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**Securing the Seas: Water's Role in Global Stability  
and China's Naval Expansion**

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# **Securing the Seas: Water's Role in Global Stability and China's Naval Expansion**

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**Abstract:** This essay explores the critical role that water has played throughout human history, particularly its significance in global trade and internet communication in the modern world. With about 80-90% of goods being transported by sea, disruptions to maritime routes, such as the Suez Canal incident or attacks on cargo ships, have far-reaching economic consequences. Moreover, the essay examines the crucial function of underwater internet cables, which carry 95% of global internet traffic, making them a target for terrorism and sabotage. China's efforts to gain geopolitical power are addressed, focusing on the country's advancements in naval technology and military infrastructure, particularly in the development of aircraft carriers and ballistic missile submarines. Additionally, this paper discusses the response of the United States and its allies in countering Chinese naval expansion, highlighting strategic agreements like that between Australia, the United Kingdom and the United States (AUKUS) and the Enhanced Defense Cooperation Agreement (EDCA) with the Philippines. In summary, this essay aims to shed light on the rising maritime competition and its geopolitical ramifications in the Indo-Pacific.

## Water in history and contemporary times

Throughout human history, water has played a pivotal role in shaping the rise and development of civilizations. As a clear demonstration of this phenomenon, all major cities have been connected in a way or another to a water source. Today, this not only hasn't changed, but has become even more important.

In a globalized world, water holds significant importance particularly when it comes to the global flow of goods and internet communications. The role that maritime transport plays in the global economy and commerce is outsized, with around 80 to 90% of all goods traded via maritime routes. For this reason, accidents and interruptions of normal shipping routes can create a massive crisis in global markets. A striking example of this is the 2021 incident in the Suez Canal where the ship *Ever Given* became stuck while passing through the canal. Another instance where the safety of these commercial routes was undermined is the Houthi attacks on cargo ships in the Red and Arabian Seas in the last year, highlighting the fragility of maritime transports.

In addition to the enormous importance of cargo shipments, the oceans are also key to ensuring good internet connection all over the world. This is made possible thanks to an intricate web of underwater cables attached to the seabed. These cables play such an important role to the world's communication systems because they carry about 95% of the world's internet traffic.<sup>1</sup> Unlike satellites, submarine cables offer greater capacity and speed, with lower latency, making them essential for financial transactions, business management, and daily communications.

The importance of these cables are also why they have been targeted by terrorist organizations and suspected to have been attacked by actors linked to the Chinese or Russian

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<sup>1</sup> Colin Wall and Pierre Morcos, "Invisible and Vital: Undersea Cables and Transatlantic Security," CSIS, accessed December 17, 2024, <https://www.csis.org/analysis/invisible-and-vital-undersea-cables-and-transatlantic-security>.

government.<sup>2</sup> However, in addition to man-made risks such as terrorist or sabotage operations, underwater earthquakes and damage caused by anchors can pose a danger to these vital cables.

Given the key role these cables play in keeping society functioning, Huawei and other Chinese firms have entered the market for construction and maintenance of these undersea cables. This is part of a broader strategy by China to gain geopolitical leverage in international relations, which could present a threat to the future of global internet infrastructure and communications security.<sup>3</sup>

### **A revolution in the Chinese Navy**

With the oceans playing such a crucial role in global trade and communications, maritime security has become a strategic priority for all major world powers. This strategic importance is clearly understood by China, which in response is improving its navy, and in particular its aircraft carriers. The role of such vessels for naval dominance is key in projecting power in a region, to deter and guarantee the safety of vital maritime networks, which are a must for a country seeking to fortify its position on the global stage.<sup>4</sup>

Following the fall of the Soviet Union, an opportunity arose for China to buy an unfinished Kuznetsov class aircraft carrier. Originally called “Varyag” and intended for the Soviet Navy, the fall of the regime allowed the vessel to be purchased in 1998. The aircraft

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<sup>2</sup> Mercedes Page, “Russia, a Chinese Cargo Ship and the Sabotage of Subsea Cables in the Baltic Sea,” *The Strategist*, October 31, 2023, <https://www.aspistrategist.org.au/russia-a-chinese-cargo-ship-and-the-sabotage-of-subsea-cables-in-the-baltic-sea/>; Sidharth Kaushal, “Stalking the Seabed: How Russia Targets Critical Undersea Infrastructure,” *Royal United Services Institute*, May 25, 2023, <https://www.rusi.org/explore-our-research/publications/commentary/stalking-seabed-how-russia-targets-critical-undersea-infrastructure>.

<sup>3</sup> Brian Hart, “How Advanced Is China’s Third Aircraft Carrier?,” *ChinaPower Project*, May 3, 2024, <https://chinapower.csis.org/china-type-003-fujian-aircraft-carrier/>; Sadia Rahman, Peter Tesch, and The Interpreter, “The Cable Ties to China’s Digital Silk Road,” *Lowy Institute*, March 17, 2023, <https://www.lowyinstitute.org/the-interpreter/cable-ties-china-s-digital-silk-road>.

<sup>4</sup> Fatima Arshad, “Chinese Naval Doctrine and Its Implications,” *Modern Diplomacy*, February 1, 2023, <https://modern diplomacy.eu/2023/01/13/chinese-naval-doctrine-and-its-implications/>; Military and security developments involving the people’s ... Accessed September 26, 2024, <https://media.defense.gov/2023/Oct/19/2003323409/-1/-1/2023-MILITARY-AND-SECURITY-DEVELOPMENTS-INVOLVING-THE-PEOPLES-REPUBLIC-OF-CHINA.PDF>.

carrier was transferred from the Ukrainian port city of Sevastopol to Macau by a Chinese firm, Chong Lot Travel Agency Ltd, for 20 million dollars, with the intention of turning it into a casino.

In 2002, the aircraft carrier was acquired by the Chinese Liberation Army Navy (PLAN). After years of modifications and refurbishing, the aircraft carrier was re-presented in 2012. Renamed the “Liaoning,” the ship became China’s first ever air-craft carrier.<sup>5</sup> Since the redevelopment of the *Liaoning*, China has been improving its manufacturing capabilities. Its navy has also been studying and intensively developing its capacity for conducting air operations from a carrier as part of the nation’s aim of becoming a naval superpower.

Efforts to strengthen China’s capacities in the naval domain have also resulted in the creation of the *Shandong* carrier, the first ever built entirely by China. Developed off of the blueprint of *Liaoning*, the *Shandong* demonstrates various improvements from its predecessor, including better flight deck operations and enhanced aircraft handling capabilities. Furthermore, in 2022 China unveiled its third aircraft carrier, the *Fujian*, a significant step forward from previous models.

The *Fujian*’s tonnage, at 80,000 tonnes, makes it one of the largest vessels in the world, and enables China to compete directly with the US Navy’s fleet of super carriers. In addition to the large size of the ship, there are a number of technological advancements of note, such as the development of the electromagnetic catapult launch technology (EMALS), a feature that was only previously seen on the Gerald R. Ford class carrier from the United States.<sup>6</sup> In contrast to the *Shandong* carrier, this new catapult system ensures greater aircraft launch efficiency for China. This capability allows the Chinese military to operate a vast

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<sup>5</sup> See note 4.

<sup>6</sup> See note 3; Peter Suci, “China’s New 80,000 Ton Aircraft Carrier ‘rivals’ U.S. Navy Supercarriers,” *The National Interest*, September 12, 2024, <https://nationalinterest.org/blog/buzz/chinas-new-80000-ton-aircraft-carrier-rivals-us-navy-supercarriers-212724>

variety of planes, such as the lighter unmanned aerial vehicles (UAVs) or even heavier planes such as early warning aircraft (EWAS).



Figure 1: *Fujian Aircraft carrier photographed in the Jiangnan naval shipyard, June 2022.*

The *Fujian* also differs from previous Chinese aircraft carriers in its ability to withstand wear and tear compared to the “sky jump” launch system which was used by previous vessels.<sup>7</sup> This new system will give a longer-life span to the airframes that are being launched by the vessel, without damaging them, and will also improve the rate at which these aircraft can be launched. The system is more energy-efficient than steam catapults, which consume large amounts of power and water, and this efficiency helps conserve energy aboard the carrier, which is crucial for long-term deployments.

All Chinese aircraft carriers are diesel powered, rather than nuclear-powered like the ones possessed by the US Navy, which limits the range in which these vessels can conduct

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<sup>7</sup> See note 6.

operations without having to refuel.<sup>8</sup> However, a change in military doctrine by China's leadership to shift to nuclear power means that vessels entering service in the near future, such as the Type 004, will feature a nuclear powered engine. This transition to nuclear-powered engines demonstrates the growing focus on improving their logistical capabilities, and the will to reduce the vulnerabilities in terms of strategic deployment that their navy currently presents. China's diesel-powered vessels require constant refuelling operations, which makes them vulnerable in the event of a conflict, as the supply lines could be destroyed or the carrier could be targeted while refueling. On the other hand, the shift to nuclear-powered propulsion systems will enable carriers to be at sea for prolonged periods of time, allowing for greater operational flexibility and independence from logistical constraints.

These new vessels would support ambitions to conduct operations further than China's "First Island Chain," which includes islands surrounding mainland China, such as Japan, Taiwan, the Pratas Islands, the Philippines and Northern Borneo. China's shift to nuclear-powered carriers means the nation's navy will instead be able to focus on blue water operations, open-ocean naval missions with the aim of projecting power globally.<sup>9</sup>

### **A race for submarine technology**

The technological and military advancements by the PLAN since the 1980s have also revolved around the construction of nuclear powered ballistic missile submarines (SSBN for short). With the 1982 construction of the *Xia class* submarines, China began to develop and improve its sea nuclear deterrence and strike capabilities. In late 2006, China developed a new class of submarines, called *Type 094* or "Jing class."<sup>10</sup>

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<sup>8</sup> Alex Luck, "Chinese Carrier Aviation in 2024 - the Year so Far," Naval News, April 21, 2024, <https://www.navalnews.com/naval-news/2024/03/chinese-carrier-aviation-in-2024-the-year-so-far/>.

<sup>9</sup> See note 6.

<sup>10</sup> "China Submarine Capabilities." The Nuclear Threat Initiative, August 20, 2024. [https://www.nti.org/analysis/articles/china-submarine-capabilities/#:~:text=History,%2Dclass%20\(Type%20092\)](https://www.nti.org/analysis/articles/china-submarine-capabilities/#:~:text=History,%2Dclass%20(Type%20092))



The Type 094 also carries *JL-2* and *JL-3* ballistic missiles, the first carrying 1 warhead with a range of 3780 nautical miles and the other, multiple warheads of an estimated range of 5400 nautical miles. These ballistic missile systems mark significant improvements by the PLAN in developing systems that could pose a threat to strategic US bases like the one located in Guam or the continental US.



Figure 2: *Jin Class ssbns (TYPE 094)*

On the other hand, the significant amount of noise produced by Chinese submarines poses a significant challenge to the nation's ambition of countering the US presence in the Indo-Pacific. These so-called "boomers" are considered to be much noisier than the US's submarines, limiting China's ability to conduct stealth operations.<sup>11</sup>

The technological gaps between the Chinese *Jin*-class and the more advanced and nuclear-powered US-operated *Ohio*-class could render Chinese efforts to build a sea-based

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<sup>11</sup> "Does China Have an Effective Sea-Based Nuclear Deterrent?" ChinaPower Project, August 26, 2020. <https://chinapower.csis.org/ssbn/>.

nuclear deterrence programme ineffective. However, China may be addressing the shortcomings presented by the *Jin*-class submarines through new boats currently in production.<sup>12</sup> The “Type 096” should begin construction in the early 2020s and demonstrate improvements in how much noise they emit, according to the US Department of Defense.<sup>13</sup>

### The US response

There are many ways in which the United States and its regional allies are preparing to counter Chinese expansionism at sea. The security pact between Australia, the United Kingdom and the United States (AUKUS) is one of the most important of these efforts. The AUKUS pact consists of a joint effort between Australia, the UK and the USA in developing a new generation of attack submarines by the 2040s.<sup>14</sup> This joint effort is groundbreaking as it will be the first time since the 1958 Mutual Defense Agreement with the United Kingdom that the United States will share classified nuclear-propulsion technology information with its allies with the intention of limiting and deterring China’s presence in the Indo-Pacific.<sup>15</sup>

Another very important effort in this direction is the *Balikatan* exercise held every year by the US and the Filipino militaries.<sup>16</sup> This exercise is of immense strategic importance as it signals the military readiness in case of conflict. In the last 20 years, China has claimed portions of the South China Sea, a key global shipping route full of mineral resources. At the

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<sup>12</sup> Maya Carlin, “China’s Type 094 Jin-Class Missile Submarines Can ‘hit’ America with Nukes.” *The National Interest*, September 8, 2024. <https://nationalinterest.org/blog/buzz/chinas-type-094-jin-class-missile-submarines-can-hit-america-nukes-208821>.

<sup>13</sup> Inside Asia’s arms race: China near “breakthroughs” with nuclear-armed submarines, report says | Reuters. Accessed September 26, 2024. <https://www.reuters.com/world/asia-pacific/inside-asias-arms-race-china-near-breakthroughs-with-nuclear-armed-submarines-2023-10-09/>.

<sup>14</sup> “Agreement Strengthens Aukus Submarine Partnership.” Defence Ministers, August 12, 2024. <https://www.minister.defence.gov.au/media-releases/2024-08-12/agreement-strengthens-aukus-submarine-partnership>.

<sup>15</sup> John Christianson, Sean Monaghan, and Di Cooke, “Aukus Pillar Two: Advancing the Capabilities of the United States, United Kingdom, and Australia,” CSIS, July 10, 2023, <https://www.csis.org/analysis/aukus-pillar-two-advancing-capabilities-united-states-united-kingdom-and-australia>.

<sup>16</sup> Felix K. Chang, “US-Philippines Enhanced Defense Cooperation Agreement Revived,” Foreign Policy Research Institute, May 9, 2024. <https://www.fpri.org/article/2023/06/us-philippines-enhanced-defense-cooperation-agreement-revived/>.

basis of the claims in the area is the idea of a “one-country policy,” which refers to the CCP's years-long pursuit of unification of mainland China with Taiwan, based on the recognition of Taiwan as a province of China, with the only legal authority represented by the Chinese People’s Republic.

In addition to the above cited “one country policy,” Chinese leadership claims ownership of nearly 90% of the South China Sea, enclosing islands, marine resources and strategic waterways in a series of official maps demonstrating the so-called “nine-dash line.” The historical basis for the validity of these claims come from maps published by China’s National Government in the late 1940s, which demarcated areas that China claimed based on historical usage and exploration.

The establishment of this military cooperation between the United States and the Philippines following the election of President Ferdinand Marcos Jr. has strengthened the two nations military ties and acted as a counterbalance to Chinese aggression in the South China Sea.<sup>17</sup> The newly elected president Marcos Jr. has taken a more favorable stance towards the United States than previous president Rodrigo Duterte. The development of the Enhanced Defense Cooperation Agreement (EDCA) has allowed the US Army, Navy and Air Force access to selected bases in the islands. In early 2023, the two countries agreed to expand US access to four more military bases in the Philippines, bringing the total to nine bases under EDCA.

The *modus operandi* adopted by the PLA and PLAN is the construction of artificial militarized islands and the blockade and harassment of neighboring coast guard ships and

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<sup>17</sup> Mark Valencia, “Strategic Value of Luzon Strait Must Not Be Overlooked.” Asia Times, May 28, 2023. <https://asiatimes.com/2023/05/strategic-value-of-luzon-strait-must-not-be-overlooked/>.

civil vessels.<sup>18</sup> The new, increasing military coordination between the US and the Philippines aims to deter and counteract Chinese military force in the region.

## US to invest in more Philippines bases



Figure 3: 4 New EDCA bases in the Philippines

*(china-roars-as-philippines-opens-wider-to-us-forces)*

<sup>18</sup> "Confrontations in South China Sea Surge, Raising Fears a Miscalculation Could Lead to Conflict." The Guardian, July 12, 2024. <https://www.theguardian.com/world/article/2024/jul/12/south-china-sea-conflict-philippines-coast-guard>; Thao Nguyen, "Vietnam Fishermen Caught up in South China Sea Tensions – DW – 11/22/2024." dw.com, November 24, 2024. <https://www.dw.com/en/vietnam-fishermen-caught-in-south-china-sea-tensions/a-70859110>.

The location of the 3 of the 4 additional bases the Philippines have granted the US access to are of key strategic importance, as they are located near the Luzon Strait, between the Philippines and Taiwan. This signals both to Taiwan and the PLAN that the US and its allies have a strategic foothold in the region from which to conduct both surveillance and military activities in case of an all-out war with China.

### **Conclusion**

If China is to become a true regional hegemon in the near future, the nation must not only improve its navy and army, but also its ability to conduct complex operations involving multiple branches of its military. This is why it is crucial for China to master launch and landing operations from its aircraft carriers in blue waters in order to match the dominance of the US military. Having a large and advanced navy alone will not allow China to succeed in its ambitions for global dominance.

Moreover, this push to enhance naval capabilities goes hand-in-hand with China's broader geopolitical strategy. The nation's ambitions extend beyond immediate regional control, signaling a desire to project power globally. The development of aircraft carriers, submarines, and enhanced naval infrastructure is not merely about military hardware. It is also about securing strategic maritime routes, projecting influence in contested regions like the South China Sea, and ultimately, challenging US dominance in these waters. The possibility of an uncontested Chinese presence in the area poses a threat to the sovereignty of neighboring countries. If China believes its actions will be challenged by the United States and its allies, the CCP could feel at liberty to violate international laws and act aggressively towards other countries in the region.

However, if China's naval advancements are met with a formidable response from the US and its allies, this could establish a powerful military counterweight and method of deterrence in the Indo-Pacific. The growing defense ties between the US and regional

partners like the Philippines, Australia, Japan, and South Korea demonstrate a collective effort to maintain a free and open maritime order. While this escalating maritime competition risks transforming the region into a flashpoint for a future conflict, the development of an effective military counterweight to China's ambitions may prevent any further escalation through effective deterrence. Regardless, this ongoing competition will shape not only regional stability, but the broader future of global geopolitics.

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