

Growing Air Domain Awareness of PLA in South China Sea

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1. News Highlights

On August 31, 2021, ImageSat International (ISI), an Israeli commercial satellite company, released recent satellite photos showing PLA activities in the waters around Zhubi Reef, also known as Subi Reef, in the Spratly Islands. Except for a Type 052 missile destroyer (“Qingdao” of the North China Sea Fleet) with hull code 113, all others in the images were military aircraft including a helicopter that appeared to be the destroyer’s on-board Z-9 (ISI believes it was a larger Z-8), a Y-9G (Gaoxin 11) electronic warfare aircraft and KQ-200

(Gaoxin 6), an anti-submarine warfare aircraft.¹ PLA aircrafts are becoming more active in the South China Sea. This article takes a look at the PLA’s air domain awareness in the area.

As defined by the US Department of Homeland Security, air domain awareness is the ability to detect, track and identify threats from the air by becoming conscious of any object crossing given airspace. The awareness is critical to the security and defense efforts of a wide area, especially in preventing and responding to potential intrusive activities.²

1. @ImageSatIntl, 10:08 PM, Aug 31, 2021, Twitter, <https://reurl.cc/GmzR5y>.

2. “Feature Article: S&T Collaborates with Federal Partners to Improve Air Domain Awareness at the Northern Border,” February 4, 2021, U.S. Homeland Security, <https://reurl.cc/1YnaKV>.

2. Security Implications

2-1. PLA raises air domain awareness in Spratly Islands

The development of the PLA's air domain awareness in the South China Sea was marked by a watershed in 2016. Before that, the awareness was still limited to the airspace over Guangdong, Hainan, Paracel Islands and the surrounding region. Due to factors such as the collision of US and Chinese military aircraft over Hainan Island in 2001; the long-range attack drills of the South China Sea Fleet Air Force's H-6 bombers; Chinese President Xi Jinping's plan to "reclaim the reefs to build islands"; the completion of the first cross-ocean bombing practice by eight planes of the South China Sea Fleet in 2014; and the PLA Air Force's first long-range training in the Western Pacific Ocean outside the first island chain in 2015, the PLA is gradually expanding its air domain awareness into other areas in the South China Sea.

Since 2016, the formation of the Southern Theater, the introduction of advanced fighter planes, the completion of runway extension projects on several islands and reefs, and the growth of the PLA Air Force toward a "modernized strategic force capable of full-range operations" under Xi's guidance³ have led the PLA to build a more comprehensive air domain awareness in the South China Sea. To achieve this, the PLA conducts combat patrols on individual islands and along the Nine-dash Line, improves the integration of Beidou navigation satellites with the ground and air C⁴ISR in the South China Sea, strengthens the ability to track and intercept foreign military aircraft, enables (partner) air refueling to expand the operational radius, and enhances the ability of smooth 24-hour anytime takeoff and landing aircraft operations on carriers and designated islands. The recent military aircraft activities in Zhubi Reef show that the PLA is indeed elevating its air domain awareness in the Spratly Islands.

3. "Chinese Air Force Moves Toward a Modern Strategic Power with Full-territory Operation Capability", *People's Daily Online*, November 10, 2017, <http://military.people.com.cn/BIG5/n1/2017/1110/c1011-29638966.html>.

2-2. PLA utilizes Spratly Islands to expand air domain awareness in South China Sea

Chinese military facilities in the South China Sea were constructed ostensibly for defending its sovereignty, but they are actually for collecting battlefield information in the area for possible future warfare. Since 2018, the PLA Air Force units based on the islands have begun transmitting real-time information via radars and communications systems to the PLA Navy hundreds of miles away.⁴ After 2020, China has been using the hangars and runways on the Spratly Islands more frequently to expand the range and patrol time of PLA aircraft in the South China Sea and even the Indian Ocean. As a result, the users of the Air Force facilities on the islands are no longer just the Navy and Coast Guard vessels, but the PLA Navy and Air Force aviation units using the islands frequently to expand their air

domain awareness of the South China Sea.⁵

3. Trend Observation

3-1. PLA's air domain awareness of South China Sea will sharply expand in 1-3 years

The PLA force in the South China Sea still consists of mostly aviation units from the islands and coastal bases in the Southern Theater, and PLA Navy ships cruising in the area even still rely on the escort and protection from these forces.⁶ But this situation is expected to change in the next 1-3 years. According to news reports, the Dara Sakor International Airport in Koh Kong Province, Cambodia is scheduled to be opened in mid-2022;⁷ if PLA airplanes are allowed to operate from the airport, they will pose a direct threat to the US bases and garrisons in Singapore

4. J. Michael Dahm, "Beyond "Conventional Wisdom" : Evaluating the PLA'S South China Sea Bases in Perational Context," War on the Rocks, MARCH 17, 2020, <https://reurl.cc/eE041b>.

5. *Military and Security Developments Involving the People's Republic of China 2020*, Annual Report to Congress, U.S. Department of Defense, 2020, p.79, <https://reurl.cc/EnqMAR>.

6. See footnote 3.

7. "New! Cambodia's Dara Sakor International Airport will start its operations in mid-2022," *NetEase*, August 30, 2021.

and Thailand, and will extend the PLA Air Force's early warning airspace in the South China Sea westward to include the Gulf of Siam and the Andaman Sea. Secondly, China is now building a new aircraft carrier with electromagnetic catapult systems instead of a ski-jump deck. If the new carrier can increase the carrying capacity and deploy small- to medium-sized reconnaissance and early warning aircraft as well as more fighters on board, the PLA's airspace domain awareness in the South China Sea will be expanded even further.

3-2. More “underwater domain awareness” for PLA in South China Sea

The author observed that the PLA has been strengthening its air domain awareness of the South China Sea by deploying military aircraft on the three major Spratlys reef islands, Fiery Cross, Zhubi and Mischief, between April to June 2021. The first is the KQ-200 that appeared on Fiery Cross Reef in April 2021, followed by the KJ-500 that appeared on Mischief Reef from May to June, the KQ-200 and KJ-500 AEW&C that appeared on Fiery Cross Reef on June 9 (the Type 815 electronic reconnaissance

vessel that assists in anti-submarine operations is also present nearby), and even the Y-9 and Z-8 that appeared on Zhubi Reef in June and July. It is worth noting that the Z-9, Y-9G and KQ-200 that appeared at Zhubi Reef are all capable of anti-submarine operations, meaning that the PLA is increasing its “underwater domain awareness” in the South China Sea while escalating its air domain awareness.