

Naval War College Review

Volume 73
Number 4 *Autumn 2020*

Article 4

2020

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Recommended Citation

Fanell, James E. (2020) "China's Global Navy—Today's Challenge for the United States and the U.S. Navy," *Naval War College Review*. Vol. 73 : No. 4 , Article 4.

Available at: <https://digital-commons.usnwc.edu/nwc-review/vol73/iss4/4>

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Naval War College Review, Autumn 2020, Vol. 73, No. 4

CHINA'S GLOBAL NAVY

Today's Challenge for the United States and the U.S. Navy

James E. Fanell

U.S. national-security leaders must assess the speed and sustainability of the national effort by the People's Republic of China (PRC) to deploy a global navy. In June 2018, I stood on the fantail of the People's Liberation Army (PLA) Navy (PLAN) guided-missile frigate *Binzhou* in the port of Kiel, Germany—and it was never clearer to me than at that moment that Beijing has the national will to dominate the seas.

Binzhou had been at sea for two and a half months patrolling the waters of the Gulf of Aden, as part of China's antipiracy naval task force. *Binzhou* had transited the Red Sea, the Suez Canal, the Mediterranean Sea (with a refueling stop), and the English Channel and had sailed into the Baltic Sea. Moored among German and American warships, *Binzhou* stood out for its immaculate appearance. The ship's officers, crew, and staff exuded confidence and preparedness to get under way—to sea, the place where they looked as if they belonged. This contrasted sharply with my recollections of a 2004 visit to the destroyer *Luhu* in Qingdao, as well as many subsequent visits aboard PLAN warships over the next fifteen years.

The visit to *Binzhou* crystallized for me that in the short space of a decade and a half I had witnessed the transformation of the PLAN from a timid, near-seas assembly of ships into a global naval force whose ships' crewmembers were true mariners—as comfortable, confident, and capable as their German, British, and American counterparts. We are witnessing the beginning of a *global* PLAN—which, if left unchecked, will dominate the world's oceans.

As recently as five years ago, the conventional wisdom held that the PRC's leaders were focused primarily on “domestic concerns” of ensuring regime survival or accomplishing military modernization for regional purposes, to resolve territorial disputes within the so-called first island chain.¹ Amid this all-too-common failure to recognize the PRC's true strategic intentions, the PRC has

continued to build a naval force that, if left unchallenged, not only will be sailing the seven seas but will be increasingly capable of achieving sea control in the global maritime commons, reaching that point as early as 2030, and potentially even the capability to achieve sea superiority by 2049.

After twenty years of transformation, the PLAN today operates around the world, from the Baltic (and soon even the Barents) to the South Pacific, and from the Arctic to the Antarctic. By 2015, it already was clear that China's naval shipbuilding would continue unabated through the third decade of the millennium, and that China's leaders would move rapidly to increase the PLAN's order of battle to support an expanding set of missions, so as to fulfill their "China Dream" of national rejuvenation and restoration.²

While the evidence supports the assessment that "a massive expansion in the size of the PLA Navy" for the period 2015 to 2030 remains on track, there is one impediment in the strategic environment that could stymie the PRC's maritime strategy: the Trump administration.³ For the first time in nearly fifty years of U.S.-PRC relations, America has an administration that has broken away from an unwritten, bipartisan "China policy" that promoted unconstrained engagement and accommodation with the PRC. The Trump administration's definitive decision to treat the PRC as a competitor may represent the only chance to stop the PRC from becoming the dominant global naval power over the course of the next two decades.

Yet, even given the extent to which the Trump administration has challenged Beijing's global naval strategy, there remain significant practical tasks that must be completed if Washington is to disrupt Beijing's designs successfully. If the Trump administration is not able to follow through with these practical actions to slow or disrupt the PRC's global naval strategy, the world can expect to see a Chinese naval force that enjoys a global presence composed of multiple aircraft carrier and amphibious strike groups, a credible submarine-launched ballistic-missile capability, an ever-present network of warships at sea around the globe 24/7/365, and the concomitant influence and power this would provide to the leaders of the Chinese Communist Party (CCP).

THE PRC'S STRATEGY FOR GLOBAL MARITIME DOMINANCE

In 2013, President Xi Jinping unveiled his "China Dream" in a speech to the PRC's National People's Congress (NPC).⁴ The theme of the China Dream only has gained additional clarity over the ensuing seven years of President Xi's rule. For instance, at the Nineteenth National Party Congress of the CCP in October 2017, Xi stated, "The theme of the Congress is: remain true to our original aspiration and keep our mission firmly in mind . . . and work tirelessly to realize the Chinese Dream of national rejuvenation."⁵

The CCP's "Chinese Dream of national rejuvenation" includes the intention to "secure China's status as a great power."⁶ For Kevin Rudd, a former prime minister of Australia and acknowledged China aficionado, it means that "there now seems to be a new national and/or global vision that now sits above the simple maximisation of national interests." Mr. Rudd asserts that China has "become for the first time a multilateral diplomatic activist," launching "initiatives of its own beyond its own immediate sphere of strategic interest here in the East Asian hemisphere . . . rather than declining to reach beyond its own narrowly defined core national interests as we have often seen in the past."⁷

While Rudd's examination of the CCP's 22–23 June 2018 Central Conference on Work Relating to Foreign Affairs focuses on the PRC's diplomatic initiatives and activities outside East Asia, he also includes the following revealing observation: that "China has also developed naval bases in Sri Lanka, Pakistan, and now Djibouti (the latter with some 5,000 troops based there), as well as participating in naval exercises with the Russians in the Sea of Japan, the Mediterranean, and even the Baltic."⁸ While Rudd's point may not be clear to all, he nonetheless is making the case not only that the PRC's achievement of the China Dream is defined globally but that it will be supported by a global naval force—that of "a great maritime power."

Insights into the PRC's requirements for securing its status as a great maritime power were revealed during a 10 March 2019 press conference at a session of the Thirteenth NPC in Beijing. This interview of the NPC's Financial and Economic Committee vice-chairman, Yin Zhongqing, laid out a view that "the ocean is the cradle of life, the home of wind and rain, [and a] source of resources" and that "the ocean, deep sea, and polar regions could be developed and exploited." Yin asserted that "strategically managing the ocean have [*sic*] become the necessary path for China to open up and develop new space, give birth to new economic industries, create new engines for growth, and build new shelters for sustainable development in the new period and new era." In support of the goal of "accelerating the construction of China into a maritime power," Yin pointed out "a huge neglect of efforts to move to the far seas, enter the deep sea, and move towards the oceans."⁹

Vice-Chairman Yin also indicated that the plan for developing the PRC into a marine economy and maritime power would include the goal of constructing "a multi-faceted system of maritime cooperation." This would require that China "enter the deep ocean, move toward distant oceans until we reach Antarctica and the Arctic[,] . . . safeguard maritime rights and interests, and protect maritime security." In other words, China would require a global naval force.¹⁰

The expansiveness of the PRC's intentions, capabilities, and operations has not gone unnoticed by the U.S. government. In December 2018, the Department

of Defense published its “Assessment on U.S. Defense Implications of China’s Expanding Global Access.” This unprecedented report points out that China has “expanded its military operations further from the Chinese mainland” and that it is “seek[ing] this presence based on its changing military focus and expanding international economic interests, which are increasing demands for the PLA to operate in more distant maritime environments to protect Chinese citizens, investments, and critical sea lines of communication.”¹¹

[T]he PRC has continued to build a naval force that, if left unchallenged, . . . will be increasingly capable of achieving sea control in the global maritime commons, reaching that point as early as 2030, and potentially even the capability to achieve sea superiority by 2049.

The report goes on to state that the “PLA’s expanding global capabilities provide military options to observe or complicate adversary activities in the event of a conflict.” The report further points out that “China’s military strategy

and ongoing PLA reforms reflect the abandonment of its historically land-centric mentality,” as “PLA strategists envision an increasingly global role, which they are actively implementing.” In general, these statements reflect the expansionism of the PRC over the past two decades. One only need imagine the future presence of the PLAN as the PRC continues to fulfill its grand vision for the hundredth anniversary of the founding of the PRC: a China that is a “prosperous, strong, democratic, civilized, harmonious, and beautiful modernized socialist strong country.”¹²

Given this strategic context, it follows that this grand strategy is driving the PRC’s subordinate naval strategy, which governs “the guidelines and approach for planning and directing the overall construction and employment of the navy.”¹³ Starting with President Hu Jintao’s direction at the Eighteenth National Party Congress in November 2012 to “build China into a maritime power,” along with President Xi Jinping’s multiple calls to “step up efforts to build China into a strong maritime country,” the PRC has been transforming the PLAN from a near-seas fleet into a far-seas force—one that now is operating around much of the globe.¹⁴

While in the past there has been debate, and in some circles even doubt, about whether the PRC has a naval strategy (or even a maritime strategy), it seems clear that any such debate is over. For instance, as mentioned in a *Global Times* article, a series of articles published in 2018 by the *People’s Daily*, an official newspaper of the Central Committee of the CCP, stated that “building China as a maritime power fits China’s development, the global trend, and is the necessary choice for realizing the Chinese Dream of the national rejuvenation. . . . [I]t’s about time to build a strong maritime country.” One of the authors of the three articles, Liu

Jixian, former head of the PLA Academy of Military Science, said that “building a powerful maritime strength is the strategic mainstay of China’s development.” Further, Xu Guangyu, a retired major general and a senior adviser to the China Arms Control and Disarmament Association, told the *Global Times* that “these articles sent a clear message that China will invest more efforts in strengthening its ability to safeguard sea routes and overseas interests.” General Xu went on to state boldly, “There is no need to hide the ambition of the PLA Navy: to gain an ability like the U.S. Navy so that it can conduct different operations globally. . . . [C]onsidering that China has already become a global economic power, it is entirely reasonable for China to boost its maritime power.”¹⁵

Is the PLAN’s jettisoning of the previous “hiding and biding” strategy having an impact on its operations at sea? The simple answer is yes. The next section explores how the PLAN is operating internationally today, and where it is likely to grow in the following decades.

THE PLA NAVY: A GLOBAL PRESENCE TODAY

While official and unofficial statements assert the PRC’s global aspirations when it comes to the issue of maritime power, the reality behind those assertions is assessed best by examining what the PLAN actually is doing at sea. In this regard, it is accurate to say that as of 2019 the PLAN now has an established track record of global naval operations. As noted in an August 2018 interview, Chief of Naval Operations Admiral John Richardson characterized the PLAN as a global force that is “both ‘ready and capable’ of operating wherever Beijing wants.” He even acknowledged that PLAN warships were operating in the North Atlantic.¹⁶ While this article will not cover every PLAN operation around the globe, it will provide a broad representation of the various PLAN warships and the missions that are being executed in support of the PRC’s stated goal of becoming a global maritime power.

A Decade of Antipiracy Naval-Escort Task-Force Operations

The first and most obvious place to start is with an examination of the past decade’s worth of PLAN antipiracy naval-escort task-force operations in the Gulf of Aden. The first PLAN antipiracy task force, in December 2008, consisted “of the 052B guided-missile frigate *Wuhan* (Hull 169), the 052C guided-missile destroyer *Haikou* (Hull 171), and the comprehensive supply ship *Weishanhu* (Hull 887) of the South China Sea Fleet,” which departed the port of Sanya on Hainan Island and sailed over six thousand nautical miles to waters off Somalia.¹⁷ As Erickson and Strange noted as early as 2013, these escort task-force deployments, while initially intended to “safeguard China’s economic interests,” over time have provided PRC and PLAN leaders with “irreplaceable naval training” and catalyzed “the development of naval skill sets often taken for granted but absolutely critical

for long-distance operations.” They now irrefutably portray Beijing’s emerging approach to “maritime governance as a great power.”¹⁸

Since 2008, the PLAN has dispatched thirty-two escort task forces to the Gulf of Aden. Each task force has been composed of a three-ship configuration of two warships (consisting of various combinations of frigates, destroyers, or both) and an underway replenishment ship. In the first three years of these operations (or eight task groups), the PLAN relied on “ten domestic-made main battle ships and three supply ships” to fulfill these escort missions in the waters off Somalia.¹⁹

However, from the deployment of the ninth task force in the summer of 2011, the PLAN began to expand the number and type of new platforms for these far-seas missions. For instance, “the 054A guided-missile frigate *Yulin* (Hull 569), which had been commissioned for less than one and half years,” deployed with the ninth task force, and just two years later three of the very latest Type 903 comprehensive resupply ships joined the PLAN escort task-force deployments. As the *PLA Daily* noted on the occasion of the tenth anniversary of these deployments in the summer of 2018, “the Chinese Navy is no longer worried about warship shortages. Not only were more warships built, the qualities had also been improved on a gradual basis. From the ‘Chinese Aegis’ to 10,000-ton destroyers, from a refitted Russian aircraft carrier to a new domestically manufactured aircraft carrier, the Chinese Navy is transforming from a green-water navy into a robust blue-water navy.”²⁰

Another indicator of the PLAN’s global expansion came in 2010 when the fifth escort task force “did not return home directly after completing escort missions, but continued to visit countries in Europe, Africa, Asia, and Oceania.”²¹ This demonstration of operational readiness following three months of escort duty in the Gulf of Aden marked the “globalization of the PLAN.”

This concept was expanded further in 2011 when the seventh task force dispatched the Type 054A / Jiangkai II-class guided-missile frigate *Xuzhou* (hull 530) to conduct a noncombatant evacuation operation (NEO) of PRC nationals from Libya. While the *People’s Navy* acknowledged the difficulties that FFG 530 experienced in conducting this first-ever PRC foreign-soil NEO, by 2015 the PLAN’s NEO capabilities had improved markedly, as the nineteenth escort task force “confidently evacuated Chinese nationals from Yemen”—a first for the PLAN in a hostile threat environment.²²

Since 2011, the normal state of affairs has been two PLAN escort task forces under way in the region a majority of the time, with one task force conducting escort missions in the Gulf of Aden while the other conducts “goodwill,” or show-the-flag, port visits in surrounding areas of the Indian Ocean, Persian Gulf, and Mediterranean Sea, and even into the Baltic Sea and the Atlantic Ocean. This concept was highlighted, or “stress tested,” when the twentieth PLAN escort task

force conducted a five-month global circumnavigation in 2015.²³ It is clear that in the short span of a single decade the PLAN went from being largely confined to the first island chain to having a global presence, with its escort task-force program having visited over sixty nations (see table 1).

What these examples of expanded geographic operations in the far seas demonstrate is the ageless lesson that all seafaring nations learn about the capabilities and confidence that navies gain from being at sea. These data represent a trend line that foreshadows an expanding PLAN global presence, one that will continue to improve its combat readiness as each new area of the maritime commons is opened up to PRC influence.

While the PLAN has gained valuable experience from these years of merely plying the waters of the Gulf of Aden and other far seas at all, the PLAN has acknowledged that its improvements also are the “result of its new blue-navy strategy.” A key element of that strategy was the PLAN’s planning and development of the two-task-force deployment system. This deployment system provides PLAN leadership the means to “easily handle any emergency,” insofar as is required at present.²⁴ Given PRC leadership comments regarding its global agenda, it seems likely there will be an increase in the number of task-force deployments, especially as the size of the PLAN expands over the next twenty to thirty years.²⁵

One of the keys to the PLAN’s ten years of successful and expansive naval-escort task-force operations has been the development of a robust underway replenishment capability. During the first four and a half years of these operations, just three Type 903 supply ships (the so-called supply-ship troika) were used to resupply all the deploying PLAN warships. This obvious limitation required PLAN schedulers to keep one of these three resupply ships on station through two rotations of task-force deployments.

This era of the supply-ship troika finally ended when the supply ship *Taihu* (hull 889), the first Type 903A comprehensive supply ship, deployed with the fifteenth antipiracy task force in August 2013. Since then, the PLAN has built many more comprehensive resupply ships that have been able to support the two-task-force schedule with a dedicated resupply ship for each task-force deployment. The increase in the number of fleet-replenishment ships has expanded the PLAN’s knowledge and training surrounding this very important capability, which serves as the backbone for all naval forces that aspire to conduct global naval operations. As noted in the *People’s Daily*, “the Type-903 series supply ships have greatly improved their replenishment efficiency and are able to conduct alongside, astern, vertical, and skin-to-skin connected replenishment-at-sea at the same time. Therefore, they can carry out underway replenishment missions under more complicated conditions.”²⁶

TABLE 1
PLA NAVY ANTIPIRACY ESCORT TASK FORCE—FOREIGN PORT CALLS

Task Force Numbers and Years	Foreign Port Calls
Task forces 1–5 2009–10	Burma, Egypt, Greece, Hong Kong, India, Italy, Malaysia, Pakistan, Philippines, Singapore, Sri Lanka, United Arab Emirates (UAE)
Task forces 6–10 2011–12	Bahrain, Brunei, Hong Kong, Indonesia, Kuwait, Mozambique, Oman, Qatar, Saudi Arabia, Seychelles, Singapore, South Africa, Sri Lanka, Tanzania, Thailand
Task forces 11–15 2012–14	Algeria, Australia, Bulgaria, France, Israel, Kenya, Malta, Morocco, Portugal, Romania, Seychelles, Singapore, Tanzania, Thailand, Turkey, Ukraine, Vietnam
Task forces 16–20 2014–16	Angola, Britain, Cameroon, Croatia, Cuba, Denmark, East Timor, Egypt, Finland, Germany, Greece (×2), Indonesia, Iran, Italy, Jordan, Malaysia, Mexico, Namibia, Netherlands, Pakistan, Poland, Portugal, South Africa, Sudan, Sweden, Turkey, UAE, USA
Task forces 21–25 2016–17	Bangladesh, Burma, Cambodia, India, Kuwait, Malaysia, Pakistan, Qatar, Saudi Arabia, South Africa, South Korea, Sri Lanka, Tanzania, Thailand, UAE, Vanuatu, Vietnam
Task forces 26–30 2017–19	Algeria, Belgium, Britain, Cambodia, Denmark, France, Greece, Italy, Morocco, Philippines, Spain, Tunisia

Sources: Multiple, compiled by the author.

And while the ships of the Type 903 series have enhanced the far-seas operations of the PLAN greatly, they no longer are the Chinese navy's most advanced supply ships, as the first of the new Type 901 series / Fuyu-class large-scale resupply ships came into service on 1 September 2017.²⁷ The Type 901 is comparable in capability to the U.S. Navy's forthcoming USNS *John Lewis*-class (T-AO 205) fleet oilers, which are set to replace the aging *Henry J. Kaiser*-class (T-AO 187) ships. The Fuyu-class replenishment ship is projected to be "a gas-turbine powered fast combat support ship that is designed to operate alongside an aircraft carrier strike group."²⁸ While as of May 2020 the new Type 901 series had yet to be deployed to the Gulf of Aden for escort task-force operations, its first overseas operations likely will come within the next year or two when the PLAN conducts its first aircraft carrier deployments into the far seas.

Not only have PLAN sailors deployed aboard their newest and latest type warships and learned how to navigate and maintain their ships far from home; PLAN leaders also have learned other valuable skills for maintaining command and control over their expanding fleet operations. The *PLA Daily* has noted that, "with the improvement of the Chinese Navy's hardware, the escort missions in the Gulf of Aden and the waters off Somalia have become

training opportunities to sharpen the Chinese Navy's software capacity."²⁹ Some of the software capacity improvements surely lie in the advanced weapons deployed aboard these task-group warships, but another improvement relates to the PLAN's ability to command and control its warships farther from China. For instance, according to the *People's Navy*, the PLAN commander has conducted Lunar New Year video teleconferences (VTCs) with every task force (save one) since the fourth escort task force in 2010. These VTCs demonstrate the PLAN's commitment to maintaining a robust and global command-and-control capability.³⁰

While the initial impetus for the PLAN escort task-force missions was to gain blue-water experience, PLAN leaders now recognize, and publicize, that these worldwide deployments have "become the vanguard to protect China's interests overseas."³¹ This past decade of far-seas operations foreshadows the PLAN's increasing ability to project power across the globe.

The real importance of the past decade of far-seas operations for the PLAN lies not just in the service's ability to navigate and sustain the material readiness of its ships but in how those lessons are combined with the lessons the PLAN is learning through numerous war-at-sea naval exercises, held under real-world conditions, routinely occurring along the PRC's coast. For example, in early August 2017 "the PLAN held a large-scale, multi-fleet live-fire exercise simultaneously in the Yellow Sea and Bo Hai, with naval ships, submarines, aircraft, and coastal defense units."³² The combination of these near-seas live-fire naval exercises with the past decade of far-seas operations is transforming the PLAN into a global naval force that will be able to fight and win naval battles.

PLAN Aircraft Carriers

Beyond an examination of the PLAN's current global operations, it is necessary to predict where the PLAN may operate with new platforms in the future. Perhaps no PLAN platform has received more attention than the aircraft carrier.

The most impressive display of PLAN power came in March 2018 when the service's first aircraft carrier, *Liaoning* (CV 16), was flanked by other PLAN warships and submarines in the South China Sea. President Xi Jinping attended what was described as the largest parade the PLAN had ever carried out, with forty-eight ships and seventy-six aircraft taking part.³³ The state-run *People's Daily* characterized the display as an "unprecedentedly" large-scale naval exercise—involving a flotilla as large as the one the Royal Navy dispatched to fight the Falklands War in 1982. The Chinese naval commentator noted that the exercise most likely was used to "test China's aircraft carrier formation, gathering data and experience for the country's future construction of carrier combat groups."³⁴

More importantly, the exercise could be characterized as a coming-out for the PLAN's power-projection capabilities. Uncharacteristically, the PRC press

boasted that “the Chinese navy will conduct even larger-scale drills in the future.”³⁵ It even admitted a belief that to “be a world-class navy, the Chinese navy has the right to catch up” with navies of developed countries in terms of technology and scale, even beyond the PLAN’s recent advances. As a harbinger of the future, Chinese commentators highlighted that “the problem of a relatively small aggregate tonnage of naval vessels must be resolved, in order to increase the navy’s capability to confront naval hegemonies in the world.”³⁶

Following this unprecedented exercise, news of the PLAN’s aircraft carrier program continued to receive enormous attention. *Shandong* (CV 17), China’s first indigenously produced carrier, conducted three sea trials between March

The combination of . . . near-seas live-fire naval exercises with the past decade of far-seas operations is transforming the PLAN into a global naval force that will be able to fight and win naval battles.

and November 2018. Following the last sea trial of CV 17, Xinhua reported that the PLAN’s third aircraft carrier was under construction, most likely at the Jiangnan Shipyard near Shanghai. While Chinese

naval experts predicted the third carrier would take two and a half years to be launched, projections widely assert that this iteration will have a flat deck and some form of catapult launch capability.³⁷

Just how many aircraft carriers the PRC will build is a topic of great discussion in the PRC press. In December 2018, the *PLA Daily* ran an article quoting two naval experts who assessed the PRC as needing at least five aircraft carriers, if not six, to fulfill “strategic shifts in the geo-political environment.” According to “China’s Military Strategy,” a white paper that the State Council’s Information Office released in 2015, these “strategic shifts” were implemented to refocus the PLAN from “offshore waters defense” to “open seas protection,” so as to “enhance its capabilities for strategic deterrence and counterattacks, maritime maneuvers, joint operations at sea, comprehensive defense, and support.”³⁸

What seems clear is that the boasting about future aspirations in March 2018 was inspired by the speech President Xi delivered aboard one of the destroyers during the naval exercise. In his speech, President Xi stated that “building a world-class navy was part of his broader goal to ‘rejuvenate’ the nation.”³⁹ Regardless of the rationale, given the scope and size of this event, the publicity about it, and the subsequent testing of the second carrier and rollout of the third carrier, there is little doubt the PRC still is expanding the size and scope of the PLAN aircraft carrier program.

According to some Chinese military experts, the PRC plans to have “at least six aircraft battle groups . . . in the water by 2035,” of which four “will be nuclear-powered,” as it builds up its naval capability closer to that of the U.S. Navy.⁴⁰ Thus,

given the PRC's demonstrated efforts to be the "biggest" or "number one" across so many areas of national power, prudence requires that we prepare for a PLAN that has at least ten aircraft carriers by 2049—to match or surpass the capacity of the U.S. Navy.

Expanding PLAN Submarine Operations

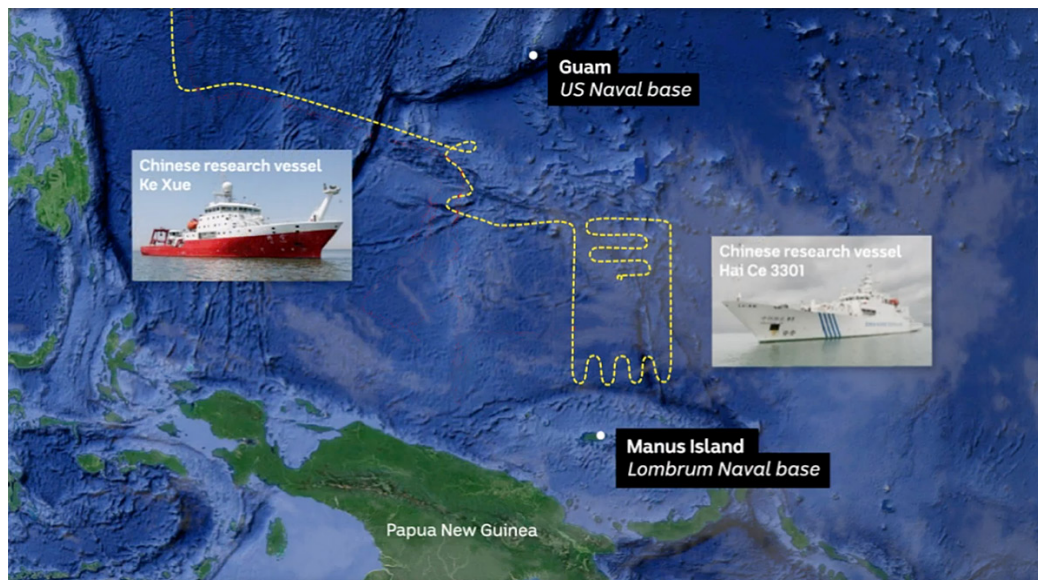
Expert observers consider the expansion of PLAN submarine operations into the far seas to have begun in October 2006, when a Song-class diesel submarine was sighted within four nautical miles of USS *Kitty Hawk*.⁴¹ Between 2006 and 2013, PLAN submarine operations expanded into the South China Sea and Philippine Sea and became a normalized pattern of activity. Since 2013, "the PLAN has conducted regular deployments of nuclear submarines into the Indian Ocean, and while submarines, especially nuclear-powered types, are suboptimal against pirates, they are a highly useful threat against India."⁴²

The obvious question is where PLAN submarines will operate next. That question can be answered by paying attention to PRC oceanographic-research and survey operations. The PRC's naval oceanography often is conducted "in tandem with, or under the guise of, scientific or commercial oceanography, but its real intent is to gain important data about the undersea domain, principally anything of benefit to the PLAN elite submarine force."⁴³ Wherever the PRC has carried out this ocean-floor mapping—in the East and South China Seas, the Philippine Sea, the western Pacific Ocean, and the Indian Ocean—PLAN submarine operations have followed.

For example, in December 2018 it was reported that two PRC vessels designated "distant-ocean research fleet" ships, *Kexue* and *Haice 3301*, had entered Papua New Guinea's exclusive economic zone (EEZ) and conducted operations involving "even spacing between legs." Such activity is a clear indicator of bathymetric data collection that would support future PLAN submarine and submersible operations.⁴⁴

With regard to the Atlantic Ocean, in 2018 "China's new generation of ocean-going comprehensive scientific research ship *Xiang Yang Hong 01* successfully completed China's first global ocean comprehensive scientific examination task."⁴⁵ While *Xiang Yang Hong 01* is subordinate to the Ministry of Natural Resources (MNR) and deploys to distant oceans as part of the PRC's program to collect oceanic data, as Martinson and Dutton have noted, one of the main drivers for this data-collection program is to "support the development of China's blue-water naval capabilities," a function that is "especially important for undersea warfare."⁴⁶ *Xiang Yang Hong 01* departed the port of Qingdao in August 2017 and deployed more than 38,000 nautical miles across the Indian and Atlantic Oceans and back into the Pacific before returning to its home port on 18 May 2018.⁴⁷ Interestingly, *Xiang Yang Hong 01* spent the month of October

FIGURE 1
CHINESE RESEARCH SHIP OPERATIONS IN THE SOUTH PACIFIC



Source: Greene, "Chinese Surveillance near PNG Expanding."

2017 conducting oceanographic operations in the South Atlantic, the third leg of its circumnavigation of the globe.⁴⁸ An article published in the November 2018 issue of the *Chinese Journal of Applied Oceanography* suggests that the PLAN is laying the intellectual foundation for undersea warfare operations in the Atlantic Ocean. Specifically, the authors highlight the military significance of the work, stating that it "has practical value for exploiting seasonal variation in sound propagation in the Atlantic Ocean to engage in target detection."⁴⁹ This is a clear reference to future submarine operations.

In addition to the MNR's fleet of nearly a dozen National Marine Research distant-ocean research vessels, the PLAN operates some nine distant-ocean survey ships that "perform bathymetric surveys" and collect oceanographic data. For instance, the PLAN's Type 636A Shupang-class oceanographic research ship (designated AGS) *Zhu Kezhen* was reported to have conducted hydrographic survey operations in South Atlantic waters off Brazil in 2015. In addition to completing the East Sea Fleet's first single-ship global circumnavigation, the mission of *Zhu Kezhen* was to conduct "an active exploration of understanding the ocean" in support of the PLAN's role in transforming the PRC into a maritime power. Of particular interest, it was reported that *Zhu Kezhen* in recent years had been "focused on the strong military objectives, [and] innovated the all-weather survey and measurement model according to the requirements of 'can fight and win the battle.'"⁵⁰

Like the U.S. Navy, the PLAN “possesses a corps of meteorologists and oceanographers” who support weather forecasting and hydrographic chart production. Most importantly, as Martinson and Dutton have noted, the “PLAN’s distant-ocean survey fleet has more than tripled since 2015.”⁵¹ As Rear Admiral James V. P. Goldrick, RAN (Ret.), former head of Australia’s Border Protection Command, has observed, the Chinese mapping of the world’s oceans is now on the same scale as Soviet maritime operations during the height of the Cold War.⁵² Given the previous pattern of MNR and PLAN oceanographic operations preceding PLAN submarine operations, we should prepare for Chinese submarine operations in the Atlantic over the course of the next decade, and most certainly by 2030.

This is to say nothing of PLAN submarine operations in the Pacific over the past decade. One need only recall Vice Admiral Joseph P. Mulloy’s 2015 testimony before the U.S. Senate Armed Services Committee, that the PLAN’s submarine force was expanding its geographic area of operations as well as the duration of subs’ deployments. Extrapolating from Indian Ocean operations, Admiral Mulloy noted that in 2015 one PLAN submarine had been deployed for ninety-five days.⁵³ Given the global nature of the PLAN’s expansion, it is not unreasonable for USN leaders to expect to see PLAN submarines operating in Hawaiian waters; if they are not doing so already, they surely will within the next five years. We also should expect to see PLAN submarines operating off the U.S. West Coast by 2030.

As for the number of PLAN submarines that can be expected in the future, in 2015 Scott Cheney-Peters and I estimated that by 2030 the PLAN would have twelve nuclear-powered attack submarines (designated SSNs), twelve nuclear-powered ballistic-missile submarines (SSBNs), and seventy-five air-independent-propulsion (i.e., AIP) and diesel attack submarines (SSPs/SSs).⁵⁴ However, given recent developments regarding a possible new nuclear submarine-production facility under the Bohai Shipbuilding Heavy Industry Company (BSHIC) in Huludao, the number of PLAN SSNs and SSBNs may be greater than originally estimated.

According to analysis of Google Earth commercial-satellite imagery of land reclamation at BSHIC since 2014, a collection of large foundations and buildings—including “a main assembly hall, a pressurized hull production shop, a paint shop, and a number of transport rails”—could be China’s newest nuclear submarine-production facility. While the commercial imagery has “prompted some Chinese military enthusiasts to compare it with interiors of other nuclear production halls around the world,” others remain unconvinced.⁵⁵ The case against this facility being a new nuclear submarine-production hall is based on two arguments: one, the existence of a concrete wall blocking the dual rail lines from the construction halls to the dry dock; and two, doubt about the thickness of the concrete slabs in the new halls and whether they have the load-bearing

capacity for SSNs or SSBNs. With regard to the first issue—the wall blocking the rail line to the dry dock—commercial imagery since mid-2017 clearly indicates that the concrete wall has been removed. Now the dual rail lines from the production halls to the dry dock are unobstructed, thereby allowing any newly produced SSN or SSBN to reach the waters of the Bo Hai. As for the thickness of the concrete slabs and their load-bearing capability, the argument is unconvincing, as the resolution of the commercial imagery is insufficient to determine the matter.

Given the existence of this new facility, its internal configuration, and its estimated production capacity, such “an arrangement, once mature and properly organized with efficient pre-assembly module fabrication, may enable two SSNs and one SSBN to be launched every year.” If such a rate of production were to begin in 2020, the PLAN could have as many as twenty-four SSNs and fourteen SSBNs by 2030. While some may scoff at this projection, it is worth remembering that as recently as a decade ago similar doubts existed regarding Chinese destroyer production—but in 2018 alone the PRC launched seven new destroyers (three Type 055s and four Type 052Ds).⁵⁶

Intelligence Collection

Another mission area in which the PLAN has been operating in the far seas is intelligence collection. Beginning in 2012, the PLAN has dispatched intelligence-collection ships (designated auxiliary general intelligence vessels [AGIs]) to the waters off Hawaii during the biennial USN-sponsored Rim of the Pacific (RIMPAC) exercise. While the PRC was not a participant in RIMPAC 2012, that did not prevent it from sending an AGI. The PLAN again dispatched an AGI to the waters off Hawaii during RIMPAC 2014, even though the PLAN was invited formally and participated with four ships. The PLAN did not send an AGI to RIMPAC 2016, in which it again was a formal exercise participant. However, during RIMPAC 2018, to which the PLAN was not invited, a PLAN Type 815 Dongdiao-class AGI did show up off the coast of Hawaii, according to the U.S. Pacific Fleet.⁵⁷

PLAN AGI collection operations have targeted other U.S. naval exercises and operations. For instance, in 2014 the PLAN dispatched a Dongdiao-class AGI to spy on the U.S. Seventh Fleet–led Exercise VALIANT SHIELD in the waters off Guam.⁵⁸ Then, according to the Pentagon, in July 2017 the PLAN dispatched another Dongdiao-class AGI, this time to collect intelligence against the U.S. missile-defense test of the Terminal High-Altitude Area Defense system (referred to as THAAD).⁵⁹ Coincidentally, this occurred as yet another PLAN Dongdiao-class AGI was detected within the Australian EEZ near Queensland, where U.S. and Royal Australian Navy warships and aircraft were conducting Exercise TALISMAN SABER.⁶⁰

The PLAN's AGI operations over the last several years have not confined themselves to collection missions against the United States and its allies. In 2018, in a first, the Russian Federation invited the PLA to participate in the strategic VOSTOK exercise, billed as the largest exercise in modern Russian history. Sergey Shoigu, the Russian defense minister, was quoted as saying that "about 300,000 troops, more than 1,000 planes, helicopters, and drones, up to 80 combat and logistic ships and up to 36,000 tanks, armored personnel carriers and other vehicles" were involved in the exercise. Of the personnel, 3,500 were PLA soldiers dedicated to the ground portion of the exercise.⁶¹

Remarkably, as has been the PRC's pattern at RIMPAC exercises, a PLAN Dongdiao-class AGI was dispatched to shadow "Russian Navy assets for the length of the at-sea portion of the exercise while Chinese and Mongolian troops

When it comes to the very important metric of how many ships actually are being built, launched, and commissioned, the PLAN continues to surpass the U.S. Navy.

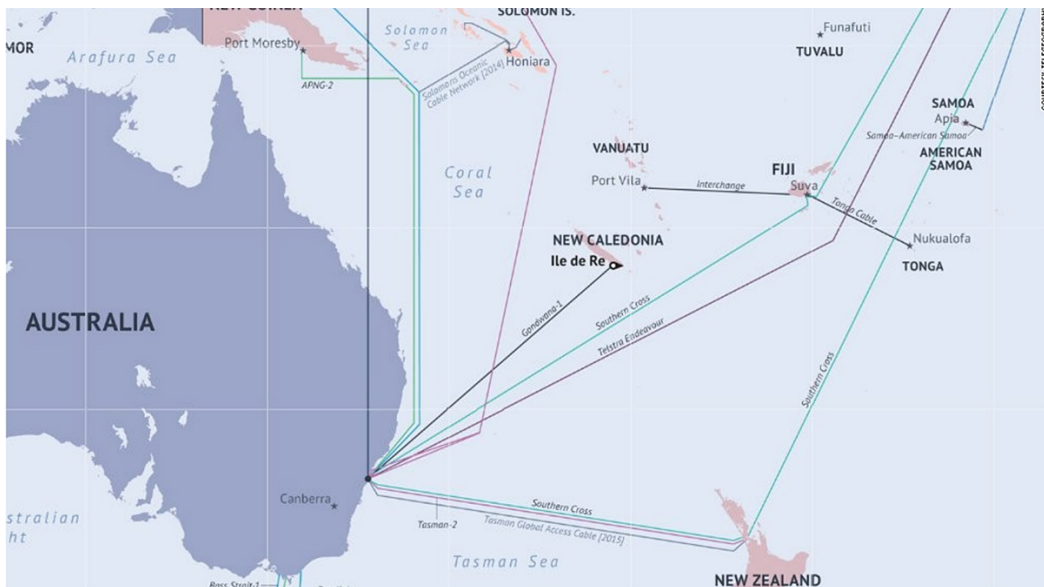
exercised ashore," according to U.S. officials.⁶² Interestingly, there was no reported presence of other PLAN warships in support of the VOSTOK 2018 exercise.

Despite AGIs being some of the most vulnerable platforms in any war-at-sea scenario, the increasing presence of PLAN AGIs around the world provides the PRC another layer of collection in its expanding maritime-intelligence, surveillance, and reconnaissance architecture. The function they perform should be recognized as another important element in the PLAN's overall global naval strategy.

Another aspect of intelligence collection that could generate future PLAN activity relates to international underwater cables, which are very important for the amounts of information they carry. In this regard, it is worth noting the PLAN's activities in the islands of the South Pacific, particularly around Fiji. In December 2018, a "China-aided" hydrographic survey ship was handed over to the Fijian navy. The ship, *Kacau* (named for a Fijian seabird), is reported to be "equipped with high-tech equipment for hydro detection" for carrying out "hydrographic and maritime surveys, providing detection data and real-time information."⁶³ An eighteen-member PLAN training team spent four months training the Fijian crewmembers of *Kacau*. The Fijian minister for defense, national security, and foreign affairs noted that the ship would provide "a range of operational capability, which is not limited to hydrographic survey but maritime surveillance, HADR [humanitarian assistance / disaster relief], diving, [and] Search and Rescue."⁶⁴

Given China's previous efforts to establish underwater-surveillance networks, it is reasonable to expect that the hydrographic data the Fijian vessel generates may be shared with China and processed by Chinese institutes, adding to China's undersea-domain databases.⁶⁵ Further, this gift may open the door for joint-venture

FIGURE 2
UNDERSEA CABLES CONNECTING AUSTRALIA AND NEW ZEALAND TO THE INTERNET



Source: CerCis Consulting, cercisconsulting.com/.

hydrographic expeditions that will include this ship and deployed Chinese research vessels, possibly including among the latter the 6,000- and 7,000-meter-class submersibles and their associated support ships. In a worst-case scenario, this knowledge and access would allow the PRC to isolate both Australia and New Zealand from receiving U.S. intelligence and communications. This is something that bears close monitoring by the United States, and close coordination with Australia and New Zealand.

Hospital Ship

As the lead element of its psychological operations, the PLAN operates its Type 920 / *Anwei*-class hospital ship *Peace Ark* (AH 866) globally. The PLAN deployed *Peace Ark* on a 205-day around-the-world deployment, publicized as “Mission Harmony–2018.” The PRC press reported that *Peace Ark*’s “goodwill” voyage extended over 31,800 nautical miles and provided medical services during foreign port calls in Papua New Guinea, Vanuatu, Fiji, Tonga, Venezuela, Ecuador, the Commonwealth of Dominica, Antigua and Barbuda, and the Dominican Republic.⁶⁶ During the port call in Ecuador, the chief of the mission noted that *Peace Ark* had visited over forty-two nations since it was launched in 2008 and had treated nearly a quarter of a million patients.⁶⁷

But in addition to showing the flag and providing medical services, the officers and sailors of *Peace Ark* gained invaluable training and experience in operating

at sea around the globe, as well as learning about foreign ports and the navies in each nation. While it may seem counterintuitive, even a hospital ship deployment provides—albeit in the smallest of ways—the kind of experience that contributes to the PLAN's overall combat readiness on a global scale.

Participation in Foreign Naval Exercises

One of the drivers of the PLAN's global expansionism is the clear and unambiguous benefit it obtains from participating in naval exercises with foreign navies. Despite assertions to the contrary by some in the “China hands” community, the PLAN gained valuable insight into naval warfare from its participation in RIMPACs 2014 and 2016. While the activities involved seemingly were innocuous, the PRC press noted that the PLAN participated in “cannon firing exercises, comprehensive exercises, maritime security actions, maritime warship exercises, military medicine exchanges, humanitarian aid, and disaster reduction, as well as diving drills.”⁶⁸ Participation in these activities clearly provided the service with an unprecedented intelligence windfall that ultimately threatens USN operational security, so disinviting the PLAN from participating, as of RIMPAC 2018, was long overdue.

Likewise, the PLAN has conducted joint naval-warfare exercises, named JOINT SEA by the PRC, with the Russian navy since 2012. Since then the scope, scale, and complexity of this exercise series have expanded. Each year the PLAN has dispatched its warships to the Yellow Sea, the Sea of Japan, and the Mediterranean and Baltic Seas.⁶⁹ The most recent iteration of the exercise, JOINT SEA–2019, was conducted from 29 April to 4 May, and focused on joint sea defense.⁷⁰ The exercise involved Chinese aircraft and submarines and Russian submarines engaging in joint maneuvering episodes, organized communications, rocket practice, and engagement of sea and air targets with artillery fire.⁷¹

Not only did this experience catch the attention of U.S. military and intelligence communities, but it was observed by allies, including Norway. In February 2019, Lieutenant General Morten Haga Lunde, Norway's chief of military intelligence, highlighted Chinese and Russian Arctic cooperation in his annual report. The unprecedented statement declared that “in the long term, we must be prepared for a clearer Chinese presence also in our neighboring areas.” General Haga Lunde went on to assess that “such development is in line with President Xi's goal to develop the military as part of the country's superpower ambitions. Beijing will to a larger extent use military power as a tool in its foreign policy.” Lending credence to the Norwegian assessment, in 2018 Vice Admiral Shen Jinlong, the commander of the Chinese navy, visited Severomorsk, the Russian Northern Fleet headquarters north of Murmansk on the Barents Sea coast.⁷² While the PLAN never has conducted military voyages to Arctic waters, this likely will change soon, given that in January 2019 the PRC conceptually laid out a so-called Polar Silk Road in a white paper entitled “China's Arctic Policy.”⁷³

Future PRC Naval Operating Areas:

The Belt and Road Initiative and the PLA Navy

One obvious indicator of future PLAN operations is a direct link to the Belt and Road Initiative (BRI). That concept first was presented in 2013 under the banner of the Silk Road Economic Belt and 21st-Century Maritime Silk Road during President Xi's visits to Central and Southeast Asia.⁷⁴ Then in 2015, President Xi unveiled "the principles, framework, and cooperation priorities and mechanisms" of what was renamed the Belt and Road Initiative, which, according to the PRC, was designed "to enhance regional connectivity and embrace a brighter future together."⁷⁵

The importance of the BRI to the PRC's future can be found in the January 2019 report from China's Ministry of Commerce, which announced that the trade volume between China and countries along the BRI totaled \$1.3 trillion in 2018, up 16.3 percent from the year prior.⁷⁶ Not only does the BRI involve substantial amounts of money deployed to buy access and influence; it also serves to satisfy the PRC's mercantilist designs to control markets, supply chains, and access to the resources needed to control global economic development.

The Pentagon has taken note of how the PRC is using the BRI "to develop strong economic ties with other countries, shape their interests to align with China's, and deter confrontation or criticism of China's approach to sensitive issues."⁷⁷ In keeping with that view, the world has witnessed the PLAN expand its operations into the far seas in parallel with the BRI's expansion throughout the Indo-Pacific, Africa, the Middle East, Europe, and the Americas over the past six years.

In its "Vision of Maritime Cooperation under the Belt and Road Initiative" white paper, released in 2017, the PRC describes three maritime corridors and their importance to maritime-security cooperation. The first corridor runs from China through the Indian Ocean to Africa and the Mediterranean Sea; the second runs from China to Oceania and the South Pacific; while the third transits northward from China to Europe through the Arctic.⁷⁸ By providing the PLAN with access to various foreign ports, the BRI has created advantages for the naval service that have allowed it to extend its operations around the globe. The United States—notably and purposefully—is not included in the BRI; in the future this could isolate us, leave us in a weak negotiating position, or otherwise bring pressure to bear on us. However, neither option—being part of the BRI or being excluded from it—is good for the United States; instead, we should continue to resist the BRI entirely, not least for the naval advantages it grants to China.

So, where might we find the PLA operating in the future, as the BRI continues to expand? The answer to that question became clearer when President Xi conducted a three-nation visit to Europe in March 2019. On 23 March, it was announced that Italy had signed a memorandum of understanding (MOU)

with the PRC, making it the first member of the Group of Seven industrialized nations to join the BRI. The agreement, ostensibly worth \$2.4 billion, has the potential to balloon to \$22.4 billion, according to the Italian deputy prime minister (although these numbers should be considered with great skepticism, given that other announced billions of dollars in BRI investments have not materialized). But the compromising concessions that are front-loaded into such agreements are very real. In the case of Italy, they include the state-owned China Communications Construction Company (CCCC) signing two cooperation

[T]his global naval presence will result in exactly what the world has witnessed in the South and East China Seas over the past decade, where PLAN forces have been used to bully and intimidate smaller and weaker nations into complying with Beijing's dictates.

agreements, with the authorities of the port of Trieste and with the commissioner supervising the reconstruction of the bridge in Genoa that collapsed in the summer of 2018.⁷⁹ While it is not clear whether the MOU would

cover the port of Genoa project, the Italian press reported that Italian port authorities are preparing to set up a new company with CCCC to operate “major works related to the port of Genoa.”⁸⁰

Purportedly, the importance of this agreement to China is in relation to the BRI, in that it “will allow it to build more ports that can handle large-scale container ships.”⁸¹ Yet even the mayor of Trieste acknowledged that, while the city had much to gain from the agreement, “the Chinese had even more to gain from his port’s deep harbors.”⁸² It should be anticipated that, as with other BRI port projects, as the BRI expands into Trieste, Ravenna, and Genoa, PLAN warships will follow. Ultimately, the PRC’s expanding access to ports in Europe offers the PLAN more opportunities to resupply its forces, potentially even during a maritime conflict in other areas.

The linkage between the expansion of BRI projects and investment in and acquisition of ports has been the topic of much analysis recently, most notably by Thorne and Spevack, who assert that the BRI provides Beijing with “access to vital sea lines of communication.” Port investments are being used as “vehicles” whereby the PRC can “build dual-use infrastructure to facilitate Beijing’s long-range naval operations.”⁸³ Likewise, O’Dea postulates that expansion by the China COSCO Shipping Corporation (COSCO) is a “distinctly Chinese approach to maritime development,” and that this “state-owned shipping company has become the flagship of China’s ambition to become a global maritime power.”⁸⁴

This expansion has not been limited to Europe, Africa, and Southeast and South Asia. For instance, in February 2019 it was reported that the Peruvian port of Chancay would join COSCO under the auspices of the BRI. The \$225 million

agreement was reported to be COSCO's first port purchase in South America, one that will provide deepwater (sixteen meters) access. Plans have been announced to build a new terminal at the port.⁸⁵

Not all of the PRC's port expansion is controlled by COSCO. For example, in March 2019 came the formal announcement that Namibia's new container terminal in the coastal town of Walvis Bay—originally projected to be commissioned on 1 August 2019—was constructed by China Harbour Engineering Company. Following a \$300 million funding grant from the African Development Bank, construction work began in 2014 on forty hectares of land reclaimed from the sea.⁸⁶ The terminal will more than double the cargo-volume capacity of the port—and undoubtedly will provide the PLAN with an access port on the Atlantic.

Even as the number of separate, specific cases in which the PRC has gained access to foreign ports continues to grow, O'Dea already has provided the conclusive summation of the overall impact of this strategy. “By creating a global port network for ostensibly commercial purposes, China has gained the ability to project power through the increased physical presence of its naval vessels—turning the oceans that historically have protected the United States from foreign threats into a venue in which China can challenge U.S. interests.”⁸⁷

CONTROL OF RESOURCES

One of the most sensitive factors relevant to the BRI and the future of PLAN global expansionism is the PRC's dependency on imported oil. As the *Global Times* has reported, the PRC's oil consumption is rising faster than its ability to import crude oil. For example, in 2018 the PRC consumed 648 million tons of oil, of which 460 million tons was imported, meaning the PRC's dependency on foreign crude was at 70 percent for the year—a clear strategic vulnerability for the CCP. The PRC's “domestic oil fields have generally reached the limits of their oil production capacity,” and it is unlikely there will be any significant increase in domestic production. This directly impacts the PRC's strategic petroleum reserve (SPR), estimated at forty to fifty days' worth, given the increasing rate of consumption each year, despite Beijing's efforts to curtail energy consumption and find alternative sources.⁸⁸ International norms are for nations to have at least a ninety-day SPR, so it seems likely the PRC will become increasingly concerned about its ability to maintain access to oil sources around the globe. This contributes to the drive for the PLAN to expand globally.

With regard to petroleum, it is worth noting that in January 2019 the China National Offshore Oil Corporation (CNOOC) announced a major new oil discovery off Aberdeen, Scotland. CNOOC Petroleum Europe, a wholly owned

subsidiary of CNOOC, holds a 50 percent interest in the operating license.⁸⁹ While deployments of PLAN warships to the waters off Scotland may not be imminent, this discovery creates another area of attention related to the PRC's vulnerable SPR situation, and marks a locale where the PLAN may operate in the future.

Protecting and Controlling the Diaspora

As noted previously, the list of factors driving the PLAN's increasing global presence includes the top-down determination of Chairman Xi Jinping to make China a maritime power, supporting the BRI, increasing participation in naval exercises around the globe, and achieving energy security. But another area relates to protecting Chinese citizens and controlling Chinese resources around the globe, and the extraterritorial projection of Chinese law internationally.

As noted in a January 2019 Center for Naval Analyses study, the mission of defending Chinese people and assets abroad is one of the major factors in the PLAN's expansive presence throughout the Middle East and the western Indian Ocean. The authors of the study state that "the number of Chinese citizens and investments in the region has grown considerably," and that the PLAN, in particular, "has been given a mandate to protect those interests."⁹⁰ While the PLAN has conducted NEOs in Libya and Yemen, some indicators suggest that conflicts on the horizon potentially involving the safety of Chinese nationals could bring the PLAN into action even in the Americas.

For example, in the South Atlantic in February 2018, an "Argentine coast guard vessel fired shots at a Chinese fishing vessel that was allegedly operating in Argentina's EEZ without authorization." This incident occurred after the Argentine forces had pursued the poachers for eight hours. Interestingly, the fishing vessel was not alone and evaded capture by the Argentine navy with the help of four other Chinese ships.⁹¹ This was not an isolated incident, as a year later, in February 2019, a Chinese "squid jigger" fishing vessel sank after it collided with a Spanish trawler.⁹² According to the Argentine coast guard, the Chinese squid jigger, *Hua Xiang 801*, "was detected illegally operating in mile 199 of Argentina's EEZ, and was ordered to stop engines and prepare for boarding by the patrol vessel." In a video provided by the Argentine coast guard, *Hua Xiang 801* was "not operating its satellite Automatic Identification System, AIS, ignored repeatedly radio warnings and before escaping with all lights off tried on several occasions to ram the Argentine patrol."⁹³ While collisions at sea between fishermen are not uncommon, given the PRC's hypernationalistic sensitivities to international slights and "loss of face," it is entirely possible that in the future Beijing may call on the PLAN to provide long-range support to Chinese fishing fleets in the South Atlantic.

As China's naval dominance increases, we also should expect and prepare for increasing attempts by China to extend its extraterritorial laws from Chinese citizens to citizens of other countries. We already have seen this in the case of people who are citizens of countries such as Australia and Sweden but of Chinese ethnicity.⁹⁴ We also are likely to see this approach imposed *against* any ethnicity in the future, as it was against Canadians after the Huawei dispute.⁹⁵

Diplomacy Drives PLAN Expansionism

Not only does the PRC's mercantilist quest for resources, via the BRI, provide an impetus for PLAN expansion; so too does international diplomacy. For instance, another place where we might see an increase in PLAN warship port calls is El Salvador.

The country officially cut ties with Taipei and established a formal strategic alliance with Beijing in August 2018. Just a month before the official recognition of the PRC, Luz Estrella Rodríguez, El Salvador's economy minister, stated that Beijing was interested in reviving the commercial port of La Unión in El Salvador's east, which "has remained largely deserted since it was completed in 2008 because its lack of maritime traffic has made it difficult to find investors." This concatenation of events led the American ambassador to El Salvador, Jean E. Manes, to warn publicly of the PRC's intentions to turn the commercial port into a "military base."⁹⁶

The Pursuit and Sustainment of a Global PLAN

Since the PLAN's expanded global naval capabilities and operations are linked firmly to President Xi's "China Dream," and since the PRC has not yet achieved its end state of becoming a "modern socialist country," we should expect that over the next twenty years the PRC's naval shipbuilders will sustain, or increase as required, the pace of shipbuilding needed to achieve the goal of "building a powerful military in the new era."⁹⁷ While predicting the future with precision remains a difficult endeavor, given the trajectory of PRC naval construction over the past twenty years, the following three assertions in favor of a robust Chinese naval shipbuilding program have remained firmly in place since this author first listed them in 2016.⁹⁸

First, the Chinese government will have the desire and ability to continue to increase in real terms its investment in its shipbuilding for naval forces; second, China will continue to enjoy cost advantages in its shipbuilding compared with foreign naval shipyards; and third, Chinese shipbuilders will continue the trend of indigenous technical mastery of complex designs and systems integration.⁹⁹ While challenges to PLAN modernization and growth remain—including difficulties in systems integration and continued reluctance to collaborate at the research stage—the past decade has demonstrated that previous challenges have ended up being far from insurmountable.

The PRC has continued to make military spending a top national priority. In 2019, China announced that it had raised defense spending by 7.5 percent, to 1.19 trillion yuan (about 177.61 billion U.S. dollars).¹⁰⁰ This demonstrates, again, that the PRC’s annual growth rate for defense spending continues to outpace the rate of increase in its gross domestic product (GDP), which for 2019 is estimated to have been 6.5 percent.¹⁰¹ The PRC’s GDP surpassed that of the United States in terms of purchasing power in 2014—with troubling implications for the future size, capability, and disposition of the PLAN relative to the U.S. Navy.¹⁰²

When it comes to the very important metric of how many ships actually are being built, launched, and commissioned, the PLAN continues to surpass the U.S. Navy. It is worth remembering that between 2013 and 2014 China launched more naval ships than any other country—a ranking it continued to hold through 2019, as shown in table 2.¹⁰³

As table 3 depicts, by 2030 the PLAN surface force (including carriers, destroyers, frigates, corvettes, missile-armed patrol craft, amphibious ships, and mine-warfare ships) could approach 450 hulls (up from 331 ships in 2015) and submarines could total 99 (up from 66 in 2015). However, considering the past four years of actual construction, even this 2015 “maximal scenario” may underestimate the future growth of the PLAN. For instance, in 2015 Type 052D / Luyang III-class destroyer production barely had begun, and the launching of the first Type 055 / Renai-class cruiser was a year and a half in the future. Another way to understand PLAN growth is to look at the period between 2010 and 2018, when twenty destroyers and four cruisers were launched from Chinese shipyards, whereas between 2000 and 2010 only ten destroyers and no cruisers were launched.¹⁰⁴

Considering all this new information, table 3 represents a “course correction” to the 2015 prediction, indicating that by 2030 the PLAN will consist of a surface force of over 450 ships and a submarine force approaching 110 boats. The biggest unknown will be the rate of decommissioning of those warships and submarines

built before the turn of the century (such as the Type 053 class of destroyers and the Type 035 class of diesel submarines).

LIMITING FACTORS

The size of the PLAN and the scope of its global operations in the future are not inevitable. There are two limiting

**TABLE 2
USN AND PLAN COMMISSIONS, 2015–18**

	U.S. Navy	PLA Navy
2015	3	24
2016	4	24
2017	8	19
2018	7	15
Total	22	82

Sources: USN data from Wikipedia; PLA Navy data from Meyer, *China’s Maritime Forces*.

TABLE 3
PLA NAVY PLATFORM INVENTORY—PAST, PRESENT, AND FUTURE

Platform	Inventory			
	2015	2019	2030 (old estimate)	2030 (new estimate)
Aircraft carriers	0	1	N/A	6
Cruisers	0	0	N/A	16
Destroyers	26	31	34	45
Frigates	52	52	68	55
Corvettes	20	42	26	45
Missile patrol craft	85	86	111	100
Amphibious ships	56	56	73	75
Mine-warfare ships	42	56	55	50
Major auxiliaries	50+	50+	65+	60+
<i>Total surface combatants</i>	<i>331+</i>	<i>374+</i>	<i>432+</i>	<i>452+</i>
SSNs	5	8–9	12	24
SSBNs	4	4–5	12	14
SSs	57	50–54	75	70
<i>Total submarines</i>	<i>66</i>	<i>62–68</i>	<i>99</i>	<i>108</i>
Total fleet size	397+	436–442+	531+	560+

Sources: 2015 data from Office of Naval Intelligence, *The PLA Navy*; 2019 data from Meyer, *China's Maritime Forces*; 2030 (old) data from Erickson, *Chinese Naval Shipbuilding*; 2030 (new) data from author's calculations.

Note: Captain Fanell prepared his figures for presentation at the China Maritime Studies Institute's "Going Global? The People's Navy in a Time of Strategic Transformation" conference, U.S. Naval War College, Newport, Rhode Island, May 2019. Subsequent to this conference, the Congressional Research Service published Ronald O'Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities—Background and Issues for Congress*, CRS Report RL33153 (Washington, DC: Congressional Research Service, 18 March 2020), table 2 of which is reproduced below. The CRS report generally reflects Captain Fanell's original and updated 2030 estimates.

NUMBERS OF BATTLE FORCE SHIPS, 2000–2030

FIGURES INCLUDE BOTH LESS-CAPABLE OLDER UNITS AND MORE-CAPABLE NEWER UNITS

	2000	2005	2010	2015	2020	2025	2030
Ballistic missile submarines	1	1	3	4	4	6	8
Nuclear-powered attack submarines	5	4	5	6	7	10	13
Diesel attack submarines	56	56	48	53	55	55	55
Aircraft carriers, cruisers, destroyers	19	25	25	26	43	55	65
Frigates, corvettes	38	43	50	74	102	120	135
Total China navy battle force ships, including types not shown above	110	220	220	255	360	400	425
Total U.S. Navy battle force ships	318	282	288	271	297	<i>n/a</i>	<i>n/a</i>

Source: Table prepared by CRS. Source for China's navy: Unclassified ONI information paper prepared for Senate Armed Services Committee, subject "UPDATED China: Naval Construction Trends vis-à-vis U.S. Navy Shipbuilding Plans, 2020–2030," February 2020, 4 pp. Provided by Senate Armed Services Committee to CRS and CBO on March 4, 2020, and used in this CRS report with the committee's permission. Figures are for end of calendar year. Source for figures for U.S. Navy: U.S. Navy data; figures are for end of fiscal year.

Note: n/a means not available.

factors to the PLAN's expansion that the United States and its allies can and must empower if they are to maintain dominance of the seas.

The first factor is the stability of the leadership of President Xi Jinping. Some have pointed out that Xi is facing "critical levels of political risk given the political and economic problems in the regime." Some believe that his constitutional amendments to remove term limits on the president suggest that a factional struggle exists within the CCP. These observers further argue that Xi's failure to hold a fourth plenum of the CCP's current Central Committee on the normal schedule means that "the factional struggle is extremely intense and Xi is in grave danger."¹⁰⁵

Second, some observers predict that the PRC's economic growth is unstable, and even on the verge of collapse. These observers note that "China's \$34 trillion pile of public and private debt is an explosive threat to the global economy."¹⁰⁶ Given this, the future growth and expansion of the PLAN could be slowed, if not disrupted, by purposefully impeding the country's economy.

ASSESSMENTS, ACCURACY, AND ADJUSTMENT

As U.S. policy makers assess the speed and sustainability of China's naval expansion, it is useful to look back on previous assessments of Chinese sea power. Whenever such a function has been performed, we should expect to find errors and misjudgments—assessments of the future are hard. However, in the case of China we find that the most notable feature of previous assessments is that all our misjudgments have been in the same direction—perfectly fitting the definition of *systematic error*. The urn of history is filled with the ashes of nations, and navies, that suffered disastrous, if not cataclysmic, defeat by enemies who were able to achieve strategic surprise. This is why it is unacceptable that the majority of U.S. scholars and government analysts persistently have underestimated and downplayed the threat represented by the PRC and the rise of a global PLAN.

Former commander of the U.S. Pacific Command Admiral Robert F. Willard noted in 2009 as follows: "I would contend that in the past decade or so, China has exceeded most of our intelligence estimates of their military capability and capacity every year. They've grown at an unprecedented rate in those capabilities."¹⁰⁷ In 2011, the director of naval intelligence, Vice Admiral David J. Dorsett, stated that the PLA's emerging military potentialities have "entered operational capability quicker than we frequently project."¹⁰⁸ The sad reality is that the U.S. Intelligence Community and academia have miscalculated the scope, scale, and timing of the PLAN's modernization and its impact on U.S. national security.

One of the most important lessons to be learned is that the most accurate predictions of the PLAN are not derived just from what the PRC declares or

what a select few scholarly China hands interpret, but instead are created from in-depth and consistent observation of what the PLAN actually is building and where its ships and submarines are operating on a continuous basis. It is only by watching what China does with its navy—observing and recording its movements every day—that accurate and timely projections can be made.

Additionally, it must be remembered that all individuals and groups who view such changes do so through a series of uniquely constructed “lenses,” based on a set of fundamental assumptions. As Eyer notes, “the record is clear: In each case of strategic military surprise, it can be demonstrated that when new information was presented, regardless of its pedigree or import, if it was found to disagree with the specific set of closely held assumptions that informed the thinking of those nations’ civil and military leaders, it was rejected.”¹⁰⁹

Because of this tendency, assumptions must be tested rigorously, and when new or inconvenient data do not fit into the existing “conventional wisdom” decision makers must step in and demand that the assumptions be challenged, and thrown out if found to be wrong.¹¹⁰ Only then will the risk of surprise be minimized. This is especially important when assessing catastrophic risks, such as a shift in the balance of military power from the United States to China. While many China hands proclaim the objectivity of their analyses, the validity of their claims must be tested against their track records. This is where policy makers must become more discerning—and ruthless—in their decision-making.

What does the future hold for the PLAN in the far seas? China soothes reassuringly that its “global military presence is not an attempt to gain a sphere of influence, interfere with the internal affairs of other countries, [or] invade foreign territories or disrupt regional order, but to assume more international responsibilities and obligations according to its capabilities and play a more significant role in maintaining regional stability and world peace.”¹¹¹ Yet there are indicators that this global naval presence will result in exactly what the world has witnessed in the South and East China Seas over the past decade, where PLAN forces have been used to bully and intimidate smaller and weaker nations into complying with Beijing’s dictates.

The risk of conflict at sea is not lessened by the existence of a global PLAN, one that has been charged to “fulfill its international obligations as a major global power.”¹¹² To the contrary, China increasingly will threaten U.S. and allied interests abroad as its naval expansion allows it to do so. The United States will be forced to fight back, increasing the risk of major-power war. Given the PLAN’s decadelong experience operating in the far seas, the service’s operational and naval-construction trajectory, the PRC’s overall economic strength, and the regime’s established track

record of intimidating neighbors into forfeiting their coastal-state rights to China, we can assess the PRC as being on track to become a global naval power as early as 2030, that it may be able to dominate the seven seas by 2049, and that it will use its power to expand China's interests at the expense of all others.

It is popular to say that conflict with China is not inevitable; of course that is so. However, the likelihood of conflict cannot be wished away by platitudes and more unconstrained engagement. The best option to avert future conflict is for the United States to take a whole-of-government approach to strengthening its military significantly and confronting the PRC's bad behavior at sea. We must join the economic battle that Beijing long has been fighting against us, to contain China economically until it stops its dangerous naval arms race. The current U.S. administration has challenged assumptions about how to deal with the PRC and is leading this whole-of-government challenge. Beating the PLAN at sea, or forcing it to stand down permanently, requires these efforts and more. Let us hope it is not too little, too late.

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