

Revelations on China's Maritime Modernization

The U.S. Office of Naval Intelligence offers a wealth of new information on the PLA Navy.

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To its first unclassified report on China's navy in six years, the U.S. Office of Naval Intelligence (ONI) has just added sophisticated posters detailing Chinese ships and aircraft, equipment, and leadership structure. ONI's [main document](#), "The PLA Navy: New Capabilities and Missions for the 21st Century," already offers a cornucopia of new insights and highly vetted data points. But it is with the supplementary reference materials that the Suitland, MD-based agency is going where no publicly released U.S. government report has ever gone before. This article reviews key findings from ONI's latest set of publications and assesses their significance.

Unprecedented Offerings

Perhaps most exciting, for the first time ever, ONI is making available publicly 148 [carefully labeled silhouettes](#) and 89 [photos](#) of China's myriad People's Liberation Army Navy (PLAN) and maritime law enforcement ships and aircraft. This enables systematic open source analysis to a degree simply impossible before.

A [leadership structure chart](#) with details on the top thirty-one individuals in the PLAN's chain of command completes the highly informative set. It offers both grades and ranks, highlights leaders' distinguishing characteristics, acknowledges frankly where key data remain ambiguous or unavailable, and even offers projections concerning future career progression (or lack thereof). It describes such vital bodies as the all-important Navy Party Standing Committee, or "Navy Politburo," the PLAN's senior-most decision-making organ.

Principal Findings

ONI makes it clear that China's maritime forces are progressing steadily across the board, although they remain limited in important respects. With regard to the PLAN specifically, "trends over the last few years reflect an unambiguous shift in the frequency, complexity, and distance of Chinese naval operations." Distant seas training and activities have become "the new norm." Many drills emphasize a "complex electromagnetic environment." Examples of major

new exercises include the October 2013 three-fleet *Maneuver-5* in the Philippine Sea – the PLAN’s [largest open-ocean exercise yet](#). New operations include China’s [first Indian Ocean submarine deployment](#) in 2013. Growing overseas interests, particularly concerning energy, and sea lane security have “generated greater discussion on the potential of overseas naval bases.” While doctrine has clearly evolved, major remaining limitations persist in joint professional military education and operations.

ONI judges reasonably that Taiwan and the Near Seas (Yellow, East, and South China Seas) remain the “primary focus” of Chinese naval modernization, and that “developing the capabilities to compel reunification will remain a central priority in the years ahead.” Here the otherwise excellent report makes a small but symbolic error, referring to these as “China’s ‘near seas.’” But as international waters, they do not belong to China, or any other nation – that is a core tenet of U.S. policy, and that of many other states and international organizations.

Almost twenty years after the 1995-96 Taiwan Strait crisis, “China has closed some of the capability gaps—including air defense and long-range maritime strikes—that would support a number of Taiwan-related campaigns.” While reunification with Taiwan remains the most important Chinese Near Seas objective, the report also highlights territorial disputes with Japan (Senkaku/Diaoyu Islands) and the Philippines (Scarborough Reef and Second Thomas Shoal).

[Dennis Blasko](#) states that the relatively-modest 13 percent post-2009 growth in the number of submarines, major surface combatants, amphibious ships, and missile patrol craft; as well as the nature of ships produced; suggests continued Near Seas focus. “The introduction of the Type 056 corvette since 2009 emphasizes the continuing importance of Near Seas operations, while allowing the modern destroyers and frigates to perform more distant seas missions,” he told this author. “Both the Type 056 and Type 022 missile catamaran would be best utilized in a People’s War at Sea scenario near China, not on the distant seas. No other single type of ship has been built to match the numbers of these two types. That should say something by itself.”

Based on U.S. policies and actions, particularly in the 1990s, however, Chinese planners assume that deterring or countering American intervention could be a critical component of any major effort to realize outstanding Chinese island or maritime claims with force. To further these objectives while attempting to reduce the likelihood of effective U.S. intervention, Beijing for nearly two decades has emphasized development of capabilities to support “non-contact warfare,” in which platforms and weapons support “long-range, precision strikes from outside an enemy’s ‘defended zone’.” Ballistic and cruise missiles such as the YJ-18 outfitted on increasingly-advanced Chinese submarines and the *Luyang III* (Type 052D) area air-defense destroyer – like other systems ONI documents extensively – constitute strong evidence of precisely such an approach.

ONI divides Chinese capabilities to counter intervention into three major “[defensive layers](#).” From 540 to 1,000 nautical miles (nm) from its coast, China would employ anti-ship ballistic missiles (ASBMs) and submarines. From a distance of 270-540 nm, China would employ submarines and air assets. From its coast out to 270 nm, China would employ surface and air assets, submarines, and coastal defense cruise missiles (CDCMs).

Of course, Beijing does not seek war. It would much prefer to [further its claims in peacetime](#). To this end, likely motivated in part by Beijing's growing confidence in their capabilities, "China's Navy, Coast Guard, and Chinese economic actors," such as China National Offshore Oil Corporation (CNOOC) and its [HYSY-981 oil rig](#), "are increasingly visible throughout the region and are increasingly proactive in asserting Beijing's maritime claims, even when directly challenged by other claimants' naval and Coast Guard assets." China Coast Guard (CCG) assets can respond rapidly to perceived challenges to Chinese claims, but are typically either lightly armed or unarmed. "China has also utilized civilian fishing vessels to advance its maritime objectives," ONI observes. "Coordinating the activities of these distinct organizations is an ongoing challenge that has important implications for China and for the region."

As a kinetic maritime force of last resort, then, the PLAN "provides an important security guarantee with the means to intimidate smaller claimants and deter larger ones," ONI adds. "Friction between China and its neighbors appears increasingly likely as Beijing seeks to deter rival activities and assert its own claimed rights and interests." In crisis or conflict, China's navy "could lead an amphibious campaign to seize key disputed island features or conduct blockade or sea lines of communication (SLOC) interdiction campaigns to secure strategic operating areas."

The South China Sea contains Beijing's broadest and most numerous claims, although China "has never published the coordinates of [its Nine-Dash Line or] declared what rights it purports to enjoy in this area." To undergird both peacetime and wartime capabilities there, "Throughout 2014, China reclaimed hundreds of acres of land at the seven [Spratly] features it occupies and appears to be building much larger facilities that could eventually support both maritime law enforcement and naval operations." While other claimants have built small outposts on features they occupy and have engaged in minor island construction and augmentation, in a matter of months China has rapidly exceeded their combined activities and [acted on a scale that they cannot match](#) even collectively.

As with many strategic and geopolitical aspects of Chinese maritime development, ONI does not speculate on what has motivated Beijing's timing. Possible factors include a desire to maximize "[facts in the water](#)" in China's favor before an [arbitral Tribunal](#) issues a ruling on [Sino-Philippine territorial disputes](#) in the South China Sea; and a sense that the Obama Administration will [not push back significantly](#), whereas the next U.S. president might seek to do so. "China is accelerating its expansionist agenda and changing the status quo to actualize its nine-dash line claim and to control nearly the entire South China Sea before...the handing down of a decision of the [arbitral tribunal on the Philippine submission](#)," charges Philippine Foreign Minister Albert del Rosario. Chinese government-connected sources with whom the author has spoken state that Beijing is particularly concerned about the prospect of Hillary Clinton winning the White House.

Vast Maritime Order of Battle

As mentioned earlier, ONI's single most [distinctive contribution](#) is its "China People's Liberation Army Navy (PLA(N)) and Maritime Law Enforcement (MLE) 2015 Recognition and Identification Guide." Accompanying detailed ship silhouettes are authoritative class names and breakdowns, ship dimensions, pennant numbers, and details of change in status (e.g., some older frigates have been decommissioned and transferred to Bangladesh). ONI's "China Equipment"

[poster](#) offers photos of PLAN surface combatants, submarines, fighters and bombers, maritime patrol aircraft, and UAVs; as well as CCG ships.

Thank goodness dedicated professionals are handling such a complex, thankless task! For specialists outside the U.S. government, this enables precise tallying of hull numbers and sophisticated comparisons that were previously impossible with any level of certainty. For everyone else, it offers a sense of the sheer scale and sophistication of Chinese (para)military maritime development, together with some interesting patterns, indications, and pitfalls.

Eighty-nine classes and sub-classes of PLAN vessels are detailed. MLE vessels are divided by organization, with the most classes of vessels, 47 of which are depicted, belonging to the CCG. ONI notes that all units are projected to adopt CCG names, pennant numbers, and livery markings this year, but consolidation initiated in 2013 remains incomplete. This provides concrete support for the meticulous qualitative analysis that Ryan Martinson of the U.S. Naval War College's China Maritime Studies Institute (CMSI) [has been publishing](#) concerning CCG development. In November 2014, Martinson assessed that while coordination had improved considerably, copious evidence of "[raw hybridity of the existing system](#)" remained.

ONI likewise offers specifics of ship classes serving the two Ministry of Transport "dragons" not consolidated into the CCG: China Maritime Safety Administration (MSA/nine classes) and China Rescue Service (three classes). Also detailed: ships from the PLA Maritime Transport Units (MTU)/Border Defense Force (BDF), including those that have been [patrolling](#) the Mekong River in cooperation with other riparian neighbors since the horrific murder of Chinese sailors there in 2011. Several dozen smaller units, including those from MTU/BDF, and additional CCG and MSA units, are listed without visual depiction – otherwise the chart would require a microscope to interpret.

Hardware Specifics

ONI also addresses hardware improvements strengthening China's maritime forces. China's navy has narrowed the technological gap with advanced foreign counterparts. Procurement is increasingly indigenous and efficient, with the last major foreign delivery of a naval platform in 2006.

Increasingly advanced long-range ship-based air defense systems offer protection to ships sailing beyond range of land-based defenses. *Luyang III*-class (Type 052D)* destroyers are fitted with extended-range version of HHQ-9. 20+ *Jiangkai-II*-class (Type 054A) frigates are operational with the HHQ-16 vertically-launched ~20-40 nm-range system.

PLAN Aviation has made "great strides," albeit from a low baseline. Its air-to-air missiles include the long-range PL-12. Ancient H-6 bombers have been upgraded yet again, with improved electronics and ability to carry up to four anti-ship cruise missiles (ASCMs) for strike versions; and some converted to tankers. China's JH-7 fighter-bomber "can carry up to four ASCMs and two PL-5 or PL-8 short-range air-to-air missiles, providing considerable payload for maritime strike missions."

To support operations further from shore, the PLAN is deploying increasing numbers of specialized aircraft for maritime patrol, airborne early warning, and surveillance. UAVs deployed include the BZK-005. Additionally, “China operates a growing array of reconnaissance satellites, which allow it to observe maritime activity anywhere on the earth.”

ONI’s balanced assessment also details enduring Chinese weaknesses. The PLAN’s sole aircraft carrier, *Liaoning*, “remains several years from becoming fully operational, and even then will offer relatively limited combat capability.” It remains unclear when future Chinese carriers will upgrade to catapults and more advanced aircraft than the currently-deployed J-15.

Welcome Contribution, Wish List

The numerous classes and sub-classes of Chinese naval and coast guard ships, greatly outnumbering American classes, suggests a hodgepodge with lingering older equipment and resulting logistics, maintenance, and training challenges. In contrast to the PLAN’s 89 classes and sub-classes of ships, the U.S. Navy [has at most 27](#) – and that’s including the *USS Constitution*, in a class by itself as the only sailing ship. Together with required advancements in doctrine, personnel, and support systems for distant operations, China’s maritime forces remain a work in progress – even as they have come a long way in a short time.

Promoting common, systematic nomenclature, and baseline knowledge greatly facilitates understanding their evolution. Even the bird-watching community, whose efforts are not complicated by deliberate efforts to conceal avian origins or characteristics, benefits greatly from eBird, the Cornell Lab of Ornithology’s [real-time online checklist program](#) to synthesize and disseminate information. In the China security forces-watching community, the first challenge is to form a foundation of basic knowledge and minimize confusion by sharing findings using common terminology that people will actually use (as opposed to numerical designators for Chinese ship classes, which suffer from limited popularity in Western circles outside of diehard enthusiasts). As a leading organization in this effort, ONI has made an excellent contribution – and should be encouraged to do so more often in the future.

Specific examples will now diffuse across the Internet, into *IHS Jane’s* analyses, and into Congressional Research Service reports. The diesel submarine with a large sail – long-termed “[Qing Type 043](#)” on many hobbyist websites – has been designated *Wuhan*-class (Type 032), and the J-10A may also be called “Firebird A.” In this sense alone, ONI’s report and supporting materials will truly be a gift that keeps on giving.

That said, it is to be hoped that important issues not addressed in this report can be covered in future iterations:

- *Personnel below leadership level.* China’s 2013 Defense White Paper [credits](#) the PLAN with 235,000, roughly 11 percent of PLA personnel. By contrast, around 325,000 U.S. Navy and 188,000 U.S. Marine Corps personnel constitute about 37 percent of all active-duty U.S. armed forces. As the PLA becomes increasingly externally focused and sheds ground force personnel, the PLAN may continue to grow, particularly its aviation units. Meanwhile, the CCG is [undergoing a manning revolution of its own](#). Rank-and-file

nature and capabilities will largely determine what China's maritime forces are capable of achieving in practice. U.S. government reports would greatly benefit from moving beyond their traditional hardware focus to address "software" issues more fully, as RAND's [recent study](#) did to great effect.

- *Land-based PLAN forces.* Fleet CDCM and Electronic Countermeasures regiments, the South Sea Fleet air defense brigade, the two PLA Marine brigades, and the Special Operations Forces regiment – which makes [major contributions to Gulf of Aden antipiracy](#) – merit coverage.
- *Maritime Militia.* This under-scrutinized force [plays important roles](#) in Chinese "[maritime rights protection](#)" operations. While ONI's report is titled "The PLA Navy," it rightly covers the CCG as well. That China's Maritime Militia lacks a U.S. counterpart should not allow it to be ignored analytically.

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*Corrected from 054D. Thanks to the commenter below.