage China from a position of strength. The United States will continue to build the capacity of its allies and partners, enhance regional cooperation, and deepen partnerships to maintain a stable and secure Asia-Pacific security environment.

MILITARY-TO-MILITARY ENGAGEMENT IN 2016 – HIGHLIGHTS

DoD conducts all contacts with China in a manner that is consistent with the provisions of the NDAA for Fiscal Year 2000.

In 2016, the U.S. and China military-to-military relationship focused on areas of cooperation with real world application. The two militaries advanced safety while improving transparency through practical engagements in the maritime domain with RIMPAC 2016, the Disaster Management Exchange, and high-level

dialogues focused on strategic issues and on advancing mutual understanding. DoD also continued to make progress with the PLA in developing the capacity to cooperate in the delivery of international public goods, including HA/DR, counter-piracy, PKO, SAR, and military medicine.

Selected visits, exchanges, exercises, and arrangements are highlighted below. A complete list of 2016 engagements is provided in Appendix I.

Advancing Practical Cooperation. In 2016, DoD proposed deepening practical cooperation and actively implementing the two Memoranda of Understanding (MOU) on Confidence Building Measures (CBM) signed between the MND of China and the U.S. DoD, namely the Notification of Major Military Activities MOU and Rules of Behavior for Safety of Air and Maritime Encounters MOU. DoD prioritized discussions on additional annexes to the Notification of Major Military Activities MOU, including a mechanism for informing the other party of ballistic missile launches. DoD also proposed expanding practical cooperation on regional and global challenges, specifically identifying ways to support the global counter-ISIL campaign and improve coordination on assistance to Iraq. In addition, DoD proposed discussing a strategic framework for aligning DoD senior leaders with PRC counterparts based on the organizational reform of PRC theater and service commands. The Office of the Secretary of Defense (OSD) also sent delegations to Beijing to advance these initiatives. U.S.-PRC military-to-military relations through the rest of 2016 focused on risk reduction and mitigating the chance of misunderstanding through core engagement mechanisms: high-level visits, defense security dialogues, functional exchanges, academic exchanges, ship visits, and exercises.

High-Level Visits and Engagements. High-level contacts are an important means to exchange views on the international security environment, to identify areas of common interest, to manage differences, and to facilitate common approaches to shared challenges. Discussions focused on areas of military cooperation and candidly addressed differences.

In May 2016, the Chairman of the Joint Chiefs of Staff, General Joe Dunford, conducted a video teleconference with Chief of the Joint Staff Department, General Fang Fenghui, to discuss areas of cooperation in the bilateral relationship, stability on the Korean Peninsula, and risk reduction mechanisms in the military-to-military relationship.

In July 2016, U.S. Chief of Naval Operations, Admiral John Richardson, visited Beijing and Qingdao. Admiral Richardson met with then-Commander of the PLAN, Admiral Wu Shengli, visited the headquarters of China's North Sea Fleet, and met with Vice Admiral Yuan Yubai, then-Commander of the PLAN North Sea fleet. The visit promoted both safe

and professional interactions at sea between the two navies and mutual understanding.

In August 2016, U.S. Chief of Staff of the Army, General Mark Milley traveled to China, where he met in Beijing with the Commander of the PLAA, General Li Zuocheng. The talks were directed toward deepening cooperation in areas of mutual interest and represented the first counterpart visit between the U.S. Army Chief of Staff and the newly established position of Commander of the PLAA since the creation of the ground force command as part of PLA reforms.

In September 2016, U.S. Pacific Command (USPACOM) Commander, Admiral Harry Harris, met with Admiral Sun Jianguo, the Deputy Chief of the Joint Staff Department of the CMC, during the 2016 Chiefs of Defense (CHOD) Conference in Manila, Philippines. Admiral Harris and Admiral Sun discussed engagements that help build understanding and reduce the potential for accidents and miscalculation.

In October 2016, USPACOM Commander, Admiral Harris, and U.S. Army Pacific Commander, General Robert Brown, hosted the PLA Western Theater Commander General Zhao Zongqi, at Camp Smith and Fort Shafter, Hawaii. General Zhao also visited the 25th Infantry Division and the Center for Excellence in Disaster Management and Humanitarian Assistance before traveling to Joint Base Lewis-McChord, Washington, for meetings with I Corps Deputy Commander, Major General Mark Stammer, where the two sides discussed military-to-military engagements.

Recurrent Exchanges. Recurring institutionalized events form the backbone of U.S.-China defense discussions each year. They serve as a regularized mechanism for dialogue at the strategic and policy levels.

In January 2016, Deputy Assistant Secretary of Defense for East Asia, Abraham Denmark, led a delegation to Beijing for the Defense Policy Coordination Talks (DPCTs) with Rear Admiral Li Ji, Deputy Director of the Office for International Military Cooperation (OIMC). The U.S. delegation included representatives from the Joint Staff, USPACOM, and the State Department; USPACOM Director for Strategic Planning and Policy, Major General Steven Rudder, and the Joint Staff Deputy Director for Plans and Policy (Asia), Major General John Quintas. The dialogue covered issues ranging from military-to-military engagements, confidence-building measures, and practical areas of cooperation.

In May 2016, the United States and China held an Intersessional Strategic Security Dialogue (SSD) in Washington, D.C., between senior defense and civilian officials to discuss strategic security and maritime issues. Deputy Secretary of State, Antony Blinken, and China's Executive Vice Foreign Minister, Zhang Yesui, led the meeting. Participants included Under Secretary of Defense for Policy, Christine Wormuth, and then-Assistant Chief of the

PLA Joint Staff Department, Lieutenant General Ma Yiming.

In June 2016, Deputy Secretary of State Blinken and Executive Vice Foreign Minister Zhang Yesui co-hosted the SSD in Beijing. The talks focused on key issues affecting the bilateral relationship and regional security. The U.S. side included the Assistant Secretary of Defense for Asian and Pacific Security Affairs, David Shear, USPACOM Deputy Commander, Lieutenant General Anthony Crutchfield, and Joint Staff Deputy Director for Plans and Policy (Asia), Major General John Quintas.

In December 2016, a PLAA delegation visited Washington, D.C., for the Army-to-Army Dialogue Mechanism (AADM), hosted by Major General William Hix, Headquarters Army, Director of Strategy, Plans, and Policy. The AADM focused on peace and stability operations with discussions on peacekeeping operations and HA/DR, and culminated in an exercise observation event.

Functional and Academic Exchanges. Reciprocal exchanges—including those between functional officers, rising leaders, and institutions of professional military education—help to identify and explore new areas of cooperation, discuss differences, and serve to develop a generation of leaders on both sides who are knowledgeable and adept at handling the increasingly complex and vital U.S.-China military-to-military relationship. Increasing contacts between mid-level officers is an important objective for both militaries as they seek to build familiarity and mutual understanding between future leaders.

In February 2016, an Air War College delegation visited China. Later in the year, a National War College delegation also visited China in April, followed by a U.S. Marine War College delegation and the U.S. National Defense University CAPSTONE delegation to China in May. Each delegation offered an opportunity to increase the U.S. understanding of China and the Pacific through engagements with various echelons of the PLA.

In May 2016, the Military Maritime Consultative Agreement (MMCA) Working Group met in Hawaii to improve maritime safety between the U.S. and PRC naval and air forces. In November 2016, the MMCA Plenary met in China, and the agenda included a Rules of Behavior for Safety of Air and Maritime Encounters MOU assessment.

In October 2016, the Joint Staff hosted a PLA mid-to-senior level officer exchange in Washington, D.C., to foster relations between future U.S. military and PLA leaders. The same month, DoD participated in a Department of State and Ministry of Foreign Affairs Dialogue on Counterterrorism. Additionally, the PLA Army sent a National Defense Student delegation to the U.S. Army's Training and Doctrine Command (TRADOC).

In May 2016, USPACOM and PLA Health Department officials participated in a Medical Infectious Disease Subject Matter Expert

Exchange (SMEE) in Honolulu, Hawaii. In August 2016, USPACOM and PLA Health Department officials participated in the Annual Asian Pacific Military Health Exchange (APHME) in Kuantan, Malaysia, including PLA medical officers touring the USNS MERCY.

In December 2016, bilateral consultations between the China MND Peacekeeping Center (MND-PKC) and the U.S. Army Peacekeeping and Stability Operations Institute (PKSOI) occurred in China.

Ship Visits and Exercises. Ship visits and exercises promote trust between the two sides and build joint capacity to provide international public goods in areas of mutual interest, such as SAR, HA/DR, and counter-piracy. Port calls are also used to enhance operational safety and exercise communications and navigation protocols.

In May 2016, the U.S. 7th Fleet flagship USS BLUE RIDGE conducted a port visit to Shanghai. The Commander of U.S. 7th Fleet, Vice Admiral Joseph Aucoin, participated in the welcoming ceremony and the USS BLUE RIDGE conducted a Codes for Unexpected Encounters at Sea (CUES) exercise with PLAN counterparts at the conclusion of the port visit.

In August 2016, the USS BENFOLD conducted a port visit to Qingdao, home of the PLAN North Sea Fleet. The Commander of the U.S. Pacific Fleet, Admiral Scott H. Swift, participated in the port visit and met with then-PLAN North Sea Fleet Commander, Vice Admiral Yuan Yubai.

From June-August 2016, the PLAN participated in the RIMPAC multinational maritime exercise in Hawaii, sending five ships: the hospital ship PEACE ARK, the destroyer XIAN, the frigate HENGSHUI, the oiler support ship GAOYOU HU, and the submarine rescue ship CHANGDAO. The PLAN participated in RIMPAC HA/DR discussions, maneuvering and communication drills, and a SAR tabletop exercise.

In November 2016, PLA and U.S. Army forces participated in a Disaster Management Exchange (DME) in Kunming, China. The exchange explored how the U.S. military and the PLA can better coordinate humanitarian-assistance and disaster response in the event of a natural disaster. The Commanding General of U.S. Army Pacific (USARPAC), General Robert Brown, observed the event.

In December 2016, the PLAN conducted a port visit to San Diego, California, sending a three-ship flotilla: two JIANGKAI II guided missile frigates (FFG-576 and FFG-546) and one FUCHI replenishment oiler (AO-889). Commander of U.S. 3rd Fleet, Vice Admiral Nora Tyson, participated in the port visit, and Rear Admiral James Bynum, Commander of Carrier Strike Group 9, met with PLAN North Sea Fleet Deputy Commander, RADM Huang Xinjian, as part of the port visit's key leader engagements.

PLANNING FOR MILITARY-TO-MILITARY ENGAGEMENTS IN 2017

A list of planned engagements for 2017 is provided in Appendix I.

APPENDIX I: MILITARY-TO-MILITARY EXCHANGES

U.S.-CHINA MILITARY-TO-MILITARY CONTACTS FOR 2016	
HIGH-LEVEL VISITS TO CHINA	***Month (2016)***
U.S. Chief of Naval Operations to China	July
U.S. Chief of Staff of the Army to China	August
HIGH-LEVEL VISITS TO UNITED STATES	
PRC Western Theater Commander to the United States	November
HIGH-LEVEL MULTILATERAL ENGAGEMENTS	
Western Pacific Naval Symposium in Indonesia	April
International Seapower Symposium in the United States	September
RECURRENT EXCHANGES	
Defense Policy Coordination Talks in China	January
Intersessional Strategic Security Dialogue in China	May
Strategic Security Dialogue in China	June
Military Maritime Consultative Agreement Working Group in the United States and Plenary in China	May/ November
Joint Staff Strategy Talks	September
Interim Strategic Security Dialogue in China	November
ACADEMIC EXCHANGES	
U.S. Air War College Delegation to China	February
U.S. National War College Delegation to China	April
PLA participation in U.S. Military Academy Sandhurst Competition	April
PLA Nanjing Army Command College (NJACC) to the United States	April
PLA Air Force Command College to the United States	April
U.S. National Defense University CAPSTONE to China	May
U.S. Marine War College Delegation to China	May
PLA National Defense University "Dragons" to the United States	June
PLAN Command College to the United States	June
PLA and U.S. National Defense University Strategic Discussion in the United States	November
FUNCTIONAL EXCHANGES	
USN Ship Visit (USS BLUE RIDGE) to China	May

USN Ship Visit (USS BENFOLD) to China	August
PLAN Ships Visit (2 FFGs & 1 AO) to San Diego	December
PLA Mid-Level Officer Delegation to the United States	October
Disaster Management Exchange in China	November
JOINT AND MULTILATERAL EXERCISES	
COBRA GOLD in Thailand	January
RIMPAC 2016	June
KHAAN QUEST in Mongolia	May

U.S.-CHINA MILITARY-TO-MILITARY EXCHANGES PLANNED FOR 2017
HIGH-LEVEL VISITS TO CHINA
U.S. Senior Defense or Military Leader to China (TBD)
HIGH-LEVEL VISITS TO UNITED STATES
PRC Senior Defense or Military Leader to the United States (TBD)
INSTITUTIONALIZED EXCHANGES
Defense Policy Coordination Talks (TBD)
Joint Staff Strategy Talks (TBD)
MMCA Plenary and Working Groups (TBD)
Army-to-Army Dialogue Mechanism (TBD)
Disaster Management Exchange (TBD)
Mid-Level Officer Exchange (TBD)
Military Medicine Exchange (TBD)
Defense Consultative Talks (TBD)
Asia-Pacific Security Dialogue (TBD)
ACADEMIC EXCHANGES
PRC Academy delegation to the United States (TBD)
U.S. NDU or Academy delegation to China (TBD)
FUNCTIONAL EXCHANGES
PLAN Ship Visits to the United States (TBD)
U.S. Navy Ship Visits to China (TBD)
Peacekeeping Exchange in the United States or China (TBD)

APPENDIX II: CHINA AND TAIWAN FORCES DATA

Taiwan Strait Military Balance, Ground Forces			
	China		Taiwan
	Total	*Taiwan Strait Area*	*Total*
Personnel (Active in Combat Units)	850,000	190,000	130,000
Group Armies/Army Corps	18	6	3
Infantry Divisions	12	3	0
Infantry Brigades	23	6	7
Mechanized Infantry Divisions	7	1	0
Mechanized Infantry Brigades	25	6	3
Armor Divisions	1	0	0
Armor Brigades	17	6	4
Army Aviation Brigades and Regiments	11	5	3
Artillery Brigades	22	8	5
Airborne Corps	1	1	0
Amphibious Divisions	2	2	0
Amphibious Brigades	3	3	2
Tanks	7,000	2,000	1,100
Artillery Pieces	8,000	2,600	1,600

Note: The 2016 chart focuses on PLA combat units and applies a changed methodology, resulting in significantly lower personnel numbers than shown in previous reports. This does not reflect a sudden drop in capability. This presentation is likely to change further as the PLA carries out its announced demobilization of 300,000 troops by 2017. This chart also changes how it presents amphibious units, which in the PLA are in both the PLAA and PLAN Marine Corps. The "Taiwan Strait Area" includes select national-level assets and units in the PLA's Eastern and Southern Theaters. The numbers of personnel and systems are approximate.

Taiwan Strait Military Balance, Naval Forces			
	China		Taiwan
	Total	*Eastern and Southern Theater Navies*	*Total*
Aircraft Carriers	1	0	0
Destroyers	31	24	4
Frigates	56	42	22
Corvettes	23	14	1
Tank Landing Ships/ Amphibious Transport Dock	34	32	12
Medium Landing Ships	21	15	4
Diesel Attack Submarines	54	34	4
Nuclear Attack Submarines	5	2	0
Ballistic Missile Submarines	4	4	0
Coastal Patrol (Missile)	88	70	45
Coast Guard Ships	185	N / A	25

Note: The PLAN has the largest force of principal combatants, submarines, and amphibious warfare ships in Asia. In the event of a major Taiwan conflict, the Eastern and Southern Theater Navies would participate in direct action against the Taiwan Navy. The Northern Theater Navy (not shown) would be responsible primarily for protecting the sea approaches to China, but could provide mission-critical assets to support other fleets. In conflict, China may also employ CCG ships to support military operations.

Taiwan Strait Military Balance, Air Forces			
	China		Taiwan
	Total	*Within range of Taiwan*	*Total*
Fighters	1,700	130	384
Bombers/Attack	400	200	0
Transport	475	150	19
Special Mission Aircraft	115	75	25

Note: The chart displays military aircraft only, but the PLAAF may supplement its military transports with civilian aircraft in a combat scenario. The chart categorizes aircraft as "within range of Taiwan" if they are able to conduct combat operations against Taiwan without refueling from their current location; however, the number of aircraft "within range" may be significantly increased through any combination of aircraft forward deployment, decreased ordnance loads, or altered mission profiles.

China's Missile Forces			
System	*Missiles*	*Launchers*	*Estimated Range*
ICBM	75-100	50-75	5,400-13,000+ km
MRBM	200-300	100-125	1,500+ km
SRBM	1,000-1,200	250-300	300-1000 km
GLCM	200-300	40-55	1,500+ km
LACM	200-300	40-55	1,500+ km

APPENDIX III: ACRONYMS

A2/AD	Anti-access / area denial
ASCM	Anti-ship cruise missile
ASBM	Anti-ship ballistic missile
ASM	Air-to-surface missile
ASUW	Anti-surface warfare
ASW	Anti-submarine warfare
BMD	Ballistic missile defense
C2	Command and control
C4I	Command, control, communications, computers, and intelligence
CCG	China Coast Guard
CCP	Chinese Communist Party
CG	Cruiser
CMC	Central Military Commission
DDG	Guided missile destroyer
DoD	U.S. Department of Defense
DPP	Democratic Progressive Party
EEZ	Exclusive economic zone
EW	Electronic warfare
FFG	Guided-missile frigate
FFL	Corvette
GLCM	Ground-launched cruise missile
GSD	General Staff Department
HA/DR	Humanitarian assistance / disaster relief
IADS	Integrated air defense system
ICBM	Intercontinental ballistic missile
IO	Information operations
IRBM	Intermediate-range ballistic missile
ISR	Intelligence, surveillance, reconnaissance
LACM	Land-attack cruise missile
LOSC	Law of the Sea Convention
LPD	Multipurpose amphibious transport dock
LST	Tank landing ship
MaRV	Maneuverable reentry vehicle
MIRV	Multiple independently targeted reentry vehicles
MND	Ministry of National Defense
MOOTW	Military operations other than war
MPS	Ministry of Public Security
MR	Military region

MRBM	Medium-range ballistic missile
MSS	Ministry of State Security
NDAA	National Defense Authorization Act
NFU	"No first use"
NSC	National Security Commission
PAP	People's Armed Police
PKO	Peacekeeping operations
PLA	People's Liberation Army
PLAA	PLA Army
PLAAF	PLA Air Force
PLAN	PLA Navy
PLANMC	PLAN Marine Corps
PLARF	PLA Rocket Force
PLASAF	PLA Second Artillery Force
PRC	People's Republic of China
RIMPAC	Rim of the Pacific exercise
SAM	Surface-to-air missile
SLBM	Submarine-launched ballistic missile
SLOC	Sea lines of communication
SLV	Space Launch Vehicles
SRBM	Short-range ballistic missile
SSBN	Nuclear-powered ballistic missile submarine
SSF	Strategic Support Force
SSN	Nuclear-powered attack submarine
SSP	Air-independent attack submarine
UAV	Unmanned aerial vehicle
UGF	Underground facility