

CHAPTER 4

Evaluating China's Conventional Military Power: The Naval and Air Dimensions

*Andrew S. Erickson**

Many aspects of People's Liberation Army (PLA) development, such as the actual breakdown of People's Republic of China (PRC)'s military budget by-service or within-service, remain unclear. But general prioritization and trends may be seen inductively from new Chinese hardware. What this all means in practice can be seen readily in Beijing's actual military developments since the late 1990s. China is developing a formidable set of military capabilities to ensure stability on its borders and to attempt to shape territorial and maritime claims in its favor immediately beyond. It is developing weapons systems and employment patterns designed to threaten foreign forces should they intervene in sensitive disputes on China's periphery—an approach that some Chinese sources term “counterintervention” and the US military terms “anti-access/area denial” (A2/AD). The goal is to deter such involvement in the first place and convince China's neighbors that they must settle disputes on Beijing's terms. China is also developing power projection platforms such as aircraft carriers and sending destroyers and frigates on naval diplomacy and nontraditional security missions, but these longer-range developments are happening gradually and do not represent high-end combat capabilities against another great power. Beijing can afford these efforts without making them the centerpiece of its investment. How, and to what extent, that might change in coming years is a difficult but important topic to analyze.

Of the key dimensions of PLA development, perhaps none are as complex and uncertain as those in and around the seas and air. This chapter will therefore survey China's naval and military airpower development in the reform era (post-1978) and offer possible alternative projections through 2025 and slightly beyond. It utilizes the most updated data possible, a constant challenge in this area. It will also offer tentative assessments of China's power vis-à-vis the United States over time in these dimensions, although the complex variables

and uncertainties involved—together with the author's use of open sources exclusively—must be emphasized. In doing so, this chapter will elucidate the key dynamics and nature of Chinese development in this area and suggest possible policy responses for the United States and its allies.

The chapter begins by providing an overview and historical context for PLA Navy (PLAN) and PLA Air Force (PLAAF) development. It next reviews the services' current state. It then considers potential future drivers and dynamics through 2030, considers relevant developments in the two services, highlights net assessment challenges, and offers major conclusions.

Key Dynamics: The Past Three Decades

Over the past three decades, China has achieved a rapidly improving but still mixed record of progress in military modernization. Now, Xi Jinping appears to be pushing the PLA to become more efficient and effective at prosecuting the “Local Wars under Modern Informatized Conditions” for which it was previously charged to prepare. Xi is the first paramount leader to stress realistic training so strongly and specifically.¹ Complexity and realism of PLAN and PLAAF training, particularly with respect to joint operations, remains uncertain but has improved significantly of late.

Cultivating Counterintervention

During the 1990s, PLA development was shaped most strongly by the realization that new technologies—deployed and used by the United States—were transforming the ways of war. Yet the end of the Cold War and US-China anti-Soviet cooperation, coupled with post-Tiananmen sanctions, complicated Chinese access to such technologies. Meanwhile, a series of incidents involving Taiwan and the United States persuaded China's leaders that they needed potent counterintervention capabilities.

Confronted with these challenges, China has pursued two major development vectors. By the mid-1990s, a major effort to replace numerous obsolete Soviet-derived systems with enhanced variants drawing on improved foreign and Chinese technology was well underway, accelerated by what China's leaders saw as a series of concerning events in that decade.

Meanwhile, China also developed a broad array of potent asymmetric weapons systems that pit China's strengths against adversaries' weaknesses, enabling China to exploit its formidable geography and resources. Beijing has astutely harnessed the proliferation of asymmetric technologies—which I term “the democratization of denial”—for its benefit. The weapons development and technological revolution that China is harnessing has special relevance to the “Near Seas” (Yellow, East China, and South China Seas; within about 1,000–1,500 kilometers from the mainland) and their immediate approaches.

China enjoys proximity to all its outstanding island and maritime claims disputes. It possesses massive land-based forces and strategic depth in which to deploy them. From this foundation, it has been developing forces designed

primarily
interest
focused

The
the Near
more likely
believes
mile range
frontal
claims
in South
stable, (C
atile. In
settling
mixed c
a single
previous
imperat
(all fact
massive

Here
ests tha
into co
ests jus
importa
and inf
include
over isl
South C
Sea, wh
limited

Disp
of navi
China's
tical m
putes, a
15 year
and ma
confron
the regi

In d
future a
systems
(person
tion of
stably

n sources
 idate the
 ggest pos-

t for PLA
 views the
 dynamics
 ighlights

; but still
 appears
 prosecuting
 ch it was
 realistic
 AN and
 as uncer-

e realiza-
 es—were
 S-China
 plicated
 s involv-
 y needed

develop-
 obsolete
 l foreign
 ia's lead-

ic weap-
 enabling
 astutely
 rm "the
 ent and
 e to the
 1,000—

e claims
 n which
 lesigned

primarily to enable China to confront any adversary that might challenge China's interests in these Near Seas. PLA modernization beyond that area is largely focused on noncombat missions with very limited levels of power projection.

The core challenge that China, the United States, and the region confront in the Near Seas area is the potential confrontation between a China that desires more leverage and control over its maritime periphery and a United States that believes stability is best preserved by assuring access up to China's 12-nautical-mile territorial waters and airspace. The catalysts that could spark actual confrontation on this issue are primarily crises triggered by island and maritime claims disputes. Although China's disputes around its land borders—except in South Asia where the problem is more chronic than acute—seem relatively stable, China's maritime sovereignty claims are unresolved and potentially volatile. In most cases regarding internal land borders, the PRC has compromised, settling eleven disputes with six neighbors since 1998. But it has not compromised on maritime sovereignty disputes and not settled fully its disputes with a single maritime neighbor. This is largely because China is not bound by previous treaties here or overwhelming geostrategic and technology transfer imperatives to preserve an environment conducive for domestic development (all factors that apply in relations with Russia, with which China has made massive territorial compromises).

Here, it is important to distinguish among layers or rings of Chinese interests that differ progressively with distance from China. These may be divided into core interests close in (over which Beijing desires control), vital interests just outside the core interests (over which Beijing desires influence), and important interests beyond that (which Beijing desires to be able to reach out and influence as necessary). China's central "core" interests in the Near Seas, include, primarily, the unresolved Taiwan issue and disputes with its neighbors over island and maritime claims. This is chiefly a problem in the East and South China Seas; Beijing's disputes with Seoul and Pyongyang in the Yellow Sea, while they might intensify in the future, are currently constrained by their limited nature and China's status as a power broker in peninsular affairs.

Disputes with the United States in the Near Seas primarily concern freedom of navigation and the conducting of military surveillance operations beyond China's 12 nautical mile territorial waters and airspace but within its 200 nautical mile Exclusive Economic Zone (EEZ). Largely in relation to these disputes, a series of incidents has ensnared the US and Chinese military in the past 15 years. The two countries have encountered problems in trying to contain and manage the fallout from these incidents, though fortunately not military confrontations. But China is beginning to encounter "blowback" as others in the region respond to China's own efforts to ensure its claims.

In determining actual PLAN and PLAAF capabilities, for the foreseeable future analysts face a conundrum in which hardware (platforms and weapons systems) has clearly reached very advanced levels in many cases, while software (personnel and training) remains more uneven and uncertain, and integration of joint forces and supporting information and communications is demonstrably limited. With respect to Near Seas operations, however, significant

workarounds available—including tremendous land-based support and ability to deconflict forces by space and time—mean that the PLA may not need education or jointness beyond what it already has. For long-distance conflict-capable power projection, by contrast, additional sophisticated hardware, software, and jointness are all required and all present a challenge that China has little prospect of meeting in the near term. At the operational level, then, Near Seas counterintervention, albeit a more robust version thereof, will likely remain the PLA's core focus for some time.

Capabilities-to-Date: Naval

Proposed by Deng in 1979 and endorsed by PLAN commander Liu Huaqing in 1987, the concept of “Active defense, Near Seas operations” was subsequently operationalized. In practice, it entails preparing for limited-scale, high-tech, high-intensity, potentially offensive conflicts on, under, and above the Near Seas and their approaches.²

Current Force

Today the PLAN has begun to reap the rewards of years of substantial effort. According to the US Department of Defense (DoD), “The PLA Navy has the largest force of major combatants, submarines, and amphibious warfare ships in Asia.”³ Advanced warships are finally in series production, and much modern hardware has already been fielded. PLAN training and operations have increased significantly in area, frequency, and complexity. When nonnaval capabilities are factored in, the PLAN has already achieved much of what it needs to address China's Near Seas interests.

The ~325 current PLAN combatants include:

- 77 major surface combatants, including 27 destroyers (17 modern), 48 frigates (31 modern), and 10 new corvettes
- >60 submarines
- 56 large and medium amphibious ships
- ~85 missile-equipped small combatants
- 42 mine warfare ships
- >50 major auxiliaries
- and 400 minor auxiliary ships and service/support craft.⁴

China is achieving an astonishing build rate, with 15 distinct classes of ships and submarines produced from 1995–2005 and >50 ships laid down/launched/commissioned in 2013 alone.⁵ Quality remains prioritized over quantity, however; China is not currently building forces in sufficient numbers to support true Far Seas emphasis.

Undersea

China's submarines have led its naval modernization. Table 4.1 depicts a force that has increased rapidly in quality and diversity.

Table 4

Class

Jin (Ty

Xia (Ty

Qing (I

Golf (T

Shang (

Han (T

091/0

Kilo (Pr

877EF

Yuan (I

Song (T

039/0

Ming (I

Romeo (

033)

Note: Tab
Capabiliti
WA: Nati
the exten
sion group
aggregate.

Chi
indepes
sor-vari
and Ru
diesel-c
Chi
rines ir

Table 4.1 PLAN submarines

<i>Class</i>	<i>Manufacturer (Shipyard)</i>	<i>Role</i>	<i>1st Hull Commissioned</i>	<i>In Service</i>	<i>Pennant Number(s)</i>
<i>Jin</i> (Type 094)	Huludao	Ballistic Missile, Nuclear-powered	2007	3	411–413
<i>Xia</i> (Type 092)	Huludao	Ballistic Missile, Nuclear-powered	1987	1	406
<i>Qing</i> (Type 032)	Wuchang	Missile? (test?), Diesel-powered	2010	1	201
<i>Golf</i> (Type 031)	Dalian	Ballistic Missile (test), Diesel-powered	1966	1	200
<i>Shang</i> (Type 093)	Huludao	Attack, Nuclear-powered	2006	2	407–408
<i>Han</i> (Type 091/091G)	Huludao	Attack, Nuclear-powered	1980	3	403–405
<i>Kilo</i> (Project 877EKM/636)	Various Russian	Patrol, Diesel-powered	1995	12	365–375
<i>Yuan</i> (Type 039)	Wuhan/Changxing Island	Patrol, Diesel-powered (Air-Independent-Power)	2006	12+ (093C variant undergoing tests)	8x039A (330–337), 4x039B (338–341)
<i>Song</i> (Type 039/039G)	Wuhan/Jiangnan	Patrol, Diesel-powered	1999	14	216, 314–329
<i>Ming</i> (Type 035)	Wuhan	Patrol, Diesel-powered	1971	23	232, 305–313, 342, 352–363
Romeo (Type 033)	?	Diesel-powered	~1962	≤7 in active service, total of 34 in uncertain states	239, 257, 260, 268–270, 272, 275–277, 279–280, 286–287, 291–301, 303–304, 343, 345–349, 351

Note: Tables 4.1–4.4 use as a baseline Andrew S. Erickson, “China’s Modernization of Its Naval and Air Power Capabilities,” in Ashley J. Tellis and Travis Tanner (eds.), *Strategic Asia 2012–13: China’s Military Challenge* (Seattle, WA: National Bureau of Asian Research, 2012), pp. 102–05, 114–18. Baseline data were subsequently updated to the extent possible using cited open sources and apparently reliable information available via online expert discussion groups, for example, China Defense Forum. Data cannot be verified perfectly, but are likely representative in aggregate.

China’s 12+ *Yuan*-class (Type 039A/B) diesel-electric submarines boast air-independent power (AIP) “using Stirling engine technology.” The 039C successor-variant is undergoing sea trials, and up to eight hulls may be built.⁶ China and Russia are negotiating joint design and production of a new advanced diesel-electric submarine based on Russia’s *Petersburg/Lada* class.

China is beginning to send conventional- and nuclear-powered submarines into the Indian Ocean. Whereas the former are suited for slow, quiet

Near Seas operations, the latter are optimal for long-range operations. For instance, the *Song*-class conventional submarine that visited Colombo, Sri Lanka on September 7–14, 2014, took ~1 month to transit at ~3 knots.⁷ On a much longer journey that it could have covered considerably faster, from December 13, 2013, to February 12, 2014, a *Shang*-class nuclear-powered attack submarine navigated near Sri Lanka and into the Persian Gulf, transiting the Strait of Malacca on the way to and from its home port on Hainan Island.⁸ Probably motivated partially by a long-term desire for the long-range sea lines of communication (SLOC) disruption capabilities that nuclear-powered attack submarines (SSNs) are uniquely suited to provide, China is gradually increasing its fleet from the two second-generation *Shang*-class SSNs already in service to as many as five third-generation SSNs over the next few years.⁹

DoD projects that China's "new class of SSNs will incorporate better quieting technology, improving China's capability to conduct a range of missions from surveillance to the interdiction of surface vessels with torpedoes and ASCMs [anti-ship cruise missiles]." Eighty plus percent of China's submarine force is ASCM-capable.¹⁰ China appears to be taking a radically specialized approach to anti-surface warfare, in which nearly every new naval platform has the ability to fire ASCMs, and many are outfitted primarily with such weapons at the general expense of torpedoes. This offers China potent possibilities.

On the deterrence front, China's first Type 094 SSBN was commissioned in 2007, its second in 2010, and its third in 2012, and has two more under construction.¹¹ Beijing is in the process of taking its nuclear strike capability to sea credibly for the first time, with the first SSBN deterrent patrol anticipated imminently. The JL-2 SLBM, long in development and debugging, has an estimated range of 7,400 kilometers. DoD projects that China will begin deploying "its next generation SSBN (Type 096) over the next decade."¹²

Surface

China's surface fleet remains one of the world's largest. Were 10–15 advanced ships added, it would, holding other numbers constant, become second only to America's in the Asia-Pacific. But, as table 4.2 indicates, China's slightly-expanding surface fleet has grown far faster in quality.

Chinese naval vessels display growing multi-mission emphasis. Whereas previously anti-surface warfare (ASuW) focus eclipsed competing priorities, now growing effort is devoted to anti-air warfare (AAW)—a pronounced feature of *Luyang-II* and *-III* destroyers and *Jiangkai-II* frigates. Over-the-horizon (OTH) targeting necessary to support ASuW, also increasingly emphasized, underwritten by a growing reconnaissance strike complex with space-, air-, ground-, and sea-based components. *Mineral*-ME radar common on PLAN ships offers 250 kilometers active range and 450 kilometers passive range, allowing effective ASCM targeting with two-ship triangulation, even in the absence of other targeting data.¹³ Even UAVs can support OTH. PLAN UAVs boast impressive endurance, including the BZK 005 (40 hours) and the S-100 helicopter (6 hours).¹⁴

Table 4

Class

Liaoning

Luyang I

Luyang I

Luyang I

Luzhou (

Sovremennyy

956E/5

Luhu (T)

Luda IV

Luda I (

Luhai (T

Jiangkai

Jiangkai

Jiangwei

Jiangwei

053H2

Jianghu I

053H1

Jianghu I

Jiangdao

Houbei (

Houjian/

037 II)

Houxin (

Haiqing (

Table 4.2 PLAN surface fleet

<i>Class</i>	<i>Manufacturer (Shipyard)</i>	<i>Role</i>	<i>1st Hull Commissioned</i>	<i>In Service</i>
<i>Liaoning</i> 16 (Type 001)	Shipyards 444 (Nikolayev South), Ukraine; refitted in Dalian	Aircraft Carrier	2012	1
<i>Luyang</i> III (Type 052D)	Jiangnan/ Changxing Island	Destroyer (area air-defense)	2014	1 (+7 under construc- tion; total 12+ anticipated)
<i>Luyang</i> II (Type 052C)	Jiangnan/ Changxing Island	Destroyer (area air-defense)	2004	4 (+ 2 outfitting)
<i>Luyang</i> I (Type 052B)	Jiangnan	Destroyer (area air-defense)	2004	2
<i>Luzhou</i> (Type 051C)	Dalian	Destroyer	2006	2
<i>Sovremenny</i> (Project 956E/956EM)	North Yard, Russia	Destroyer	1999	4
<i>Luhu</i> (Type 052A)	Jiangnan	Destroyer	1994	2
<i>Luda</i> IV (Type 051)	Dalian	Destroyer	1991	4
<i>Luda</i> I (Type 051)	Dalian	Destroyer	1971	<8
<i>Luhai</i> (Type 051B)	Dalian	Destroyer	1999	1
<i>Jiangkai</i> II (Type 054A)	Huangpu/Hudong- Zhonghua	Frigate (air defense)	2008	15-19
<i>Jiangkai</i> I (Type 054)	Huangpu/Hudong- Zhonghua	Frigate	2005	2
<i>Jiangwei</i> II (Type 053H3)	Huangpu/Hudong- Zhonghua	Frigate	1998	10
<i>Jiangwei</i> I (Type 053H2G)	Hudong-Zhonghua	Frigate	1991	4
<i>Jianghu</i> I/II/V (Type 053H/053H1/053H1G)	Hudong- Zhonghua/ Jiangnan/ Huangpu	Frigate	Mid-1970s	<22
<i>Jianghu</i> III (Type 053H2)	Hudong-Zhonghua	Frigate	1986	1 (2 sold to Bangladesh)
<i>Jiangdao</i> (Type 056)	Hudong-Zhonghua, Huangpu, Wuhan, Liaonan (Lüshun)	Light frigate/ corvette	2013	10 (+20-30 additional construction)
<i>Houbei</i> (Type 022)	Qiuxin/5+ other yards	New-generation, Fast-Attack Craft (Missile)	2004	60+
<i>Houjian/Huang</i> (Type 037 II)	Huangpu	Fast-Attack Craft (Missile)	1991	5-6
<i>Houxin</i> (Type 037 IG)	Qiuxin/Huangpu	Fast-Attack Craft (Missile)	1991	16
<i>Haiqing</i> (Type 037 IIS)	Qiuxin/Qingdao/ Chongqing/ Huangpu	Fast-Attack Craft (Patrol)	1992	25

Continued

Table 4.2 Continued

Class	Manufacturer (Shipyard)	Role	1st Hull Commissioned	In Service
<i>Hainan</i> (Type 037)	Qiuxin/Qingdao/ Huangpu	Fast-Attack Craft (Patrol)	1963	50
<i>Haizhui/Shanghai</i> III (Type 062-I)	?	Patrol Craft (Coastal)	1992	-50
<i>Haijiu</i> (Type 037 I)	?	Patrol Craft (Large)	1984	3
[Unknown]	?	Patrol Craft (Harbor)	1997	3
<i>Wozang</i> (Type 082 II)	Qiuxin	Minehunter/ Minesweeper	2005	3
T-43 (Type 6610)	Wuhan/Guangzhou	Minesweeper (Ocean)	1966	Only a few left
<i>Wochi</i> (Type 081)	Qiuxin/Shanghai/ Wuhan	Minesweeper (Coastal)	2007	7
<i>Wosao</i> (Type 082)	?	Minesweeper (Coastal)	1988	16
<i>Yuzhao</i> (Type 071)	Hudong-Zhonghua	Amphibious Assault Ship/ LHD	2008	3
<i>Yuting</i> II (Type 072-III)	Hudong-Zhonghua, Dalian, Wuhan	Landing Ship Tank (LST)	2003	10
<i>Yuting</i> I (Type 072 II)	Hudong-Zhonghua	LST	1992	10
<i>Yukan</i> (Type 072)	Wuhan	LST	1980	7
<i>Yunshu</i>	Hudong- Zhonghua/Wuhu/ Qingdao/Lüshun	Landing Ship Mechanized (LSM)	2004	10
<i>Yuhai</i> (Type 074) (Wuhu-A)	Wuhu/Various	LSM	1995	10
<i>Yuliang</i> (Type 079)	3-4 smaller shipyards	LSM	1980	-5 (almost all gone)
<i>Yudeng</i> (Type 073)	Hudong-Zhonghua	LSM	1994	1
<i>Yubei</i> (Type 074A)	Qingdao/ Zhanjiang/ Shanghai/Dinghai	Landing Craft Utility (LCU)	2004	10
<i>Yuyi</i>	Qiuxin	Hovercraft /LCAC	2008	2-3

Note: Some shipyard data added from latest relevant entries at www.janes.com. a. "Luyang III (Type 052D) class," *Jane's Fighting Ships*, February 7, 2014.

China's latest destroyers and frigates, which its large, increasingly advanced shipbuilding industry is building steadily, boast significant area air defense capabilities. To replace aging *Ludas*, DoD projects that China will build 12+ *Luyang*-III (Type 052D) destroyers. It has already fielded one, with five more under construction. Fifteen-to-nineteen "workhorse" *Jiangkai*-II (Type 054A) frigates have joined the fleet, additional hulls are under construction, with "yet more expected."¹⁵ According to DoD, these vessels "provide a significant upgrade to the PLA Navy's area air defense capability, which will be critical as it expands operations into 'distant seas' beyond the range of shore-based air defenses."¹⁶

W
incre
the I
depl
depl
form
deve
In
For
prod
a shi
corve
tiona
W
ited,
sione
the S
Kunl
dispa
Chea
are m
one-f
have
const
In
Guar
four
Admi
forces
there,
envel
India

Softu

Over
traini
freque
and E
ning J
cycle"
system
charac
pated
edly t
drill.²

 Service

With a budding deck aviation program that is likely to produce several increasingly advanced aircraft carriers and associated ships and submarines by the late 2020s, the possibility of land-attack cruise missiles (LACMs) being deployed in surface vessel vertical launch systems (VLS) in the near future, and deployment of larger amphibious vessels including *Yuzhao*-class landing platform docks and *Zubr* air-cushioned landing craft, the PLAN may be starting to develop a force capable of conducting strike operations ashore.

Improvements in multi-disciplined warfare capability are adding versatility. For example, while it is optimized for Near Seas operations, the new series-produced Type 056 *Jiangdao*-class is not just a capable missile corvette, but a ship with true ASuW, and anti-submarine warfare (ASW) capability. "Nine corvettes entered service in 2013," DoD asserts. "China may build an additional 20 to 30 vessels of this class."¹⁷

While its recent construction of amphibious vessels overall has been limited, and none were produced in 2013, in the past several years China commissioned three 17,600-ton Type 071 *Yuzhao*-class landing platform docks (LPDs), the South Sea Fleet-home ported *Kunlunshan*, *Jinggangshan*, and *Changbaishan*. *Kunlunshan* joined the sixth Gulf of Aden counterpiracy task force in July 2010, dispatching helicopters and an Air Cushion Vehicle (pennant number 3320).¹⁸ Cheaper and quicker to build than a big deck flattop, smaller flush-deck 071s are more limited in firepower quantity and quality than larger vessels. Less than one-fifth the size of a modern US carrier, they can only carry helicopters and have more restricted combat potential. DoD anticipates that China "might begin construction" of a new, larger Type 081 amphibious vessel within five years.¹⁹

In one of the most sweeping maritime developments today, China Coast Guard (CCG)—composed of formerly principal civil maritime agencies, four out of five of which are now consolidating under the State Oceanic Administration—is growing rapidly in both quality and quantity. As CCG forces increasingly patrol disputed Near Seas areas to advance China's claims there, PLAN ships are free to range further afield to bolster China's A2/AD envelope in the Western Pacific and expand its presence and influence in the Indian Ocean and beyond.

Software Limitations and Rebooting

Over past decade, PLAN forces have achieved remarkable improvement in training and operational capability. Their operations are increasing in area, frequency, and complexity. Per the PLA's latest Outline of Military Training and Education, published in mid-2008 and implemented uniformly beginning January 1, 2009—which emphasizes "a more flexible year-round training cycle"—beginning in 2013 nearly all PLA exercises have centered on integrated system-of-systems operations (ISSO), network-centric warfare with Chinese characteristics, under informatized conditions.²⁰ All three PLAN fleets participated in the Philippine Sea-based October 2013 *Maneuver-5* exercise, reportedly the first such unscripted Chinese effort and the PLAN's largest high seas drill.²¹ Apparently as part of an effort to hone and demonstrate the ISSO-type

 ly a few
 t

 lmost all
 e)

52D) class,"

 dvanced
 defense
 iild 12+
 ve more
 e 054A)
 n, with
 nificant
 critical
 ased air

capabilities to support a Taiwan invasion, part of a larger priority to coerce the island that remains the PLA's foremost capability development priority, over six weeks in September–October 2013, China conducted the three-part *Mission Action* joint military exercise series. PLA ground, navy, and air forces conducted massive maneuvers along China's southeastern coast.²² In 2013, PLAN task forces of up to eight ships exited the First Island Chain nine times.²³

The PLAN's 235,000 personnel, including its 35,000 conscripts,²⁴ are increasingly capable. To increase operator proficiency, the PLAN is employing advanced training aids, including radar deflectors, jammers, and remote piloted vehicles (RPVs) to simulate mobile targets. In a gradual but determined improvement, commanders are evaluated on individual operations and thinking. Confrontation exercises are emphasized increasingly. There is stress on "normalizing" distant sea training in alignment with General Staff Department training guidelines. In a sign of the PLA(N)'s commitment to ISSO, China's National University of Defense Technology has established a pilot year-long Joint Operations staff officer course.²⁵

Key uncertainties remain. For example, some sources tout Gulf of Aden anti-piracy operations and other activities as a type of otherwise-unachievable combat-relevant training. Strategic planner Liu Jianping terms the Gulf of Aden mission as "an experience for the navy's capability to conduct Far Oceans quasi-combat operations."²⁶ Yet it is unclear how relevant the PLAN actually believes such training to be to actual combat operations. The precise extent to which the PLAN is applying Far Seas operational experience to Near Seas training likewise remains unknown.

Capabilities-to-Date: Air

The PLAAF strategy, "integrated air and space, simultaneous offensive and defensive operations," was approved in 2004, when PLAAF, PLAN, and Second Artillery Force (SAF) representatives joined the CMC.²⁷ It necessitates capacity to execute strike, air defense, power projection, and airborne early warning (AEW) and reconnaissance operations. Chinese writings suggest that these capabilities are intended in particular to support capacity to engage in anti-Taiwan operations, South China Sea power projection, and counterintervention. On November 23, 2013, China announced that it had established an Air Defense Identification Zone (ADIZ) in the East China Sea.

Current Force

China's air forces have made rapid progress in hardware. According to DoD, "The PLAAF is the largest air force in Asia and the third-largest air force in the world."²⁸ Together with the PLAN, the PLAAF currently has:

- >2,100 operational combat aircraft (fighters, bombers, fighter-attack and attack aircraft). 1,700 are fighters (130 within range of Taiwan), 400 are bombers (200 within range of Taiwan);

- 4,
- na
- ar
- re

The third, a trainers; generat low-ob; unknow craft ar and low greatest number and Y-9 wing ai

Curr deconfl wing ai from th

Addr increase craft are (nm) frc est rang aircraft farther c

Chin warfare active-ra kilomete offers low radar, w Control tively po recipient as China offer the jamming

Sino-I tinue, w electroni engines t projects,

coerce the
y, over six
rt *Mission*
rces con-
13, PLAN
ies.²³

pts,²⁴ are
s employ-
id remote
etermined
nd think-
stress on
partment
, China's
year-long

of Aden
chievable
Gulf of
r Oceans
actually
se extent
Near Seas

isive and
AN, and
ecessitates
ne early
gest that
ngage in
iterinter-
ished an

to DoD,
ce in the

ack and
400 are

- 475 transports (150 within range of Taiwan), 100 surveillance and reconnaissance aircraft;
- and 1,450 older fighters, bombers, and trainer aircraft for training, research, and development.²⁹

The PLAAF has been improving strike capabilities by modernizing second, third, and fourth generation aircraft, including the H-6K bomber; adding new trainers and fourth generation multirole aircraft while developing new fourth generation aircraft variants; and developing the J-20 and J-31 fifth generation low-observable fighters whose ultimate delivery date and capabilities remain unknown. It has deployed limited numbers of KJ-200 and KJ-2000 AEW aircraft and new UAVs including reconnaissance- and strike-capable long-range and low-observable systems. Power projection remains one of the PLAAF's greatest limitations. As stopgap measures, the PLAAF has purchased limited numbers of used Russian IL-76 transports while developing the Y-20 heavy lift and Y-9 medium-lift transports. Table 4.3 depicts PLAAF fixed- (non-rotary-) wing aircraft.

Currently, PLAN Aviation handles most maritime strike operations and deconflicts, rather than integrates, its operations with the PLAAF.³⁰ Its fixed-wing aircraft, which largely overlap but differ in several important instances from the PLAAF's, are tabulated in table 4.4.

Addressing a long-standing weakness, many of China's combat aircraft offer increased ranges. NASIC assesses that "[a]n increasing number of Chinese aircraft are capable of operating over water at ranges from 300–500 nautical miles (nm) from the coast of China without refueling. The fighter offering the greatest range, and which can reach the first island chain, is the Flanker series of aircraft purchased from Russia. Chinese bombers such as the H-6K can range farther out from the mainland."³¹

China's air forces feature dramatically improved armaments, electronic warfare systems, and targeting capabilities. For example, the PRC's PL-12 active-radar-guided air-to-air missile allows anti-aircraft strike from up to 70 kilometers.³² The YJ-12 air-launched ASCM, deployable from H-6 bombers, offers long-range supersonic attack. Active electronically scanned array (AESA) radar, which China reportedly has in its four KJ-2000 Airborne Warning and Control System (AWACS) aircraft, offer an advantageous combination of relatively powerful signal broadcast that remains relatively difficult for unintended recipients to detect.³³ Digital radio frequency memory (DRFM) jammers, such as China's KG300G pod-mounted unit deployed on the J-10, FC-1, and JF-17, offer the ability to digitally capture and retransmit signals for the purpose of jamming and spoofing adversary radars.³⁴

Sino-Russian negotiations for the sale to China of the Su-35 fighter continue, with China especially interested in the long-range IRBIS-E passive electronically scanned array radar and the Saturn 117S/AL-41F1A turbofan engines that come with the aircraft. "If China does procure the Su-35," DoD projects, "these aircraft could enter service in 2016 or 2018."³⁵

Table 4.3 PLAAF fixed-wing aircraft

Type	Manufacturer	Role	First Delivery	In Service
H-6 (including -G/-H/-K/-M missile variants)	XAC	Bomber	1968	(80) 82
JH-7A "Flounder"	XAC	Fighter (Ground Attack/Strike)	2004	83
Q-5 "Fantan"	HAIC	Fighter (Ground Attack/Strike)	1970	120
J-8H "Finback"	SAC Shenyang	Fighter (Interceptor/Air Defense)	2002	144
J-8F "Finback"	SAC Shenyang	Fighter (Interceptor/Air Defense)	2003	80
J-8D "Finback"	SAC Shenyang	Fighter (Interceptor/Air Defense)	1990	80
J-8B "Finback"	SAC Shenyang	Fighter (Interceptor/Air Defense)	1988	90
Su-30MKK "Flanker"	Sukhoi, Russia	Fighter (Multirole)	2000	73
J-11B/BS1	SAC Shenyang	Fighter (Multirole)	2004	96
J-11A (Chinese kit-assembled Su-27SK)	SAC Shenyang	Fighter (Multirole)	2001	96
Su-27SK "Flanker-B"	Sukhoi, Russia	Fighter (Multirole)	1992	43
J-10B	CAC	Fighter (Multirole)	2009	10
J-10A/S	CAC	Fighter (Multirole)	2001	216
J-7G	CAC	Fighter (Multirole)	2003	50
J-7E	CAC	Fighter (Multirole)	1993	144
J-7C	CAC	Fighter (Multirole)	1985	48
J-7B	CAC	Fighter (Multirole)	1980	183
KJ-2000 (A-50 "Mainstay"/IL-76MD)	Beriev, Russia/ XAC-Modified	Airborne Early Warning & Control	2004	(5) 4
Y-8W/KJ-200	SAC Shaanxi	Airborne Early Warning & Control	2007	4
Y-8G	SAC Shaanxi	Reconnaissance/Surveillance	2007	(4) 7
J(Z)-8FR	SAC Shenyang	Reconnaissance/Surveillance	?	24
JZ-8	SAC Shenyang	Reconnaissance/Surveillance	?	24
JZ-6	SAC Shenyang	Reconnaissance/Surveillance	1976	48
Y-8XZ	SAC Shaanxi	Electronic Warfare	2007	2
Y-8CB	SAC Shaanxi	Electronic Warfare	?	4
Tu-154M/D "Careless"	Tupolev, Russia	Electronic Intelligence	1998	4
Y-8T	SAC Shaanxi	Command/Control	2007	3
737-300	Boeing, US	C3I	?	2
H-6U	XAC	Tanker	1998	10
737-800	Boeing, US	Transport	2010	2
737-700	Boeing, US	Transport	2003	2
737-300	Boeing, US	Transport	1988	15

Continued

Table 4.3

Type

IL-76MD
 Tu-154M
 An-30 "C"
 An-26 "C"
 An-24 "C"
 Y-7
 Y-8
 Y-12
 Y-11
 CRJ700 C
 870
 CRJ100 C
 800
 Y-5
 Su-27UB
 "Flanker-
 JL-9/FTC-
 JL-8 (Expo
 Designati
 "Karakori
 An-30 "Cla
 JJ-7
 JJ-6
 CJ-6/A

Notes: Numbr
 Asia, May 6,
 Modernizatio

While
 PLAN Av
 are impro
 istic exerc
 competi

China alr
 officially
 (NIC) pro
 by purcha
 tively as n
 ects, "toge
 of the Uni
 Council (N
 and Europ

Table 4.3 Continued

<i>In Service</i>	<i>Type</i>	<i>Manufacturer</i>	<i>Role</i>	<i>First Delivery</i>	<i>In Service</i>
(80) 82	Il-76MD "Candid"	Ilyushin, Russia	Transport	1991	(15) 14
	Tu-154M "Careless"	Tupolev, Russia	Transport	1986	(5) 12
83	An-30 "Clank"	Antonov, Ukraine	Transport	1975	8
	An-26 "Curl"	Antonov, Ukraine	Transport	?	12
120	An-24 "Coke"	Antonov, Ukraine	Transport	?	10
	Y-7	XAC	Transport	1984	(50) 41
144	Y-8	SAC Shaanxi	Transport (Medium)	1981	25
	Y-12	HAI	Transport (Light)	?	8
80	Y-11	HAI	Transport (Light)	?	20
80	CRJ700 Challenger 870	Bombardier, Canada	Transport (Utility)	2005	5
90	CRJ100 Challenger 800	Bombardier, Canada	Transport (Utility)	1997	5
73	Y-5	SAIC	Transport (Utility)	1958	(200) 170
96	Su-27UB "Flanker-C"	Sukhoi, Russia	Trainer	1992	32
96	JL-9/FTC-2000	GAIC	Trainer	?	-12
43	JL-8 (Export Designation: "Karakorum")	HAIC	Trainer	1998	300
10	An-30 "Clank"	Antonov, Ukraine	Trainer	1975	6
216	JJ-7	GAIC	Trainer	1985	(100) 50
50	JJ-6	SAC Shenyang	Trainer	1970	100
144	CJ-6/A	HAIC	Trainer	1963	350

Notes: Numbers in () inserted from "China: Air Force," *Jane's Sentinel Security Assessment—China and Northeast Asia*, May 6, 2014, www.janes.com, when they differ from baseline numbers calculated by author for "China's Modernization of Its Naval and Air Power Capabilities" (2012).

While jointness, tactical training, and creativity remain limited, like their PLAN Aviation and other PLA counterparts, the PLAAF's 398,000 personnel are improving professionalism through increasingly frequent, far-ranging, realistic exercises. An elite cadre of pilots enjoys significant flying hours, unscripted competitions, and rapid progress.³⁶

Key Dynamics: The Next Decade and Beyond

China already boasts the world's second largest economy and defense budget, officially \$132 billion in 2014. By 2022, the US National Intelligence Council (NIC) projects that China will become the world's largest economy (measured by purchasing power parity) and sometime near 2030 will take the title definitively as measured by market exchange rates. By 2025, the World Bank projects, "together China and India will serve as nearly twice the engine for growth of the United States and euro zone combined."³⁷ The US National Intelligence Council (NIC) assesses that by 2030 "Asia will have surpassed North America and Europe combined in terms of global power, based upon GDP, population

Table 4.4 PLAN fixed-wing aircraft

Type	Manufacturer	Role	First Delivery	In Service
H-6G "Badger"	XAC	Bomber (Missile Variant)	2005?	(35) 30
H-6D "Badger"	XAC	Bomber (Missile Variant)	1985	16
JH-7A "Flounder"	XAC	Strike Fighter/Bomber	2004	(81) 75
JH-7 "Flounder"	XAC	Strike Fighter/Bomber	1998	(54) 50-65
Q-5 "Fantan-A"	HAIC	Fighter (Surface Attack/Strike)	1970	35
Su-30 MKK2 "Flanker"	Sukhoi, Russia	Fighter (Interceptor/Air Defense)	2004	24
J-8 IV "Finback D"	SAC Shenyang	Fighter (Interceptor/Air Defense)	1990	20
J-8 II "Finback B"	SAC Shenyang	Fighter (Interceptor/Air Defense)	1990	(54a) 20
J-8 II "Finback A"	SAC Shenyang	Fighter (Interceptor/Air Defense)	1990	70
J-7 IV (J-7E)	CAC	Fighter (Multirole)	1992	(29) 24
J-7 II (J-7B)	CAC	Fighter (Multirole)	1971	40
J-15	SAC Shenyang	Fighter (Multirole)	2012	3
J-16	SAC Shenyang	Fighter (Multirole)	2011	24
J-11BH/BSH	SAC	Fighter (Surface Attack)	2011	(24) 4+
J-10A/S	CAC	Fighter (Multirole)	2011	24
SH-5	HAIC	Maritime Patrol/ASW (Flying Boat)	1986	4
H-5 (II-28 <i>Beagle</i>)	HAIC	ASW	?	(30) 20
Y-8JB	SAC Shaanxi	ELINT	2004	5
Y-8J/W	SAC Shaanxi	AEW&C	1998	4
Y-8X "Cub"	SAC Shaanxi	Maritime Patrol	1985	4
HZ-5	?	ISR	?	7
H-6U	XAC	Tanker	1998	(4) 3
<i>Yak-42D</i>	Yakovlev, Russia	Transport	1990	2
Y-7H	XAC	Transport (Light)	?	6
Y-7	XAC	Transport (Light)	1984	4
Y-5	Shijiazhuang Aircraft Industry Company (SAIC)	Transport (Light)	?	50
JL-9/FTC-2000	GAIC	Trainer	?	12+
JL-8 (Export Designation: "Karakorum")	HAIC	Trainer	1998	12
JJ-7	GAIC	Trainer	1985	4
HY-7	?	Trainer	?	21
HJ-5	Harbin Aircraft Manufacturing Company (production ended 1982)	Trainer	1966+	5
CJ-6/6A	HAIC	Trainer	1963	38

Notes: Numbers in () inserted from "World Navies: China," *Jane's World Navies*, June 23, 2014, www.janes.com when differing from baseline numbers calculated by author for "China's Modernization of Its Naval and Air Power Capabilities" (2012). a. *Jane's* categorizes J-8 variants differently; number here possibly not directly comparable.

size, m
ably ha
and the
China
US by
A ri
tary. A
China's
project
activity
exports
current
prograr
actually
parlay i
and dep

Indicati

There a
beyond
mercha
naval di
tions. T
35,000-
Poter

- grc
- grc
- prc
- grc
- ing
- inc
- of
- bot
- off
- Por
- PL
- ma
- anc
- Arc
- bot
- wit
- opp
- the
- by t

size, military spending, and technological investment. China alone will probably have the largest economy." It will be "the central player in world trade and the largest trading partner of many countries." The NIC also projects that China will be close to being a science and technology peer competitor of the US by 2030.

A richer, more technologically advanced nation can afford a stronger military. As early as 2025, the International Institute for Strategic Studies predicts, China's defense spending might surpass America's. Even if these straight-line projections prove exaggerated, tremendous economic and technical-industrial activity is already affording China potent military capabilities and strategic exports. And extending our consideration to 2030 takes us beyond China's current procurement pipeline, opening up new possibilities for innovation and programmatic maturation. But it remains far from certain what Beijing will actually do to safeguard its growing interests, and to what extent it can and will parlay increasing economic and technical resources into military capabilities and deployments.

Indicators and Drivers

There are already indications that the PLA is developing abilities to deploy beyond China's immediate periphery. Since 2008, PLAN vessels have protected merchant vessels continuously in the Gulf of Aden, engaged in far-ranging naval diplomacy, provided humanitarian assistance, and supported UN operations. The PLAN and PLAAF helped protect Chinese evacuees as part of a 35,000-citizen NEO from Libya in March 2011.

Potential drivers of Chinese power projection include:

- growing overseas interests
- growing resource demands and scarcity
- protection of citizens, assets, and resource access abroad
- growing interests in Afghanistan/Southwest Asia, just as America is reducing presence there
- increasing tendency toward "innovative intervention," as seen in Gulf of Aden anti-piracy operations and Mekong River patrols pushing the boundaries of traditionally categorical Chinese sovereignty restrictions
- offers of overseas facilities in Djibouti, Seychelles, and Pakistan, with Port Salalah, Oman already serving as an important access point for the PLAN
- major presence in two key "Great Game" regions: Africa (rich in resources and in people, the future of world population and labor growth) and the Arctic SLOCs. By 2030, the NIC projects, it "will be possible to transit both the Northern and Northwest Passage for about 110 days per year, with about 45 days easily navigable."³⁸ China aims to capitalize on this opportunity, emerging as a major partner for smaller Arctic nations, with the largest embassy in Iceland, frequent visits by officials, and a port call by the *Xuelong* icebreaker.

In Service

(35) 30

16

(81) 75

(54)

50-65

35

24

20

(54a) 20

70

29) 24

10

4

24) 4+

4

30) 20

i) 3

4+

!

Based on these drivers, in a favorable scenario, China may field a force with some degree of global reach and influence. Key developments by 2030 might include the following:

- The PLAN and PLAAF will have largely modern platforms and well-trained personnel.
- China may achieve disruptive innovation capabilities, particularly in the defense electronics, space, and missile sectors, as well as in specific frontier technologies such as unmanned systems, hypersonics, directed energy, nanotechnology, and additive manufacturing.
- China's defense industrial base may come to include:
 - The world's largest civilian *and* military shipbuilding industry by tonnage, able to build sophisticated vessels of all types.
 - An aviation industry capable of producing advanced systems including, finally, sophisticated aeroengines.
 - Robust arms sales networks and growing influence, including with such pivotal states as Pakistan, Turkey, and Saudi Arabia.
- The PLA may have the capability to hold at risk US land-, sea-, and air-based forces, not only in the Western Pacific, but even in Guam and Hawaii, and conceivably beyond.
- China may have transitioned from a coastal state- to maritime power-outlook in important respects.
 - China's seven military regions will have been consolidated and reconfigured into a more joint, flexible, extroverted configuration.
 - Chinese ships and aircraft may gather intelligence regularly in and above US EEZs, not only off Guam and Hawaii, but also the West Coast.
 - Chinese forces may call on a growing network of overseas access points.
- These and other capabilities may serve an increasingly flexible, multi-dimensional foreign policy calculus, characterized by increased security support to the UN and increased Chinese organization of bilateral and multilateral security arrangements and exercises.

In one of the most sophisticated analyses to date of a good-case scenario for PLA distant operations development, Oriana Mastro posits: "By 2025 a global expeditionary PLA will be able to project power in a well-defined area for a specific duration of time anywhere in the world."³⁹

Yet alternative scenarios must also be considered, particularly the possibility that domestic or regional challenges limit or even preclude further PLA extraregional focus. China's official internal security budget exceeds the official PLA budget. China has 1.9 million Ministry of Public Security officers and 660,000 People's Armed Police personnel as compared to 1.25 million PLA ground force personnel. These ratios suggest continued domestic security concerns.⁴⁰ Greater cross-Strait integration could unleash uniquely Chinese historical-political forces, triggering unrest, governmental reforms, and even strategic introversion.

Moreover, specific attention and energy ment. Chi North Am cent deper (11% of Cl China is p oil import Myanmar-assessment dependenc sheer volu the Middle to China."

Foreign guard risit PLAN, dev sensus mig predict the developme

Addressing longer-ranę acquiring t there are d tages largel including v Other limit gration anc All these b over great more to mę burden, pa1 Additionall would likel military po

Despite opportuniti China toda base has alr of missile p tinuing effe

Moreover, even if favorable conditions are assumed overall, examination of specific areas of potential Chinese power projection reveals complexities in intention and capabilities. For example, China's growing maritime interests and energy dependency may gradually drive more thoroughgoing PLA development. Chinese reliance on Middle East energy is growing, just as shale gas-rich North America's is decreasing. By 2050, the NIC projects, Asia will be 90 percent dependent on imported oil.⁴¹ Accounting for 60 percent of China's oil (11% of China's total energy consumption) in 2012, the level of oil imported by China is projected to reach 75 percent by 2030. In 2012, 84 percent of China's oil imports transited the Strait of Malacca and the South China Sea.⁴² While Myanmar-China and Russia-China pipelines have come online, in DoD's assessment such "new pipelines will only slightly alleviate China's maritime dependency on either the Strait of Malacca or the Strait of Hormuz... the sheer volume of oil and liquefied natural gas that is imported to China from the Middle East and Africa will make strategic SLOCs increasingly important to China."⁴³

Foreign and Chinese experts alike have long cited securing SLOCs to safeguard rising energy imports as a key potential driver of PLA, particularly PLAN, development. Yet it remains far from certain what, if any, Chinese consensus might develop in this area. These factors make it extremely difficult to predict the extent to which natural resource imports are likely to drive PLAN development.

Implementation Challenges and Opportunities

Addressing globe-spanning interests beyond the Near Seas militarily requires longer-range power projection capabilities. Yet the challenges Beijing faces in acquiring the capabilities and developing the missions to operate a combat force there are daunting and could well increase further. China's Near Seas advantages largely do not translate to the Far Seas, where it faces significant liabilities including weaknesses in ASW and data collection, fusion, and dissemination.⁴⁴ Other limiting factors inhibiting China include geography, funding, force integration and training challenges, and the rising capabilities of other militaries. All these become much thornier problems when attempting to project power over great distances. More sophisticated longer range capabilities cost evermore to maintain at a given level. This would impose a significant economic burden, particularly given the ongoing slowdown in Chinese economic growth. Additionally, the more cost-effective asymmetric countermeasures that others would likely implement against China's attempts to expand the reach of its military power will pose real difficulties for the PLA.

Despite these larger challenges, however, China could conceivably enjoy opportunities. First, ships and aircraft produced relatively cost effectively by China today can serve for years to come. Second, China's defense industrial base has already reached Russian/European levels in some areas. The majority of missile programs, for example, approach leading-edge levels. Despite continuing efforts to improve propulsion systems, is a leading shipbuilder. China

boasts the world's largest wind tunnel, the JF12 hypersonic facility, capable of simulating conditions up to Mach 5–9.⁴⁵ The US Defense Science Board worries that China might “match or even outpace U.S. spending on unmanned systems in the future.”⁴⁶ Even as China improves indigenous capabilities, it continues to seek access to the most advanced foreign technologies. Low-observable technology is one area of emphasis, as seen in the *Lijian* UAV and J-20 and -31 fighters—the latter of which share design characteristics. Prioritized PLAN-relevant technologies “include three-dimensional maritime environmental monitoring technologies, fast, multi-parameter ocean floor survey technologies, and deep-sea operations technologies.” Prioritized PLAAF-relevant technologies “include development of chemical and solid laser state technologies to field a weapon-grade system ultimately from ground-based and airborne platforms.”⁴⁷ Third, while a significant economic slowdown would slow Chinese military development overall, it could nevertheless stimulate Chinese development of disruptive technological innovation. Such an approach already emerged at a lower level of Chinese capacity, when the 1999 Belgrade Embassy bombing persuaded China's leadership to fund “assassin's mace” megaprojects to develop weapons of disproportionate effect like the ASBM.

Future Forces: Naval

Currently, DoD assesses, “China's improving naval capabilities enable roles and missions that would have been impossible for the PLA to pursue just a decade ago.”⁴⁸ What further advances seem probable 10–20 years hence? Over the next decade, as ONI assesses, China will continue to develop its core naval capabilities, while also “complet[ing] its transition from a coastal navy to a navy capable of multiple missions around the world.” The PLAN “will be expected to perform a wide variety of tasks including assuring the nation's economic lifelines, asserting China's regional territorial interests, conducting humanitarian assistance and disaster relief, and demonstrating a Chinese presence beyond regional waters.”⁴⁹ The key question is how quickly, and to what extent, it will pursue these other missions.

China's counterintervention capabilities will continue to expand in scope, with robust coverage of the entire South China Sea, as well as the Philippine Sea, over the next decade. ONI judges that “[t]he deployment of LACMs on future submarines and surface combatants could enhance China's ability to strike key US bases throughout the region, including Guam.” Progressing in this counterintervention-plus direction alone will require major improvements in maritime and air domain awareness vis-à-vis the Near Seas' 875,000 square nautical miles and the Philippine Sea's 1.5 million sqnm. For instance, China is not currently capable of fully enforcing the southern reaches of a potential South China Sea ADIZ. To support such efforts, “The PLA(N) will probably employ significant numbers of land and ship based UAVs to supplement manned ISR aircraft and aid targeting for various long-range weapons systems. UAVs will probably become one of the PLA(N)'s most valuable ISR assets in on-going and future maritime disputes and protection of maritime claims.”⁵⁰

China's national aircraft carrier-craft carrier-c that (sev lence for aircraft v role.”⁵¹ C carrier. I in comir

Supp fold add ships, de projectic face forc areas by cially in to establ crew rest

Future I

In the as order of 19 and t Whether and thos how it ha foolish to air force tion on a Western coman Although fighters, several y likely gr instantly

A maj extent C this capa yet deter or expor ing trans aircraft c air opera

China is already developing some form of deck aviation capability, for both national prestige and limited missions beyond Taiwan. China's *Liaoning* aircraft carrier is several years from initial operational capability (IOC) with a carrier-capable air regiment. It will probably be several more years on top of that (several + several years) until a *Liaoning*-centered carrier group can challenge forces from another major navy. ONI forecasts: "By 2020, carrier-based aircraft will be able to support surface fleet operations in a limited air-defense role."⁵¹ China has reportedly begun construction of its first indigenous aircraft carrier. More capable follow-on carriers, with catapults, should be anticipated in coming years.

Supporting more than limited long-range operations would require manifold additional platforms and capabilities, including additional replenishment ships, deep water ASW proficiency, and integrated joint operations. Default projections by ONI appear modest thus far, for example, that "the PLA(N) surface force may be more capable of identifying adversary submarines in limited areas by 2020."⁵² Logistics and intelligence support remain key obstacles, especially in the Indian Ocean. Over next decade, DoD forecasts, China is likely to establish several Indian Ocean "access points" for "refueling, replenishment, crew rest, and low-level maintenance."⁵³

Future Forces: Air

In the assessment of RAND's David Shlapak, "The revolution in the PLAAF's order of battle is over. It has made up the three decades separating the MiG-19 and the Su-27 in fifteen remarkable years, and it continues to progress. Whether the PLAAF can close the gaps that remain between its capabilities and those of the world's most advanced air forces remains to be seen. Given how it has transformed itself over the last twenty years, however, one would be foolish to bet too heavily against it."⁵⁴ DoD's 2014 report explains how China's air force may in fact achieve this feat: "The PLAAF is pursuing modernization on a scale unprecedented in its history and is rapidly closing the gap with Western air forces across a broad spectrum of capabilities including aircraft, command and control (C2), jammers, electronic warfare (EW), and data links. Although it still operates a large number of older second- and third-generation fighters, it will likely become a majority fourth-generation force within the next several years."⁵⁵ Within the next decade or so, moreover, China's air forces will likely greatly increase their strike capabilities. A successfully-fielded J-20 "will instantly overmatch any fighter" operated by lesser neighboring air forces.⁵⁶

A major question for Chinese airpower projection is how rapidly and to what extent China can develop high-performance indigenous aeroengines. Absent this capability, it will remain reliant on a Russia diminishing in innovativeness yet determined to deny China the ability to develop superior military aircraft or export them competitively. Other areas requiring improvement are fielding transport and refueling aircraft in significant numbers, as well as AWACs aircraft of sufficient numbers and sophistication to safeguard and coordinate air operations. To support possible global expeditionary capabilities by 2030,

Mastro posits that the PLAAF would need to acquire additional Russian Il-76 transports and/or build improved Y-20 aircraft with upgraded engines, field the J-20 and/or J-31, and deploy large UAVs fleets.⁵⁷

Net Assessment Challenges

All elements of the complex, multivariate military equation are essential to a comprehensive net assessment. This requires information inaccessible in open sources. This chapter is further limited in its coverage. Of particular relevance to the navies of the United States and its allies and friends, it does not analyze China's massive, increasingly formidable land-based anti-naval and -air capabilities, or the complex command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) network to ensure their effective coordination and targeting. These capabilities are composed primarily of SAF-controlled ballistic and cruise missiles, PLAAF-controlled surface-to-air missiles (SAMs), and PLAN-controlled coastal-defense cruise missiles (CDCMs).

Outright comparison of Chinese and US forces is misleading because their vessels differ significantly, and the two sides have very different objectives and missions to accomplish. Avoiding one-sided analysis is likewise essential. Undoubtedly, the PLA will expand its portfolio of weapons systems capable of targeting US regional bases and vessels. "U.S. bases on Okinawa are in range of a growing number of Chinese MRBMs, and Guam could potentially be reached by air-launched cruise missiles," DoD concludes. Moreover, "Chinese missiles have also become far more accurate and are now better suited to strike regional air bases, logistics facilities, and other ground-based infrastructure, which Chinese military analysts have concluded are vulnerabilities in modern warfare. China is fielding an array of conventionally armed ballistic missiles, ground- and air-launched land-attack cruise missiles, special operations forces, and cyber warfare capabilities to hold such targets at risk throughout the region."⁵⁸ But this says nothing of the countermeasures that United States and allied forces might employ, as well as the ways in which they might successfully target their Chinese counterparts.

Perhaps the best that can presently be done with open sources is to review carefully the few judgments offered by the latest unclassified US government publications, and to consider what are the most critical factors affecting the relevant equations. In DoD's assessment, strike capabilities would play a leading role in virtually any foreseeable conflict that China entered, bolstered by the ability of OTH radars and satellites to locate targets at greater distances from China: "In a near-term conflict, PLA Navy operations would likely begin in the offshore and coastal areas with attacks by coastal defense cruise missiles, maritime strike aircraft, and smaller combatants and extend as far as the second island chain and Strait of Malacca using large surface ships and submarines. As the PLA Navy gains experience and acquires larger numbers of more capable platforms, including those with long-range air defense, it will expand the depth of these operations further into the western Pacific."⁵⁹ "Given the

pace of
between
the co
not er
so wil

US an

To pr
States
and to
strateg
(ASB
Globa
not in
tional
A mo
Access
avail
of pea
China
Chine
countr
requir
for use
Desert

Rob
best d
JAM-C
and B
preem
that "t
must b
Such e
homel
these c
Unitec
about
US pre
achiev

T. 2
"works
interdi
while p
import
Yet thi

ussian Il-76
zines, field

essential to a
ble in open
r relevance
s not ana-
al and -air
computers,
nsure their
ed primar-
ed surface-
se missiles

cause their
objectives
e essential.
capable of
e in range
entially be
; "Chinese
d to strike
astructure,
s in mod-
llistic mis-
operations
hroughout
ited States
might suc-

s to review
overnment
ecting the
lay a lead-
olstered by
: distances
kely begin
ruise mis-
s far as the
nd subma-
rs of more
ill expand
Given the

pace of PLA(N) modernization," ONI assesses, "the gap in military capability between the mainland and Taiwan will continue to widen in China's favor over the coming years."⁶⁰ Specifically, DoD judges, "China today probably could not enforce a full military blockade [against Taiwan]. However, its ability to do so will improve significantly over the next five to ten years."⁶¹

US and Allied Responses

To prevent China or any other potential challenger from denying the United States and its allies the continued ability to operate in the global commons and to prevent the use of force from being used to change the *status quo* in strategic regions, the United States is developing the Air-Sea Battle Concept (ASBC), recently renamed Joint Concept for Access and Maneuver in the Global Commons (JAM-GC).⁶² These names are confusing to nonspecialists not immersed in the benefits of Navy-Air Force cooperation to exploit operational synergies and conserve resources, and operational details are classified. A more straightforward encapsulation is provided by the "Joint Operational Access Concept" (JOAC), which describes the logical US/allied goals well: use available forces jointly with maximum effectiveness to preserve the *status quo* of peace and freedom of operation. Labeling JAM-GC or JOAC as *solely* against China is inaccurate: while they are clearly designed largely to address potential Chinese military challenges, other potential targets include Iran or *any other country* that might seek to disrupt peace and access. Here particular humility is required in prediction: the previous Air-Land Battle concept developed clearly for use against the USSR was ultimately used against Iraqi forces in *Operation Desert Storm*.

Robust debate is now underway concerning how the United States can best deter, or—in a worst-case scenario—fight China.⁶³ Support for a robust JAM-GC-type approach can be seen in analysis from the Center for Strategic and Budgetary Analysis (CSBA).⁶⁴ Critics of blind, suppress, and defeat-type preemption that JAM-GC promotes note the JOAC's own acknowledgement that "the potentially escalatory effects of strikes into an adversary's homeland must be carefully weighed against US political objectives and acceptable risk. Such escalation is particularly likely when the conflict is distant from the US homeland, and there has been no corresponding attack on US territory. In these cases, the probability and risk of reprisal attacks against the continental United States must be considered."⁶⁵ Given Beijing's perception that it cares about Near Seas disputes far more than Washington, critics question whether a US president would ever select such an option and whether Washington could achieve peacetime deterrence on the basis that s/he might do so.

T. X. Hammes offers an alternative approach: "offshore control," which "works with willing Asia-Pacific nations to ensure that the United States can interdict China's energy and raw material imports and industrial exports, while protecting our partners."⁶⁶ He believes that a distant blockade of energy imports can target Chinese economic vulnerability while containing escalation. Yet this would be incredibly escalatory from Beijing's perspective, damaging to

the global economy, and impractical to implement given the complex nature of the shipping industry, in which ships and crews are often multinational, cargoes such as oil can be resold many times in transit, and bills of lading can be falsified.⁶⁷

The author advocates a third approach: “deterrence by denial.” In all conceivable scenarios Washington and its allies would seek to preserve the status quo and Beijing would seek to disrupt it selectively concerning sovereignty disputes. This offers the former significant strategic, operational, and tactical advantages, because it is China that would have to initiate a conflict and seize territory, thereby exposing its forces. While Washington and its allies would prefer to maintain control of the sea, air, and other mediums where possible, because of these strategically defensive objectives, to achieve their bottom-line objectives they need only to maintain the ability to deny China’s military objectives by preventing China from seizing and holding disputed territory. Even as the overall balance of power continues to shift significantly, this allows them to pursue their own asymmetric counterintervention approaches against the PLA that the PLA has pursued so potently against them in recent years. The United States and its allies could and should have done more, sooner; but in recent years, there is finally growing recognition of the need to take a page from China’s playbook in this regard.

Regardless of the outcome of this debate, Washington is already making a concerted effort to demonstrate ability to “break the kill chains” of relevant Chinese weapons systems by disrupting their operational stages from target identification to destruction. Judging from official statements, the United States retains such options, and is pursuing new technologies and techniques to continue to do so in the future.

This brings us to a final, important caveat: this chapter does not analyze the CCG in depth. Its numerous ships and some helicopters and other aircraft offer versatile peacetime presence and pressure options—sometimes in conjunction with government-controlled civilian craft. It allows China to pose a “gray zone” challenge in which it does not pursue claims with military force directly but rather uses “salami-slicing” tactics against rival law enforcement forces that are either more legally constrained (as is the large, capable Japan Coast Guard) or are far smaller and less capable (as are all China’s South China Sea neighbors). This “win without fighting” approach is already yielding some gains for Beijing, in part because direct US Navy involvement could be escalatory in many instances, yet the US Coast Guard lacks the mission and resources to play a corresponding Near Seas role. As one observer argues cogently, “[B]ecause it’s such a big stick, ASB will probably be far less effective against small-scale Chinese aggression, such as coercive military actions in maritime territorial disputes, where the stakes are small enough to (probably) avoid high levels of escalation. The United States is still thus searching for a credible deterrence strategy for such cases.”⁶⁸ This gray zone issue is critical, since it lies at the core of what China is actually achieving in peacetime, as opposed to developing and deploying military capabilities for wartime that one hopes will never be employed in practice.

As Abraham
teristic c
region’s
ironicall
States, th
Near Se
China w
will con
difficult
not cont
geoning

For th
regional
of influe
tionalism
all major
wants to
of milita

China
moderate
Washing
bility and
presence,
critical q

Fortur
United S
in project
and the a
now, at le
bination
and coop
interests i
goods suc
rity opera
it craves v
and the g

* The aut
invaluable

1. “Xi Jin
Nationa
news/20

Conclusion

As Abraham Denmark concludes, “[T]he rise of China is the defining characteristic of every commons. A 30-year modernization effort has made China the region’s largest potential threat to the stability of the global commons while, ironically, also making it more dependent on those commons.”⁶⁹ For the United States, this is not a “peer competitor” problem on a global scale; it is about the Near Seas and their immediate approaches, as well as proximate airspace. If China wants to develop more global military power projection capabilities, it will confront daunting technological, economic, political, and organizational difficulties regardless of the resources at its disposal. And those resources may not continue to increase rapidly; China may not maintain its status as the burgeoning juggernaut that many anticipate.

For the foreseeable future, the principal challenge to the United States and its regional allies lies in the fact that Beijing is committed to establishing a sphere of influence across the Near Seas. There, it appears to seek a “zone of exceptionalism” within which its interests are privileged and factored strongly into all major strategic developments. To ensure this preferential environment, it wants to be able to deter, coerce, or defeat regional adversaries; restrict freedom of military operations that it deems unfriendly; and deter US intervention.

China probes and pressure unremittingly where it perceives weakness, but moderates its behavior when it encounters determined, capable opposition. Washington must maintain and demonstrate strength to preserve strategic stability and work closely with its allies in this regard. Just how much US power, presence, and policy punch is sufficient to maintain the status quo remains a critical question for the region.

Fortunately, however, a Chinese conflict with regional neighbors and the United States is not inevitable. China clearly recognizes the challenges it faces in projecting significant military power beyond this immediate neighborhood, and the advantages that the US retains in that more distant competition. For now, at least, Beijing can secure its extraregional interests by relying on a combination of relatively simpler military capabilities, together with diplomacy and cooperation with others, including the United States, which share common interests in global commons security. By continuing to contribute useful public goods such as anti-piracy patrols near the Horn of Africa, nontraditional security operations can offer Beijing the increased global status and influence that it craves without running roughshod over the security of less powerful nations and the global system on which all nations rely for stability and prosperity.

Notes

* The author thanks Avery Goldstein, Michael Swaine, and William Murray for invaluable inputs.

1. “Xi Jinping Inspects Guangzhou Military Region, Emphasizes Diligently Fortifying National Defense,” *CNTV*, December 13, 2012, http://v.chinamil.com.cn/news/2012-12/13/content_5140199.htm.

2. Nan Li, "The Evolution of China's Naval Strategy and Capabilities," *Asian Security*, Vol. 5, No. 2 (June 2009), pp. 150, 156.
3. *Military and Security Developments Involving the People's Republic of China 2014*, Annual Report to Congress (Arlington, VA: Office of the Secretary of Defense, June 5, 2014) [Hereafter, DoD, (Year)], p. 7.
4. Jesse Karotkin, Senior Intelligence Officer-China, Office of Naval Intelligence, "Trends in China's Naval Modernization," Testimony before the U.S.-China Economic and Security Review Commission, Washington, DC, January 30, 2014. Available at: http://www.uscc.gov/sites/default/files/Karotkin_Testimony1.30.14.pdf [Hereafter, ONI].
5. DoD (2014), p. 7.
6. Ibid., p. 8.
7. Cdr. Gurpreet Khurana, Cdr. Kapil Narula, and Asha Devi, "PLA Navy Submarine Visits Sir Lanka," *Making Waves*, Vol. 19, No. 9.2 (New Delhi: National Maritime Foundation, September 30, 2014), p. 37. Available at: [http://maritimeindia.org/pdf/MW%209.2\(Final\).pdf](http://maritimeindia.org/pdf/MW%209.2(Final).pdf).
8. Dong Zhaohui (ed.), "PLA Navy Submarine Visits Sir Lanka," *China Military Online*, September 24, 2014. Available at: http://eng.chinamil.com.cn/news-channels/china-military-news/2014-09/24/content_6152669.htm.
9. DoD (2014), p. 47.
10. DoD (2012), p. 23.
11. DoD (2014), p. 30.
12. DoD (2015), p. 9.
13. "The Multifunctional Target Designation Radar Complex 'Mineral Me,'" *SpetsTechnoExport*, Ukraine State Foreign Trade Enterprise. Available at: <http://www.ste.com.ua/index.php?idd=catalog&catalog=09af0afba48391e40d2d4f221a117ee1&a=4>.
14. "BUAA BZK-005," *Jane's Unmanned Aerial Vehicles and Targets*, January 20, 2014. Available at: www.janes.com; "Schiebel Camcopter® S-100," *Jane's Unmanned Aerial Vehicles and Targets*, May 14, 2014. Available at: www.janes.com.
15. DoD (2014), p. 8.
16. Ibid.
17. Ibid., p. 9.
18. "New-Type Air-Cushion Vehicle of PLA Navy Debuts as Patrol Boat," *Military Report*, CCTV-7 (Mandarin), September 3, 2010.
19. DoD (2014), p. 38.
20. Kenneth Allen and Morgan Clemens, *The Recruitment, Education, and Training of PLA Navy Personnel*, Naval War College *China Maritime Study* 12 (August 2014).
21. "Exercise in the Western Pacific Ocean," *Xinhua*, October 25, 2013.
22. "'Mission Action 2013B' Trans-MAC Mobile Campaign Exercise Kicks Off," *China Military Online*, October 14, 2013. Available at: <http://english.peopledaily.com.cn/90786/8424299.html>.
23. DoD (2014), p. 37.
24. *The Military Balance 2014* (London: International Institute for Strategic Studies, 2014), p. 233.
25. DoD (2013), p. 11.
26. Liu Yanxun, et al., "Background of Expedition to Somalia: Chinese Navy Pushes Forward to Deep Blue," *China Newsweek*, January 5, 2009. Available at: <http://mil.news.sina.com.cn/2008-12-31/1351537076.html>.
27. Yac
200
28. Do
29. Ibi
30. Da
S. J
Nav
httj
Pub
31. Do
Nat
and
Sec
at:
[He
32. "PL
at: v
33. "KJ
jane
34. "CE
Miss
35. DoI
36. *Peop*
NA
37. Dat
DC:
dni;
38. Ibid.
39. Oria
"The
and
2014
40. Auth
41. *Glob*
42. DoD
43. Ibid.
44. Lyle
Proce
45. DoD
46. "Chi
Avail
47. DoD
48. Ibid.
49. ONI
50. Ibid.
51. Ibid.
52. Ibid.
53. DoD
54. Shlap
55. DoD

ian Security,

China 2014,
of Defense,

ntelligence,
U.S.-China
ry 30, 2014.
only1.30.14.

Submarine
al Maritime
eindia.org/

na Military
news-chan-

eral Me,'"
at: [http://](http://d2d4f221a)
d2d4f221a

y 20, 2014.
Unmanned

," Military

d Training
2 (August

icks Off,"
eopedaily.

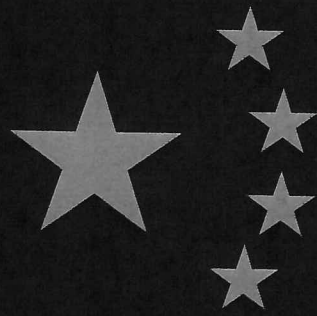
ic Studies,

vy Pushes
<http://mil>.

27. Yao Wei (ed.), *China Air Force Encyclopedia* (Beijing: Aviation Industry Press, 2005), Vol. 1, p. 57.
28. DoD (2014), p. 9.
29. *Ibid.*, p. 78.
30. David Shlapak, "Chinese Air Superiority in the Near Seas," in Peter Dutton, Andrew S. Erickson, and Ryan Martinson, eds., *China's Near Seas Combat Capabilities*, Naval War College *China Maritime Study 11* (February 2014). p. 67. Available at: <https://www.usnwc.edu/Research---Gaming/China-Maritime-Studies-Institute/Publications.aspx>.
31. Donald L. Fuell, Technical Director for Force Modernization and Employment, National Air and Space Intelligence Center, "Broad Trends in Chinese Air Force and Missile Modernization," Testimony before the U.S.-China Economic and Security Review Commission, Washington, DC, January 30, 2014. Available at: http://www.uscc.gov/sites/default/files/Lee%20Fuell_Testimony1.30.14.pdf [Hereafter, NASIC (2014)].
32. "PL-12 (SD-10, SD-10A)," *Jane's Air-Launched Weapons*, January 27, 2014. Available at: www.janes.com.
33. "KJ-2000 AWACS," *Jane's Fighting Ships*, December 31, 2013. Available at: www.janes.com.
34. "CEIEC Active and Passive Airborne Electronic Warfare Systems," *CAISR & Mission Systems: Air*, November 27, 2013 Available at: www.janes.com.
35. DoD (2014), p. 9.
36. *People's Liberation Army Air Force 2010* (Wright-Patterson Air Force Base, OH: NASIC, 2010).
37. Data in this paragraph from *Global Trends 2030: Alternative Worlds* (Washington, DC: National Intelligence Council, 2012), pp. iv, 48, 103, 106. Available at: www.dni.gov/nic/globaltrends.
38. *Ibid.*, p. 68.
39. Oriana Mastro, "A Global Expeditionary PLA, 2020–2025," paper presented at "The PLA in 2025" conference, sponsored by National Bureau of Asian Research and Strategic Studies Institute, Army War College, Carlisle, PA, February 22, 2014.
40. Author's discussion with Dennis Blasko, January 2015.
41. *Global Trends 2030*, p. 49.
42. DoD (2014), p. 18.
43. *Ibid.*, p. 19.
44. Lyle Goldstein and Shannon Knight, "Wired for Sound in the 'Near Seas,'" *Proceedings* (April 2014), pp. 56–61.
45. DoD (2014), p. 45.
46. "Chinese Military Spending Exceeds \$145 Billion: U.S.," CNBC, June 6, 2014. Available at: <http://www.cnbc.com/id/101736933>.
47. DoD (2014), p. 48.
48. *Ibid.*, p. 20.
49. ONI.
50. *Ibid.*
51. *Ibid.*
52. *Ibid.*
53. DoD (2014), pp. 37–38.
54. Shlapak, "Chinese Air Superiority in the Near Seas," p. 73.
55. DoD (2014), p. 9.

56. Ibid., p. 69.
57. Mastro, "A Global Expeditionary PLA, 2020–2025."
58. DoD (2014), p. 31.
59. Ibid., pp. 31, 40.
60. ONI.
61. DoD (2014), p. 54.
62. *Air-Sea Battle: Service Collaboration to Address Anti-Access and Area Denial Challenges* (Arlington, VA: DoD, May 2013). Available at: <http://www.defense.gov/pubs/ASB-ConceptImplementation-Summary-May-2013.pdf>; Paul McLeary, "New US Concept Melds Air, Sea and Land," *Defense News*, January 24, 2015. Available at: <http://www.defensenews.com/story/defense/policy-budget/warfare/2015/01/24/air-sea-battle-china-army-navy/22229023/>
63. Aaron Friedberg, *Beyond Air-Sea Battle: The Debate over US Military Strategy in Asia* (London: IISS, 2014).
64. Jan van Tol, et al., *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, DC: CSBA, 2010). Available at: <http://www.csbaonline.org/publications/2010/05/airsea-battle-concept/>.
65. *Joint Operational Access Concept (JOAC)*, Version 1.0 (Arlington, VA: Department of Defense, January 17, 2012), p. 24. Available at: http://www.defense.gov/pubs/pdfs/joac_jan%202012_signed.pdf.
66. T. X. Hammes, *Offshore Control: A Proposed Strategy for an Unlikely Conflict*, National Defense University *Strategic Forum*, No. 278 (June 2012), p. 3. Available at: <http://www.dtic.mil/dtic/tr/fulltext/u2/a577602.pdf>.
67. Gabriel Collins and William Murray, "No Oil for the Lamps of China?" *Naval War College Review*, Vol. 61, No. 2 (Spring 2008), pp. 79–95. Available at: <https://www.usnwc.edu/getattachment/22821a31-a443-4bc7-95a6-54527ad8924a/No-Oil-for-the-Lamps-of-China---Collins,-Gabriel-.aspx>.
68. Ben Schreer, "Clarify Air-Sea Battle; Asian Allies Warily Mull US Strategy," *Defense News*, April 29, 2013.
69. Abraham M. Denmark, "Asia's Security and the Contested Global Commons," in Ashley J. Tellis, Andrew Marble, and Travis Tanner (eds.), *Asia's Rising Power and America's Continued Purpose* (Seattle, WA: National Bureau of Asian Research, 2012), p. 202.

Bticator
outdate
izing it
Specific
ity, inc
additio
Thes
back to
that we
approac
becomi
much n
ballistic
(SSBNs
ible nuc
biannua
effectiv
security
Wha
China's
United
outside
next dec
the size



ASSESSING CHINA'S POWER

EDITED BY JAE HO CHUNG



"China's growing power and what it means for the rest of us is the topic of the decade. What we lack is an objective, balanced, and systematic evaluation of just how powerful China is. This volume, the work of 13 outstanding China specialists, goes a long way to filling the gap."

—Richard Bush, Brookings Institution, USA

"This edited volume on China's power contains contributions by some of the best China scholars in the world. One may not agree with all the views in it but, given the sophistication of the analyses, this book is a must-read for those who wish to understand the future."

—Jia Qingguo, Peking University, China

The topic of China's rise and what it really means for the global and regional order is the subject of intense debate in scholarly discourse and media around the world. While some are confident that China will rise to the level of an equally powerful competitor to the United States, others are more cautious. *Assessing China's Power* engages with this ongoing debate through empirical, sector-based, and systematic assessments of China's power. Top scholars address China's power today, compare China's power with that of the United States, and forecast China's power in 2025. This volume offers persuasive accounts of where China stands out, where China still has room to improve, and where China's comprehensive power is and will be situated within the hierarchy of the international system.

Jae Ho Chung is Professor of International Relations and Director of the Program on US-China Relations at Seoul National University, Korea. His books include *Central Control and Local Discretion in China* and *Between Ally and Partner*. He is also the founding coordinator of the Asian Network for the Study of Local China.

palgrave
macmillan

Cover image © rufus young / iStock / Thinkstock

Cover design by Paileen Currie

ISBN 978-1-137-53706-5



9 781137 537065

www.palgrave.com

think tank with the
ial, and international
eninsula and Korean

rum, an online jour-
ond. Under the lead-
policy experts from
e intellectual synergy
one another.

t Made?, 2013
Democratic Transi-

or Japan to Rise

Governance, 2014
area, 2015

Assessing China's Power

Edited by
Jae Ho Chung

palgrave
macmillan

Contents

<i>List of Figures</i>	vii
<i>List of Tables</i>	ix
<i>Foreword</i>	xi
<i>Preface</i>	xiii
1 Assessing China's Power <i>Jae Ho Chung</i>	1
Part I Domestic Sources/Constraints of China's Power	
2 China's Economic Power: Catching up with the United States by 2025? <i>Francois Godement</i>	21
3 China's Domestic Governing Capacity: Prospects and Challenges <i>Tony Saich</i>	41
Part II Military Components of China's Power	
4 Evaluating China's Conventional Military Power: The Naval and Air Dimensions <i>Andrew S. Erickson</i>	65
5 Assessing China's Evolving Nuclear Capabilities <i>Michael S. Chase</i>	91
6 China's Modernization Efforts and Activities in Outer Space, Cyberspace, and the Arctic <i>Kevin Pollpeter</i>	113
Part III Normative Scope of China's Power	
7 China's Changing Influence on the Multilateral System: From Adaptation to Assertion <i>Ann Kent</i>	139

is
on of this
written
Designs
ting limited
ie, 6-10

ublication
es.

thor of this
Act 1988.

ers
ndmills,

., One

companies

grave
d in

n economic
Chong,

2015014580

y.

vi • Contents

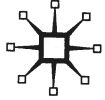
- 8 Evaluating China's Soft Power: Dimensions of Norms and Attraction 163
Hankwon Kim

Part IV Regional Impact of China's Power

- 9 China's Power in the Regional Context (I): Northeast Asia 185
David Kang
- 10 China's Power in the Regional Context (II): Southeast Asia 207
Evelyn Goh

Part V Assessing China's Global Power

- 11 China's Global Power/China as a Global Power 231
Shaun Breslin
- 12 China's Power from a Chinese Perspective (I):
 A Developing Country versus a Great Power 251 3.1
Suisheng Zhao 3.2
- 13 China's Power from a Chinese Perspective (II):
 Back to the Center Stage 271 3.3
Zhimin Chen 3.4
- List of Contributors* 291 8.1
- Index* 295 8.2
- 8.3
- 8.4
- 8.5
- 8.6
- 8.7
- 8.8
- 8.9
- 9.1
- 9.2
- 9.3
- 10.1
- 10.2
- 13.1



ASSESSING CHINA'S POWER
Copyright © The Asan Institute 2015

All rights reserved. No reproduction, copy or transmission of this publication may be made without written permission. No portion of this publication may be reproduced, copied or transmitted save with written permission. In accordance with the provisions of the Copyright, Designs and Patents Act 1988, or under the terms of any licence permitting limited copying issued by the Copyright Licensing Agency, Saffron House, 6-10 Kirby Street, London EC1N 8TS.

Any person who does any unauthorized act in relation to this publication may be liable to criminal prosecution and civil claims for damages.

First published 2015 by
PALGRAVE MACMILLAN

The author has asserted their right to be identified as the author of this work in accordance with the Copyright, Designs and Patents Act 1988.

Palgrave Macmillan in the UK is an imprint of Macmillan Publishers Limited, registered in England, company number 785998, of Houndmills, Basingstoke, Hampshire, RG21 6XS.

Palgrave Macmillan in the US is a division of Nature America, Inc., One New York Plaza, Suite 4500, New York, NY 10004-1562.

Palgrave Macmillan is the global academic imprint of the above companies and has representatives throughout the world.

HC ISBN: 978-1-137-53706-5
PBK ISBN: 978-1-137-53707-2
E-PUB ISBN: 978-1-137-53458-3
E-PDF ISBN: 978-1-137-53461-3
DOI: 10.1057/9781137534613

Distribution in the UK, Europe and the rest of the world is by Palgrave Macmillan®, a division of Macmillan Publishers Limited, registered in England, company number 785998, of Houndmills, Basingstoke, Hampshire RG21 6XS.

Library of Congress Cataloging-in-Publication Data

Assessing China's power / edited by Jae Ho Chung.
pages cm. — (Asan-Palgrave Macmillan series)

Includes bibliographical references and index.

ISBN 978-1-137-53706-5 (hardback)—

ISBN 978-1-137-53707-2 (paperback)

1. China—Foreign relations—21st century. 2. China—Foreign economic relations—21st century. 3. China—Economic conditions—2000—
4. China—Economic policy—2000— 5. China—Military policy. I. Chong, Chae-ho, 1960—

JZ1734.A55A77 2015
327.51—dc23

2015014580

A catalogue record of the book is available from the British Library.

List of F

List of I

Forewor

Preface

1 *Asse
Jae i*

2 *Chiu
Fran*

3 *Chiu
Tony*

4 *Eval
Dim
Andi*

5 *Asse
Mick*

6 *Chir
Cybe
Kevi*

7 *Chin
Fron
Ann*