



# China's Naval Advancement under Xi: Narrowing Gaps in Human Capacity

By Andrew S. Erickson\*

The U.S. Navy remains the world's largest fleet by tonnage and strongest sea service in experience and capability. But China's rapidly-expanding navy enjoys a substantial and growing numerical advantage. It is expected to exceed 400 ships by the end of 2025, more than a hundred more than the U.S. Navy's approximately 296. This is a yawning gap in Beijing's favor. To better compete with, and – its political masters hope, eventually surpass the United States where it matters most, China's Navy is striving to narrow its own remaining gaps, particularly in command and personnel capacity.

To probe these important but elusive human factors, on 14–15 May 2025 the U.S. Naval War College (NWC)'s China Maritime Studies Institute (CMSI) convened 150 external specialists, and 200 NWC faculty and students, to discuss these vital issues. Experts presented papers on six panels. Termed "The People of China's Navy and Other Maritime Forces," this biennial conference centered on China's most important sea force – the PLAN – but also addressed other forces with which it is closely connected. The PLA Army (PLAA) manages a fleet of watercraft, including the six amphibious brigades most important to a cross-Strait invasion. China's Coast Guard serves increasingly a "second navy" in proximate seas. China's Maritime Militia, Merchant Marine, and polar and deep sea initiatives leverage the world's largest marine economic, technological, and scientific infrastructure, in part for national strategic and military purposes.

This "across the waterfront" approach to studying China's oceanic development is characteristic of CMSI, which I have had the honor to support from the very beginning. CMSI was founded internally within NWC on 1 October 2024. Our institute hosted the first of its fourteen conferences to date on 26–27 October 2005. CMSI was launched publicly on 1 October 2006 in accordance with programmatic and funding de-

terminations by the U.S. Chief of Naval Operations. The "Maritime" component of CMSI's name was a deliberate decision from its genesis; that ethos informs our comprehensive approach to this day.

## XI CALLS FOR A "WORLD-CLASS NAVY"

Paramount leader Xi Jinping has promulgated ambitious development goals for 2027, 2035, and 2049. China's first navalist statesman, and arguably the world's greatest navalist statesman since World War II, Xi calls for a "world-class navy," second not even to that of the United States, by mid-century. He started pushing for naval and maritime advancement, and more assertive policies thereto, even before assuming power in 2012. The ensuing thirteen years have witnessed a People's Liberation Army (PLAN) built in large part under Xi's determined direction. However, to fully realize his ambitions, Xi and his top military officials believe that they must rectify what they fear are critical remaining weaknesses: limitations in the capabilities of personnel within China's Navy and other armed forces, particularly its officers and their ability to command effectively under challenging wartime conditions.

Under Xi's forceful enjoiners, the PLAN strives systematically to strengthen its military operational capabilities and experience. Methods include learning by doing, learning from others, and educating and training a rising generation of increasingly numerous, capable officers.

First, the PLAN's 47-and-counting anti-piracy task forces aboard more than 150 warships have offered an evolving learning laboratory, helping catalyze a sea change in the service's blue water capabilities and sophistication since they began on 26 December 2008. The more than 30,000 officers, sailors, and marines rotating through have had to adapt and innovate to meet a panoply of challenging requirements, many unan-



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anticipated. Importantly, China's Navy sends its rising stars to command and crew these deployments; including those with specialties not required for their operations, such as submariners. In PLAN operations more generally, to maximize experience, commanding officers usually captain several ships over the course of several years, sometimes of multiple classes. This contrasts with the more limited number of tours their U.S. Navy counterparts typically complete before retiring or transitioning to higher-echelon staff positions.

## IT "USES THE ENEMY TO TRAIN THE TROOPS"

Second, China's Navy assiduously exploits escort task forces to observe other navies operating, including countering Houthi attacks in the Red Sea. It uses regional noncombatant evacuations to afford its Special Forces direct experience. It

leverages peacekeeping operations and military exchanges to learn foreign best practices. Finally, and most concerning, it "us[es] the enemy to train the troops" – deliberately seeking and exploiting for its own operational learning close, unsafe maritime and aerial encounters with U.S. and allied/partner forces.

Third, China's Navy strives to increase the sophistication and effectiveness of education and training. The Naval Command College in Nanjing, the PLAN's senior school and hence NWC's closest counterpart, exemplifies the systematic efforts at improvement and warfighting relevance across China's naval education enterprise. Compared to its counterpart in Newport, Nanjing focuses far more on naval operations and warfighting for top-priority scenarios. China's Naval Command College strives to better apply education

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to warfighting, and vice versa. It is simultaneously working to increase jointness and operational lessons and relevance, including by “sending faculty back to school” through operational secondments; making students assume other-service roles to better understand joint operations; partnering with training bases and bringing outstanding senior officers and their teams to campus for intensive exchange; adding new coursework in frontier technologies; revising and replacing curricula and textbooks en masse; and emphasizing wargaming throughout. Increasingly realistic exercises prioritize mass battle, with recent anti-Taiwan drills like Strait Thunder-2025A involving dozens of ships and aircraft.

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Ultimately intended to probe the strengths and weaknesses of China’s military maritime forces, our conference arrived at the following tentative conclusions. Official sources regard China’s Navy as advantaged in morale; talent pool and recruitment; size of educational and R&D systems; workforce innovation and grassroots personnel; education and vocational and unit training; and relevant operational experience of younger officers with their embrace of modern doctrine and technology. The PLAN enjoys unique human capital advantages: educational partnerships as early as elementary school; personal data compiled centrally, available for recruiters’ use without privacy restriction; eldercare benefits; and warfighting-focused naval education.

#### OPAQUE PLAN PERSONNEL MANAGEMENT

PLAN personnel management remains opaque, without evidence of a centralized system, apparently limiting standardization. However, decentralized approaches also enable experimentation with multiple techniques simultaneously, bottom-up innovation, pragmatic adaptation, and tailored methodologies.

PLAN sources perceive weaknesses in lack of talent for new-domain operations and advanced S&T given rising demand in these burgeoning areas; recruitment and training pipeline supply-demand imbalance and talent-skills mismatches; officers’ overly narrow early-career experience and



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subsequent aging out of cutting-edge relevance; and youths’ declining commitment to Communism – a version of intergenerational culture clash peculiar to China’s political system. Corresponding reemphasis on political indoctrination under Xi consumes precious training time and may be quietly resented. While considerably more agile, sophisticated, and warfighting-oriented than its Soviet progenitor, China’s Political Commissar system could represent a critical weakness, causing real-time decision-making bottlenecks or distraction, particularly in crisis or conflict.

Removals of high-level officers, both authoritatively documented and further rumored, are dramatic and extensive. But one would be gravely mistaken to assume they will thwart China’s dramatic military buildup, advancement, and growing threat – first and foremost to Taiwan. Cashiering has been a feature, not a bug, throughout Xi’s rule: a constant, not a fundamental change. Removals are not intended to eradicate “corruption” by Western definition in a system lacking checks and balances with a Party inherently above the law that rewards loyalists with opportunities for graft and cronyism. Beyond combating outright dysfunction, removals are rather intended to prevent potential disloyalty and factionalism, centralize power, and further modernization and warfighting goals.

Xi has great expectations for his military, believes corruption – as he and his Party define it – is a significant pro-

blem, and is willing to do anything to reduce it within the constraints of the existing political system. Distrustful and ruthless, Xi has a deep talent bench from which to draw, and is not close to running out. He appears to be trading short-term instability for longer-term commanding authority and warfighting capability. There is no major impact on immediate operational readiness since the purged have limited influence over the whole of China’s armed forces, and are readily replaceable.

Massive military exercises stress-test officers, revealing whether they are really ready to fight. Those who underperform risk failure to be promoted or even removal, perhaps actually making the PLAN stronger and more lethal. The lack of high-visibility accidents over the last three years of concerted, complex Taiwan Strait exercises – with little room for error – is a remarkable achievement. For China’s highest-profile interests, from the Taiwan Strait to distant oceans, the PLAN is present daily and visible internationally, particularly its surface fleet; indicating reliability, trust, and growing responsibilities and capabilities.

#### THE PLAN ENJOYS STRONG LEADERSHIP

Further evidence of the PLAN’s continued advancement despite high-profile removals may be seen in the service’s own continued self-administration. The PLAN enjoys strong leadership, with its Commander Admiral Hu Zhongming ha-

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ving reportedly commanded the first Jin-class SSBN amid a stellar career in undersea, surface warfare, and management. Publicly absent since 7 September 2024, Political Commissar Admiral Yuan Huazhi has likely been removed. China’s Navy functions regardless, run in large part by its Standing Committee, no member of which dominates and hence no member of which is irreplaceable.

A comprehensive comparison of U.S. and PRC naval capabilities was beyond the scope of our conference, and in any case would miss the comprehensive forces-on-forces and systems-vs.-systems calculations that even the most rudimentary net assessment would require. What is clear from our initial findings is that China’s Navy and other maritime forces are advancing rapidly under Xi – including with regard to critical human capabilities, which have historically lagged behind the numerous, sophisticated, and, increasingly, unique weapons systems that China continues fielding with alacrity. China’s sea forces should not be judged against an idealized U.S. model, but rather against their own assigned missions; within the context of PLA joint operations, not in isolation.

For its leading scenarios, China enjoys geographic proximity; materiel, numerical, and some range-related superiority; and a preponderance of multifarious missiles, munitions, and other asymmetric capabilities that can compensate for many maritime weaknesses. Given the nature of its objectives, it enjoys strategic focus and would almost certainly have first-mover advantage, and it has been working relentlessly to reduce deployment and indications and warnings timelines, which may be further blurred by increasingly large, frequent, realistic exercises. New technologies and automation may offer further workarounds and disproportionate advantages; although such approaches may struggle to adapt to fast-evolving combat conditions, especially if data become access-constrained or unreliable. This much is beyond dispute: as China continues its rapid military maritime advancement, human factors represent a key area to watch! ■

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