

CHINA'S ADIZ: ENFORCEMENT IN EAST CHINA SEA AND PROSPECTS FOR SOUTH CHINA SEA

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INTRODUCTION

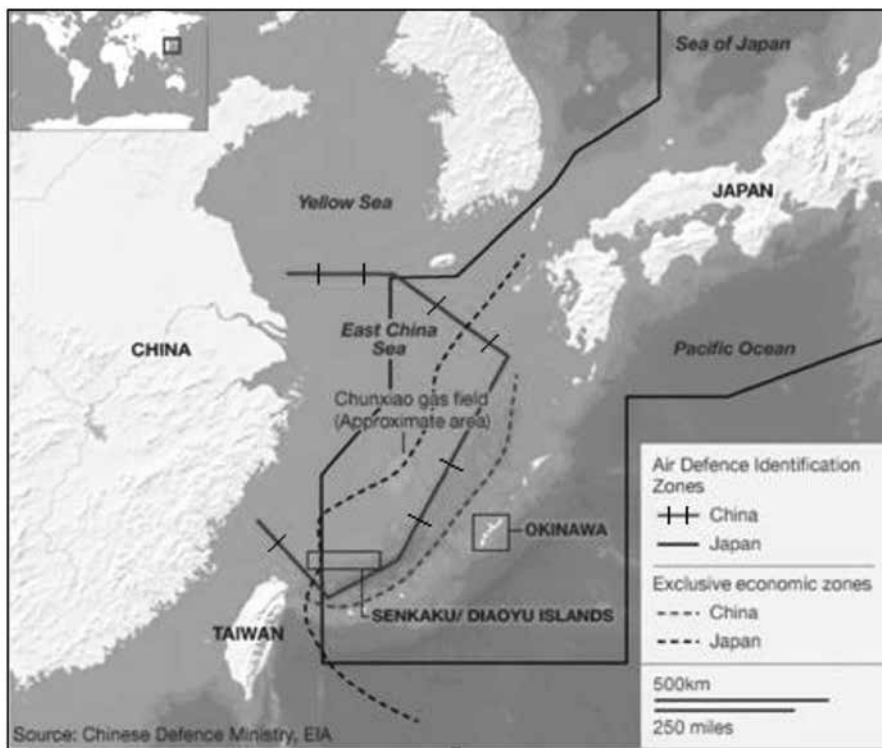
While the world wonders whether the People's Republic of China (PRC) is taking incremental steps towards establishing an Air Defence Identification Zone (ADIZ) in the South China Sea, there is a need to carry out a detailed analysis of Beijing's already established ADIZ in the East China Sea to decipher China's true intent behind such whimsical and one-sided declarations.

On November 23, 2013, China established an ADIZ in the East China Sea (Fig. 1). China's ADIZ overlaps the one from Japan and encompasses the Senkaku Islands, which Japan administers, but over which both countries claim sovereignty. As per US Secretary of State John Kerry, China's ADIZ "constitutes an attempt to change the status quo in the East China Sea." Within days, military aircraft from the United States, Japan, and South Korea flew through China's ADIZ without complying with China's ADIZ regulations. Over the last few years, international tensions over China's ADIZ have diminished, but the prospect of a new Chinese ADIZ in the South China Sea covering its much debated 'nine-dash line' has sparked many a debate and warrants further study of China's

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operations in its East China Sea ADIZ to date. A report has been issued by the US–China Economic and Security Review Commission on this issue. This report has assessed the extent to which China has enforced its ADIZ in the East China Sea, and studied the potential conditions and implications of a Chinese ADIZ in the South China Sea.

Fig 1: China's ADIZ and Claimed EEZ in the East China Sea



BACKGROUND

Air Defence Identification Zone

An ADIZ is a publicly declared area, established in international air space adjacent to a state's national/sovereign air space, in which the state requires

that civil aircraft provide their identifiers and location¹. Its purpose is to allow a state the time and space to identify the nature of approaching aircraft prior to their entering the national air space and prepare defensive measures, if necessary². The first ADIZ was established by the United States in 1950 when it created a joint North American ADIZ with Canada, citing the legal right of a nation to establish reasonable conditions of entry into its territory. The US does not apply its ADIZ procedures to foreign aircraft not intending to enter US air space and, similarly, does not recognise the right of a coastal nation to apply its ADIZ procedures to foreign aircraft not intending to enter its national air space³.

South Korea's ADIZ was established in 1951 during the Korean War by the United States Air Force. It currently does not cover Socotra Rock, known to the Koreans as Ieodo. Korean Defence Minister Kim Kwan-jin had said that South Korea would consider extending its ADIZ in the light of the extent of the Chinese ADIZ but an announcement of a change was postponed after a meeting with the United States' ambassador.

Japan's ADIZ, which was established in 1969, covers most of its Exclusive Economic Zone (EEZ). Japan makes no demands on aircraft flying through, unless they are landing in Japan. The ADIZ was revised in 1972, the same year that the US-Japan Okinawa Reversion Treaty provided for the return of the Ryukyu Islands and Daitō Islands to Japan. Its ADIZ was created by the United States armed forces during the post-World War II Allied occupation, with the western border at 123° degrees east. This resulted in only the eastern half of Yonaguni Island being part of Japan's ADIZ and the western half being part of Taiwan's ADIZ. On June 25, 2010, Japan extended its ADIZ around Yonaguni 22 km westwards⁴. This led to an overlapping with sections

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1. Ruwantissa Abeyratne, . "In Search of Theoretical Justification for Air Defence Identification Zones" (PDF), *Journal of Transportation Security*, March 2012 (Springer US).
 2. Jeremy Page, "The A to Z on China's Air Defense Identification Zone", *The Wall Street Journal*, November 27, 2013. Retrieved on November 29, 2013.
 3. "Entering, Exiting and Flying in United States Airspace", Federal Aviation Administration, June 14, 2013.
 4. "The Ministry of Defense Extends the Air Defense Identification Zone, 26km West above Yonaguni Island," *The Ryukyu Shimpo*, June 25, 2010.

China's ADIZ regulations deviate from international norms by seeking to exert control over both civil and military aircraft, deliberately creating an overlapping area with other countries' ADIZs and disputed territory, and threatening to use "defense emergency measures" against all non-compliant aircraft.

of Taiwan's ADIZ⁵. However, Taiwanese foreign affairs officials said that it does not make any difference, as an understanding has been reached between the two parties on how to handle it. According to the China Network Television on November 24, 2013, China and Russia do not recognise Japan's ADIZ.

The People's Republic of China announced the establishment of the East China Sea ADIZ on November 23, 2013, defining it as a zone that allowed a coastal state to "identify, monitor, control and react to aircraft entering this zone with potential air threats"⁶. China's ADIZ regulations deviate from international norms by seeking to exert control over both civil and military aircraft, deliberately creating an overlapping area with other countries' ADIZs and disputed territory, and threatening to use "defense emergency measures" against all non-compliant aircraft.

IDENTIFICATION RULES

According to the Chinese Ministry of National Defence, foreign aircraft in the zone will be expected to abide by the following"⁷

- **Identification of Flight Plan:** Any aircraft in the zone must report its flight plan to China's Ministry of Foreign Affairs or Civil Aviation Administration.

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5. "Japan Extends ADIZ into Taiwan Space", *taipeitimes.com Taipei Times*, June 26, 2013. Retrieved on November 24, 2013.
 6. "Statement by the Government of the People's Republic of China on Establishing the East China Sea Air Defense Identification Zone", <http://news.xinhuanet.com/>, Xinhua, November 23, 2013. Retrieved on November 23, 2013. "Defence Spokesman Yang Yujun's Response to Questions on the Establishment of The East China Sea Air Defense Identification Zone, Ministry of National Defence of the People's Republic of China," November 23, 2013
 7. "Announcement of the Aircraft Identification Rules for the East China Sea Air Defense Identification Zone of the P.R.C", Ministry of National Defence of the People's Republic of China, November 23, 2013. Retrieved on November 25, 2013.

- **Radio Identification:** Aircraft in the zone must maintain two-way radio communication and respond in a timely and accurate manner to inquiries.
- **Responder Identification:** Any aircraft with an Air Traffic Control Radar Beacon System transponder must keep it on during the aircraft's time in the zone.
- **Sign Identification:** Any aircraft in the zone must display insignia indicating its nationality and registration clearly, in accordance with international treaties.
- **Aircraft in the Zone Should Follow Instructions:** The Chinese military will adopt "emergency defensive measures" in response to aircraft that refuse to follow the instructions.

However, the primary difference in this ADIZ from those of other countries is that an aircraft which is passing through the other ADIZs without entering the sovereign air space of the respective country does not have to notify the authorities, but here all aircraft passing through have to abide by the rules or face the consequences.

Chinese media claimed that while "freedom of flight" would be respected for "normal" flights, the principle would not apply to "provocative flyover" and "surveillance activities"⁸. However, the primary difference in this ADIZ from those of other countries is that an aircraft which is passing through the other ADIZs without entering the sovereign air space of the respective country does not have to notify the authorities, but here all aircraft passing through have to abide by the rules or face the consequences⁹. A major incident occurred on July 25, 2015, when Lao Airlines flight QV 916 was turned back by the Chinese. The Chinese Ministry of Defence (MoD) later said that the aircraft was prevented from entering Chinese territory due to an inadequate flight plan, and that the incident had nothing to do with the ADIZ¹⁰.

8. "Air Defence ID Zone to Deter Those with Designs on China's Territory," *People's Daily*, November 26, 2013.

9. Foreign Ministry Spokesperson Qin Gang's Regular Press Conference, Ministry of Foreign Affairs of the People's Republic of China, November 29, 2013.

10. Ibid.

GEOPOLITICAL AND ECONOMIC SIGNIFICANCE OF SOUTH CHINA SEA

It may be worth speculating as to why China is so keen to assert its control over the South China Sea region, right from the Strait of Malacca in the south to the Taiwan Strait in the north. Why would it really want to establish an ADIZ in a region where it has territorial disputes with four major regional players, i.e. Taiwan, Malaysia, Philippines and Vietnam? All these countries have their EEZs claims overlapping with the Chinese (Fig 2) and, hence, an ADIZ in this region would be a cause for major turmoil and conflict. If we analyse the significance of this region, the motive of Beijing would become quite clear.

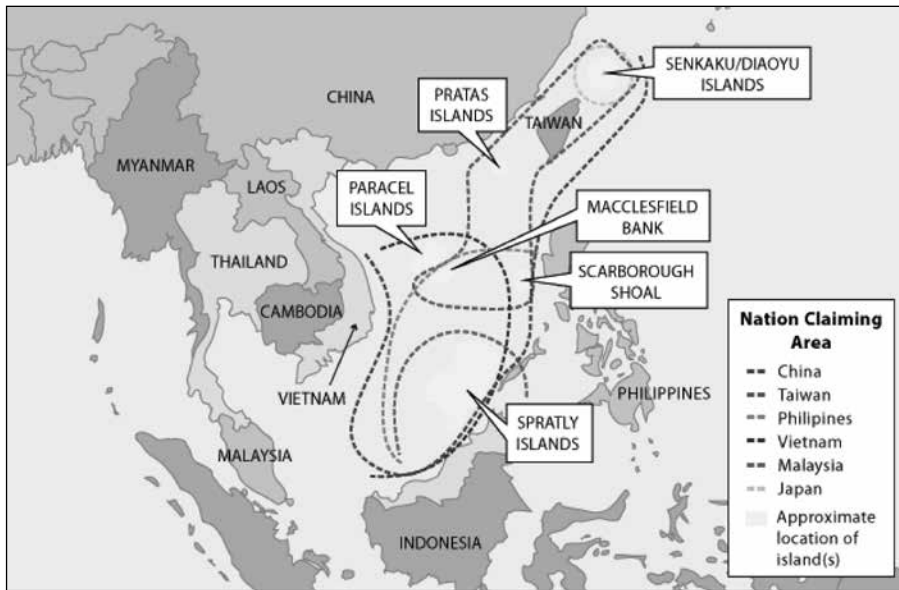
The South China Sea is an extremely significant body of water in a geopolitical sense. It is the second most used sea lane in the world: 50 percent of the world's annual merchant fleet tonnage passes through the Straits of Malacca, Sunda , and Lombok . Over 1.6 million m³ (10 million barrels) of crude oil a day are shipped through the Strait of Malacca. The region has proven oil reserves of around 1.2 km³ (7.7 billion barrels), with an estimate of 4.5 km³ (28 billion barrels) in total. Natural gas reserves are estimated to total around 7,500 km³ (266 trillion cubic feet). A 2013 report by the US Energy Information Administration (EIA) raised the total estimated oil reserves to 11 billion barrels¹¹. In 2014, China began to drill for oil in waters disputed with Vietnam¹².

According to studies made by the Department of Environment and Natural Resources of the Philippines, this body of water holds one-third of the entire world's marine biodiversity, thereby making it a very important area for the ecosystem as well as a major economic resource.¹³

11. "US Report Details Rich Resources in South China Sea," archived from the originalon 2013-02-133.

12. Keith Johnson, "How Do You Say 'Drill, Baby, Drill' in Chinese?","www.foreignpolicy.com (AFP - Getty), May 5, 2014. Retrieved on May 6, 2014.

13. Daniel Schearf, "S. China Sea Dispute Blamed Partly on Depleted Fish Stocks," VOA, May 16, 2012.

Fig 2: Territorial Disputes in South China Sea

Hence, it is quite clear why China has such great interest in this region; it has several territorial disputes with other countries over sharing of the island territories and it is trying to build major military infrastructure to claim and maintain a strong hold over the entire South China Sea.

UPDATE ON CHINA'S ENFORCEMENT OF ITS EAST CHINA SEA ADIZ

China's unilateral action of declaring this ADIZ sparked an intense global debate as to the logic of such a move, but also amplified larger concerns over Chinese intentions throughout the Asia-Pacific and wider Indo-Pacific regions. A Bloomberg report from October 2015 suggested that China "has quietly stopped seeking to actively enforce its ADIZ"¹⁴. This may be attributable to political calculations by the Chinese authorities. The Chinese leaders may not have intended to enforce the ADIZ fully, or even

14. Ting Shi, "Quiet Air Zone Shows China's Struggle to Control Contested Seas," Bloomberg, October 28, 2015, <http://www.bloomberg.com/news/articles/2015-10-28/quiet-air-zone-shows-china-s-struggle-to-control-contested-seas>.

China may be seeking to advance its position in the East China Sea over the long term after a short spike in tension, leaving a new status quo with the East China Sea ADIZ in place.

to enforce it at all, but rather may have calculated that the establishment of an ADIZ would bolster China's position vis-à-vis Japan. According to a January 2015 Congressional Research Service report, China may be seeking to advance its position in the East China Sea over the long term after a short spike in tension, leaving a new status quo with the East China Sea ADIZ in place. It would acquire strategic advantage by asserting a maximalist position, then seeming to back down, while preserving some incremental gain, akin to a **ratchet effect**. According to this theory, it would project a calm image and justify this ADIZ as a 'reasonable' step to which foreign nations should not object. If there is an accident, crisis, or loss of life, Beijing could then blame Tokyo, Seoul, Taipei, or Washington¹⁵. This explanation of China's intentions aligns with the view, widely held among foreign observers, that China often seeks to assert its interests in territorial disputes by 'salami slicing', or, according to Robert Haddick, an independent contractor at the US Special Operations Command, the slow accumulation of small changes, none of which in isolation amounts to a *casus belli*, but which add up over time to a substantial change in the strategic picture¹⁶.

Many observers have attributed an assessed lack of ADIZ enforcement to inadequate Chinese military capabilities. Possible shortcomings in China's military capabilities, as well as China's efforts to improve its capabilities in these areas are:

- **Command Structure:** China is moving toward greater jointness in the administration of its ADIZ. It has established a Joint Operations Command Centre (JOCC) in the area.¹⁷ A May 2015 report from the *Kanwa Defense*

15. Ian E. Rinehart and Bart Elias, "China's Air Defense Identification Zone," Congressional Research Service, January 30, 2015,

16. Robert Haddick, "America Has No Answer to China's Salami-Slicing," *War on the Rocks*, February 6, 2014, <http://warontherocks.com/2014/02/america-has-no-answer-to-chinas-salami-slicing/>

17. Official in the Japan Maritime Self Defense Force, briefing to Commission, Washington, DC, December 7, 2015.

Review suggests that this JOCC aims to integrate the People's Liberation Army (PLA), PLA Air Force (PLAAF), PLA Navy (PLAN) aviation and army aviation forces. Administering the ADIZ through a JOCC would facilitate the integration of radar data and coordination of interceptors¹⁸.

- **Radar Infrastructure:** China's network of land-based radar systems is probably barely capable of tracking aircraft in its ADIZ, although some analysts suggest its effectiveness may suffer from a gap in coverage resulting from a division of radar assets between the PLAAF and PLAN.¹⁹ In

addition to its land-based radar systems, China has more than a dozen Airborne Early Warning and Control (AEW&C) aircraft that could increase the PLA's monitoring capabilities²⁰. It is unclear as to what extent AEW&C aircraft are integrated into China's ADIZ enforcement operations. A *PLA Daily* report from January 2014 indicated that China planned to keep at least one AEW&C aircraft available at all times to support the ADIZ²¹. However, how much a single such aircraft would be able to achieve in support of an active and aggressive ADIZ in the area is another matter worth a debate.

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18. Open Source Centre, "Kanwa: 'PLA Studies on Redefining China's Military Commands,'" May 1, 2015. ID: CHR2015051932229003.

19. Mark Stokes, "China's ADIZ System: Goals and Challenges," *Thinking Taiwan*, April 24, 2014, <http://thinking-taiwan.com/chinas-adiz/>; Ian Easton, "China's Evolving Reconnaissance Strike Capabilities: Implications for the U.S.-Japan Alliance," Project 2049 Institute, February 2014. http://www.project2049.net/documents/Chinas_Evolving_Reconnaissance_Strike_Capabilities_Easton.pdf; U.S.-China Economic and Security Review Commission, Hearing on China's Military Modernisation and its Implications for the United States, written testimony of Mark Stokes, January 30, 2014; and Open Source Centre, "China: Media Suggest Effort to Portray Air Force as Capable of Enforcing ADIZ," November 29, 2013. ID: CHO2013112985082237.

20. Wendell Minnick, "China's Achilles' Heel: Air Defense Gap," *Defense News*, May 10, 2014.

21. Open Source Centre, "PLA Daily: Airborne Early Warning Aircraft to Serve over East China Sea," January 28, 2014, ID: CHR 2014012835717559.

ENFORCEMENT OF THE ADIZ

Against Military Aircraft

China has never sought to fully enforce its ADIZ and public reports suggest that only a handful of foreign military flights have been intercepted till date²². China did not intercept several non-compliant foreign military flights in its ADIZ in the several days following its establishment. Only a few Japanese military aircraft were intercepted in mid-2014 and further authoritative public reports of any other intercepts have not appeared²³. However, determining the extent to which China has enforced its ADIZ since late 2013 is not possible using open sources, as China does not publish comprehensive data on the extent or frequency of its ADIZ enforcement actions, and foreign militaries do not publicise the extent or frequency of their operations in China's East China Sea ADIZ and do not regularly comment on China's operations in the area. Analysts using open sources generally must rely on media reports for information on China's ADIZ activities, but these reports are not necessarily comprehensive.

Against Commercial Aircraft

China's ADIZ apparently has not disrupted commercial air traffic in the East China Sea. Although the Japanese government has instructed Japanese commercial airlines not to comply with China's ADIZ regulations,²⁴ there have been no reports of the Chinese authorities attempting to apply ADIZ regulations to the activities of any planes operated by these carriers. Many airlines, such as Cathay Pacific and Singapore Airlines, have been reported to cooperate with China's ADIZ

22. Shi, n. 14; Rinehart and Elias, n. 15, p. 11.

23. Martin Fackler, "Japan Protests Chinese Flybys over East China Sea," *New York Times*, June 11, 2014, <http://www.nytimes.com/2014/06/12/world/asia/japan-protests-chinese-flybys-over-east-china-sea.html>; Martin Fackler, "Chinese Flybys Alarm Japan as Tensions Escalate," *New York Times*, May 25, 2014, <http://www.nytimes.com/2014/05/26/world/asia/japan-east-china-sea.html>

24. Hiroyuki Kachi and Yoshio Takahashi, "Japan Asks Airlines to Ignore China Flight-Plan Rule," *Wall Street Journal*, November 26, 2013, <http://www.wsj.com/articles/SB10001424052702304281004579221681641322204>.

regulations.²⁵ The US government has also directed its carriers to comply with China's ADIZ regulations while operating in the region,²⁶ although a Department of State spokesperson said this guidance to US carriers "does not indicate US government acceptance of China's requirements for operating in the newly declared ADIZ."²⁷

Nonetheless, an incident in July 2015 brought some attention to China's treatment of commercial flights in the area, where Chinese air traffic controllers turned back Lao Airlines flight QV916 en-route from South Korea to Laos as it approached the Chinese mainland over the East China Sea.²⁸ The flight reportedly was turned back just after it entered China's East China Sea ADIZ (Fig 3). Some media reports suggested that the flight was turned back for failing to comply with China's ADIZ regulations, which would make this the only commercial flight known to have been turned back by the Chinese authorities for this reason²⁹. However, a Chinese Ministry of National Defence spokesman said the incident was unrelated to China's ADIZ, and claimed that this was done due to an improper flight plan passed by the airline.³⁰

25. Demetri Sevastopulo, Jennifer Thompson, and Simon Mundy, "US Urges Airlines to Comply with China Air Rules," *Financial Times*, November 30, 2013, <http://www.ft.com/intl/cms/s/0/41e02002-58e7-11e3-a7cb-00144feabdc0.html#axzz3wHqQIICT>.

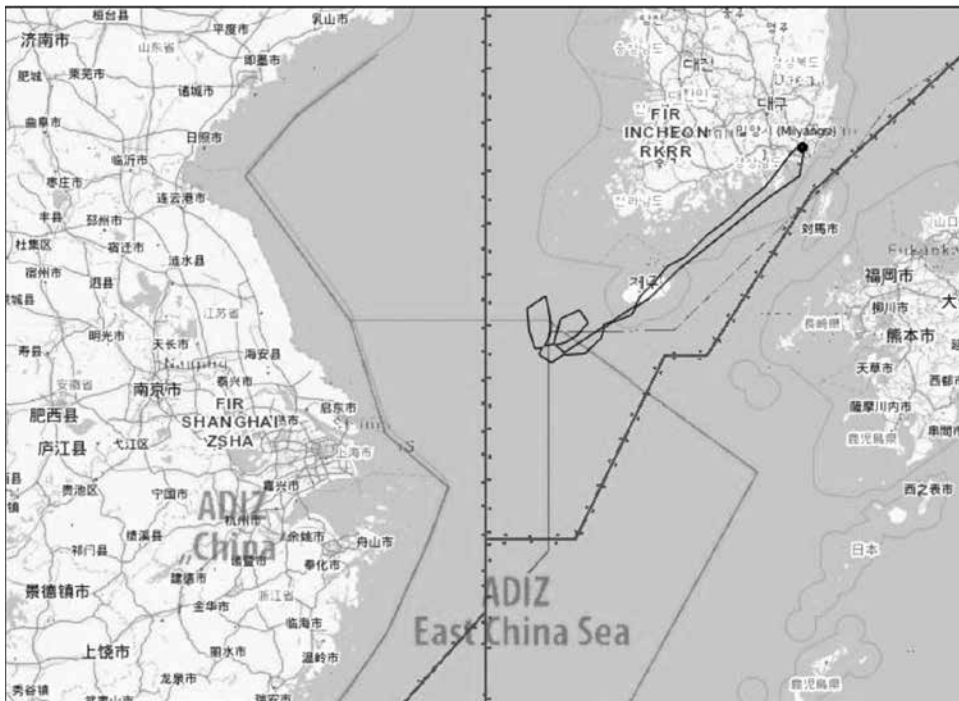
26. Rinehart and Elias, n. 15; U.S. Department of State, "China's Declared ADIZ - Guidance for U.S. Air Carriers," November 29, 2013. <http://www.state.gov/r/pa/prs/ps/2013/11/218139.htm>.

27. Ibid.

28. Xinhua (English edition), "Laos Plane Refused Entry to China Has No Link with ADIZ," July 30, 2015, http://news.xinhuanet.com/english/2015-07/30/c_134464654.htm; Jeremy Torr, "China Turns Back Lao Airlines Flight for Failing to Comply with ADIZ Rules," *Air Transport World*, July 27, 2015, <http://atwonline.com/open-skies/china-turns-back-lao-airlines-flight-failing-comply-adiz-rules>.

29. Ankit Panda, "A First: China Turns Back Commercial Flight For Violating East China Sea ADIZ Rules," *Diplomat* (Japan), July 30, 2015, <http://thediplomat.com/2015/07/a-first-china-turns-back-commercial-flight-for-violating-east-china-sea-adiz-rules/>; Jeremy Torr, "China Turns Back Lao Airlines Flight for Failing to Comply with ADIZ Rules," *Air Transport World*, July 27, 2015, <http://atwonline.com/open-skies/china-turns-back-lao-airlines-flight-failing-comply-adiz-rules>.

30. Xinhua (English edition), "Laos Plane Refused Entry to China Has No Link with ADIZ," July 30, 2015. http://news.xinhuanet.com/english/2015-07/30/c_134464654.htm.

Fig 3: Path of Flight QV916 on July 25, 2015

OTHER CHINESE ACTIVITIES IN EAST CHINA SEA AIR SPACE

China has greatly increased its military presence over the East China Sea in recent years. These activities often are not explicitly connected to China's ADIZ, but they demonstrate China's claim to authority over air space in the area, as well as China's claim to sovereignty over the Senkaku Islands. According to Japan's Ministry of Defence, the number of Japanese jet fighter scrambles against Chinese aircraft rose from about 150 in Japan's fiscal year 2011 to about 450 in fiscal year 2014³¹ which is a rough indicator of the Chinese military activity in the air space above the East China Sea. Notably, the beginning of the recent spike in Japanese intercepts coincided with the Japanese government's purchase of the Senkaku Islands in 2012. Other incidents in the East China Sea air space, such as a December 2012 transit by

31. Ministry of Defence (Japan), "China's Activities Surrounding Japan's Airspace", http://www.mod.go.jp/e/d_act/ryouku/.

a Chinese government surveillance aircraft in the territorial air space of the Senkaku Islands³² and a January 2013 incident in which Japan and China each scrambled jet fighters also indicate that air space tensions began to rise soon after the Japanese government's purchase of the Senkaku Islands,³³ more than a year before the ADIZ was established. Increased Chinese military activity in the region has also included several exercises in the East China Sea and the Western Pacific, including the first known flights by PLA Air Force planes into the Western Pacific through the Miyako Strait in 2015.³⁴

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A Possible ADIZ in the South China Sea ?

Many observers believe China is expanding its military capabilities in the South China Sea to support a future South China Sea ADIZ. Moreover, several statements by Chinese government officials suggest that China is considering establishing a South China Sea ADIZ.³⁵ In December 2013, after China declared its East China Sea ADIZ, China's then ambassador to the Philippines responded to questions about whether China might declare an ADIZ in the South China Sea, by saying China was entitled to decide "where and when to set up the new air identification zone."³⁶ In January 2016, a Chinese Ministry of Foreign Affairs spokesperson claimed that the

32. Ibid.

33. J. Michael Cole, "Japan, China Scramble Military Jets in East China Sea," *Diplomat* (Japan), January 12, 2013, [http:// thediplomat.com/2013/01/japan-china-scramble-military-jets-in-east-china-sea/](http://thediplomat.com/2013/01/japan-china-scramble-military-jets-in-east-china-sea/).

34. Open Source Centre, "Xinhua: Air Force Spokesman: PRC Planes Train in Pacific Beyond 1st Island Chain, Patrol East China Sea ADIZ," November 27, 2015, ID: CHR2015112740202821.

35. Li Bao and Si Yang, "Experts Worry China May Soon Establish South China Sea ADIZ," *Voice of America*, July 29, 2015, [http:// www.voanews.com/content/experts-concerned-china-may-soon-establish-southern-adiz/2882795.html](http://www.voanews.com/content/experts-concerned-china-may-soon-establish-southern-adiz/2882795.html); Andrew S. Erickson, "Lengthening Chinese Airstrips May Pave Way for South China Sea ADIZ," *National Interest*, April 27, 2015, [http:// nationalinterest.org/blog/the-buzz/lengthening-chinese-airstrips-may-pave-way-south-china-sea-12736](http://nationalinterest.org/blog/the-buzz/lengthening-chinese-airstrips-may-pave-way-south-china-sea-12736).

36. Jim Gomez, "Envoy Says China Has Right to Set Another Air Zone," *Associated Press*, December 2, 2013.

decision of setting up an ADIZ in the South China Sea will be made based on a full assessment of the security situation and after making joint efforts with all relevant parties to safeguard peace and stability of the South China Sea. Also, China expects that relevant countries would not flex military muscles by sending aircraft and vessels and instead take concrete actions to uphold peace and stability in the South China Sea together with China.³⁷ This statement and similar statements by senior Chinese officials in recent years suggest that China is positioning itself to defend the announcement of a South China Sea ADIZ as a defensive reaction to the actions of other countries.

Antonio Carpio, a senior associate justice of the Supreme Court of the Philippines, said at a lecture at the Centre for Strategic and International Studies that China was already effectively enforcing a quasi-ADIZ in the South China Sea³⁸. Any Philippine plane that flies over the Spratlys receives a stern warning from China via radio to “stay away from the area.” The quasi-ADIZ was part of China’s grand design to control the South China Sea and the resources therein. Beijing’s behaviour over the past few years, ranging from the harassment of the fishing vessels from other claimant states to the building of artificial islands clearly illustrates that it wants all the fisheries, oil, gas and mineral resources within the nine-dash line (Fig 4) and intends to use the features it controls as strategic outposts for military advantage. Carpio stressed on the importance of the Philippines’ current legal case against China to declare its notorious nine-dash line invalid, emphasising the need for the international community to pressurise Beijing to abide by it.

Timing for this ADIZ

Whether and when China will establish an ADIZ in the South China Sea depends on its motivations and enforcement capabilities. Should China seek to use the establishment of a South China Sea ADIZ for purely geopolitical purposes rather than for the practical purposes usually associated with

37. Open Source Centre, “PRC MOFA: Foreign Ministry Spokesperson Hua Chunying’s Regular Press Conference on January 4, 2016,” January 4, 2016, ID: CHR2016010524954940.

38. <http://thediplomat.com/2015/10/china-enforcing-quasi-adiz-in-south-china-sea-philippine-justice/>

ADIZs, the timing will likely depend on the Chinese leaders' cost-benefit analysis of the geostrategic advantages of exerting control over disputed areas against the reputational, diplomatic, and other potential costs it will almost certainly incur due to widespread negative reactions from regional countries and the United States.³⁹ A range of regional events, such as the pending decision by the Permanent Court of Arbitration on the territorial dispute between China and the Philippines, could influence this cost-benefit analysis.

However, if China seeks to enforce an ADIZ, it might calculate that the development of its military capabilities to fully enforce it should precede the declaration of an ADIZ. In this scenario, the timing for the declaration of an ADIZ depends on China's ability to maintain aircraft and Intelligence, Surveillance, and Reconnaissance (ISR) presence in the South China Sea. Observers should look for the completion of runways and support infrastructure on the Spratly Islands land features, and eventually the deployment of advanced military aircraft and radar systems to these land features, as signs that China is approaching the capability to enforce an ADIZ. Given that China's aircraft presence and other military capabilities are greater in the Paracel Islands than in the Spratly Islands, it is plausible that China could declare an ADIZ over the Paracel Islands and their surrounding waters that do not include the Spratly Islands and the southern reaches of the South China Sea. In this case, it could later expand this ADIZ to cover the Spratly Islands and their surrounding waters as its military capabilities improve there, or establish a second ADIZ in the area.

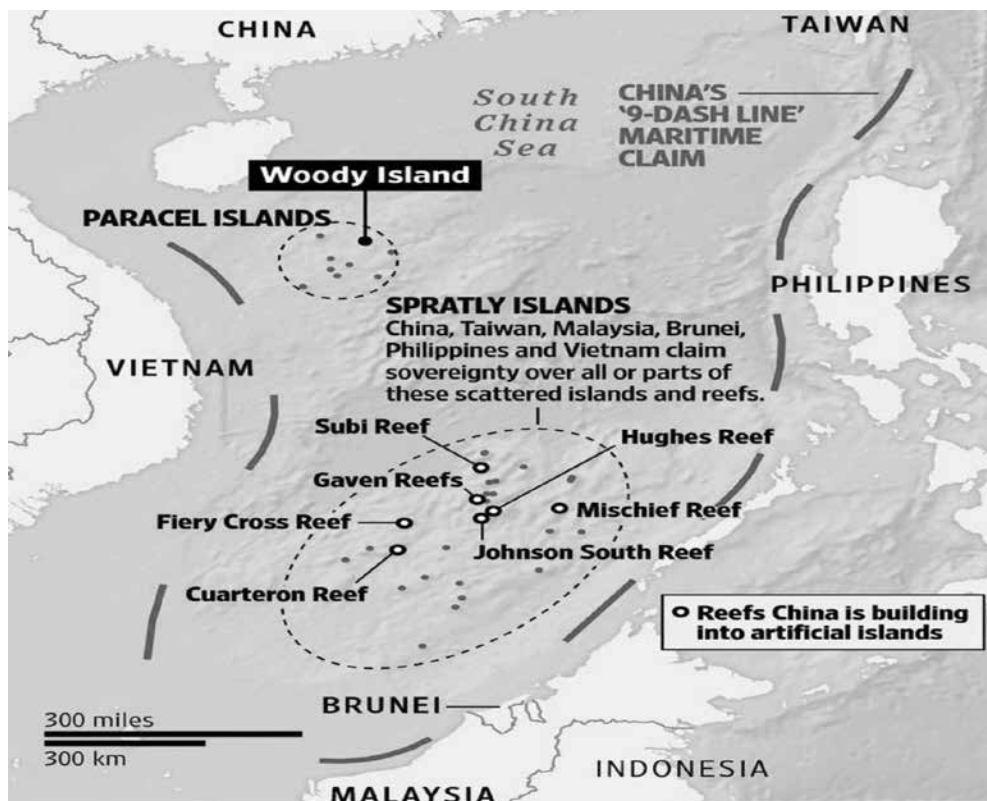
Likely Shape

The geographic limits of a notional Chinese ADIZ in the South China Sea could have implications for China's claims there. China's "nine-dash line," its expansive and vague demarcation of its claims in the South China Sea, do not clearly define the limits of these claims (Fig 4). An ADIZ, by contrast, almost certainly would have absolute geographic limits. If China draws its

39. US-China Economic and Security Review Commission, January 14, 2014, [http://www.uscc.gov/sites/default/files/Research/China%20ADIZ %20Staff%20Report.pdf](http://www.uscc.gov/sites/default/files/Research/China%20ADIZ%20Staff%20Report.pdf); Xinhua (English edition),

ADIZ to roughly conform to its maritime claims, as it did in the East China Sea (Fig 1), China might implicitly clarify the boundaries of its claims.⁴⁰

Fig 4: China's "Nine-Dash Line" and Occupied Land Features in the South China Sea



CHALLENGES TO A SOUTH CHINA SEA ADIZ

China would face geographical, environmental, logistical, and operational challenges in seeking to enforce an ADIZ in the South China Sea. China has made significant investments that could address many of these challenges.

40. Andrew S. Erickson and Austin Strange, "Pandora's Sandbox: China's Island-Building Strategy in the South China Sea," *Foreign Affairs*, July 13, 2014, <https://www.foreignaffairs.com/articles/china/2014-07-13/pandoras-sandbox>.

These efforts, which include the creation and expansion of artificial land features in the Spratly Islands and the construction of runways and support infrastructure on these land features are rapidly increasing China's ability to enforce an ADIZ in the area. Important challenges to a possible Chinese South China Sea ADIZ include the following:

- **Few Airfields:** Because of the long distances between the Chinese mainland and much of the South China Sea, China most likely would need to use several airfields throughout the South China Sea to host the aircraft necessary to enforce a South China Sea ADIZ⁴¹. China's East China Sea ADIZ, by contrast, is close enough to mainland China and Chinese aircraft can deploy from there. China has already constructed runways on Woody Island in the Paracel Islands and Fiery Cross Reef in the Spratly Islands. Both these runways are long enough to host the fighter aircraft China would use to patrol its ADIZ.⁴² Media reports suggest that China stationed J-11 jet fighters at Woody Island in late 2015, and in February 2016, deployed J-11s and JH-7 strike aircraft there⁴³. China has also reportedly nearly completed the construction of runways at Subi Reef and Mischief Reef in the Spratly Islands. Satellite imagery suggests that these runways will be long enough to host fighter aircraft.⁴⁴
- **Limited Radar Infrastructure:** Establishing consistent radar coverage of the entire area of a potential South China Sea ADIZ would be crucial to

41. Ben Dolven et al., "Chinese Land Reclamation in the South China Sea: Implications and Policy Options," Congressional Research Service, June 18, 2015, 11; U.S.-China Economic and Security Review Commission, Hearing on China's Relations with Southeast Asia, written testimony of Bonnie S. Glaser, May 13, 2015.

42. James Hardy, "China Completes Runway on Fiery Cross Reef," *IHS Jane's Defense Weekly*, September 24, 2015, <http://www.janes.com/article/54814/china-completes-runway-on-fiery-cross-reef>.

Centre for Strategic and International Studies, "Airpower in the South China Sea," 2015, <http://amti.csis.org/airstrips-scs/>

43. Richard D. Fisher, Jr., "China Again Uses Woody Island for Military Posturing," *IHS Jane's Defense Weekly*, February 24, 2016, <http://www.janes.com/article/58307/china-again-uses-woody-island-for-military-posturing>; Franz-Stefan Gady, "China Stations Combat Aircraft on South China Sea Island," *Diplomat* (Japan), November 10, 2015, <http://thediplomat.com/2015/11/china-stations-combat-aircraft-on-south-china-sea-island/>; Wendell Minnick, "China Expands Presence with Fighters on Woody Island," *Defense News*, November 8, 2015, <http://www.defensenews.com/story/defense/air-space/strike/2015/11/08/china-expands-presence-fighters-woody-island/75147522/>.

44. Hardy, n. 42.

In a predominately marine environment with exposure to sea water and salt air, moisture-laden air is considerably more detrimental to an aircraft than it would be if all operations were conducted in a dry climate.

China's ability to monitor the ADIZ. A February 2016 Centre for Strategic and International Studies (CSIS) report suggested that China appears to have installed a high frequency radar system at Cuarteron Reef which would significantly bolster its ability to monitor surface and air traffic across the southern portion of the South China Sea⁴⁵. China has already established radar facilities on Woody Island, and it almost certainly will install radar systems at Subi Reef and Mischief Reef to further expand its monitoring capabilities in the South China

Sea. It may have built further radar facilities at Cuarteron Reef, Gaven Reef, Hughes Reef, and Johnson South Reef. In addition, AEW&C aircraft could supplement China's land-based radar systems. China's runways at Woody Island and Fiery Cross Reef are long enough to host AEW&C aircraft, and China's runways at Subi Reef and Mischief Reef almost certainly will be long enough to host these aircraft.

- **Harsh Maritime Environment:** Salt water corrosion would degrade aircraft stationed in the South China Sea. According to the Federal Aviation Administration (FAA), "In a predominately marine environment with exposure to sea water and salt air, moisture-laden air is considerably more detrimental to an aircraft than it would be if all operations were conducted in a dry climate." Moreover, "the speed of an electrochemical attack is increased in a hot, moist climate," such as the climate of the South

45. Hardy, n. 42; Richard D. Fisher, Jr., "China Deploys HQ-9 Surface-to-Air Missiles to Woody Island," *IHS Jane's Defense Weekly*, February 17, 2016. <http://www.janes.com/article/58071/china-deploys-hq-9-surface-to-air-missiles-to-woody-island>; n. 42. Centre for Strategic and International Studies, "Another Piece of the Puzzle." <http://amti.csis.org/another-piece-of-the-puzzle/>; Centre for Strategic and International Studies, "Cuarteron Reef Tracker," <http://amti.csis.org/cuarteron-reef-tracker/>; Centre for Strategic and International Studies, "Hughes Reef Tracker," <http://amti.csis.org/hughes-reef-tracker/>; Centre for Strategic and International Studies, "Johnson Reef Tracker," <http://amti.csis.org/johnson-reef-tracker/>; and Xiaodon Liang, "High Tensions over Low-Tide Elevations in the South China Sea," *National Bureau of Asian Research*, January 13, 2016, <http://www.nbr.org/research/activity.aspx?id=644#.VpjLEj3LCcd.twitter>. Centre for Strategic and International Studies, "Airstrips Near Completion," January 14, 2016, <http://amti.csis.org/airstrips-near-completion/>

China Sea. The effects of salt water corrosion could require China to shorten aircraft deployment times in the area and keep a larger number of aircraft in rotation. Many of China's indigenously produced planes, such as the J-11, may already have very short operational periods between maintenance, even in dry conditions. China could mitigate the effects of salt water corrosion by regularly cleaning aircraft and sheltering them in hangars.⁴⁶

Creating fuel storage facilities at its completed and emerging airfields would be an important step toward allowing China to station military aircraft there.

- **Rough Weather:** Coastal erosion could present a continuous challenge to China's ability to preserve its artificially expanded land features, although to prevent erosion, China has constructed sea walls at Subi Reef and Mischief Reef, and may have completed its sea wall at Fiery Cross Reef⁴⁷. In addition, seasonal typhoons could periodically impede China's ability to operate ships and aircraft in the South China Sea.
- **Inadequate Fuel Storage and Transportation:** Creating fuel storage facilities at its completed and emerging airfields would be an important step toward allowing China to station military aircraft there. A December 2015 report from China's local government authority in the Paracel

46. US Federal Aviation Administration, "Aircraft Cleaning and Corrosion Control," http://www.faa.gov/regulations_policies/handbooks_manuals/aircraft/amt_handbook/media/faa-8083-30_ch06.pdf. U.S. Federal Aviation Administration, Aviation Maintenance Technician Handbook – General, 2008, http://www.faa.gov/regulations_policies/handbooks_manuals/aircraft/amt_handbook/media/faa-8083-30_ch06.pdf. Wendell Minnick, "China Expands Presence with Fighters on Woody Island," *Defense News*, November 8, 2015, <http://www.defensenews.com/story/defense/air-space/strike/2015/11/08/china-expands-presence-fighters-woody-island/75147522/>; Gady, n. 43; Andrew S. Erickson, "Lengthening Chinese Airstrips May Pave Way for South China Sea ADIZ," *National Interest*, April 27, 2015, <http://nationalinterest.org/blog/the-buzz/lengthening-chinese-airstrips-may-pave-way-south-china-sea-12736>.

47. Eric Niiler, "As China Builds Artificial Islands, Reefs, Fish at Risk," *Discovery*, May 29, 2015, <http://news.discovery.com/earth/oceans/as-china-builds-artificial-islands-reef-fish-at-risk-150529.htm>. Centre for Strategic and International Studies, "Spratly Airstrip Update: Is Mischief Reef Next?", <http://amti.csis.org/new-imagery-release/>; James Hardy and Sean O'Connor, "China Completes Runway on Fiery Cross Reef," *IHS Jane's Defense Weekly*, September 24, 2015, <http://www.janes.com/article/54814/china-completes-runway-on-fiery-cross-reef>.

Islands suggests that China is building fuel storage facilities on Woody Island in partnership with the state-owned oil company Sinopec, making it possible to hold fuel for facilities and vehicles that would support aircraft. Open source reporting so far has not indicated fuel storage facilities at Subi Reef, Mischief Reef, or Fiery Cross Reef. Moreover, it is unclear whether China has the ability to transport sufficient quantities of fuel to the Spratly Islands to support aircraft operations there. However, a *PLA Air Force Daily* report in August 2015 indicated China had, for the first time, used a liquids transport ship to move aviation fuel during a 17-day voyage “through island and reef areas.” These ships could allow China to transport fuel to South China Sea land features. Fiery Cross Reef has a harbour, deep enough to receive these ships.

- **Limited Aircraft Support Infrastructure:** China would need to create a variety of support structures, such as aircraft shelters and maintenance facilities on the Spratly Islands land features it occupies for aircraft deployed there. Satellite imagery of China’s Spratly Islands land features does not clearly indicate whether China has constructed the support structures necessary to host large numbers of aircraft. Reports from CSIS suggest that China has constructed concrete or cement plants on Subi Reef, Mischief Reef, and Fiery Cross Reef. These plants could facilitate the construction of aircraft support infrastructure, among other structures.
- **Limited Personnel Support Infrastructure:** If China deploys a regiment of fighter aircraft to any of its current or future Spratly Islands airfields, it most likely will also need to deploy hundreds of logistics, maintenance, and ground crew personnel who typically support PLA air regiments. China currently may have a limited capability to house such large numbers of personnel on its Spratly Islands land features, but its continued construction at these land features may soon overcome this issue. According to a CNN report from May 2015, China has built “military barracks” on Fiery Cross Reef, and a CSIS report from January 2016 said China has constructed housing facilities at Mischief Reef. The same report featured a satellite image of a freighter carrying “temporary housing units” into Subi Reef’s lagoon. In addition, CSIS has suggested

that Subi Reef's older facilities, which pre-date the recent land reclamation campaign, could be capable of hosting up to 200 troops.

- **Underdeveloped Joint Command Structure:** To integrate an array of systems and platforms to enforce an ADIZ, China probably will establish a JOCC in the South China Sea. This centre would be responsible for integrating radar data to monitor air traffic and for directing Chinese aircraft to respond to ADIZ violations. One Chinese media report suggests that China is creating a joint command structure for coordinating "coastal defense," "information sharing," and "maritime law enforcement" among China's military and civilian government entities in the Paracel Islands.⁴⁸ This structure could be the framework for a larger command that eventually administers a South China Sea ADIZ.

Chinese Actions in South China Sea Air Space: A De Facto ADIZ?

Although China has not declared an ADIZ in the South China Sea, some reports suggest that China is attempting to exert control over air traffic in some parts of the South China Sea. Some observers have said China is enforcing a "de facto ADIZ" in the South China Sea.⁴⁹ However, there is no public evidence that China has attempted to exert control over aircraft more than 20 nautical miles (nm) from the shores of any Chinese-controlled land feature. This suggests that China is most likely asserting a perceived right to control air traffic in and around the claimed territorial air space of the land features it controls, rather than asserting the broader authority (i.e., the authority that an ADIZ with regulations resembling those of its East China Sea ADIZ would give it) to control air traffic over non-territorial air space. Several foreign military and civilian flights are known to have received warnings from the Chinese authorities not to approach the Chinese-occupied South China Sea land features; the incidents involved a US surveillance

48. Open Source Centre, "Hainan Wang (China): PRC Sansha Mayor Strengthens Joint Military-Police-Civilian Defense, Explores New Methods," September 30, 2015. ID: CHR2015101554794892.

49. Greg Torode and Michael Martina, "South China Sea Tensions Surge as China Lands Plane on Artificial Island," Reuters, January 5, 2016, <http://uk.reuters.com/article/uk-southchinesea-china-idUKKBN0UI20820160105>; Prashanth Parameswaran, "China Enforcing Quasi-ADIZ in South China Sea: Philippine Justice," *Diplomat* (Japan), October 13, 2015. <http://thediplomat.com/2015/10/china-enforcing-quasi-adiz-in-south-china-sea-philippine-justice/>.

Political calculations about the utility of an ADIZ for China's larger goal of asserting sovereignty over disputed territory might lead China not to fully enforce a declared South China Sea ADIZ.

plane in May 2015, two US B-52 bombers in November 2015, an Australian surveillance plane and a private aircraft carrying a BBC reporter in December 2015, and a Philippines government aircraft in January 2016.⁵⁰

Implications of a Potential South China Sea ADIZ

China's operation of its East China Sea ADIZ has the following implications for how a potential Chinese South China Sea ADIZ could

operate:

- China probably would not seek to use the ADIZ to disrupt commercial air traffic in the South China Sea. Despite directions from the Japanese government to its national carriers not to comply with China's East China Sea ADIZ regulations, no enforcement actions by Chinese air traffic control authorities against Japanese commercial aircraft have been reported. Moreover, China would already be facing a hostile international political climate in the wake of the announcement of a South China Sea ADIZ, and probably would seek to avoid the international criticism it would receive for disrupting commercial air traffic.
- Political calculations about the utility of an ADIZ for China's larger goal of asserting sovereignty over disputed territory might lead China not to fully enforce a declared South China Sea ADIZ. Beijing could perceive that the declaration of an ADIZ would change the status quo with respect to the South China Sea maritime disputes, even if China does not fully enforce the ADIZ.

50. Jim Gomez, "Philippine Plane Warned by 'Chinese Navy' in Disputed Sea," Associated Press, January 18, 2016; BBC, "Australia Conducting 'Freedom of Navigation' Flights in South China Sea," December 15, 2015, <http://www.bbc.com/news/world-australia-35099445>; BBC, "Flying Close to Beijing's New South China Sea Islands," December 14, 2015, <http://www.bbc.com/news/magazine-35031313>; Yeganeh Torbati and David Alexander, "U.S. Bombers Flew Near China-Built Islands in South China Sea: Pentagon," Reuters, November 13, 2015, <http://www.reuters.com/article/us-southchinasea-usa-idUSKCN0T12G720151113>; and Jim Sciutto, "China Warns U.S. Surveillance Plane," CNN, May 21, 2015, <http://www.cnn.com/2015/05/20/politics/south-china-sea-navy-flight/>.

Implications for US Security Interests

Setting up an ADIZ in the South China Sea could have some security implications for the United States⁵¹. These are:

- A Chinese ADIZ in the South China Sea could lead to tense mid-air encounters between US and Chinese aircraft, especially as China has previously demonstrated a willingness to challenge US military aircraft in contested maritime areas, and as senior US Department of Defence officials have indicated a willingness to conduct military flights near Chinese-occupied land features. China has expressed its opposition to US surveillance flights near Chinese-claimed land features in the South China Sea, such as the May 2015 transit of a US P-8A Poseidon aircraft near Subi Reef, Mischief Reef, and Fiery Cross Reef. China most likely lacks the ability to intercept US military flights over much of the South China Sea, but an improved ISR network and functional airfields hosting fighter aircraft on the Spratly Islands land features could give China this ability.
- A Chinese ADIZ in the South China Sea could complicate the operation of state and commercial aircraft in the South China Sea. A potential Chinese ADIZ would overlap with First Information Reports (FIRs) in the South China Sea administered by regional countries as delegated by the International Civil Aviation Organisation. An attempt by multiple authorities to exert control over air traffic could create uncertainty for pilots in the region. The establishment of a Chinese ADIZ in the South China Sea could also prompt other claimants to South China Sea territory to declare their own ADIZs over the South China Sea air space. This could further complicate the operation of aircraft in the South China Sea by increasing the number of authorities regulating the air space.

China has expressed its opposition to US surveillance flights near Chinese-claimed land features in the South China Sea, such as the May 2015 transit of a US P-8A Poseidon aircraft near Subi Reef, Mischief Reef, and Fiery Cross Reef.

51. As per http://origin.www.uscc.gov/sites/default/files/Research/ADIZ%20Update_0.pdf

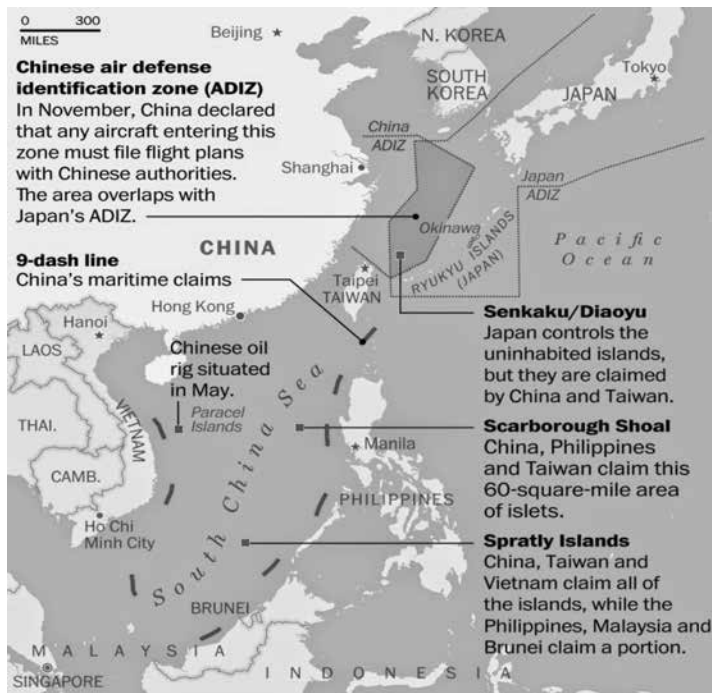
- China's development of the capabilities to enforce a South China Sea ADIZ, and its actual establishment of a South China Sea ADIZ, could change the political status quo in the South China Sea. According to Harry Harris, commander of the US Pacific Command, a fully developed array of Chinese military facilities in the region "creates a mechanism in which China would have de-facto control over the South China Sea in any scenario short of war." This shift could cause an escalation in regional tensions and a negative reaction from China's neighbours, including the Philippines, which has a mutual defence treaty with the United States. This would put pressure on the United States to reassure its allies and partners in the region of the US commitment to ensuring stability in the region.
- Some of the infrastructure and platforms useful for the enforcement of an ADIZ could have military applications in a South China Sea contingency. If China continues to build these capabilities, it could increasingly complicate the operational planning of US forces passing through the South China Sea or carrying out exercises in the close proximity of this area. There may be severe restrictions on maritime exercises carried out by any of the regional players in this sea.
- As China's radar infrastructure in the South China Sea grows, so too does its ability to collect intelligence on US forces in the region and to monitor the military and commercial activities of other countries. This would pose a major threat to any nation carrying out air-naval operations/exercises in the vicinity of this region. Chinese ADIZ control is likely to regularly infringe into any such operations.

CONCLUSION

While the world wonders whether the People's Republic of China (PRC) is taking incremental steps towards establishing an ADIZ in the South China Sea, detailed analysis of Beijing's already established ADIZ in the East China Sea seems to point to an interesting conclusion: China may not actively enforce the zone, and it could be part of a sophisticated "bargaining" strategy. Though Beijing is in the process of building

infrastructure and capabilities in the South China Sea, mainly in the Paracel Islands and parts of reclaimed areas in the Spratly Islands, the overall larger plan may be to justify or maintain a stronger hold over the various territories (Fig 5) in the region that it has disputes in (with various countries).

Fig 5: Disputed Territories in South China Sea



As it did in the East China Sea, China may be seeking to advance its position in the South China Sea over the long term after a short spike in tension, leaving a new status quo with a new ADIZ in place. It would acquire strategic advantage by asserting a maximalist position, then seeming to back down, while preserving some incremental gain, akin to a ratchet effect. According to this theory, it would project a calm image and justify this ADIZ as a 'reasonable' step to which foreign nations should not object over a prolonged period of time. In the process, China would achieve what it wants, i.e. to increase its stronghold in the region and also have the capability

to monitor and react to aerial traffic (both commercial and military) in this strategic zone. Another major achievement perceived is that it would gain a notch over the US in this area in terms of strategic advantage.

Though the South China Sea is well outside the area of operation of the Indian Navy, and India does not really have any direct interests here, nevertheless, a major part of the Indian trade to Southeast Asia and Japan does pass through the region. Also, as the Indian Navy stands poised to grow from a Brown Water navy to a Blue Water one, a stronghold of China in the South and East China Seas would surely pose a threat to its undeterred operations there. There would be several restrictions in carrying out international exercises with naval forces of other countries beyond the Strait of Malacca.

Hence, for the sake of peace and stability in the region, it would be prudent to hope that China does not impose or announce an ADIZ in the South China Sea, and even if it does, the same should be a quasi-ADIZ like the one in the East China Sea. Also, the same should ideally be in consultation and cooperation with the other regional players like Taiwan, Vietnam, Japan, Brunei, Malaysia and the Philippines.